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Bulletin of the Seismographic Stations

Volume 50, No. 1, pp. 1 - 87

ARCATA--BERKELEY--FICKLE HILL--FRIANT

GRANITE CREEK--JAMESTOWN--LLANADA--MINA--MINERAL

MOUNT HAMILTON--OROVILLE--PARAISO--PILARCITOS CREEK

PRIEST--SAN ANDREAS GEOPHYSICAL OBSERVATORY

SAN PABLO DAM--WALKER RIDGE

WHISKEYTOWN DAM

Earthquakes and the Registration of Earthquakes

From January 1, 1980 to June 30, 1980

by

Robert Ferguson

Bruce Schechter

Robert A. Uhrhammer

International Seismological Centre

BULLETIN OF THE SEISMOGRAPHIC STATIONS

of the University of California

Volume 50, No. 1

January 1, 1980 to June 30, 1980

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INTRODUCTION

Each issue of the Bulletin includes determination of epicenters, origin times, magnitudes and other information available at the time of writing, for earthquakes in Northern California and adjoining areas. Recorded arrival times of seismic waves are tabulated for the above earthquakes and for teleseisms.

Information items regarding the seismographic stations which comprise the Berkeley network are repeated in each issue.

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PERSONNEL (September 1981)

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HISTORY OF THE UNIVERSITY OF CALIFORNIA STATIONS

"The Seismographic Stations at Mount Hamilton and Berkeley present several items of interest in the history of earthquake science, one of which is that according to the available records they were the first seismographic stations set up in America. Furthermore, they have functioned continuously from their founding to the present day, with improvements in instrumental equipment from time to time as the development of the science and opportunity have permitted.

Several outstanding figures in the seismology of the 1880's were impressed with the importance of these stations, and Ewing, Milne, and Gray each took a personal interest in aiding one or both stations to obtain their own best and most modern types of instruments."

The quotation is from "History of the University of California Seismographic Stations and Related Activities" by Professor George D. Louderback, published in the Bulletin of the Seismological Society of America, Vol. 32, No. 3, pp. 205-229, 1942. In this paper may be found a detailed account of the development of the Berkeley stations from the installation of the instruments (the first earthquake known recorded at Mount Hamilton was on April 24, 1887) to 1942.

Since 1942, the number of seismographic stations associated with the University of California has increased from six to nineteen in 1979. In 1950, Professor Perry Byerly was appointed Director by the Regents; he had been in charge of instruction and research since 1925. Professor Bruce A. Bolt was appointed Director in 1963. Since 1969, the stations have entered into research and service contracts with the Air Force Office of Scientific Research, the National Science Foundation, the California Department of Water Resources, the California State Division of Mines and Geology, the U.S. Geological Survey, the U.S. Corps of Engineers, the East Bay Municipal Utility District, and others. A telemetry network of seventeen stations in Central California, recording on film and selected stations on magnetic tape, is now operated together with seismographs with broadband frequency response at Berkeley, Jamestown, San Andreas Geophysical Observatory, and Whiskeytown Dam. Copies of seismograms and magnetic tapes from seismographs of the Berkeley network are available, together with response characteristics, on request to the Director.

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THE BYERLY SEISMOGRAPHIC STATION (BKS)

Equipment of a WWSSN station began operating in a newly constructed tunnel east of the main campus on June 8, 1962. The closest buildings, part of the Lawrence Berkeley Laboratory, are about 0.8 km away. The tunnel was cut into the upper part of the Claremont Formation. Of Miocene age, this formation consists of thin layers of cherty material alternating with shale.

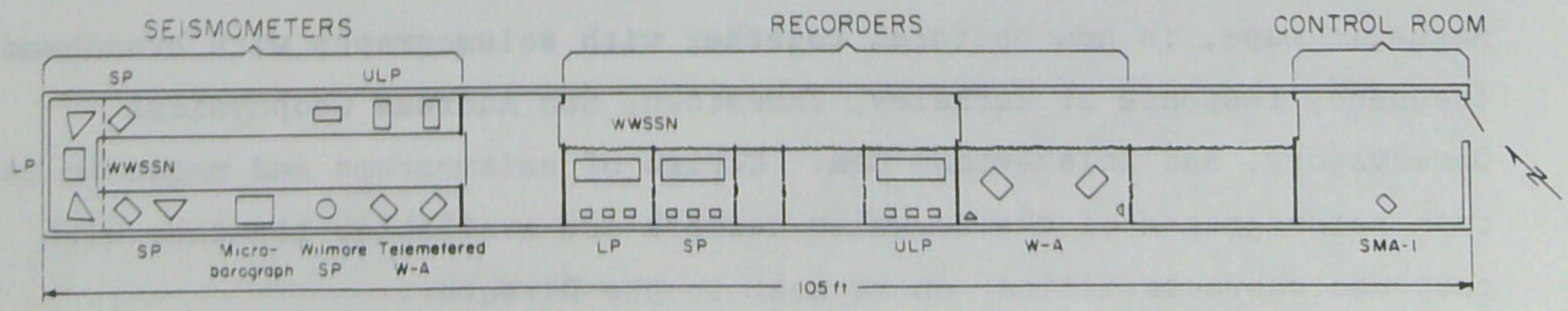
A plan of the tunnel is shown in the diagram below. Piers are constructed of reinforced concrete with no isolation from floor and walls. The temperature is stable. A ventilating and dehumidifying system is connected to all rooms.

Fourteen seismographs are currently operating in the tunnel. Their free periods range from 0.8 sec to 100 sec and the magnification of the photographic recordings ranges from approximately 500 to 25,000. Details are given in the section on instrumentation.

On March 20, 1964, the Regents of the University of California named this station the "Byerly Seismographic Station" in recognition of the work of Professor Perry Byerly.

Geology

The portal of the adit is in an old quarry which exposes near-vertical, intensely contorted, thinly-bedded, brittle chert, and softer interbedded shale of the Miocene Claremont Formation. Individual beds are one to a few inches thick; the chert beds are intensely fractured and intricately criss-crossed by fine patterns of jointing. Near-surface beds are warped by down-hill creep; soil is very thin. The area is crossed by numbers of minor faults, and is about one mile from the active trace of the Hayward fault.



STATIONS IN OPERATION: January 1, 1980 to June 30, 1980

Station (From N to S)	North Latitude	West Longitude	Elev. Meters	Foundation Material	Symbol	Present Auspices and Date Established
Arcata	40° 52!6	124° 04!5	60	Sandstone (loose)	ARC	Humboldt State Univ. 1948
Fickle Hill	40° 48!1	123° 59!1	610	Siltstone over graywacke	FHC	Humboldt State Univ. 1968
Whiskeytown Dam	40° 34!8	122° 32!4	300	Pre-Devonian metavolcanic	WDC	National Park Service 1973
Walker Ridge	40° 23!6	124° 17!3	226	Undivided cretaceous marine	WKC	Pacific Gas & Electric Company, 1976
Mineral	40° 20!7	121° 36!3	1495	Volcanic	MIN	National Park Service 1938
Oroville	39° 33!3	121° 30!0	360	Basalt	ORV	Dept. of Water Resources 1963
Mina (Nevada)	38° 26!0	118° 09!2	1524	Limestone	MNV	Lawrence Livermore Lab. 1969
Jamestown	37° 56!8	120° 26!3	457	Metamorphic (serpentine)	JAS	Dept. of Water Resources 1964
San Pablo Dam	37° 56!7	122° 15!4	119	Middle Miocene marine	ZSP	East Bay M.U.D. Nov. 3, 1978
Berkeley (Byerly)	37° 52!6	122° 14!1	276	Claremont shales & cherts	BKS	University of Calif. 1962
Berkeley	37° 52!4	122° 15!6	81	Franciscan sandstone	BRK	University of Calif. 1887
Pilarcitos Creek	37° 30!0	122° 22!9	91	Granodiorite (weathered)	PCC	Sare Ranch, 1965
Mt. Hamilton	37° 20!5	121° 38!5	1282	Franciscan formation (greenstone)	MHC	Lick Observatory 1887
Granite Creek	37° 01!8	121° 59!8	122	Granite	GCC	Richard E. Randolph Santa Cruz, 1965
Friant	36° 59!5	119° 42!5	119	Alluvium over-lying granite	FRI	Bureau of Reclamation 1971
San Andreas Geophysical Observatory	36° 45!9	121° 26!7	350	Granite	SAO	University of Calif. 1966
Llanada	36° 37!0	120° 56!6	475	Alluvium overlying sandstone	LLA	Charles McCullough Ranch, 1961
Paraiso	36° 19!9	121° 22!2	363	Grano-diorite	PRS	Paraiso Hot Springs 1961
Priest	36° 08!5	120° 39!9	1187	Greenstone basic metamorphic	PRI	Federal Aviation Agency 1961

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STATION INSTRUMENTATION

January 1, 1980 to June 30, 1980

Station	Type of Instrument	T_o sec	T_g sec	Component	Mag at T_o	1	2	3	4	5	6
ARC	Wood-Anderson torsion	0.8	-	S, W	2,000	x					
BKS	Benioff 100 kg	1.0	0.75	N, E, Z	25,000	x					
	Sprengnether S-5007	15	100	N, E, Z	3,000	x					
	Wood-Anderson torsion	0.8	-	S, W	2,000	x					
	Sprengnether ULP S-5100	100	300 Filter	N45°W, N45°E, Z	500	x					
	Filtered Displacement				- - -				x		
	Displacement				- - -				x		
	Willmore MK II	1.0	0.2	Z	- - -				x		
	14000X torsion	0.8	-	N, E	14,000 max		x		x		
	700X torsion	0.8	-	N, E	700 max		x		x		
BRK	Benioff 100 kg	1.0	0.2	Z	25,000			x			
	Benioff 100 kg	1.0	8.0	Z	Variable						x
	100X torsion	0.8	-	N, E	100 max	x					
	4X torsion	0.8	-	N, E	4 max	x					
	Press-Ewing	15	30	Z	1,000		x				
	Press-Ewing	30	BB	N45°W, N45°E, Z	- - -				x		
FHC	Benioff 14 kg	1.0	0.2	Z	50,000			x	x		
FRI	Benioff 14 kg	1.0	0.33 Filter	Z	150,000			x	x		
GCC	Benioff 14 kg	1.0	0.2	Z	50,000			x	x		
JAS	Benioff 100 kg	1.0	0.75	N, E, Z	250,000	x					
	Benioff 14 kg	1.0	0.2	Z	600,000		x	x	x		
	Sprengnether S-5100	40	-	Z							
	BB velocity								x		
	Displacement								x		
	Filtered Displacement								x		

1 Signals recorded on photographic paper.
2 Signals recorded on heat sensitive paper.
3 Signals telemetered to Berkeley. Magnifications using 20X viewer.
4 Signals recorded on magnetic tape, Berkeley.
5 Signals recorded on magnetic tape at SAO.
6 Ink recording.

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STATION INSTRUMENTATION

January 1, 1980 to June 30, 1980

Station	Type of Instrument	T_o sec	T_g sec	Component	Mag at T_o	1	2	3	4	5	6
LLA	Benioff 14 kg	1.0	0.2	Z	50,000			x	x		
MHC	Benioff 14 kg	1.0	0.2	Z	50,000		x	x	x		
	Wood-Anderson torsion	0.8	-	S, E	2,000	x					
MIN	Wood-Anderson torsion	0.8	-	S, E	2,000	x					
	Teledyne S-13	1.0	0.2 Filter	Z	150,000			x	x		
MNV	Broadband instrument filtered to give short-period response			Z	600,000 at 1 sec			x	x		
ORV	Benioff 100 kg	1.0	0.2	Z	220,000			x	x		
PCC	Benioff 14 kg	1.0	0.2	Z	50,000			x	x		
PRI	Benioff 14 kg	1.0	0.2	Z	50,000		x	x	x		
PRS	Benioff 14 kg	1.0	0.2	Z	50,000			x	x		
SAO	Benioff 14 kg	1.0	0.2	Z	- - -				x		
	Sprengnether 0.70 kg	0.2	0.05 Filter	Z	1,500,000		x	x		x	
	Sprengnether 0.70 kg	0.44	0.05 Filter	N, E, Z						x	
	Sprengnether S-5007										
	Displacement	30	BB	N, E, Z						x	
	Strainmeter									x	x
WDC	Sprengnether S-5100	40	-	Z							
	BB Velocity				- - -				x		
	Displacement								x		
	Filtered Displacement								x		
	Short Period (Filter)				500,000		x	x	x		
WKC	Kinemetrics SS-2 Ranger	1.0	0.2	Z	- - -		x		x		
ZSP	Teledyne 18300	1.0	0.2 Filter	Z	- - -		x		x		

1 Signals recorded on photographic paper
2 Signals recorded on heat sensitive paper.
3 Signals telemetered to Berkeley. Magnifications using 20X viewer.
4 Signals recorded on magnetic tape, Berkeley.
5 Signals recorded on magnetic tape at SAO.
6 Ink recording.

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Direction of motion: In the "Component" column, each horizontal component seismograph is designated by the direction of ground motion corresponding to upward trace motion on the seismogram when it is oriented so that time increases from left to right. On all vertical component (Z) instruments, upward trace motion corresponds to upward ground motion.

Relative magnification curves of instruments recording photographically and through the telemeter system are listed on pages 11 and 12. Absolute magnification may be obtained by use of calibration pulses recorded daily from each station.

A network of broadband seismographs is now operated by the University of California at seismographic stations at Berkeley (BKS), Jamestown (JAS), San Andreas Geophysical Observatory (SAO), and Whiskeytown (WDC). The instrumentation at Whiskeytown was installed in January 1973 and at Jamestown in November 1973. The Jamestown and Whiskeytown seismographs are closely matched and consist of a single vertical seismometer, a Sprengnether S-5100, operating with a free period of 40 seconds and a damping ratio of 0.70. Signals from these seismometers are telemetered to Berkeley via FM telemetry components and leased telephone lines where they are recorded on analog magnetic tape recorders. Low- (± 2mm) and high- (± 0.01mm) gain displacement signals from JAS and WDC and a short period high-gain channel from WDC are recorded along with BKS and SAO strain on the 0.03 ips tape recorder. Velocity signals from JAS (one level) and WDC (two levels) are recorded at Berkeley on the 0.06 ips tape recorder. The seismometer at JAS and WDC are operated in sealed pressure vessels identical to those used with high-gain long-period (HGLP) instruments. At Berkeley, broadband instrumentation has been gradually developed, starting with the installation in June 1964 of Press-Ewing seismometers operating at a free period of 30 seconds. Recently, a 3-component set of special ultra-long period seismometers has been installed in the Byerly Seismographic Vault. The seismometers are Sprengnether S-5100 operated at a free period of 100 seconds and utilize electronic recentering feedback for long term stability and temperature/barometric feedback also for the vertical component. Low- (± 2.0mm) and high- (± 0.020mm) gain displacement signals from each of the three components are telemetered to the laboratory and recorded on 0.03 ips, 0-10 Hz, magnetic tape. High-gain displacement signals from BKS, JAS, and WDC are high-pass filtered at 500 sec to reduce tidal signals. The Berkeley ultra-long period system also generates photographic paper records equivalent to a 100 second pendulum with a velocity transducer recorded by a 300 second galvanometer.

At SAO, the central vault is instrumented with Sprengnether S-5000 (WWSSN-type) 3-component long period (30 sec) seismometers with displacement transducers recording 0-10 Hz on 0.06 ips magnetic tape at SAO with 10 mm full-scale displacement; Sprengnether S-7000 3-component short period (0.44 sec) seismometers recording on SAO magnetic tape (0-20 Hz) at two gain levels separated by a factor of 100; and a single vertical component S-7000 (5 Hz) telemetered to Berkeley and recorded on Develocorders ('William' channel). The south vault a tunnel 300 m SW of the San Andreas fault zone, houses a quartz-tube strainmete 19 m long, operating with full-scale sensitivity of 2×10^{-7} and recorded on 0.03 ips FM tape (0-10 Hz) at Berkeley.

Response curves for these broadband instruments are shown on pages 11 and 13.

UNIVERSITY OF CALIFORNIA ACCELEROGRAPH STATIONS

Station Name	Coordinates	Installation Date	Instrument S.N.	Component	Sensitivity (cm/g)	Period (sec)	Damping % of Critical	Structure	Location in Structure
BERKELEY MEMORIAL STADIUM	37.87 N 122.25 W	3 Aug 76	CRA-1 #148 (Recorder) FBA-3 downhole	V	1.79	.018	.64	4" I.D. cased borehole (163m deep)	Downhole (163m)
				L unknown	1.82	.019	.62		
				T unknown	1.83	.018	.66		
			FBA-3 uphole	V Down	1.90	.019	.63	Metal Box	Ground Level
				L North	1.83	.018	.63		
				T East	1.82	.018	.65		
BERKELEY UNIVERSITY LIBRARY	37.87 N 122.26 W	3 May 76	MO-2 trace #6	A Up	1.65	.03	.6		Ground Level
				B S45W	1.66	.03	.6		
				C S45E	2.40	.03	.6		

					Sensitivity (g/F.S.)	Bandwidth (Hz)			
RICHMOND FIELD STATION	37.92 N 122.33 W	12 May 76	Columbia Research Force Balance Accelerometer SA-107 (+2g units) ($\bar{0}$-50Hz)	Z,H_1^*,H_2^{**}	±0.010	.05-50		5" I.D. uncased backfilled borehole (43.8m deep)	Downhole (43.7m)
				Z,H_1,H_2	±0.50	0-50			
				Z,H_1,H_2	±0.010	.05-50			Midhole (15.7m)
				Z,H_1,H_2	±0.50	0-50			
				Z,H_1,H_2	±0.010	.05-50		Metal Box	Ground Surface Level
				Z,H_1,H_2	±0.50	0-50			
EARTH SCIENCES BUILDING	37.87 N 122.26 W	01 Nov 68	Wilmot Seismoscope SR-100	Duplex Horizontal	5.45×10^{-2} (m/rad)	.75	∿ 10	Metal Box	Ground Level

* accelerometer aligned S45W
** accelerometer aligned S45E
\+ recorded on magnetic tape

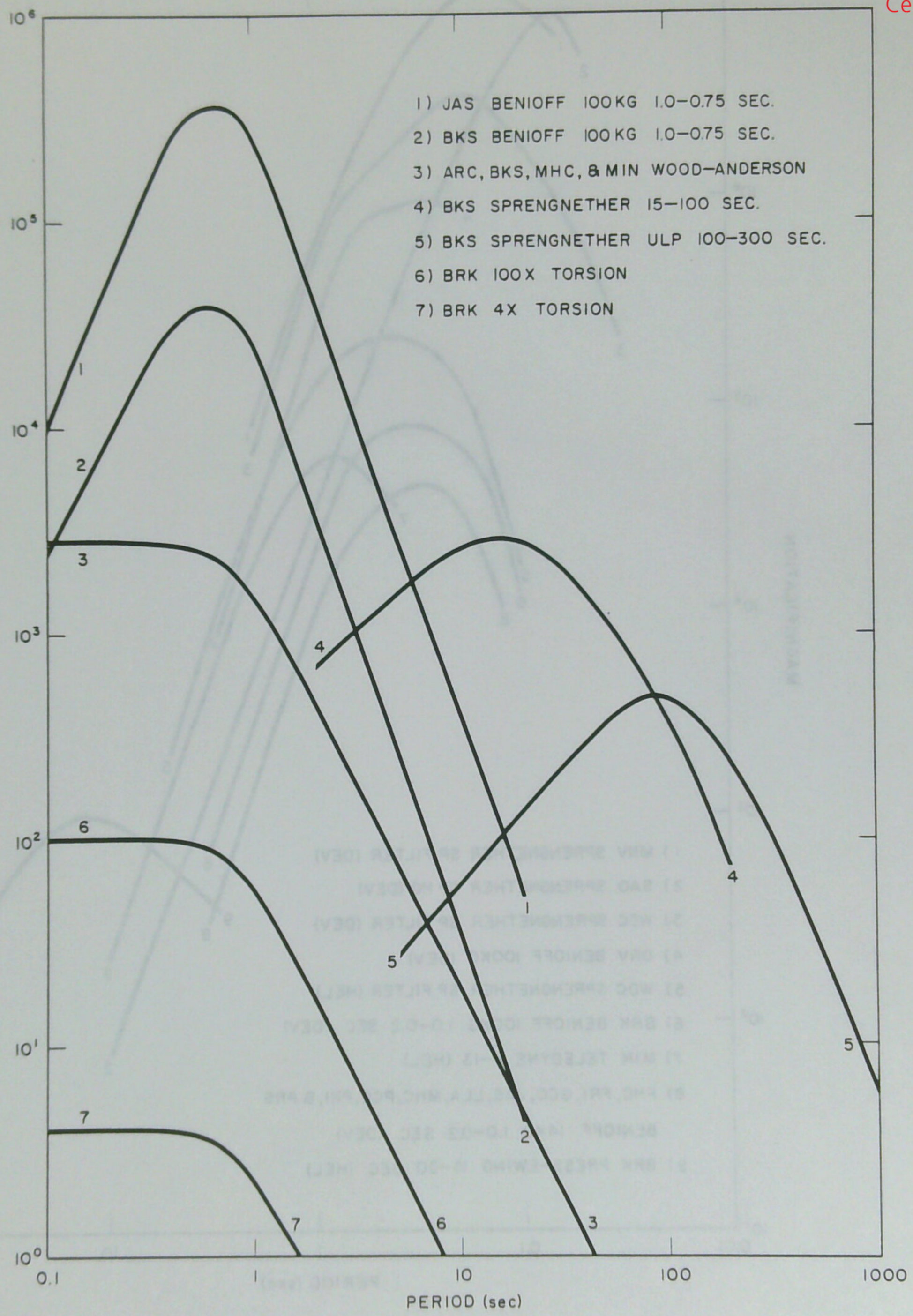
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UNIVERSITY OF CALIFORNIA ACCELEROGRAPH STATIONS MAINTAINED BY USGS

Station Name	Coordinates	USGS Number	Installation Date	Instrument S.N.	Component	Sensitivity (cm/g)	Period (Sec.)	Damping % of Critical	Structure	Location in Structure
SAGO CENTRAL	36.76 N 121.45 W	1032	5 Mar 73	RFT-250 #343	North Down West	1.82 2.14 1.89	.042 .045 .045	.57 .57 .57	Concrete vault	Ground level
SAGO EAST	36.81 N 121.41 N	1033	5 Mar 73	RFT-250 #347	North Down West	1.89 2.14 1.74	.045 .045 .045	.57 .57 .57	One-story building	Ground level
BUTLER VALLEY STA. 1 (RANCH)	40.77 N 123.90 W	1110	9 Jul 71	SMA-1 #314	S66W Down S24E	4.24 3.72 4.10	.054 .057 .058	.57 .57 .55	Prefab building	Ground level
BUTLER VALLEY STA. 2 (ABUTMENT)	40.79 N 123.88 W	1112	9 Jul 71	SMA-1 #319 with WWVB	S66W Down S24E	1.96 1.76 1.86	.040 .039 .038	.60 .60 .60	Prefab building	Ground level
BERKELEY HAVILAND HALL	37.87 N 122.26 W	1006	15 Apr 76	SMA-1 #2500 with WWVB	N45W Down S45W	1.74 1.70 1.71	.038 .038 .039	.59 .58 .60	Four-story building	Basement
BERKELEY BYERLY SEISM STATION	37.87 N 122.24 W	1005	29 Apr 76	SMA-1 #2503 with WWVB	N45W Down S45W	1.79 1.79 1.73	.038 .039 .039	.60 .55 .57	Concrete vault	Ground level
BERKELEY EVANS HALL	37.87 N 123.90 W	1182	7 Jan 72	SMA-1 #411	S12E Down N78E	1.64 1.83 1.92	.040 .040 .040	.59 .59 .59	Ten-story building	Basement
				SMA-1 #412	S12E Down N78E	1.67 1.96 1.92	.040 .038 .040	.61 .61 .59		Fifth floor
				SMA-1 #413	S12E Down N78E	2.01 1.88 1.85	.038 .037 .037	.60 .53 .55		Tenth floor

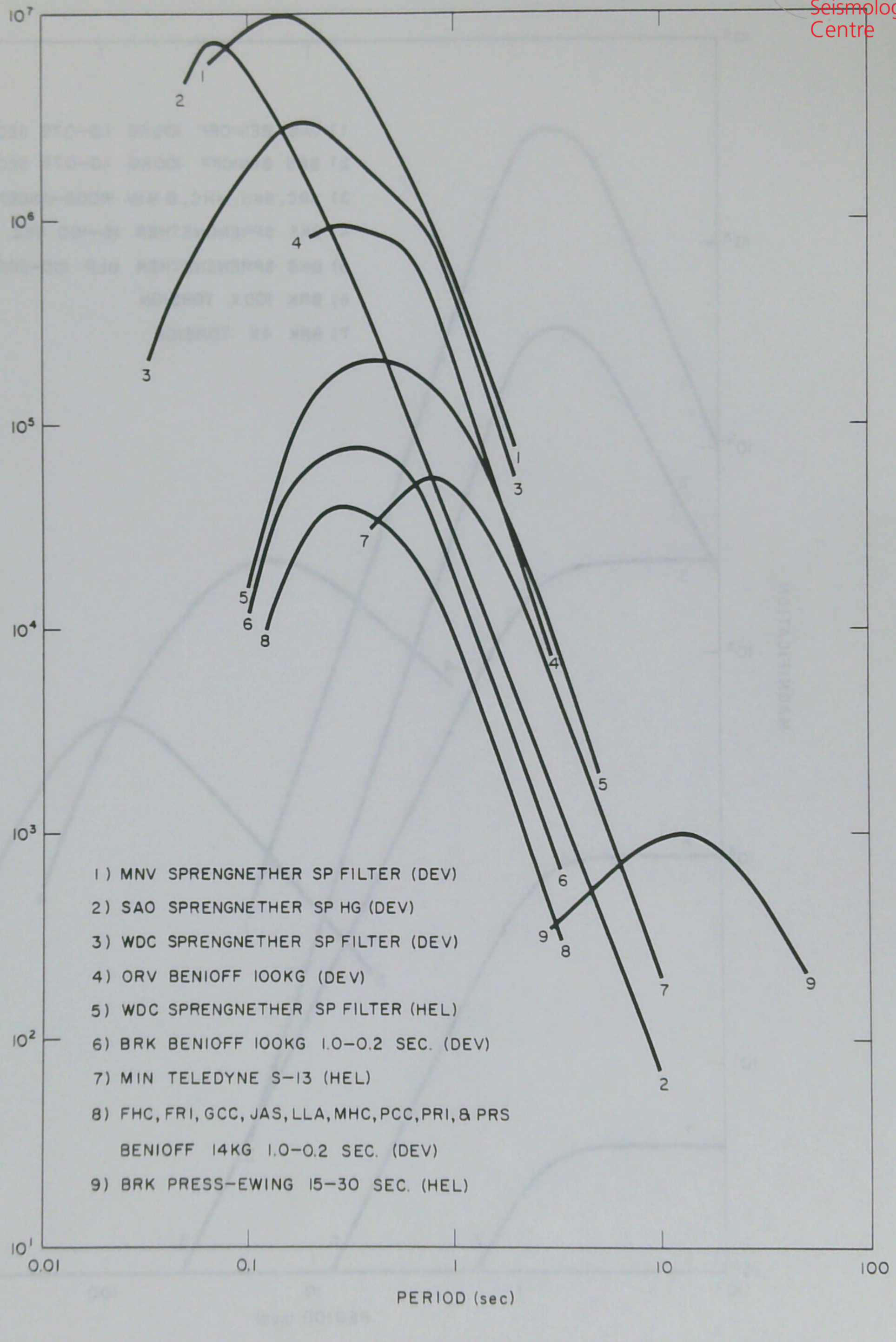
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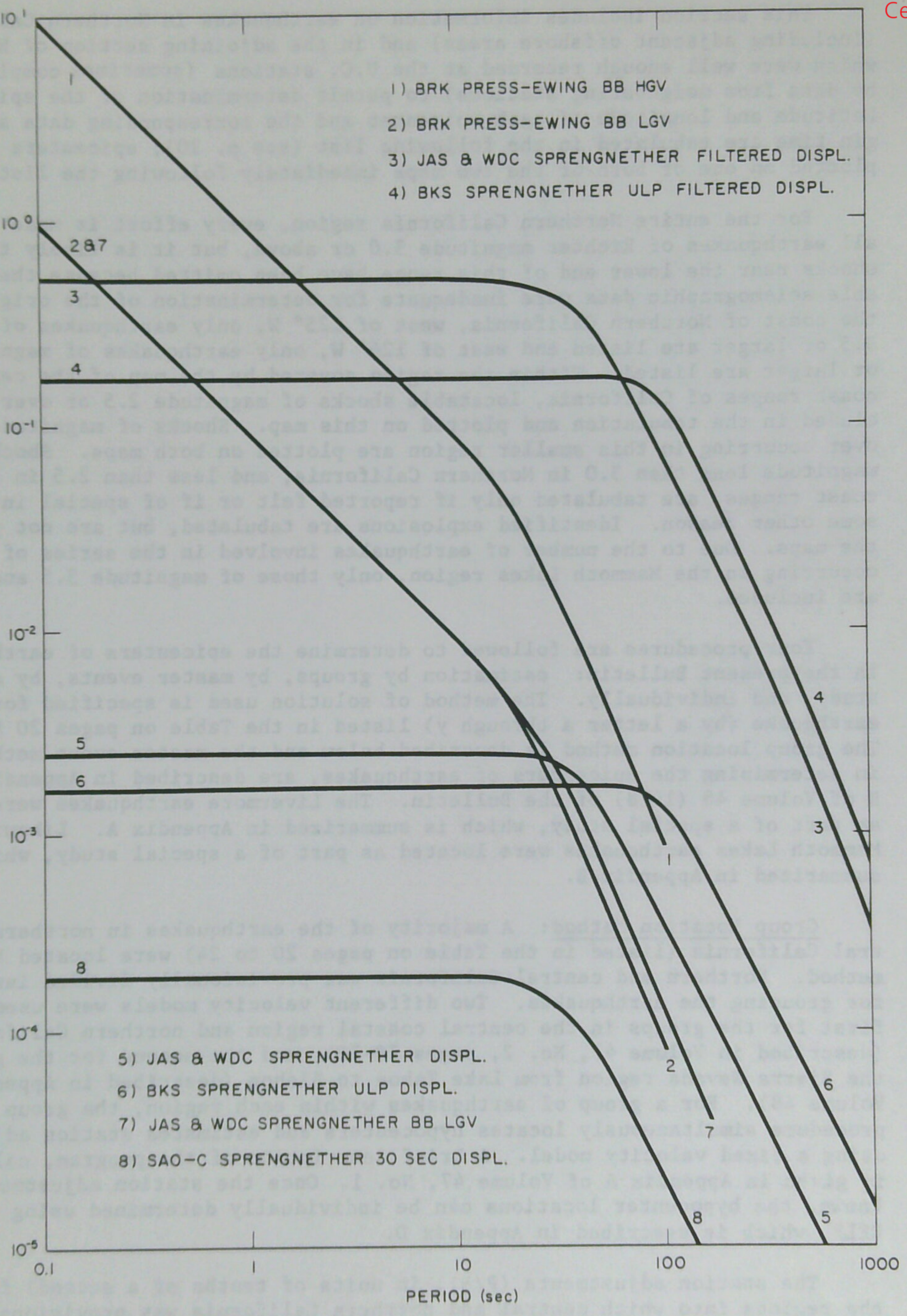
Response curves for photographically recording seismographs. The BKS Benioff and Sprengnether 15 - 100 second instruments are the WWSSN system.

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Response curves for Helicorder (HEL) and Develocorder (DEV) channels when viewed at 20X enlargement. The Benioff 14KG curve (8) represents several different stations and is normalized to 10,000 magnification at 1 second period. (See station instrumentation for actual magnification at 1 second period).

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Response curves for broadband seismographs recorded on slow-speed FM magnetic tape at BRK and SAO. Displacement sensitivity (magnification) in volt / micrometer when reproduced on Honeywell LAR 7400 system (±4 volts output).

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PART I. LOCAL EARTHQUAKES IN NORTHERN CALIFORNIA

This section includes information on earthquakes in Northern California (including adjacent offshore areas) and in the adjoining section of Nevada which were well enough recorded at the U.C. stations (sometimes complemented by data from neighboring stations) to permit determination of the epicenter. Latitude and longitude of each epicenter and the corresponding data and origin time are tabulated in the following list (see p. 20); epicenters are also plotted on one or both of the two maps immediately following the list (p. 34 -35).

For the entire Northern California region, every effort is made to list all earthquakes of Richter magnitude 3.0 or above, but it is likely that some shocks near the lower end of this range have been omitted because the available seismographic data were inadequate for determination of the origin. Off the coast of Northern California, west of 125° W, only earthquakes of magnitude 3.5 or larger are listed and west of 126° W, only earthquakes of magnitude 4.0 or larger are listed. Within the region covered by the map of the central coast ranges of California, locatable shocks of magnitude 2.5 or over are included in the tabulation and plotted on this map. Shocks of magnitude 3.0 or over occurring in this smaller region are plotted on both maps. Shocks of magnitude less than 3.0 in Northern California, and less than 2.5 in the central coast ranges, are tabulated only if reported felt or if of special interest for some other reason. Identified explosions are tabulated, but are not plotted on the maps. Due to the number of earthquakes involved in the series of earthquakes occurring in the Mammoth Lakes region, only those of magnitude 3.5 and greater are included.

Four procedures are followed to determine the epicenters of earthquakes in the present Bulletin: estimation by groups, by master events, by a special study, and individually. The method of solution used is specified for each earthquake (by a letter a through y) listed in the Table on pages 20 to 33. The group location method is described below and the master event methods, used in determining the epicenters of earthquakes, are described in Appendices A and B of Volume 48 (1978) of the Bulletin. The Livermore earthquakes were located as part of a special study, which is summarized in Appendix A. Likewise, the Mammoth Lakes earthquakes were located as part of a special study, which is summarized in Appendix B.

Group Location Method: A majority of the earthquakes in northern and central California (listed in the Table on pages 20 to 24) were located by a group method. Northern and central California was provisionally divided into regions for grouping the earthquakes. Two different velocity models were used, the first for the groups in the central coastal region and northern California (described in Volume 47, No. 2, pages 70-72), and the second for the groups in the Sierra Nevada region from Lake Tahoe to Bishop (described in Appendix B of Volume 48). For a group of earthquakes within each region, the group location procedure simultaneously locates hypocenters and estimates station adjustments, using a fixed velocity model. A brief description of the program, called GHYP2, is given in Appendix A of Volume 47, No. 1. Once the station adjustments are known, the hypocenter locations can be individually determined using the program RELP, which is described in Appendix D.

The station adjustments (P/S), in units of tenths of a second) for each of the regions into which central and northern California was provisionally divided are given in the Table on page 15. These station adjustments are to be added to the calculated travel times.

STATION ADJUSTMENTS

Region	ARC	BKS	FHC	FRI	GCC	JAS	LLA	MHC	MIN	MNV	ORV	PCC	PRI	PRS	SAO	WDC	WKC
a	-4/	-3/3	1/3						1/0		0/	-9/				4/1	9/9
b	-2/1	-8/	-1/1						-1/		-3/1	-6/				2/1	
c			3/1						3/0		-3/					2/	2/0
d		-5/2	-1/3						3/		-4/1					4/3	-2/1
e		-1/1							2/		-4/	-1/-1				8/	
f					-6/		-1/-4	2/1					1/-1	1/-4	-3/		
g					-5/		-2/-4	3/2					1/	1/0	-4/		
h				2/-3	-8/		-4/	0/					2/3	-1/	2/		
i				-2/-9		-4/-9				3/7							
j		1/0			-2/-2		0/0	3/0				-2/1	3/	-1/	-1/		
k		-1/1			-1/-3		0/	-1/-1				-3/-2		2/	1/		
m		1/1			-1/-2			1/2				1/-2			-1/		
n					-2/		0/	5/					-1/3	-4/4	-1/		
p				2/0		1/-7				-1/-3							
r		-4/1		1/		-2/-1	-3/-3	2/4					1/		2/		
s				2/0		0/-2				-2/-2	0/0						
x	See Appendix B																
y	See Appendix A																

Note: Station adjustments are given in the form of P/S in units of tenths of seconds.

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Explanation of the Table:

Map No. for each epicenter corresponds to the number plotted beside that epicenter on the maps. Epicenters without numbers lie outside the area of the map. The underlining of a map number in the table indicates that one point on a map has been used to represent more than one earthquake in the Table.

Date and Origin Time are given in Universal Coordinated Time (UTC). To obtain local time, subtract 8 hours for Pacific Standard Time (PST) and 7 hours for Pacific Daylight Time (PDT).

In selecting input for the computer, we sought the best possible distribution of stations, both in azimuth and distance. Where possible, both P and S phases were used. However, the number of P arrivals greatly out-numbered the S arrivals. Geographic coordinates are quoted to tenths of a minute for computer-located epicenters. Uncertainties of up to five minutes exist in determinations where the depth has been restricted, or where the epicenters lie outside the network. Those epicenters located by the arc method have their coordinates expressed to tenths of a degree. This is the accuracy to which the arc method allows.

The Magnitude of the earthquake is determined on the Richter scale from the maximum trace amplitudes recorded for the shock by standard Wood-Anderson torsion seismographs. The magnitudes of earthquakes for which no Wood-Anderson records are available are determined from Benioff seismograph trace amplitudes, and are listed in parentheses.

Depth of focus (h) for each earthquake is given to the nearest kilometer. If the depth has been restrained, it is indicated by "(R)".

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Solution indicates the number of stations and the method used in determining the epicenter. The lower case letter indicates the method of solution as follows:

Letter	No. of earthquakes	Location method	Region
a	8	group	Off coast (longitude ≥ 125° W)
b	10	group	Humboldt County (123° - 125° W)
c	2	group	Northern California (less Mt. Shasta)
d	2	group	Ukiah-Willits area
e	4	group	Santa Rosa-Clear Lake area
f	9	group	Stone Canyon
g	4	group	Bear Valley
h	1	group	Llanada area
i	0	group*	Bishop
j	24	group	Hollister
k	11	group	San Jose-Mt. Hamilton area
m	1	group	Berkeley-Delta area
n	8	group	Priest-San Simeon area
p	4	group†	Mono Lake
q	0	master event+	Mt. Shasta
r	0	group	San Joaquin Valley
s	1	group†	Bridgeport
t	0	individually	Vicinity of Paraiso
x	221	special study#	Mammoth Lakes
y	60	special study##	Livermore

* See Appendix B in Volume 48 of the Bulletin.
\+ See Appendix A in Volume 48 of the Bulletin.
† Used Bishop velocity model (see*).
\# Special study -- see text, p. 14, and Appendix B.
Special study -- see text, p. 14, and Appendix A.

Under Remarks will be found a short descriptive location of the epicenter and felt information.

Recent Rate of Seismicity:

A plot of the cumulative number of earthquakes versus local Richter magnitude (M_L) is given in the figure on page 19. The data set consists of 895 earthquakes ($3.0 \leq M_L \leq 5.9$) listed in the U.C. Bulletin of the Seismographic Stations, in a 28$\bar{0}$,000 $\bar{}$km^2 region in northern and central California during the decade of January 1, 1967, to December 31, 1976. The region is bounded

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on the north and east by the California border, on the southeast by the dashed line on the map on page 34, on the southwest by a line connecting 35° N-121° W and 29° N-125° W, and on the west by 125° W longitude.

The earthquakes are grouped into 20 consecutive 6-month intervals for analysis and the average cumulative number of earthquakes N (total number with a magnitude $\geq M_L$) in a 6-month interval is given by

$$\text{Log } N = 4.412 - 0.912\ M_L$$

valid for $3.0 \leq M_L \leq 5.9$. The shaded zone depicts the 95 percent confidence interval for log N. Hence, the approximately interoccurrence time for earthquakes $\geq M_L$ in the 280,000 km^2 area is

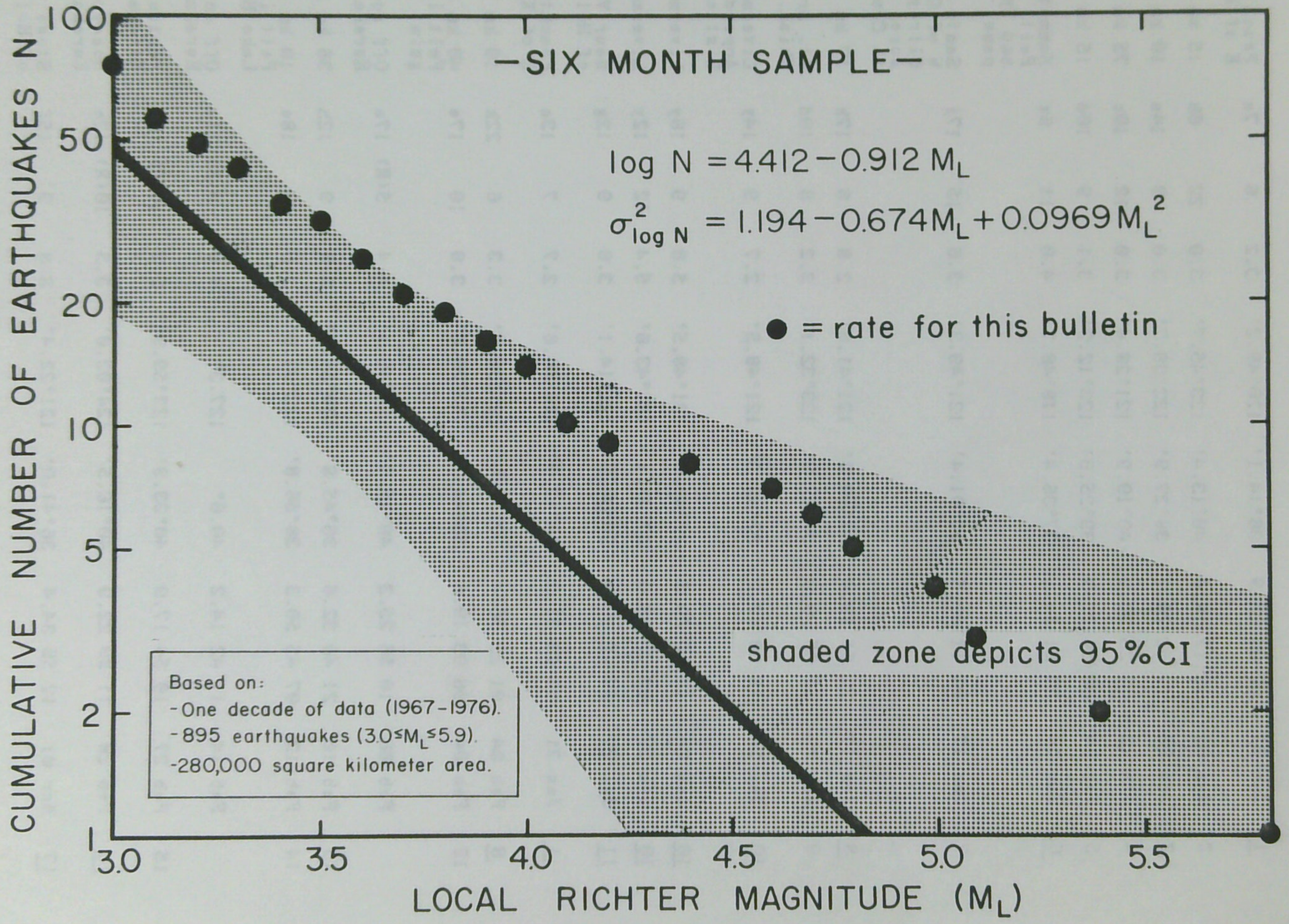
M_L	Interoccurrence Time
≥ 3.0	4 days
3.5	11 days
4.0	1 month
4.5	3 months
5.0	8 months
5.5	2 years
6.0	5 years

The solid circles give the cumulative number of earthquakes (76 earthquakes, $3.0 \leq M_L \leq 5.8$) in the first six months of 1980. Thus, the rate of seismicity for the first six months of 1980 is not significantly different from the average rate of seismicity over the past decade.

Acknowledgements

We would like to thank the following institutions for their assistance in supplying readings for the epicenter locations: Seismological Laboratory, California Institute of Technology; Seismological Laboratory, University of Nevada; Office of Earthquake Studies, U.S. Geological Survey; Pacific Gas and Electric Company; Lawrence Livermore National Laboratory; California Division of Mines and Geology; and California Department of Water Resources. The efforts of Staff Research Associates R. D. Miller and M. R. McKenzie in the preparation of this Bulletin are acknowledged.

RECENT RATE OF SEISMICITY FOR NORTHERN & CENTRAL CALIFORNIA



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EARTHQUAKES IN NORTHERN CALIFORNIA

January 1 - June 30, 1980

Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
1	Jan 01	02 09 25.9	36°14.1'	120°49.2'	3.2	6	7n	Peachtree Valley, 30 km E of King City.
2	Jan 09	12 17 18.6	40°13.4'	123°45.7'	3.0	22	6b	15 km NE of Garberville.
3	Jan 09	19 53 20.1	38°27.9'	122°38.7'	3.0	8	14e	10 km NE of Santa Rosa.
4	Jan 13	17 26 36.2	40°19.9'	121°28.4'	3.0	12	10c	75 km NE of Chico.
5	Jan 14	08 54 32.3	39°25.0'	123°12.2'	3.1	9	10d	15 km E of Willits.
6	Jan 14	23 51 54.1	37°36.4'	118°48.7'	4.0	11	6x	Mammoth Lakes area. Felt. See Appendix B and Special Listing page 27 .
7	Jan 17	01 11 39.5	37°01.4'	121°49.3'	3.6	15	17j	Santa Cruz Mtns., 17 km W of Gilroy. Felt in Gilroy, Los Gatos, San Jose, Morgan Hill, Santa Cruz.
8	Jan 17	21 51 58.4	37°19.3'	121°41.8'	2.8	8	17k	17 km E of San Jose.
9	Jan 19	17 05 28.9	38°57.8'	123°32.1'	3.2	8	10d	Pt. Arena, 30 km SW of Ukiah.
10	Jan 24	18 58 42.2	37°49.9'	121°48.5'	2.7	9	14y	Livermore Valley. See Appendix A and Special Listing, page 25 .
10	Jan 24	19 00 09.5	37°49.6'	121°48.5'	5.8	9	16y	Livermore Valley.
10	Jan 27	02 33 36.0	37°45.4'	121°43.6'	5.4	12	12y	Livermore Valley.
11	Jan 27	07 12 39.4	36°34.9'	121°14.1'	3.0	9	12g	Bear Valley, 35 km SE of Hollister.
1	Jan 31	03 28 51.3	36°12.9'	120°50.6'	2.7	7	13n	Peachtree Valley, 28 km E of King City.
8	Feb 04	01 22 56.4	37°17.6'	121°39.7'	3.3	6	22k	19 km E of San Jose.
12	Feb 04	06 03 19.8	38°44.2'	122°20.6'	3.0	10	17e	40 km SE of Clear Lake. Felt in Calistoga, Anguin.
	Feb 08	10 56 25.3	40°15.6'	126°46.1'	4.4	5(R)	17a	Off coast 225 km SW of Eureka.
13	Feb 10	21 40 32.6	36°45.8'	120°50.6'	2.9	9	12h	36 km S of Los Banos.
14	Feb 13	07 45 50.3	38°56.8'	122°31.6'	3.5	6	18e	10 km ESE of Clear Lake. Felt in Lakeport, Clear Lake Highlands.
	Feb 14	11 42 14.2	40.6°	127.3°	4.0	5(R)	11a	Off coast 285 km W of Eureka.
15	Feb 27	10 54 17.9	40°33.8'	123°59.9'	3.3	10(R)	12b	Fortuna, 32 km SE of Eureka.
16	Feb 28	11 39 22.9	40°16.5'	124°03.0'	3.3	10(R)	12b	Honeydew, 60 km S of Eureka.
17	Mar 01	12 59 34.4	36°41.0'	121°22.4'	2.8	3	15f	Stone Canyon, 20 km SE of Hollister.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
18	Mar 02	20 30 15.0	37°08.9'	121°33.7'	2.6	6	16k	Coyote Lake area, 14 km NE of Gilroy.
19	Mar 03	08 21 14.0	36°47.5'	121°19.7'	2.7	6	13j	12 km SE of Hollister. Felt.
20	Mar 03	14 17 01.0	40°27.0'	125°16.0'	5.1	5(R)	15a	Off coast 100 km SW of Eureka. Felt Eureka and Southern Humboldt County.
17	Mar 05	03 45 21.6	36°39.7'	121°20.7'	2.8	7	15f	Stone Canyon, 23 km SE of Hollister.
17	Mar 06	11 03 44.8	36°40.2'	121°21.1'	3.8	7	15f	Stone Canyon. Felt Hollister, Paicines, Tres Pines, Cienega, Salinas.
17	Mar 06	11 05 09.2	36°39.8'	121°21.4'	4.0	7	14f	Stone Canyon. Felt Hollister, Paicines, Tres Pines, Cienega, Salinas.
17	Mar 06	11 06 06.5	36°40.2'	121°21.7'	2.6	4	12f	Stone Canyon.
17	Mar 06	11 07 37.5	36°39.6'	121°21.0'	3.0	5(R)	9f	Stone Canyon.
17	Mar 06	12 31 48.4	36°40.8'	121°21.8'	2.6	6	14f	Stone Canyon.
21	Mar 08	14 51 56.2	37°23.5'	121°44.2'	2.6	7	19k	15 km ENE of San Jose.
22	Mar 11	21 46 06.6	36°59.4'	121°28.1'	2.8	10	15k	Coyote Lake area, 13 km ESE of Gilroy.
23	Mar 16	13 10 06.1	35°48.4'	121°18.4'	2.5	7	9n	Near coast 44 km SSW of King City
24	Mar 22	14 12 55.2	38°48.4'	119°48.9'	3.6	17	14s	14 km NNW of Marklee-ville.
25	Mar 24	02 36 24.2	35°51.4'	121°28.2'	2.5	5	11n	Off coast 46 km SW of King City
26	Mar 25	12 51 19.3	37°21.1'	121°43.1'	2.6	7	15k	14 km E of San Jose.
27	Mar 28	22 00 17.1	40°18.0'	124°38.1'	3.4	14	15a	Off coast 70 km SW of Eureka.
28	Mar 31	10 16 04.8	36°59.7'	121°40.9'	2.6	6	15j	7 km SW of Gilroy.
20	Apr 02	03 14 00.2	40°26.0'	125°11.9'	3.5	5(R)	9a	Off coast 100 km SW of Eureka.
29	Apr 05	04 10 20.6	41°06.4'	124°00.5'	3.6	18	10b	30 km NE of Eureka.
30	Apr 07	05 17 30.6	37°50.4'	122°14.0'	3.5	5	11m	3 km SE of Berkeley. Felt Berkeley, Oakland, Moraga, Orinda.
45	Apr 09	02 46 49.1	37°36.6'	121°51.6'	2.7	11	8k	12 km SW of Livermore.
31	Apr 13	06 15 56.3	36°46.3'	121°31.2'	4.7	7	16j	Fremont Peak, 12 km SW of Hollister. Felt Hollister, Watsonville, Salinas, Monterey, San Jose, Santa Cruz, South San Francisco.
31	Apr 13	06 20 40.1	36°47.1'	121°32.8'	3.2	6	16j	Fremont Peak.
31	Apr 13	07 50 13.2	36°46.1'	121°30.8'	2.5	6	15j	Fremont Peak.
31	Apr 13	07 58 10.5	36°46.2'	121°30.7'	3.2	7	16j	Fremont Peak.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
31	Apr 13	15 39 00.7	36°45.2'	121°30.7'	2.8	7	13j	Fremont Peak.
31	Apr 13	17 02 52.0	36°46.9'	121°32.1'	2.8	7	16j	Fremont Peak.
31	Apr 13	21 51 25.2	36°47.0'	121°32.3'	2.7	6	15j	Fremont Peak.
31	Apr 13	23 08 44.3	36°45.9'	121°30.6'	3.2	7	17j	Fremont Peak.
31	Apr 14	00 49 18.5	36°45.7'	121°30.5'	2.6	6	13j	Fremont Peak.
31	Apr 14	03 45 38.7	36°46.3'	121°30.9'	2.5	7	14j	Fremont Peak.
31	Apr 14	13 49 58.6	36°46.6'	121°31.5'	2.6	9	14j	Fremont Peak.
32	Apr 15	12 51 55.5	40°57.6'	125°12.5'	3.7	10(R)	18b	Off coast 90 km WNW of Eureka.
27	Apr 16	06 27 54.0	40°19.5'	124°36.9'	3.0	14	18b	Off coast 70 km SW of Eureka.
31	Apr 19	12 45 50.8	36°47.6'	121°33.5'	3.0	7	16j	Fremont Peak.
8	Apr 26	07 36 47.8	37°19.4'	121°41.0'	3.1	8	16k	18 km E of San Jose.
31	Apr 28	18 21 25.5	36°47.6'	121°33.5'	3.3	7	16j	Fremont Peak.
33	Apr 29	13 50 23.0	40°30.9'	123°29.4'	4.0	10(R)	9b	Buck Mtns., 68 km SE of Eureka.
33	Apr 29	14 30 03.6	40°31.2'	123°30.5'	3.3	15(R)	17b	Buck Mtns., 68 km SE of Eureka.
34	May 01	03 28 50.7	37°03.0'	121°28.9'	2.6	4	12k	Coyote Lake area, 13 km E of Gilroy.
35	May 10	11 31 20.7	37°06.3'	121°55.9'	2.6	13	13j	Santa Cruz Mtns., 26 km SSW of San Jose.
36	May 10	22 30 38.5	36°49.8'	121°36.0'	2.7	6	16j	San Juan Bautista, 16 km W of Hollister.
11	May 15	14 52 31.0	36°37.2'	121°16.1'	3.0	9	12f	Bear Valley, 29 km SE of Hollister.
37	May 19	03 03 15.3	35°56.7'	120°33.0'	3.1	13	14n	Cholame Valley, 11 km SW of Coalinga.
11	May 20	02 16 16.0	36°33.6'	121°12.4'	2.5	6	12g	Bear Valley, 37 km SE of Hollister.
6	May 25	16 33 44.2	37°35.4'	118°50.8'	6.1	8	15x	Mammoth Lakes area. Felt Central and Eastern California, Western Nevada. See Appendix B and Special Listing, page 27 .
6	May 25	16 49 26.2	37°37.3'	118°54.1'	6.0	1	7x	Mammoth Lakes area Felt Central and Eastern California, Western Nevada.
6	May 25	19 44 51.0	37°32.7'	118°50.5'	6.1	13	14x	Mammoth Lakes area Felt Central and Eastern California, Western Nevada.
16	May 26	07 30 20.1	40°17.3'	124°15.2'	3.0	10(R)	17b	Petrolia, 60 km S of Eureka.
38	May 27	05 28 22.7	36°33.2'	121°10.2'	2.6	9	13g	Bear Valley, 40 km SE of Hollister.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
6	May 27	14 50 56.6	37°29.5'	118°49.8'	6.2	16	16x	Mammoth Lakes area. Felt Central and Eastern California, Western Nevada. See Appendix B and Special Listing, page 27 .
39	May 29	03 38 46.7	34°55.4'	120°51.0'	4.9	6	18n	Off coast at Pt. San Luis, 44 km SW of San Luis Obispo. Felt in parts of San Luis Obispo and Santa Barbara Counties.
1	May 29	07 10 50.8	36°12.7'	120°49.9'	2.6	11	13n	Peachtree Valley, 29 km E of King City.
	May 29	17 45 42.3	41°51.5'	126°29.0'	4.4	5(R)	10a	Off coast 280 km W of Crescent City.
1	May 31	13 28 15.5	36°12.5'	120°49.5'	2.7	7	11n	Peachtree Valley, 30 km E of King City.
40	Jun 01	17 02 55.3	38°48.2'	122°48.3'	3.1	2	18e	25 km S of Clear Lake.
41	Jun 03	16 24 08.1	41°09.1'	122°23.3'	3.3	5(R)	10c	Dunsmuir, 65 km N of Redding.
	Jun 09	18 39 24.5	40°27.4'	126°06.1'	4.0	5(R)	9a	Off coast 170 km SW of Eureka.
38	Jun 11	07 34 09.4	36°32.5'	121°08.6'	2.9	7	14g	Bear Valley, 43 km SE of Hollister.
42	Jun 18	03 48 09.0	36°53.8'	121°38.6'	3.7	6	15j	Watsonville, 20 km NW of Hollister. Felt in Santa Cruz and Monterey Counties and parts of the San Francisco Bay area.
42	Jun 18	04 52 26.6	36°53.8'	121°38.6'	4.2	6	15j	Watsonville. Felt in Santa Cruz and Monterey Counties and parts of the San Francisco Bay area.
42	Jun 18	05 31 05.2	36°54.2'	121°39.1'	3.8	6	15j	Watsonville. Felt in Santa Cruz and Monterey Counties and parts of the San Francisco Bay area.
42	Jun 18	05 42 56.5	36°54.5'	121°39.6'	3.0	5	13j	Watsonville.
42	Jun 18	08 35 26.8	36°54.2'	121°38.8'	3.5	4	16j	Watsonville. Felt.
27	Jun 21	00 42 56.5	40°23.4'	124°40.9'	3.8	10(R)	14b	Off coast 65 km SW of Eureka.
17	Jun 21	18 14 36.4	36°39.4'	121°20.6'	3.0	5	13f	Stone Canyon, 23 km SE of Hollister.
34	Jun 26	02 54 09.5	37°02.9'	121°29.0'	2.7	4	16k	Coyote Lake area, 12 km E of Gilroy. Felt.
34	Jun 26	03 56 46.6	37°03.1'	121°29.4'	3.2	4	16k	Coyote Lake area, 12 km E of Gilroy. Felt.
42	Jun 28	01 29 57.7	36°53.3'	121°37.7'	2.9	5	16j	Watsonville.
43	Jun 29	07 46 13.5	38°00.3'	118°41.3'	5.0	5	14p	Mono Lake area. Felt

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SEQUENCE OF THE LIVERMORE, CALIFORNIA, EARTHQUAKES

January 1 - June 30, 1980

Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
10	Jan 24	18 58 42.2	37°49.9'	121°48.5'	2.7	9	14	Foreshock.
	Jan 24	19 00 09.5	37°49.6'	121°48.5'	5.8	9	16	Main Shock. Felt from Reno and Santa Rosa in the north, to Monterey and Fresno in the south. Surface rupture noted along the Greenville Fault. Moderate damage in the Livermore Valley Region; minor injuries.
	Jan 24	19 01 02.1	37°48.7'	121°47.7'	(5.1)	5	8	Felt.
	Jan 24	19 01 45.5	37°49.2'	121°47.2'	(4.0)	5	6	Felt.
	Jan 24	19 03 19.3	37°50.2'	121°47.7'	(4.8)	6	7	Felt.
	Jan 24	19 12 41.8	37°49.9'	121°46.9'	3.1	5	10	Felt.
	Jan 24	19 26 04.2	37°51.3'	121°47.5'	2.6	5	9	
	Jan 24	19 43 17.7	37°49.4'	121°48.0'	2.8	8	10	
	Jan 24	19 51 17.0	37°49.7'	121°48.1'	2.6	9	10	
	Jan 24	19 56 04.9	37°50.0'	121°49.5'	3.5	10	10	Felt.
	Jan 24	19 58 08.9	37°45.8'	121°44.7'	3.0	11	11	Felt.
	Jan 24	20 31 07.7	37°49.9'	121°48.9'	3.0	10	12	Felt.
	Jan 24	20 51 12.6	37°50.7'	121°48.1'	3.0	7	10	Felt.
	Jan 24	22 24 14.8	37°50.5'	121°48.4'	2.5	4	12	
	Jan 24	22 32 30.0	37°52.2'	121°47.2'	2.5	8	12	
	Jan 24	22 38 02.7	37°50.9'	121°47.6'	2.6	6	13	
	Jan 24	23 46 01.2	37°51.0'	121°48.6'	2.6	7	14	
	Jan 25	00 15 08.8	37°50.8'	121°47.3'	3.1	6	14	Felt.
	Jan 25	00 40 58.3	37°50.3'	121°49.3'	2.6	10	14	
	Jan 25	01 18 43.7	37°50.6'	121°48.0'	2.8	5	14	
	Jan 25	01 48 06.9	37°50.4'	121°47.1'	3.0	5	12	Felt.
	Jan 25	03 14 00.6	37°50.1'	121°47.5'	2.7	6	10	
	Jan 25	03 23 47.6	37°50.6'	121°48.5'	2.7	7	8	
	Jan 25	04 06 24.9	37°51.2'	121°47.7'	3.0	6	10	Felt.
	Jan 25	04 26 32.1	37°50.3'	121°47.9'	2.9	5	10	Felt..
	Jan 25	04 26 34	37°50'	121°48'	3.0	5(R)	1	Felt.
	Jan 25	05 12 42.9	37°50.5'	121°47.7'	4.4	7	13	Felt.
	Jan 25	05 21 47.5	37°51.3'	121°48.2'	3.4	7	9	Felt.
	Jan 25	05 24 36.4	37°51.8'	121°48.9'	4.6	5	10	Felt.
	Jan 25	05 29 45.2	37°50.7'	121°48.3'	3.5	5	11	Felt.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
10	Jan 25	06 29 15.2	37°50.4'	121°48.2'	2.9	8	9	
	Jan 25	07 29 27.1	37°51.0'	121°48.6'	2.5	4	13	
	Jan 25	07 45 59.9	37°50.2'	121°48.5'	3.3	9	9	Felt.
	Jan 25	07 53 39.6	37°50.2'	121°48.1'	3.0	5	9	Felt.
	Jan 25	10 09 31.5	37°47.0'	121°46.0'	2.5	12	11	
	Jan 25	10 16 58.4	37°48.4'	121°47.4'	2.7	10	13	
	Jan 25	12 11 47.7	37°49.3'	121°47.8'	2.9	8	11	
	Jan 25	13 39 02.3	37°50.2'	121°47.4'	3.9	4	11	Felt.
	Jan 25	14 03 27.5	37°50.1'	121°47.3'	3.6	5	11	Felt.
	Jan 25	15 41 07.2	37°50.9'	121°47.4'	3.1	6	10	Felt.
	Jan 27	00 23 29.2	37°51.3'	121°48.6'	3.0	12	8 A	Felt.
	Jan 27	02 33 36.0	37°45.4'	121°43.6'	5.4	12	12 A	Largest aftershock. Felt throughout Bay Area. Minor damage and injuries reported.
	Jan 27	05 15 55.2	37°45.0'	121°43.5'	2.6	11	14	
	Jan 27	10 58 01.2	37°50.4'	121°48.5'	4.1	10	14	Felt.
	Jan 27	13 11 47.3	37°50.6'	121°47.6'	2.6	6	14	
	Jan 27	22 33 16.9	37°49.8'	121°48.5'	3.3	11	8 A	Felt.
	Jan 29	01 46 04.2	37°47.3'	121°45.6'	3.5	10	22 A	Felt.
	Jan 29	05 44 41.3	37°39.8'	121°39.0'	2.6	3	16 A	
	Jan 29	16 37 34.6	37°50.5'	121°48.4'	2.7	5	14	
	Feb 13	00 29 56.0	37°40.2'	121°38.7'	2.6	3	10 S	
	Feb 21	06 55 29.9	37°39.0'	121°41.9'	2.5	6	11 S	
	Feb 21	18 57 29.3	37°39.3'	121°41.9'	3.7	7	11 S	Felt.
	Feb 21	19 49 45.8	37°39.2'	121°41.5'	2.9	6	11 S	
	Feb 22	22 26 26.7	37°50.9'	121°47.5'	3.4	5	11	Felt.
	Feb 22	22 58 08.0	37°51.2'	121°47.4'	2.8	6	10	
	Feb 23	00 08 55.3	37°39.4'	121°41.4'	2.7	6	10 S	
	Mar 13	14 36 21.5	37°47.6'	121°46.6'	2.6	11	14	
	Apr 04	14 42 16.6	37°47.0'	121°46.4'	2.5	11	12	
	Apr 16	09 58 47.1	37°35.3'	121°42.8'	2.7	6	10 S	
	May 20	11 44 17.8	37°49.7'	121°48.2'	2.7	14	13	
	May 22	15 45 42.6	37°51.5'	121°47.8'	2.5	11	6	

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SERIES OF EARTHQUAKES NEAR MAMMOTH LAKES, CALIFORNIA

January 1 - June 30, 1980

Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
6	Jan 14	23 51 54.1	37°36.4'	118°48.7'	4.0	11	6D4	Felt Mammoth Lakes area.
	Feb 16	18 27 25.5	37°30.8'	118°48.5'	3.7	8	6D4	Felt.
	Feb 22	02 30 41.3	37°29.8'	118°41.4'	3.9	12	7D4	Felt.
	Mar 15	15 30 45.6	37°35.8'	118°49.2'	3.8	9	10A3	Felt.
	Mar 19	13 54 24.9	37°35.1'	118°51.2'	3.5	6	9A2	Felt.
	Mar 20	11 05 42.1	37°37.0'	118°54.1'	3.8	15	8C3	Felt.
	Mar 20	16 42 47.7	37°37.1'	118°55.5'	3.7	9	11A4	Felt.
	Mar 20	22 14 33.4	37°37.2'	118°54.6'	3.8	8	11A3	Felt.
	Mar 26	14 41 55.5	37°37.3'	118°54.8'	3.5	9	11A4	Felt.
	Mar 27	02 26 04.1	37°36.9'	118°53.2'	4.3	9	11A2	Felt Mammoth Lakes area.
	Mar 27	02 29 13.9	37°36.9'	118°53.8'	3.5	9	12A3	Felt.
	Mar 29	06 14 07.6	37°36.7'	118°55.1'	3.5	9	11A4	Felt.
	Apr 03	03 00 45.0	37°28.9'	118°40.0'	3.6	13	11A3	Felt.
	May 08	18 00 51.5	37°36.6'	118°53.8'	3.5	10	12A4	Felt.
	May 14	08 02 31.8	37°36.0'	118°50.0'	4.0	13	7C4	Felt Mammoth Lakes area.
	May 14	19 48 58.7	37°36.4'	118°54.3'	3.7	4	12A3	Felt.
	May 17	00 01 13.5	37°36.3'	118°50.2'	4.3	9	7C4	Felt Mammoth Lakes area.
	May 18	12 47 29.6	37°36.6'	118°53.2'	4.0	10	7C4	Felt Mammoth Lakes area.
	May 18	18 40 51.8	37°35.6'	118°50.3'	3.6	8	7C4	Felt.
	May 19	22 19 08.4	37°36.8'	118°53.5'	3.5	12	7C4	Felt.
	May 25	04 49 34.5	37°37.2'	118°52.8'	3.9	10	6C2	Felt.
	May 25	16 33 44.2	37°35.4'	118°50.8'	6.1	8	15A0	Felt Central and Eastern California, and Western Nevada.
	May 25	16 39 40.6	37°34.5'	118°50.2'	4.0	6	7D5	Felt Mammoth Lakes area.
	May 25	16 41 56.5	37°33.0'	118°52.1'	4.3	16	6D4	Felt Mammoth Lakes area.
	May 25	16 45 26.9	37°32.1'	118°55.1'	4.4	22	5D3	Felt Mammoth Lakes area.
	May 25	16 49 26.2	37°37.3'	118°54.1'	6.0	1	7D3	Felt Central and Eastern California, and Western Nevada.
	May 25	16 52 28.9	37°31.6'	118°54.1'	4.4	2	3E2	Felt Mammoth Lakes area.
	May 25	16 52 50	37°32'	118°54'	3.6	2	3E0	Felt.
	May 25	16 54 10.3	37°36.1'	118°53.5'	3.8	10	4E2	Felt.
	May 25	16 56 13.1	37°35.1'	118°55.2'	4.2	12	6D3	Felt Mammoth Lakes area.
	May 25	16 59 48.7	37°35.4'	118°52.3'	3.8	20	6D4	Felt.
	May 25	17 06 24.4	37°32.0'	118°55.8'	4.6	5	8D5	Felt Mammoth Lakes area.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
6	May 25	17 08 28.3	37°35.6'	118°50.8'	4.7	16	6D3	Felt Mammoth Lakes area.
	May 25	17 11 04.1	37°35.8'	118°54.6'	3.7	2	4E2	Felt.
	May 25	17 11 25.2	37°34.3'	118°49.7'	4.0	34	4E2	Felt Mammoth Lakes area.
	May 25	17 12 40.9	37°32.4'	118°54.5'	3.6	10(R)	5E3	Felt.
	May 25	17 13 48.9	37°34.3'	118°54.1'	3.5	3	4E2	Felt.
	May 25	17 16 03.0	37°36.5'	118°47.7'	3.5	15	5E3	Felt.
	May 25	17 16 51.9	37°34.9'	118°51.9'	3.9	9	7D4	Felt.
	May 25	17 17 29.5	37°36.9'	118°55.4'	3.6	10(R)	4E2	Felt.
	May 25	17 18 21.6	37°33.4'	118°57.2'	3.7	1	6D4	Felt.
	May 25	17 22 08.8	37°33.1'	118°50.7'	3.6	10(R)	4E2	Felt.
	May 25	17 27 10.6	37°33.0'	118°54.5'	3.8	10	7D4	Felt.
	May 25	17 45 34.0	37°34.4'	118°53.8'	3.5	13	5D3	Felt.
	May 25	17 46 42.8	37°35.8'	118°54.8'	3.7	10(R)	4E2	Felt.
	May 25	17 48 30.0	37°35.6'	118°53.6'	4.6	4	11A4	Felt Mammoth Lakes area.
	May 25	18 05 44.0	37°37.8'	118°51.3'	3.6	9	7D4	Felt.
	May 25	18 13 57.5	37°33.7'	118°52.9'	3.9	8	7D5	Felt.
	May 25	18 34 14.4	37°32.5'	118°54.4'	4.6	4	14A4	Felt Mammoth Lakes area.
	May 25	18 44 59.9	37°34.0'	118°53.7'	3.8	5	7D4	Felt.
	May 25	19 04 33.9	37°32.5'	118°54.0'	4.5	5	14A4	Felt Mammoth Lakes area.
	May 25	19 31 47.3	37°34.5'	118°52.2'	3.6	3	7D3	Felt.
	May 25	19 41 23.3	37°33.7'	118°53.0'	4.4	10	11A4	Felt Mammoth Lakes area.
	May 25	19 44 51.0	37°32.7'	118°50.5'	6.1	13	14A1	Felt Central and Eastern California, and Western Nevada.
	May 25	19 51 52.4	37°34.0'	118°48.9'	4.2	14	7D5	Felt Mammoth Lakes area.
	May 25	19 54 58.6	37°33.6'	118°53.6'	3.9	6	7D4	Felt.
	May 25	19 56 32.1	37°35.4'	118°50.7'	3.6	10(R)	6E4	Felt.
	May 25	20 12 21.8	37°27.4'	118°52.7'	3.8	11	7D5	Felt.
	May 25	20 23 25.5	37°37.0'	118°53.2'	4.5	5	13A4	Felt Mammoth Lakes area.
	May 25	20 34 48.8	37°31.7'	118°51.1'	3.6	10	6D3	Felt.
	May 25	20 35 48.0	37°36.4'	118°51.5'	5.7	5	14A4	Felt Eastern California and Western Nevada.
	May 25	20 38 38.5	37°37.9'	118°51.5'	4.5	5	7D3	Felt Mammoth Lakes area.
	May 25	20 40 47	37°38'	118°51'	3.8	5	2E0	Felt.
	May 25	20 44 41.5	37°33.2'	118°52.6'	3.9	5	7D5	Felt.
	May 25	20 59 22.6	37°34.1'	118°49.1'	5.0	8	16A5	Felt Eastern California and Western Nevada.
	May 25	21 14 05.7	37°31.4'	118°51.7'	3.6	12	6D4	Felt.
	May 25	21 17 23.9	37°36.9'	118°53.8'	4.0	2	7D5	Felt Mammoth Lakes area.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
6	May 25	21 20 07.4	37°31.0'	118°51.9'	3.6	4	7D5	Felt.
	May 25	21 20 52.6	37°34.9'	118°51.5'	3.7	10(R)	6D3	Felt.
	May 25	21 47 15.2	37°30.0'	118°51.4'	3.9	12	13A5	Felt.
	May 25	22 10 34.1	37°30.4'	118°50.7'	4.3	14	13A5	Felt Mammoth Lakes area.
	May 25	22 29 18.6	37°35.2'	118°50.5'	3.6	8	7D4	Felt.
	May 25	22 33 37.1	37°30.3'	118°50.3'	3.8	15	7D5	Felt.
	May 25	22 44 05.6	37°35.9'	118°55.4'	3.9	9	7D5	Felt.
	May 25	23 55 43.8	37°36.4'	118°55.4'	3.8	1	6D4	Felt.
	May 25	23 59 18.2	37°34.0'	118°51.4'	3.7	8	7D5	Felt.
	May 26	00 57 02.3	37°34.3'	118°56.6'	4.5	1	7D5	Felt Mammoth Lakes area.
	May 26	01 19 02.2	37°34.4'	118°56.9'	4.6	7	9D5	Felt Mammoth Lakes area.
	May 26	01 20 48.1	37°35.3'	118°56.4'	3.5	9	6D3	Felt.
	May 26	02 09 03.9	37°37.3'	118°50.7'	3.5	7	7D4	Felt.
	May 26	02 54 30.7	37°31.6'	118°49.2'	3.5	12	6D4	Felt.
	May 26	03 24 29.5	37°32.8'	118°51.0'	4.1	6	11A6	Felt Mammoth Lakes area.
	May 26	03 49 07.8	37°34.7'	118°51.8'	3.8	8	7D5	Felt.
	May 26	04 36 54.2	37°35.2'	118°49.9'	4.2	6	14A5	Felt Mammoth Lakes area.
	May 26	04 47 15.1	37°33.5'	118°53.9'	4.0	8	7D5	Felt Mammoth Lakes area.
	May 26	05 12 46.4	37°30.4'	118°50.9'	3.7	14	6D4	Felt.
	May 26	05 45 03.0	37°35.2'	118°50.9'	3.5	13	7D5	Felt.
	May 26	05 56 26.3	37°34.1'	118°53.8'	4.7	7	14A5	Felt Mammoth Lakes area.
	May 26	06 02 29.8	37°35.2'	118°56.4'	3.5	10	7D4	Felt.
	May 26	06 43 47.3	37°31.6'	118°52.2'	4.1	18	13A4	Felt Mammoth Lakes area.
	May 26	07 02 46.3	37°31.9'	118°49.4'	3.5	18	7D5	Felt.
	May 26	07 42 01.3	37°36.5'	118°53.1'	3.6	2	14A6	Felt.
	May 26	07 42 47.3	37°37.0'	118°50.9'	4.1	14	7E5	Felt Mammoth Lakes area.
	May 26	07 43 39.3	37°34.8'	118°54.3'	3.9	9	6E4	Felt.
	May 26	08 05 06.7	37°37.0'	118°57.0'	3.5	6	7D2	Felt.
	May 26	10 20 31.1	37°36.3'	118°48.6'	4.5	8	14A4	Felt Mammoth Lakes area.
	May 26	10 39 54.4	37°36.9'	118°54.6'	4.3	2	14A5	Felt Mammoth Lakes area.
	May 26	11 04 03.5	37°36.5'	118°48.4'	4.3	8	15A5	Felt Mammoth Lakes area.
	May 26	11 05 34.9	37°33.9'	118°48.9'	3.5	29	6E5	Felt.
	May 26	12 24 25.1	37°33.8'	118°53.0'	5.1	7	14A4	Felt Eastern California and Western Nevada.
	May 26	13 04 20.0	37°31.4'	118°52.1'	4.3	14	10C5	Felt Mammoth Lakes area.
	May 26	13 57 24.5	37°36.4'	118°52.4'	3.7	3	7D5	Felt.
	May 26	14 04 05.7	37°32.0'	118°53.9'	3.6	11	7D4	Felt.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
6	May 26	14 37 30.8	37°32.2'	118°52.9'	4.5	8	15A5	Felt Mammoth Lakes area
	May 26	15 50 32.9	37°33.1'	118°51.0'	3.8	10	13A6	Felt.
	May 26	16 20 21.6	37°32.8'	118°54.7'	4.8	5	14A4	Felt Mammoth Lakes area
	May 26	17 38 03.6	37°31.6'	118°56.0'	3.8	9	7D4	Felt.
	May 26	18 55 36.8	37°31.0'	118°53.7'	3.8	11	5D3	Felt.
	May 26	18 57 55.9	37°32.5'	118°53.4'	5.7	8	15A4	Felt Eastern California and Western Nevada.
	May 26	19 10 38.2	37°32.4'	118°53.5'	3.8	3	7D5	Felt.
	May 26	19 21 51.7	37°30.2'	118°52.3'	3.5	12	7D5	Felt.
	May 26	19 24 09.4	37°30.8'	118°52.7'	4.7	7	14A4	Felt Mammoth Lakes area
	May 26	19 44 31.4	37°36.4'	118°54.7'	3.6	7	7D4	Felt.
	May 26	19 52 40.2	37°30.9'	118°54.1'	3.6	9	7D4	Felt.
	May 26	20 01 31.2	37°29.6'	118°53.5'	3.8	8	7D4	Felt.
	May 26	20 03 40.2	37°34.3'	118°53.6'	4.1	7	14A4	Felt Mammoth Lakes area.
	May 26	21 42 09.2	37°34.1'	118°54.8'	3.7	3	7D4	Felt.
	May 26	21 57 42.1	37°32.7'	118°54.5'	3.8	9	7D4	Felt.
	May 26	21 58 10.8	37°33.1'	118°55.1'	3.5	10(R)	7E5	Felt.
	May 26	22 35 42.8	37°32.6'	118°54.2'	3.6	11	6D3	Felt.
	May 26	23 19 27.1	37°31.0'	118°53.6'	4.1	4	14A5	Felt Mammoth Lakes area.
	May 27	00 43 17.1	37°34.5'	118°53.0'	3.7	10	8D5	Felt.
	May 27	01 19 40.9	37°36.2'	118°54.2'	3.6	8	8D5	Felt.
	May 27	02 01 17.4	37°32.9'	118°51.6'	3.6	6	8D5	Felt.
	May 27	03 43 49.0	37°33.7'	118°55.0'	3.7	8	8D5	Felt.
	May 27	04 07 11.9	37°34.7'	118°49.3'	3.6	5	7D4	Felt.
	May 27	04 22 01.2	37°29.2'	118°52.0'	3.6	9	7D3	Felt.
	May 27	05 44 57.1	37°35.2'	118°54.9'	3.5	10	8D5	Felt.
	May 27	06 15 36.9	37°32.3'	118°54.4'	3.8	3	8D5	Felt.
	May 27	06 36 53.1	37°30.7'	118°53.6'	4.1	6	14A4	Felt Mammoth Lakes area.
	May 27	06 46 41.5	37°35.9'	118°56.8'	4.0	4	14A5	Felt Mammoth Lakes area.
	May 27	07 02 01.2	37°34.4'	118°54.5'	3.7	9	8D5	Felt.
	May 27	09 09 30.9	37°34.4'	118°52.2'	3.8	11	8D4	Felt.
	May 27	10 29 11.2	37°30.2'	118°53.9'	3.7	9	8D5	Felt.
	May 27	13 10 27.3	37°36.3'	118°48.5'	3.9	9	14A4	Felt.
	May 27	13 27 07.1	37°30.8'	118°53.0'	4.3	7	14A4	Felt Mammoth Lakes area.
	May 27	14 50 56.6	37°29.5'	118°49.8'	6.2	16	16A3	Felt Central and Eastern California and Western Nevada.
	May 27	14 58 42.1	37°28.1'	118°52.1'	3.6	11	6E4	Felt.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
6	May 27	15 01 11.5	37°31.3'	118°49.6'	4.0	17	14A5	Felt Mammoth Lakes area.
	May 27	15 05 39.1	37°30.2'	118°49.2'	3.5	17	8D5	Felt.
	May 27	15 13 46.1	37°31.2'	118°48.1'	4.0	15	7D5	Felt Mammoth Lakes area.
	May 27	15 41 46.8	37°28.4'	118°49.6'	4.0	13	7D5	Felt Mammoth Lakes area.
	May 27	16 09 53.7	37°31.5'	118°48.2'	3.8	7	14A6	Felt.
	May 27	16 10 40.1	37°31.6'	118°47.9'	4.0	7	7E5	Felt Mammoth Lakes area.
	May 27	16 35 46.0	37°28.2'	118°49.3'	3.6	14	8D5	Felt.
	May 27	16 49 11.7	37°30.1'	118°51.3'	3.9	9	8D3	Felt.
	May 27	17 09 58.3	37°29.0'	118°49.1'	4.2	10	15A4	Felt Mammoth Lakes area.
	May 27	17 47 37.8	37°32.0'	118°53.4'	3.6	6	8D4	Felt.
	May 27	18 36 08.8	37°27.8'	118°50.4'	4.0	17	7D5	Felt Mammoth Lakes area.
	May 27	19 01 07.9	37°35.5'	118°47.2'	4.8	6	31B7	Felt Mammoth Lakes area.
	May 27	19 47 21.8	37°34.8'	118°49.1'	3.5	4	9D5	Felt.
	May 27	21 34 53.8	37°30.5'	118°48.9'	4.3	12	31B11	Felt Mammoth Lakes area.
	May 27	23 41 03.3	37°33.3'	118°51.8'	3.8	9	31B11	Felt.
	May 27	23 57 43.4	37°32.5'	118°53.4'	4.0	6	15A6	Felt Mammoth Lakes area.
	May 28	04 02 58.4	37°35.9'	118°47.8'	3.9	5	36B9	Felt.
	May 28	04 22 11.1	37°33.0'	118°55.4'	3.9	4	32B9	Felt.
	May 28	05 16 23.0	37°34.4'	118°54.0'	4.9	4	36B7	Felt Mammoth Lakes area.
	May 28	05 48 29.5	37°37.1'	118°52.4'	4.6	6	23B2	Felt Mammoth Lakes area.
	May 28	06 07 43.2	37°35.0'	118°55.1'	4.0	3	23B2	Felt Mammoth Lakes area.
	May 28	10 13 02.5	37°29.1'	118°50.1'	3.7	18	9D5	Felt.
	May 28	11 54 37.5	37°28.2'	118°49.5'	4.4	10	35B11	Felt Mammoth Lakes area.
	May 28	14 06 30.3	37°29.7'	118°48.4'	3.5	13	7D5	Felt.
	May 28	14 18 22.4	37°28.2'	118°50.2'	3.7	16	9D5	Felt.
	May 28	15 45 16.2	37°32.5'	118°54.2'	3.5	11	9D5	Felt.
	May 29	04 18 52.3	37°32.5'	118°49.7'	4.2	12	36B11	Felt Mammoth Lakes area.
	May 29	04 58 56.6	37°30.6'	118°52.9'	3.9	8	14A5	Felt.
	May 29	05 55 43.5	37°30.2'	118°53.2'	4.0	6	31B8	Felt Mammoth Lakes area.
	May 29	07 32 20.8	37°29.1'	118°49.6'	3.5	9	9D5	Felt.
	May 29	16 56 56.5	37°30.1'	118°52.7'	4.0	8	15A5	Felt Mammoth Lakes area.
	May 29	17 21 00.9	37°30.5'	118°51.2'	4.1	7	35B10	Felt Mammoth Lakes area.
	May 29	18 53 55.8	37°30.4'	118°53.1'	3.5	14	5E3	Felt.
	May 30	12 01 52.5	37°31.3'	118°52.3'	3.9	9	31B10	Felt.
	May 30	15 41 57.8	37°33.8'	118°54.2'	4.0	5	30B8	Felt Mammoth Lakes area.
	May 30	15 49 01.9	37°31.8'	118°48.2'	3.5	7	15A6	Felt.
	May 30	19 49 02.4	37°34.3'	118°53.2'	3.7	9	15A5	Felt.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
6	May 31	00 58 17.3	37°29.5'	118°51.6'	4.5	9	28B6	Felt Mammoth Lakes area
	May 31	08 05 19.3	37°33.3'	118°50.1'	4.1	11	30B10	Felt Mammoth Lakes area
	May 31	10 11 30.7	37°35.1'	118°49.4'	4.2	5	35B14	Felt Mammoth Lakes area
	May 31	14 20 50.6	37°35.8'	118°55.8'	3.5	1	8D5	Felt.
	May 31	15 16 11.4	37°35.9'	118°47.5'	4.9	8	30B10	Felt Mammoth Lakes area
	May 31	15 20 19.3	37°35.9'	118°47.5'	4.0	7	25B10	Felt Mammoth Lakes area
	May 31	15 30 52.8	37°35.9'	118°48.3'	3.8	6	19B9	Felt.
	May 31	23 15 29.0	37°36.6'	118°50.6'	3.8	12	29B9	Felt.
	Jun 01	06 47 36.0	37°28.1'	118°51.2'	4.7	8	28B6	Felt Mammoth Lakes area
	Jun 01	17 27 24.8	37°34.3'	118°47.6'	3.7	8	8D5	Felt.
	Jun 01	22 30 22.2	37°37.3'	118°54.1'	3.5	10	6D4	Felt.
	Jun 02	10 22 20.4	37°36.0'	118°55.6'	4.1	6	31B13	Felt Mammoth Lakes area
	Jun 02	20 34 13.5	37°33.8'	118°52.7'	4.0	7	29B11	Felt Mammoth Lakes area
	Jun 03	17 34 11.7	37°33.7'	118°49.4'	3.5	14	9D6	Felt.
	Jun 04	08 34 20.2	37°28.1'	118°49.4'	3.5	14	8C4	Felt.
	Jun 04	19 09 21.3	37°31.7'	118°53.2'	3.8	7	26B8	Felt.
	Jun 05	19 41 01.6	37°33.4'	118°53.0'	4.3	8	31B11	Felt Mammoth Lakes area.
	Jun 06	16 26 10.7	37°33.6'	118°55.7'	3.5	4	13A4	Felt.
	Jun 06	17 16 15.2	37°27.4'	118°49.6'	3.7	16	8C5	Felt.
	Jun 07	01 31 57.8	37°37.1'	118°55.2'	3.9	5	14B8	Felt.
	Jun 07	22 25 40.3	37°30.3'	118°52.9'	3.5	8	13A4	Felt.
	Jun 07	23 17 52.5	37°37.8'	118°53.5'	4.0	5	32B12	Felt Mammoth Lakes area.
	Jun 08	06 25 27.1	37°32.3'	118°52.3'	3.9	9	31B13	Felt.
	Jun 08	23 22 20.8	37°28.9'	118°50.5'	4.4	14	18B6	Felt Mammoth Lakes area.
	Jun 10	15 21 35.4	37°34.4'	118°49.0'	3.5	6	14A6	Felt.
	Jun 11	04 40 58.5	37°32.5'	118°53.5'	4.7	8	12A3	Felt Mammoth Lakes area.
	Jun 11	04 42 25	37°32'	118°53'	3.8	8	4E1	Felt.
	Jun 11	04 47 35.5	37°34.0'	118°53.9'	3.8	6	13A4	Felt.
	Jun 11	17 10 22.7	37°37.7'	118°52.9'	3.6	9	9C5	Felt.
	Jun 12	00 55 55.4	37°32.6'	118°54.9'	3.5	13	9C4	Felt.
	Jun 13	14 56 58.9	37°37.1'	118°54.5'	3.8	10	9C5	Felt.
	Jun 13	23 23 19.9	37°28.7'	118°48.0'	4.1	17	9C2	Felt Mammoth Lakes area.
	Jun 14	03 36 32.4	37°34.4'	118°53.2'	3.5	6	13A3	Felt.
	Jun 14	05 47 47.7	37°36.9'	118°55.0'	3.5	12	9C4	Felt.
	Jun 16	08 22 38.4	37°37.2'	118°52.3'	3.5	10	13A5	Felt.
	Jun 17	12 26 39.5	37°30.6'	118°53.5'	3.9	9	9C3	Felt.
	Jun 17	12 27 12.6	37°30.0'	118°53.0'	4.0	4	8C2	Felt Mammoth Lakes area.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
6	Jun 20	17 24 07.2	37°32.5'	118°54.9'	4.0	4	9C4	Felt Mammoth Lakes area.
	Jun 23	05 16 52.7	37°35.2'	118°51.5'	3.5	11	13A4	Felt.
	Jun 27	01 29 29.2	37°34.9'	118°51.2'	3.7	10	13A2	Felt.
	Jun 28	00 57 33.8	37°34.0'	118°50.8'	3.8	10	9C4	Felt.
	Jun 28	00 58 42.8	37°33.2'	118°50.4'	4.2	19	9C3	Felt Mammoth Lakes area.
	Jun 28	03 53 01.4	37°35.1'	118°50.7'	3.6	11	9C4	Felt.
	Jun 29	04 16 12.9	37°31.6'	118°50.4'	3.5	8	12A6	Felt.
	Jun 30	01 49 14.3	37°36.3'	118°55.5'	3.5	6	13A5	Felt.
	Jun 30	02 09 43.7	37°28.3'	118°49.8'	3.6	17	13A4	Felt.

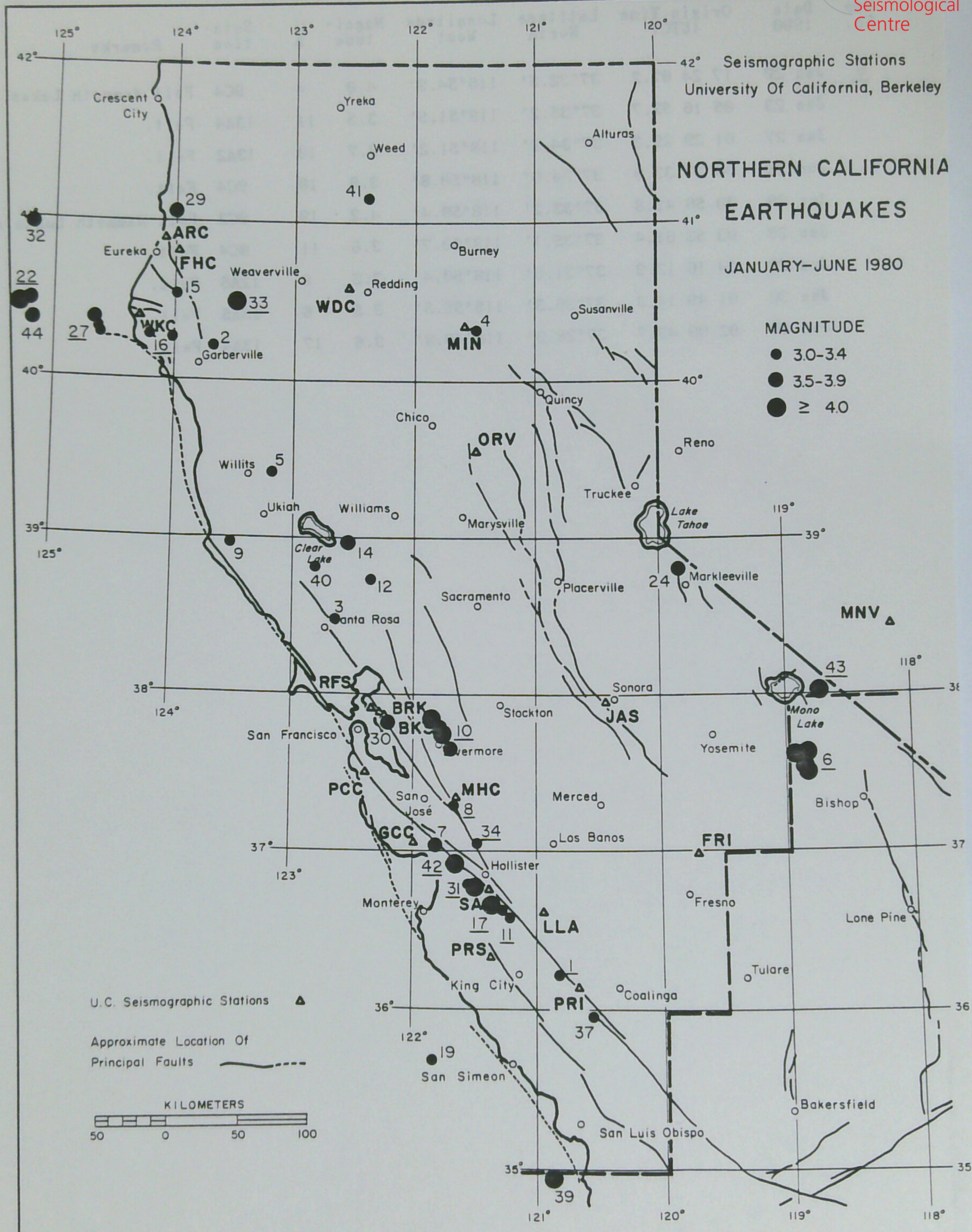
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NORTHERN CALIFORNIA EARTHQUAKES

JANUARY–JUNE 1980

Seismographic Stations
University Of California, Berkeley

MAGNITUDE
- 3.0–3.4
- 3.5–3.9
- ≥ 4.0

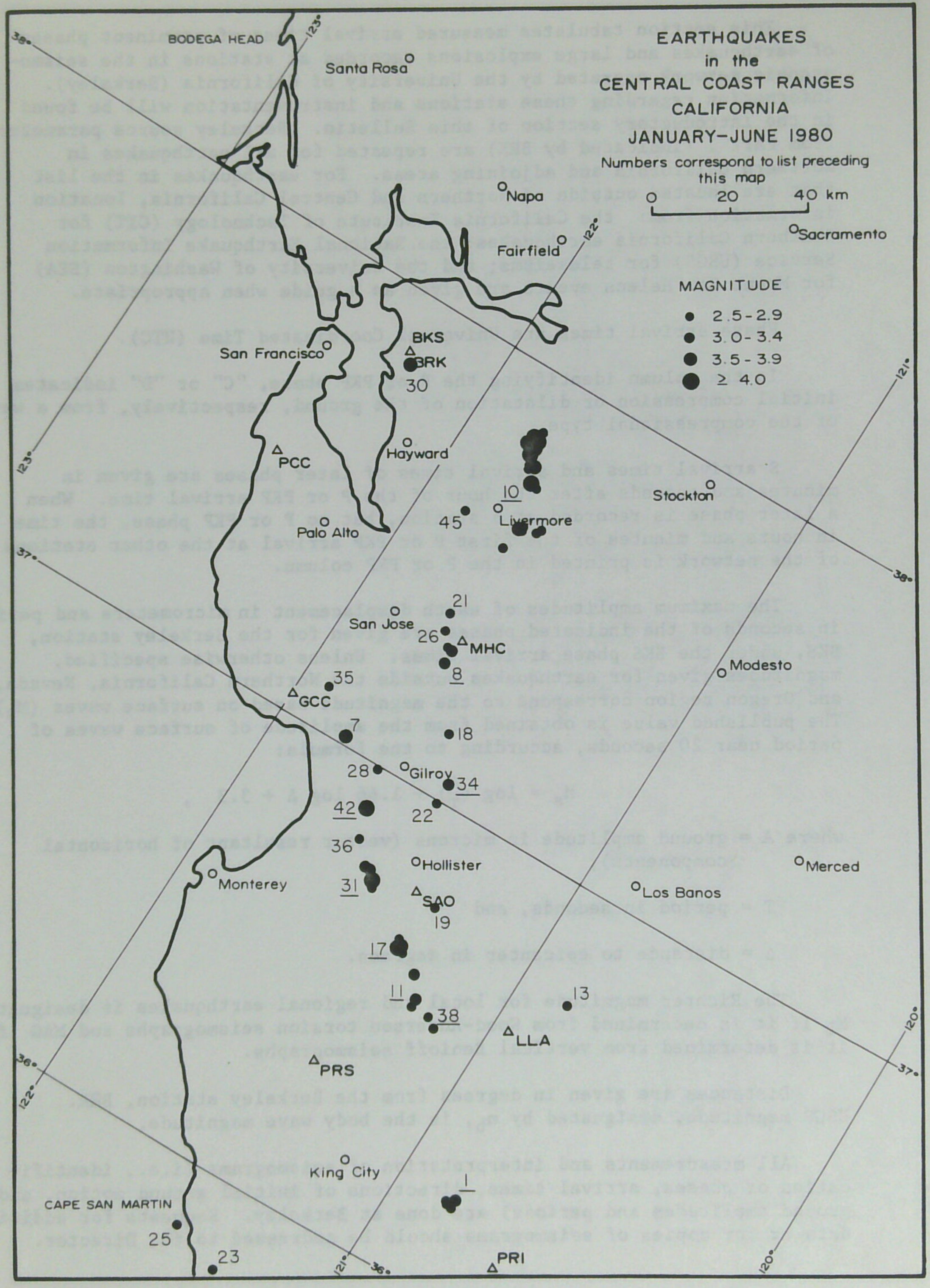


U.C. Seismographic Stations ▲

Approximate Location Of Principal Faults

KILOMETERS
50 0 50 100

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PART II. REGISTRATION OF EARTHQUAKES

This section tabulates measured arrival times of prominent phases of earthquakes and large explosions recorded at stations in the seismographic network operated by the University of California (Berkeley). Information regarding these stations and instrumentation will be found in the introductory section of this Bulletin. Berkeley source parameters from Part I (indicated by BRK) are repeated for all earthquakes in Northern California and adjoining areas. For earthquakes in the list that are located outside of Northern and Central California, location information from: the California Institute of Technology (CIT) for Southern California earthquakes; the National Earthquake Information Service (USGS) for teleseisms; and the University of Washington (SEA) for Mount St. Helens events are given as a guide when appropriate.

Phase arrival times are Universal Coordinated Time (UTC).

In the column identifying the P or PKP phase, "C" or "D" indicates initial compression or dilatation of the ground, respectively, from a wave of the compressional type.

S arrival times and arrival times of later phases are given in minutes and seconds after the hour of the P or PKP arrival time. When a later phase is recorded at a station, but no P or PKP phase, the time in hours and minutes of the first P or PKP arrival at the other stations of the network is printed in the P or PKP column.

The maximum amplitudes of earth displacement in micrometers and periods in seconds of the indicated phases are given for the Berkeley station, BKS, under the BKS phase arrival times. Unless otherwise specified, magnitudes given for earthquakes outside the Northern California, Nevada, and Oregon region correspond to the magnitude based on surface waves (M_S). The published value is obtained from the amplitude of surface waves of period near 20 seconds, according to the formula:

$$M_S = \log\left(\frac{A}{T}\right) + 1.66 \log \Delta + 3.3 \quad ,$$

where A = ground amplitude in microns (vector resultant of horizontal components),

T = period in seconds, and

Δ = distance to epicenter in degrees.

The Richter magnitude for local and regional earthquakes is designated M_L if it is determined from Wood-Anderson torsion seismographs and MAG if it is determined from vertical Benioff seismographs.

Distances are given in degrees from the Berkeley station, BRK. USGS magnitude, designated by m_b, is the body wave magnitude.

All measurements and interpretation of seismograms (i.e., identification of phases, arrival times, directions of initial ground motion, and ground amplitudes and periods) are done at Berkeley. Requests for additional data or for copies of seismograms should be addressed to the Director.

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UNIVERSITY OF CALIFORNIA
SEISMOGRAPHIC STATIONS
BERKELEY, CALIFORNIA 94720

JANUARY 01 THROUGH JUNE 30, 1980

DATE	STA	P OR PKP (Phase h m s)	S (m s)	OTHER PHASES (Phase m s Phase m s Phase m s)
JAN 01	PRI	iPd 02 09 29.0		
	LLA	iPd 02 09 34.0		
	PRS	iPe 02 09 34.5		
	SAO	iP 02 09 39.0		
	FRI	eP 02 09 47.1	10 03	
	GCC	iPd 02 09 48.0		
	MHC	eP 02 09 49.2	10 06	
	JAS	iPd 02 09 55.4	10 18	
	PCC	eP 02 09 55.5		
	BKS	ePe 02 09 58.9		Pg 10 06 Sg 10 27
		BRK 02 09 25.9, 36.2N, 120.8W, h= 6 km, ML=3.2		
		EAST OF KING CITY, CALIFORNIA		
JAN 01	MNV	eP 16 53 37.5		
	MIN	eP 16 53 44.9		
	ORV	eP 16 53 46.4		
	FRI	eP 16 53 46.7		
	JAS	iPd 16 53 48.8		
	WDC	eP 16 53 49.2		
	FHC	16 53		e 53 56
	MHC	ePd 16 53 56.2		
	PRI	ePd 16 53 56.5		
	BKS	eP 16 53 58.2	03 16	e 54 05 e 54 46 PP 56 38
				PPP 58 23 e 03 46 e 05 16
				SS 08 08 SSS 11 05 Lq 13 00
				Lr 15 34
		MICRON PERIOD		
		PZ 0.03 0.8		
		LZ 70 20		
		LNE 110 20		
		LNW 50 20		
		Ms=7.2, DISTANCE=73°		
		USGS 16 42 40.0, 38.8N, 27.8W, h= 10 km, mb=6.0, Ms=6.7		
		AZORES ISLANDS		
JAN 02	SAO	e(P) 19 52 56		
	BRK	eP 19 52 56		
	MHC	ePe 19 52 58.0		
	FHC	eP 19 53 02.7		
	FRI	ePe 19 53 02.8		
	JAS	ePe 19 53 03.5		
	ORV	eP 19 53 05.4		
	WDC	ePe 19 53 05.9		
	MNV	eP 19 54 13		
		TONGA ISLANDS REGION		
JAN 02	FHC	e(P) 21 12 27		
	WDC	eP 21 12 36.0		PKiKP 16 45 PP 17 28 PKKP 28 40
	MIN	eP 21 12		e 40 34
	ORV	eP 21 12 39.8		e 12 41
	BKS	ePe 21 12 40.4	24 24	e 16 10 PPP 19 13 SKS 23 25 SKKS 23 53
				PS 26 06 e 26 20 PPS 27 04
				SSS 30 56 e 31 06 e 31 44
				SSS 35 12 SeS 36 34 e 38 48
				Lq 40 52 Lr 45 20
		MICRON PERIOD		
		PZ 0.01 0.8		
		LZ 39 20		
		LN 8 20		
		LE 32 20		
	MHC	eP 21 12 44.0		
	JAS	eP 21 12 47.0		e 16 14 PKiKP 17 07 PP 17 29
				PKKP 28 31
	FRI	eP 21 12 50.5		
	MNV	eP 21 12 53.8		PKiKP 17 21 e 23 34 PKKP 28 27
		Ms=6.9, DISTANCE=103°		
		USGS 20 58 44.2, 6.0N, 126.2E, h= 63 km, mb=6.0		
		MINDANAO, PHILIPPINE ISLANDS		
JAN 02	WDC	ePd 22 02 04.6		e 18 03
	MIN	22 02		e 02 06
	ORV	eP 22 02 09		
	JAS	e(P) 22 02 14		e 18 01
	PRI	22 02		e 02 16
	FRI	22 02		e 02 19 e 18 59
		USGS 21 48 16.5, 6.0N, 126.1E, h= 76 km, mb=5.7		
		MINDANAO, PHILIPPINE ISLANDS		
JAN 02	FRI	eP 22 40 38		
	PRI	eP 22 40 40		
	MNV	eP 22 40 40.2		
	JAS	eP 22 40 46.8		
	MHC	eP 22 40 49		
	BKS	e(P) 22 40 54		
		MICRON PERIOD		
		PZ 0.02 0.8		
	ORV	eP 22 40 56.2		
	MIN	e(P) 22 41 01		
	WDC	eP 22 41 03.3		
	FHC	eP 22 41 10.7		
		USGS 22 30 24.2, 10.7S, 79.2W, h= 17 km, mb=5.3		
		OFF COAST OF PERU		
JAN 03	FHC	eP 20 10 25.2		
	WDC	eP 20 10 29.3		
	MIN	eP 20 10 32.8		
	ORV	iPd 20 10 35.1		
	BKS	iPe 20 10 38.3		
		MICRON PERIOD		
		PZ 0.11 0.8		
	MHC	eP 20 10 41.4		
	SAO	eP 20 10 43.2		
	JAS	eP 20 10 45.4		
	PRI	20 10		e 10 49
	FRI	eP 20 10 48.0		
	MNV	eP 20 10 49.3		
		USGS 19 58 07.8, 28.5N, 128.4E, h=134 km, mb=5.4		
		RYUKYU ISLANDS		
JAN 03	FHC	eP 20 36 09.0		
	WDC	eP 20 36 12.3		PKKP 52 14
	MIN	20 36		e 36 15
	ORV	iPd 20 36 17.5		e 40 37
	JAS	20 36		PKKP 52 07
	PRI	20 36		e 36 27
	FRI	20 36		PKKP 52 05
		USGS 20 22 28.1, 5.7N, 126.0E, h=114 km, mb=5.8		
		MINDANAO, PHILIPPINE ISLANDS		
JAN 03	MNV	21 16		e 16 54
	JAS	21 17		e 17 04
	ORV	iPd 21 17 13.4		
	WDC	21 17		e 17 18
		USGS 21 06 40.7, 10.9S, 79.1W, h= 33 km, mb=5.3		
		OFF COAST OF PERU		
JAN 04	SAO	eP 04 49 57.0		
	BKS	ePe 04 49 57.7		
		MICRON PERIOD		
		PZ 0.05 0.9		
	MHC	eP 04 49 58.5		
	PRI	eP 04 49 58.6		
	FHC	04 50		e 50 02
	FRI	eP 04 50 03.7		
	JAS	iPe 04 50 04.0		
	ORV	iPe 04 50 05.0		
	WDC	iP 04 50 05.0		
	MIN	eP 04 50 06.9		
	MNV	iPe 04 50 13.6		
		USGS 04 39 02.9, 17.8S, 178.7W, h=568 km, mb=5.3		
		FIJI ISLANDS REGION		
JAN 04	FRI	eP 12 52 15.9		
	PRI	eP 12 52 15.9		
	MNV	iPe 12 52 19.0		e 01 39
	JAS	eP 12 52 25.6		
	MHC	12 52		e 52 29
	BKS	12 52	57 34	e 57 51 Lq 59 40 Lr 01 20
		MICRON PERIOD		
		LZ 0.7 20		
		LN 3.0 20		
		LE 5 20		
	ORV	eP 12 52 41.5		
		USGS 12 46 53.6, 17.7N, 101.0W, h= 66 km, mb=5.1		
		NEAR COAST OF GUERRERO, MEXICO		
JAN 06	BKS	ePe 05 20 55.9		
		MICRON PERIOD		
		PZ 0.08 1.1		
	SAO	e(P) 05 20 56		
	FHC	e(P) 05 20 57		
	MHC	ePe 05 20 57.0		
	PRI	ePe 05 20 58.0		
	WDC	iPe 05 21 01.0		
	ORV	iPe 05 21 01.8		
	JAS	iPe 05 21 02.0		
	FRI	ePe 05 21 02.3		
	MIN	ePe 05 21 03.0		
	MNV	iPe 05 21 10.6		
		USGS 05 08 41.1, 19.1S, 169.1E, h=231 km, mb=5.2		
		VANUATU ISLANDS		
JAN 06	MNV	iPd 19 23 17.3		
	FRI	eP 19 23 19.8		
	PRI	eP 19 23 23.8		
	JAS	ePd 19 23 27.2		
	SAO	eP 19 23 29.1		
	MHC	ePd 19 23 32.9		
	BKS	ePe 19 23 37.6		
		MICRON PERIOD		
		PZ 0.06 0.8		
	ORV	iPd 19 23 37.8		
	MIN	ePd 19 23 39.8		
	WDC	iPd 19 23 43.5		
	FHC	ePd 19 23 54.3		
		USGS 19 14 26.1, 6.8N, 73.0W, h=161 km, mb=4.9		
		NORTHERN COLOMBIA		
JAN 06	SAO	eP 22 22 15.5		
	BKS	ePe 22 22 16.8		
	PRI	ePe 22 22 16.9		
	MHC	ePe 22 22 17.3		
	FRI	ePe 22 22 21.8		
	JAS	iPe 22 22 22.3		
	ORV	iPe 22 22 24.0		
	WDC	iPe 22 22 24.2		
	MIN	22 22		e 22 26
	MNV	iPe 22 22 30.9		
		USGS 22 10 47.0, 23.8S, 179.8W, h=474 km, mb=5.1		
		SOUTH OF FIJI ISLANDS		
JAN 07	MNV	iPe 00 42 34.7		e 42 41
	JAS	eP 00 42 43.3		e 42 49
	ORV	iPe 00 42 55.3		e 43 02
		USGS 00 33 35.6, 2.9N, 78.8W, h= 19 km, mb=5.0, Ms=4.6		
		NEAR WEST COAST OF COLOMBIA		
JAN 07	PRI	eP 17 00 53.6		
	FRI	17 00		e 00 55
	MNV	eP 17 01 00.8		
	JAS	eP 17 01 00.8		
	MHC	17 01		e 01 08
	BKS	17 01		Lq 07 13 e 07 28 Lr 08 06
		MICRON PERIOD		
		LZ 3.1 20		
		LN 1.8 21		
		LE 2.3 20		
	ORV	eP 17 01 23.6		
		USGS 16 55 48.7, 17.6N, 105.8W, h= 10 km, mb=4.6		
		OFF COAST OF JALISCO, MEXICO		
JAN 07	FHC	eP 20 16 08.6		
	WDC	iPe 20 16 15.4		i 16 43 i 16 56
	MIN	iPe 20 16 20.0		
	ORV	iPe 20 16 23.8		
	BKS	ePe 20 16 29.1		e 16 35 e 17 08 e 17 14
				Lr 33 14
		MICRON PERIOD		
		PZ 0.05 0.8		
	MHC	eP 20 16 34.1		
	JAS	iPe 20 16 36.5		i 17 04 i 17 16
	SAO	20 16		e 16 37
	FRI	eP 20 16 43.2		
	MNV	iPe 20 16 43.5		i 17 11
	PRI	eP 20 16 44.0		
		USGS 20 06 57.3, 51.3N, 156.7E, h=112 km, mb=5.6		
		KAMCHATKA		
JAN 07	WDC	eP 23 56 32.1		
	ORV	iPe 23 56 38.5		
	JAS	eP 23 56 48.5		
	FRI	23 56		e 56 53
	PRI	23 56		e 56 56
		USGS 23 44 26.0, 40.2N, 125.0E, h= 10 km, mb=5.0		
		NORTH KOREA		
JAN 08	FRI	eP 00 35 14		
	PRI	eP 00 35 15.5		
	MNV	eP 00 35 17.8		
	JAS	eP 00 35 24.1		
	MHC	eP 00 35 27.2		
	BKS	00 35		e 35 31 e 35 50 Lr 48 40
	ORV	eP 00 35 38.2		
	WDC	eP 00 35 45.3		
		USGS 00 27 06.3, 2.5N, 90.0W, h= 10 km, mb=5.2, Ms=5.0		
		GALAPAGOS ISLANDS REGION		
JAN 08	FRI	eP 19 32 02.2		
	MNV	eP 19 32 03.8		pP 32 31
	PRI	eP 19 32 04.0		pP 32 31
	JAS	ePd 19 32 09.2		pP 32 36
	MHC	eP 19 32 11.9		
	ORV	ePd 19 32 19.0		pP 32 46
	MIN	eP 19 32 21.0		
	WDC	ePd 19 32 24.1		pP 32 51
	FHC	eP 19 32 31.5		
		USGS 19 20 32.3, 20.9S, 69.2W, h=105 km, mb=4.8		
		NORTHERN CHILE		

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JAN 09  BKS   eP     03 20 13.1
                        MICRON     PERIOD
                  PZ      0.02        0.7
        MHC   eP     03 20 14.1
        PRI   eP     03 20 14.8
        WDC   eP     03 20 16.0
        ORV   eP     03 20 17.3
        JAS   eP     03 20 18.3
        FRI   eP     03 20 19.1
        MNV   eP     03 20 27.5
              USGS 03 07 57.9, 14.7S, 167.2E, h=165 km, mb=5.5
                   VANUATU ISLANDS

JAN 09  WDC   ePe    12 02 23.0
        ORV   ePe    12 02 31.0
        BKS          12 02                  e 02 37
        MHC   eP     12 02 41
        JAS   ePe    12 02 43.3
        MNV   ePe    12 02 49.6
        FRI   ePe    12 02 50.0
              USGS 11 53 30.5, 52.5N, 152.3E, h=546 km, mb=4.7
                   NORTHWEST OF KURIL ISLANDS

JAN 09  WKC   iPe    12 17 27.5  17 34
        FHC   iPd    12 17 29.8  17 38
        WDC   iPe    12 17 35.8  17 49
        MIN   eP     12 17 45.0
        ORV   e(P)   12 17 48
        PCC   eP     12 18 03
        MHC   eP     12 18 10
        SAO   eP     12 18 16.5
              BRK  12 17 18.6, 40.2N, 123.8W, h= 22 km, ML=3.0
                   NORTHEAST OF GARBERVILLE, CALIFORNIA

JAN 09  BKS   iPe    19 53 33.1  53 43      e 53 34      e 53 35
        ORV   iPe    19 53 43.8
        MHC   eP     19 53 44.4
        JAS   eP     19 53 50.5
        SAO   eP     19 53 52.0
              BRK  19 53 20.1, 38.5N, 122.6W, h=  8 km, ML=3.0
                   NORTHEAST OF SANTA ROSA, CALIFORNIA

JAN 10  FRI          10 53                  e 53 15
        JAS   eP     10 53 15.2
        WDC          10 53                  e 53 18
        ORV   eP     10 53 17.3
        MNV   iPd    10 53 25.5
              USGS 10 41 33.2, 18.8S, 174.6W, h= 60 km, mb=5.1
                   TONGA ISLANDS

JAN 12  WDC   eP     16 07 53.6
        ORV   eP     16 08 00.6
        JAS   eP     16 08 11.6
        PRI   e(P)   16 08 18
        FRI   eP     16 08 18.0
        MNV   eP     16 08 18.7
              USGS 15 57 01.9, 41.7N, 143.6E, h= 33 km, mb=5.7, Ms=6.0
                   HOKKAIDO, JAPAN REGION

JAN 13  MIN   eP     17 26 38.6  26 42
        WDC   eP     17 26 51    27 02
        JAS   eP     17 27 16    27 46
              BRK  17 26 36.2, 40.3N, 121.5W, h= 12 km, ML=3.0
                   NORTHEAST OF CHICO, CALIFORNIA

JAN 14  WKC   iPe    08 54 54.3  55 11
        WDC   iPd    08 54 55.0  55 11
        MIN   eP     08 54 58.5
        FHC   e(P)   08 55 01                  e 55 03
        JAS   e(P)   08 55 15
              BRK  08 54 32.3, 39.4N, 123.2W, h=  9 km, ML=3.1
                   EAST OF WILLITS, CALIFORNIA

JAN 14  PRI   e(P)   12 31 35
        MHC   eP     12 31 36
        BKS   e(P)   12 31 40    41 32      e 42 47      Lq 51 20      Lr 55 20
                        MICRON     PERIOD
                  LZ         8         20
                  LN         5         20
                  LE         5         20
        FRI   e(P)   12 31 41
        JAS   e(P)   12 31 42
        WDC   e(P)   12 31 45
              Ms=5.9, DISTANCE=78°
              USGS 12 19 40.2, 22.4S, 175.0W, h= 33 km, mb=5.6, Ms=6.0
                   TONGA ISLANDS REGION

JAN 14  FRI   eP     22 03 31.1
        PRI   eP     22 03 34.7
        JAS   eP     22 03 39.6
        MHC   eP     22 03 41.0
        BKS          22 03                  e 03 45
        MIN   eP     22 03 49.2
        WDC   eP     22 03 53.2
              USGS 21 51 01.8, 33.2S,  69.5W, h= 14 km, mb=5.6, Ms=5.2
                   CHILE-ARGENTINA BORDER REGION

JAN 14  MNV   iPe    23 52 12.0
        FRI   iPe    23 52 12.1  52 24
        JAS   iPe    23 52 18.8  52 36
        LLA   iPe    23 52 29.5
        PRI   iP     23 52 31.1
        SAO   iPe    23 52 33.6
        MHC   eP     23 52 34.4
        PRS   eP     23 52 35.7
        GCC   eP     23 52 37.9
        BKS   eP     23 52 40.3                  e 53 18
        PCC   eP     23 52 41.7
              BRK  23 51 54.1, 37.6N, 118.8W, h= 11 km, ML=4.0
                   MAMMOTH LAKES, CALIFORNIA

JAN 15  SAO          04 36                  e 36 56
        BKS          04 36                  e 36 57
        PRI   eP     04 36 57.3
        MHC   eP     04 36 57.6
        FRI   eP     04 37 02.2                  e 39 23
        JAS   iPe    04 37 03.0                  e 39 23
        WDC   iPe    04 37 04.5                  e 39 23
        MIN          04 37                       e 37 06
        MNV   iPe    04 37 11.7                  e 39 21
              USGS 04 25 45.6, 22.2S, 179.5W, h=605 km, mb=5.5
                   SOUTH OF FIJI ISLANDS

JAN 16  BKS   e(P)   04 13 06    23 44      PPS 25 00      Lq 36 00      Lr 40 20
                        MICRON     PERIOD
                  LZ       2.5         20
                  LN       1.8         20
                  LE       1.8         20
        SAO   eP     04 13 07.0
        MHC   eP     04 13 07.9
        PRI   eP     04 13 08.4
        FRI   eP     04 13 12.7
        WDC   ePe    04 13 12.7
        JAS   ePe    04 13 12.8
        MIN   eP     04 13 14.2
        MNV   iPe    04 13 21.1
              Ms=5.5, DISTANCE=88°
              USGS 04 00 26.2, 21.8S, 170.6E, h= 46 km, mb=5.4, Ms=5.6
                   LOYALTY ISLANDS REGION

JAN 16  FRI          11 13                  e 13 16
        PRI   eP     11 13 16.5
        MNV   iPd    11 13 18.0                  e 13 26
              USGS 11 07 55.2, 17.7N, 101.2W, h= 89 km, mb=4.7
                   NEAR COAST OF GUERRERO, MEXICO

JAN 16  FRI   eP     16 00 00.4
        PRI   ePd    16 00 01.8                  e 00 30
        MNV   ePd    16 00 02.0                  e 00 28
        JAS   ePd    16 00 08.1
        MHC   eP     16 00 11.0
        BKS   eP     16 00 15                    e 02 51      e 09 20      e 14 01
        MIN   eP     16 00 21.0
        WDC   ePd    16 00 24.2                  e 00 52
        FHC   eP     16 00 32.8                  e 01 00
              USGS 15 49 15.0, 14.5S,  73.5W, h= 94 km, mb=5.7
                   PERU

JAN 17  GCC   iPe    01 11 43.2
        MHC   iPd    01 11 46.8
        SAO   iP     01 11 47.0
        PCC   iPe    01 11 51.6
        PRS   ePd    01 11 53.9
        LLA   ePe    01 11 54.3
        BKS   ePd    01 11 56.0                  i 12 09
        PRI   eP     01 12 02.3
        JAS   ePe    01 12 04.1                  e 12 22      i 12 24
        FRI   iPe    01 12 07.1
              BRK  01 11 39.5, 37.0N, 121.8W, h= 15 km, ML=3.6
                   WEST OF GILROY, CALIFORNIA

JAN 17  WDC   ePd    02 03 53.1
        MIN   eP     02 03 56.6
        BKS   e(P)   02 04 07                    e 23 40
                        MICRON     PERIOD
                  LZ       1.4         20
                  LN         0         20
                  LE       1.6         20
        MHC   e(P)   02 04 06
        JAS   ePd    02 04 09.0
        PRI   ePd    02 04 13.5
        FRI   eP     02 04 14.1
        MNV   ePd    02 04 16.2
              USGS 01 52 20.7, 32.9N, 141.6E, h= 20 km, mb=5.3, Ms=5.1
                   SOUTH OF HONSHU, JAPAN

JAN 17  FHC   iPe    09 32 56.9
        WDC   iPe    09 33 01.9
        MIN   ePe    09 33 05.3
        ORV   ePe    09 33 07.6
        BKS   ePe    09 33 09.6
                        MICRON     PERIOD
                  PZ      0.02        0.8
        MHC   iPe    09 33 13.1
        SAO   ePe    09 33 14.8
        JAS   iPe    09 33 15.9
        PRI   iPe    09 33 20.1
        FRI   iPe    09 33 20.2
        MNV   iPe    09 33 23.0
              USGS 09 21 56.6, 28.3N, 138.8E, h=541 km, mb=5.3
                   BONIN ISLANDS REGION

JAN 17  MHC   iPe    21 52 00.0
        GCC   iPd    21 52 05.9  52 13
        PCC   iPe    21 52 09.1  52 20
        SAO   iPd    21 52 10.0
        BKS   eP     21 52 12.0                  e 52 24
        LLA   eP     21 52 15.2
        PRS   iP     21 52 17.2
        JAS   iPd    21 52 19.7  52 35
              BRK  21 51 58.4, 37.3N, 121.7W, h=  8 km, ML=2.8
                   EAST OF SAN JOSE, CALIFORNIA

JAN 18  FHC   eP     22 21 10.8
        WDC   iPe    22 21 15.5                  pP 22 58
        MIN   eP     22 21 19.1
        ORV   ePe    22 21 21.8
        BKS   eP     22 21 25.6  30 40      e 21 30      PP 23 44      e 25 00
                        MICRON     PERIOD
                  PZ      0.21        0.8
        MHC   eP     22 21 29.7
        JAS   iPe    22 21 31.5                  pP 23 16
        SAO   eP     22 21 31.5
        FRI   eP     22 21 37.0                  pP 23 20
        PRI   ePe    22 21 37.3
        MNV   iPe    22 21 37.5                  pP 23 21
              USGS 22 10 15.9, 37.7N, 133.4E, h=442 km, mb=5.5
                   SEA OF JAPAN

JAN 19  FHC   eP     07 09 55.2
        WDC   iPe    07 10 03.2
        MIN   eP     07 10 08.8
        ORV   eP     07 10 12.6
        BKS   eP     07 10 17.2  16 28      Lq 19 42      Lr 21 30
                        MICRON     PERIOD
                  PZ      0.11        1.0
                  LZ         9         20
                  LN         6         20
                  LE         7         20
        MHC   eP     07 10 23.4
        SAO   eP     07 10 26.5
        JAS   iPe    07 10 26.6
        FRI   eP     07 10 34.6
        PRI   eP     07 10 34.8
        MNV   iPe    07 10 35.7
              Ms=5.7, DISTANCE=42°
              USGS 07 02 35.0, 51.3N, 178.5W, h= 50 km, mb=5.8, Ms=5.7
                   ANDREANOF ISLANDS, ALEUTIAN ISLANDS

JAN 19  BKS   e(P)   17 05 54
        WKC   eP     17 05 55    06 15
        PCC   eP     17 05 57
        WDC   ePd    17 05 58.7
        FHC   eP     17 06 01.0
        MHC   eP     17 06 04.5
        GCC   eP     17 06 04.8
        JAS   eP     17 06 11
        SAO   eP     17 06 11.5
              BRK  17 05 28.9, 39.0N, 123.5W, h=  8 km, ML=3.2
                   SOUTHWEST OF UKIAH, CALIFORNIA

JAN 20  PRI   eP     01 13 30.6
        MHC   eP     01 13 39.6
        JAS   iPd    01 13 43.6
        MNV   iPd    01 13 46.1
        WDC   eP     01 14 01.7
              USGS 01 03 33.2, 22.7S, 114.2W, h= 33 km, mb=5.0, Ms=5.2
                   EASTER ISLAND REGION

JAN 21  MNV   iPe    13 16 11.8
        JAS   eP     13 16 18
        ORV   eP     13 16 35
              USGS 13 10 35.5, 17.1N,  99.9W, h= 60 km, mb=4.7
                   GUERRERO, MEXICO

JAN 22  SAO   eP     04 44 17.2
        BKS   eP     04 44 18.7
                        MICRON     PERIOD
                  PZ      0.05        1.0
        PRI   eP     04 44 19.0
        MHC   eP     04 44 19.5
        JAS   eP     04 44 25.5
        ORV   eP     04 44 26.7
        WDC   ePe    04 44 27.3                  pP 45 05
        MIN   eP     04 44 29.1
        MNV   eP     04 44 35.6                  pP 45 13
              USGS 04 33 07.8, 16.0S, 174.1W, h=155 km, mb=5.3
                   TONGA ISLANDS
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JAN 23  WDC   eP      02 00 55
        ORV   eP      02 01 02
        BKS   e(P)    02 01 07     08 46          e 08 07     SeS 11 09     Lq 14 46
                                                 Lr 16 45
                          MICRON     PERIOD
                      LZ      6         20
                      LN      1.3       20
                      LE      5         20
        MHC           02 01                      e 01 16
        JAS   eP      02 01 16.2
        MNV   eP      02 01 23
        PRI           02 01                      e 01 25
                      Ms=5.6, DISTANCE=54°
                      USGS 01 51 44.4, 52.3N, 160.1E, h= 33 km, mb=5.5, Ms=5.6
                           OFF EAST COAST OF KAMCHATKA

JAN 23  WDC   eP      02 43 21                   e 43 41
        ORV   eP      02 43 29.5                 e 43 50
        BKS           02 43          51 14       e 43 42     e 57 36     Lr 58 56
        MHC           02 43                      e 43 42
        JAS   eP      02 43 43.0                 e 44 03
        MNV   eP      02 43 50.5                 e 44 10
        PRI           02 43                      e 43 52
                      USGS 02 34 12.5, 52.2N, 160.2E, h= 33 km, mb=5.6, Ms=5.6
                           OFF EAST COAST OF KAMCHATKA

JAN 23  WDC   eP      07 02 00
        MIN   e(P)    07 02 05
        ORV   eP      07 02 08.7
        BRK   e(P)    07 02 14
        BKS           07 02          09 58       Lr 18 46
        MHC   e(P)    07 02 20
        JAS   eP      07 02 22.5
        MNV   eP      07 02 29.0
        PRI   e(P)    07 02 30
                      USGS 06 52 50.0, 52.3N, 160.2E, h= 33 km, mb=5.7, Ms=5.4
                           OFF EAST COAST OF KAMCHATKA

JAN 23  WDC   eP      07 31 44
        ORV   eP      07 31 54
        JAS   eP      07 32 08
        MNV   eP      07 32 17
                      USGS 07 22 35.8, 52.2N, 160.2E, h= 33 km, mb=5.2, Ms=5.3
                           OFF EAST COAST OF KAMCHATKA

JAN 23  FBC           08 21                      e 21 30
        WDC   eP      08 21 34
        MIN           08 21                      e 21 40
        ORV   eP      08 21 44
        BKS           08 21                      e 21 50     Lr 08 38
        MHC           08 21                      e 21 55
        JAS   eP      08 21 58
        MNV   eP      08 22 05
        PRI           08 22                      e 22 07
                      USGS 08 12 26.7, 52.3N, 160.3E, h= 33 km, mb=5.7, Ms=5.5
                           OFF EAST COAST OF KAMCHATKA

JAN 23  WDC   eP      10 16 17
        ORV   eP      10 16 27
        BKS           10 16                      e 16 42
        JAS   eP      10 16 43.5
        MNV   eP      10 16 50
                      USGS 10 07 11.6, 52.2N, 160.2E, h= 33 km, mb=5.3, Ms=5.2
                           OFF EAST COAST OF KAMCHATKA

JAN 24  BKS   iPe     18 58 49.4   58 55
        MHC   iPe     18 58 52.3   59 00
        PCC   iPd     18 58 53.3   59 02
        GCC   eP      18 58 57
        JAS   iPe     18 59 00.9
        LLA   eP      18 59 06
        SAO   e(P)    19 59 02
                      BRK  18 58 42.2, 37.8N, 121.8W, h=  9 km, ML=2.7
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     19 00 16.9
        BRK   iPe     19 00 16.9   00 23
        MHC   iPe     19 00 19.5   00 28
        PCC   iPe     19 00 20.5   00 30
        GCC   iPd     19 00 24.3
        JAS   iPe     19 00 28.1   00 42
        SAO   iPe     19 00 28.2
        LLA   ePe     19 00 32.7
        PRS   iP      19 00 34.6
        ORV   iP      19 00 36.8
        FRI   iPe     19 00 39.6
        PRI   eP      19 00 40.8
        MIN   ePd     19 00 48.7
        WDC   eP      19 00 51.7
                      BRK  19 00 09.5, 37.8N, 121.8W, h=  9 km, ML=5.8
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BRK   iP      19 01 09.5   01 16
                      BRK  19 01 02.1, 37.8N, 121.8W, h=  5 km, ML=5.1
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BRK   iP      19 01 52.9   01 59
                      BRK  19 01 45.5, 37.8N, 121.8W, h=  5 km, ML=4.0
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iP      19 03 27.4   03 33
        MHC   iP      19 03 29.8   29 38
                      BRK  19 03 19.3, 37.8N, 121.8W, h=  6 km, ML=4.8
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     19 12 49.5   12 55
        MHC   iPe     19 12 52.1   13 00
        PCC   iPd     19 12 53.4
        GCC   ePd     19 12 57.0
        JAS   iPd     19 13 00.7
        SAO   eP      19 13 02.0
        LLA   e(P)    19 13 06
                      BRK  19 12 41.8, 37.8N, 121.8W, h=  5 km, ML=3.1
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     19 26 11.6   26 18
        MHC   iPd     19 26 14.9   26 23
        PCC   iPe     19 26 15.8
        GCC   ePe     19 26 20.2
        JAS   iPd     19 26 23.2
        SAO   eP      19 26 25.3
                      BRK  19 26 04.2, 37.9N, 121.8W, h=  5 km, ML=2.6
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     19 43 24.9   43 31
        MHC   iPe     19 43 27.8   43 36
        PCC   iPe     19 43 29.1
        GCC   eP      19 43 32.7
        JAS   iPd     19 43 36.5
        SAO   eP      19 43 37
                      BRK  19 43 17.7, 37.8N, 121.8W, h=  8 km, ML=2.8
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     19 51 24.1   51 30
        MHC   iPe     19 51 27.2   51 36
        PCC   eP      19 51 28.0
        GCC   eP      19 51 32.0
        JAS   iPe     19 51 35.8
        SAO   eP      19 51 36.0
                      BRK  19 51 17.0, 37.8N, 121.8W, h=  9 km, ML=2.6
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     19 56 11.9   56 18
        MHC   iPd     19 56 15.3   56 23
        PCC   iPe     19 56 15.7
        GCC   iPe     19 56 20.1
        JAS   iPe     19 56 23.7
        SAO   iP      19 56 24.1
        LLA   eP      19 56 28.5
                      BRK  19 56 04.9, 37.8N, 121.8W, h= 10 km, ML=3.5
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     19 58 17.0   58 24
        MHC   iPd     19 58 17.4   58 25
        PCC   iPe     19 58 20.0
        GCC   eP      19 58 23.0
        SAO   eP      19 58 26.7
        JAS   iPe     19 58 26.9
                      BRK  19 58 08.9, 37.8N, 121.7W, h= 11 km, ML=3.0
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     20 31 14.7   31 20
        MHC   iPd     20 31 18.0   31 26
        PCC   iPe     20 31 18.6
        GCC   eP      20 31 22.8
        JAS   iPe     20 31 26.4
        SAO   eP      20 31 27.0
                      BRK  20 31 07.7, 37.8N, 121.8W, h= 10 km, ML=3.0
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     20 51 19.9   51 26
        MHC   ePe     20 51 23.1   51 32
        PCC   iPd     20 51 24.0
        GCC   eP      20 51 28.7
        JAS   iPe     20 51 31.5
        SAO   eP      20 51 32.3
                      BRK  20 51 12.6, 37.8N, 121.8W, h=  7 km, ML=3.0
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BRK   iPe     22 24 22.4   24 29
        MHC   ePe     22 24 25.0
        PCC   ePd     22 24 26.1
        GCC   eP      22 24 30.5
        SAO   eP      22 24 36.7
                      BRK  22 24 14.8, 37.8N, 121.8W, h=  4 km, ML=2.5
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     22 32 37.4   32 43
        MHC   eP      22 32 41.0   32 49
        PCC   iPd     22 32 42.0
        GCC   eP      22 32 46.9
        JAS   e(P)    22 32 48
        SAO   eP      22 32 51.5
                      BRK  22 32 30.0, 37.9N, 121.8W, h=  8 km, ML=2.5
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPe     22 38 10.2   38 16
        MHC   iPe     22 38 13.0   38 22
        PCC   iPd     22 38 14.1
        GCC   eP      22 38 18.1
        JAS   iPe     22 38 21.5   38 35
        SAO   eP      22 38 23.5
        ORV   iPd     22 38 29.3
                      BRK  22 38 02.7, 37.8N, 121.8W, h=  6 km, ML=2.6
                           LIVERMORE AREA, CALIFORNIA

JAN 24  BKS   iPd     23 46 08.4   46 14
        MHC   ePd     23 46 11.9   46 20
        PCC   iPd     23 46 12.5
        GCC   eP      23 46 17.3
        JAS   iPe     23 46 20.0   46 34
        SAO   eP      23 46 22.0
                      BRK  23 46 01.2, 37.8N, 121.8W, h=  7 km, ML=2.6
                           LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe     00 15 16.4   15 22
        MHC   iPe     00 15 19.3   15 27
        PCC   iPe     00 15 20.2
        GCC   eP      00 15 24.4
        JAS   iPe     00 15 27.7   15 41
        SAO   eP      00 15 29.0
        LLA   eP      00 15 33.0
        ORV   iPe     00 15 39.0
                      BRK  00 15 08.8, 37.8N, 121.8W, h=  6 km, ML=3.1
                           LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe     00 41 05.1   41 11
        MHC   iPd     00 41 08.5   41 16
        PCC   iPe     00 41 09.1
        GCC   ePd     00 41 14.1
        JAS   iPe     00 41 17.0   41 31
        SAO   eP      00 41 18.3
                      BRK  00 40 58.3, 37.8N, 121.8W, h= 10 km, ML=2.6
                           LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe     01 18 50.9   18 56
        MHC   ePd     01 18 54.3   19 02
        PCC   ePd     01 18 55.2
        GCC   eP      01 18 59.1
        JAS   iPe     01 19 02.7
        SAO   eP      01 19 04.0
        ORV   iPd     01 19 13.6
                      BRK  01 18 43.7, 37.8N, 121.8W, h=  5 km, ML=2.8
                           LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe     01 48 14.4   48 20
        MHC   iPe     01 48 17.2   48 24
        PCC   iPd     01 48 18.5
        GCC   ePd     01 48 22.3
        JAS   iPd     01 48 25.8
        SAO   eP      01 48 26.7
        LLA   eP      01 48 30.7
                      BRK  01 48 06.9, 37.8N, 121.8W, h=  5 km, ML=3.0
                           LIVERMORE AREA, CALIFORNIA

JAN 25  MNV   iPe     02 53 47.4                 PcP 56 16
        PRI   eP      02 53 50
        JAS   e(P)    02 53 56                   PcP 56 20
        MHC   eP      02 54 00.8
        ORV   eP      02 54 10.3                 PcP 56 27
        MIN   eP      02 54 13.5
        WDC   eP      02 54 17.4                 PcP 56 28
                      USGS 02 47 05.2, 13.6N,  90.1W, h=150 km, mb=4.7
                           NEAR COAST OF GUATEMALA

JAN 25  BKS   iPe     03 14 08.1   14 14
        MHC   ePe     03 14 10.9   14 19
        PCC   iPd     03 14 12.0
        GCC   ePe     03 14 16.4
        JAS   iPd     03 14 19.5   14 33
        SAO   eP      03 14 21.5
                      BRK  03 14 00.6, 37.8N, 121.8W, h=  6 km, ML=2.7
                           LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe     03 23 54.6   24 00
        MHC   ePe     03 23 58.1   24 06
        PCC   ePd     03 23 59.1
        GCC   ePd     03 24 03.6
        JAS   iPe     03 24 06.5   24 20
        SAO   eP      03 24 09.0
                      BRK  03 23 47.6, 37.8N, 121.8W, h=  7 km, ML=2.7
                           LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe     04 06 32.0   06 37
        MHC   ePd     04 06 35.7   06 44
        PCC   iPd     04 06 36.6
        GCC   eP      04 06 40.9
        JAS   ePe     04 06 43.7
        SAO   eP      04 06 45.5
                      BRK  04 06 24.9, 37.9N, 121.8W, h=  6 km, ML=3.0
                           LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe     04 26 39.4   26 45
        MHC   iPe     04 26 41.5   26 49
        PCC   iPd     04 26 43.6
        GCC   ePe     04 26 47.6
        JAS   iPe     04 26 51.1
        SAO   eP      04 26 52.5
                      BRK  04 26 32.1, 37.8N, 121.8W, h=  5 km, ML=2.9
                           LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iP      04 26 41.6   26 48
                      BRK  04 26 34.3, 37.8N, 121.8W, h=  5 km, ML=3.0
                           LIVERMORE AREA, CALIFORNIA
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JAN 25  PRI   eP     04 59 04.7
        MNV   iPd    04 59 04.8
        JAS   eP     04 59 10.8
        ORV   iPd    04 59 20.2                 e 59 32
        WDC   iPd    04 59 25.2
                     USGS 04 47 29.8, 20.5S,  69.9W, h= 33 km, mb=5.1
                          NORTHERN CHILE

JAN 25  BKS   iPe    05 12 50.2
        MHC   iPe    05 12 53.3  13 02
        PCC   iPd    05 12 54.3
        GCC   iPe    05 12 58.2
        JAS   iPd    05 13 01.8
        SAO   ePe    05 13 02.1
        LLA   ePe    05 13 06.6
        PRS   ePd    05 13 08.9
        ORV   eP     05 13 10.3
        FRI   iPe    05 13 13.3
        PRI   ePe    05 13 14.5
        MIN   e(P)   05 13 23
        WDC   e(P)   05 13 25
                     BRK  05 12 42.9, 37.8N, 121.8W, h=  7 km, ML=4.4
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BRK   iPe    05 21 54.8  22 01
        MHC   iPe    05 21 58.1  22 05
        PCC   iPd    05 21 58.8
        GCC   eP     05 22 03.0
        JAS   iPe    05 22 06.4
        SAO   eP     05 22 07.0
        LLA   e(P)   05 22 12
                     BRK  05 21 47.5, 37.9N, 121.8W, h=  7 km, ML=3.4
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe    05 24 43.5
        MHC   iPe    05 24 47.2  24 56
        PCC   iPd    05 24 47.9
        GCC   ePe    05 24 52.1
        JAS   iPe    05 24 55.6
        SAO   iPd    05 24 56.2
        LLA   ePe    05 25 00.3
        PRS   ePe    05 25 02.1
        ORV   e(P)   05 25 03
        FRI   iPe    05 25 07.2
                     BRK  05 24 36.4, 37.9N, 121.8W, h=  5 km, ML=4.6
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iP     05 29 52.1  29 58
        MHC   iPe    05 29 55.7  30 04
        PCC   iPd    05 29 56.5
        GCC   ePe    05 30 00.5
        JAS   iPe    05 30 04.2
        SAO   eP     05 30 05.0
        LLA   ePd    05 30 09.1
                     BRK  05 29 45.2, 37.8N, 121.8W, h=  5 km, ML=3.5
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe    06 29 22.3  29 28
        MHC   iPd    06 29 25.7  29 32
        PCC   iPd    06 29 26.5
        GCC   eP     06 29 30.2
        JAS   iPe    06 29 33.9
        SAO   eP     06 29 34.7
                     BRK  06 29 15.2, 37.8N, 121.8W, h=  8 km, ML=2.9
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe    07 29 34.4  29 40
        MHC   ePe    07 29 37.7  29 46
        PCC   iPd    07 29 38.6
        GCC   eP     07 29 42.7
        JAS   iPe    07 29 46.2
        SAO   eP     07 29 47.9
                     BRK  07 29 27.1, 37.8N, 121.8W, h=  4 km, ML=2.5
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe    07 46 06.8  46 13
        MHC   iPe    07 46 10.2  46 18
        PCC   iPd    07 46 11.0
        GCC   ePd    07 46 15.1
        JAS   iPe    07 46 18.8
        SAO   eP     07 46 19.5
                     BRK  07 45 59.9, 37.8N, 121.8W, h=  9 km, ML=3.3
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iP     07 53 46.6  53 52
        MHC   iPe    07 53 50.2  53 58
        PCC   iPd    07 53 51.0
        GCC   ePd    07 53 55.0
        JAS   iPe    07 53 58.7  54 12
        SAO   eP     07 53 59.5
        LLA   e(P)   07 54 04
                     BRK  07 53 39.6, 37.8N, 121.8W, h=  5 km, ML=3.0
                          LIVERMORE AREA, CALIFORNIA

JAN 25  MNV   iPd    08 03 49.0
        PRI   eP     08 03 51.7
        JAS   ePd    08 03 57.8
        MHC   eP     08 04 02
        ORV   eP     08 04 12
        MIN   eP     08 04 16
        WDC   ePd    08 04 19.8
        FHC   eP     08 04 31.8
                     USGS 07 57 21.1, 14.6N,  92.0W, h=114 km, mb=4.5
                          NEAR COAST OF CHIAPAS, MEXICO

JAN 25  BKS   iPe    10 09 39.2  09 46
        MHC   iPd    10 09 40.7  09 48
        PCC   iPe    10 09 42.5
        GCC   eP     10 09 45.6  09 57
        JAS   iPe    10 09 49.6  10 03
        SAO   eP     10 09 50.2
                     BRK  10 09 31.5, 37.8N, 121.8W, h= 12 km, ML=2.5
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe    10 17 06.0  17 12
        MHC   iPd    10 17 08.2  17 16
        PCC   ePe    10 17 09.4
        GCC   eP     10 17 13.0  17 25
        JAS   iPe    10 17 16.9  17 31
        SAO   eP     10 17 18.2
                     BRK  10 16 58.4, 37.8N, 121.8W, h= 10 km, ML=2.7
                          LIVERMORE AREA, CALIFORNIA

JAN 25  WDC   iPe    11 48 05.1
        MIN   eP     11 48 09.6
        ORV   eP     11 48 13.5
        MHC   eP     11 48 24.4
        JAS   ePe    11 48 27.0
        MNV   iPe    11 48 34.0
                     USGS 11 38 55.3, 52.1N, 160.3E, h= 33 km, mb=5.5, Ms=5.3
                          OFF EAST COAST OF KAMCHATKA

JAN 25  BKS   iPe    12 11 54.7  12 00
        MHC   iPe    12 11 57.9  12 06
        PCC   ePd    12 11 59.0
        GCC   eP     12 12 02.5  12 14
        JAS   iPe    12 12 06.5  12 20
        SAO   eP     12 12 07
                     BRK  12 11 47.7, 37.8N, 121.8W, h=  8 km, ML=2.9
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe    13 39 09.8
        MHC   iPe    13 39 12.7  39 21
        PCC   ePd    13 39 13.9
        GCC   ePd    13 39 17.8
        JAS   iPe    13 39 21.3
        SAO   ePe    13 39 22.0
        LLA   ePe    13 39 26.5
                     BRK  13 39 02.3, 37.8N, 121.8W, h=  4 km, ML=3.9
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe    14 03 34.7  03 40
        MHC   iPe    14 03 37.9  03 46
        PCC   iPd    14 03 39.0
        GCC   eP     14 03 42.8
        JAS   iPd    14 03 46.4
        SAO   eP     14 03 47.2
                     BRK  14 03 27.5, 37.8N, 121.8W, h=  5 km, ML=3.6
                          LIVERMORE AREA, CALIFORNIA

JAN 25  BKS   iPe    15 41 14.6  41 21
        MHC   iPd    15 41 18.0  41 26
        PCC   iPd    15 41 18.9
        GCC   eP     15 41 22.7
        JAS   iPd    15 41 26.2
        SAO   eP     15 41 27.5
        LLA   e(P)   15 41 32
                     BRK  15 41 07.2, 37.8N, 121.8W, h=  6 km, ML=3.1
                          LIVERMORE AREA, CALIFORNIA

JAN 27  BKS   iPd    00 23 36.7  23 42
        MHC   iPe    00 23 39.8  23 47
        PCC   iPd    00 23 40.3  23 50
        GCC   eP     00 23 43.8  23 58
        JAS   iPe    00 23 47.4
        SAO   eP     00 23 47.8
                     BRK  00 23 29.2, 37.9N, 121.8W, h= 12 km, ML=3.0
                          LIVERMORE AREA, CALIFORNIA

JAN 27  BKS   iPe    02 33 44.3
        MHC   iPd    02 33 44.5
        PCC   iPe    02 33 47.4
        GCC   iPd    02 33 49.8
        SAO   iPd    02 33 53.7
        JAS   iPe    02 33 54.0
        LLA   iPd    02 33 58.0
        PRS   iPd    02 34 00.0
        ORV   iPd    02 34 04.2
        FRI   iPe    02 34 05.0
        PRI   ePd    02 34 05.8
        MIN   eP     02 34 15.8
        WDC   ePd    02 34 18.7
        MNV   iPe    02 34 23.0
        FHC   eP     02 34 30.2
                     BRK  02 33 36.0, 37.8N, 121.7W, h= 12 km, ML=5.4
                          LIVERMORE AREA, CALIFORNIA

JAN 27  WDC   iPd    05 06 40.9                i 06 54
        MIN          05 06                     e 06 47
        ORV   eP     05 06 50.5                i 07 03
        BKS          05 07                     e 07 09
        JAS   eP     05 07 05.6                e 07 18
        MNV   eP     05 07 14.4                e 07 27
                     USGS 04 59 36.6, 51.7N, 173.4W, h= 23 km, mb=4.9, Ms=4.0
                          ANDREANOF ISLANDS, ALEUTIAN ISLANDS

JAN 27  MHC   iPd    05 16 03.6  16 10
        BKS   iPe    05 16 03.7  16 11
        PCC   iPe    05 16 06.5  16 14
        GCC   eP     05 16 09.2  16 21
        SAO   eP     05 16 12.7
        JAS   iPe    05 16 13.2  16 23
                     BRK  05 15 55.2, 37.7N, 121.7W, h= 11 km, ML=2.6
                          LIVERMORE AREA, CALIFORNIA

JAN 27  SAO   iPe    07 12 44.1
        LLA   iPe    07 12 44.2
        PRS   iPd    07 12 45.1
        PRI   ePd    07 12 51.7  13 02
        GCC   eP     07 12 53.0
        MHC   iPd    07 12 55.5
        PCC   iPe    07 13 01.9
        BKS   eP     07 13 04.8
        JAS   iPd    07 13 05.7  13 23
                     BRK  07 12 39.4, 36.6N, 121.2W, h=  9 km, ML=3.0
                          SOUTHEAST OF HOLLISTER, CALIFORNIA

JAN 27  BKS   iPd    10 58 08.4  58 14
        MHC   iPe    10 58 11.5  58 20
        PCC   iPd    10 58 12.3
        GCC   iPe    10 58 16.1
        JAS   iPd    10 58 19.8
        SAO   iPd    10 58 20.3
        LLA   eP     10 58 24.5
        MIN   eP     10 58 41.8
                     BRK  10 58 01.2, 37.8N, 121.8W, h= 10 km, ML=4.1
                          LIVERMORE AREA, CALIFORNIA

JAN 27  BKS   iPe    13 11 54.6  12 01
        MHC   iPe    13 11 57.5  12 07
        PCC   iPd    13 11 58.8
        GCC   eP     13 12 02.6
        JAS   iPe    13 12 06.2  12 20
                     BRK  13 11 47.3, 37.8N, 121.8W, h=  6 km, ML=2.6
                          LIVERMORE AREA, CALIFORNIA

JAN 27  PRI   eP     16 49 30.6
        FRI   iPe    16 49 36.0
        SAO   eP     16 49 36.8
        MHC   eP     16 49 40.0
        JAS   iPe    16 49 40.5
        MNV   iPe    16 49 41.4
        BKS   eP     16 49 41.9  59 18     PPS 00 22     SS 04 18     Lq 09 42
                                                Lr 13 00
                          MICRON     PERIOD
                     PZ     0.10        1.1
                     LZ     5          20
                     LN     6          20
                     LE     0.9        20
        ORV   iPe    16 49 52.8
        WDC   eP     16 49 56.1
        MIN   eP     16 49 56.3
        FHC          16 49                     e 50 00
                     Ms=5.9, DISTANCE=78°
                     USGS 16 38 01.1, 35.4S, 105.9W, h= 10 km, mb=5.7, Ms=5.9
                          EASTER ISLAND CORDILLERA

JAN 27  BKS   iP     22 33 24.2  33 30
        MHC   iPd    22 33 26.9  33 35
        PCC   eP     22 33 27.8
        GCC   eP     22 33 31.5
        JAS   iPe    22 33 35.3
        SAO   iPe    22 33 35.6
        LLA   eP     22 33 40.4
        PRS   eP     22 33 44.4
        ORV   iPd    22 33 45.1
        MIN   eP     22 33 57.7
                     BRK  22 33 16.9, 37.8N, 121.8W, h= 11 km, ML=3.3
                          LIVERMORE AREA, CALIFORNIA

JAN 28  SAO   eP     10 16 04.1
        BRK   eP     10 16 04.7
        PRI   eP     10 16 05.8
        MHC   eP     10 16 05.8
        JAS   iPd    10 16 11.1
        ORV   iPd    10 16 12.5
        WDC   iP     10 16 12.7
        MIN   eP     10 16 14.8
        MNV   iPd    10 16 20.0
                     USGS 10 05 02.1, 20.2S, 178.2W, h=562 km, mb=4.8
                          FIJI ISLANDS REGION

JAN 29  BKS   iP     01 46 11.7  46 18
        MHC   iPd    01 46 13.3  46 21
        PCC   iPe    01 46 15.1
        GCC   ePd    01 46 18.1
        SAO   iPe    01 46 22.2
        JAS   iPe    01 46 22.3
        PRI   e(P)   01 46 35
        MIN   e(P)   01 46 45
        WDC   e(P)   01 46 47
                     BRK  01 46 04.2, 37.8N, 121.8W, h= 10 km, ML=3.5
                          LIVERMORE AREA, CALIFORNIA
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JAN 29  MHC   iPd    05 44 48.7   44 55
        BKS   iPe    05 44 52.1   45 00
        PCC   iPd    05 44 53.8
        GCC   ePd    05 44 55.0
        JAS   iPe    05 44 59.9   45 14
        SAO   iPd    05 45 00.0
        LLA   e(P)   05 45 04
              BRK  05 44 41.3, 37.7N, 121.6W, h=  3 km, ML=2.6
                   LIVERMORE AREA, CALIFORNIA

JAN 29  BKS   iPe    16 37 42.1   37 47
        MHC   iPe    16 37 45.0   37 53
        PCC   iPd    16 37 46.1
        GCC   ePd    16 37 50.2   38 02
        JAS   iPe    16 37 53.7   38 07
        SAO   ePd    16 37 55.2
              BRK  16 37 34.6, 37.8N, 121.8W, h=  5 km, ML=2.7
                   LIVERMORE AREA, CALIFORNIA

JAN 29  PRI   ePd    19 50 26.5
        SAO   ePd    19 50 37
        MNV   ePd    19 50 43                 Sg 52 35
        JAS   ePd    19 50 45                 Sg 52 36
              PAS  19 49 02.8, 32.0N, 116.2W, h=  5 km, ML=4.4
                   CALIFORNIA-MEXICO BORDER REGION

JAN 30  PRI   ePe    00 39 04.5
        SAO   ePd    00 39 09.3
        FRI   ePd    00 39 09.5
        MHC   ePe    00 39 15.2
        JAS   iPe    00 39 18.5
        BRK   ePd    00 39 19.5
        MNV   iPe    00 39 21.2
        ORV   iPe    00 39 32.0
        MIN   ePd    00 39 37.5
        WDC   iPe    00 39 40.0
              USGS 00 31 13.9,  5.3S, 116.0W, h= 10 km, mb=5.4, Ms=4.3
                   EAST CENTRAL PACIFIC OCEAN

JAN 30  SAO   ePd    11 40 38.3
        BKS   ePd    11 40 39.5
                          MICRON     PERIOD
                     PZ     0.02        0.7
        PRI   ePd    11 40 40.0
        MHC   ePd    11 40 40.2
        JAS   iPe    11 40 45.4
        ORV   ePe    11 40 46.9
        WDC   iPe    11 40 47.1
        MIN   ePd    11 40 49.0
        MNV   iPe    11 40 54.2
              USGS 11 29 30.1, 21.8S, 179.4W, h=607 km, mb=5.4
                   FIJI ISLANDS REGION

JAN 30  PRI   ePd    18 54 23.5                 PeP 57 13
        JAS   ePe    18 54 31.0                 PeP 57 14
        MHC   ePd    18 54 35.3                 PeP 57 16
        ORV   ePe    18 54 45.8                 PeP 57 20
        WDC   ePe    18 54 53.4                 PeP 57 22
        FHC   ePd    18 55 05.0
              USGS 18 48 03.6, 15.5N,  93.4W, h= 80 km, mb=5.2
                   NEAR COAST OF CHIAPAS, MEXICO

JAN 31  PRI   iPd    03 28 54.9   28 58
        LLA   iPd    03 28 59.2   29 06
        PRS   iPe    03 28 59.7   29 07
        SAO   iPe    03 29 04.4
        GCC   ePd    03 29 13
        MHC   ePd    03 29 14.2
        JAS   ePd    03 29 21
              BRK  03 28 51.3, 36.2N, 120.8W, h=  7 km, ML=2.7
                   EAST OF KING CITY, CALIFORNIA

JAN 31  MNV   iPd    08 26 55.0                 e 27 08
        ORV   e(P)   08 27 07
        JAS   e(P)   08 27 08
              USGS 08 16 23.1, 34.6N,  36.7W, h= 10 km, mb=4.8, Ms=4.6
                   NORTH ATLANTIC RIDGE

JAN 31  WDC   ePd    15 06 24.5
        ORV   ePd    15 06 32
        JAS   ePd    15 06 46.0
        MNV          15 07                    e 07 11
              USGS 14 57 16.7, 52.3N, 160.5E, h= 33 km, mb=5.2, Ms=5.2
                   OFF EAST COAST OF KAMCHATKA

FEB 01  WDC   iPe    17 40 21.7                 e 40 30      e 40 38
        MIN   ePd    17 40 24.7                 e 40 33
        ORV   iPe    17 40 29.7                 e 40 38      e 40 47
        BKS   ePd    17 40 40.4                 e 40 48
                          MICRON     PERIOD
                     PZ     0.06        1.2
        JAS   ePd    17 40 42.7                 e 40 51      e 40 59
        MNV   iPe    17 40 43.4                 e 40 52      e 41 00
        MHC   ePd    17 40 44.6                 e 40 53
        PRI   ePd    17 40 54.5                 e 41 03
              USGS 17 30 27.4, 73.0N, 122.6E, h= 27 km, mb=5.4, Ms=4.9
                   NEAR COAST OF CENTRAL SIBERIA

FEB 02  PRI   e(P)   13 15 40
        MNV   iPd    13 15 41.3
        JAS   ePd    13 15 48.5
        MHC   ePd    13 15 51.9
        BKS          13 15                    e 16 48      i 16 55      Lr 23 00
        ORV   iPd    13 16 04.4
              USGS 13 09 48.3, 16.2N,  98.4W, h= 33 km, mb=4.9
                   NEAR COAST OF GUERRERO, MEXICO

FEB 03  SAO   ePd    12 09 59.5
        PRI   ePe    12 10 00.9
        BKS   ePe    12 10 01.5   19 22       pP 10 20     SoS 20 02     SS 23 36
                                                Lr 31 04
                          MICRON     PERIOD
                     PZ     0.97        1.5
                     LZ     18          20
                     LN     13          20
                     LE     17          20
        MHC   ePe    12 10 01.7
        FRI   ePe    12 10 07.0
        FHC   ePe    12 10 07.2
        JAS   iPe    12 10 07.9
        ORV   iPe    12 10 09.8          PKPPKP 37 50
        WDC   iPe    12 10 10.5
        MIN   ePe    12 10 12.4
              Ms=6.4, DISTANCE=72°
              USGS 11 58 39.8, 17.6S, 171.2W, h= 33 km, mb=6.2, Ms=6.4
                   TONGA ISLANDS REGION

FEB 04  FRI   ePd    01 04 32.3
        MNV   ePe    01 04 32.3
        PRI   ePd    01 04 34.9
        JAS   ePd    01 04 41.1                 PeP 06 14
        SAO   ePd    01 04 42.2
        MHC   ePd    01 04 45.4
        BKS   ePd    01 04 51.0
                          MICRON     PERIOD
                     PZ     0.38        1.6
        ORV   ePe    01 04 53.4                 PeP 06 28
        MIN   ePd    01 04 56.7
        WDC   ePe    01 05 00.6                 PeP 06 23
        FHC   ePd    01 05 11.1
              USGS 00 56 07.2,  5.4N,  82.7W, h= 10 km, mb=5.6, Ms=5.5
                   SOUTH OF PANAMA

FEB 04  MHC   iPd    01 22 57.9
        GCC   iPd    01 23 03.9
        SAO   iPd    01 23 07.7
        PCC   iPe    01 23 07.8
        BKS   iPe    01 23 10.7   23 22
        LLA   ePe    01 23 12.9
        PRS   ePd    01 23 14.5
        JAS   iPe    01 23 17.7   23 34
        PRI   ePd    01 23 21.5
        FRI   ePe    01 23 23.9
        ORV   ePd    01 23 33
              BRK  01 22 56.4, 37.3N, 121.7W, h=  6 km, ML=3.3
                   EAST OF SAN JOSE, CALIFORNIA

FEB 04  FHC   ePd    02 31 46.8
        WDC   ePe    02 31 52.0
        MIN   ePd    02 31 55.5
        ORV   ePe    02 31 58.1
        BKS   iPe    02 32 02.0
                          MICRON     PERIOD
                     PZ     0.02        0.9
        MHC   ePd    02 32 04.9
        JAS   ePd    02 32 07.5
        PRI   ePd    02 32 12.5
        FRI   ePd    02 32 12.8
        MNV   ePe    02 32 14.5
              USGS 02 20 31.8, 33.6N, 138.9E, h=198 km, mb=4.9
                   SOUTH OF HONSHU, JAPAN

FEB 04  PRI   ePKP   04 05 10.6
        FRI   ePKP   04 05 13.0
        MHC   ePKP   04 05 15
        JAS   ePKP   04 05 15.1
        BKS   ePKP   04 05 16.6
                          MICRON     PERIOD
                     PKPZ   0.02        0.8
        ORV   ePKP   04 05 18.4                 e 07 52
        WDC   ePKP   04 05 19.1
              USGS 03 45 56.0, 57.9S,   7.2W, h= 10 km, mb=5.8, Ms=6.2
                   SOUTHWESTERN ATLANTIC OCEAN

FEB 04  BKS   iPe    06 03 35.6   03 48
        ORV   ePd    06 03 37.9                 e 03 38
        PCC   ePe    06 03 41.0
        MHC   ePd    06 03 45.3
        MIN   e(P)   06 03 48
        GCC   ePd    06 03 48.0
        JAS   ePe    06 03 48.0
        WDC   ePd    06 03 49.0
        SAO   ePd    06 03 53.7
        LLA   e(P)   06 03 58
              BRK  06 03 19.8, 38.7N, 122.3W, h=  10 km, ML=3.0
                   SOUTHEAST OF CLEAR LAKE, CALIFORNIA

FEB 04  WDC   ePd    16 28 23.6
        ORV   iPd    16 28 31.8
        JAS   ePd    16 28 40.7
        MNV   ePd    16 28 48.0
              USGS 16 16 51.4, 32.0N, 140.7E, h= 67 km, mb=4.9
                   SOUTH OF HONSHU, JAPAN

FEB 06  BKS   ePe    06 03 43.9                 i 15 36      i 26 08      Lr 31 26
                          MICRON     PERIOD
                     PZ     0.07        1.4
                     LZ     2.0         20
                     LN     1.1         20
                     LE     1.4         20
        WDC   ePe    06 03 45.0
        MHC   ePe    06 03 46.0
        ORV   ePe    06 03 47.5
        MIN   ePe    06 03 47.8
        PRI   ePe    06 03 49.2
        JAS   ePe    06 03 50.4
        FRI   ePe    06 03 52.3
        MNV   ePe    06 03 59.3
              USGS 05 50 54.9,  7.9S, 156.2E, h= 40 km, mb=5.8, Ms=5.6
                   SOLOMON ISLANDS

FEB 06  FHC   ePe    10 50 33.2
        WDC   iPe    10 50 41.7
        MIN   ePe    10 50 47.2
        ORV   iPe    10 50 51.1
        BKS   iPe    10 50 56.4
                          MICRON     PERIOD
                     PZ     0.09        1.1
        MHC   ePe    10 51 02.4
        SAO   ePd    10 51 05.6
        JAS   iPe    10 51 06.1
        FRI   ePe    10 51 14.0
        PRI   ePe    10 51 14.0
        MNV   iPe    10 51 15.0
              USGS 10 43 39.9, 51.8N, 173.2W, h= 32 km, mb=5.2, Ms=4.6
                   ANDREANOF ISLANDS, ALEUTIAN ISLANDS

FEB 06  PRI   e(P)   12 28 57
        JAS   ePe    12 29 10.0
        BKS          12 29                    e 30 20      e 36 00      Lq 42 30
                                                Lr 44 50
                          MICRON     PERIOD
                     LZ     0.5         20
                     LN     0.5         20
                     LE     0.1         20
        ORV   ePe    12 29 14.2
        WDC   ePd    12 29 32.5
              USGS 12 20 57.7,  4.0S, 104.1W, h= 10 km, mb=5.1, Ms=4.9
                   NORTHERN EASTER ISLAND CORDILLERA

FEB 08  WKC   iPd    10 56 57.4   57 22
        FHC   iPe    10 57 00.5   57 28
        WDC   iPe    10 57 16.1   57 56
        MIN   iPe    10 57 26.1                 i 58 14
        ORV   iPd    10 57 28.8
        BKS   iPe    10 57 29.9
        PCC   ePd    10 57 31.2
        GCC   iPe    10 57 38.7
        MHC   iPe    10 57 39.6
        SAO   ePd    10 57 45.2
        JAS   ePd    10 57 48.5
        PRS   ePd    10 57 50.4
        LLA   ePd    10 57 51.2
        PRI   ePd    10 57 58.8
              BRK  10 56 25.3, 40.3N, 126.8W, h=  5 km, ML=4.4
                   OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

FEB 08  FHC   iPe    13 18 47.5
        WDC   iPe    13 18 52.5                 e 22 04
        MIN   iPe    13 18 56.0
        ORV   iPe    13 18 57.8                 i 22 06
        BKS   ePe    13 18 58.7
                          MICRON     PERIOD
                     PZ     0.17        0.8
        MHC   ePe    13 19 02.0
        SAO   ePd    13 19 03.0
        JAS   ePe    13 19 05.3                 e 22 17
        PRI   ePe    13 19 08.7
        FRI   iPe    13 19 09.9
        MNV   iPe    13 19 13.2
              USGS 13 07 12.8, 22.4N, 142.0E, h=270 km, mb=5.3
                   VOLCANO ISLANDS REGION

FEB 08  MNV   ePe    20 46 35.6
        JAS   ePe    20 46 49.4
        ORV          20 46                    e 46 57
              USGS 20 38 50.2, 19.7N,  75.5W, h= 33 km, mb=4.9, Ms=4.2
                   CUBA REGION
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FEB 09  PRI   eP      17 35 38.6
        MBC   eP      17 35 39.8
        BKS   ePd     17 35 40.0
                              MICRON     PERIOD
                        PZ      0.04        0.7
        FRI   eP      17 35 43.6
        JAS   iPd     17 35 44.9
        FBC   e(P)    17 35 46
        ORV   iPd     17 35 47.4
        WDC   iPd     17 35 48.5
        MIN   eP      17 35 49.7
        MNV   iPd     17 35 53.3
                      USGS 17 23 16.6, 28.5S, 175.9W, h= 33 km, mb=5.3
                           KERMADEC ISLANDS REGION

FEB 09  SAO   eP      19 40 41.3
        BKS   iPd     19 40 42.7                    pP 41 20
                              MICRON     PERIOD
                        PZ      0.11        0.8
        PRI   ePd     19 40 42.7
        MBC   ePd     19 40 43.1                    pP 41 20
        FBC   eP      19 40 46.9
        FRI   iPd     19 40 47.5                    pP 41 25
        JAS   iPd     19 40 48.1                    pP 41 26
        ORV   iPd     19 40 49.5                    pP 41 27
        WDC   iPd     19 40 49.9                    pP 41 28
        MIN   ePd     19 40 51.3
                      USGS 19 29 15.3, 23.9S, 179.4E, h=539 km, mb=5.3
                           SOUTH OF FIJI ISLANDS

FEB 10  WDC   ePc     04 57 41.6
        MIN   eP      04 57 44.7
        ORV   ePc     04 57 48.4
        MBC   eP      04 57 59.0
        JAS   eP      04 57 59.8
        FRI   eP      04 58 05.6
        PRI   eP      04 58 07.6
                      USGS 04 46 04.7, 48.9N, 121.8E, h= 33 km, mb=5.1, Ms=4.8
                           NORTHEASTERN CHINA

FEB 10  PRI   eP      08 47 05.2
        FRI   eP      08 47 08.2
        MBC   e(P)    08 47 16
        JAS   ePc     08 47 18.0
        BKS           08 47                    Lr 08 20
        ORV   ePc     08 47 32.5
        WDC   ePc     08 47 41.2
                      USGS 08 39 04.6,  4.5S, 106.0W, h= 10 km, mb=4.8
                           NORTHERN EASTER ISLAND CORDILLERA

FEB 10  FBC   eP      12 04 51.0
        WDC   iPc     12 04 57.0
        MIN   eP      12 05 01.0
        ORV   iPc     12 05 04.5
        BKS   iPc     12 05 09.3
                              MICRON     PERIOD
                        PZ      0.07        0.8
        MBC   eP      12 05 13.2
        SAO   eP      12 05 15.4
        JAS   eP      12 05 16.0
        FRI   eP      12 05 22.0
        PRI   eP      12 05 22.5
                      USGS 11 54 32.8, 44.0N, 147.2E, h= 73 km, mb=5.5
                           KURIL ISLANDS

FEB 10  FBC   eP      12 51 53.7
        WDC   iPd     12 52 00.0
        MIN   eP      12 52 04.2
        ORV   iPd     12 52 07.5
        BKS   eP      12 52 11.8
        MBC   eP      12 52 16.1
        SAO   e(P)    12 52 18
        JAS   iPd     12 52 19.0
        FRI   eP      12 52 25.1
        PRI   eP      12 52 25.3
                      USGS 12 41 50.8, 44.0N, 152.1E, h= 33 km, mb=5.4, Ms=5.2
                           KURIL ISLANDS REGION

FEB 10  WDC   ePd     14 48 07.7
        MIN   eP      14 48 11.2
        ORV   ePd     14 48 13.2
        MBC   eP      14 48 17.8
        JAS   ePd     14 48 21.3
        PRI   eP      14 48 24.3
        FRI   eP      14 48 25.8
                      USGS 14 36 14.1, 23.6N, 144.2E, h= 33 km, mb=4.8
                           VOLCANO ISLANDS REGION

FEB 10  PRI   eP      19 40 17.2
        JAS   eP      19 40 22.3
        MBC   eP      19 40 24.6
        ORV   eP      19 40 31.3
        WDC   e(P)    19 40 36
        FBC   eP      19 40 43
                      USGS 19 28 43.6, 22.5S,  66.1W, h=238 km, mb=4.5
                           JUJUY PROVINCE, ARGENTINA

FEB 10  LLA   iPd     21 40 35.9
        SAO   iPc     21 40 41.9
        PRS   ePd     21 40 44.0
        PRI   ePc     21 40 46.0
        MBC   ePc     21 40 48.8  41 02
        FRI   eP      21 40 50.5  41 02
        GCC   ePc     21 40 49.7
        JAS   iPd     21 40 54.2  41 10
        PCC   eP      21 40 57
        BKS   eP      21 40 59.4
                      BRK  21 40 32.6, 36.8N, 120.8W, h=  9 km, ML=2.9
                           SOUTH OF LOS BANOS, CALIFORNIA

FEB 11  WDC   eP      15 38 50.8
        MIN   eP      15 38 55.5
        ORV   eP      15 38 59.7
        MBC   eP      15 39 10.7
        JAS   eP      15 39 13.0
        MNV   iPc     15 39 19.9
        FRI   eP      15 39 20.0
        PRI   eP      15 39 21.0
                      USGS 15 29 43.6, 53.3N, 159.8E, h= 47 km, mb=5.4, Ms=4.6
                           NEAR EAST COAST OF KAMCHATKA

FEB 12  FBC           05 12                    e 12 13
        WDC   iPd     05 12 17.6
        BKS   eP      05 12 17.8
        MIN   eP      05 12 19.9
        MBC           05 12                    e 12 20
        ORV   eP      05 12 20.3
        PRI   eP      05 12 23.6
        JAS   eP      05 12 23.7
        FRI   eP      05 12 26.5
        MNV           05 12                    e 12 32
                      USGS 04 59 06.5,  6.3S, 146.6E, h=108 km, mb=5.6
                           EAST PAPUA NEW GUINEA REGION

FEB 12  FBC           08 49                    e 49 18
        WDC   iPc     08 49 27.0               pP 49 41    PcP 51 49      i 52 05
        MIN   eP      08 49 32.5               e 49 46
        ORV   iPc     08 49 36.7               pP 49 51    PcP 51 53      i 52 09
        BKS   iPc     08 49 42.3               pP 49 56    sP 50 11    PcP 51 56
                                               pPcP 52 12
                              MICRON     PERIOD
                        PZ      0.50        0.7
        MBC   eP      08 49 48.1               e 51 58     e 52 14
        JAS   eP      08 49 51.3               pP 50 06    e 51 58
        SAO   eP      08 49 52.4
        FRI   eP      08 49 59.2               pP 50 14    PcP 52 02      e 52 17
        MNV   eP      08 50 00.0               i 50 14     PcP 52 04      i 52 19
        PRI   eP      08 50 00.1               e 52 03
                      USGS 08 42 29.0, 52.3N, 173.3W, h= 75 km, mb=5.2
                           ANDREANOF ISLANDS, ALEUTIAN ISLANDS

FEB 13  MBC   iPd     00 30 03.4  30 10
        BKS   iPc     00 30 07.0  30 15
        PCC   iPd     00 30 08.6  30 18
        GCC   eP      00 30 10.2
        SAO   eP      00 30 14.5
        JAS   iPc     00 30 14.6
                      BRK  00 29 56.0, 37.7N, 121.6W, h=  3 km, ML=2.6
                           LIVERMORE AREA, CALIFORNIA

FEB 13  ORV   iPd     07 46 07.7
        BKS   iPc     07 46 10.1
        PCC   ePd     07 46 15.0
        WDC   ePd     07 46 16.7
        MIN   ePc     07 46 17.2
        MBC   ePd     07 46 20.0
        GCC   ePc     07 46 21.9
        JAS   iPc     07 46 22.5  46 46
        WKC   e(P)    07 46 25                 Pg 46 30
        SAO   ePd     07 46 27.4
        FBC   e(P)    07 46 32                 Pg 46 35
        LLA   ePc     07 46 32.1
        PRS   ePc     07 46 33.8
        FRI   ePc     07 46 37.6
        PRI   ePd     07 46 40.0
        MNV   ePd     07 46 45.0
                      BRK  07 45 50.3, 38.9N, 122.5W, h=  6 km, ML=3.5
                           EAST-SOUTHEAST OF CLEAR LAKE, CALIFORNIA

FEB 13  WDC   iPc     11 28 05.0
        JAS   ePc     11 28 05.5
        ORV   ePc     11 28 05.6
        FRI   ePc     11 28 05.7
        MIN   ePc     11 28 07.0
        MNV   iPc     11 28 14.0
                      USGS 11 15 22.9, 20.9S, 169.9E, h= 72 km, mb=4.1
                           VANUATU ISLANDS

FEB 13  SAO   eP      13 48 52.2                    pP 49 08
        BKS           13 48                         pP 49 09
        PRI   eP      13 48 53.8                    pP 49 09
        MBC   eP      13 48 54.2                    pP 49 10
        FRI   e(P)    13 49 00                      pP 49 15
        JAS   eP      13 49 00.1                    pP 49 16
        ORV   eP      13 49 02.0                    pP 49 17
        WDC   eP      13 49 02.1                    pP 49 17
        MIN   eP      13 49 04.4                    pP 49 20
        MNV   iP      13 49 10.5                    pP 49 26
                      USGS 13 37 26.0, 17.8S, 173.4W, h= 55 km, mb=4.9
                           TONGA ISLANDS

FEB 13  BKS   eP      19 34 10.5
        MBC   ePc     19 34 12.5
        FRI   eP      19 34 16.3
        FBC   eP      19 34 17
        JAS   ePc     19 34 17.2
        ORV   ePc     19 34 19.1
        WDC   ePc     19 34 20.1
        MIN   eP      19 34 21
        MNV   ePc     19 34 24.7
                      USGS 19 22 07.1, 31.2S, 179.9W, h=389 km, mb=4.7
                           KERMADEC ISLANDS REGION

FEB 13  SAO   eP      20 49 24.3
        BKS   iPd     20 49 25.6
                              MICRON     PERIOD
                        PZ      0.16        1.1
        PRI   ePd     20 49 25.9
        MBC   ePd     20 49 26.2
        FBC   ePd     20 49 30.0
        FRI   ePd     20 49 31.0
        JAS   iPd     20 49 31.5
        ORV   iPd     20 49 32.9
        WDC   iPd     20 49 33.1
        MIN   ePd     20 49 34.6
        MNV   iPd     20 49 40.5
                      USGS 20 38 19.2, 21.1S, 178.8W, h=592 km, mb=5.4
                           FIJI ISLANDS REGION

FEB 13  FBC   eP      22 23 12.4               e 27 11     e 27 21
        WDC   eP      22 23 14.6               e 27 15     e 27 25
        MIN   eP      22 23 15.4               e 27 16     e 27 27
        ORV   eP      22 23 19.6
        MNV   eP      22 23 27.3               e 27 40
        JAS   eP      22 23 28.4               e 27 39
        BKS           22 23          34 30     e 23 30     PP 27 31     SP 37 00
                                               e 43 00     Lq 52 30     Lr 59 30
        FRI   eP      22 23 33
        SAO           22 23                    e 27 41
        PRI           22 23                    e 23 37     e 27 51
                      USGS 22 09 29.6, 36.5N,  76.9E, h= 63 km, mb=6.1
                           KASHMIR-SINKIANG BORDER REGION

FEB 14  MNV   eP      01 18 07.3               e 18 37
        FRI   eP      01 18 12.5
        JAS   eP      01 18 19.6
        PRI           01 18                    e 18 22
        ORV   eP      01 18 27.4               e 18 58
        WDC   eP      01 18 32.0
                      USGS 01 09 45.2, 18.5N,  68.8W, h=128 km, mb=4.7
                           MONA PASSAGE

FEB 14  WKC   iPc     11 42 52.1  43 21
        FBC   ePc     11 42 54.5  43 25
        WDC   ePc     11 43 10.3               i 43 12
        MIN   eP      11 43 20.1               e 43 22
        ORV   eP      11 43 23.7
        BKS   iPd     11 43 26.8  44 23
        PCC   eP      11 43 28.5
        GCC   eP      11 43 35.3
        MBC   eP      11 43 36.1
        SAO   e(P)    11 43 42
        JAS   eP      11 43 44.2
        PRS   eP      11 43 47
        LLA   e(P)    11 43 50
        PRI   e(P)    11 43 57
                      BRK  11 42 14.2, 40.6N, 127.3W, h=  5 km, ML=4.0
                           OFF COAST WEST OF EUREKA, CALIFORNIA

FEB 14  MBC   e(P)    12 10 33
        PRI   e(P)    12 10 34
        JAS   eP      12 10 37.8
        FRI   e(P)    12 10 38
        ORV   eP      12 10 38.6
        WDC   eP      12 10 38.9
        MIN   eP      12 10 40.9
        MNV   eP      12 10 48.2
                      USGS 11 58 55.4, 16.1S, 177.1W, h= 33 km, mb=5.1
                           FIJI ISLANDS REGION

FEB 14  FRI   eP      14 19 17.2
        PRI   eP      14 19 18.3
        MNV   iPc     14 19 20.3               e 19 33
        JAS   ePc     14 19 24.2
        MBC   eP      14 19 25.6
        BRK   eP      14 19 29
        ORV   ePc     14 19 33.0               i 19 46     i 19 52     i 20 02
        MIN   eP      14 19 35.2
        WDC   ePc     14 19 37.9
        FBC   eP      14 19 44.4
                      USGS 14 07 01.6, 31.8S,  71.4W, h= 45 km, mb=5.3
                           NEAR COAST OF CENTRAL CHILE

FEB 14  MNV   iPc     17 20 35.0               i 20 51
        FRI           17 20                    i 20 35     i 20 49
        PRI           17 20                    e 20 47
        JAS           17 20                    e 20 47
        ORV   eP      17 20 54.4               i 21 12
        WDC   iP      17 20 59.5               e 21 15
                      USGS 17 11 42.1, 18.6N,  64.7W, h= 57 km, mb=4.8
                           VIRGIN ISLANDS
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FEB 15  WDC   eP      10 07 45.3
        MIN   eP      10 07 48.9
        ORV   eP      10 07 50.8                    e 08 21
        BRK           10 07                        e 07 52
        MHC           10 07                        e 07 55
        JAS   eP      10 07 58.1
        FRI           10 08                        e 08 03
                 USGS 09 55 50.7, 23.6N, 142.3E, h= 86 km, mb=5.0
                      VOLCANO ISLANDS REGION

FEB 15  WDC   eP      14 36 05.0                    i 36 19
        MIN           14 36                        e 36 09
        ORV   eP      14 36 13.6                   i 36 22
        BKS   eP      14 36 18.0   44 50      SS 49 00     Lq 52 00     Lr 55 30
        JAS   eP      14 36 24.2                   i 36 38
                 USGS 14 25 48.9, 44.5N, 149.7E, h= 35 km, mb=5.8, Ms=6.0
                      KURIL ISLANDS

FEB 15  WDC   eP      15 11 20.7                   i 11 34
        MIN   eP      15 11 25.1                   e 11 38
        ORV   eP      15 11 27.5                   i 11 41
        JAS           15 11                        e 11 37      i 11 54
        FRI           15 12                        e 12 00
                 USGS 15 01 04.8, 44.6N, 149.6E, h= 45 km, mb=5.6, Ms=5.5
                      KURIL ISLANDS

FEB 16  WDC   eP      02 34 25.0
        ORV   eP      02 34 25.5
        JAS   e(P)    02 34 26
        MNV           02 34                        e 34 35
                 USGS 02 21 36.1, 19.7S, 168.0E, h= 33 km, mb=4.4
                      VANUATU ISLANDS

FEB 16  FRI   iPe     18 27 42.6   27 54
        MNV   iPe     18 27 45.2
        JAS   iPe     18 27 50.5   28 07
        PRI   iPd     18 28 02.3   28 29
        SAO   iPe     18 28 04.9
        MHC   ePd     18 28 05.7   28 35
        PRS   ePd     18 28 06.5
        BKS   eP      18 28 12.2                Sa 28 46
        PCC   ePd     18 28 13.0
        WDC   e(P)    18 28 42
                 BRK  18 27 25.5, 37.5N, 118.8W, h=  8 km, ML=3.7
                      MAMMOTH LAKES, CALIFORNIA

FEB 17  FHC           19 11                        e 11 40
        WDC   iPe     19 11 46.2
        MIN   eP      19 11 50.8
        ORV   iPe     19 11 55.1
        MHC   eP      19 12 06.0
        JAS   eP      19 12 08.1
        MNV   eP      19 12 14.6
                 USGS 19 02 32.4, 52.7N, 158.9E, h= 33 km, mb=5.5, Ms=4.4
                      NEAR EAST COAST OF KAMCHATKA

FEB 18  FHC   eP      06 18 51.7
        WDC   iPd     06 18 57.5                   i 19 04
        MIN   eP      06 18 59.3
        ORV   iPd     06 19 04.9                   i 19 34
        BKS   e(P)    06 19 09
        JAS   iPd     06 19 16.0                   i 19 44
        MHC           06 19                        e 19 18
        MNV   iPd     06 19 22.9                   e 19 51
                 USGS 06 08 32.2, 43.7N, 145.9E, h=123 km, mb=5.4
                      HOKKAIDO, JAPAN REGION

FEB 18  BKS   e(P)    09 49 24
        SAO           09 49                        e 49 24
        MHC   eP      09 49 25.0
        PRI   eP      09 49 26.6
        WDC   eP      09 49 27.4
        ORV   eP      09 49 29.0
        JAS   eP      09 49 30.0
        MNV   eP      09 49 39.2
                 USGS 09 36 55.4, 14.9S, 168.0E, h= 33 km, mb=5.5, Ms=5.0
                      VANUATU ISLANDS

FEB 18  PRI   eP      13 12 41.4
        JAS   eP      13 12 47.2
        MHC   eP      13 12 51.0
        ORV   iPe     13 13 00.0
        WDC   eP      13 13 05.0
        FHC           13 13                        e 13 15
                 USGS 13 03 24.5,  2.3S,  79.7W, h= 90 km, mb=5.3
                      NEAR COAST OF ECUADOR

FEB 18  SAO   eP      17 28 16.8
        PRI   eP      17 28 18.3
        MHC   eP      17 28 18.3
        JAS   eP      17 28 23.7
        WDC   iPd     17 28 24.9
        ORV   iPd     17 28 25.0
        MNV   iPd     17 28 32.6
                 USGS 17 17 13.8, 20.4S, 178.5W, h=580 km, mb=5.3
                      FIJI ISLANDS REGION

FEB 19  SAO           09 08                        e 08 41
        BKS   eP      09 08 42.2
                                 MICRON     PERIOD
                           PZ      0.20        1.0
        PRI   eP      09 08 42.3
        MHC   iP      09 08 42.7
        FHC   eP      09 08 46.4
        FRI   eP      09 08 47.2
        JAS   iPe     09 08 47.9
        WDC   iPe     09 08 49.6
        MIN   eP      09 08 51.2
        MNV   iPe     09 08 56.5
                 USGS 08 57 30.6, 21.9S, 179.5W, h=595 km, mb=5.4
                      FIJI ISLANDS REGION

FEB 21  MHC   iPd     06 55 36.9   55 42
        BKS   iPe     06 55 39.8   55 48
        PCC   iPd     06 55 41.5   55 50
        GCC   eP      06 55 43.4
        SAO   eP      06 55 47.7
        JAS   iPe     06 55 48.8
                 BRK  06 55 29.9, 37.6N, 121.7W, h=  6 km, ML=2.5
                      LIVERMORE AREA, CALIFORNIA

FEB 21  BKS           11 26        42 50       Lr 55 51
                                 MICRON     PERIOD
                           LZ      4.3         20
                           LN      3.4          20
                           LE      3.4          20
        JAS   ePe     11 26 19.3
        MNV   ePe     11 26 27.0
                 USGS 11 13 40.3, 30.0S, 177.2W, h= 33 km, mb=5.5, Ms=5.3
                      KERMADEC ISLANDS

FEB 21  MHC   iPd     18 57 36.3   57 44
        BKS   iPe     18 57 39.4   57 48
        PCC   iPd     18 57 41.0
        GCC   iPe     18 57 43.1
        SAO   iPd     18 57 47.0
        JAS   iPe     18 57 48.1
        LLA   eP      18 57 51.4
        PRS   iPe     18 57 51.6
                 BRK  18 57 29.3, 37.7N, 121.7W, h=  7 km, ML=3.7
                      LIVERMORE AREA, CALIFORNIA

FEB 21  MHC   iPd     19 49 52.9
        BKS   iPe     19 49 56.2   49 59
        PCC   iP      19 49 57.5   50 06
        GCC   eP      19 49 59.7   50 10        i 50 00
        SAO   iPe     19 50 03.6
        JAS   iPe     19 50 04.5   50 18
                 BRK  19 49 45.8, 37.7N, 121.7W, h=  6 km, ML=2.9
                      LIVERMORE AREA, CALIFORNIA

FEB 22  FRI   iPe     02 30 59.5   31 11
        MNV   iP      02 31 00.4
        JAS   iPe     02 31 08.0   31 23
        LLA   iPe     02 31 16.8
        PRI   iPe     02 31 18.0
        MHC   eP      02 31 22.0   31 49
        SAO   iPe     02 31 22.5
        PRS   iPe     02 31 23.3
        BKS   iPd     02 31 28.8   32 04
        PCC   eP      02 31 29.6
                 BRK  02 30 41.3, 37.5N, 118.7W, h= 12 km, ML=3.9
                      MAMMOTH LAKES, CALIFORNIA

FEB 22  SAO   eP      10 59 47.3
        BKS   iPd     10 59 48.6
                                 MICRON     PERIOD
                           PZ      0.19        1.2
        PRI   eP      10 59 48.7
        MHC   eP      10 59 48.7
        FRI   iPe     10 59 53.7
        JAS   iPe     10 59 54.0
        WDC   iPe     10 59 55.7
        MIN   eP      10 59 56.9
        MNV   iPe     11 00 02.7
                 USGS 10 48 39.3, 21.6S, 179.8E, h=636 km, mb=5.3
                      SOUTH OF FIJI ISLANDS

FEB 22  FHC   eP      21 28 13.7
        BKS   eP      21 28 15.0   38 50        e 28 28      e 28 31      e 28 58
                                                SS 44 26     Lq 50 36     e 51 18
                                                Lr 54 27
                                 MICRON     PERIOD
                           PZ      0.31        0.9
                           LZ      6           20
                           LN      3.0         20
                           LE      5           20
        WDC   eP      21 28 16.0                   e 28 34      e 28 43
        SAO   eP      21 28 16.3
        MHC   eP      21 28 16.9
        PRI   eP      21 28 19.4
        ORV   eP      21 28 19.8
        MIN   eP      21 28 20.5
        JAS   eP      21 28 21.7                   e 28 32      e 28 38
        FRI   eP      21 28 23.0
        MNV   eP      21 28 30.8
                 USGS 21 15 42.1, 10.7S, 161.6E, h= 68 km, mb=5.9
                      SOLOMON ISLANDS

FEB 22  BKS   iPe     22 26 34.0   26 40
        MHC   iPe     22 26 37.3   26 45
        PCC   iPd     22 26 38.4
        GCC   ePe     22 26 42.4
        JAS   iPe     22 26 45.7   27 00
        SAO   ePe     22 26 47.6
        LLA   e(P)    22 26 51
        PRS   e(P)    22 26 56
                 BRK  22 26 26.7, 37.8N, 121.8W, h=  5 km, ML=3.4
                      LIVERMORE AREA, CALIFORNIA

FEB 22  BKS   iPe     22 58 15.3   58 21
        MHC   iPd     22 58 18.7   58 27
        PCC   iPd     22 58 19.6
        GCC   e(P)    22 58 24
        JAS   iPe     22 58 27.0   58 41
        SAO   eP      22 58 29.8
                 BRK  22 58 08.0, 37.9N, 121.8W, h=  6 km, ML=2.8
                      LIVERMORE AREA, CALIFORNIA

FEB 23  MHC   iPd     00 09 02.4   09 07
        BKS   eP      00 09 05.7
        PCC   iPd     00 09 07.0
        GCC   eP      00 09 08.9
        SAO   eP      00 09 13.0
        JAS   iPe     00 09 14.0
        LLA   e(P)    00 09 18
                 BRK  00 08 55.3, 37.7N, 121.7W, h=  6 km, ML=2.7
                      LIVERMORE AREA, CALIFORNIA

FEB 23  SAO   ePe     01 41 10.2
        BKS   ePe     01 41 11.6
                                 MICRON     PERIOD
                           PZ      0.07        0.9
        PRI   ePe     01 41 11.9
        MHC   ePe     01 41 12.2
        FHC   ePe     01 41 16.4
        JAS   iPe     01 41 18.4
        WDC   iPe     01 41 20.2
        MIN   ePe     01 41 22.1
        MNV   iPe     01 41 28.8
                 USGS 01 29 52.5, 15.2S, 173.4W, h= 33 km, mb=5.2
                      TONGA ISLANDS

FEB 23  FHC   ePe     06 01 28.4
        WDC   iPe     06 01 34.4              PKPPKP 30 18
        MIN   ePe     06 01 38.7
        ORV   e(P)    06 01 40
        BKS   ePe     06 01 45.6   10 29        e 01 55      e 02 19      PP 04 23
                                                e 05 10     PPP 06 20     e 11 20
                                              SeS 11 46      e 12 24      e 13 39
                                                e 13 58     SS 14 24      e 16 21
                                               Lq 18 03      e 19 40      Lr 20 46
                                 MICRON     PERIOD
                           PZ      0.27        1.3
                           LZ      100         20
                           LNE     50          20
                           LNW     60          20
        MHC   ePe     06 01 50.5
        SAO   eP      06 01 52.7
        JAS   iPe     06 01 52.9
        FRI   ePe     06 01 59.3
        PRI   ePe     06 01 59.4
        MNV   iPe     06 02 00.2
                 Ms=6.9, DISTANCE=66°
                 USGS 05 51 03.2, 43.5N, 146.8E, h= 44 km, mb=6.3, Ms=7.0
                      KURIL ISLANDS

FEB 23  FHC   eP      06 59 49.6
        WDC   eP      06 59 55.5              PKPPKP 29 07
        MIN   eP      06 59 59.8
        BKS           07 00                        e 00 22
        MHC   ePe     07 00 11.2
        JAS   eP      07 00 15                PKPPKP 29 05
        PRI   eP      07 00 20.5
                 USGS 06 49 26.0, 43.5N, 146.7E, h= 58 km, mb=5.6
                      KURIL ISLANDS

FEB 23  FHC   eP      22 49 19.2
        WDC   eP      22 49 25.3              PKPPKP 18 13
        MIN   eP      22 49 29.5
        ORV   eP      22 49 32.5
        BKS   ePe     22 49 36.4   58 23        e 58 46     SeS 59 27     Lq 05 40
                                                Lr 08 37
                                 MICRON     PERIOD
                           PZ      0.11        1.2
                           LZ      3.9         20
                           LN      2.0         20
                           LE      3.5         20
        MHC   eP      22 49 41.1
        JAS   eP      22 49 43.7              PKPPKP 18 10
        PRI   eP      22 49 50.2
        FRI   eP      22 49 50.4
        MNV   eP      22 49 51.0              PKPPKP 18 07
                 Ms=5.6, DISTANCE=66°
                 USGS 22 38 53.5, 43.2N, 146.9E, h= 45 km, mb=5.9, Ms=5.8
                      KURIL ISLANDS
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FEB 24  SAO   eP      16 44 25.0
        BKS   eP      16 44 25.8
                            MICRON     PERIOD
                       PZ     0.08        1.4
        PRI   ePe     16 44 26.5
        MHC   ePe     16 44 26.5
        JAS   iPe     16 44 31.9
        FRI   eP      16 44 32.1
        ORV   eP      16 44 33.1
        WDC   eP      16 44 33.3
        MIN   ePe     16 44 33.6
        MNV   iPe     16 44 42.5
                  USGS 16 33 32.2, 17.9S, 178.6W, h=584 km, mb=5.1
                       FIJI ISLANDS REGION

FEB 25  FRI   eP      10 48 12.1
        PRI   eP      10 48 42.7                  Sg 49 54
        LLA   eP      10 48 48.5
        PRS   eP      10 48 49.5
        SAO   eP      10 48 54.2
        MNV   eP      10 48 55.5
        JAS   ePe     10 48 59.7                  Sg 50 26
        MHC   eP      10 49 01.2                  Sg 50 42
        GCC   eP      10 49 01.6
        PCC   eP      10 49 09.2
        BKS   eP      10 49 11.5                   e 49 15     e 49 17     e 49 30
                                                  Pg 49 42     e 49 52     Sg 50 20
                                                   e 50 30
        WKC   e(P)    10 49 55
                  ML=5.6, SOUTHERN CALIFORNIA
                  PAS  10 47 38.7, 33.5N, 116.5W, h=  6 km, ML=5.5
                       SOUTHERN CALIFORNIA

FEB 25  SAO   eP      19 45 11.7
        BKS   ePd     19 45 12.6                   e 45 17     e 45 26
                            MICRON     PERIOD
                       PZ     0.11        0.8
        MHC   iPd     19 45 13.3
        PRI   iPd     19 45 13.4
        JAS   iPd     19 45 18.9                   e 47 10
        ORV   eP      19 45 19.8
        WDC   iPd     19 45 19.9                   i 47 10
        MIN   eP      19 45 22.0
        MNV   iPd     19 45 28.5                   i 47 20
                  USGS 19 34 13.4, 17.7S, 178.5W, h=505 km, mb=5.5
                       FIJI ISLANDS REGION

FEB 25  PRI   eP      22 20 43.6
        FRI           22 20                        e 20 47
        MNV   eP      22 20 54.9
        MHC   eP      22 20 55.3
        JAS   iPd     22 20 56.1                   e 22 34
        ORV   eP      22 21 10.5
        WDC   iPd     22 21 19.5                   e 22 44
        FHC           22 21                        e 21 25
                  USGS 22 12 32.1,  5.9S, 106.0W, h= 10 km, mb=5.4, Ms=5.1
                       NORTHERN EASTER ISLAND CORDILLERA

FEB 25  FRI   iPd     23 44 06.2
        MNV   iPd     23 44 10.8
        PRI   iPe     23 44 15.7  44 49
        LLA   eP      23 44 19.1
        JAS   iPe     23 44 22.8  44 59
        PRS   eP      23 44 23.5
        SAO   eP      23 44 25.5
                  MAG=4.1, SOUTHERN CALIFORNIA
                  PAS  23 43 32.3, 36.2N, 117.6W, h=  5 km, ML=3.9
                       SOUTHERN CALIFORNIA

FEB 27  PRI   ePd     03 17 03.9
        BKS   eP      03 17 04.0
                            MICRON     PERIOD
                       PZ     0.03        0.9
        MHC   eP      03 17 04.2
        JAS   iPd     03 17 09.3                  pP 19 22
        ORV   ePd     03 17 10.7
        WDC   iPd     03 17 11.1
        MIN   eP      03 17 12.5
                  USGS 03 05 28.2, 27.4S, 178.3E, h=621 km, mb=5.5
                       KERMADEC ISLANDS REGION

FEB 27  BKS           03 37                        e 37 55
        JAS   ePKP    03 37 55.1
        MHC   ePKP    03 37 56.3
        PRI   ePKP    03 38 01.5
                  USGS 03 18 14.5,  4.2S,  68.3E, h= 10 km, mb=5.0
                       CHAGOS ARCHIPELAGO REGION

FEB 27  WDC   ePd     06 37 01.0
        ORV   eP      06 37 06.8
        JAS   ePd     06 37 15.5
        PRI   eP      06 37 19.9
                  USGS 06 24 37.8, 29.4N, 130.6E, h= 35 km, mb=5.1, Ms=5.6
                       RYUKYU ISLANDS

FEB 27  FHC   iPe     10 54 22.3  54 27
        WKC   iPd     10 54 23.7
        WDC   iPe     10 54 37.0
        MIN   ePe     10 54 47.5  55 12
        ORV   eP      10 54 52.0  55 18
                  BRK  10 54 17.9, 40.6N, 124.0W, h= 10 km, ML=3.3
                       SOUTHEAST OF EUREKA, CALIFORNIA

FEB 27  FHC   eP      12 54 52.7
        WDC   iPe     12 54 59.0
        MIN   ePe     12 55 03.0
        ORV   ePe     12 55 06.2
        BKS   eP      12 55 10.1                  Lr 14 24
                            MICRON     PERIOD
                       PZ     0.08        1.4
        MHC   eP      12 55 14.7
        JAS   ePe     12 55 17.5
        PRI   eP      12 55 23.7
        FRI   eP      12 55 24.0
                  USGS 12 44 26.7, 43.3N, 146.8E, h= 42 km, mb=5.9, Ms=5.5
                       KURIL ISLANDS

FEB 27  FHC   eP      21 30 23.8
        WDC   iPd     21 30 28.4                 PP 34 33
        BKS   eP      21 30 28.5  41 13          PP 34 10     e 42 50     SS 47 15
                                                  e 47 58     e 51 33     Lq 54 20
                                                  e 55 08     Lr 58 54
                            MICRON     PERIOD
                       PZ     0.11        1.2
                       LZ       33          22
                       LN       25          20
                       LE       26          20
        MHC   eP      21 30 30.5
        MIN   eP      21 30 31.0
        ORV   iPd     21 30 31.0
        PRI   eP      21 30 33.8
        JAS   iPd     21 30 35.3
        FRI   eP      21 30 36.7
        MNV   eP      21 30 43.0
                  Ms=6.8, DISTANCE=92°
                  USGS 21 17 20.2,  6.0S, 150.2E, h= 53 km, mb=5.8, Ms=6.6
                       NEW BRITAIN REGION

FEB 27  WDC   eP      21 48 19.7
        BKS   e(P)    21 48 22                   Lq 12 40     Lr 17 06
                            MICRON     PERIOD
                       PZ     0.12        1.5
                       LZ       37          20
                       LN       20          20
                       LE       24          20
        ORV   eP      21 48 22.2
        PRI   eP      21 48 24.6
        JAS   eP      21 48 26.6
                  mb=6.0, DISTANCE=92°
                  USGS 21 35 21.3,  6.2S, 150.2E, h= 66 km, mb=5.6
                       NEW BRITAIN REGION

FEB 27  WDC   eP      23 13 14.6
        MIN   eP      23 13 18.9
        ORV   eP      23 13 21.8
        MHC   eP      23 13 30.7
        JAS   eP      23 13 33.3
        MNV   eP      23 13 39.9
        PRI   eP      23 13 39.9
                  USGS 23 02 41.6, 43.3N, 146.9E, h= 36 km, mb=5.6, Ms=5.3
                       KURIL ISLANDS

FEB 28  WKC   iPe     11 39 28.0
        FHC   iPd     11 39 32.8  39 41
        WDC   iPe     11 39 43.7  39 59
        MIN   iPe     11 39 53.4  40 17
        ORV   iPe     11 39 56.2
        BKS   eP      11 40 06.5  40 38        e 40 31      e 40 37
        PCC   eP      11 40 09.2
        MHC   eP      11 40 16.2
        GCC   eP      11 40 16.6
        JAS   eP      11 40 19.0
        SAO   e(P)    11 40 22                   i 40 26
                  BRK  11 39 22.9, 40.3N, 124.0W, h= 10 km, ML=3.3
                       SOUTH OF EUREKA, CALIFORNIA

FEB 28  MNV   iPe     15 00 36.4
        FRI   ePe     15 00 48.0
        JAS   ePe     15 00 57.0
        PRI   ePe     15 01 01.8
        MHC   eP      15 01 10.8
        ORV   e(P)    15 01 16
        BKS   ePe     15 01 18.1                   e 01 35
                  ML=4.4, NUCLEAR EXPLOSION (TARKO), N.T.S.
                  USGS 15 00 00.1, 37.1N, 116.1W, h=  0 km, mb=4.4
                       SOUTHERN NEVADA

MAR 01  SAO   iPe     12 59 36.5
        LLA   iPe     12 59 41.5  59 47
        PRS   iPd     12 59 41.6
        GCC   ePe     12 59 45.8
        MHC   ePd     12 59 48.2  59 59
        PRI   ePd     12 59 49.4
        PCC   iPd     12 59 55.2
        FRI           12 59       00 16
        JAS   ePe     13 00 00.0
        BKS   ePe     13 00 00.9                   e 00 20     e 00 28
                  BRK  12 59 34.4, 36.7N, 121.4W, h=  3 km, ML=2.8
                       SOUTHEAST OF HOLLISTER, CALIFORNIA

MAR 01  MNV   ePe     17 13 42.7
        WDC   ePe     17 13 52.4
        ORV   ePe     17 13 54.2
        JAS   ePe     17 13 56.0
        MHC   e(P)    17 14 02
        PRI   e(P)    17 14 03
        BKS   eP      17 14 07.5                   e 14 07     e 14 19     e 14 25
                  USGS 17 02 58.8, 37.4N,  32.0W, h= 10 km, mb=4.9, Ms=4.8
                       AZORES ISLANDS REGION

MAR 02  SAO   eP      02 45 29.0
        BKS   iPd     02 45 30.3
                            MICRON     PERIOD
                       PZ     0.04        1.0
        PRI   ePe     02 45 30.6
        MHC   ePe     02 45 30.6
        FRI   ePe     02 45 36.0
        JAS   iPe     02 45 36.2
        ORV   iPe     02 45 37.2
        WDC   ePe     02 45 37.3
        MIN   eP      02 45 39.3
        MNV   iPe     02 45 45.7
                  USGS 02 34 39.7, 18.0S, 178.5W, h=623 km, mb=5.1
                       FIJI ISLANDS REGION

MAR 02  MHC   iPd     20 30 19.2
        GCC   ePe     20 30 22.5  30 28
        SAO   iPd     20 30 23.4
        LLA   eP      20 30 28.6
        PCC   ePe     20 30 28.7  30 40
        PRS   eP      20 30 31.0  30 43
        BKS   iPe     20 30 32.1  30 45
        JAS   iPe     20 30 36.7
        PRI   eP      20 30 38.0
                  BRK  20 30 15.0, 37.1N, 121.6W, h=  6 km, ML=2.6
                       NORTHEAST OF GILROY, CALIFORNIA

MAR 02  WDC   ePe     23 33 24.0
        MIN   eP      23 33 27.0
        ORV   iPe     23 33 29.3
        JAS   eP      23 33 37.3
                  USGS 23 20 39.4, 27.0N, 126.7E, h= 33 km, mb=5.2
                       EAST CHINA SEA

MAR 02  FHC   eP      23 41 37.2
        WDC   iPd     23 41 41.5                   e 46 03
        MIN   ePd     23 41 44.5
        ORV   iPd     23 41 46.7
        BKS   eP      23 41 50.6  52 43          e 53 54     Lq 05 50     Lr 10 04
                            MICRON     PERIOD
                       PZ     0.06        1.3
                       LZ        6          20
                       LN        6          20
                       LE        6          20
        MHC   ePd     23 41 52.9
        JAS   ePd     23 41 55.2                   e 45 23
                  Ms=6.2, DISTANCE=87°
                  USGS 23 28 57.1, 27.0N, 126.6E, h= 33 km, mb=5.5, Ms=6.3
                       EAST CHINA SEA

MAR 03  WDC   ePe     00 46 20.0
        MIN   eP      00 46 23.0
        BKS   eP      00 46 23.5
                            MICRON     PERIOD
                       PZ     0.04        1.0
        ORV   ePe     00 46 24.5
        MHC   eP      00 46 26.8
        JAS   ePe     00 46 30.4
        PRI   eP      00 46 32.5
        FRI   eP      00 46 34.0
                  USGS 00 33 46.4, 12.1N, 144.0E, h= 33 km, mb=5.5, Ms=5.7
                       SOUTH OF MARIANA ISLANDS

MAR 03  SAO   iPd     08 21 16.3
        LLA   iPe     08 21 21.3
        PRS   iPd     08 21 23.0
        GCC   iPe     08 21 25.1
        MHC   eP      08 21 26.0                   e 21 35
        PRI   eP      08 21 30.6
        PCC   ePe     08 21 33.7
        BKS   iPd     08 21 36.8  21 56
        FRI   e(P)    08 21 38                     e 21 55
        JAS   iPe     08 21 38.5  21 57
                  BRK  08 21 14.0, 36.8N, 121.3W, h=  6 km, ML=2.7
                       SOUTHEAST OF HOLLISTER, CALIFORNIA
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MAR 03  WKC   iP      14 17 16.8   17 28
        ARC   iP      14 17 19.9   17 31
        FHC   iP      14 17 20.8   17 35
        WDC   iPe     14 17 35.6   18 02
        MIN   iPe     14 17 45.4
        ORV   iPd     14 17 47.8
        BKS   iPd     14 17 52.6   18 33
        PCC   ePe     14 17 56.0
        GCC   ePe     14 18 03.7
        MHC   ePe     14 18 03.8
        JAS   iPd     14 18 10.1                  i 19 03
        SAO   ePe     14 18 10.5
        PRS   e(P)    14 18 16
        LLA   e(P)    14 18 17
        PRI   e(P)    14 18 25
        FRI   e(P)    14 19 25
                BRK  14 17 01.0, 40.4N, 125.3W, h= 5 km, ML=5.1
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

MAR 03  WDC   iPd     17 29 57.9
        MIN   ePg     17 30 02.0
        ORV   iPd     17 30 05.0
        MHC   ePg     17 30 14.5
        JAS   ePg     17 30 15.7
        PRI           17 30                    e 30 22
        MNV   ePg     17 30 22.5
                USGS 17 19 25.4, 43.1N, 147.3E, h= 33 km, mb=5.5
                     KURIL ISLANDS

MAR 03  BKS           23 00                    e 00 34
        WDC   ePg     23 00 31.3
        ORV   ePg     23 00 31.4
        JAS   ePg     23 00 31.7
        MNV   ePg     23 00 39.0
                USGS 22 47 53.8, 22.1S, 174.3E, h= 33 km, mb=5.3
                     LOYALTY ISLANDS REGION

MAR 04  WDC   ePg     08 31 07.2
        MIN   ePg     08 31 11.3
        ORV   iPe     08 31 14.8
        JAS   iPe     08 31 26.5
        MNV   iPe     08 31 33.0
                USGS 08 21 13.3, 46.8N, 147.3E, h=268 km, mb=5.0
                     NORTHWEST OF KURIL ISLANDS

MAR 05  SAO   iPe     03 45 23.9
        LLA   iPe     03 45 28.1   45 33
        PRS   iPd     03 45 28.3   45 33
        GCC   ePd     03 45 33.3
        MHC   iPd     03 45 35.5   45 46
        PRI   ePe     03 45 36.3
        PCC   ePg     03 45 42.2
        FRI           03 45                  Sg 46 04
        JAS   ePe     03 45 47.2
        BKS   ePg     03 45 48.0   46 09
                BRK  03 45 21.6, 36.7N, 121.3W, h= 7 km, ML=2.8
                     SOUTHEAST OF HOLLISTER, CALIFORNIA

MAR 06  MNV   ePg     01 01 00.1
        JAS   ePg     01 01 09.2
        ORV   ePg     01 01 19.9
        MIN   ePg     01 01 24.5
                USGS 00 52 47.0,  7.7N,  82.7W, h= 14 km, mb=5.0, Ms=4.8
                     SOUTH OF PANAMA

MAR 06  PRI           07 33                    e 33 59
        WDC   ePg     07 34 03.0
        ORV   ePg     07 34 03.5
        JAS   ePg     07 34 03.6
        MIN   ePg     07 34 05.7
                USGS 07 21 17.0, 23.0S, 171.4E, h= 53 km, mb=4.8
                     LOYALTY ISLANDS REGION

MAR 06  SAO   iPe     11 03 47.1
        LLA   iPe     11 03 51.5   03 57
        PRS   iPd     11 03 51.7   03 57
        GCC   iPe     11 03 56.5
        MHC   iPd     11 03 58.8   04 10
        PRI   iPd     11 03 59.5
        PCC   ePe     11 04 05.4                i 04 23
        BKS   iPd     11 04 08.8                e 04 16
        FRI   iPd     11 04 09.2
        JAS   iPd     11 04 10.4   04 26      Sg 04 29
        ORV   iPe     11 04 31.4
                BRK  11 03 44.8, 36.7N, 121.3W, h= 7 km, ML=3.8
                     SOUTHEAST OF HOLLISTER, CALIFORNIA

MAR 06  SAO   iPe     11 05 11.5
        LLA   iPe     11 05 15.9   05 21
        PRS   iPd     11 05 16.0   05 21
        GCC   iPe     11 05 20.7
        MHC   iPd     11 05 23.1   05 34
        PRI   iPd     11 05 23.8
        PCC   ePe     11 05 29.5
        BKS   ePg     11 05 33.2                e 05 36
        FRI   iPd     11 05 33.3
        JAS   iPg     11 05 35.5   05 50        i 05 44
                BRK  11 05 09.2, 36.7N, 121.4W, h= 7 km, ML=4.0
                     SOUTHEAST OF HOLLISTER, CALIFORNIA

MAR 06  SAO   iPg     11 06 08.0
        PRS   iPd     11 06 13.4   06 18
        LLA   iPe     11 06 13.5   06 18
        MHC   iPg     11 06 20     06 31
        PRI   iPg     11 06 20
        JAS   iPg     11 06 29
                BRK  11 06 06.5, 36.7N, 121.4W, h= 4 km, ML=2.6
                     SOUTHEAST OF HOLLISTER, CALIFORNIA

MAR 06  LLA   iPe     11 07 44.0   07 49
        PRS   iPd     11 07 44.1   07 49
        GCC   ePe     11 07 49.2
        MHC   iPd     11 07 51.9   08 03
        PRI   iPg     11 07 53.0
        PCC   ePg     11 07 57.8
        BRK   ePg     11 08 01
        FRI   ePg     11 08 01.6
        JAS   ePg     11 08 03                  i 08 21
                BRK  11 07 37.5, 36.7N, 121.3W, h= 5 km, ML=3.0
                     SOUTHEAST OF HOLLISTER, CALIFORNIA

MAR 06  WDC   ePe     11 16 21.0
        MIN   ePe     11 16 24.7
        ORV   ePe     11 16 27.3
        BKS   iPd     11 16 30.3
                          MICRON     PERIOD
                      PZ    0.09       1.0
        MHC   ePe     11 16 33.8
        SAO   ePg     11 16 35
        JAS   ePe     11 16 36.7
        PRI   ePe     11 16 41.6
        FRI   ePg     11 16 41.8
                USGS 11 04 51.9, 32.9N, 140.0E, h=109 km, mb=5.2
                     SOUTH OF HONSHU, JAPAN

MAR 06  SAO   iPe     12 31 50.6
        LLA   iPe     12 31 55.4   32 00
        PRS   iPd     12 31 55.5   32 00
        GCC   iPe     12 32 00.0
        MHC   ePd     12 32 02.2   32 13
        PRI   ePd     12 32 03.4
        PCC   ePg     12 32 09.0
        FRI   ePg     12 32 13
        JAS   ePg     12 32 13.8
        BKS   ePg     12 32 15.0                e 32 36
                BRK  12 31 48.4, 36.7N, 121.4W, h= 6 km, ML=2.6
                     SOUTHEAST OF HOLLISTER, CALIFORNIA

MAR 06  SAO   iPe     13 57 04.2
        BKS   iPg     13 57 05.5
                          MICRON     PERIOD
                      PZ    0.05       0.9
        PRI   ePd     13 57 05.9
        MHC   ePd     13 57 06.0
        FRI   ePd     13 57 10.3
        JAS   ePd     13 57 11.4
        ORV   ePd     13 57 12.4
        WDC   ePd     13 57 12.7
        MIN   ePd     13 57 14.5
                USGS 13 46 12.2, 18.2S, 177.9W, h=576 km, mb=5.2
                     FIJI ISLANDS REGION

MAR 06  MNV           20 49                    e 49 57
        JAS   ePg     20 49 59.0
        MIN           20 50                    e 50 10
        ORV   ePg     20 50 06.2               i 50 13
        WDC   ePg     20 50 10.4               i 50 18
                USGS 20 37 02.2, 44.3S,  82.1W, h= 10 km, mb=5.5
                     WEST CHILE RISE

MAR 07  MNV   ePg     06 07 34.5               i 07 51
        JAS   ePg     06 07 43.6
        MHC   ePg     06 07 48.2
        ORV   ePg     06 07 57.0
        WDC   ePg     06 08 05.0
                USGS 06 00 49.7, 13.6N,  90.5W, h=103 km, mb=4.7
                     NEAR COAST OF GUATEMALA

MAR 07  MNV           08 36                    e 36 13
        PRI           08 36                    e 36 17
        JAS   ePg     08 36 19.2               e 36 31
        MHC   ePg     08 36 22.8
        ORV   ePg     08 36 29.0               i 36 41
        BKS   ePg     08 36 30.0   45 45      SS 50 45   PKKP 54 36     Lq 56 08
                                                Lr 59 36
                          MICRON     PERIOD
                      PZ    0.03       0.8
                      LZ    6         20
                      LN    3.9       20
                      LE    6         20
        MIN           08 36                    e 36 34
        WDC           08 36                    e 36 43
                Ms=6.0, DISTANCE=73°
                USGS 08 25 07.8, 16.7S,  73.0W, h= 43 km, mb=5.4, Ms=5.9
                     NEAR COAST OF PERU

MAR 07  WDC           13 15                    e 15 44
        ORV   iPe     13 15 49.5
        BKS   iPe     13 15 52.5
                          MICRON     PERIOD
                      PZ    0.03       0.8
        JAS   ePg     13 15 58.2
        MNV           13 16                    e 16 05
                USGS 13 04 34.4, 29.9N, 138.7E, h=438 km, mb=4.5
                     SOUTH OF HONSHU, JAPAN

MAR 07  FHC   ePg     21 38 40.0
        WDC   iPd     21 38 46.2
        MIN   iPd     21 38 52.4
        ORV   iPd     21 39 02.3
        BKS   ePg     21 39 24.6
                          MICRON     PERIOD
                      PZ    0.02       0.6
        JAS   ePg     21 39 28.3
        MNV   iPd     21 39 29.6
        MHC   ePg     21 39 34.2
        SAO   ePg     21 39 41
        PRI   ePg     21 39 51.7
                USGS 21 36 30.1, 49.8N, 125.7W, h= 44 km, mb=4.9
                     VANCOUVER ISLAND REGION

MAR 08  PRI           01 11                    e 11 50
        MHC           01 11                    e 11 45
        BKS   e(P)    01 11 46    21 04        e 21 28    e 21 40     e 24 42
                                                SS 25 31   Lq 29 52    Lr 32 24
                                                e 42 54
                          MICRON     PERIOD
                      LZ    3.0       20
                      LN    2.9       20
                      LE    3.0       20
        JAS   ePg     01 11 51.2
        ORV   ePg     01 11 52.6
        WDC   ePg     01 11 53.4
        MNV   ePg     01 12 03.5
                Ms=5.7, DISTANCE=72°
                USGS 01 00 26.9, 15.1S, 173.6W, h= 33 km, mb=5.5, Ms=5.7
                     TONGA ISLANDS

MAR 08  SAO   e(P)    14 42 37
        BKS   ePg     14 42 37.3               e 44 20    SKS 53 09     e 53 30
                                                e 54 20    e 55 06     e 57 40
                                                SS 58 22   e 59 10     SSS 02 32
                                                Lq 05 46   Lr 09 40
                          MICRON     PERIOD
                      PZ    0.13       1.2
                      LZ    10        20
                      LN    7         20
                      LE    7         20
        MHC   ePg     14 42 38.2
        PRI   ePe     14 42 38.7
        JAS   ePe     14 42 43.2
        WDC   ePe     14 42 43.4
        ORV   ePe     14 42 43.7
        MIN   ePg     14 42 45.1
        MNV   ePe     14 42 51.8
                Ms=6.2, DISTANCE=87°
                USGS 14 29 56.0, 22.8S, 171.4E, h= 43 km, mb=5.7, Ms=6.0
                     LOYALTY ISLANDS REGION

MAR 08  MHC   iPe     14 51 58.3
        GCC   ePd     14 52 04.2   52 11
        PCC   iPe     14 52 06.0
        BKS   ePe     14 52 08.3   52 18
        SAO   iPd     14 52 09.4
        LLA   ePd     14 52 14.5
        PRS   ePd     14 52 16.2
        JAS   iPd     14 52 17.8
                BRK  14 51 56.2, 37.4N, 121.7W, h= 7 km, ML=2.6
                     EAST-NORTHEAST OF SAN JOSE, CALIFORNIA

MAR 08  MNV   iPe     15 35 35.7
        FRI   e(P*)   15 35 53                 Sg 36 32
        JAS   ePg     15 35 57.0                e 36 06
        PRI   ePg     15 36 01.7
        LLA   ePg     15 36 12
        PRS   ePg     15 36 18
        MHC   ePg     15 36 20
                ML=4.0, NUCLEAR EXPLOSION (NORBO), N.T.S.
                USGS 15 35 00.1, 37.2N, 116.1W, h=  0 km, mb=3.9
                     SOUTHERN NEVADA
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MAR 08  BKS   eP     22 24 51.5                    • 28 18     • 34 40     SKS 35 28
                                                   • 36 28     • 39 36      • 40 06
                                                SS 40 40     • 44 32     Lq 47 26
                                                Lr 52 08
                                    MICRON     PERIOD
                               PZ     0.44        1.4
                               LZ     80          20
                               LN      6          20
                               LE     70          20
        SAO   eP     22 24 52.0
        MHC   eP     22 24 52.6
        PRI   eP     22 24 53.0
        FHC   eP     22 24 54.2
        WDC   ePd    22 24 56.6
        ORV   ePd    22 24 57.1
        JAS   ePd    22 24 57.6
        FRI   eP     22 24 57.7
        MIN   eP     22 24 59.7
        MNV   eP     22 25 06.1
                     Ms=7.1, DISTANCE=88°
                     USGS 22 12 10.3, 22.7S, 171.4E, h= 38 km, mb=6.1, Ms=6.7
                          LOYALTY ISLANDS REGION

MAR 08  FHC   e(P)   23 56 58
        WDC   iPe    23 57 02.5
        MIN   eP     23 57 05.5
        ORV   iPe    23 57 07.7
        BKS   eP     23 57                         • 57 11
        MHC   e(P)   23 57 14
        JAS   ePe    23 57 16.1                    • 01 13
        PRI   e(P)   23 57 21
                     USGS 23 44 17.8, 27.1N, 126.6E, h= 33 km, mb=5.3
                          EAST CHINA SEA

MAR 09  WDC   iPe    03 35 44.5
        MIN   iPe    03 35 49.8
        ORV   iPe    03 35 54.0
        BKS   eP     03 35 59.3
        MHC   ePe    03 36 05.0
        JAS   iPe    03 36 08.0
        MNV   iPe    03 36 16.2
        PRI   ePe    03 36 16.3
                     USGS 03 28 07.4, 51.8N, 178.4E, h=111 km, mb=4.8
                          RAT ISLANDS, ALEUTIAN ISLANDS

MAR 09  WDC   eP     08 53 51.1
        MIN   eP     08 53 54.2
        ORV   eP     08 53 56.5
        BKS          08 53                         • 54 06
        JAS   e(P)   08 54 05
                     USGS 08 41 07.3, 27.2N, 126.6E, h= 33 km, mb=5.0, Ms=5.5
                          EAST CHINA SEA

MAR 09  SAO   eP     15 37 27.5
        BKS   eP     15 37 28.2
                                    MICRON     PERIOD
                               PZ     0.02        0.6
        MHC   eP     15 37 28.9
        PRI   ePe    15 37 29.6
        FHC   eP     15 37 30.6
        JAS   ePe    15 37 33.9
        WDC   iPe    15 37 34.1
        ORV   iPe    15 37 34.4
        MIN   eP     15 37 36.0
        MNV   iPe    15 37 42.6
                     USGS 15 24 48.6, 22.7S, 171.6E, h= 50 km, mb=5.4
                          LOYALTY ISLANDS REGION

MAR 09  WDC   eP     18 35 34
        MIN   eP     18 35 38.6
        ORV   eP     18 35 42
        JAS          18 36                         • 36 02
        MNV   eP     18 36 08
                     USGS 18 30 06.1, 56.4N, 153.6W, h= 33 km, mb=4.5
                          KODIAK ISLAND REGION

MAR 09  BKS   e(P)   19 57 10                      • 09 20     • 21 10     Lr 24 36
                                    MICRON     PERIOD
                               LZ     1.4         20
                               LN     0.9         20
                               LE     0.9         20
        JAS   eP     19 57 13.1
        WDC   eP     19 57 13.1
        ORV   eP     19 57 13.3
        MNV   ePe    19 57 21.3
                     USGS 19 44 28.6, 22.7S, 171.6E, h= 60 km, mb=4.8
                          LOYALTY ISLANDS REGION

MAR 09  JAS   ePe    22 01 02.9
        WDC   ePe    22 01 03.0
        ORV   ePe    22 01 03.3
        MNV   ePe    22 01 11.6
                     USGS 21 48 17.3, 22.8S, 171.6E, h= 49 km, mb=5.3
                          LOYALTY ISLANDS REGION

MAR 10  PRI   eP     11 43 18
        MNV   ePe    11 43 29.8
        JAS   eP     11 43 33
        MHC          11 43                         • 43 34
        ORV   ePe    11 43 53.5
        WDC   e(P)   11 44 01
                     USGS 11 38 43.3, 19.2N, 108.4W, h= 10 km, mb=4.2, Ms=3.6
                          REVILLA GIGEDO ISLANDS REGION

MAR 10  FHC   eP     11 54 50.2
        WDC   ePe    11 54 59.9
        MIN   eP     11 55 05.4
        ORV   ePe    11 55 10.0
        BKS   eP     11 55 17.0
                                    MICRON     PERIOD
                               PZ     0.03        0.8
        MHC   eP     11 55 23.3
        JAS   ePe    11 55 26.1
        MNV   iPe    11 55 34.4
        PRI   eP     11 55 36.0
                     USGS 11 48 52.2, 54.5N, 162.9W, h= 52 km, mb=4.8
                          ALASKA PENINSULA

MAR 10  BKS          22 07                         • 19 20     • 31 14     Lr 34 46
                                    MICRON     PERIOD
                               LZ     1.8         20
                               LN     1.0         20
                               LE     1.5         20
        PRI   eP     22 07 19.8
        MHC   eP     22 07 20.0
        JAS   eP     22 07 25.2
        WDC   eP     22 07 25.4
        ORV   eP     22 07 25.7
        MIN   eP     22 07 27.0
                     USGS 21 54 40.3, 22.7S, 171.7E, h= 59 km, mb=5.3
                          LOYALTY ISLANDS REGION

MAR 11  WDC   eP     03 53 43.8
        MIN   eP     03 53 50
        ORV   eP     03 53 55.0
        BKS          03 54                         • 54 04     • 02 28     • 05 56
        MHC          03 54                         • 54 06
        JAS   eP     03 54 08.6
        PRI   eP     03 54 18.5
        MNV          03 54                         • 54 24
                     USGS 03 47 02.8, 52.2N, 169.0W, h= 20 km, mb=5.2, Ms=4.6
                          FOX ISLANDS, ALEUTIAN ISLANDS

MAR 11  SAO   iPd    21 46 11.8
        MHC   ePe    21 46 14.3   46 20
        GCC   ePe    21 46 14.9   46 21
        LLA   ePe    21 46 17.1
        PRS   ePe    21 46 19.5   46 29
        PCC   ePd    21 46 23.0
        BKS   eP     21 46 25.4   46 43
        PRI   ePd    21 46 27.0
        JAS   ePe    21 46 28.5
                     BRK  21 46 06.6, 37.0N, 121.5W, h= 10 km, ML=2.8
                          EAST-SOUTHEAST OF GILROY, CALIFORNIA

MAR 12  FHC   ePd    03 33 10.0
        WDC   iPd    03 33 15.4
        MIN   ePd    03 33 19.3
        ORV   iPd    03 33 22.0
        BKS   ePd    03 33 24.8                    • 55 56
                                    MICRON     PERIOD
                               PZ     0.11        0.9
        MHC   ePd    03 33 29.0
        SAO   eP     03 33 30.9
        JAS   iPd    03 33 31.8                 PP 36 20
        PRI   ePd    03 33 37.0
        FRI   iPd    03 33 37.3
                     USGS 03 21 52.8, 34.9N, 140.4E, h= 85 km, mb=5.5
                          NEAR EAST COAST OF HONSHU, JAPAN

MAR 12  BRK   eP     22 23 23.2
        MHC   ePd    22 23 23.7
        JAS   ePd    22 23 28.7
        ORV   eP     22 23 30.1
        WDC   eP     22 23 30.5
                     USGS 22 11 56.8, 23.8S, 179.1E, h=544 km, mb=4.8
                          SOUTH OF FIJI ISLANDS

MAR 12  WDC   eP     23 11 11.7                    • 11 28     • 11 39
        ORV   eP     23 11 21.6
        BRK   e(P)   23 11 26
        BKS          23 11                         • 11 29     • 11 46     • 11 58
                                                   • 17 08     • 19 16     • 19 52
                                                   • 20 44     • 23 36
                                    MICRON     PERIOD
                               LZ     2.0         20
                               LN     1.0         20
                               LE     2.3         20
        MHC   eP     23 11 32.5
        JAS   eP     23 11 36.7
        PRI   e(P)   23 11 45
        FRI   eP     23 11 45
        MNV   e(P)   23 11 46                      • 12 02
                     USGS 23 04 35.4, 52.1N, 169.0W, h= 40 km, mb=5.4, Ms=5.2
                          FOX ISLANDS, ALEUTIAN ISLANDS

MAR 13  PRI   eP     00 56 27.5
        MNV   eP     00 56 35.8
        JAS   eP     00 56 37.5
        MHC   eP     00 56 38.3
        ORV   eP     00 56 48
        WDC   eP     00 56 53.5
                     USGS 00 44 41.5, 36.3S,  97.5W, h= 10 km, mb=4.6
                          WEST CHILE RISE

MAR 13  BKS   iPe    14 36 29.2   36 35
        MHC   iPd    14 36 31.0   36 38
        PCC   iPe    14 36 32.4   36 41
        GCC   eP     14 36 35.9
        JAS   iPe    14 36 39.7
        SAO   e(P)   14 36 40
                     BRK  14 36 21.5, 37.8N, 121.8W, h= 11 km, ML=2.6
                          LIVERMORE AREA, CALIFORNIA

MAR 14  WDC   eP     04 46 07.5
        ORV   eP     04 46 12.8
        BKS          04 46                         • 46 22
        JAS   eP     04 46 24.2
        MNV   eP     04 46 33.0
                     USGS 04 35 44.8, 52.4N, 142.1E, h= 33 km, mb=4.9, Ms=4.6
                          SAKHALIN ISLAND

MAR 15  FRI   iPe    15 31 03.2   31 15
        MNV   iPe    15 31 04.0
        JAS   iPd    15 31 10.2   31 27
        LLA   iPe    15 31 20.8   31 46
        PRI   ePe    15 31 22.4
        SAO   ePe    15 31 25.1
        MHC   ePe    15 31 25.4   31 54
        PRS   ePe    15 31 27.0
        GCC   ePe    15 31 29.4
        BKS   iPd    15 31 32
        PCC   ePe    15 31 33.2
                     BRK  15 30 45.6, 37.6N, 118.8W, h=  9 km, ML=3.8
                          MAMMOTH LAKES, CALIFORNIA

MAR 16  PRS   iPd    13 10 16.1   10 23
        PRI   iPd    13 10 18.4   10 27
        LLA   ePd    13 10 22.5
        SAO   iPd    13 10 23.2
        MHC   ePe    13 10 33.0   10 53
        JAS   ePd    13 10 42.5
                     BRK  13 10 06.1, 35.8N, 121.3W, h=  7 km, ML=2.5
                          NEAR COAST SOUTHWEST OF KING CITY

MAR 16  WDC   eP     21 51 36.4                    • 51 49
        ORV   eP     21 51 43.5                    • 51 56
        JAS   eP     21 51 54.2                    • 52 07
        MNV   eP     21 52 01.0                    • 52 14
        PRI   eP     21 52 07.2                    • 52 20
                     USGS 21 40 36.7, 40.1N, 142.4E, h= 53 km, mb=5.4
                          NEAR EAST COAST OF HONSHU, JAPAN

MAR 17  WDC   eP     14 16 08.6
        ORV   eP     14 16 13.5
        JAS   eP     14 16 18.4
                     USGS 14 03 43.1, 12.9N, 145.1E, h= 38 km, mb=4.9, Ms=4.4
                          SOUTH OF MARIANA ISLANDS

MAR 19  FRI   eP     13 54 42.0   54 54
        JAS   iPe    13 54 49.4   55 07
        LLA   eP     13 55 00.9
        PRI   eP     13 55 03.3
        SAO   eP     13 55 05.0
        MHC   e(P)   13 55 05
        PRS   eP     13 55 07.7
                     BRK  13 54 24.9, 37.6N, 118.9W, h=  6 km, ML=3.5
                          MAMMOTH LAKES, CALIFORNIA

MAR 20  FRI   iPe    11 05 58.8
        MNV   iPe    11 06 00.8
        JAS   iPd    11 06 05.1   06 22
        LLA   iPe    11 06 16.2   06 40
        PRI   iPd    11 06 18.7
        SAO   iPd    11 06 20.6
        MHC   eP     11 06 20.7   06 48
        PRS   iPe    11 06 22.8
        GCC   e(P)   11 06 24
        BKS   iPd    11 06 27.5                    • 06 42     • 07 00     • 07 02
        PCC   ePe    11 06 28.6
        ORV   e(P)   11 06 31
                     BRK  11  5 42.1, 37.6N, 118.9W, h= 15 km, ML=3.8
                          MAMMOTH LAKES, CALIFORNIA

MAR 20  FHC   eP     15 25 15
        WDC   eP     15 25 30.7
        ORV   eP     15 25 47.2                    i 25 48     i 25 54
        JAS   eP     15 26 10.8
        MNV   eP     15 26 25.5
                     USGS 15 24 09.2, 43.9N, 128.1W, h= 15 km, mb=4.1, Ms=4.0
                          OFF COAST OF OREGON
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MAR 20  FRI   iPe    16 43 04.5   43 16
        MNV   iP     16 43 06.7
        JAS   iPd    16 43 10.9   43 27
        LLA   iPd    16 43 22.6
        PRI   iPd    16 43 24.6
        SAO   eP     16 43 26.3
        MHC   iP     16 43 27.3
        PRS   eP     16 43 29.0
        BKS   ePe    16 43 33.5
        ORV   iP     16 43 36.5
              BRK  16 42 47.7, 37.6N, 118.9W, h=  9 km, ML=3.7
                   MAMMOTH LAKES, CALIFORNIA

MAR 20  MNV                17 01                    e 01 18
        FRI                17 01                    e 01 20
        PRI   eP           17 01 25.4
        SAO                17 01                    e 01 31
        JAS   eP           17 01 28.5
        MHC   eP           17 01 34.7
        BKS                17 01                    e 01 41
        ORV   eP           17 01 41.5
              USGS 16 54 18.3, 16.8N,  85.7W, h= 27 km, mb=5.1, Ms=4.0
                   CARIBBEAN SEA

MAR 20  MNV   iPe    22 14 52.1
        JAS   iPd    22 14 56.6   15 13
        LLA   iPe    22 15 07.8   15 34
        PRI   iPd    22 15 10.2
        SAO   eP     22 15 12.0
        MHC   iPd    22 15 12.8
        PRS   eP     22 15 14.3
        BKS   iPd    22 15 18.6
        ORV   iPe    22 15 23.0
              BRK  22 14 33.4, 37.6N, 118.9W, h=  8 km, ML=3.8
                   MAMMOTH LAKES, CALIFORNIA

MAR 21  ORV   eP     01 32 07.6
        JAS   eP     01 32 08.2
        WDC   eP     01 32 08.3
              USGS 01 19 20.9, 23.0S, 171.4E, h= 43 km, mb=5.0
                   LOYALTY ISLANDS REGION

MAR 22  MNV   iPe    01 06 23.2
        PRI   eP     01 06 25.4
        JAS   ePe    01 06 31.9
        MHC   ePe    01 06 35.9
        BKS          01 06                    Lq 22 00
        ORV   iPe    01 06 44.4
        WDC   eP     01 06 51
              USGS 00 58 01.0,  5.7N,  82.6W, h= 33 km, mb=5.1, Ms=4.8
                   SOUTH OF PANAMA

MAR 22  JAS   ePKPe  02 34 06.0
        WDC   ePKPe  02 34 06.3
        ORV   ePKPe  02 34 06.4
              USGS 02 14 15.0, 25.6S,  28.0E, h= 33 km, mb=4.8
                   REPUBLIC OF SOUTH AFRICA

MAR 22  FRI   ePKP   10 25 15.0
        PRI   ePKP   10 25 15.5
        MNV   ePKPe  10 25 16.5
        JAS   ePKP   10 25 17.5
        MHC   ePKP   10 25 18.2
        BKS   ePKPe  10 25 18.6
                        MICRON    PERIOD
              PKPZ        0.06       0.8
        ORV   ePKPe  10 25 21.8
        MIN   e(PKP) 10 25 23
        WDC   ePKP   10 25 22.5
              USGS 10 06 24.2, 57.9S,  25.2W, h= 53 km, mb=5.4
                   SOUTH SANDWICH ISLANDS REGION

MAR 22  FHC   ePe    10 36 25.0
        WDC   iPe    10 36 31.5                    e 36 50
        MIN   eP     10 36 34
        ORV   iPe    10 36 40.2
        BKS   eP     10 36 46.5
                        MICRON    PERIOD
              PZ          0.20       1.5
        MHC   eP     10 36 52.3                    e 37 12
        JAS   iPe    10 36 54.3                    e 37 14      e 37 27 PKPPKP 07 45
        SAO   eP     10 36 55.2
        MNV   iPe    10 37 00.5
        FRI   eP     10 37 01.7
        PRI   eP     10 37 03.0                    e 37 28
              USGS 10 27 40.1, 55.7N, 161.5E, h= 69 km, mb=5.7
                   NEAR EAST COAST OF KAMCHATKA

MAR 22  JAS   iPd    14 13 13.0   13 25
        MNV   iPe    14 13 19.3
        ORV   iPe    14 13 21.8
        FRI   iPd    14 13 27.2
        BKS   eP     14 13 31.5   13 59
        MHC   iPe    14 13 31.6
        MIN   iPd    14 13 32.2
        PCC   e(P)   14 13 35
        SAO   ePe    14 13 35.8
        WDC   e(P)   14 13 40
        PRI   e(P)   14 13 43
              BRK  14 12 55.2, 38.8N, 119.8W, h= 17 km, ML=3.6
                   NORTH-NORTHWEST OF MARKLEEVILLE, CALIFORNIA

MAR 22  SAO          17 56                    e 56 45
        BKS   iPe    17 56 45.9
                        MICRON    PERIOD
              PZ          0.10       1.0
        PRI   eP     17 56 46.1
        MHC   eP     17 56 46.8
        JAS   iP     17 56 51.8
        ORV   iPd    17 56 53.1
        WDC   iPd    17 56 53.2
        MIN   eP     17 56 55.2
        MNV   iPd    17 57 00.9
              USGS 17 45 37.4, 20.7S, 178.3W, h=530 km, mb=5.0
                   FIJI ISLANDS REGION

MAR 23  WDC   iPe    15 09 46.8
        MIN   eP     15 09 50.3
        ORV   iPe    15 09 53.0
        BKS   ePe    15 09 55.5
                        MICRON    PERIOD
              PZ          0.09       0.8
        MHC          15 09                    e 09 59
        JAS   iPe    15 10 02.0
        PRI   eP     15 10 06.5
        FRI          15 10                    e 10 07
        MNV   iPe    15 10 09.4
              USGS 14 58 12.5, 31.0N, 140.0E, h=119 km, mb=5.1
                   SOUTH OF HONSHU, JAPAN

MAR 23  BKS   iPd    19 39 46.8
        MHC   eP     19 39 47.9
        WDC   eP     19 39 50.3
        ORV   eP     19 39 51.7
        JAS   iPe    19 39 53.3
        MNV   iPe    19 40 02.8
              USGS 19 27 56.2, 12.1S, 167.0E, h=313 km, mb=4.9
                   SANTA CRUZ ISLANDS

MAR 23  PRI   eP     19 47 12.2
        SAO   eP     19 47 14.1
        MHC   eP     19 47 18.0
        BKS   ePe    19 47 19.9
                        MICRON    PERIOD
              PZ          0.09       1.0
        JAS   eP     19 47 23.2
        MNV   eP     19 47 30.0
        WDC   eP     19 47 35.6
              USGS 19 36 58.4, 21.9S, 139.0W, h=  0 km, mb=5.7
                   TUAMOTU ARCHIPELAGO REGION

MAR 23  PRI   eP     23 45 21.3                    e 45 32
        MNV          23 45                        e 45 33
        JAS   iPe    23 45 27.1                   e 45 37
        MHC   eP     23 45 28.8
        ORV   iPe    23 45 36.3                   i 45 47
        WDC   iP     23 45 41.1                   i 45 51
              USGS 23 33 10.6, 30.0S,  71.5W, h= 36 km, mb=5.6, Ms=4.7
                   NEAR COAST OF CENTRAL CHILE

MAR 24  PRS   iPd    02 36 33.7   36 41
        PRI   iP     02 36 38.2   36 49
        LLA   eP     02 36 41.0   36 54
        SAO   iPd    02 36 41.2
        MHC   eP     02 36 50.5                   i 37 13
              BRK  02 36 24.2, 35.9N, 121.5W, h=  5 km, ML=2.5
                   OFF COAST SOUTHWEST OF KING CITY

MAR 24  FHC   eP     04 06 16.0                   i 08 45
        WDC   iPe    04 06 24.0                   PeP 08 53    i 11 37
        MIN   eP     04 06 30.0                   PeP 08 59
        ORV   iPe    04 06 34.3                   i 11 39
        BKS   ePe    04 06 40.2   12 12           e 07 02      e 07 48      PP 08 16
                                                  PeP 09 10    Lq 14 09     Lr 15 20
                                                  e 15 30      e 45 00
                        MICRON    PERIOD
              PZ          0.39       0.8
              LZ           230         20
              LNW          240         19
              LNE          170         20
        MHC   eP     04 06 46.0                   PeP 09 15    e 11 44
        JAS   iPe    04 06 49.6                   i 07 18      PeP 09 18    e 11 44
        SAO   eP     04 06 50.0                   e 09 18
        FRI          04 06                        e 06 57      i 11 48
        MNV   iPe    04 06 58.2
        PRI          04 06                        e 06 59      e 09 27
              Ms=7.1, DISTANCE=35°
              USGS 03 59 51.3, 53.0W, 167.7W, h= 33 km, mb=6.2, Ms=6.9
                   FOX ISLANDS, ALEUTIAN ISLANDS

MAR 24  FHC   eP     04 48 24.2
        WDC   iPd    04 48 32.4
        MIN   eP     04 48 38.0
        ORV   iPd    04 48 42.4
        BKS   ePd    04 48 48.1
                        MICRON    PERIOD
              PZ          0.13       0.8
        MHC   iPd    04 48 54.5
        JAS   iPd    04 48 57.6
        SAO   eP     04 48 58.3
        PRI   eP     04 49 06.8
              USGS 04 41 59.1, 52.9N, 167.7W, h= 33 km, mb=5.0
                   FOX ISLANDS, ALEUTIAN ISLANDS

MAR 24  WDC   eP     21 58 19                     e 58 34
        MIN          21 58                        e 58 23
        ORV   eP     21 58 36                     e 58 41
        JAS          21 59                        e 59 04
              SEA  21 56 49.6, 46.2N, 122.2W, h=  3 km, mb=4.2
                   WASHINGTON

MAR 25  WDC   eP     07 52 33.5                   e 52 49
        ORV   eP     07 52 39.5                   e 52 56
        BKS          07 52                        Lr 21 00
                        MICRON    PERIOD
              LZ          1.8        20
        JAS          07 52                        e 52 49
        MNV   eP     07 52 57                     e 53 12
              USGS 07 40 54.6, 30.0N, 142.0E, h= 33 km, mb=4.7, Ms=5.2
                   SOUTH OF HONSHU, JAPAN

MAR 25  MHC   iPe    12 51 21.1   51 23
        GCC   iPd    12 51 27.1
        SAO   iPd    12 51 31.6
        BRK   eP     12 51 32.3   51 42
        LLA   eP     12 51 36.8
        PRS   eP     12 51 38.8
        JAS   iPe    12 51 40.6   51 55
              BRK  12 51 19.3, 37.3N, 121.7W, h=  7 km, ML=2.6
                   EAST OF SAN JOSE, CALIFORNIA

MAR 25  FHC   ePd    21 51 17.5
        WDC   iPd    21 51 25.8
        MIN   ePd    21 51 31.4
        ORV   iPd    21 51 35.9
        BRK   eP     21 51 41.5
        MHC   eP     21 51 47.8
        JAS   iPd    21 51 51.1
        SAO   eP     21 51 51.5
        FRI   eP     21 51 59.8
        MNV   eP     21 52 00.0
        PRI   eP     21 52 00.3
              USGS 21 44 54.2, 53.0N, 167.8W, h= 45 km, mb=4.8
                   FOX ISLANDS, ALEUTIAN ISLANDS

MAR 26  FHC   eP     07 34 49.5
        WDC   iPd    07 34 54.6                   pP 35 12
        MIN   ePd    07 34 57.9                   pP 35 15
        BRK   eP     07 34 58.3                   pP 35 16
        ORV   iPd    07 34 59.2                   pP 35 16
        MHC   eP     07 35 01.4
        SAO   eP     07 35 02.2
        JAS   iPd    07 35 05.5                   pP 35 23
        PRI   ePd    07 35 07.1
        FRI   iPd    07 35 09.4                   pP 35 27
        MNV   iPd    07 35 14.0                   pP 35 31
              USGS 07 22 39.0, 13.6N, 146.5E, h= 62 km, mb=5.4
                   SOUTH OF MARIANA ISLANDS

MAR 26  WDC   ePe    09 45 32.5
        MIN   eP     09 45 36.0
        ORV   eP     09 45 48.0
        MNV   ePe    09 46 10.7
        JAS          09 46                        e 46 15
              SEA  09 44 02.7, 46.2N, 122.2W, h=  4 km, mb=4.2
                   WASHINGTON

MAR 26  FRI   iPe    14 42 12.5   42 24
        MNV   iP     14 42 14.6
        JAS   iPe    14 42 18.8   42 35
        LLA   iPe    14 42 29.9
        PRI   ePe    14 42 31.8
        SAO   ePe    14 42 34.0
        MHC   iPd    14 42 34.8
        PRS   ePe    14 42 36.4
        GCC   eP     14 42 38.5
        BRK   eP     14 42 40.8
        ORV   iPe    14 42 44.7
              BRK  14 41 55.5, 37.6N, 118.9W, h=  9 km, ML=3.5
                   MAMMOTH LAKES, CALIFORNIA

MAR 26  WDC   e(P)   17 08 37
        MIN   ePe    17 08 43.5
        ORV   e(P)   17 08 53
        MNV   eP     17 09 19
        JAS          17 09                        e 09 23
              SEA  17 07 10.7, 46.2N, 122.2W, h=  7 km, mb=4.1
                   WASHINGTON
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MAR 26  MNV   eP      20 54 02.2
        FRI   eP      20 54 12.0
        JAS   eP      20 54 15.6          PKPPKP 23 25
        MIN   eP      20 54 18
        ORV   eP      20 54 18.3
        PRI   eP      20 54 20.6
        WDC   eP      20 54 20.8
        MHC   eP      20 54 23.2
        BKS   eP      20 54 25.8                    e 03 17     Lq 10 36     Lr 14 12
                                  MICRON    PERIOD
                           PZ       0.09      0.8
                           LZ       44        20
                           LN       28        19
                           LE       50        20
        FHC   ePd     20 54 30.0
                      Ms=6.8, DISTANCE=67°
                      USGS 20 43 37.9, 23.9N,  45.6W, h= 10 km, mb=5.9, Ms=6.3
                           NORTH ATLANTIC RIDGE

MAR 27  FRI   iPe     02 26 20.9
        MNV   iPe     02 26 22.9
        JAS   iPe     02 26 27.3
        LLA   iPe     02 26 38.3
        PRI   iPe     02 26 40.2   27 04
        SAO   iPe     02 26 42.4
        MHC   iPe     02 26 42.7
        PRS   iPe     02 26 44.6
        GCC   ePe     02 26 46.7
        BKS   iPne    02 26 48.9   27 21       P° 26 52     Pg 26 58     e 27 30
        PCC   iPd     02 26 50.2
        ORV   iP      02 26 53.2
                      BRK  02 26  4.1, 37.6N, 118.9W, h=  9 km, ML=4.3
                           MAMMOTH LAKES, CALIFORNIA

MAR 27  FRI   iPe     02 29 30.7
        MNV   iPe     02 29 32.5
        JAS   iPe     02 29 37.1   29 53
        LLA   ePe     02 29 48.2                e 30 13
        PRI   iPe     02 29 50.9   30 21
        SAO   eP      02 29 52.5
        MHC   i(P)    02 29 53                  e 30 22
        PRS   ePe     02 29 54.6
        GCC   e(P)    02 29 56
        PCC   eP      02 30 00.8
        ORV   e(P)    02 30 01
                      BRK  02 29 13.9, 37.6N, 118.9W, h=  9 km, ML=3.5
                           MAMMOTH LAKES, CALIFORNIA

MAR 27  WDC   e(P)    06 34 52                  e 36 24
        MIN   eP      06 34 58.5
        ORV   eP      06 35 10
                      SEA  06 33 24.0, 46.2N, 122.2W, h=  1 km, mb=4.1
                           WASHINGTON

MAR 27  WDC           14 57                     e 57 25     e 59 00     e 59 18
        MIN   e(P)    14 57 28
        ORV   e(P)    14 57 41
        MNV   e(P)    14 58 01
        JAS           14 58                     e 58 16
                      SEA  14 55 54.7, 46.2N, 122.2W, h=  4 km, mb=4.2
                           WASHINGTON

MAR 27  BKS           15 41                     e 00 00     Lq 00 45     Lr 03 50
                                  MICRON    PERIOD
                           LZ       5         20
                           LN       3.9       20
                           LE       4.3       20
        PRI           15 41                     e 41 16
        MHC   eP      15 41 15.9
        FRI           15 41                     e 41 22
        JAS   eP      15 41 22.1
        ORV   eP      15 41 23.5
        WDC   eP      15 41 23.8
        MIN   eP      15 41 25.7
        MNV   eP      15 41 32.1
                      USGS 15 29 35.5, 18.0S, 176.0W, h= 33 km, mb=5.7, Ms=5.8
                           TONGA ISLANDS

MAR 27  WDC   eP      15 56 45.6
        MIN   eP      15 56 47.0
        ORV   eP      15 56 58.7
        MNV   eP      15 57 12.8
        FRI   eP      15 57 42.5
                      SEA  15 55 03.8, 46.2N, 122.2W, h=  6 km, mb=4.0
                           WASHINGTON

MAR 27  JAS   eP      16 08 22.0
        WDC   eP      16 08 22.5
        ORV   eP      16 08 23.5
        MIN           16 08                     e 08 26
        MNV           16 08                     e 08 30
                      USGS 15 56 34.9, 17.9S, 175.9W, h= 33 km, mb=5.6, Ms=5.5
                           TONGA ISLANDS

MAR 27  WDC   eP      22 01 31.9
        MIN   eP      22 01 38.0
        ORV   iPe     22 01 50.4
        JAS           22 01                     e 01 19
                      SEA  22 00 05.6, 46.2N, 122.2W, h=  4 km, mb=4.6
                           WASHINGTON

MAR 28  WDC           01 52                     e 52 49
        MIN   eP      01 52 46.0
        ORV   eP      01 52 58.4
                      SEA  01 51 12.6, 46.2N, 122.2W, h=  5 km, mb=4.1
                           WASHINGTON

MAR 28  JAS   eP      02 23 59.1                e 24 16
        WDC   eP      02 24 00.5                e 24 19
        ORV   eP      02 24 00.7                i 24 18
        MIN           02 24                     e 24 03     e 24 21
        MNV   iPd     02 24 07.3                i 24 24
                      USGS 02 11 29.3, 28.4S, 177.3W, h= 61 km, mb=5.0
                           KERMADEC ISLANDS REGION

MAR 28  JAS   eP      06 26 50.3
        ORV   iPe     06 27 00.6
        WDC   iPe     06 27 05.8
                      USGS 06 16 55.1,  9.0S,  71.4W, h=500 km, mb=4.7
                           PERU-BRAZIL BORDER REGION

MAR 28  WDC   eP      08 29 53.7
        MIN   eP      08 29 59.7
        ORV   eP      08 30 10.3
        MNV   eP      08 30 35.0
        JAS   eP      08 30 38.5
                      SEA  08 28 25.7, 46.2N, 122.2W, h=  4 km, mb=4.3
                           WASHINGTON

MAR 28  FHC           09 30                     e 30 06
        WDC   iP      09 30 13.7
        MIN           09 30                     e 30 20
        ORV   iPd     09 30 23.9
        BKS   eP      09 30 30.2
                                  MICRON    PERIOD
                           PZ       0.06      0.7
        MHC   eP      09 30 35.8
        JAS   iPd     09 30 39.2
        SAO   eP      09 30 40.0
        FRI   iPd     09 30 47.8
        MNV           09 30                     e 30 48
        PRI   eP      09 30 48.4
                      USGS 09 23 40.9, 53.0N, 167.6W, h= 30 km, mb=4.9, Ms=4.1
                           FOX ISLANDS, ALEUTIAN ISLANDS

MAR 28  WKC   iPd     22 00 24.4   00 28
        FHC   iP      22 00 30.2
        WDC   iPe     22 00 43.3   01 04
        MIN   ePd     22 00 53.5
        ORV   e(P)    22 00 57
        PCC   eP      22 01 06.7
        MHC   eP      22 01 13.5
        GCC   eP      22 01 14.3
        SAO   eP      22 01 20.0
                      BRK  22 00 17.1, 40.3N, 124.6W, h= 14 km, ML=3.4
                           OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

MAR 28  MHC   eP      22 06 48.4
        PRI   eP      22 06 49.3
        WDC   ePe     22 06 52.5
        ORV   ePe     22 06 53.2
        JAS   iPe     22 06 53.3
        MNV   eP      22 07 02
                      USGS 21 54 37.0, 19.1S, 169.4E, h=265 km, mb=4.6
                           VANUATU ISLANDS

MAR 29  FHC   eP      04 19 35.5                pP 21 24
        BKS   eP      04 19 36.8                pP 21 27    SKS 29 24    SP 30 48
                                                sS 32 00    e 33 52      e 34 16
                                                SS 35 40    SSS 39 16    e 42 44
                                                e 44 34
                                  MICRON    PERIOD
                           PZ       0.09      0.9
        WDC   eP      04 19 37.2                pP 21 28
        SAO   e(P)    04 19 39                  pP 21 30
        MHC   eP      04 19 39.6                pP 21 30
        MIN   eP      04 19 39.8                pP 21 31
        ORV   eP      04 19 40.3                pP 21 29
        PRI   eP      04 19 42.2                pP 21 33
        JAS   eP      04 19 43.0                pP 21 34
        FRI   eP      04 19 45.2                pP 21 37
        MNV   eP      04 19 51.7                pP 21 43
                      USGS 04 07 41.7,  4.6S, 154.9E, h=495 km, mb=5.8
                           SOLOMON ISLANDS

MAR 29  FRI   iPe     06 14 24.5   14 36
        MNV   iPd     06 14 26.8
        JAS   iPd     06 14 30.9   14 47
        LLA   eP      06 14 42.1
        PRI   eP      06 14 44.2
        SAO   eP      06 14 46.4
        MHC   eP      06 14 47.0
        PRS   eP      06 14 48.7
        BKS   eP      06 14 54.0
        ORV   e(P)    06 14 56
                      BRK  06 14 07.6, 37.6N, 118.9W, h=  9 km, ML=3.5
                           MAMMOTH LAKES, CALIFORNIA

MAR 29  FRI   eP      06 54 45.0
        PRI   eP      06 54 45.0
        MNV   ePe     06 54 48.5                e 54 58
        JAS   ePe     06 54 51.1
        MHC   eP      06 54 52.7
        BRK   eP      06 54 54.7
        ORV   ePe     06 55 00.0
        WDC   ePe     06 55 04.0
                      USGS 06 41 50.5, 43.1S,  75.2W, h= 33 km, mb=5.6, Ms=5.9
                           OFF COAST OF SOUTHERN CHILE

MAR 29  WDC   eP      08 38 26
        MIN   eP      08 38 29
        ORV   eP      08 38 42
        MNV   eP      08 39 04
        JAS   eP      08 39 10
                      SEA  08 36 56.8, 46.2N, 122.2W, h=  5 km, mb=4.0
                           WASHINGTON

MAR 29  WDC   eP      11 53 18.0
        MIN   ePe     11 53 21.5
        ORV   eP      11 53 33.5
        MNV   eP      11 53 56.0
        JAS           11 54                     e 54 00
                      SEA  11 51 48.2, 46.2N, 122.2W, h=  6 km, mb=4.1
                           WASHINGTON

MAR 29  WDC   eP      15 37 08.5
        MIN   eP      15 37 12.8
        ORV   eP      15 37 25.5
        MNV   eP      15 37 48
        JAS           15 37                     e 37 50
                      SEA  15 35 39.4, 46.2N, 122.2W, h=  5 km, mb=4.2
                           WASHINGTON

MAR 29  WDC   ePe     17 16 48.1
        MIN           17 16                     e 16 51
        ORV   iPe     17 16 54.0
        JAS   eP      17 17 02.5
        MNV           17 17                     e 17 10
                      USGS 17 04 22.8, 29.1N, 130.1E, h= 37 km, mb=5.1, Ms=5.2
                           RYUKYU ISLANDS

MAR 29  WDC   ePe     20 57 21.4
        MIN   eP      20 57 24.0
        ORV   eP      20 57 37.2
        MNV   eP      20 58 00.0
        JAS   eP      20 58 05.0
                      SEA  20 55 52.1, 46.2N, 122.2W, h=  4 km, mb=4.6
                           WASHINGTON

MAR 29  WDC   eP      23 22 11.5
        MIN   eP      23 22 15.0
        ORV   eP      23 22 29.0
        MNV   eP      23 22 50
                      SEA  23 20 40.7, 46.2N, 122.2W, h=  4 km, mb=4.1
                           WASHINGTON

MAR 30  WDC   eP      02 57 51
        MIN   eP      02 57 54
        ORV   eP      02 58 05
        JAS           02 58                     e 58 32
                      SEA  02 56 19.8, 46.2N, 122.2W, h=  3 km, mb=4.2
                           WASHINGTON

MAR 30  WDC   eP      03 55 25.5
        MIN   eP      03 55 29
        ORV   eP      03 55 42
        MNV   eP      03 56 04.0
        JAS   e(P)    03 56 10
                      SEA  03 53 54.9, 46.2N, 122.2W, h=  2 km, mb=4.1
                           WASHINGTON

MAR 30  WDC   ePe     07 43 47.0
        MIN   ePe     07 43 51.2
        ORV   ePe     07 44 03.0
        MNV   eP      07 44 26
        JAS   e(P)    07 44 30
                      SEA  07 42 17.3, 46.2N, 122.2W, h=  3 km, mb=4.1
                           WASHINGTON

MAR 30  WDC   eP      09 18 22.8
        MIN   eP      09 18 26.4
        ORV   eP      09 18 39.0
        MNV   eP      09 19 02.5
        JAS   e(P)    09 19 07
                      SEA  09 16 53.2, 46.2N, 122.2W, h=  5 km, mb=4.2
                           WASHINGTON

MAR 30  WDC   eP      12 41 26.7
        MIN   eP      12 41 30.5
        ORV   eP      12 41 42.0
        MNV   eP      12 42 05.5
                      SEA  12 39 57.8, 46.2N, 122.2W, h=  5 km, mb=4.1
                           WASHINGTON
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MAR 30  WDC   eP      13 33 55.0
        MIN   eP      13 33 59.8
        ORV   eP      13 34 11.0
        MNV   eP      13 34 33.3
        JAS           13 34                    e 34 37
                  SEA  13 32 25.4, 46.2N, 122.2W, h=  5 km, mb=4.3
                       WASHINGTON

MAR 30  FHC   ePd     13 50 31.4
        WDC   ePd     13 50 43.6
        MIN   eP      13 50 56.2
        ORV   ePd     13 51 03.0
        BKS   iPd     13 51 16.0, 52 44        i 53 55
                            MICRON     PERIOD
                       PZ     0.36        0.7
        MHC   ePd     13 51 26.5
        JAS   ePd     13 51 29.5
        SAO   eP      13 51 32.9
        MNV   iPd     13 51 42.0
        FRI   ePd     13 51 45.0
        PRI   eP      13 51 46.4
                  USGS 13 49 37.4, 43.4N, 127.1W, h= 15 km, mb=5.2, Ms=4.7
                       OFF COAST OF OREGON

MAR 30  FHC   e(P)    17 56 37
        WDC   ePc     17 56 40.2
        MIN   ePc     17 56 43.6
        ORV   ePc     17 56 55.1
        MNV   eP      17 57 20.0
        JAS   ePc     17 57 22.6
                  SEA  17 55 10.2, 46.2N, 122.2W, h=  5 km, mb=4.5
                       WASHINGTON

MAR 30  SAO   eP      21 24 28.7
        BRK   eP      21 24 28.8
        MHC   eP      21 24 30.1
        FHC   eP      21 24 30.5
        PRI   ePc     21 24 31.0
        WDC   iPc     21 24 34.2
        JAS   iPc     21 24 34.9
        ORV   ePc     21 24 35.0
        FRI   ePc     21 24 35.1
        MIN   eP      21 24 36.2
        MNV   iPc     21 24 43.7
                  USGS 21 11 46.5, 20.0S, 168.8E, h= 33 km, mb=5.2, Ms=5.2
                       LOYALTY ISLANDS

MAR 30  FHC   e(P)    22 48 39
        WDC   ePd     22 48 40.8
        MIN   ePd     22 48 44.8
        ORV   ePd     22 48 57.5
        MNV   ePd     22 49 20.5
        JAS   eP      22 49 25.5
                  SEA  22 47 11.9, 46.2N, 122.2W, h=  4 km, mb=4.4
                       WASHINGTON

MAR 31  FHC   e(P)    02 45 33
        WDC   eP      02 45 36.0
        MIN   eP      02 45 40.5
        ORV   eP      02 45 52.2
        MNV   eP      02 46 15
        JAS           02 46                    e 46 20
                  SEA  02 44 06.3, 46.2N, 122.2W, h=  4 km, mb=4.2
                       WASHINGTON

MAR 31  FHC   iPd     07 43 36.3
        WDC   iPd     07 43 41.2               e 45 08
        MIN   iPd     07 43 44.6
        ORV   iPd     07 43 47.4
        BKS   iPd     07 43 50.0               e 53 12
                            MICRON     PERIOD
                       PZ     0.27        0.9
        MHC   ePd     07 43 54.5               e 46 59
        SAO   eP      07 43 56.5               e 47 02
        JAS   iPd     07 43 56.7               e 45 22      e 47 02
        FRI   ePd     07 44 01.9
        PRI   ePd     07 44 02
        MNV   iPd     07 44 03.2
                  USGS 07 32 31.8, 35.4N, 135.5E, h=359 km, mb=5.8
                       SOUTHERN HONSHU, JAPAN

MAR 31  FHC   e(P)    07 51 08
        WDC   ePc     07 51 11.4
        MIN   ePc     07 51 15.6
        ORV   ePc     07 51 26.5
        MNV   ePc     07 51 50
        JAS   eP      07 51 55
                  SEA  07 49 42.2, 46.2N, 122.2W, h=  4 km, mb=4.6
                       WASHINGTON

MAR 31  WDC   eP      08 14 21.8
        MIN   eP      08 14 25.9
        ORV   eP      08 14 38.3
        MNV   eP      08 15 00.8
                  SEA  08 12 52.0, 46.2N, 122.2W, h=  4 km, mb=4.2
                       WASHINGTON

MAR 31  GCC   iPd     10 16 10.1
        SAO   iPd     10 16 10.7
        MHC   ePd     10 16 12.2  16 17
        PRS   eP      10 16 18.3
        LLA   eP      10 16 18.3  16 29
        PCC   eP      10 16 19.0
        BKS   iPd     10 16 23.5               i 16 40
        PRI   ePd     10 16 27.1
        JAS   ePc     10 16 30.1  16 49
                  BRK  10 16 04.8, 37.0N, 121.7W, h=  6 km, ML=2.6
                       SOUTHWEST OF GILROY, CALIFORNIA

MAR 31  FHC   e(P)    11 35 37
        WDC   eP      11 35 39.2
        MIN   eP      11 35 43.3
        ORV   eP      11 35 54.9
        MNV   eP      11 36 18.5
        JAS   eP      11 36 23.8
                  SEA  11 34 10.0, 46.2N, 122.2W, h=  4 km, mb=4.6
                       WASHINGTON

MAR 31  WDC   eP      12 55 19.3               e 59 25
        ORV   eP      12 55 25.5
        JAS   eP      12 55 33.5               e 58 48      e 59 45
        MNV   eP      12 55 39.5
                  USGS 12 41 47.7, 16.1N, 122.0E, h= 43 km, mb=5.9, Ms=6.3
                       LUZON, PHILIPPINE ISLANDS

MAR 31  SAO   eP      13 16 12.8
        PRI   ePc     13 16 14.1
        BKS   iPc     13 16 14.5               e 27 10      e 27 50      e 40 18
                            MICRON     PERIOD
                       PZ     0.03        1.0
        MHC   ePc     13 16 15.0
        FHC   e(P)    13 16 20
        FRI   ePc     13 16 20.0
        JAS   iPc     13 16 20.7
        ORV   iPc     13 16 22.5
        WDC   iPc     13 16 23.3
        MIN   ePc     13 16 24.9
        MNV   iPc     13 16 30.5
                  USGS 13 04 31.1, 20.6S, 173.8W, h= 33 km, mb=5.7, Ms=6.2
                       TONGA ISLANDS

MAR 31  WDC   eP      14 50 30.5
        MIN   eP      14 50 34.3
        ORV   eP      14 50 47.0
        MNV   eP      14 51 09.0
        JAS   e(P)    14 51 15
                  SEA  14 49 01.3, 46.2N, 122.2W, h=  4 km, mb=4.4
                       WASHINGTON

MAR 31  PRI   eP      18 54 21.5
        BKS   eP      18 54 22.8               e 11 16
        MHC           18 54                    e 54 23
        JAS   eP      18 54 28.0
        ORV   eP      18 54 29.6
        WDC   eP      18 54 29.7
        MNV   eP      18 54 37.6
                  USGS 18 42 37.7, 20.7S, 173.7W, h= 34 km, mb=5.4, Ms=5.7
                       TONGA ISLANDS

MAR 31  WDC   eP      19 38 40.2
        MIN           19 38                    e 38 44
        ORV   eP      19 38 55.7
        MNV   eP      19 39 19.1
        JAS           19 39                    e 39 24
                  SEA  19 37 10.1, 46.2N, 122.2W, h=  3 km, mb=4.5
                       WASHINGTON

APR 01  FHC           04 25                    e 25 57
        WDC   eP      04 26 01.0
        MIN           04 26                    e 26 03
        ORV   eP      04 26 15.9
        MNV           04 26                    e 26 37
        JAS           04 26                    e 26 39
                  SEA  04 24 30.5, 46.2N, 122.2W, h=  4 km, mb=5.0, Ms=3.7
                       WASHINGTON

APR 01  WDC   eP      08 55 53.8
        MIN   eP      08 55 58.0
        ORV   eP      08 56 10.6
        MNV           08 56                    e 56 35
        JAS           08 56                    e 56 36
                  SEA  08 54 25.4, 46.2N, 122.2W, h=  4 km, mb=4.5
                       WASHINGTON

APR 01  BKS   eP      11 23 39.2  33 24        e 36 52      Lq 42 52     e 44 50
                                                Lr 46 04
                            MICRON     PERIOD
                       LZ     12          20
                       LN      7          18
                       LE      9          19
        MHC           11 23                    e 23 39
        JAS   eP      11 23 44.3               e 26 58
        ORV           11 23                    e 23 46      e 26 59
        WDC   eP      11 23 46.6               e 26 58
        MIN           11 23                    e 23 52
        MNV   eP      11 23 53.8
                  Ms=6.3, DISTANCE=73°
                  USGS 11 11 54.9, 20.7S, 173.6W, h= 37 km, mb=5.5, Ms=6.1
                       TONGA ISLANDS

APR 01  WDC   eP      12 32 15.7
        MIN   e(P)    12 32 21
        ORV   eP      12 32 31.2
        MNV           12 32                    e 32 55
        JAS           12 32                    e 32 53
                  SEA  12 30 46.7, 46.2N, 122.2W, h=  4 km, mb=4.8
                       WASHINGTON

APR 01  FHC           23 16                    e 16 03
        WDC   eP      23 16 07.5
        MIN   ePd     23 16 12.0
        ORV   ePd     23 16 23.9
        MNV   eP      23 16 47.0
                  SEA  23 14 38.6, 46.2N, 122.2W, h=  5 km, mb=4.5
                       WASHINGTON

APR 02  WKC   iPc     03 14 15.0  14 26
        FHC   iPc     03 14 19.5  14 33
        WDC   iPc     03 14 34.2  14 59
        MIN   ePc     03 14 43.8
        ORV   ePd     03 14 47.8
        BKS   ePd     03 14 53.1
        PCC   e(P)    03 14 56
        MHC   eP      03 15 03.1
        GCC   eP      03 15 04.0
        JAS   e(P)    03 15 09
        SAO   ePc     03 15 10.0
                  BRK  03 14 00.2, 40.4N, 125.2W, h=  5 km, ML=3.5
                       OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

APR 02  FHC   eP      09 38 40.5
        WDC   ePd     09 38 42.5
        MIN   ePd     09 38 46.5
        ORV   ePd     09 38 58.0
        MNV   ePd     09 39 21.3
                  SEA  09 37 13.1, 46.2N, 122.2W, h=  3 km, mb=4.8, Ms=3.7
                       WASHINGTON

APR 02  PRI   eP      13 10 50.2
        MNV   iPd     13 10 50.8               pP 11 09
        JAS   iPd     13 10 55.8               pP 11 14
        MHC   eP      13 10 57.9               pP 11 16
        BKS   eP      13 11 01.6
        ORV   iPd     13 11 05.3               pP 11 23
        MIN   ePd     13 11 07.4               pP 11 25
        WDC   iPd     13 11 10.4               pP 11 28
        FHC   eP      13 11 17.3
                  USGS 12 59 01.7, 24.4S,  69.9W, h= 66 km, mb=5.2
                       NORTHERN CHILE

APR 03  FHC   e(P)    02 44 45
        WDC   eP      02 44 48.5
        MIN   eP      02 44 52.7
        ORV   eP      02 45 04.2               i 45 07      e 46 08
        JAS           02 45                    e 45 31
                  SEA  02 43 19.8, 46.2N, 122.2W, h=  3 km, mb=4.5
                       WASHINGTON

APR 03  FRI   iPe     03 01 03.0
        MNV   iP      03 01 04.3
        JAS   iPe     03 01 11.8  01 29
        LLA   e(P)    03 01 20
        PRI   ePe     03 01 21.5  01 51
        SAO   ePe     03 01 24.8
        MHC   ePd     03 01 26.0  02 00
        PRS   ePe     03 01 26.6
        GCC   e(P)    03 01 30
        BKS   eP      03 01 32.5               e 02 10
        PCC   eP      03 01 33.0
        ORV   eP      03 01 34.7
                  BRK  03 00 45.0, 37.5N, 118.7W, h= 13 km, ML=3.6
                       MAMMOTH LAKES, CALIFORNIA

APR 03  FHC   eP      03 51 39.9               e 52 09
        WDC   iPd     03 51 45.8               i 52 15
        MIN   eP      03 51 50.0               e 52 14      e 52 19
        ORV   eP      03 51 55.2               e 52 20
        BKS   eP      03 52 07.6
        JAS   ePd     03 52 12.5               e 52 42
        MHC   eP      03 52 14.2               e 52 44
        SAO           03 52                    e 52 21
        FRI   eP      03 52 22.1
        PRI   eP      03 52 27                 e 52 52
                  USGS 03 46 04.3, 63.1N, 149.6W, h= 92 km, mb=5.0
                       CENTRAL ALASKA

APR 03  FHC   e(P)    09 36 54
        WDC   eP      09 36 56                 i 37 18
        MIN   eP      09 36 59.5
        ORV   eP      09 37 11.3
        JAS   e(P)    09 37 33
        MNV   eP      09 37 38.9
        MHC   eP      09 37 45
        FRI           09 37                    e 37 53
        PRI   e(P)    09 38 03
                  SEA  09 35 27.2, 46.2N, 122.2W, h=  1 km, mb=4.8
                       WASHINGTON
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APR 03  FBC   ePKPe  10 37 21.3                    • 37 38
        WDC   iPKPe  10 37 22.5                    • 37 39
        MIN   ePKPe  10 37 23.8
        ORV   ePKPe  10 37 24.9                    • 37 41
        BKS   ePKPe  10 37 25.5                    • 37 43
        MBC   ePKPe  10 37 27.5                    • 37 44
        JAS   ePKP   10 37 28.0                    • 37 44
        FRI   ePKP   10 37 29                      • 37 47
        PRI   ePKP   10 37 30.5
        MNV   ePKP   10 37 31.0
              USGS 10 18 21.0,  5.6S, 103.2E, h= 33 km, mb=5.7, Ms=5.2
                   SOUTHERN SUMATERA

APR 03  MNV   iPe    14 00 36.2
        FRI   iPe    14 00 48.1                    i 00 53
        JAS   iPe    14 00 57.1  01 48             • 01 00      i 01 05
        PRI   ePg    14 01 01.1  02 04             i 01 09
        LLA   ePe    14 01 02.5
        SAO   ePg    14 01 07.0                    i 01 15      i 01 26
        PRS   ePg    14 01 07.6
        MBC   ePe    14 01 09.8  02 25             i 01 19
        GCC   e(P)   14 01 13
        ORV   ePe    14 01 15.2
        BKS   ePg    14 01 15.9                    i 01 21      i 01 27      • 01 50
                                                   • 01 58      • 02 08      • 02 40
        PCC   e(P)   14 01 17
        MIN   ePe    14 01 22.5
        WDC   ePe    14 01 32.0
              ML=4.7, NUCLEAR EXPLOSION (LIPTAUER), N.T.S.
              USGS 14 00 00.1, 37.1N, 116.1W, h=  0 km, mb=4.8
                   SOUTHERN CALIFORNIA

APR 03  BKS   eP     21 40 09.1
                                 MICRON     PERIOD
                           PZ      0.07       1.0
        SAO   eP     21 40 10.6
        FBC   eP     21 40 10.8
        MBC   eP     21 40 11.1
        PRI   eP     21 40 11.9
        WDC   eP     21 40 14.9
        ORV   eP     21 40 15.4
        JAS   eP     21 40 16.0
        FRI   eP     21 40 16.1
        MIN          21 40                        • 40 17
              USGS 21 27 57.4, 18.9S, 169.3E, h=243 km, mb=5.2
                   VANUATU ISLANDS

APR 03  FBC   eP     23 59 20.2
        WDC   eP     23 59 22.1
        MIN   eP     23 59 26.6
        ORV   eP     23 59 38.2
        MNV          23 59                        • 00 02
        JAS          23 59                        • 00 06
        PRI          23 59                        • 00 29
              SEA  23 57 52.3, 46.2N, 122.2W, h=  2 km, ML=4.5
                   WASHINGTON

APR 04  FRI   e(P)   06 35 27
        MNV   eP     06 35 28.2
        PRI   eP     06 35 28.3
        JAS   ePd    06 35 35.4                   • 36 09
        MBC   ePd    06 35 38.8                   • 36 16
        BKS   eP     06 35 43.0
        ORV   ePd    06 35 46.6                   • 36 21      • 36 24
        MIN   eP     06 35 48.7
        WDC   iPd    06 35 52.2                   • 36 27      • 36 29
        FBC   eP     06 36 01.2                   • 36 36
              USGS 06 25 25.4,  7.9S,  74.4W, h=154 km, mb=5.0
                   PERU-BRAZIL BORDER REGION

APR 04  WDC   eP     09 44 04.7
        MIN   ePe    09 44 08.6
        ORV   eP     09 44 21
              SEA  09 42 35.5, 46.2N, 122.2W, h=  5 km, mb=4.4
                   WASHINGTON

APR 04  FBC   eP     13 46 35
        WDC   eP     13 46 37.7
        MIN   ePe    13 46 40.9
        ORV   ePe    13 46 53.0
        MNV          13 47                        • 47 22
        JAS          13 47                        • 47 20
        MBC          13 47                        • 47 29
        PRI          13 47                        • 47 43
              SEA  13 45 05.8, 46.2N, 122.2W, h=  4 km, mb=4.5, Ms=3.8
                   WASHINGTON

APR 04  BKS   iPe    14 42 24.6                   i 42 31
        MBC   iPd    14 42 25.8  42 33
        PCC   iPe    14 42 27.5                   • 42 36
        GCC   eP     14 42 30.9
        JAS   iPe    14 42 34.8                   • 42 45      • 42 48
        SAO   eP     14 42 35.2                   i 42 37
        LLA   e(P)   14 42 39
        ORV   eP     14 42 46.1
        FRI   eP     14 42 46.2
              BRK  14 42 16.6, 37.8N, 121.8W, h= 11 km, ML=2.5
                   LIVERMORE AREA, CALIFORNIA

APR 04  FBC   eP     20 11 43.3
        WDC   ePd    20 11 51.7
        MIN   eP     20 11 54.3
        ORV   eP     20 12 01.9
        MBC   eP     20 12 14.0
        JAS   ePd    20 12 17.5
        FRI   eP     20 12 27.2
              USGS 20 05 31.7, 53.7N, 165.2W, h= 33 km, mb=4.8
                   FOX ISLANDS, ALEUTIAN ISLANDS

APR 04  FBC   e(P)   21 42 11
        WDC   eP     21 42 13.7
        MIN   eP     21 42 18.0
        ORV   eP     21 42 29.1
              SEA  21 40 43.5, 46.1N, 122.0W, h= 10 km, ML=4.4
                   WASHINGTON

APR 05  WDC   ePe    03 44 14.3
        ORV   iPe    03 44 32.0
        JAS   ePe    03 44 55.5
              USGS 03 42 55.1, 43.8N, 127.9W, h= 15 km
                   OFF COAST OF OREGON

APR 05  ARC   iP     04 10 25.9  10 30
        FHC   iPd    04 10 27.1
        WKC   iPe    04 10 34.0  10 45
        WDC   iPe    04 10 41.8  10 57
        MIN   eP     04 10 51.6
        ORV   eP     04 10 56.7
              BRK  04 10 20.6, 41.1N, 124.0W, h= 18 km, ML=3.6
                   NORTHEAST OF EUREKA, CALIFORNIA

APR 05  WDC   eP     13 48 27.9
        MIN   eP     13 48 31.8
        ORV   eP     13 48 44.6
              SEA  13 46 56.0, 46.2N, 122.2W, h=  1 km, mb=4.4
                   WASHINGTON

APR 05  ORV   iPe    15 44 26.6
        JAS   ePe    15 44 50.7

APR 05  WDC   ePd    16 34 54.0
        MIN   eP     16 34 58.8
        ORV   eP     16 35 00.1
        BRK   eP     16 35 01.5
        BKS          16 35          44 52         SS 50 11      Lr 58 00
                                 MICRON     PERIOD
                           LZ      1.1        20
                           LN      0          20
                           LE      2.1        20
                           SH      2.1        13
        MBC   eP     16 35 04.5
        JAS   eP     16 35 08.5
        PRI   eP     16 35 13.0
        FRI   eP     16 35 13.6
              Ms=5.2, DISTANCE=78°
              USGS 16 23 09.6, 27.8N, 142.6E, h= 33 km, mb=5.5, Ms=5.7
                   BONIN ISLANDS REGION

APR 05  WDC          16 43                        • 43 37
        MIN   eP     16 43 38.5
        ORV   eP     16 43 52.0
        JAS          16 44                        • 44 20
              SEA  16 42 05.7, 46.2N, 122.2W, h=  2 km, mb=4.9, Ms=4.5
                   WASHINGTON

APR 06  WDC   eP     06 59 34.2
        MIN   eP     06 59 38.0
        ORV   eP     06 59 50.2
        JAS   eP     07 00 18.0
              SEA  06 58 04.5, 46.2N, 122.2W, h=  2 km, mb=4.7, Ms=3.8
                   WASHINGTON

APR 06  WDC   eP     14 53 13.5
        ORV   e(P)   14 53 26
        JAS   eP     14 53 41.0
              USGS 14 47 43.2, 61.4N, 147.8W, h= 49 km, mb=4.9, Ms=5.2
                   SOUTHERN ALASKA

APR 06  WDC   eP     23 27 32.2
        MIN   eP     23 27 35.0
        ORV   eP     23 27 46.0
              SEA  23 26 01.1, 46.2N, 122.2W, h=  1 km, mb=4.3
                   WASHINGTON

APR 07  BKS   iPe    05 17 31.7  17 32
        PCC   iPd    05 17 38.0
        MBC   ePd    05 17 44.2  17 54
        GCC   ePd    05 17 46.3  17 59
        SAO   iPe    05 17 52.2
        JAS   ePd    05 17 55.6  18 14
        ORV   eP     05 18 00.2
              BRK  05 17 30.6, 37.8N, 122.2W, h=  5 km, ML=3.5
                   SOUTHEAST OF BERKELEY, CALIFORNIA

APR 07  WDC   eP     06 46 49.0
        MIN   eP     06 46 52.0
        ORV   eP     06 47 05.0
        JAS   eP     06 47 32.0
              SEA  06 45 19.2, 46.2N, 122.2W, h=  4 km, mb=4.6
                   WASHINGTON

APR 07  ORV   eP     09 34 14.0
        JAS   eP     09 34 38.0

APR 07  FBC          15 06                        • 06 56
        WDC   eP     15 07 00.5
        MIN   eP     15 07 04.3
        ORV   eP     15 07 18.0
        MNV   eP     15 07 41.0
        JAS   eP     15 07 43
              SEA  15 05 32.7, 46.2N, 122.2W, h=  5 km, mb=4.9
                   WASHINGTON

APR 08  ORV   iPe    00 14 13.3
        JAS   iPd    00 14 14.0
        MIN   iPe    00 14 17.2
        FRI   ePd    00 14 24.9
        WDC   iPe    00 14 27.0
        MBC   ePd    00 14 29.6                   i 14 34
        BKS   ePn    00 14 30.3  15 04        P• 14 35      Pg 14 45
        SAO   ePd    00 14 34.4
        LLA   eP     00 14 35.0                   i 14 40
        PRS   eP     00 14 39.1
        WKC   eP     00 14 44.3
              ML=4.7, EAST OF RENO, NEVADA
              USGS 00 13 41.8, 39.5N, 119.2W, h=  5 km
                   NEVADA

APR 08  WDC   eP     06 08 35.4
        MIN   eP     06 08 36.6
        ORV          06 08                        • 08 59
              SEA  06 07 04.6, 46.2N, 122.2W, h=  3 km, mb=4.7
                   WASHINGTON

APR 08  MBC          12 00                        • 00 18
        JAS   eP     12 00 23.5
        WDC   eP     12 00 24.0
        ORV   eP     12 00 24.2
        MIN          12 00                        • 00 26
              USGS 11 48 28.6, 16.1S, 179.9E, h= 33 km, mb=5.0, Ms=5.3
                   FIJI ISLANDS

APR 08  WDC   eP     22 15 17.2
        MIN          22 15                        • 15 23
        ORV   eP     22 15 34.8
        JAS          22 16                        • 16 02
              SEA  22 13 50.0, 46.2N, 122.2W, h=  4 km, mb=4.4
                   WASHINGTON

APR 09  MBC   iPe    02 46 56.2  47 01
        BKS   iPe    02 46 57.7  47 04
        PCC   iPd    02 46 58.3
        GCC   iPe    02 47 01.1
        SAO   iPe    02 47 05.5
        JAS   iPe    02 47 09.4
        LLA   eP     02 47 10.0
        PRS   eP     02 47 12.3
              BRK  02 46 49.1, 37.6N, 121.9W, h= 11 km, ML=2.7
                   SOUTHWEST OF LIVERMORE, CALIFORNIA

APR 09  PRI          02 58                        • 58 01
        JAS   eP     02 58 08.5
        ORV   eP     02 58 08.7
        WDC   eP     02 58 09.0
        MIN          02 58                        • 58 11
              USGS 02 46 11.9, 16.3S, 179.9E, h= 33 km, mb=5.4, Ms=5.4
                   FIJI ISLANDS

APR 09  PRI   eP     08 30 27.1
        JAS   eP     08 30 32.2
        MBC   eP     08 30 34.2
        BKS   eP     08 30 38.0
                                 MICRON     PERIOD
                           PZ      0.06       1.2
        ORV   eP     08 30 41.1
        MIN   eP     08 30 42.9
        WDC   eP     08 30 45.8
              USGS 08 17 55.1, 31.7S,  67.5W, h= 10 km, mb=5.5, Ms=4.3
                   SAN JUAN PROVINCE, ARGENTINA

APR 09  MBC   eP     10 10 42.2
        BKS   e(P)   10 10 48
                                 MICRON     PERIOD
                           PZ      0.02       0.8
        ORV   iPd    10 10 50.3
        WDC   eP     10 10 56
              USGS 10 00 19.0,  9.8S,  75.1W, h=128 km, mb=4.8
                   PERU
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APR 09  WDC   eP      10 14 51.1
        MIN   eP      10 14 55.0
        ORV   eP      10 15 06.8
        JAS   eP      10 15 32.5
                 SEA  10 13 20.3, 46.2N, 122.2W, h=  4 km, mb=4.9
                      WASHINGTON

APR 09  JAS   eP      20 09 31.8
        ORV           20 09                    • 09 37
        WDC           20 09                    • 09 40
                 USGS 19 56 26.0, 44.6S,  80.1W, h= 10 km, mb=5.5
                      OFF COAST OF SOUTHERN CHILE

APR 09  FHC   eP      23 32 35.6               i 32 52
        WDC   eP      23 32 50.5
        ORV   eP      23 33 08.7
        BKS   e(P)    23 33 22
                           MICRON    PERIOD
                      PZ     0.02       0.6
        MHC   ePd     23 33 27.1
        JAS           23 33                    • 33 31
                      OFF THE OREGON COAST

APR 10  WDC   eP      00 27 17.8
        MIN   eP      00 27 22.0
        ORV   ePe     00 27 33.3
        JAS           00 28                    • 28 01
                 SEA  00 25 47.9, 46.2N, 122.2W, h=  4 km, mb=4.4
                      WASHINGTON

APR 10  FHC   eP      00 45 42.5
        WDC   ePe     00 45 45.0
        MIN   ePe     00 45 49.3
        ORV   ePe     00 46 00.8
        MNV   eP      00 46 27.5
        JAS           00 46                    • 46 29
        MHC           00 46                    • 46 34
        PRI           00 46                    • 46 45
                 SEA  00 44 15.7, 46.2N, 122.2W, h=  4 km, mb=4.7
                      WASHINGTON

APR 10  FRI           00 56                    • 56 20
        PRI   eP      00 56 22.3
        JAS   eP      00 56 28.9
        MHC   ePe     00 56 31.6
        BKS   e(P)    00 56 37
                           MICRON    PERIOD
                      PZ     0.02       0.6
        ORV   iPe     00 56 40.3               i 56 54      • 57 48
        WDC   eP      00 56 46.2
        FHC   e(P)    00 56 54
                 USGS 00 46 03.2, 11.6S,  77.4W, h= 77 km, mb=4.9
                      NEAR COAST OF PERU

APR 10  FHC   eP      11 08 34.7
        WDC   ePd     11 08 43.4
        MIN   ePd     11 08 50.2
        ORV   iPe     11 09 00.5
        BKS   eP      11 09 21.4               • 09 29      • 09 32      • 12 18
                           MICRON    PERIOD
                      PZ     0.03       0.7
        JAS   eP      11 09 24.5
        MHC   eP      11 09 26
        MNV   iP      11 09 29.9
        SAO           11 09                    • 09 35
        FRI           11 09                    • 09 45
        PRI   eP      11 09 46
                 USGS 11 06 23.5, 49.4N, 127.7W, h= 10 km, mb=4.5, Ms=4.0
                      VANCOUVER ISLAND REGION

APR 10  FHC   e(P)    14 17 42
        WDC   eP      14 17 45.7
        MIN   ePd     14 17 49.7
        ORV   ePd     14 18 01.2
        MNV           14 18                    • 18 30
        JAS           14 18                    • 18 27
                 SEA  14 16 15.3, 46.2N, 122.2W, h=  2 km, mb=4.7, Ms=3.3
                      WASHINGTON

APR 10  FRI           15 40                    • 40 30
        JAS   eP      15 40 31.6
        ORV   eP      15 40 33.5
        WDC   eP      15 40 33.6
                 USGS 15 27 36.1, 33.1S, 178.6W, h= 33 km, mb=5.3, Ms=4.6
                      SOUTH OF KERMADEC ISLANDS

APR 10  JAS   eP      17 32 07.8
        WDC   eP      17 32 07.8
        ORV   eP      17 32 08.2
                 USGS 17 19 19.0, 23.2S, 171.1E, h= 51 km, mb=4.9
                      LOYALTY ISLANDS REGION

APR 11  MHC           01 02                    • 02 18
        JAS   eP      01 02 23.5
        ORV   eP      01 02 25.3
        WDC   eP      01 02 25.4
                 USGS 00 50 48.5, 17.3S, 173.1W, h= 33 km, mb=5.4, Ms=5.2
                      TONGA ISLANDS

APR 11  FHC   eP      01 47 16.8
        WDC   iPd     01 47 25.7
        MIN   eP      01 47 32.5
        ORV   eP      01 47 41.9
        BKS   eP      01 48 00.2  50 28        • 50 59      Lr 51 05
                           MICRON    PERIOD
                      PZ     0.11       0.9
        JAS   eP      01 48 06.3
        MHC   eP      01 48 09.5
        MNV   iPd     01 48 12.9
        SAO           01 48                    • 48 16
        FRI           01 48                    • 48 22
        PRI   eP      01 48 28.3
                 USGS 01 45 05.6, 49.4N, 127.7W, h= 10 km, mb=4.9, Ms=4.9
                      VANCOUVER ISLAND REGION

APR 11  WDC   iPd     04 09 53.6
        MIN   eP      04 10 00.5
        ORV   eP      04 10 10.0
        BKS   e(P)    04 10 30
                           MICRON    PERIOD
                      PZ     0.03       0.4
        JAS   eP      04 10 34.4
        PRI   eP      04 10 57.0
                 USGS 04 07 33.0, 49.4N, 127.7W, h= 10 km, mb=4.3, Ms=3.6
                      VANCOUVER ISLAND REGION

APR 11  WDC   eP      04 46 50.8
        MIN   eP      04 46 55.0
        ORV           04 47                    • 47 07
        JAS           04 47                    • 47 46
                 SEA  04 45 22.1, 46.2N, 122.2W, h=  4 km, mb=4.7
                      WASHINGTON

APR 11  BKS   e(P)    22 08 30                 • 08 40      • 19 13      • 19 33
                                               • 20 20      SS 24 12     SSS 28 43
                                               Lq 31 20     Lr 35 28
                           MICRON    PERIOD
                      LZ     10         20
                      LN     12         20
                      LE     11         20
        MHC   eP      22 08 32.5
        PRI           22 08                    • 08 40
        WDC   eP      22 08 38
        JAS   eP      22 08 39.5
                      Ms=6.3, DISTANCE=87°
                 USGS 21 55 50.9, 23.0S, 171.2E, h= 33 km, mb=5.4, Ms=6.2
                      LOYALTY ISLANDS REGION

APR 11  FHC   e(P)    23 53 27
        WDC   eP      23 53 30.8
        MIN   eP      23 53 33.2
        ORV   eP      23 53 45.5
        JAS   eP      23 54 12
        MHC           23 54                    • 54 20
        PRI           23 54                    • 54 40
                 SEA  23 52 00.0, 46.2N, 122.2W, h=  3 km, mb=4.4
                      WASHINGTON

APR 12  WDC   eP      05 17 52
        MIN   eP      05 17 56
        ORV   eP      05 18 08.5
        JAS           05 18                    • 18 36
                 SEA  05 16 22.3, 46.2N, 122.2W, h=  5 km, mb=4.3
                      WASHINGTON

APR 12  WDC   eP      22 30 42
        MIN   eP      22 30 45.5
        ORV   eP      22 30 57
        JAS           22 31                    • 31 30
                 SEA  22 29 12.0, 46.2N, 122.2W, h=  5 km, mb=4.2
                      WASHINGTON

APR 13  FHC   ePe     02 14 19.2
        WDC   iPe     02 14 27.2               PeP 17 34    SeP 21 12
        MIN   ePe     02 14 33.0               SeP 21 14
        ORV   iPe     02 14 37.6               PeP 17 35    SeP 21 16
        BKS   e(P)    02 14 45                 • 14 56      • 21 20      • 22 56
        MHC   eP      02 14 51.4               SeP 21 22
        JAS   iPe     02 14 53.9               SeP 21 22
        FRI           02 14                    SeP 21 26
        PRI   eP      02 15 04.5               SeP 21 27
                 USGS 02 08 32.5, 55.0N, 160.3W, h= 57 km, mb=5.4
                      ALASKA PENINSULA

APR 13  FHC   eP      05 55 21.8
        WDC   ePe     05 55 26.1
        MIN   eP      05 55 28.9
        ORV   ePe     05 55 30.6
        BKS           05 55                    • 55 32
        MHC   eP      05 55 34.5
        JAS   ePe     05 55 37.2
        PRI   eP      05 55 40.0
                 USGS 05 41 44.4,  9.0N, 126.3E, h= 49 km, mb=5.9, Ms=5.5
                      MINDANAO, PHILIPPINE ISLANDS

APR 13  PRI   ePKP    06 11 38.0
        JAS   ePKP    06 11 38.8
        MHC   ePKP    06 11 41.3
        ORV   ePKP    06 11 42.7
        BKS   ePKP    06 11 42.8
                           MICRON    PERIOD
                      PKPZ   0.03       0.8
        MIN   ePKP    06 11 43.0
        WDC   ePKP    06 11 44.9
                      SOUTH SANDWICH ISLANDS REGION

APR 13  SAO   iPd     06 15 57.8
        GCC   iPe     06 16 05.1
        PRS   iPd     06 16 05.3
        LLA   iPe     06 16 06.1
        MHC   iPd     06 16 08.3  16 16
        PRI   iPd     06 16 14.1
        PCC   iPe     06 16 14.4
        BKS   iPe     06 16 17.8
        JAS   iPd     06 16 21.4
        FRI   iPe     06 16 21.5
        ORV   eP      06 16 40
        MIN   eP      06 16 52
        WDC   eP      06 16 56
        WKC   e(P)    06 17 02
        FHC   e(P)    06 17 04
                 BRK  06 15 56.3, 36.8N, 121.5W, h=  7 km, ML=4.7
                      SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 13  SAO   iPd     06 20 41.9
        GCC   iPe     06 20 48.4
        PRS   iPd     06 20 49.5
        LLA   iPe     06 20 50.3
        MHC   iPd     06 20 51.6  21 00
        PCC   ePe     06 20 57.8
        PRI   ePd     06 20 58.2
        BRK   eP      06 21 01.2
        JAS   ePd     06 21 06.2
        FRI   ePe     06 21 06.3
                 BRK  06 20 40.1, 36.8N, 121.5W, h=  6 km, ML=3.2
                      SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 13  SAO   iPd     07 50 14.6
        GCC   ePe     07 50 21.9
        PRS   iPd     07 50 22.1
        LLA   iPe     07 50 22.8  50 30
        MHC   iPd     07 50 25.1  50 33
        PRI   eP      07 50 30.9
        PCC   ePd     07 50 31.4
        JAS   eP      07 50 38.5
                 BRK  07 50 13.2, 36.8N, 121.5W, h=  6 km, ML=2.5
                      SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 13  SAO   iPd     07 58 11.9
        GCC   iPe     07 58 19.4
        PRS   iPd     07 58 19.4
        LLA   iPe     07 58 20.2
        MHC   iPd     07 58 22.5  58 30
        PRI   iPd     07 58 28.2
        PCC   ePe     07 58 28.7
        BKS   eP      07 58 32.0
        JAS   ePd     07 58 35.5
        FRI   ePd     07 58 35.8
        ORV   eP      07 58 56
                 BRK  07 58 10.5, 36.8N, 121.5W, h=  7 km, ML=3.2
                      SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 13  FHC   e(P)    08 37 45
        WDC   eP      08 37 47.8
        MIN   eP      08 37 52.0
        ORV   eP      08 38 05.2
        JAS           08 38                    • 38 33
                 SEA  08 36 18.8, 46.2N, 122.2W, h=  1 km, mb=4.7
                      WASHINGTON

APR 13  SAO   iPd     15 39 02.0
        PRS   iPd     15 39 09.5
        GCC   iPe     15 39 09.8
        LLA   iPe     15 39 10.2  39 18
        MHC   iPd     15 39 12.9  39 20
        PRI   ePd     15 39 18.1
        PCC   ePd     15 39 19.2
        BRK   eP      15 39 22.3
        JAS   eP      15 39 25.7
        FRI   e(P)    15 39 26    39 45
                 BRK  15 39 00.7, 36.7N, 121.5W, h=  7 km, ML=2.8
                      SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 13  SAO   iPd     17 02 53.7
        GCC   ePe     17 03 00.3
        PRS   iPd     17 03 01.2
        LLA   iPd     17 03 01.9
        MHC   iPd     17 03 03.5  03 12
        PCC   iPd     17 03 09.8
        PRI   ePe     17 03 10.0
        BRK   eP      17 03 15.5
        JAS   eP      17 03 17.0
        FRI   eP      17 03 18    03 37
                 BRK  17 02 52.0, 36.8N, 121.5W, h=  7 km, ML=2.8
                      SOUTHWEST OF HOLLISTER, CALIFORNIA
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APR 13  PRI   eP     17 26 29.6
        MHC   eP     17 26 37.4
        JAS   ePd    17 26 38.9
        BKS          17 26                    e 26 40
        ORV   ePd    17 26 48.7
        WDC   ePd    17 26 54.6
                     USGS 17 14 54.5, 35.8S, 102.8W, h= 10 km, mb=4.7
                          SOUTHERN PACIFIC OCEAN

APR 13  SAO   eP     18 16 33.2
        BKS   eP     18 16 34.2  26 30        e 17 09     e 17 16     e 18 05
                                              e 19 22     PP 19 50    pPP 20 25
                                            sPP 20 40     PPP 21 25    e 22 02
                                              e 23 01     e 24 39     SP 27 17
                                              e 28 23     e 30 14     e 30 40
                                             SS 31 40    sSS 32 40    e 34 36
                                            SSS 35 16     e 36 02     Lq 37 00
                                MICRON   PERIOD
                           PZ     0.87      0.9
        PRI   eP     18 16 34.5  26 30        e 17 22     sP 17 48 PKPPKP 43 29
        MHC   eP     18 16 35.0  26 33        pP 17 15    sP 17 53 PKPPKP 43 29
                                           PKPSKS 46 42
        FRI   eP     18 16 39.6  26 42     PKPPKP 43 26     e 44 19 PKPSKS 46 42
        FHC   eP     18 16 39.7            PKPPKP 43 28
        JAS   ePd    18 16 40.5  26 43        pP 17 23    sP 17 50    PKKP 35 17
                                           PKPPKP 43 24 PKPSKS 46 40
        ORV   ePd    18 16 42.2               PKKP 35 16 PKPPKP 43 22
        WDC   ePd    18 16 42.8  26 36        pP 17 23     PKKP 35 16 PKPPKP 43 22
                                           PKPSKS 46 36
        MIN   eP     18 16 44.4  26 50     PKPSKS 46 36
                     mb=6.5, h=168 km, DISTANCE=81°
                     USGS 18 04 31.9, 23.5S, 177.3W, h= 79 km, mb=6.7
                          SOUTH OF FIJI ISLANDS

APR 13  FHC   e(P)   18 59 49
        WDC   eP     18 59 51.6
        MIN   eP     18 59 55.6
        ORV   eP     19 00 07.7
        JAS   eP     19 00 34
                     SEA  18 58 21.7, 46.2N, 122.2W, h=  4 km, mb=4.0
                          WASHINGTON

APR 13  SAO   iPd    21 51 27.0
        GCC   iPd    21 51 33.6
        PRS   iPd    21 51 34.5
        LLA   iPe    21 51 35.4  51 43
        MHC   iPd    21 51 36.6  51 45
        PCC   ePd    21 51 42.9
        PRI   ePe    21 51 43.4
        JAS   eP     21 51 51.3  52 09
                     BRK  21 51 25.2, 36.8N, 121.5W, h=  6 km, ML=2.7
                          SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 13  SAO   iPd    23 08 45.7
        GCC   iPe    23 08 53.1
        PRS   iPd    23 08 53.1
        LLA   iPe    23 08 53.8  09 01
        MHC   iPd    23 08 56.4  09 04
        PRI   ePd    23 09 01.8
        PCC   iPd    23 09 02.6
        BKS   eP     23 09 05.6
        JAS   ePe    23 09 09.5
        FRI   e(P)   23 09 10     09 28
                     BRK  23 08 44.3, 36.8N, 121.5W, h=  7 km, ML=3.2
                          SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 14  SAO   iPd    00 49 19.8
        PRS   iPd    00 49 27.2
        GCC   iPe    00 49 27.3
        LLA   iPe    00 49 27.9  49 35
        MHC   iPd    00 49 30.5  49 39
        PRI   eP     00 49 36.0
        PCC   iPd    00 49 36.8
        JAS   eP     00 49 45.6
                     BRK  00 49 18.5, 36.8N, 121.5W, h=  6 km, ML=2.6
                          SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 14  SAO   iPd    03 45 40.3
        GCC   iPe    03 45 47.4
        PRS   iPd    03 45 47.5
        LLA   iPe    03 45 48.2  45 56
        MHC   iPd    03 45 50.5  45 58
        PRI   eP     03 45 56.4
        PCC   iPd    03 45 56.8               e 46 10
        BKS   eP     03 46 01.1
        JAS   eP     03 46 03.6
                     BRK  03 45 38.7, 36.8N, 121.5W, h=  7 km, ML=2.5
                          SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 14  WDC   eP     07 00 51.0
        MIN   eP     07 00 55.8
        ORV   eP     07 01 06.7
                     SEA  06 59 22.3, 46.2N, 122.2W, h=  4 km, mb=4.7
                          WASHINGTON

APR 14  BKS   eP     12 51 33    02 03     PPS 03 00     e 05 57     SS 07 52
                                           SSS 11 16     Lq 13 00    Lr 16 30
                                MICRON   PERIOD
                           LZ     14        20
                           LN      8        20
                           LE     12        20
        SAO          12 51                    e 51 34
        MHC   eP     12 51 34.0
        WDC   eP     12 51 35.0
        ORV   eP     12 51 36.9
        PRI   eP     12 51 37.2
        MIN   eP     12 51 37.9
        JAS   eP     12 51 39.0
        FRI          12 51                    e 51 42
        MSV          12 51                    e 51 49
                     Ms=6.2, DISTANCE=85°
                     USGS 12 39 03.9, 10.9S, 164.1E, h= 33 km, mb=6.0, Ms=6.1
                          SANTA CRUZ ISLANDS REGION

APR 14  SAO   iPd    13 50 00.3
        GCC   iPe    13 50 07.0
        PRS   iPd    13 50 07.7
        LLA   iPe    13 50 08.4  50 16
        MHC   iPd    13 50 10.2  50 18
        PCC   eP     13 50 16.1
        PRI   eP     13 50 16.5
        BKS   e(P)   13 50 22
        JAS   eP     13 50 25.2
                     BRK  13 49 58.6, 36.8N, 121.5W, h=  9 km, ML=2.6
                          SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 14  WDC   eP     13 50 35.0
        MIN   eP     13 50 36.7
        ORV   eP     13 50 50.5
                     SEA  13 49 04.1, 46.2N, 122.2W, h=  3 km, mb=4.8, Ms=5.3
                          WASHINGTON

APR 14  FHC   eP     22 14 00.3
        WDC   iPd    22 14 08.9
        ORV   iPd    22 14 19.1
        BKS   ePd    22 14 24.9
                                MICRON   PERIOD
                           PZ     0.05      0.8
        MHC   eP     22 14 30.8
        JAS   iPd    22 14 34.1
        PRI   eP     22 14 43.2
                     USGS 22 07 36.8, 53.0N, 167.8W, h= 46 km, mb=4.7, Ms=4.1
                          FOX ISLANDS, ALEUTIAN ISLANDS

APR 15  PRI   eP     00 09 02.5
        SAO   eP     00 09 06.7
        JAS   iPd    00 09 07.8
        MHC   eP     00 09 10.2
        BKS   eP     00 09 13.4
                                MICRON   PERIOD
                           PZ     0.09      1.1
        ORV   iPd    00 09 17.4
        MIN          00 09                    e 09 19
        WDC   iPd    00 09 22.4
        FHC   eP     00 09 29.9
                     USGS 23 57 27.6, 21.3S,  68.7W, h=100 km, mb=5.4
                          CHILE-BOLIVIA BORDER REGION

APR 15  WKC   iP     12 52 12.4  52 26
        FHC   iP     12 52 12.4  52 26
        WDC   iP     12 52 28.9  52 54
        MIN   iPe    12 52 39.2
        ORV   iP     12 52 44.1
                     BRK  12 51 55.5, 41.0N, 125.2W, h= 10 km, ML=3.7
                          OFF COAST WEST OF EUREKA, CALIFORNIA

APR 15  FHC   e(P)   17 56 21
        WDC   eP     17 56 25.5
        MIN   eP     17 56 28.3
        ORV   eP     17 56 40.0
        JAS          17 57                    e 57 08
                     SEA  17 54 54.3, 46.2N, 122.2W, h=  3 km, mb=4.9, Ms=3.6
                          WASHINGTON

APR 16  WKC   iPe    06 27 59.8  28 03
        FHC   eP     06 28 06.1  28 17
        WDC   iPd    06 28 20.0
        MIN   eP     06 28 30.0
        ORV   eP     06 28 33
                     BRK  06 27 54.0, 40.3N, 124.6W, h= 14 km, ML=3.0
                          OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

APR 16  FHC   ePd    07 01 39.5
        WDC   iPd    07 01 44.7
        MIN   ePd    07 01 48.2
        ORV   iPd    07 01 50.7
        BKS   eP     07 01 52.2
                                MICRON   PERIOD
                           PZ     0.18      1.0
        MHC   ePd    07 01 56.0
        SAO   eP     07 01 57.5
        JAS   iPd    07 01 59.0
        PRI   ePd    07 02 03.1
        FRI   ePd    07 02 03.8
        MNV   eP     07 02 06.3
                     USGS 06 50 13.5, 28.0N, 140.1E, h=242 km, mb=5.4
                          BONIN ISLANDS REGION

APR 16  MHC   iPe    09 58 53.2  58 57
        BKS   iPe    09 58 57.8  59 06
        PCC   iPd    09 58 58.1
        GCC   iPd    09 58 59.5
        SAO   iPd    09 59 04.2
        JAS   iPd    09 59 06.4  59 20
        LLA   eP     09 59 08.5
                     BRK  09 58 47.1, 37.6N, 121.7W, h=  6 km, ML=2.7
                          LIVERMORE AREA, CALIFORNIA

APR 16  FHC   ePKPe  12 37 10.6
        WDC   ePKPe  12 37 11.7
        MIN   ePKPe  12 37 13.0
        ORV   ePKPe  12 37 13.9
        BKS   ePKP   12 37 15.2
                                MICRON   PERIOD
                           PKPZ   0.09      1.0
        MHC   ePKP   12 37 16.2
        JAS   ePKPe  12 37 16.9
        FRI   ePKP   12 37 18.8
        PRI   ePKP   12 37 19.0
                     USGS 12 18 20.6,  8.1S, 108.8E, h= 84 km, mb=5.8
                          JAVA

APR 16  FHC   ePKP   12 42 38.6
        WDC   ePKPd  12 42 39.6
        MIN   ePKP   12 42 41.1
        ORV   ePKPd  12 42 41.8
        BKS          12 42                    e 42 43
        MHC   ePKP   12 42 44.0
        JAS   ePKPd  12 42 44.9
        FRI   ePKP   12 42 46.2
        PRI   ePKP   12 42 46.7
                     USGS 12 23 48.3,  8.1S, 108.7E, h= 80 km, mb=5.7
                          JAVA

APR 16  FHC          15 23                    e 23 35
        WDC   ePd    15 23 35.0
        MIN   eP     15 23 38.4
        ORV   ePd    15 23 50.7
        JAS   eP     15 24 19
                     SEA  15 22 05.6, 46.2N, 122.2W, h=  3 km, mb=4.9
                          WASHINGTON

APR 16  WDC   eP     15 41 53.0
        MIN   eP     15 41 56.5
        ORV   eP     15 42 08.6
        JAS   eP     15 42 27.0
                     SEA  15 40 23.5, 46.2N, 122.2W, h=  4 km, mb=4.8
                          WASHINGTON

APR 16  MNV   i(P)   20 00 36
        FRI   iPe    20 00 48.5
        JAS   iPe    20 00 57.5
        PRI   iPe    20 01 01.1
        LLA   ePe    20 01 02.1
        SAO   ePe    20 01 07.5
        PRS   ePe    20 01 07.8
        MHC   iPe    20 01 10.2
        GCC   eP     20 01 14.0
        ORV   iPe    20 01 15.7
        BKS   eP     20 01 16.9               e 01 32     e 03 00
        PCC   ePe    20 01 17.6
        MIN   ePe    20 01 23.2
        WDC   iPe    20 01 33.3
        WKC   eP     20 01 49
        FHC   eP     20 01 50
                     ML=5.5, NUCLEAR EXPLOSION (PYRAMID), N.T.S.
                     USGS 20 00 00.1, 37.1N, 116.0W, h=  0 km, mb=5.3, Ms=4.2
                          SOUTHERN NEVADA

APR 17  WDC   eP     04 27 45.4
        MIN   eP     04 27 49.0
        ORV   eP     04 28 01.8
        JAS   e(P)   04 28 28
                     SEA  04 26 16.0, 46.2N, 122.2W, h=  4 km, mb=4.1
                          WASHINGTON

APR 17  FHC   eP     06 41 59.5
        WDC   ePd    06 42 03.8
        MIN   eP     06 42 06.5
        ORV   ePd    06 42 09.0
        BRK   e(P)   06 42 11
        MHC   eP     06 42 14.5
        JAS   eP     06 42 16.5
        FRI   eP     06 42 20.1
        PRI   eP     06 42 20.1
                     USGS 06 29 08.9, 23.7N, 126.8E, h= 33 km, mb=5.4
                          RYUKYU ISLANDS REGION
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APR 17  SAO   eP     15 19 27.6
        BKS   eP     15 19 28.8
                          MICRON     PERIOD
                     PZ     0.04        1.0
        PRI   ePd    15 19 28.9
        MHC   eP     15 19 29.4
        FHC   eP     15 19 33.7
        FRI   eP     15 19 34.2
        JAS   ePd    15 19 34.8
        ORV   iPd    15 19 36.5
        WDC   iPd    15 19 37.0
        MIN   eP     15 19 38.8
              USGS 15 07 48.8, 22.3S, 177.7W, h=247 km, mb=5.0
                   SOUTH OF FIJI ISLANDS

APR 17  MHC   eP     16 04 34.9
        PRI   eP     16 04 35.3
        FHC   eP     16 04 37.2
        JAS   ePe    16 04 40.4
        FRI   eP     16 04 40.5
        ORV   ePe    16 04 41.2
        WDC   ePe    16 04 41.2
              USGS 15 52 46.0, 16.1S, 179.0E, h= 33 km, mb=5.2, Ms=5.2
                   FIJI ISLANDS

APR 17  FHC   eP     17 44 51.2
        WDC   eP     17 44 52.5
        MIN   eP     17 44 57.1
        ORV   iP     17 45 00.7
        JAS          17 45                 e 45 36
              SEA    17 43 22.6, 46.2N, 122.2W, h=  3 km, mb=4.7, Ms=3.6
                     WASHINGTON

APR 18  WDC   eP     00 55 11.2
        MIN   eP     00 55 14.6
        ORV          00 55                 e 55 27
        JAS          00 55                 e 55 53
              SEA    00 53 40.5, 46.2N, 122.2W, h=  2 km, mb=4.7
                     WASHINGTON

APR 18  PRI   eP     19 44 29.2
        JAS   ePd    19 44 34.6
        MHC   eP     19 44 37.5
        BKS   eP     19 44 42.2
                          MICRON     PERIOD
                     PZ     0.03        1.0
        ORV   iPd    19 44 45.3
        WDC   ePd    19 44 50.3
        FHC   eP     19 44 58.8
              USGS 19 33 36.3, 14.8S,  71.3W, h=134 km, mb=5.1
                   PERU

APR 18  FHC   eP     21 17 29
        WDC   eP     21 17 32
        ORV   eP     21 17 47
        JAS          21 18                 e 18 16
        MHC          21 18                 e 18 20
        PRI          21 18                 e 18 38
              SEA    21 16 02.2, 46.2N, 122.2W, h=  4 km, mb=4.8
                     WASHINGTON

APR 18  FHC   e(P)   22 28 42
        WDC   ePd    22 28 43.7
        MIN   eP     22 28 48.0
        ORV   ePd    22 29 01.0
        JAS   eP     22 29 27
              SEA    22 27 14.5, 46.2N, 122.2W, h=  4 km, mb=4.5
                     WASHINGTON

APR 19  SAO   iPe    12 45 52.8
        GCC   iPe    12 45 59.0
        PRS   iPd    12 46 00.3
        LLA   iPe    12 46 01.2  46 09
        MHC   iPd    12 46 02.2
        PCC   ePe    12 46 08.4  46 22
        PRI   eP     12 46 09
        BKS   ePe    12 46 11.7            e 46 25      e 46 31
        JAS   eP     12 46 16.5
        FRI   eP     12 46 17.5
              BRK    12 45 50.8, 36.8N, 121.6W, h=  7 km, ML=3.0
                     SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 19  FHC   eP     22 29 54.2
        WDC   eP     22 29 57.3
        MIN   eP     22 30 01.3
        ORV   eP     22 30 13.4
        JAS   eP     22 30 36
        MHC          22 30                 e 30 47
        PRI          22 31                 e 31 01
              SEA    22 28 28.2, 46.2N, 122.2W, h=  3 km, mb=4.7
                     WASHINGTON

APR 20  WDC   ePKP   02 57 00.8            e 59 06
        FHC          02 57                 e 57 02
        MIN          02 57                 e 57 02
        ORV   ePKP   02 57 02.8            e 59 15
        JAS   ePKP   02 57 06.8            e 59 24
        MHC          02 57                 e 57 08
        FRI          02 57                 e 57 12
        PRI          02 57                 e 57 11
              USGS 02 37 49.3, 11.7N,  57.7E, h= 10 km, mb=5.7, Ms=6.2
                   ARABIAN SEA

APR 20  WDC   ePe    07 29 19.1
        ORV   ePe    07 29 26.4
        JAS   ePe    07 29 37.8
              USGS 07 19 10.3, 46.4N, 142.9E, h=303 km, mb=4.6
                   SAKHALIN ISLAND

APR 20  FRI   eP     11 35 43.1
        MNV   iPd    11 35 43.9
        PRI   eP     11 35 45.4
        JAS   ePd    11 35 52.0
        MHC   eP     11 35 55.1
        BKS   eP     11 36 00.2
                          MICRON     PERIOD
                     PZ     0.06        1.4
        ORV   iPd    11 36 03.3            e 36 30
        MIN   e(P)   11 36 06
        WDC   ePd    11 36 09.7            e 36 36
        FHC   ePd    11 36 19.8
              USGS 11 26 22.9,  2.5S,  78.5W, h=107 km, mb=5.1
                   ECUADOR

APR 20  FHC          19 21                 e 21 02
        WDC   eP     19 21 02.0
        MIN   eP     19 21 06.0
        ORV   eP     19 21 18.4
        JAS   eP     19 21 46.5
        BKS          19 21                 e 26 04
        MHC          19 21                 e 21 52
        PRI          19 22                 e 22 08
              SEA    19 19 33.0, 46.2N, 122.2W, h=  5 km, mb=4.8, Ms=3.9
                     WASHINGTON

APR 21  BRK   e(P)   09 38 18
        PRI   eP     09 38 18.7
        MHC   eP     09 38 19.8
        JAS   ePd    09 38 25.0
        ORV   ePd    09 38 27.3
        WDC   eP     09 38 28.3
        MIN   eP     09 38 29.5
              USGS 09 25 59.6, 27.2S, 176.5W, h= 33 km, mb=5.2, Ms=4.9
                   KERMADEC ISLANDS REGION

APR 21  JAS   ePd    11 58 53.4            e 59 04
        ORV   ePd    11 58 55.8            e 59 07
        WDC   eP     11 58 56.4            e 59 08
        MIN   eP     11 58 57.7
              USGS 11 46 27.8, 27.3S, 176.5W, h= 39 km, mb=5.4, Ms=5.1
                   KERMADEC ISLANDS REGION

APR 21  FHC   e(P)   15 15 19
        WDC   eP     15 15 23.7
        MIN   eP     15 15 27.2
        ORV   eP     15 15 39.5
        MNV          15 16                 e 16 08
        JAS   eP     15 16 08.0
        MHC          15 16                 e 16 24
        FRI          15 16                 e 16 20
        PRI          15 16                 e 16 35
              SEA    15 13 55.5, 46.1N, 122.2W, h= 10 km, mb=4.5
                     WASHINGTON

APR 22  BKS   eP     03 06 16.5
                          MICRON     PERIOD
                     PZ     0.06        1.2
        MHC   eP     03 06 16.6
        JAS   eP     03 06 21.8
        ORV   eP     03 06 23.0
        WDC   eP     03 06 23.5
        MIN   eP     03 06 25.0
              USGS 02 54 58.1, 22.7S, 179.5W, h=555 km, mb=5.0
                   SOUTH OF FIJI ISLANDS

APR 22  FHC   eP     05 45 18.1
        WDC   iPe    05 45 23.6                  pP 46 53      i 48 21
        MIN   eP     05 45 26.9                  e 46 35       e 48 26
        ORV   iPe    05 45 29.6                  pP 46 59      i 48 28
        BKS   ePe    05 45 32.3  54 52           PcP 45 42     e 46 57     sP 47 24
                                                 sPcP 47 38    PP 48 35    sPP 50 22
                                                 Lq 05 30      Lr 06 20
                          MICRON     PERIOD
                     PZ     0.17        1.0
        MHC   eP     05 45 36.1
        SAO   eP     05 45 38.0
        JAS   iPe    05 45 38.4                  pP 47 09      i 48 44
        FRI   eP     05 45 43.2                  pP 47 14
        PRI   eP     05 45 43.3
              mb=5.7, h=300 km, DISTANCE=77°
              USGS 05 34 13.8, 32.1N, 137.6E, h=394 km, mb=5.7
                   SOUTH OF HONSHU, JAPAN

APR 22  SAO   eP     07 06 20.9
        BKS   ePd    07 06 22.0
                          MICRON     PERIOD
                     PZ     0.09        1.0
        PRI   eP     07 06 22.5
        MHC   iPd    07 06 22.6
        FRI   iPd    07 06 27.9
        JAS   iPd    07 06 28.0
        ORV   iPd    07 06 29.2
        WDC   iPd    07 06 29.3
        MIN   eP     07 06 31.0
              USGS 06 55 29.0, 18.2S, 178.1W, h=589 km, mb=5.6
                   FIJI ISLANDS REGION

APR 22  MHC   eP     13 06 10.2
        JAS   eP     13 06 15.7
        ORV   eP     13 06 16.7
        WDC   eP     13 06 17.3
        MIN   eP     13 06 19.2
              USGS 12 55 03.9, 20.5S, 178.4W, h=550 km, mb=4.7
                   FIJI ISLANDS REGION

APR 22  WDC   eP     16 16 16
        MIN   eP     16 16 26
        ORV   iPe    16 16 34.4
        JAS   ePe    16 16 58.8
        MHC   eP     16 17 04
        FRI   eP     16 17 12.8
              USGS 16 14 57.4, 43.8N, 127.9W, h= 15 km, mb=4.4
                   OFF COAST OF OREGON

APR 22  WDC   ePd    19 29 48.0
        MIN   ePd    19 29 52.4
        ORV   ePd    19 30 04.0
        JAS   eP     19 30 30
              SEA    19 28 18.8, 46.2N, 122.2W, h=  4 km, mb=4.6
                     WASHINGTON

APR 23  FHC   eP     12 32 17
        WDC   ePe    12 32 20.3
        MIN   eP     12 32 24.5
        ORV   iPe    12 32 35.8
        JAS   eP     12 33 03.5
              SEA    12 30 53.1, 46.3N, 122.0W, h=  5 km, mb=4.5
                     WASHINGTON

APR 23  WDC   eP     15 19 30.5                  i 20 37
        MIN   eP     15 19 34.5
        ORV   eP     15 19 47.0
        JAS   eP     15 20 16
              SEA    15 18 01.1, 46.2N, 122.2W, h=  4 km, mb=4.2
                     WASHINGTON

APR 24  MHC   eP     01 44 43
        SAO   ePe    01 44 43
        PRI   ePe    01 44 45.1                  e 44 52
        WDC   e(P)   01 44 49
        ORV   iPe    01 44 49.4                  i 44 56
        JAS   ePe    01 44 49.5                  e 44 56
        MIN   e(P)   01 44 51
        MNV   e(P)   01 44 59
              USGS 01 32 29.9, 16.2S, 173.3E, h= 33 km, mb=5.3
                   FIJI ISLANDS REGION

APR 24  WDC   iP     17 35 41.9
        MIN   eP     17 35 46.3
        ORV   eP     17 35 56.0
        JAS          17 36                 e 36 19
              SEA    17 34 10.4, 46.2N, 122.2W, h=  4 km, mb=4.7, Ms=3.8
                     WASHINGTON

APR 25  WDC   eP     04 09 50.6
        MIN   eP     04 09 52.6
        ORV   eP     04 09 55.7
        MNV   eP     04 10 04.6
        JAS   eP     04 10 04.8
        FRI          04 10                 e 10 10
              USGS 03 56 57.4, 49.9N,  78.8E, h=  0 km, mb=5.5
                   EASTERN KAZAKH, SSR

APR 25  WDC   eP     11 48 02.4
        ORV   eP     11 48 07.6
        BKS          11 48                 e 48 10
              USGS 11 35 28.9, 26.9N, 126.7E, h=130 km, mb=5.2
                   RYUKYU ISLANDS

APR 25  WDC   eP     21 19 14.4
        ORV   eP     21 19 17.0
        MHC          21 19                 e 19 18
        JAS   eP     21 19 20.5
        PRI          21 19                 e 19 21
        FRI   eP     21 19 22.5
              USGS 21 06 12.7,  6.7S, 152.2E, h= 33 km, mb=5.6, Ms=5.3
                   NEW BRITAIN REGION

APR 25  FHC   e(P)   23 21 53
        WDC   ePe    23 21 56.0
        MIN   ePe    23 22 00.2
        ORV   ePe    23 22 11.5
        MNV   eP     23 22 35
        JAS   eP     23 22 41
        PRI          23 23                 e 23 04
              SEA    23 20 27.9, 46.3N, 122.2W, h=  5 km, mb=5.0
                     WASHINGTON
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International Seismological Centre

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APR 26  SAO   ePd    02 46 08.0
        BKS   ePd    02 46 09.2
                            MICRON     PERIOD
                       PZ     0.04        1.0
        PRI   ePd    02 46 09.5
        MHC   ePd    02 46 09.9
        FHC   eP     02 46 13.9
        FRI   ePd    02 46 15.3
        JAS   iPd    02 46 15.9
        ORV   iPd    02 46 17.1
        WDC   iPd    02 46 17.4
        MIN   ePd    02 46 19.5
        MNV   ePd    02 46 26.2
              USGS 02 35 00.0, 15.6S, 174.3W, h=164 km, mb=5.5
                   TONGA ISLANDS

APR 26  MHC   iPe    07 36 49.4
        GCC   iPd    07 36 55.4  37 02
        PCC   iPe    07 36 58.6  37 09
        SAO   iPd    07 36 59.5
        BKS   ePd    07 37 01.5              e 37 12
        LLA   iPd    07 37 04.8
        PRS   iPd    07 37 06.5
        JAS   iPe    07 37 09.0
        PRI   e(P)   07 37 13
              BRK  07 36 47.8, 37.3N, 121.7W, h=  8 km, ML=3.1
                   EAST OF SAN JOSE, CALIFORNIA

APR 26  JAS   eP     13 09 32.5              e 09 40
        MIN   eP     13 09 34.5              e 09 42
        ORV   eP     13 09 35.5              e 09 43
        MHC          13 09                   e 09 47
        WDC   eP     13 09 37.5
              USGS 12 58 47.4, 22.5N, 45.2W, h= 10 km, mb=5.0, Ms=4.8
                   NORTH ATLANTIC RIDGE

APR 26  MNV   ePe    17 00 32.5
        PRI   iPe    17 00 44.2
        JAS   iPe    17 00 52.8
        PRI   iPe    17 00 57.4
        LLA   ePe    17 00 58.0
        SAO   eP     17 01 03.3
        PRS   iPe    17 01 04.0
        MHC   iPe    17 01 05.9
        GCC   eP     17 01 08.5
        BKS   iPse   17 01 12.3           P* 01 21      e 02 28
        PCC   ePe    17 01 13.2
        MIN   ePe    17 01 18.8
        WDC   ePe    17 01 27.5
              ML=5.6, NUCLEAR EXPLOSION (COLWICK), N.T.S.
              USGS 17 00 00.1, 37.2N, 116.4W, h=  0 km, mb=5.4, Ms=4.2
                   SOUTHERN NEVADA

APR 26  PRI   eP     22 47 24.0
        MHC          22 47                   e 47 32
        JAS   eP     22 47 34.2
        ORV   eP     22 47 44.3
        WDC   eP     22 47 50.6
              USGS 22 35 58.7, 35.1S, 107.4W, h= 10 km, mb=4.9
                   EASTER ISLAND CORDILLERA

APR 27  FHC   eP     07 27 47.5
        WDC   ePd    07 27 51.7
        MIN   eP     07 27 54.5
        ORV   ePd    07 28 07.2
        MNV          07 28                   e 28 30
        JAS   e(P)   07 28 32
        MHC          07 28                   e 28 41
        PRI          07 28                   e 28 59
              SEA  07 26 21.3, 46.2N, 122.2W, h=  4 km, mb=4.5
                   WASHINGTON

APR 27  MHC   eP     20 54 24.6
        JAS   eP     20 54 30.0
        ORV   eP     20 54 31.5
        WDC   eP     20 54 31.7
        MIN   eP     20 54 33.4
              USGS 20 43 14.2, 21.6S, 178.9W, h=579 km, mb=4.7
                   FIJI ISLANDS REGION

APR 28  FHC          03 51                   e 51 02
        WDC   eP     03 51 03.8
        MIN   eP     03 51 07.7
        ORV   eP     03 51 19.8
        MNV          03 51                   e 51 44
        JAS   eP     03 51 45.6
        MHC          03 51                   e 51 55
        PRI          03 51                   e 51 11
              SEA  03 49 33.5, 46.2N, 122.2W, h=  4 km, mb=4.4
                   WASHINGTON

APR 28  MIN   eP     13 56 16.5              e 56 23
        WDC   eP     13 56 22.5              e 56 31      e 57 10
        ORV   eP     13 56 24
        MNV   eP     13 56 38.3              e 56 44
        JAS   ePe    13 56 43.0              e 56 50     Sg 57 48
        FHC   e(P)   13 56 48
        MHC   e(P)   13 56 53                e 57 07      e 58 15
              ML=4.1, NEVADA
              USGS 13 55 34.0, 41.9N, 118.9W, h=  5 km, mb=4.3
                   NEVADA

APR 28  MHC   eP     16 55 35.8
        JAS   eP     16 55 41.5
        WDC   eP     16 55 42.1
        ORV   eP     16 55 43.6
        MNV   eP     16 55 51.3
              USGS 16 43 52.9, 20.1S, 174.0W, h= 33 km, mb=5.5
                   TONGA ISLANDS

APR 28  SAO   iPd    18 21 27.6
        GCC   iPe    18 21 33.6
        PRS   iPd    18 21 35.1
        LLA   iPd    18 21 35.9
        MHC   iPd    18 21 36.9  21 45
        PCC   ePe    18 21 43.0  21 57
        PRI   ePd    18 21 44.0
        BKS   ePd    18 21 46.4              i 21 48      e 22 02
        JAS   iPe    18 21 50.6  22 10
        FRI   iP     18 21 52.0
              BRK  18 21 25.5, 36.8N, 121.6W, h=  7 km, ML=3.3
                   SOUTHWEST OF HOLLISTER, CALIFORNIA

APR 29  WDC   eP     04 26 01.0
        MIN   eP     04 26 04.3
        ORV   eP     04 26 16.2
        JAS          04 26                   e 26 41
              SEA  04 24 30.2, 46.2N, 122.2W, h=  2 km, mb=4.7, Ms=3.6
                   WASHINGTON

APR 29  FHC   eP     06 24 06.9
        WDC   eP     06 24 08.3
        MIN   eP     06 24 12.0
        ORV   eP     06 24 23.8
        JAS          06 24                   e 24 52
              SEA  06 22 38.9, 46.2N, 122.2W, h=  2 km, mb=4.7
                   WASHINGTON

APR 29  FHC   iPe    13 50 32.8  50 39
        WKC   iPe    13 50 35.1  50 44
        WDC   iPe    13 50 37.3  50 47
        MIN   iPe    13 50 47.2
        ORV   iPe    13 50 51.7
        JAS   eP     13 51 19.0              e 52 11
              BRK  13 50 23.0, 40.5N, 123.5W, h= 10 km, ML=4.0
                   SOUTHEAST OF EUREKA, CALIFORNIA

APR 29  FHC   iPe    14 30 12.6  30 19
        WKC   iPe    14 30 14.4  30 24
        WDC   iPe    14 30 17.1  30 28
        MIN   eP     14 30 28.0
        ORV   eP     14 30 34.3
              BRK  14 30 03.6, 40.5N, 123.5W, h= 15 km, ML=3.3
                   SOUTHEAST OF EUREKA, CALIFORNIA

APR 29  MNV   eP     16 13 16.6
        WDC   eP     16 13 27.9
        ORV   eP     16 13 29.2
        JAS   eP     16 13 29.7
        PRI   eP     16 13 36.6
        FHC   e(P)   16 13 37
        MHC   eP     16 13 37.5
              USGS 16 15 59.0, 41.4N, 142.2E, h= 10 km, mb=5.1, Ms=4.7
                   NORTH ATLANTIC RIDGE

APR 30  FHC   e(P)   05 10 32
        WDC   eP     05 10 33.5
        MIN   eP     05 10 36.7
        ORV   eP     05 10 49.2
        MNV          05 11                   e 11 15
        JAS   eP     05 11 16
        MHC          05 11                   e 11 25
        FRI          05 11                   e 11 30
        PRI          05 11                   e 11 42
              SEA  05 09 02.7, 46.2N, 122.2W, h=  3 km, mb=4.8, Ms=3.8
                   WASHINGTON

APR 30  WDC   eP     07 43 39.5
        MIN   eP     07 43 42.7
        ORV   eP     07 43 55.0
        JAS   e(P)   07 44 20
              SEA  07 42 09.2, 46.2N, 122.2W, h=  4 km, mb=4.1
                   WASHINGTON

APR 30  SAO   eP     11 48 43.5
        BRK   eP     11 48 45.2
        PRI   eP     11 48 45.3              e 48 52
        MHC   eP     11 48 46.0              e 48 53
        FRI   e(P)   11 48 51                e 48 58
        JAS   eP     11 48 52.0              e 48 59
        ORV   eP     11 48 53.8              e 49 01
        WDC   eP     11 48 54.3              e 49 02
        MIN   eP     11 48 56
        MNV   ePd    11 49 01.8              e 49 09
              USGS 11 37 04.9, 19.5S, 173.8W, h= 22 km, mb=5.5, Ms=5.5
                   TONGA ISLANDS

MAY 01  WDC   eP     00 06 59.8
        ORV   eP     00 07 05.0
        JAS   e(P)   00 07 25
              USGS 23 56 10.1, 41.8N, 143.7E, h= 52 km, mb=5.2, Ms=5.3
                   HOKKAIDO, JAPAN REGION

MAY 01  SAO   iPd    03 28 57.0
        MHC   iPd    03 28 57.2  29 02
        GCC   ePe    03 28 58.8
        LLA   ePe    03 29 02.3
        PRS   e(P)   03 29 05
        PCC   ePe    03 29 06.2
        BKS   ePd    03 29 09.9  29 24       e 29 12      e 29 15
        PRI   ePe    03 29 12.3
        JAS   ePd    03 29 12.7  29 29
              BRK  03 28 50.7, 37.0N, 121.5W, h=  4 km, ML=2.6
                   EAST OF GILROY, CALIFORNIA

MAY 01  WDC   eP     04 47 46
        MIN   eP     04 47 50
        ORV   eP     04 48 02
        JAS          04 48                   e 48 34
              SEA  04 46 15.6, 46.2N, 122.2W, h=  3 km, mb=4.3
                   WASHINGTON

MAY 01  WDC          19 28                   e 28 47
        MIN   eP     19 28 51.0
        ORV   eP     19 29 03.9
              SEA  19 27 15.7, 46.2N, 122.2W, h=  1 km, mb=4.3
                   WASHINGTON

MAY 02  FHC   eP     13 03 57.0
        WDC   eP     13 03 59.0
        MIN   eP     13 04 03.0
        ORV   eP     13 04 14.5
        MNV   eP     13 04 39.0
        JAS   eP     13 04 40.5
              SEA  13 02 29.6, 46.2N, 122.2W, h=  1 km, mb=4.6, Ms=3.6
                   WASHINGTON

MAY 02  JAS   ePe    16 50 46.5
        ORV   ePe    16 50 47.7
        WDC   ePe    16 50 48.1
        MNV   eP     16 50 57
              USGS 16 39 19.4, 14.9S, 174.2W, h= 33 km, mb=5.3, Ms=5.1
                   SAMOA ISLANDS REGION

MAY 02  MNV   iPe    18 47 07.7
        FRI   ePe    18 47 18.6              e 47 34
        JAS   iPe    18 47 27.9
        PRI   ePe    18 47 31.3
        ORV   iPe    18 47 46.5
        BKS   iP*d   18 48 01.4                   i 48 16
              ML=4.6, NUCLEAR EXPLOSION (CANFIELD), N.T.S.
              USGS 18 46 30.1, 37.1N, 116.0W, h=  0 km, mb=4.4
                   SOUTHERN NEVADA

MAY 02  MNV   eP     19 20 53.4
        PRI   eP     19 20 53.4
        SAO   eP     19 20 57.1
        JAS   iPd    19 20 58.3                pP 21 45
        MHC   ePd    19 21 00.8
        BKS   iPe    19 21 04.2
                            MICRON     PERIOD
                       PZ     0.04        0.6
        ORV   iPd    19 21 07.5                pP 21 55
        MIN   eP     19 21 09.5
        WDC   iPd    19 21 12.3                pP 22 04
        FHC   e(P)   19 21 21
              USGS 19 09 07.8, 24.1S,  66.9W, h=163 km, mb=5.4
                   SALTA PROVINCE, ARGENTINA

MAY 03  MIN   eP     00 18 21.5              e 18 28
        WDC   iPd    00 18 27.0              e 18 33     Sg 19 16
        ORV   iPd    00 18 28.6              e 18 36
        FHC   e(P)   00 18 44                e 18 55
        JAS   eP     00 18 46.0              e 18 55     Sg 19 51
        FRI          00 19                   e 19 10     Sg 20 18
        BKS          00 19                   e 19 06      e 19 26
        PRI          00 19                   e 19 06     Sg 20 51
              ML=4.3, OREGON-NEVADA BORDER AREA
              USGS 00 17 38.1, 41.9N, 118.8W, h=  5 km, mb=4.5
                   NEVADA

MAY 03  FHC   e(P)   05 02 14
        WDC   eP     05 02 17.5
        MIN   eP     05 02 20.5
        ORV   iPd    05 02 34.3
        JAS   eP     05 02 57
        PRI          05 03                   e 03 24
              SEA  05 00 46.0, 46.2N, 122.2W, h= 10 km, mb=4.4, Ms=4.2
                   WASHINGTON
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MAY 03  FHC   iPd    09 38 10.5
        WDC   iPd    09 38 18.0
        MIN   iPd    09 38 23.2
        ORV   iPd    09 38 27.1
        BKS   iPd    09 38 32     45 15      Lq 48 50     Lr 51 00
                                MICRON    PERIOD
                             PZ    0.20       1.0
                             LZ    2.1       20
                             LN    2.1       20
                             LE    2.1       20
        MHC   ePd    09 38 37.7
        JAS   iPd    09 38 40.8                  pP 38 55    PcP 40 31
        SAO   ePd    09 38 40.9
        FRI   ePd    09 38 48.3
        PRI   ePd    09 38 48.6
                     Ms=5.2, DISTANCE=45°
                     USGS 09 30 08.5, 51.2N, 173.7E, h= 33 km, mb=5.8, Ms=5.3
                          NEAR ISLANDS, ALEUTIAN ISLANDS

MAY 04  FHC   eP     11 59 52.0
        WDC   eP     11 59 55.5
        MIN   eP     11 59 59.7
        ORV   eP     12 00 12.0
        MNV   eP     12 00 36
        JAS   eP     12 00 36.0
        MHC          12 00                    e 00 46
        PRI          12 01                    e 01 02
                     SEA  11 58 27.4, 46.2N, 122.2W, h=  2 km, mb=4.6, Ms=4.0
                          WASHINGTON

MAY 05  FHC   eP     05 44 31.2
        WDC   eP     05 44 33.5
        MIN   eP     05 44 37.0
        ORV   eP     05 44 49.0
        MNV   eP     05 45 12
        JAS   eP     05 45 13
        MHC          05 45                    e 45 24
        PRI          05 45                    e 45 27
        PRI          05 45                    e 45 40
                     SEA  05 43 04.1, 46.2N, 122.2W, h=  3 km, mb=4.6, Ms=3.7
                          WASHINGTON

MAY 05  FHC   e(P)   09 14 20
        WDC   eP     09 14 23.5
        MIN   eP     09 14 28.0
        ORV   eP     09 14 41.3
        JAS   e(P)   09 15 07
                     SEA  09 12 54.4, 46.2N, 122.2W, h=  2 km, mb=4.4
                          WASHINGTON

MAY 05  FHC          16 38                    e 38 58
        WDC   eP     16 39 03.1               e 39 32
        MIN   eP     16 39 06.3
        ORV   eP     16 39 09.1               e 39 39
        BKS   iPe    16 39 10.8
                                MICRON    PERIOD
                             PZ    0.05       0.9
        MHC   eP     16 39 14.6
        JAS   eP     16 39 17.6
        PRI   eP     16 39 21.7
        MNV   eP     16 39 25.4
                     USGS 16 27 18.4, 28.3N, 141.0E, h= 77 km, mb=5.0
                          BONIN ISLANDS REGION

MAY 06  FHC   e(P)   17 06 17
        WDC   eP     17 06 20
        MIN   eP     17 06 24.2
        ORV   eP     17 06 34.0
        MNV          17 06                    e 07 00
        JAS   e(P)   17 06 59
        BKS          17 07                Lq 10 12     Lr 11 06
        MHC          17 07                    e 07 12
        PRI          17 07                    e 07 26
                     SEA  17 04 50.9, 46.3N, 122.1W, h=  1 km, mb=4.7, Ms=4.2
                          WASHINGTON

MAY 06  WDC   eP     19 24 01
        MIN   eP     19 24 03.8
        ORV   eP     19 24 16.0
        JAS   e(P)   19 24 42
                     SEA  19 22 28.4, 46.2N, 122.2W, h=  3 km, mb=4.6
                          WASHINGTON

MAY 07  WDC   eP     11 10 48.5
        MIN   e(P)   11 10 53
        ORV   eP     11 11 04.5
        JAS          11 11                    e 11 32
                     SEA  11 09 18.0, 46.2N, 122.2W, h=  1 km, mb=4.7
                          WASHINGTON

MAY 08  WDC   eP     07 50 15.9               i 51 52
        JAS   eP     07 50 57
        BKS          07 51                Lq 54 40     Lr 55 20
        MHC   eP     07 51 01
        SAO          07 51                    e 51 18
        PRI   eP     07 51 24
                     SEA  07 48 46.1, 46.2N, 122.2W, h=  1 km, mb=5.0, Ms=4.8
                          WASHINGTON

MAY 08  BKS   iP     08 15 15                PPS 24 30     Lq 34 00     Lr 38 00
                                MICRON    PERIOD
                             PZ    0.08       1.0
        MHC   ePe    08 15 18.1               e 15 44
        JAS   iPe    08 15 21.4               e 15 46
        SAO   eP     08 15 22.0               e 15 46
        PRI   eP     08 15 27                 e 15 51
                     USGS 08 03 37.6, 34.4N, 140.2E, h= 62 km, mb=5.8
                          NEAR EAST COAST OF HONSHU, JAPAN

MAY 08  FRI   iPe    18 01 08.6  01 20
        MNV   iPe    18 01 09.7
        JAS   iP     18 01 14.8  01 30
        LLA   ePe    18 01 25.8
        PRI   iPd    18 01 28.4
        SAO   eP     18 01 30.3
        MHC   eP     18 01 30.9
        PRS   eP     18 01 32.4
        BKS   eP     18 01 37.5  02 11
        ORV   iPd    18 01 40.8
                     BRK  18 00 51.5, 37.6N, 118.9W, h= 10 km, ML=3.5
                          MAMMOTH LAKES, CALIFORNIA

MAY 09  WDC   eP     07 02 32.0
        MIN   eP     07 02 38.5
        ORV   eP     07 02 46.5
        MNV          07 03                    e 03 13
        JAS          07 03                    e 03 14
        BKS          07 03                Lq 05 52     Lr 06 40
                     SEA  07 01 01.3, 46.2N, 122.2W, h=  2 km, mb=4.8
                          WASHINGTON

MAY 09  FHC   eP     18 07 53
        WDC   eP     18 07 57.0
        MIN   eP     18 08 00.2
        ORV   eP     18 08 11.0
        MNV   eP     18 08 34.5
        JAS   eP     18 08 39.5
        PRI          18 09                    e 09 04
                     SEA  18 06 26.5, 46.2N, 122.2W, h=  2 km, mb=4.4, Ms=3.7
                          WASHINGTON

MAY 09  PRI   eP     23 13 28.9
        MHC   eP     23 13 29.2
        FRI   eP     23 13 33.2
        JAS   eP     23 13 34.6
        ORV   eP     23 13 36.3
        WDC   ePd    23 13 36.4
        MNV   e(P)   23 13 43
                     USGS 23 02 20.2, 20.3S, 177.7W, h=486 km, mb=5.1
                          FIJI ISLANDS REGION

MAY 10  GCC   iPd    11 31 23.8
        MHC   iPd    11 31 27.7  31 32
        SAO   iPd    11 31 30.1
        PCC   iPd    11 31 30.9  31 38
        BKS   iP     11 31 35.6  31 47
        JAS   ePe    11 31 47.5
                     BRK  11 31 20.7, 37.1N, 121.9W, h= 13 km, ML=2.6
                          SOUTH-SOUTHWEST OF SAN JOSE, CALIFORNIA

MAY 10  WDC   e(P)   12 33 17
        MIN   eP     12 33 20.5
        ORV   eP     12 33 33
        JAS          12 34                    e 34 02
                     SEA  12 31 51.0, 46.3N, 122.0W, h= 10 km, mb=4.4
                          WASHINGTON

MAY 10  BKS   eP     13 06 56.2               e 33 00
                                MICRON    PERIOD
                             PZ    0.08       1.2
        SAO   eP     13 06 56.6
        MHC   ePe    13 06 57.6
        PRI   ePe    13 06 59.2
        WDC   iPe    13 07 00.2
        ORV   iPe    13 07 01.6
        MIN   ePe    13 07 02.5
        JAS   iPe    13 07 02.6
        FRI   ePe    13 07 03.5
        MNV   ePe    13 07 11.7
                     USGS 12 54 29.3, 13.7S, 167.2E, h= 33 km, mb=5.3
                          VANUATU ISLANDS

MAY 10  SAO   iPd    22 30 41.2
        GCC   iPe    22 30 45.8
        PRS   iPd    22 30 48.8
        MHC   iPd    22 30 49.1  30 56
        LLA   eP     22 30 49.6  30 58
        PCC   eP     22 30 55.2
        PRI   eP     22 30 57.6
        BKS   iP     22 31 00.7               e 31 18
        JAS   eP     22 31 03.7
                     BRK  22 30 38.5, 36.8N, 121.6W, h=  6 km, ML=2.7
                          WEST OF HOLLISTER, CALIFORNIA

MAY 11  WDC   ePe    03 21 30.6
        MIN   eP     03 21 33.8
        BRK   eP     03 21 34.4
        ORV   ePe    03 21 35.0
        MHC   eP     03 21 37.7
        SAO   eP     03 21 38.3
        JAS   ePe    03 21 40.9
        PRI   eP     03 21 42.9
        FRI   eP     03 21 44.6
        MNV   eP     03 21 48.2
                     USGS 03 08 41.8, 10.6N, 141.1E, h= 30 km, mb=5.3
                          WEST CAROLINE ISLANDS

MAY 11  WDC   eP     04 01 47
        MIN   eP     04 01 51.0
        ORV   eP     04 02 04.0
        MNV          04 02                    e 02 40
        JAS          04 02                    e 02 30
                     SEA  04 00 18.1, 46.2N, 122.2W, h=  1 km, mb=4.7
                          WASHINGTON

MAY 11  PRI   eP     09 34 58.5
        JAS   eP     09 35 03.8
        MHC   eP     09 35 07.9
        ORV   ePe    09 35 16.2
        MIN   eP     09 35 18.0
        WDC   eP     09 35 22.5
        FHC   eP     09 35 32.5
                     USGS 09 25 59.2,  1.8N,  80.4W, h= 30 km, mb=5.1, Ms=4.7
                          OFF COAST OF ECUADOR

MAY 11  WDC   e(P)   15 03 20
        ORV   eP     15 03 22.5
        JAS   eP     15 03 26.3
                     USGS 14 50 27.6,  5.3S, 151.5E, h=100 km, mb=5.7
                          NEW BRITAIN REGION

MAY 12  SAO   eP     14 35 36.8
        PRI   eP     14 35 38.3
        BKS   eP     14 35 38.6
                                MICRON    PERIOD
                             PZ    0.08       0.8
        MHC   eP     14 35 38.9
        FHC   eP     14 35 43.5
        JAS   iP     14 35 44.2
        FRI   eP     14 35 44.3
        ORV   iPe    14 35 46.0
        WDC   iPe    14 35 46.8
        MIN   eP     14 35 48.5
        MNV          14 35                    e 35 50
                     USGS 14 23 45.6, 23.6S, 177.2W, h=170 km, mb=5.5
                          SOUTH OF FIJI ISLANDS

MAY 12  FHC   eP     16 27 57.5
        WDC   eP     16 27 59.6
        MIN   eP     16 28 04.7
        ORV   eP     16 28 14.7
        MNV          16 28                    e 28 37
        JAS          16 28                    e 28 39
        MHC          16 28                    e 28 48
        PRI          16 29                    e 29 07
                     SEA  16 26 29.7, 46.2N, 122.2W, h=  2 km, mb=4.8, Ms=4.4
                          WASHINGTON

MAY 12  BKS   eP     16 50 03.6               e 50 39     e 59 00     SKS 00 27
                                SeS 00 40     PPS 01 22      i 02 01
                                e 05 13       SS  06 05      e 09 28
                                SSS 09 34     Lq  11 46      Lr  15 10
                                MICRON    PERIOD
                             PZ    0.23       1.2
                             LZ    15        20
                             LN    8         20
                             LE    15        20
        SAO   eP     16 50 04.0
        FHC   eP     16 50 04.2
        MHC   eP     16 50 04.8
        PRI   eP     16 50 06.5
        WDC   iPe    16 50 08.0
        ORV   iPe    16 50 09.1
        JAS   iPe    16 50 10.1
        MIN   eP     16 50 10.2
        FRI   eP     16 50 10.9
        MNV   eP     16 50 17.3
                     Ms=6.4, DISTANCE=83°
                     USGS 16 37 34.9, 14.5S, 167.9E, h= 20 km, mb=6.0, Ms=6.0
                          VANUATU ISLANDS

MAY 12  MHC          16 55                    e 55 13
        WDC   eP     16 55 16.4
        ORV   eP     16 55 17.4
        JAS   eP     16 55 18.5
                          VANUATU ISLANDS

MAY 12  FHC          20 35                    e 35 08
        WDC   eP     20 35 09.2
        MIN   eP     20 35 13.4
        ORV   eP     20 35 25.8
        JAS   eP     20 35 54.0
                     SEA  20 33 40.7, 46.3N, 122.3W, h= 10 km, mb=4.4
                          WASHINGTON
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MAY 13  BKS           23 26                          e 26 10
        MHC   eP      23 26 05.9
        PRI   eP      23 26 08.4
        WDC   ePe     23 26 09.0
        ORV   ePe     23 26 10.0
        JAS   ePe     23 26 11.0
        FRI   e(P)    23 26 13
                      USGS 23 13 39.1, 14.6S, 168.0E, h= 43 km, mb=5.0
                           VANUATU ISLANDS

MAY 14  FHC   e(P)    02 20 23
        WDC   eP      02 20 27.0
        MIN   eP      02 20 31.0
        ORV   eP      02 20 43.0
        MNV   eP      02 21 06.0
        JAS   eP      02 21 10
                      SEA  02 18 57.8, 46.2N, 122.2W, h=  2 km, mb=4.6
                           WASHINGTON

MAY 14  MNV   iPe     08 02 47.0
        FRI   iPe     08 02 49.2  03 01
        JAS   iPe     08 02 55.8  03 13
        LLA   iPe     08 03 06.9
        PRI   iPe     08 03 08.5  03 37
        SAO   iPe     08 03 11.1
        MHC   iPe     08 03 11.4
        PRS   iPe     08 03 13.1
        GCC   ePe     08 03 15.4
        BKS   iPe     08 03 17.6
        PCC   ePe     08 03 18.6
        ORV   ePe     08 03 18.7
        MIN   ePe     08 03 33.7
                      BRK  08 02 31.8, 37.6N, 118.8W, h= 13 km, ML=4.0
                           MAMMOTH LAKES, CALIFORNIA

MAY 14  FHC   eP      11 38 44.8
        BKS   eP      11 38 48    49 18     PPS 50 34     SS 54 40     e 55 16
                                              e 55 36     SS 58 00     Lq 02 10
                                              Lr 06 00
                                MICRON    PERIOD
                           PZ     0.18       0.7
                           LZ     19         20
                           LN     4.1        20
                           LE     19         20
        WDC   iPe     11 38 49.2
        MHC   ePe     11 38 50.9
        ORV   iPe     11 38 52.1
        MIN   ePe     11 38 52.5
        SAO   ePe     11 38 53.1
        PRI   ePe     11 38 54.3
        JAS   iPe     11 38 55.3
        FRI   iPe     11 38 57.4
        MNV   iPe     11 39 01.2
                      Ms=6.5, DISTANCE=90°
                      USGS 11 26 00.6,  6.0S, 154.5E, h= 57 km, mb=6.1
                           SOLOMON ISLANDS

MAY 14  JAS   eP      12 40 17.2
        ORV   eP      12 40 32.0
        WDC   e(P)    12 40 40
                      USGS 12 32 04.9,  3.8S, 103.7W, h= 10 km, mb=4.9, Ms=5.0
                           NORTHERN EASTER ISLAND CORDILLERA

MAY 14  FRI   iPe     19 49 15.6  49 27
        MNV   iPd     19 49 15.7
        JAS   iPe     19 49 21.8
        LLA   iPe     19 49 33.2
        PRI   iPd     19 49 35.6  50 04
        SAO   iPe     19 49 37.4
        MHC   ePd     19 49 38.0
        PRS   ePe     19 49 39.5
        GCC   eP      19 49 41.6
        BKS   ePe     19 49 43.6
        PCC   e(P)    19 49 44
        ORV   eP      19 49 45.5
                      BRK  19 48 58.7, 37.6N, 118.9W, h=  4 km, ML=3.7
                           MAMMOTH LAKES, CALIFORNIA

MAY 15  FHC   eP      01 59 43.9
        WDC   eP      02 00 00.3
        MIN           02 00                          e 00 14
        ORV   eP      02 00 16.0
        MHC           02 00                          e 00 37
        JAS           02 00                          e 00 39
                      OFF THE OREGON COAST

MAY 15  FHC           11 43                          e 43 08
        WDC   e(P)    11 43 05                       e 43 16
        MIN   e(P)    11 43 08                       i 43 18
        ORV   e(P)    11 43 18                       e 43 29
        MNV           11 43                          e 43 53
        JAS   e(P)    11 43 49
        PRI           11 44                          e 44 16
                      SEA  11 41 34.6, 46.2N, 122.2W, h=  2 km, mb=4.9, Ms=3.6
                           WASHINGTON

MAY 15  SAO   iPe     14 52 35.1
        LLA   iPe     14 52 36.4  52 40
        PRS   iPd     14 52 37.1
        GCC   iPd     14 52 44.2
        PRI   iPd     14 52 44.3  52 56
        MHC   iPd     14 52 46.2  52 57
        PCC   eP      14 52 52.5
        FRI   iPe     14 52 53.9  53 11
        JAS   eP      14 52 56.2  53 14
        BKS   e(P)    14 52 58                       e 53 19
                      BRK  14 52 31.0, 36.6N, 121.3W, h=  9 km, ML=3.0
                           SOUTHEAST OF HOLLISTER, CALIFORNIA

MAY 15  BKS   eP      22 07 27.9                     Lr 35 00
                                MICRON    PERIOD
                           PZ     0.06       0.8
                           LZ     3.4        20
                           LN     0.7        20
                           LE     2.7        20
        MHC   eP      22 07 28.0
        WDC   eP      22 07 28.1                     e 07 56     e 11 27
        PRI           22 07                          e 07 33
        ORV   eP      22 07 29.0
        MIN           22 07                          e 07 32
        JAS   eP      22 07 32.6
        MNV           22 07                          e 07 41
                      USGS 21 54 39.2,  6.0S, 154.5E, h= 67 km, mb=5.8
                           SOLOMON ISLANDS

MAY 16  MNV   eP      05 02 55.2
        PRI   eP      05 02 57.6
        SAO   eP      05 03 03.1
        JAS   iPd     05 03 03.3
        MHC   iPd     05 03 06.9
        BKS   iPd     05 03 11.0
                                MICRON    PERIOD
                           PZ     0.12       0.7
        ORV   iPd     05 03 14.3
        MIN   eP      05 03 16.6
        WDC   iPd     05 03 20.0
        FHC   eP      05 03 28.9
                      USGS 04 52 53.8,  7.9S,  73.8W, h=186 km, mb=5.3
                           PERU-BRAZIL BORDER REGION

MAY 16  WDC   eP      12 36 23.3
        MIN   eP      12 36 27.7
        ORV   eP      12 36 39.3
        MNV           12 37                          e 37 03
        JAS           12 37                          e 37 03
                      SEA  12 34 54.1, 46.2N, 122.2W, h=  2 km, mb=4.6, Ms=3.7
                           WASHINGTON

MAY 16  FHC   ePd     22 36 20.3
        WDC   iPd     22 36 29.4
        MIN   iPd     22 36 36.3
        ORV   iPd     22 36 46.2
        BKS   ePd     22 37 04.0  39 48          i 37 13     i 37 40     i 40 16
                                                  Lq 42 36     e 43 00
                                MICRON    PERIOD
                           PZ     0.06       1.0
        JAS   ePd     22 37 10.0
        MHC   ePd     22 37 13.2
        MNV   iPd     22 37 16.0
        SAO   eP      22 37 19.8
        FRI   e(P)    22 37 26
        PRI   ePd     22 37 32.2
                      USGS 22 34 05.4, 49.6N, 127.9W, h= 10 km, mb=5.0, Ms=4.
                           VANCOUVER ISLAND REGION

MAY 17  FRI   iPe     00 01 31.2  01 43
        MNV   iPe     00 01 31.9
        JAS   iPe     00 01 37.9  01 55
        LLA   iPe     00 01 48.9  02 13
        PRI   iPe     00 01 50.6  02 17
        SAO   iPe     00 01 53.1
        MHC   iPe     00 01 53.4
        PRS   iPe     00 01 55.2
        GCC   ePe     00 01 57.3
        BKS   iPe     00 01 59.5  02 30          i 02 34     Lq 02 45
        PCC   ePe     00 02 00.7
        ORV   iPd     00 02 01.2
        MIN   e(P)    00 02 15
                      BRK  00 01 13.5, 37.6N, 118.8W, h=  9 km, ML=4.3
                           MAMMOTH LAKES, CALIFORNIA

MAY 17  MNV   eP      05 54 23.7
        PRI   e(P)    05 54 25
        JAS   eP      05 54 32.6
        MHC   e(P)    05 54 37
        BKS           05 54                          Lr 10 00
        ORV   eP      05 54 46.9
        MIN   eP      05 54 50.5
        WDC   eP      05 54 54.4
        FHC   eP      05 55 05.9
                      USGS 05 47 39.4, 13.6N,  91.1W, h= 71 km, mb=4.9
                           NEAR COAST OF GUATEMALA

MAY 18  FRI   eP      07 16 10.5
        MNV   iPe     07 16 10.9                     PeP 18 49     ScP 22 26
        PRI   eP      07 16 13.0                     PeP 18 51
        JAS   iPe     07 16 20.4                     PeP 18 52     ScP 22 30
        SAO   eP      07 16 20.7
        MHC   ePe     07 16 24.3                     PeP 18 54
        BKS   e(P)    07 16 32    22 04              pP 16 54     sP 17 05     e 17 17
                                                     PP 18 01     PeP 18 56    sS 22 44
                                                     Lq 26 20     SKP 33 12    PKS 34 13
                                MICRON    PERIOD
                           PZ     0.05       0.8
                           LZ     0.9        20
                           LN     2.0        20
                           LE     2.5        20
        ORV   iPe     07 16 33.8                     PeP 18 57     ScP 22 35
        MIN   eP      07 16 37.5
        WDC   iPe     07 16 41.3                     PeP 19 00     ScP 22 39
        FHC   eP      07 16 53.2
                      mb=5.5, DISTANCE=36°
                      USGS 07 09 38.0, 14.7N,  91.3W, h=105 km, mb=5.3
                           GUATEMALA

MAY 18  FRI   iPe     12 47 46.6  47 58
        MNV   iPe     12 47 48.4
        JAS   iPd     12 47 52.9  48 10
        LLA   iPe     12 48 04.1  48 29
        PRI   iPe     12 48 05.9  48 32
        SAO   iPe     12 48 08.2
        MHC   ePe     12 48 08.5
        PRS   iPe     12 48 10.6
        GCC   ePe     12 48 12.4
        BKS   ePe     12 48 15.4  48 49          i 48 29     i 48 42
        PCC   eP      12 48 16.0
        ORV   e(P)    12 48 19
                      BRK  12 47 29.6, 37.6N, 118.9W, h= 10 km, ML=4.0
                           MAMMOTH LAKES, CALIFORNIA

MAY 18  FHC   eP      15 33 39.2
        WDC   ePd     15 33 41.7
        MIN   eP      15 33 44.5
        ORV   ePd     15 33 56.8
        MNV   eP      15 34 20.5
        JAS   ePd     15 34 21.4
        BKS           15 33                          e 34 30     e 35 40     e 36 20
        MHC           15 34                          e 34 33
        PRI           15 34                          e 34 48
                      SEA  15 32 11.4, 46.2N, 122.2W, h=  4 km, mb=4.7, Ms=5.2
                           WASHINGTON (MT ST HELENS ERUPTION)

MAY 18  FRI   iPe     18 41 09.4  41 21
        MNV   iPe     18 41 10.1
        JAS   iPe     18 41 16.2  41 33
        LLA   iPe     18 41 27.2  41 53
        PRI   eP      18 41 28.8
        SAO   iPe     18 41 31.3
        MHC   ePe     18 41 31.6
        PRS   ePd     18 41 33.7
        GCC   ePd     18 41 35.8
        BKS   iPd     18 41 37.8                     i 42 23
        PCC   ePd     18 41 39.2
        ORV   e(P)    18 41 42
        MIN   e(P)    18 41 54
        WDC   e(P)    18 42 01
                      BRK  18 40 51.8, 37.6N, 118.8W, h=  8 km, ML=3.6
                           MAMMOTH LAKES, CALIFORNIA

MAY 18  WDC   ePe     20 16 00.2
        MIN   ePe     20 16 00.5
        ORV   iPe     20 16 03.5
        JAS   iPe     20 16 09.3
        BKS           20 16                          e 34 00     e 47 36     e 49 04
                                                     e 57 00
                                MICRON    PERIOD
                           LZ     5          20
                           LN     5          20
                           LE     3.9        20
        PRI   ePe     20 16 17.6
                      USGS 20 02 57.5, 43.3N,  20.8E, h=  9 km, mb=5.7, Ms=5.
                           YUGOSLAVIA

MAY 19  PRI   eP      02 40 03
        MNV   eP      02 40 09
        JAS   eP      02 40 15
        MHC   eP      02 40 18
        BKS           02 40                          i 46 00     Lq 48 00     Lr 50 00
                                                     i 53 25     i 57 04
        ORV   eP      02 40 31
        WDC   eP      02 40 34
        MIN   eP      02 40 35
        FHC           02 40                          e 40 42
                      USGS 02 34 41.7, 17.5N, 101.2W, h= 58 km, mb=5.0
                           NEAR COAST OF GUERRERO, MEXICO

MAY 19  PRI   iPe     03 03 20.0  03 23
        LLA   ePd     03 03 29.2  03 40
        PRS   iPe     03 03 29.4  03 40
        SAO   iPe     03 03 34.2
        FRI   iPd     03 03 36.4
        GCC   eP      03 03 41.3
        MHC   eP      03 03 43.0
        JAS   eP      03 03 47
        PCC   e(P)    03 03 49
        BKS   eP      03 03 53    04 21
                      BRK  03 03 15.3, 35.9N, 120.5W, h= 13 km, ML=3.1
                           SOUTHWEST OF COALINGA, CALIFORNIA
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MAY 19  FRI   iPe     22 19 25.3  19 37
        MNV   iPe     22 19 26.8
        JAS   iPd     22 19 31.5  19 48
        LLA   iPe     22 19 42.7
        PRI   ePe     22 19 44.5  20 11
        SAO   iPd     22 19 47.0
        MHC   iPd     22 19 47.6  20 15
        PRS   ePe     22 19 49.3
        GCC   e(P)    22 19 51
        BRK   e(P)    22 19 52
        PCC   e(P)    22 19 55
                BRK  22 19  8.4, 37.6N, 118.9W, h= 12 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 20  LLA   iPe     02 16 20.2  16 24
        SAO   iPe     02 16 21.2
        PRS   iPd     02 16 21.5  16 25
        PRI   ePd     02 16 27.8
        GCC   ePd     02 16 30.6
        MHC   iPd     02 16 32.6  16 44
        PCC   ePe     02 16 39.1
        JAS   iPe     02 16 42.5
        BKS   eP      02 16 46          i 17 07      i 17 14
                BRK  02 16 16.0, 36.6N, 121.2W, h=  6 km, ML=2.5
                     SOUTHEAST OF HOLLISTER, CALIFORNIA

MAY 20  SAO   eP      04 36 12.4
        PRI   ePe     04 36 13.7
        BKS   iPe     04 36 13.8
                          MICRON    PERIOD
                PZ          0.04       0.8
        MHC   ePe     04 36 14.2
        FRI   eP      04 36 18.6
        JAS   iPe     04 36 19.3          • 38 18
        ORV   iPe     04 36 20.8          • 38 19
        WDC   iPe     04 36 21.2          • 36 42      • 38 19
        MIN   eP      04 36 22.7
        MNV   eP      04 36 27.8
                USGS 04 24 49.2, 23.8S, 179.8W, h=539 km, mb=5.3
                     SOUTH OF FIJI ISLANDS

MAY 20  SAO   eP      10 05 02.9
        BKS   eP      10 05 04          • 05 18      • 16 40      • 28 12
                                        • 28 28      Lr 31 28
                          MICRON    PERIOD
                PZ          0.04       1.0
                LZ          2.3          20
                LN          2.1          20
                LE          2.3          20
        MHC   ePe     10 05 04.5
        PRI   ePe     10 05 04.7
        JAS   ePe     10 05 09.5
        WDC   ePe     10 05 09.8
        ORV   ePe     10 05 10.0
        FRI   eP      10 05 10.2
        MIN   eP      10 05 11.7
        MNV   eP      10 05 18.0
                USGS 09 52 29.2, 22.4S, 173.5E, h= 33 km, mb=5.4, Ms=5.4
                     LOYALTY ISLANDS REGION

MAY 20  BKS   eP      10 25 34.5          • 25 53      Lr 54 00
                          MICRON    PERIOD
                PZ          0.01       0.5
        WDC   eP      10 25 35
        MHC   eP      10 25 35.8
        MIN   e(P)    10 25 37
        ORV   eP      10 25 38.6
        JAS   eP      10 25 40.4
        PRI   eP      10 25 40.7
        MNV   eP      10 25 48.8
                USGS 10 12 46.7,  6.2S, 154.5E, h= 68 km, mb=5.6
                     SOLOMON ISLANDS

MAY 20  BKS   iPe     11 44 25.0  44 31        i 44 27
        MHC   iPe     11 44 27.6  44 35
        PCC   iPd     11 44 28.7
        GCC   e(P)    11 44 32
        JAS   eP      11 44 36.2
        SAO   eP      11 44 36.2
        LLA   e(P)    11 44 40
        PRS   eP      11 44 46.7
        ORV   i(P)    11 44 47
                BRK  11 44 17.8, 37.8N, 121.8W, h= 14 km, ML=2.7
                     LIVERMORE AREA, CALIFORNIA

MAY 22  FHC   eP      04 09 51.3
        WDC   ePe     04 09 52.1
        MIN   ePe     04 09 54.0
        ORV   ePe     04 09 57.5
        BRK   e(P)    04 10 06
        MNV   ePe     04 10 06.2
        JAS   ePe     04 10 06.5
        MHC   eP      04 10 09.5
        FRI   eP      04 10 11.5
        PRI   ePe     04 10 15.4
                USGS 03 56 57.6, 49.7N,  78.1E, h=  0 km, mb=5.5
                     EASTERN KAZAKH SSR

MAY 22  MNV   eP      13 00 38.3
        FRI   e(P)    13 00 51
        JAS   e(P)    13 00 59
        PRI   e(P)    13 01 02
                MAG=3.8, NUCLEAR EXPLOSION (PORA), N.T.S.
                USGS 13 00 00.1, 37.0N, 116.0W, h=  0 km
                     SOUTHERN NEVADA

MAY 22  BKS   iPe     15 45 50.4  45 56
        MHC   ePe     15 45 53.3  46 01
        PCC   eP      15 45 54.1
        GCC   e(P)    15 45 58
        JAS   eP      15 46 01.0
        SAO   e(P)    15 46 03
        ORV   e(P)    15 46 10
                BRK  15 45 42.6, 37.9N, 121.8W, h= 11 km, ML=2.5
                     LIVERMORE AREA, CALIFORNIA

MAY 25  JAS   iPd     04 49 57.6
        LLA   iPe     04 50 08.8
        PRI   iPe     04 50 10.7
        SAO   iP      04 50 13.1
        MHC   iP      04 50 13.8
        PRS   iP      04 50 15.4
        BKS   eP      04 50 19.5          • 50 54
        PCC   eP      04 50 20.6
        ORV   iPe     04 50 23.2
                BRK  04 49 34.5, 37.6N, 118.9W, h= 10 km, ML=3.9
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe     16 34 01.6
        JAS   iPd     16 34 08.4
        LLA   iPe     16 34 19.1
        PRI   iPe     16 34 20.7
        SAO   iPe     16 34 23.2
        MHC   iPe     16 34 23.6
        PRS   iPe     16 34 25.3
        GCC   iPe     16 34 27.5
        BKS   iP      16 34 29.6
        PCC   iPe     16 34 30.8
        ORV   ePd     16 34 31.0
        MIN   e(P)    16 34 41
        WDC   ePd     16 34 49.7
                BRK  16 33 44.2, 37.6N, 118.8W, h=  8 km, ML=6.1
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   e(P)    16 39 57    40 10
        JAS   e(P)    16 40 04    40 22
        LLA   e(P)    16 40 17
        MHC   e(P)    16 40 20
                BRK  16 39 40.6, 37.6N, 118.8W, h=  6 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  LLA   iPe     16 42 29.4
        MHC   iP      16 42 34.1
        PRS   iP      16 42 36.0
        GCC   eP      16 42 37.4
        PCC   e(P)    16 42 42
                BRK  16 41 56.5, 37.5N, 118.9W, h= 16 km, ML=4.3
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  LLA   iPe     16 45 59.8          i 46 23
        MHC   iPe     16 46 04.4
        PRS   iPe     16 46 06.3
        GCC   e(P)    16 46 09
        BRK   eP      16 46 11.3
        PCC   eP      16 46 12.1
                BRK  16 45 26.9, 37.5N, 118.9W, h= 22 km, ML=4.4
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   i(P)    16 49 44
        JAS   i(P)    16 49 50
        LLA   iPe     16 50 00.7
        MHC   iPe     16 50 04.9
        SAO   iP      16 50 05.0
        PRS   iPe     16 50 07.2
        GCC   iPe     16 50 09.2
        BKS   iP      16 50 11.4          • 50 46
        PCC   iPe     16 50 12.3
        MIN   eP      16 50 23
        WDC   iPd     16 50 31.6
        FHC   i(P)    16 50 46
                BRK  16 49 26.2, 37.6N, 118.9W, h=  1 km, ML=6.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  BRK   eP      16 53 12.8
        PCC   eP      16 53 14.3
                BRK  16 52 28.9, 37.5N, 118.9W, h=  2 km, ML=4.4
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   e(P)    16 53 07
        LLA   e(P)    16 53 25
        MHC   e(P)    16 53 29
                BRK  16 52 50.0, 37.5N, 118.9W, h=  2 km, ML=3.6
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   e(P)    16 54 27    54 39
        JAS   e(P)    16 54 33    54 50
        LLA   e(P)    16 54 44
        MHC   e(P)    16 54 49
                BRK  16 54 10.3, 37.6N, 118.9W, h= 10 km, ML=3.8
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   i(P)    16 56 29
        LLA   iPe     16 56 46.6
        PRI   iPd     16 56 49.0
        SAO   iP      16 56 50.7
        MHC   iPd     16 56 51.2
        PRS   eP      16 56 53.2
        GCC   ePe     16 56 54.9
        BRK   ePe     16 56 57.1
        PCC   eP      16 56 58.1
        MIN   iPd     16 57 09.5
                BRK  16 56 13.1, 37.6N, 118.9W, h= 12 km, ML=4.2
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   e(P)    17 00 05    00 17
        JAS   e(P)    17 00 11    00 29
        LLA   iPe     17 00 22.2  00 47
        MHC   iPe     17 00 26.5
        PRS   eP      17 00 28.3
        GCC   e(P)    17 00 31
        BRK   eP      17 00 33.3
        PCC   e(P)    17 00 34
                BRK  16 59 48.7, 37.6N, 118.9W, h= 20 km, ML=3.8
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe     17 06 40.0
        JAS   i(P)    17 06 46
        LLA   iPe     17 06 57.8
        PRI   iPe     17 06 59.9
        SAO   iPe     17 07 02.5
        MHC   iPe     17 07 02.7
        PRS   iPe     17 07 04.3
        GCC   ePe     17 07 06.6
        BRK   eP      17 07 09.1
        PCC   eP      17 07 10.2
        ORV   i(P)    17 07 11
        MIN   e(P)    17 07 20
        WDC   e(P)    17 07 29
                BRK  17 06 24.4, 37.5N, 118.9W, h=  5 km, ML=4.6
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   i(P)    17 08 45
        JAS   i(P)    17 08 52
        LLA   iPe     17 09 02.5
        PRI   iPe     17 09 04.1
        SAO   i(P)    17 09 06
        MHC   iPe     17 09 07.1
        PRS   iP      17 09 08.9
        GCC   eP      17 09 11.0
        BRK   ePe     17 09 13.6
        PCC   eP      17 09 14.5
        MIN   e(P)    17 09 24
                BRK  17 08 28.3, 37.6N, 118.8W, h= 16 km, ML=4.7
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   i(P)    17 11 20    11 33
        JAS   i(P)    17 11 27    11 45
        LLA   iPe     17 11 38.7
        PRI   iPd     17 11 41.1
        SAO   iP      17 11 42.8
        MHC   eP      17 11 43.3
        BKS   e(P)    17 11 45
        PRS   iPe     17 11 45.2
        GCC   ePe     17 11 46.8
        PCC   eP      17 11 50.2
                BRK  17 11 04.1, 37.6N, 118.9W, h=  2 km, ML=3.7
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  LLA   iPe     17 11 58.6
        PRI   i(P)    17 12 00
        SAO   iPe     17 12 02.8
        MHC   i(P)    17 12 03
        PRS   iPe     17 12 05.0
        GCC   iPe     17 12 07.0
        BRK   iP      17 12 10.6
                BRK  17 11 25.2, 37.6N, 118.8W, h= 34 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe     17 12 56.2  13 08
        JAS   i(P)    17 13 04    13 21
        LLA   ePe     17 13 14.7  13 39
        PRI   iP      17 13 16.9
        SAO   eP      17 13 18.9
        MHC   eP      17 13 19.5
        PRS   ePe     17 13 21.6
        ORV   i(P)    17 13 27
                BRK  17 12 40.9, 37.5N, 118.9W, h= 10 km, ML=3.6
                     MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe     17 14 05.3  14 17
        JAS   i(P)    17 14 13    12 30
        LLA   ePe     17 14 23.0  14 46
        PRI   eP      17 14 23.2
        SAO   e(P)    17 14 27
        PRS   eP      17 14 28.3
        MHC   iPe     17 14 28.5
                BRK  17 13 48.9, 37.6N, 118.9W, h=  3 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA
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MAY 25  FRI   e(P)   17 16 21    16 33
        JAS   e(P)   17 16 27    16 44
        LLA   e(P)   17 16 38
        MHC   e(P)   17 16 42
                     BRK  17 16 03.0, 37.6N, 118.8W, h= 15 km, ML=3.5
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    17 17 08.7  17 31
        JAS   i(P)   17 17 15    17 33
        LLA   iPe    17 17 26.2  17 52
        PRI   iPe    17 17 28.9
        SAO   i(P)   17 17 31
        MHC   iPd    17 17 31.3
        PRS   iPe    17 17 32.7
        GCC   ePd    17 17 35.0
        ORV   i(P)   17 17 36
        BRK   ePd    17 17 37.2
        PCC   iPd    17 17 38.2
        MIN   e(P)   17 17 50
        WDC   e(P)   17 17 54
                     BRK  17 16 51.9, 37.6N, 118.9W, h=  9 km, ML=3.9
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  LLA   i(P)   17 18 04    18 27
        PRI   i(P)   17 18 05
                     BRK  17 17 29.5, 37.6N, 118.9W, h= 10 km, ML=3.6
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   i(P)   17 18 38    18 48
        JAS   i(P)   17 18 44    19 02
        LLA   iPe    17 18 55.5  19 18
        PRI   i(P)   17 18 57
        SAO   i(P)   17 18 59
        MHC   i(P)   17 19 00
        PRS   iP     17 19 02.1
        GCC   e(P)   17 19 03
        BRK   ePd    17 19 05.7
        PCC   ePe    17 19 06.7
        MIN   e(P)   17 19 15
                     BRK  17 18 21.6, 37.6N, 119.0W, h=  1 km, ML=3.7
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   i(P)   17 22 25    22 37
        LLA   iPe    17 22 43.3  22 06
        PRI   i(P)   17 22 45
        MHC   iP     17 22 48.3
        PRS   iP     17 22 50.0
        GCC   eP     17 22 51.7
        BRK   eP     17 22 54.5
        PCC   e(P)   17 22 55
        ORV   i(P)   17 22 55
                     BRK  17 22 08.8, 37.6N, 118.8W, h= 10 km, ML=3.6
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    17 27 26.5  27 38
        JAS   iPd    17 27 33.7  27 51
        LLA   e(P)   17 27 45    27 08
        MHC   e(P)   17 27 48
        PRS   ePe    17 27 50.1
        GCC   e(P)   17 27 52
        BKS   e(P)   17 27 56    28 30
                     BRK  17 27 10.6, 37.5N, 118.9W, h= 10 km, ML=3.8
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    17 45 50.0  46 02
        LLA   eP     17 46 07.8  46 32
        PRI   i(P)   17 46 10
        SAO   eP     17 46 12.2
        MHC   eP     17 46 12.7
        PRS   eP     17 46 14.5
        BRK   e(P)   17 46 18
        ORV   i(P)   17 46 20
                     BRK  17 45 34.0, 37.6N, 118.9W, h= 13 km, ML=3.5
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  PRS   e(P)   17 47 19
        GCC   e(P)   17 47 23
        BKS   e(P)   17 47 24    48 00
        PCC   e(P)   17 47 25
                     BRK  17 46 42.8, 37.6N, 118.9W, h= 10 km, ML=3.7
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   i(P)   17 48 46
        LLA   iPe    17 49 04.4
        PRI   iPe    17 49 05.1
        MHC   i(P)   17 49 09
        PRS   iPe    17 49 10.8
        GCC   ePe    17 49 12.6
        BRK   ePe    17 49 15.1
        PCC   iPe    17 49 16.9
                     BRK  17 48 30.0, 37.6N, 118.9W, h=  4 km, ML=4.6
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    18 06 01.5  06 14
        JAS   iPd    18 06 07.5  06 25
        LLA   iPe    18 06 18.8  06 43
        PRI   iPd    18 06 21.3
        SAO   iPd    18 06 23.3
        MHC   iPd    18 06 23.6
        PRS   iP     18 06 25.5
        GCC   e(P)   18 06 27
        BRK   ePe    18 06 28.8
        PCC   ePe    18 06 30.3
                     BRK  18 05 44.0, 37.6N, 118.9W, h=  9 km, ML=3.6
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    18 14 13.8  14 25
        JAS   iPd    18 14 20.8  14 39
        LLA   iPd    18 14 32.0  14 55
        PRI   iPd    18 14 33.8
        SAO   eP     18 14 36.0
        MHC   ePd    18 14 36.3
        PRS   iPd    18 14 38.4
        ORV   e(P)   18 14 39
        GCC   eP     18 14 40.3
        BKS   ePe    18 14 42.8  15 18
        PCC   ePe    18 14 43.8
        MIN   e(P)   18 14 51
                     BRK  18 13 57.5, 37.6N, 118.9W, h=  8 km, ML=3.9
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    18 34 30.2
        JAS   i(P)   18 34 39
        LLA   iPe    18 34 48.5
        PRI   iPe    18 34 50.3
        MHC   ePe    18 34 53.1
        SAO   iPe    18 34 53.5
        PRS   ePe    18 34 54.6
        GCC   e(P)   18 34 56
        BRK   iPe    18 35 00.2
        ORV   iPe    18 35 00.7
        PCC   e(P)   18 35 01
        MIN   e(P)   18 35 12
        WDC   e(P)   18 35 19
                     BRK  18 34 14.4, 37.5N, 118.9W, h=  4 km, ML=4.6
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iP     18 45 16.7  45 28
        JAS   iPe    18 45 23.2  45 41
        LLA   iPe    18 45 34.3
        PRI   eP     18 45 36.5
        SAO   iP     18 45 38.4
        MHC   iPd    18 45 39.3
        PRS   ePe    18 45 40.6
        GCC   eP     18 45 43
        BRK   e(P)   18 45 43
        PCC   eP     18 45 43.7
        ORV   e(P)   18 45 47
                     BRK  18 44 59.9, 37.6N, 118.9W, h=  5 km, ML=3.8
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    19 04 49.9
        JAS   iPd    19 04 57.5
        LLA   iPe    19 05 08.0
        PRI   iPd    19 05 10.0
        SAO   iPd    19 05 12.3
        MHC   iPd    19 05 12.8
        PRS   iPe    19 05 14.4
        GCC   eP     19 05 16.8
        BKS   ePd    19 05 18.7              e 05 53
        PCC   eP     19 05 20.0
        ORV   iPd    19 05 21.3
                     BRK  19 04 33.9, 37.5N, 118.9W, h=  5 km, ML=4.5
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    19 32 04.5  32 16
        JAS   iPe    19 32 11.2  32 90
        LLA   iPe    19 32 22.2  32 48
        PRI   iPd    19 32 24.6
        SAO   iPe    19 32 26.3
        MHC   eP     19 32 27.2
        PRS   iPd    19 32 29.9
        BKS   eP     19 32 33.0  33 09
        PCC   eP     19 32 34.4
                     BRK  19 31 47.3, 37.6N, 118.9W, h=  3 km, ML=3.6
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    19 41 39.5
        JAS   iPd    19 41 47.0
        LLA   iPe    19 41 57.1
        PRI   iP     19 41 59.5
        SAO   iP     19 42 01.4
        MHC   iPe    19 42 02.1
        GCC   iP     19 42 05.8
        BKS   iP     19 42 07.7              e 42 41
        PCC   eP     19 42 09.0
                     BRK  19 41 23.3, 37.6N, 118.9W, h= 10 km, ML=4.4
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    19 45 07.6
        JAS   iPd    19 45 15.1
        LLA   iPe    19 45 25.1
        PRI   iPe    19 45 26.7
        SAO   iPe    19 45 29.6
        MHC   iPe    19 45 29.9
        PRS   iPe    19 45 31.4
        GCC   ePe    19 45 33.7
        BKS   iP     19 45 36.2  46 11
        PCC   ePe    19 45 37.3
        ORV   iP     19 45 38.8
        MIN   ePd    19 45 48.4
        WDC   e(P)   19 45 56
                     BRK  19 44 51.0, 37.5N, 118.8W, h= 13 km, ML=6.1
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    19 52 09.4
        JAS   i(P)   19 52 16
        LLA   iPd    19 52 27.4
        SAO   iP     19 52 31.7
        MHC   iPe    19 52 32.3
        PRS   iPe    19 52 33.4
        GCC   e(P)   19 52 36
        BKS   e(P)   19 52 37              e 53 12
                     BRK  19 51 52.4, 37.6N, 118.8W, h= 14 km, ML=4.2
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    19 55 15.1  55 26
        JAS   e(P)   19 55 22    55 39
        LLA   iPe    19 55 32.7  55 58
        PRI   iP     19 55 35.1
        SAO   iPe    19 55 36.8
        MHC   iPd    19 55 37.6
        PRS   iPe    19 55 39.3
        BKS   e(P)   19 55 44    56 18
        PCC   ePe    19 55 44.6
                     BRK  19 54 58.6, 37.6N, 118.9W, h=  6 km, ML=3.9
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iP     19 56 49.0  70 1
        JAS   e(P)   19 56 55    57 13
        LLA   iPe    19 57 08.3  57 33
        MHC   iP     19 57 13.7
        PRS   eP     19 57 14.3
                     BRK  19 56 32.1, 37.6N, 118.8W, h= 10 km, ML=3.6
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    20 12 37.3  12 47
        JAS   iPd    20 12 45.9  13 03
        LLA   iPe    20 12 55.2  13 20
        PRI   iPd    20 12 57.0
        SAO   iPe    20 12 59.7
        MHC   eP     20 13 00.7
        PRS   iPe    20 13 01.2
        BKS   eP     20 13 07.6  13 42
                     BRK  20 12 21.8, 37.5N, 118.9W, h= 11 km, ML=3.8
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    20 23 42.6
        JAS   iPd    20 23 59.0
        LLA   iPe    20 24 00.3
        PRI   iPe    20 24 02.3
        SAO   iPe    20 24 04.6
        MHC   iPe    20 24 04.7
        PRS   iP     20 24 06.6
        GCC   iPe    20 24 08.7
        BKS   eP     20 24 10.7              e 24 44
        PCC   iPe    20 24 11.9
                     BRK  20 23 25.5, 37.6N, 118.9W, h=  5 km, ML=4.5
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    20 35 04.7  35 17
        JAS   iPe    20 35 12.9  35 30
        LLA   iPd    20 35 23.2  35 49
        PRI   iPd    20 35 25.1
        SAO   iPe    20 35 27.8
        MHC   eP     20 35 28.4
        PRS   iPd    20 35 29.6
        BKS   e(P)   20 35 35    36 11
                     BRK  20 34 48.8, 37.5N, 118.9W, h= 10 km, ML=3.6
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   iPe    20 36 05.3
        JAS   i(P)   20 36 11
        LLA   iPe    20 36 22.9
        PRI   iPe    20 36 24.8
        SAO   iPe    20 36 27.3
        MHC   iPe    20 36 27.4
        PRS   iPe    20 36 29.3
        GCC   iPe    20 36 31.4
        BRK   iPe    20 36 33.7
        PCC   iPe    20 36 34.7
        MIN   e(P)   20 36 44
        WDC   e(P)   20 36 51
        FHC   e(P)   20 37 10
                     BRK  20 35 48.0, 37.6N, 118.9W, h=  5 km, ML=5.7
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  FRI   e(P)   20 38 56    39 09
        JAS   e(P)   20 39 02    39 20
        LLA   e(P)   20 39 14
        MHC   e(P)   20 39 19
        SAO   e(P)   20 39 19
                     BRK  20 38 38.5, 37.6N, 118.9W, h=  5 km, ML=4.5
                          MAMMOTH LAKES, CALIFORNIA

MAY 25  LLA   e(P)   20 41 22
                     BRK  20 40 47.0, 37.6N, 118.8W, h=  5 km, ML=3.8
                          MAMMOTH LAKES, CALIFORNIA
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MAY 25	FRI	iPe	20	44	57.8	45 10
	JAS	iPe	20	45	05.6	45 23
	LLA	iPe	20	45	15.4	45 40
	PRI	iPd	20	45	17.9	
	SAO	iP	20	45	19.5	
	MHC	eP	20	45	20.5	
	PRS	eP	20	45	21.8	
	BKS	eP	20	45	27.4	46 01

BRK 20 44 41.5, 37.6N, 118.9W, h= 5 km, ML=3.9
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPe	20	59	39.7	
	JAS	iPd	20	59	47.3	
	LLA	iPe	20	59	57.3	
	PRI	iPe	20	59	58.8	
	SAO	iPe	21	00	01.6	
	MHC	iPe	21	00	02.0	
	PRS	iPe	21	00	03.5	
	GCC	iPe	21	00	05.8	
	BRK	ePe	21	00	08.3	
	ORV	e(P)	21	00	09	
	PCC	ePe	21	00	09.2	
	MIN	e(P)	21	00	17	
	WDC	e(P)	21	00	27	
	WAC	e(P)	21	00	44	

BRK 20 59 22.6, 37.6N, 118.8W, h= 8 km, ML=5.0
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPe	21	14	21.8	14 33
	JAS	iPd	21	14	29.6	14 47
	LLA	iPd	21	14	40.0	
	PRI	iPe	21	14	41.7	
	SAO	iP	21	14	44.4	
	MHC	eP	21	14	44.8	
	PRS	iPd	21	14	46.1	
	BKS	e(P)	21	14	50	15 26

BRK 21 14 05.7, 37.5N, 118.9W, h= 12 km, ML=3.6
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPe	21	17	41.1	17 52
	JAS	e(P)	21	17	48	
	LLA	iPe	21	17	58.5	
	PRI	eP	21	18	00.0	
	MHC	eP	21	18	02.1	
	SAO	iP	21	18	02.2	
	PRS	iPe	21	18	05.1	
	GCC	eP	21	18	06.8	
	BRK	eP	21	18	08.8	
	PCC	eP	21	18	09.8	

BRK 21 17 23.9, 37.6N, 118.9W, h= 2 km, ML=4.0
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPe	21	20	23.9	20 35
	JAS	iPe	21	20	31.6	20 50
	LLA	iPe	21	20	41.7	21 07
	PRI	iPe	21	20	43.8	
	SAO	ePe	21	20	46.0	
	MHC	eP	21	20	46.8	
	PRS	eP	21	20	47.8	
	BKS	e(P)	21	20	53	21 30
	PCC	eP	21	20	54.1	

BRK 21 20 07.4, 37.5N, 118.9W, h= 4 km, ML=3.6
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iP	21	21	09.0	21 21
	JAS	e(P)	21	21	15	21 34
	LLA	iPe	21	21	27.7	21 53
	MHC	iPe	21	21	32.2	
	PRS	iPe	21	21	33.9	

BRK 21 20 52.6, 37.6N, 118.9W, h= 10 km, ML=3.7
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPd	21	47	31.2	47 42
	JAS	iPe	21	47	39.4	47 57
	LLA	iPe	21	47	48.8	
	PRI	ePe	21	47	50.3	
	SAO	ePe	21	47	53.3	
	MHC	ePe	21	47	53.9	
	PRS	eP	21	47	55.2	
	GCC	ePe	21	47	57.6	
	BKS	eP	21	48	00.4	48 35
	PCC	ePe	21	48	01.2	

BRK 21 47 15.2, 37.5N, 118.9W, h= 12 km, ML=3.9
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPe	22	10	49.9	
	JAS	iP	22	10	56.9	
	LLA	iPe	22	11	07.6	
	PRI	iPd	22	11	09.7	
	SAO	iPe	22	11	12.0	
	MHC	iPe	22	11	12.6	
	PRS	iPe	22	11	13.8	
	GCC	ePe	22	11	16.4	
	BKS	eP	22	11	19.0	e 11 54
	PCC	iPe	22	11	20.1	
	ORV	i(P)	22	11	24	

BRK 22 10 34.1, 37.5N, 118.8W, h= 14 km, ML=4.3
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPe	22	29	35.9	29 48
	JAS	iPe	22	29	42.7	30 00
	LLA	ePe	22	29	53.4	30 17
	PRI	eP	22	29	55.7	
	SAO	iP	22	29	57.9	
	MHC	eP	22	29	58.7	
	PRS	ePe	22	29	59.9	
	GCC	eP	22	30	02	
	PCC	eP	22	30	05.4	
	BKS	e(P)	22	30	10	30 40

BRK 22 29 18.6, 37.6N, 118.8W, h= 8 km, ML=3.6
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPe	22	33	52.8	34 05
	JAS	iPe	22	34	01.4	34 19
	LLA	iPe	22	34	10.8	34 36
	PRI	iP	22	34	12.7	
	SAO	iPe	22	34	15.3	
	MHC	iPe	22	34	16.2	34 43
	PRS	iPe	22	34	17.0	
	GCC	eP	22	34	20.0	
	BKS	e(P)	22	34	22	34 58
	PCC	iPe	22	34	23.4	
	ORV	iP	22	34	23.6	
	MIN	e(P)	22	34	33	34 41

BRK 22 33 37.1, 37.5N, 118.8W, h= 15 km, ML=3.8
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPe	22	44	21.7	44 34
	JAS	i(P)	22	44	28	44 46
	LLA	iPe	22	44	39.4	45 03
	PRI	i(P)	22	44	41	
	SAO	iP	22	44	43.5	
	MHC	iPe	22	44	43.8	
	PRS	ePe	22	44	45.4	
	GCC	ePe	22	44	47.9	
	BKS	eP	22	44	50.2	45 24
	PCC	eP	22	44	51.3	

BRK 22 44 05.6, 37.6N, 118.9W, h= 9 km, ML=3.9
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPe	23	56	00.5	56 13
	JAS	iPd	23	56	07.1	56 24
	LLA	iPe	23	56	18.3	
	PRI	eP	23	56	20.3	
	SAO	iPd	23	56	22.6	
	MHC	eP	23	56	23.2	
	PRS	ePe	23	56	24.6	
	GCC	eP	23	56	27	
	BKS	eP	23	56	29.3	57 03
	PCC	eP	23	56	30.7	
	ORV	eP	23	56	31.0	
	MIN	e(P)	23	56	41	
	WDC	e(P)	23	56	49	

BRK 23 55 43.8, 37.6N, 118.9W, h= 1 km, ML=3.8
MAMMOTH LAKES, CALIFORNIA

MAY 25	FRI	iPe	23	59	34.7	59 47
	JAS	iPd	23	59	42.1	00 00
	LLA	iPe	23	59	52.4	00 16
	PRI	iPd	23	59	54.4	
	SAO	eP	23	59	56.7	
	MHC	iPe	23	59	57.5	
	PRS	ePe	23	59	58.6	
	GCC	e(P)	00	00	01	
	BKS	e(P)	00	00	04	00 37
	PCC	iPe	00	00	05.1	

BRK 23 59 18.2, 37.6N, 118.9W, h= 8 km, ML=3.7
MAMMOTH LAKES, CALIFORNIA

MAY 26	FRI	iPe	00	57	18.6	
	LLA	iPd	00	57	35.9	
	PRI	iPe	00	57	37.8	
	MHC	iPe	00	57	40.2	
	SAO	iP	00	57	40.2	
	PRS	iPd	00	57	42.0	
	GCC	iPe	00	57	44.3	
	BRK	iPe	00	57	46.6	
	PCC	iPe	00	57	47.5	
	ORV	iP	00	57	48.6	
	MIN	e(P)	00	58	01	
	WDC	iPd	00	58	06.9	

BRK 00 57 02.3, 37.6N, 118.9W, h= 1 km, ML=4.5
MAMMOTH LAKES, CALIFORNIA

MAY 26	FRI	i(P)	01	19	18	
	JAS	i(P)	01	19	24	
	LLA	iPe	01	19	35.4	
	PRI	eP	01	19	37.0	
	MHC	iPe	01	19	39.8	
	PRS	iPe	01	19	42.0	
	GCC	ePe	01	19	43.9	
	BKS	iPe	01	19	46.2	e 20 20
	PCC	iPe	01	19	47.3	
	ORV	iPd	01	19	48.2	
	MIN	e(P)	01	19	59	
	WDC	e(P)	01	20	06	e 21 01

BRK 01 19 02.2, 37.6N, 118.9W, h= 7 km, ML=4.6
MAMMOTH LAKES, CALIFORNIA

MAY 26	FRI	e(P)	01	21	04	21 16
	JAS	e(P)	01	21	11	21 28
	LLA	i(P)	01	21	22	
	SAO	i(P)	01	21	27	
	MHC	i(P)	01	21	27	

BRK 01 20 48.1, 37.6N, 118.9W, h= 9 km, ML=3.5
MAMMOTH LAKES, CALIFORNIA

MAY 26	FRI	iPe	02	09	21.5	09 34
	JAS	iPd	02	09	27.5	09 44
	LLA	iPe	02	09	39.0	
	PRI	ePd	02	09	41.2	
	SAO	iPd	02	09	43.3	
	MHC	iPd	02	09	43.8	09 15
	PRS	ePe	02	09	45.5	
	GCC	ePd	02	09	47.5	
	BKS	e(P)	02	09	49	10 25
	PCC	eP	02	09	50.4	

BRK 02 09 03.9, 37.6N, 118.8W, h= 7 km, ML=3.5
MAMMOTH LAKES, CALIFORNIA

MAY 26	FRI	iPe	02	54	46.9	54 59
	JAS	iPe	02	54	55.0	55 13
	LLA	iPd	02	55	05.2	
	PRI	e(P)	02	55	07	55 32
	SAO	iPe	02	55	09.3	
	MHC	e(P)	02	55	10	55 39
	PRS	eP	02	55	11.2	
	GCC	e(P)	02	55	14	
	PCC	e(P)	02	55	17	
	BKS	e(P)	02	55	18	55 52

BRK 02 54 30.7, 37.5N, 118.8W, h= 12 km, ML=3.5
MAMMOTH LAKES, CALIFORNIA

MAY 26	FRI	iPe	03	24	46.3	i 24 58
	JAS	i(P)	03	24	52	
	LLA	iPe	03	25	04.1	i 25 30
	PRI	iPd	03	25	06.5	
	SAO	iPd	03	25	08.8	
	MHC	e(P)	03	25	09	
	PRS	iPe	03	25	10.6	
	GCC	ePe	03	25	12.9	
	BRK	ePe	03	25	15.4	
	PCC	eP	03	25	16.7	

BRK 03 24 29.5, 37.5N, 118.8W, h= 6 km, ML=4.1
MAMMOTH LAKES, CALIFORNIA

MAY 26	FRI	iPe	03	49	24.8	49 36
	JAS	iPe	03	49	31.5	49 49
	LLA	iPe	03	49	42.2	50 05
	PRI	iPe	03	49	43.9	
	SAO	iPe	03	49	46.5	
	MHC	iPe	03	49	46.9	
	PRS	ePe	03	49	48.5	
	GCC	ePe	03	49	50.9	
	BKS	e(P)	03	49	53	50 27
	PCC	ePe	03	49	54.1	
	ORV	i(P)	03	49	57	
	WDC	eP	03	50	13	

BRK 03 49 07.8, 37.6N, 118.9W, h= 8 km, ML=3.8
MAMMOTH LAKES, CALIFORNIA

MAY 26	FRI	iPe	04	37	11.5	37 23
	JAS	iPe	04	37	18.5	
	LLA	iPe	04	37	29.3	i 37 56
	PRI	eP	04	37	31.1	i 37 58
	SAO	iPe	04	37	33.6	
	MHC	iPe	04	37	34.0	
	PRS	iPe	04	37	35.5	
	GCC	ePe	04	37	37.8	
	BKS	ePe	04	37	39.9	e 38 15
	PCC	ePe	04	37	41.2	
	ORV	eP	04	37	42.3	
	MIN	e(P)	04	37	52	
	WDC	eP	04	37	59.3	

BRK 04 36 54.2, 37.6N, 118.8W, h= 6 km, ML=4.2
MAMMOTH LAKES, CALIFORNIA

MAY 26	FRI	iPe	04	47	31.3	47 43
	JAS	iPe	04	47	38.4	
	LLA	iPe	04	47	49.1	i 48 14
	PRI	ePe	04	47	50.4	i 48 18
	SAO	iPe	04	47	53.3	
	MHC	iPe	04	47	53.7	
	PRS	ePe	04	47	55.3	
	GCC	e(P)	04	47	57	
	BKS	eP	04	48	00.0	48 34
	PCC	ePd	04	48	01.2	

BRK 04 47 15.1, 37.6N, 118.9W, h= 8 km, ML=4.0
MAMMOTH LAKES, CALIFORNIA

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MAY 26  FRI   iPe    05 13 02.4   13 13
        JAS   iPe    05 13 10.2   13 28
        LLA   ePe    05 13 20.3   13 45
        PRI   eP     05 13 22.1
        SAO   iPd    05 13 24.2
        MHC   e(P)   05 13 25      13 55
        PRS   ePe    05 13 26.6
        GCC   e(P)   05 13 29
        BKS   e(P)   05 13 32      14 05
        PCC   eP     05 13 32.3
                BRK  05 12 46.4, 37.5N, 118.8W, h= 14 km, ML=3.7
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    05 45 20.0   45 32
        JAS   iPe    05 45 26.8   45 44
        LLA   iPe    05 45 37.4
        PRI   iPe    05 45 39.0
        SAO   ePe    05 45 41.6
        MHC   ePe    05 45 41.9
        PRS   ePe    05 45 43.8
        GCC   e(P)   05 45 45
        BKS   e(P)   05 45 48      46 23
        PCC   ePe    05 45 49.0
                BRK  05 45 03.0, 37.6N, 118.8W, h= 13 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    05 56 42.8                 i 56 54
        JAS   iP     05 56 49.7                 i 57 06
        LLA   iPe    05 57 00.5
        PRI   iPe    05 57 02.0                 i 57 31
        SAO   iPe    05 57 04.7
        MHC   iPe    05 57 05.1
        PRS   iPe    05 57 06.7
        GCC   ePe    05 57 08.9
        BKS   ePe    05 57 11.3                 e 57 44
        PCC   ePe    05 57 12.4
        ORV   eP     05 57 13.5
        MIN   e(P)   05 57 23
        WDC   e(P)   05 57 31                   i 58 34
                BRK  05 56 26.3, 37.6N, 118.9W, h=  7 km, ML=4.7
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    06 02 45.8   02 57
        JAS   iPe    06 02 52.4   03 09
        LLA   iPe    06 03 03.5   03 29
        PRI   eP     06 03 05.8
        SAO   eP     06 03 07.7
        MHC   iPd    06 03 08.5
        PRS   eP     06 03 10.0
        GCC   e(P)   06 03 12
        BKS   e(P)   06 03 14
        PCC   eP     06 03 15.5
        ORV   eP     06 03 16.4
                BRK  06 02 29.8, 37.6N, 118.9W, h= 10 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    06 44 03.3
        LLA   iPe    06 44 20.8                 i 44 46
        PRI   iPe    06 44 22.2
        SAO   iP     06 44 25.4
        MHC   ePe    06 44 25.7
        PRS   iPe    06 44 27.0
        GCC   ePd    06 44 29.7
        BRK   eP     06 44 31.9
        PCC   eP     06 44 32.9
        MIN   e(P)   06 44 45
                BRK  06 43 47.3, 37.5N, 118.9W, h= 18 km, ML=4.1
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    07 03 02.4   03 15
        JAS   iPe    07 03 10.4   03 28
        LLA   iPd    07 03 20.4   03 46
        PRI   eP     07 03 22.1
        SAO   iP     07 03 24.5
        MHC   ePd    07 03 25.4
        PRS   iPe    07 03 26.3   03 56
        GCC   eP     07 03 28.9
        BRK   e(P)   07 03 32
        PCC   ePe    07 03 32.9
                BRK  07 02 46.3, 37.5N, 118.8W, h= 18 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  WKC   iPe    07 30 24.3
        FHC   iPd    07 30 29.8   30 38
        WDC   ePe    07 30 42.1   31 00
        MIN   eP     07 30 52.8
        ORV   e(P)   07 30 55
                BRK  07 30 20.1, 40.3N, 124.2W, h= 10 km, ML=3.0
                     SOUTH OF EUREKA, CALIFORNIA

MAY 26  FRI   iPe    07 42 18.5   42 30
        JAS   iPe    07 42 24.9   42 43
        LLA   iPe    07 42 36.3   43 00
        PRI   ePd    07 42 38.5   43 05
        SAO   iPe    07 42 40.4
        MHC   iPe    07 42 40.6
        PRS   ePe    07 42 42.6
        GCC   ePe    07 42 44.4
        BRK   eP     07 42 46.8
        PCC   ePe    07 42 47.7
        ORV   e(P)   07 42 49
                BRK  07 42 01.3, 37.6N, 118.9W, h=  2 km, ML=3.6
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   i(P)   07 43 04
        LLA   i(P)   07 43 22
        PRI   i(P)   07 43 24
        SAO   i(P)   07 43 27
        MHC   i(P)   07 43 28
        PRS   e(P)   07 43 29
        GCC   e(P)   07 43 31
        BRK   e(P)   07 43 34
        PCC   e(P)   07 43 35
                BRK  07 42 47.3, 37.6N, 118.8W, h= 14 km, ML=4.1
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   eP     07 43 55.5   44 07
        JAS   eP     07 44 02     44 20
        LLA   eP     07 44 13.3
        MHC   eP     07 44 17.6
                BRK  07 43 39.3, 37.6N, 118.9W, h=  9 km, ML=3.9
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    08 05 23.2   05 35
        JAS   i(P)   08 05 29     05 46
        LLA   iPe    08 05 40.6   06 04
        PRI   eP     08 05 42.7
        SAO   i(P)   08 05 45
        MHC   e(P)   08 05 45     06 14
        PRS   ePe    08 05 47.1
        GCC   ePe    08 05 48.9
        BKS   e(P)   08 05 51     06 24
        PCC   e(P)   08 05 52
        ORV   eP     08 05 53.0
                BRK  08 05 06.7, 37.6N, 118.9W, h=  6 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    10 20 48.8
        JAS   iPe    10 20 55.7
        LLA   iPe    10 21 06.4
        PRI   iPe    10 21 08.0
        SAO   iPe    10 21 10.7
        MHC   iPe    10 21 10.9
        PRS   iPe    10 21 12.7
        GCC   ePe    10 21 15.0
        BKS   eP     10 21 17.2                 e 21 50
        PCC   iPe    10 21 18.3
        ORV   iPe    10 21 18.7
        MIN   ePd    10 21 28.8
        WDC   e(P)   10 21 37
                BRK  10 20 31.1, 37.6N, 118.8W, h=  8 km, ML=4.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   i(P)   10 40 11
        LLA   iPe    10 40 29.0   40 53
        PRI   iPd    10 40 31.4
        SAO   iPe    10 40 33.4
        MHC   iPe    10 40 33.5
        PRS   iPe    10 40 35.5
        GCC   ePe    10 40 37.5
        BKS   eP     10 40 39.6                 e 41 13
        PCC   ePe    10 40 40.8
        ORV   iP     10 40 41.9
        MIN   eP     10 40 51.8
        WDC   e(P)   10 41 00
                BRK  10 39 54.4, 37.6N, 118.9W, h=  2 km, ML=4.3
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    11 04 21.3                 i 04 33
        JAS   iPe    11 04 28.0                 i 04 44
        LLA   iPe    11 04 38.8   05 03
        PRI   iPe    11 04 40.5                 i 05 09
        SAO   iPe    11 04 43.0
        MHC   iPe    11 04 43.3
        PRS   ePe    11 04 44.9                 i 05 16
        GCC   iPe    11 04 47.2
        BKS   eP     11 04 49.2                 e 05 24
        PCC   ePe    11 04 50.5
        ORV   iP     11 04 51.0
        MIN   e(P)   11 05 03
        WDC   eP     11 05 09
                BRK  11 04 03.5, 37.6N, 118.8W, h=  8 km, ML=4.3
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   e(P)   11 05 51     06 04
        JAS   e(P)   11 05 58     06 16
        LLA   iPd    11 06 09.2   06 33
        PRI   i(P)   11 06 11
        SAO   i(P)   11 06 13
        MHC   e(P)   11 06 14
        PRS   e(P)   11 06 15
        GCC   e(P)   11 06 17
                BRK  11 05 34.9, 37.6N, 118.8W, h= 29 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    12 24 41.4
        JAS   iPe    12 24 48.6
        LLA   iPe    12 24 59.1
        PRI   iPe    12 25 00.8
        SAO   iPe    12 25 03.5
        MHC   iPe    12 25 03.9
        PRS   iPe    12 25 05.4
        GCC   ePe    12 25 07.8
        BKS   iP     12 25 10.5   25 44
        PCC   ePe    12 25 11.2
        ORV   ePd    12 25 11.7
        MIN   e(P)   12 25 21
                BRK  12 24 25.1, 37.6N, 118.9W, h=  7 km, ML=5.1
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    13 04 35.7   04 47
        JAS   iPe    13 04 43.6                 i 05 00
        LLA   iPe    13 04 53.4                 i 05 19
        PRI   iPd    13 04 55.5
        SAO   iPe    13 04 58.1
        MHC   ePe    13 04 58.4
        PRS   iPe    13 04 59.8                 i 05 30
        GCC   ePe    13 05 02.2
        BKS   eP     13 05 05.7                 e 05 39
        PCC   ePe    13 05 06.0
        WDC   e(P)   13 05 26
                BRK  13 04 20.0, 37.5N, 118.9W, h= 14 km, ML=4.3
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    13 57 41.9   57 54
        JAS   iPe    13 57 48.3   58 06
        LLA   iPe    13 57 59.6
        PRI   iPd    13 58 02.0
        SAO   iPe    13 58 03.7
        MHC   ePe    13 58 03.9
        PRS   eP     13 58 05.9
        GCC   ePe    13 58 07.9
        BKS   eP     13 58 10.0
        PCC   ePd    13 58 11.3
                BRK  13 57 24.5, 37.6N, 118.9W, h=  3 km, ML=3.7
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    14 04 21.5   04 33
        JAS   iPd    14 04 28.9   04 47
        LLA   iPe    14 04 39.4   05 02
        PRI   ePd    14 04 41.6
        SAO   eP     14 04 43.6
        MHC   eP     14 04 44.2   05 14
        PRS   eP     14 04 44.7
        BKS   eP     14 04 51.0   05 20
        PCC   eP     14 04 51.8
        ORV   ePd    14 04 53.1
                BRK  14 04 05.7, 37.5N, 118.9W, h= 11 km, ML=3.6
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    14 37 46.8
        JAS   iPe    14 37 54.5
        LLA   iPe    14 38 04.7
        PRI   iPe    14 38 06.3
        SAO   iPe    14 38 09.1
        MHC   iPd    14 38 09.8
        PRS   iPe    14 38 11.1
        GCC   eP     14 38 14.0
        BRK   eP     14 38 16.0   38 49
        PCC   iPe    14 38 17.2
        ORV   eP     14 38 17.8
        MIN   eP     14 38 28.3
        WDC   eP     14 38 36.2
                BRK  14 37 30.8, 37.5N, 118.9W, h=  8 km, ML=4.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    15 50 49.7   51 01
        JAS   iPd    15 50 57.0   51 15
        LLA   iPe    15 51 07.2
        PRI   iPe    15 51 08.7
        SAO   iPd    15 51 11.6
        MHC   eP     15 51 12.0
        PRS   iPe    15 51 13.4
        BKS   eP     15 51 19.0   51 52
        PCC   eP     15 51 19.8
        ORV   eP     15 51 20.5
                BRK  15 50 32.9, 37.6N, 118.8W, h= 10 km, ML=3.8
                     MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe    16 20 37.4
        JAS   iP     16 20 44.7
        LLA   iPe    16 20 55.6
        PRI   iPe    16 20 57.4
        SAO   iPe    16 21 00.0
        MHC   iPe    16 21 00.4
        PRS   iPe    16 21 01.1
        GCC   iPe    16 21 04.4
        BKS   eP     16 21 06.5   21 40
        PCC   iPe    16 21 07.7
        ORV   iPe    16 21 07.8
        MIN   eP     16 21 19.3
                BRK  16 20 21.6, 37.5N, 118.9W, h=  5 km, ML=4.8
                     MAMMOTH LAKES, CALIFORNIA
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MAY 26  FRI   iPe     17 38 19.5   38 30
        JAS   iPe     17 38 26.5   38 44
        LLA   iPe     17 38 37.3   39 03
        PRI   iPd     17 38 39.4
        SAO   iPe     17 38 41.6
        MHC   eP      17 38 41.9
        PRS   iPe     17 38 43.7
        GCC   eP      17 38 46.1
        BKS   eP      17 38 48     39 23
        PCC   eP      17 38 49.8
              BRK  17 38 03.6, 37.5N, 118.9W, h=  9 km, ML=3.8
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   eP      18 53 04.4
        PRI   eP      18 53 06.3
        SAO   eP      18 53 10.8
        JAS   iPd     18 53 11.6
        MHC   eP      18 53 14.2
        BKS   ePd     18 53 18.0                  : 53 50      : 56 50      : 02 52
                                                  : 03 44      : 04 06      : 08 00
                                                  : 11 06      : 19 12
                            MICRON     PERIOD
                      PZ      1.20        1.5
        ORV   eP      18 53 21.3                  : 56 06
        MIN   eP      18 53 23.3
        WDC   iPd     18 53 26.4
        PMC   eP      18 53 34.5
              USGS 18 41 42.9, 19.4S,  69.2W, h=114 km, mb=6.1
                   NORTHERN CHILE

MAY 26  FRI   iPe     18 55 52.4   56 03
        JAS   iPd     18 56 00.2   56 17
        LLA   iP      18 56 10.3
        PRI   eP      18 56 12.5
        SAO   eP      18 56 14.8
        MHC   iPe     18 56 15.6
        PRS   eP      18 56 16.5
        GCC   eP      18 56 20.3
        BKS   eP      18 56 24     56 56
              BRK  18 55 36.8, 37.5N, 118.9W, h= 11 km, ML=3.8
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   eP      18 58 11.9
        JAS   iP      18 58 19.6
        LLA   iPe     18 58 29.7
        PRI   eP      18 58 31.3
        SAO   iPe     18 58 34.2
        MHC   iPe     18 58 34.7
        PRS   iPe     18 58 36.1
        GCC   iP      18 58 38.5
        BKS   iP      18 58 40.9   59 15
        PCC   iPd     18 58 42.2
        ORV   eP      18 58 43.2
        MIN   ePd     18 58 53.1
        WDC   eP      18 59 00.5
        WEC   iPe     18 59 14.9
              BRK  18 57 55.9, 37.5N, 118.9W, h=  8 km, ML=5.7
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe     19 10 54.8   11 06
        JAS   iPe     19 11 02.1   11 19
        LLA   iPe     19 11 12.8
        PRI   iPe     19 11 15.4
        SAO   iPe     19 11 17.3
        MHC   iPe     19 11 18.3
        PRS   eP      19 11 19.7
        GCC   eP      19 11 22.1
        BKS   eP      19 11 25.5
        PCC   eP      19 11 25.5
              BRK  19 10 38.2, 37.5N, 118.9W, h=  3 km, ML=3.8
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe     19 22 07.0   22 19
        JAS   iPd     19 22 15.5   22 33
        LLA   iPd     19 22 25.2
        PRI   eP      19 22 26.8
        SAO   iPd     19 22 29.5
        MHC   eP      19 22 30.4
        PRS   eP      19 22 31.3
        BKS   eP      19 22 39
        PCC   eP      19 22 39.0
              BRK  19 21 51.7, 37.5N, 118.9W, h= 12 km, ML=3.5
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe     19 24 25.3
        JAS   iPd     19 24 33.4
        LLA   iPe     19 24 43.1
        PRI   iPd     19 24 45.2
        SAO   iPe     19 24 47.5
        MHC   iPd     19 24 48.5
        PRS   iP      19 24 49.5
        GCC   eP      19 24 52.4
        BKS   iP      19 24 54.6   25 28
        PCC   eP      19 24 55.0
        ORV   iPd     19 24 56.9
        WDC   eP      19 25 15.5
              BRK  19 24 09.4, 37.5N, 118.9W, h=  7 km, ML=4.7
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe     19 44 48.1   45 00
        JAS   iPe     19 44 54.4   45 11
        LLA   iPe     19 45 05.7
        PRI   eP      19 45 08.1
        SAO   eP      19 45 10.0
        MHC   eP      19 45 10.5
        PRS   iPd     19 45 12.4
        BKS   eP      19 45 16.6
        PCC   eP      19 45 17.5
              BRK  19 44 31.4, 37.6N, 118.9W, h=  7 km, ML=3.6
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe     19 52 56.1   53 07
        JAS   iPe     19 53 03.8   53 21
        LLA   iPe     19 53 13.9
        PRI   eP      19 53 16.0
        SAO   iPe     19 53 18.2
        MHC   eP      19 53 18.8
        PRS   iPe     19 53 20.3
        PCC   eP      19 53 26.5
        BKS   eP      19 53 27     53 59
              BRK  19 52 40.2, 37.5N, 118.9W, h=  9 km, ML=3.6
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe     20 01 46.9   01 58
        JAS   iPd     20 01 54.9   02 13
        LLA   eP      20 02 04.8
        PRI   eP      20 02 06.9
        SAO   iPd     20 02 09.8
        MHC   eP      20 02 10.2
        PRS   eP      20 02 12.4
        BKS   eP      20 02 17.5   02 51
        PCC   eP      20 02 17.8
              BRK  20 01 31.2, 37.5N, 118.9W, h=  8 km, ML=3.8
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe     20 03 56.6   04 07
        JAS   iP      20 04 03.7
        LLA   iPe     20 04 14.5
        PRI   iPd     20 04 16.7
        SAO   iPe     20 04 18.8
        MHC   iPe     20 04 19.0
        PRS   iPe     20 04 20.9
        GCC   eP      20 04 23.4
        BKS   eP      20 04 26.2   05 00
        PCC   iPe     20 04 27.0
        ORV   iPe     20 04 28.0
              BRK  20 03 40.2, 37.6N, 118.9W, h=  7 km, ML=4.1
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe     21 42 25.7   42 37
        JAS   iPd     21 42 32.8   42 50
        LLA   iPe     21 42 43.6
        PRI   eP      21 42 45.8
        SAO   iPd     21 42 48.0
        MHC   eP      21 42 48.5
        PRS   eP      21 42 50.0
        BKS   eP      21 42 54     43 29
        PCC   eP      21 42 56.1
              BRK  21 42 09.2, 37.6N, 118.9W, h=  3 km, ML=3.7
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe     21 57 58.1   58 09
        JAS   iPd     21 58 05.5   58 22
        LLA   iPe     21 58 16.0
        PRI   iPd     21 58 18.2
        SAO   eP      21 58 20.4
        MHC   eP      21 58 20.9
        PRS   eP      21 58 22.5
        BKS   eP      21 58 28.0
        PCC   eP      21 58 28.6
              BRK  21 57 42.1, 37.5N, 118.9W, h=  9 km, ML=3.8
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   e(P)    21 58 26     58 38
        JAS   e(P)    21 58 34     58 52
        LLA   iPe     21 58 44.5
        PRI   eP      21 58 46.7
        MHC   iPd     21 58 49.3
              BRK  21 58 10.8, 37.6N, 118.9W, h= 10 km, ML=3.5
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPd     22 35 58.7   36 10
        JAS   iPd     22 36 06.4   36 23
        LLA   iPd     22 36 16.8
        PRI   eP      22 36 19.5
        MHC   iP      22 36 21.0
        PRS   ePd     22 36 23.4
        BKS   eP      22 36 28.5   37 01
              BRK  22 35 42.8, 37.5N, 118.9W, h= 11 km, ML=3.6
                   MAMMOTH LAKES, CALIFORNIA

MAY 26  FRI   iPe     23 19 43.3   19 54
        JAS   iPe     23 19 51.0
        LLA   iPe     23 20 01.2
        PRI   iPd     23 20 03.5
        SAO   iPe     23 20 05.7
        MHC   iPe     23 20 06.2
        PRS   iPe     23 20 07.7
        GCC   eP      23 20 10.2
        BKS   eP      23 20 12     20 47
        PCC   eP      23 20 13.5
        ORV   iPe     23 20 14.9
              BRK  23 19 27.1, 37.5N, 118.9W, h=  4 km, ML=4.1
                   MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe     00 43 33.8   43 45
        JAS   iP      00 43 40.6   43 57
        LLA   iPe     00 43 51.4
        PRI   iPd     00 43 53.7
        SAO   iPe     00 43 55.7
        MHC   eP      00 43 56.0
        PRS   iPd     00 43 58.0
        BKS   eP      00 44 02.5   44 37
        PCC   eP      00 44 03.4
              BRK  00 43 17.1, 37.6N, 118.9W, h= 10 km, ML=3.7
                   MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe     01 19 57.6   20 09
        JAS   iPd     01 20 04.5   20 21
        LLA   iPe     01 20 15.2
        PRI   iPd     01 20 17.6
        SAO   iPe     01 20 19.3
        MHC   eP      01 20 19.8
        PRS   eP      01 20 21.7
        BKS   eP      01 20 26     20 59
        PCC   eP      01 20 27.1
              BRK  01 19 40.9, 37.6N, 118.9W, h=  8 km, ML=3.6
                   MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe     02 01 34.2   01 45
        JAS   iPe     02 01 41.6   01 59
        LLA   iPe     02 01 52.1
        PRI   iPd     02 01 54.3
        SAO   ePe     02 01 56.4
        MHC   eP      02 01 57.0
        PRS   iPe     02 01 58.4
        BKS   eP      02 02 03     02 38
        PCC   eP      02 02 04.2
              BRK  02 01 17.4, 37.5N, 118.9W, h=  6 km, ML=3.6
                   MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe     03 44 05.6   44 17
        JAS   iPd     03 44 12.6   44 30
        LLA   iP      03 44 23.3
        PRI   eP      03 44 25.4
        SAO   iPe     03 44 27.5
        MHC   eP      03 44 28.3
        PRS   eP      03 44 30.0
        BKS   e(P)    03 44 34     45 09
        PCC   eP      03 44 35.4
        ORV   eP      03 44 35.9
              BRK  03 43 49.0, 37.6N, 118.9W, h=  8 km, ML=3.7
                   MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe     04 07 29.5   07 42
        JAS   iPd     04 07 36.5   07 54
        LLA   iPe     04 07 47.3
        SAO   iPd     04 07 51.7
        MHC   iPd     04 07 52.4
        PRS   iPd     04 07 50.8
        BKS   e(P)    04 08 00     08 34
        PCC   eP      04 08 00.0
              BRK  04 07 11.9, 37.6N, 118.8W, h=  5 km, ML=3.6
                   MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe     04 22 17.2   22 28
        JAS   iPd     04 22 25.8   22 43
        LLA   iPd     04 22 35.0
        PRI   iPe     04 22 36.6
        SAO   iPd     04 22 39.4
        MHC   eP      04 22 40.0
        PRS   eP      04 22 40.8
        BKS   eP      04 22 46.0
              BRK  04 22 01.2, 37.5N, 118.9W, h=  9 km, ML=3.6
                   MAMMOTH LAKES, CALIFORNIA

MAY 27  LLA   iPe     05 28 26.8
        PRS   iPd     05 28 28.3   28 33
        SAO   iPe     05 28 28.5
        PRI   eP      05 28 34.0
        MHC   eP      05 28 39.3   28 51
        FRI   eP      05 28 44.9
        JAS   e(P)    05 28 49
              BRK  05 28 22.7, 36.5N, 121.2W, h=  9 km, ML=2.6
                   SOUTHEAST OF HOLLISTER, CALIFORNIA

MAY 27  FRI   iPe     05 45 13.4   45 25
        JAS   iPd     05 45 20.0   45 36
        LLA   iPe     05 45 31.1
        PRI   iPd     05 45 33.6
        SAO   iPe     05 45 35.3
        MHC   eP      05 45 35.6
        PRS   eP      05 45 37.4
        BKS   e(P)    05 45 42     46 17
        PCC   eP      05 45 43.0
              BRK  05 44 57.1, 37.6N, 118.9W, h= 10 km, ML=3.5
                   MAMMOTH LAKES, CALIFORNIA
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MAY 27  FRI   iPe    06 15 53.1   16 04
        JAS   iPe    06 16 00.5   16 17
        LLA   iP     06 16 11.0
        PRI   ePd    06 16 02.5
        SAO   iPe    06 16 15.3
        MHC   iPe    06 16 15.8
        PRS   iPe    06 16 17.4
        GCC   ePd    06 16 20.3
        BKS   e(P)   06 16 22     16 56
        PCC   ePd    06 16 23.4
                BRK  06 15 36.9, 37.5N, 118.9W, h= 3 km, ML=3.8
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    06 37 09.2   37 20
        JAS   iPd    06 37 17.2
        LLA   iPe    06 37 27.0
        PRI   ePd    06 37 28.5
        SAO   iPe    06 37 31.5
        MHC   ePd    06 37 32.0
        PRS   ePd    06 37 33.4
        BKS   ePd    06 37 39.7   38 12
        PCC   ePd    06 37 40.3
        ORV   iPe    06 37 41.2
                BRK  06 36 53.1, 37.5N, 118.9W, h= 6 km, ML=4.1
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    06 46 58.0   47 09
        JAS   iPd    06 47 04.4
        SAO   iPe    06 47 10.0
        MHC   iPd    06 47 10.3
        LLA   iPe    06 47 15.8
        PRI   iPe    06 47 17.8
        PRS   iPe    06 47 22.2
        GCC   ePd    06 47 24.5
        BKS   ePd    06 47 26.5   48 00
        PCC   ePd    06 47 27.3
        ORV   ePd    06 47 28.2
                BRK  06 46 41.5, 37.6N, 118.9W, h= 4 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    07 02 17.5   02 29
        JAS   iPe    07 02 23.9   02 41
        LLA   iPe    07 02 35.4
        PRI   iPd    07 02 37.4
        SAO   iPd    07 02 39.8
        MHC   ePd    07 02 40.3
        PRS   ePd    07 02 41.7
        BKS   e(P)   07 03 47     04 21
        PCC   ePd    07 02 47.9
                BRK  07 02 01.2, 37.6N, 118.9W, h= 9 km, ML=3.7
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    09 09 47.8   09 59
        JAS   iPd    09 09 54.2   10 11
        LLA   iPe    09 10 05.5
        PRI   iPe    09 10 07.2
        SAO   ePd    09 10 09.4
        MHC   ePd    09 10 09.8
        PRS   ePe    09 10 11.5
        GCC   ePd    09 10 13.9
        BKS   ePd    09 10 16.4   10 51
        PCC   ePd    09 10 17.2
                BRK  09 09 30.9, 37.6N, 118.9W, h= 11 km, ML=3.8
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iP     10 29 26.7   29 37
        JAS   iPe    10 29 35.0   29 52
        LLA   iPe    10 29 45.0
        PRI   iPe    10 29 46.9
        SAO   iPe    10 29 49.3
        MHC   ePd    10 29 50.0
        PRS   iPe    10 29 51.4
        GCC   ePd    10 29 53.8
        PCC   ePd    10 29 57.4
        BKS   ePd    10 29 57.7   30 32
                BRK  10 29 11.2, 37.5N, 118.9W, h= 9 km, ML=3.7
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    13 10 45.0   10 56
        JAS   iPe    13 10 51.7   11 09
        LLA   iPe    13 11 02.5
        PRI   ePd    13 11 04.1
        SAO   ePe    13 11 06.8
        MHC   ePd    13 11 07.1
        PRS   ePd    13 11 08.8
        BKS   ePe    13 11 13.0   11 48
        PCC   ePd    13 11 14.5
                BRK  13 10 27.3, 37.6N, 118.8W, h= 9 km, ML=3.9
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  SAO   ePd    13 13 13.0
        BKS   ePd    13 13 14.0              e 13 41
        PRI   ePd    13 13 14.6
        MHC   ePd    13 13 14.8              e 13 52
        FRI   ePd    13 13 19.9
        JAS   iPd    13 13 21.7
        ORV   iP     13 13 21.9              i 13 49
        WDC   iPd    13 13 22.5
        MIN          13 13                   e 13 25      i 13 52
                USGS 13 01 34.8, 18.6S, 174.7W, h= 33 km, mb=6.1
                     TONGA ISLANDS

MAY 27  FRI   iPe    13 27 23.0
        JAS   iPd    13 27 31.0
        LLA   iPe    13 27 41.0
        PRI   ePd    13 27 42.5
        SAO   iPd    13 27 45.6
        MHC   ePd    13 27 46.5
        PRS   iP     13 27 47.4
        GCC   ePd    13 27 50.4
        BKS   ePd    13 27 52.4   28 27
        PCC   ePd    13 27 53.5
        ORV   iPe    13 27 55.0
                BRK  13 27 07.1, 37.5N, 118.9W, h= 7 km, ML=4.3
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    14 51 12.8
        JAS   iPd    14 51 21.4
        LLA   iPe    14 51 30.2
        PRI   iPe    14 51 31.5
        SAO   ePe    14 51 34.7
        MHC   ePe    14 51 35.4
        PRS   iPe    14 51 36.3
        GCC   ePe    14 51 39.1
        BKS   iP     14 51 42.0
        PCC   ePe    14 51 43.0
        ORV   iPd    14 51 44.1
        MIN   ePd    14 51 54.0
        WDC   ePd    14 52 01.7
        WKC   ePd    14 52 16.6
                BRK  14 50 56.6, 37.5N, 118.8W, h= 16 km, ML=6.2
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iP     14 58 57.8   59 08
        JAS   iP     14 59 06.7   59 24
        LLA   iPd    14 59 16.1
        PRI   iP     14 59 18.0
        SAO   iP     14 59 20.0
        MHC   iP     14 59 21.0
        PCC   iP     14 59 28.5
                BRK  14 58 42.1, 37.5N, 118.9W, h= 11 km, ML=3.6
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    15 01 27.9
        LLA   iPd    15 01 45.7
        PRI   i(P)   15 01 47
        SAO   iPd    15 01 50.2
        MHC   iP     15 01 50.7
        PRS   iPe    15 01 51.6
        GCC   ePd    15 01 54.3
        BRK   ePd    15 01 57.0
        PCC   ePe    15 01 57.9
                BRK  15 01 11.5, 37.5N, 118.8W, h= 17 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    15 05 55.3   06 07
        JAS   iPd    15 06 04.0   06 21
        LLA   iPe    15 06 13.1
        PRI   iPd    15 06 14.9
        SAO   iP     15 06 17.5
        MHC   ePe    15 06 18.2
        PRS   ePe    15 06 19.2
        BKS   e(P)   15 06 24
        PCC   ePd    15 06 25.7
                BRK  15 05 39.1, 37.5N, 118.8W, h= 17 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    15 14 02.7
        JAS   iPe    15 14 11.1
        LLA   iPe    15 14 20.2   14 46
        PRI   iPd    15 14 22.0   14 50
        SAO   iPd    15 14 24.8
        MHC   i(P)   15 14 25
        PRS   e(P)   15 14 26
        BKS   ePd    15 14 31.5              e 15 09
        PCC   ePe    15 14 32.5
                BRK  15 13 46.1, 37.5N, 118.8W, h= 15 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    15 42 02.9   42 14
        LLA   iPe    15 42 20.8   42 46
        PRI   iP     15 42 22.3
        SAO   iPd    15 42 25.4
        MHC   ePe    15 42 25.8
        PRS   iPe    15 42 26.9
        GCC   ePd    15 42 29.5
        BKS   ePd    15 42 32.4   43 06
        PCC   ePe    15 42 33.0
                BRK  15 41 46.8, 37.5N, 118.8W, h= 13 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    16 10 10.7   10 22
        JAS   iPe    16 10 18.7
        LLA   ePe    16 10 28.7   10 54
        PRI   iPe    16 10 30.6   10 59
        SAO   ePe    16 10 33.0
        MHC   ePe    16 10 33.5
        PRS   ePd    16 10 35.0
        GCC   ePd    16 10 37.5
        BKS   ePd    16 10 40.0
        PCC   ePd    16 10 41
                BRK  16 09 53.7, 37.5N, 118.8W, h= 7 km, ML=3.8
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   eP     16 10 57.2   11 09
        JAS   iP     16 11 05.4   11 23
        LLA   ePd    16 11 15.3
        PRI   ePd    16 11 17.5
        SAO   ePd    16 11 19.2
        MHC   ePd    16 11 20.5
        PCC   ePd    16 11 28
                BRK  16 10 40.1, 37.5N, 118.8W, h= 7 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    16 36 01.9   36 13
        JAS   iPe    16 36 10.7   36 27
        LLA   iPe    16 36 19.9   36 45
        PRI   ePe    16 36 21.0   36 48
        SAO   iPe    16 36 24.4
        MHC   e(P)   16 36 25
        PRS   ePe    16 36 25.8
        BKS   ePd    16 36 32.2   37 07
        PCC   ePd    16 36 32.6
                BRK  16 35 46.0, 37.5N, 118.8W, h= 14 km, ML=3.6
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    16 49 27.4   49 39
        JAS   iPe    16 49 35.7
        LLA   iPd    16 49 45.6
        PRI   iPd    16 49 47.4
        SAO   iPe    16 49 50.1
        MHC   iPe    16 49 51.0
        PRS   e(P)   16 49 52
        BKS   ePd    16 49 58.2   50 33
        ORV   ePd    16 50 01.5
                BRK  16 49 11.7, 37.5N, 118.9W, h= 9 km, ML=3.9
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    17 10 14.7
        JAS   iPd    17 10 23.3
        LLA   iPe    17 10 32.5   10 58
        PRI   iPe    17 10 33.6   11 01
        SAO   iPe    17 10 36.9
        MHC   iPe    17 10 37.5
        PRS   iPe    17 10 38.6
        GCC   ePd    17 10 41
        BKS   ePd    17 10 44.1              e 11 20
        PCC   ePe    17 10 45.0
                BRK  17 09 58.3, 37.5N, 118.8W, h= 10 km, ML=4.2
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    17 47 54.0   48 05
        JAS   iPe    17 48 01.6
        LLA   iPe    17 48 11.8   48 37
        PRI   ePd    17 48 13.8   48 42
        SAO   iPd    17 48 16.4
        MHC   ePd    17 48 17.0
        PRS   eP     17 48 18
        BKS   e(P)   17 48 24     48 57
        PCC   ePd    17 48 24.5
                BRK  17 47 37.8, 37.5N, 118.9W, h= 6 km, ML=3.6
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    18 36 24.5   36 35
        JAS   iPe    18 36 33.3   36 50
        LLA   iPd    18 36 41.8
        PRI   iPe    18 36 43.2
        SAO   iPe    18 36 46.4
        MHC   ePe    18 36 47.3
        PRS   iPe    18 36 48.0
        GCC   ePd    18 36 50.8
        BKS   ePd    18 36 53.6              e 37 33
        PCC   ePd    18 36 54.5
                BRK  18 36 08.8, 37.5N, 118.8W, h= 17 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe    19 01 25.8
        JAS   iPe    19 01 32.7
        LLA   iPe    19 01 43.5
        PRI   iPe    19 01 45.0
        SAO   iPe    19 01 47.7
        MHC   iPe    19 01 48.1
        PRS   iPe    19 01 49.7
        GCC   ePe    19 01 51.9
        ORV   ePd    19 01 54.3
        BKS   iP     19 01 54.4   02 29
        PCC   iPe    19 01 55.4
        MIN   e(P)   19 02 04
        WDC   e(P)   19 02 12                i 02 23      i 02 51
                BRK  19 01 07.9, 37.6N, 118.8W, h= 6 km, ML=4.8
                     MAMMOTH LAKES, CALIFORNIA
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MAY 27  FRI   iPe     19 47 39.5   47 51
        JAS   iPe     19 47 46.4   48 04
        LLA   iPe     19 47 57.3
        PRI   ePd     19 48 09.4   48 38
        SAO   iPe     19 48 01.7
        MHC   ePe     19 48 01.9
        PRS   ePe     19 48 03.7
        GCC   eP      19 48 06
        BKS   eP      19 48 08.7
        PCC   eP      19 48 09.9
                BRK  19 47 21.8, 37.6N, 118.8W, h=  4 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe     21 35 10.4   35 22
        JAS   iPd     21 35 18.5   35 35
        LLA   iPe     21 35 27.8
        PRI   iPe     21 35 29.2
        SAO   iPe     21 35 32.4
        MHC   iPe     21 35 33.0
        PRS   iPe     21 35 34.1
        GCC   ePe     21 35 36.8
        BKS   eP      21 35 39.3
        PCC   ePe     21 35 40.0
        ORV   ePe     21 35 41.6
                BRK  21 34 53.8, 37.5N, 118.8W, h= 12 km, ML=4.3
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe     23 41 20.0   41 32
        JAS   iPd     23 41 27.3   41 44
        LLA   iPe     23 41 37.5
        PRI   ePe     23 41 39.2
        SAO   iPe     23 41 41.9
        MHC   ePe     23 41 42.5
        PRS   iPe     23 41 43.8
        PCC   e(P)    23 41 50
        BKS   e(P)    23 41 51
                BRK  23 41 03.3, 37.6N, 118.9W, h=  9 km, ML=3.8
                     MAMMOTH LAKES, CALIFORNIA

MAY 27  FRI   iPe     23 57 59.6   58 12
        JAS   iPe     23 58 07.0   58 24
        LLA   iPe     23 58 17.5   58 43
        PRI   ePe     23 58 19.0   58 46
        SAO   iPe     23 58 21.8
        MHC   iPe     23 58 22.3
        PRS   iPe     23 58 23.9
        GCC   eP      23 58 26.0
        BKS   eP      23 58 28.3   59 02
        PCC   ePe     23 58 29.3
                BRK  23 57 43.4, 37.5N, 118.9W, h=  6 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  FRI   iPe     04 03 16.1   03 28
        JAS   iPe     04 03 23.1
        LLA   iPe     04 03 33.9
        PRI   iPe     04 03 35.5   04 02
        SAO   iPe     04 03 38.2
        MHC   ePe     04 03 38.5
        PRS   eP      04 03 40
        GCC   eP      04 03 42.5
        BKS   eP      04 03 44.8   04 21
        PCC   ePd     04 03 46.0
                BRK  04 02 58.4, 37.6N, 118.8W, h=  5 km, ML=3.9
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  FRI   iPe     04 22 27.1   22 38
        JAS   iPe     04 22 34.4
        LLA   iPe     04 22 45.0   23 10
        PRI   iPd     04 22 47.2
        SAO   iPd     04 22 49.5
        MHC   iPe     04 22 49.7
        PRS   iPe     04 22 51.5
        GCC   ePd     04 22 54.0
        BKS   eP      04 22 56.0   23 27
        PCC   ePd     04 22 57.3
                BRK  04 22 11.1, 37.5N, 118.9W, h=  4 km, ML=3.9
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  FRI   iPe     05 16 39.5   16 51
        JAS   iPe     05 16 46.5
        LLA   iPe     05 16 57.3                 i 16 58
        PRI   ePe     05 16 59.1                 i 17 00
        SAO   iPe     05 17 01.7
        MHC   iPe     05 17 02.0
        PRS   iPe     05 17 03.8
        GCC   ePe     05 17 05.9                 i 17 07
        BKS   ePd     05 17 08.4                 e 17 44
        PCC   ePe     05 17 09.2                 i 17 11
        ORV   e(P)    05 17 11
        MIN   e(P)    05 17 20                  i 17 21
        WDC   ePe     05 17 29.5
                BRK  05 16 23.0, 37.6N, 118.9W, h=  4 km, ML=4.9
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  FRI   iPe     05 48 46.4
        JAS   iP      05 48 53.3
        LLA   iPe     05 49 04.3
        PRI   ePd     05 49 05.8
        SAO   eP      05 49 08.8
        MHC   iPe     05 49 09.3
        PRS   iPe     05 49 10.8
        GCC   ePe     05 49 12.9
        BKS   ePe     05 49 15.7   49 48
        PCC   ePd     05 49 16.5
        ORV   iPe     05 49 17.7
                BRK  05 48 29.5, 37.6N, 118.9W, h=  6 km, ML=4.6
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  FRI   iPe     06 07 59.8
        JAS   iPd     06 08 06.7
        LLA   iPe     06 08 17.6
        PRI   ePe     06 08 19.5
        SAO   iPd     06 08 22.0
        MHC   ePd     06 08 22.4
        PRS   iPe     06 08 24.2
        GCC   ePd     06 08 26.3
        BKS   eP      06 08 28.8   09 03
        PCC   eP      06 08 29.8
        ORV   ePe     06 08 30.8
                BRK  06 07 43.2, 37.6N, 118.9W, h=  3 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  FRI   iPe     10 13 18.3   13 29
        JAS   iPe     10 13 26.8   13 44
        LLA   iPe     10 13 36.0   14 01
        PRI   ePe     10 13 37.3   14 04
        SAO   iPd     10 13 40.6
        MHC   iPe     10 13 41.4
        PRS   ePe     10 13 42.0
        PCC   e(P)    10 13 48
        BKS   e(P)    10 13 50     14 23
        ORV   e(P)    10 13 50
                BRK  10 13 02.5, 37.5N, 118.8W, h= 18 km, ML=3.7
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  FRI   iPe     11 54 53.6   55 05
        JAS   iPe     11 55 02.4   55 19
        LLA   iPe     11 55 11.3
        PRI   iPe     11 55 12.7
        SAO   iPe     11 55 16.0
        MHC   iPe     11 55 16.7
        PRS   iPe     11 55 17.5
        GCC   ePe     11 55 20.3
        BKS   eP      11 55 23.2   55 59
        PCC   ePe     11 55 24.0
        ORV   eP      11 55 25.5
                BRK  11 54 37.5, 37.5N, 118.8W, h= 10 km, ML=4.4
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  FRI   iPe     14 06 46.8   06 58
        JAS   iPe     14 06 54.8   07 12
        LLA   iPe     14 07 04.9   07 30
        PRI   ePd     14 07 06.8   07 34
        SAO   iPe     14 07 09.3
        MHC   ePe     14 07 09.8
        PRS   ePe     14 07 11.0
        GCC   eP      14 07 13.5
        BKS   eP      14 07 16.8   07 52
        PCC   ePe     14 07 17.1
        ORV   e(P)    14 07 20
                BRK  14 06 30.3, 37.5N, 118.8W, h= 13 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  FRI   iPe     14 18 37.8   18 50
        JAS   iPe     14 18 46.7   19 03
        LLA   iPe     14 18 55.7
        PRI   ePd     14 18 57.1
        SAO   iPe     14 19 00.2
        MHC   ePe     14 19 01.0
        PRS   ePe     14 19 01.8
        BKS   eP      14 19 07.7   19 43
        PCC   ePe     14 19 08.3
                BRK  14 18 22.4, 37.5N, 118.8W, h= 16 km, ML=3.7
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  FRI   iPe     15 45 32.2   45 43
        JAS   iP      15 45 39.5   45 56
        LLA   eP      15 45 50
        PRI   ePd     15 45 52.3   46 20
        SAO   eP      15 45 55
        MHC   eP      15 45 55
        PRS   eP      15 45 56.5
        PCC   e(P)    15 46 02
        BKS   iPe     15 46 03.1   46 34
                BRK  15 45 16.2, 37.5N, 118.9W, h= 11 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 28  MIN   eP      20 04 23
        WDC   ePe     20 04 27.7
        FHC   eP      20 04 28.5
        ORV   ePe     20 04 29.3
        JAS   ePe     20 04 34.8
        FRI   eP      20 04 36.8
        MHC   eP      20 04 39.4
        PRI   eP      20 04 41.8
                USGS 19 51 19.3, 38.5N,  14.3E, h= 14 km, mb=5.7, Ms=5.5
                     SICILY

MAY 28  MHC   eP      22 36 09.3
        JAS   ePe     22 36 15.2
        ORV   ePe     22 36 17.1                 e 37 55
        WDC   ePe     22 36 17.8                 e 37 52
                USGS 22 24 28.9, 20.0S, 173.5W, h= 36 km, mb=5.2
                     TONGA ISLANDS

MAY 29  PRI   iPe     03 39 09.1
        PRS   iPe     03 39 12.1
        LLA   iPe     03 39 15.9
        SAO   iPe     03 39 18.0
        GCC   iPe     03 39 23.1
        FRI   iPe     03 39 23.2
        MHC   iPe     03 39 26.9
        PCC   eP      03 39 30.5
        JAS   iPe     03 39 34.8
        BKS   iPnc    03 39 36.2                Sg 40 31
        ORV   iPd     03 39 57.5
        MIN   ePd     03 40 09.5
        WDC   e(P)    03 40 12
                BRK  03 38 46.7, 34.9N, 120.8W, h=  6 km, ML=4.9
                     OFF COAST SOUTHWEST OF SAN LUIS OBISPO, CALIFORNIA

MAY 29  FRI   iPe     04 19 09.0
        JAS   iPe     04 19 16.6
        LLA   iPe     04 19 26.4
        PRI   iPd     04 19 28.4
        SAO   iPd     04 19 30.9
        MHC   ePe     04 19 31.4
        PRS   ePe     04 19 32.7
        GCC   e(P)    04 19 35
        BKS   ePd     04 19 37.7   20 15
        PCC   eP      04 19 38.5
                BRK  04 18 52.3, 37.5N, 118.8W, h= 12 km, ML=4.2
                     MAMMOTH LAKES, CALIFORNIA

MAY 29  FRI   iPe     04 59 12.3   59 24
        JAS   iPe     04 59 20.4   59 37
        LLA   iPe     04 59 30.3
        PRI   ePd     04 59 32.1   00 00
        SAO   iPd     04 59 34.8
        MHC   ePd     04 59 35.5
        PRS   ePe     04 59 36.4
        GCC   e(P)    04 59 40
        PCC   eP      04 59 42.9
        BKS   iPd     04 59 43.0   00 16
                BRK  04 58 56.6, 37.5N, 118.9W, h=  8 km, ML=3.9
                     MAMMOTH LAKES, CALIFORNIA

MAY 29  FRI   iPe     05 55 59.5   56 11
        JAS   iPe     05 56 07.5
        LLA   iPe     05 56 17.3   56 42
        PRI   eP      05 56 18.9   56 46
        SAO   iPd     05 56 22.0
        MHC   ePe     05 56 22.3
        PRS   ePe     05 56 23.8
        GCC   eP      05 56 26.5
        BKS   iPd     05 56 29.8   57 04
        PCC   eP      05 56 30
        ORV   eP      05 56 31.5
                BRK  05 55 43.5, 37.5N, 118.9W, h=  6 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

MAY 29  PRI   iPe     07 10 54.4
        LLA   iPd     07 10 59.1   11 06
        PRS   ePe     07 10 59.5
        SAO   iPe     07 11 04.3
        FRI   ePe     07 11 11.6   11 27
        GCC   eP      07 11 12.7
        MHC   eP      07 11 13.7
        JAS   e(P)    07 11 20
                BRK  07 10 50.8, 36.2N, 120.8W, h= 11 km, ML=2.6
                     EAST OF KING CITY, CALIFORNIA

MAY 29  FRI   iPe     07 32 37.1   32 48
        JAS   iPe     07 32 45.7   33 04
        LLA   iPe     07 32 55.0
        PRI   eP      07 32 56.2   33 23
        SAO   iPe     07 32 59.5
        MHC   ePe     07 33 00.5
        PRS   ePe     07 33 01.1
        BKS   eP      07 33 07.4   33 40
        PCC   eP      07 33 07.9
                BRK  07 32 20.8, 37.5N, 118.8W, h=  9 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

MAY 29  FRI   iPe     16 57 12.3   57 24
        JAS   iPe     16 57 20.5
        LLA   ePe     16 57 30.2
        PRI   iPd     16 57 32.3   57 59
        SAO   iPd     16 57 34.8
        MHC   ePd     16 57 35.6
        PRS   ePd     16 57 37.0
        GCC   eP      16 57 40
        BKS   e(P)    16 57 42     58 15
        PCC   ePd     16 57 42.7
                BRK  16 56 56.5, 37.5N, 118.9W, h=  8 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA
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MAY 29  FRI   iPe    17 21 17.3  21 28
        JAS   iPe    17 21 25.4
        LLA   iPe    17 21 35.0
        PRI   iPe    17 21 36.5  22 05
        SAO   iPe    17 21 39.6
        MHC   iPe    17 21 40.2
        PRS   iPe    17 21 41.5
        GCC   ePe    17 21 43.8
        BKS   eP     17 21 46.4          • 22 22
        PCC   iPe    17 21 47.6
              BRK  17 21 00.9, 37.5N, 118.9W, h= 7 km, ML=4.1
                   MAMMOTH LAKES, CALIFORNIA

MAY 29  FBC   ePe    17 46 17.8
        WKC   ePe    17 46 18.3  46 47
        WDC   ePe    17 46 33.8
        MIN   eP     17 46 44.1
        ORV   eP     17 46 50
        BKS   iPd    17 47 03.7  48 01
        MHC   eP     17 47 09.2
        JAS   eP     17 47 12.5
        SAO   eP     17 47 17
        FRI   eP     17 47 29
              BRK  17 45 42.3, 41.9N, 126.5W, h= 5 km, ML=4.4
                   OFF COAST WEST OF CRESCENT CITY, CALIFORNIA

MAY 29  FRI   iPe    18 54 11.5  54 22
        JAS   e(P)   18 54 19    54 36
        LLA   ePe    18 54 29.5  54 54
        PRI   eP     18 54 31.0  54 59
        SAO   e(P)   18 54 34
        MHC   ePd    18 54 34.7
        PRS   ePe    18 54 35.6
        BKS   eP     18 54 39.2
        PCC   eP     18 54 42
              BRK  18 53 55.8, 37.5N, 118.9W, h= 14 km, ML=3.5
                   MAMMOTH LAKES, CALIFORNIA

MAY 30  FRI   iPe    12 02 00.6  02 20
        JAS   iPe    12 02 16.5
        LLA   iPe    12 02 26.3  02 52
        PRI   ePd    12 02 28.0  02 56
        SAO   iPe    12 02 30.8
        MHC   eP     12 02 31.4
        PRS   iPe    12 02 32.7
        GCC   eP     12 02 35.7
        BKS   iPd    12 02 37.8  03 10
        PCC   eP     12 02 38.7
              BRK  12 01 52.5, 37.5N, 118.9W, h= 9 km, ML=3.9
                   MAMMOTH LAKES, CALIFORNIA

MAY 30  FRI   iPe    15 42 14.2
        JAS   iPd    15 42 21.3  42 37
        LLA   iPe    15 42 32.0  42 57
        PRI   ePe    15 42 33.6  43 02
        SAO   ePe    15 42 36.4
        MHC   ePe    15 42 36.7
        PRS   iPe    15 42 38.3
        GCC   ePd    15 42 40.8
        BKS   eP     15 42 43.4
        PCC   eP     15 42 44.7
        ORV   ePe    15 42 45.5
              BRK  15 41 57.8, 37.6N, 118.9W, h= 5 km, ML=4.0
                   MAMMOTH LAKES, CALIFORNIA

MAY 30  FRI   iPe    15 49 19.1  49 31
        JAS   iPe    15 49 27.0  49 45
        LLA   iPe    15 49 37.1  50 03
        PRI   eP     15 49 39.0  50 07
        SAO   iPd    15 49 41.5
        MHC   ePe    15 49 41.8
        PRS   e(P)   15 49 43
        BKS   eP     15 49 48.1
        PCC   e(P)   15 49 49
              BRK  15 49 01.9, 37.5N, 118.8W, h= 7 km, ML=3.5
                   MAMMOTH LAKES, CALIFORNIA

MAY 30  PRI   eP     17 08 04
        JAS   eP     17 08 09.5
        MHC   e(P)   17 08 12
        BKS          17 08          13 08          • 08 36          • 34 00
        ORV   eP     17 08 19.5
        WDC   eP     17 08 24.5
              USGS 16 56 22.2, 23.1S,  70.9W, h= 33 km, mb=5.3, Ms=5.3
                   NEAR COAST OF NORTHERN CHILE

MAY 30  FHC   eP     18 27 09.5
        WDC   eP     18 27 15.9
        MIN   eP     18 27 20.2
        ORV   eP     18 27 23.8
        BKS          18 27                          • 27 29
        MHC   eP     18 27 33.5
        JAS   eP     18 27 35.5
        FRI   eP     18 27 42.8
        PRI   eP     18 27 43.3
              USGS 18 17 33.7, 48.7N, 154.3E, h= 51 km, mb=5.3, Ms=5.1
                   KURIL ISLANDS

MAY 30  FRI   iPe    19 49 19.0  49 30
        JAS   iPe    19 49 26.0  49 43
        LLA   iPe    19 49 36.7  50 02
        PRI   ePe    19 49 38.3  50 06
        SAO   iPe    19 49 40.9
        MHC   ePe    19 49 41.3
        PRS   ePe    19 49 43.0
        GCC   ePe    19 49 45.1
        BKS   eP     19 49 47.5
        PCC   ePd    19 49 48.8
        ORV   ePe    19 49 52.0
              BRK  19 49 02.4, 37.6N, 118.9W, h= 9 km, ML=3.7
                   MAMMOTH LAKES, CALIFORNIA

MAY 31  FRI   iPe    00 58 33.4
        JAS   iPe    00 58 41.8
        LLA   iPe    00 58 51.0
        PRI   iPe    00 58 52.6  59 21
        SAO   iPe    00 58 55.7
        MHC   iPe    00 58 56.4
        PRS   iPe    00 58 57.5
        GCC   eP     00 59 00.0
        BKS   iPe    00 59 03.0
        PCC   ePe    00 59 03.8
        ORV   e(P)   00 59 05
        WDC   e(P)   00 59 25
              BRK  00 58 17.3, 37.5N, 118.9W, h= 9 km, ML=4.5
                   MAMMOTH LAKES, CALIFORNIA

MAY 31  FRI   iPe    00 05 36.1  05 48
        JAS   iPe    00 05 43.6
        LLA   iPe    00 05 53.7
        PRI   ePe    00 05 55.1  06 23
        SAO   iPe    00 05 57.9
        MHC   ePe    00 05 58.5
        PRS   iPe    00 06 00.0
        GCC   ePe    00 06 02.0
        BKS   eP     00 06 04.9
        PCC   eP     00 06 05.9
        ORV   ePe    00 06 06.5
              BRK  00 05 19.3, 37.6N, 118.8W, h= 11 km, ML=4.1
                   MAMMOTH LAKES, CALIFORNIA

MAY 31  FRI   iPe    10 11 48.1  12 00
        JAS   iPe    10 11 55.1
        LLA   iPe    10 12 05.9  12 32
        PRI   ePe    10 12 07.4  12 36
        SAO   iPe    10 12 10.2
        MHC   iPe    10 12 10.6
        PRS   iPe    10 12 12.1
        GCC   ePe    10 12 14.3
        BRK   ePe    10 12 16.8
        PCC   ePe    10 12 17.8
        ORV   ePd    10 12 19.1
              BRK  10 11 30.7, 37.6N, 118.8W, h= 5 km, ML=4.2
                   MAMMOTH LAKES, CALIFORNIA

MAY 31  PRI   iPe    13 28 19.1  28 21
        LLA   iPd    13 28 23.4  28 30
        PRS   iPe    13 28 24.0  28 32
        SAO   iPd    13 28 28.7
        FRI   iPe    13 28 34.0
        GCC   e(P)   13 28 37
        MHC   e(P)   13 28 39
        JAS   iPe    13 28 41.2
              BRK  13 28 15.5, 36.2N, 120.8W, h= 7 km, ML=2.7
                   EAST OF KING CITY, CALIFORNIA

MAY 31  FRI   iPe    14 21 07.3  21 19
        JAS   iPd    14 21 13.8  21 31
        LLA   iPe    14 21 25.1  21 51
        PRI   eP     14 21 27.0  21 55
        SAO   ePd    14 21 29.6
        MHC   ePd    14 21 29.9
        PRS   ePe    14 21 31.6
        GCC   eP     14 21 34.3
        BKS   eP     14 21 35.9
        PCC   eP     14 21 37.5
              BRK  14 20 50.6, 37.6N, 118.9W, h= 1 km, ML=3.5
                   MAMMOTH LAKES, CALIFORNIA

MAY 31  FRI   iPe    15 16 29.3
        JAS   iPe    15 16 36.2  16 53
        LLA   iPe    15 16 46.9
        PRI   iPe    15 16 48.5
        SAO   iPe    15 16 51.1
        MHC   ePe    15 16 51.4
        PRS   ePe    15 16 53.2
        GCC   ePe    15 16 55.2
        BKS   iPe    15 16 57.1
        PCC   iPe    15 16 58.8
        ORV   ePe    15 16 59.0
        MIN   eP     15 17 10.0
        WDC   e(P)   15 17 17
              BRK  15 16 11.4, 37.6N, 118.8W, h= 8 km, ML=4.9
                   MAMMOTH LAKES, CALIFORNIA

MAY 31  FRI   iPe    15 20 37.1
        JAS   iPe    15 20 44.1
        LLA   iPe    15 20 54.7
        PRI   eP     15 20 56.4  21 24
        SAO   iPe    15 20 59.1
        MHC   ePe    15 20 59.4
        PRS   iPd    15 21 01.4
        GCC   eP     15 21 03.3
        BKS   iPe    15 21 05.4
        PCC   eP     15 21 06.7
              BRK  15 20 19.3, 37.6N, 118.8W, h= 7 km, ML=4.0
                   MAMMOTH LAKES, CALIFORNIA

MAY 31  FRI   iPe    15 31 10.5  31 22
        JAS   iPe    15 31 17.3
        LLA   iPe    15 31 28.3  31 54
        PRI   ePd    15 31 30.3  31 58
        SAO   iPe    15 31 32.6
        MHC   iPe    15 31 32.9
        PRS   ePe    15 31 34.7
        GCC   ePe    15 31 36.7
        BKS   iPe    15 31 39
        PCC   ePe    15 31 40.0
        ORV   iPd    15 31 43.3
              BRK  15 30 52.8, 37.6N, 118.8W, h= 6 km, ML=3.8
                   MAMMOTH LAKES, CALIFORNIA

MAY 31  FRI   iPe    23 15 46.4  15 58
        JAS   iPe    23 15 52.9
        LLA   iPe    23 16 03.7
        PRI   ePe    23 16 05.5  16 33
        SAO   iPe    23 16 07.9
        MHC   eP     23 16 08
        PRS   iPe    23 16 10.2
        GCC   ePe    23 16 12.1
        BKS   ePe    23 16 14.5
        PCC   ePe    23 16 15.7
        ORV   e(P)   23 16 18
              BRK  23 15 29.0, 37.6N, 118.8W, h= 12 km, ML=3.8
                   MAMMOTH LAKES, CALIFORNIA

JUN 01  FRI   iPe    06 47 51.9
        JAS   iPe    06 48 00.7
        LLA   iPe    06 48 09.7
        PRI   iPe    06 48 11.2
        SAO   iPe    06 48 14.4
        MHC   iPe    06 48 15.1
        PRS   iPe    06 48 16.1
        GCC   iPe    06 48 18.8
        BKS   ePe    06 48 21.5
        PCC   iPe    06 48 22.6
        ORV   iPe    06 48 26.0
              BRK  06 47 36.0, 37.5N, 118.9W, h= 8 km, ML=4.7
                   MAMMOTH LAKES, CALIFORNIA

JUN 01  BKS   ePd    17 03 15.0  03 30
        ORV   eP     17 03 17.5
        PCC   eP     17 03 18.5
        MHC   eP     17 03 25.0
        MIN   e(P)   17 03 26
        WDC   ePe    17 03 27.6
        JAS   iPd    17 03 29.5
        WKC   eP     17 03 36
              BRK  17 02 55.3, 38.8N, 122.8W, h= 2 km, ML=3.1
                   SOUTH OF CLEAR LAKE, CALIFORNIA

JUN 01  FRI   iPe    17 27 42.4  27 54
        JAS   iPe    17 27 49.7  28 07
        LLA   iPe    17 28 00.2  28 27
        PRI   eP     17 28 01.7  28 31
        SAO   ePe    17 28 04.6
        MHC   ePe    17 28 05.1
        PRS   ePe    17 28 06.3
        GCC   eP     17 28 09.0
        BKS   ePd    17 28 11.4                  • 28 46
        PCC   eP     17 28 12.4
        ORV   e(P)   17 28 17
              BRK  17 27 24.8, 37.6N, 118.8W, h= 8 km, ML=3.7
                   MAMMOTH LAKES, CALIFORNIA

JUN 01  FRI   iP     22 30 39.3  30 51
        JAS   iPd    22 30 45.5  31 02
        LLA   iPe    22 30 56.8  31 23
        PRI   eP     22 30 58.6  31 27
        MHC   eP     22 31 01.1
        SAO   iPd    22 31 01.1
        PRS   ePe    22 31 03.2
        GCC   eP     22 31 05.5
        BKS   ePd    22 31 07.5          S• 31 43     Ss 31 52
        PCC   eP     22 31 08.8
        ORV   e(P)   22 31 12
              BRK  22 30 22.2, 37.6N, 118.9W, h= 10 km, ML=3.5
                   MAMMOTH LAKES, CALIFORNIA
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JUN 02  PRI   iPe     10 22 37.0   22 48
        JAS   iPd     10 22 43.6   23 00
        LLA   iPe     10 22 54.6   23 20
        PRI   iPe     10 22 56.5   23 24
        SAO   iPe     10 22 58.8
        MHC   ePe     10 23 59.0
        PRS   ePe     10 23 01.0
        GCC   ePe     10 23 03.0
        BKS   eP      10 23 05.6              Pg 23 16      e 23 39      e 24 08
        PCC   eP      10 23 06.5
        ORV   e(P)    10 23 07
                BRK  10 22 20.4, 37.6N, 118.9W, h= 6 km, ML=4.1
                     MAMMOTH LAKES, CALIFORNIA

JUN 02  PRI   eP      18 45 48.7
        MHC   eP      18 45 49.6
        JAS   eP      18 45 55.0
        ORV   ePd     18 45 56.4
        WDC   ePd     18 45 56.7
                USGS 18 34 18.8, 20.5S, 178.3W, h=293 km, mb=4.7
                     FIJI ISLANDS REGION

JUN 02  WDC   iPe     20 05 49.5
        ORV   iPe     20 05 57.0
        MHC   eP      20 06 06.1
        JAS   iPe     20 06 08.6
                USGS 19 55 34.6, 44.9N, 147.3E, h=129 km, mb=4.9
                     KURIL ISLANDS

JUN 02  PRI   iPe     20 34 30.2   34 42
        JAS   iPd     20 34 37.3   34 54
        LLA   iPe     20 34 47.8   35 13
        PRI   iPe     20 34 49.5   35 17
        SAO   iPe     20 34 52.3
        MHC   ePe     20 34 52.5
        PRS   iPe     20 34 54.3
        GCC   ePd     20 34 56.6
        BKS   ePed    20 35 00.8              P* 35 04      Pg 35 13      e 35 34
        PCC   e(P)    20 35 01
        ORV   e(P)    20 35 02
                BRK  20 34 13.5, 37.6N, 118.9W, h= 7 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA

JUN 03  WDC   eP      01 17 56.0
        ORV   eP      01 17 56.5
        JAS   eP      01 17 58.0              e 18 06
        PRI   eP      01 18 06.0
        MHC   eP      01 18 06.5
                USGS 01 07 00.2, 38.0N,  31.2W, h= 10 km, mb=5.2, Ms=4.8
                     AZORES ISLANDS REGION

JUN 03  WDC   iPe     16 24 18.3   24 28
        MIN   iPe     16 24 26.4   24 40
        FHC   eP      16 24 29.8              e 24 48
        WKC   eP      16 24 35.6   24 58
        ORV   ePe     16 24 39.8
                BRK  16 24 08.1, 41.1N, 122.4W, h= 5 km, ML=3.3
                     NORTH OF REDDING, CALIFORNIA

JUN 03  FRI   iPe     17 34 28.8   34 48
        JAS   iPe     17 34 36.6   34 53
        LLA   iPd     17 34 46.5   35 12
        PRI   ePd     17 34 48.3   35 17
        SAO   iPd     17 34 50.7
        MHC   ePd     17 34 51.3
        PRS   ePd     17 34 52.6
        BKS   iPe     17 34 58.2   35 33
        PCC   eP      17 34 58.3
                BRK  17 34 11.7, 37.6N, 118.8W, h= 14 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

JUN 04  WKC   eP      01 32 17
        WDC   eP      01 32 22.0
        ORV   eP      01 32 28.2
        MHC   eP      01 32 34.3
        JAS   eP      01 32 37
        FRI   eP      01 32 42.2
                USGS 01 20 38.3, 29.4N, 141.8E, h= 27 km, mb=4.9
                     SOUTH OF HONSHU, JAPAN

JUN 04  BKS   eP      06 30 43.6
                          MICRON     PERIOD
                      PZ    0.02        1.0
        PRI   eP      06 30 43.7
        MHC   eP      06 30 44.0
        JAS   eP      06 30 49.3
        ORV   eP      06 30 50.8
        WDC   eP      06 30 51.0
        MIN   eP      06 30 53.0
                USGS 06 19 39.1, 20.4S, 178.6W, h=567 km, mb=4.5
                     FIJI ISLANDS REGION

JUN 04  FRI   iPd     08 34 36.2   34 47
        JAS   iPe     08 34 44.8   35 02
        LLA   ePd     08 34 54.1   35 20
        PRI   iPe     08 34 55.9   35 22
        SAO   ePd     08 34 58.7
        MHC   eP      08 34 59.5
        PRS   e(P)    08 35 00
        BKS   iP      08 35 05.5   35 42
        PCC   eP      08 35 07
                BRK  08 34 20.2, 37.5N, 118.8W, h= 14 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

JUN 04  FHC   eP      09 44 41.3
        BKS           09 44                   e 44 43      Lq 08 00      Lr 12 30
                          MICRON     PERIOD
                      LZ    2.1         20
                      LN    0.7         20
                      LE    1.6         20
        WDC   eP      09 44 43.8
        ORV   eP      09 44 46.0
        MHC   eP      09 44 46.0
        MIN   eP      09 44 46.2
        PRI   eP      09 44 49.4
        JAS   eP      09 44 49.6
        FRI   eP      09 44 52.0
                USGS 09 31 50.7,  5.2S, 151.3E, h= 95 km, mb=5.7
                     NEW BRITAIN REGION

JUN 04  FRI   iPe     19 09 37.5   09 49
        JAS   iPe     19 09 45.1   10 02
        LLA   iPe     19 09 55.3   10 21
        PRI   ePd     19 09 57.0   10 25
        SAO   iPe     19 09 59.7
        MHC   ePd     19 10 00.4
        PRS   ePe     19 10 01.8
        BKS   ePd     19 10 07.3   10 40
        PCC   ePd     19 10 08.0
        ORV   e(P)    19 10 09
                BRK  19 09 21.3, 37.5N, 118.9W, h= 7 km, ML=3.8
                     MAMMOTH LAKES, CALIFORNIA

JUN 05  FHC   eP      03 49 41.0                    e 49 52
        BKS   ePd     03 49 43.0                   pP 49 54
                          MICRON     PERIOD
                      PZ    0.03        1.0
        MHC   eP      03 49 44.2                    e 49 56
        WDC   eP      03 49 45.3                    e 49 57
        PRI   eP      03 49 46.7                    e 49 58
        ORV   eP      03 49 47.3                    e 49 59
        JAS   eP      03 49 49.0                    e 50 01
        MIN   eP      03 49 49.2
                USGS 03 37 08.1, 10.8S, 161.8E, h= 58 km, mb=5.3
                     SOLOMON ISLANDS

JUN 05  SAO   eP      19 01 18.1
        PRI   eP      19 01 18.9
        BKS   eP      19 01 19.6
                          MICRON     PERIOD
                      PZ    0.03        0.8
        MHC   eP      19 01 19.8
        WKC   eP      19 01 21.6
        FRI           19 01                         e 01 25
        JAS   iP      19 01 25.3
        ORV   eP      19 01 26.7
        WDC   iPd     19 01 27.1
                USGS 18 49 55.8, 21.6S, 178.0W, h=391 km, mb=4.9
                     FIJI ISLANDS REGION

JUN 05  FRI   iPe     19 41 18.1   41 29
        JAS   iPe     19 41 25.3
        LLA   iPe     19 41 35.8
        PRI   iP      19 41 37.5
        SAO   iPd     19 41 40.3
        MHC   eP      19 41 40.6
        PRS   iPe     19 41 42.2
        GCC   eP      19 41 44.8
        BKS   eP      19 41 46.8   42 22      e 41 57      e 42 46
        ORV   eP      19 41 47.6
        PCC   eP      19 41 48.1
                BRK  19 41 01.6, 37.6N, 118.9W, h= 8 km, ML=4.3
                     MAMMOTH LAKES, CALIFORNIA

JUN 06  FRI   iPe     16 26 27.0   26 38
        JAS   iPd     16 26 34.5   26 50
        LLA   ePe     16 26 45.0   27 10
        PRI   ePd     16 26 47.1   27 14
        SAO   iPd     16 26 49.7
        MHC   ePd     16 26 50.1
        PRS   ePe     16 26 52.1
        BKS   eP      16 26 57.4   27 30
                BRK  16 26 10.7, 37.6N, 118.9W, h= 4 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

JUN 06  FRI   iPe     17 16 30.9   16 42
        JAS   iPe     17 16 40.0   16 57
        LLA   ePe     17 16 48.8   17 14
        PRI   eP      17 16 50.1   17 18
        SAO   ePe     17 16 53.4
        MHC   iPd     17 16 54.7
        PRS   ePe     17 16 55.0
        BKS   eP      17 17 02.6   17 36      e 17 12
                BRK  17 16 15.2, 37.5N, 118.8W, h= 16 km, ML=3.7
                     MAMMOTH LAKES, CALIFORNIA

JUN 06  FRI   e(P)    20 42 45                 PcP 45 04
        PRI   eP      20 42 49.7               PcP 45 05
        JAS   eP      20 42 54.7               PcP 45 07    ScP 48 50
        MHC   eP      20 42 59.5               PcP 45 09
        BKS           20 42       54 03         Lq 56 14
                          MICRON     PERIOD
                      LZ    0.7         20
                      LN    0.4         20
                      LE    0.7         20
        ORV   iP      20 43 09.3               PcP 45 12    ScP 48 57
        MIN   eP      20 43 11.4
        WDC   eP      20 43 15.3               PcP 45 14
        FHC   eP      20 43 26                 PcP 45 20
                USGS 20 35 36.6, 12.6N,  87.9W, h= 65 km, mb=4.9
                     NEAR COAST OF NICARAGUA

JUN 06  PRI   eP      23 36 39.2                    e 37 06
        JAS   eP      23 36 44.8                    e 37 10
        MHC   eP      23 36 46.3
        BKS           23 36                         e 03 58      e 05 02      e 12 06
                                                   Lr 16 34
                          MICRON     PERIOD
                      LZ    0.5         20
                      LN    0           20
                      LE    0.4         20
        ORV   eP      23 36 53.6                    e 37 19
        WDC   eP      23 36 58.5                    e 37 23
                USGS 23 24 21.7, 32.9S,  70.3W, h=104 km, mb=4.7
                     CHILE-ARGENTINA BORDER REGION

JUN 06  FHC   eP      23 45 50.3
        WDC   iPe     23 45 54.8
        ORV   eP      23 45 58.0
        MHC   eP      23 45 58.0
        PRI   eP      23 46 01.8
        JAS   e(P)    23 46 02
        FRI   eP      23 46 04.3
                USGS 23 32 34.9,  4.0S, 142.0E, h=111 km, mb=5.7
                     PAPUA, NEW GUINEA

JUN 07  FRI   iPd     01 32 14.6   32 26
        JAS   iPd     01 32 20.8   32 38
        LLA   iPe     01 32 32.2
        PRI   ePd     01 32 34.3   33 02
        SAO   iPe     01 32 36.3
        MHC   iPe     01 32 36.5
        PRS   iPe     01 32 38.5
        GCC   ePe     01 32 40.6
        BKS   ePe     01 32 42.7   33 15      e 33 25
        PCC   eP      01 32 44
                BRK  01 31 57.8, 37.6N, 118.9W, h= 5 km, ML=3.9
                     MAMMOTH LAKES, CALIFORNIA

JUN 07  PRI   eP      03 57 29
        JAS   eP      03 57 37.5
        MHC   eP      03 57 41.2
        BKS           03 57       02 58         Lq 05 50      Lr 07 55
                          MICRON     PERIOD
                      LZ    0.4         20
                      LN    0.9         20
                      LE    1.4         20
        ORV   ePe     03 57 53.3
        WDC   eP      03 58 01.7
                USGS 03 51 40.9, 16.6N,  98.0W, h= 49 km, mb=4.8
                     NEAR COAST OF GUERRERO, MEXICO

JUN 07  PRI   eP      06 22 37.0
        JAS   ePe     06 22 42.0
        MHC   eP      06 22 44.6
        ORV   ePe     06 22 52.0
        WDC   eP      06 22 57.3
                USGS 06 10 53.5, 23.5S,  71.7W, h= 28 km, mb=4.9
                     OFF COAST OF NORTHERN CHILE

JUN 07  FRI   iPe     22 25 56.1   26 07
        JAS   iPd     22 26 04.4   26 21
        LLA   ePd     22 26 14.2   26 39
        PRI   ePd     22 26 16.0   26 43
        SAO   eP      22 26 18.6
        MHC   eP      22 26 19.5
        PRS   ePe     22 26 22.2
        BKS   e(P)    22 26 25                 e 27 02      e 27 10      e 27 16
                BRK  22 25 40.3, 37.5N, 118.9W, h= 8 km, ML=3.5
                     MAMMOTH LAKES, CALIFORNIA

JUN 07  FRI   iPe     23 18 09.8
        JAS   iPe     23 18 16.0   18 33
        LLA   iPe     23 18 27.4   18 53
        PRI   iPe     23 18 29.2   18 57
        SAO   iPe     23 18 31.5
        MHC   iPe     23 18 31.7
        PRS   iPe     23 18 33.7
        GCC   iPe     23 18 35.7
        BKS   ePe     23 18 37.9                    e 19 12      e 19 26
        PCC   eP      23 18 38.8
        ORV   eP      23 18 39.5
        MIN   e(P)    23 18 54
                BRK  23 17 52.5, 37.6N, 118.9W, h= 5 km, ML=4.0
                     MAMMOTH LAKES, CALIFORNIA
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JUN 08  FRI   iPe    06 25 43.5  25 55
        JAS   iPe    06 25 51.0  26 07
        LLA   iPe    06 26 01.1  26 27
        PRI   ePe    06 26 02.6  26 31
        SAO   iPe    06 26 05.5
        MHC   ePe    06 26 06.0
        PRS   iPe    06 26 07.5
        GCC   ePd    06 26 09.9
        BKS   ePe    06 26 12.2                 • 26 37     • 26 47     • 26 58
                                                • 27 00
        PCC   ePe    06 26 13.3
        ORV   ePe    06 26 16.5
                     BRK  06 25 27.1, 37.5N, 118.9W, h=  9 km, ML=3.9
                          MAMMOTH LAKES, CALIFORNIA

JUN 08  PRI   eP     21 30 46.7
        FRI          21 30                     • 30 47
        SAO          21 30                     • 30 51
        JAS   iPd    21 30 51.8
        MHC   iPd    21 30 54.2
        BKS   ePd    21 30 57.6
                          MICRON    PERIOD
                     PZ     0.06       0.7
        ORV   iPd    21 31 00.7
        WDC   iP     21 31 05.6
        FHC   eP     21 31 12.9
                     USGS 21 19 13.6, 23.0S,  66.5W, h=259 km, mb=5.1
                          JUJUY PROVINCE, ARGENTINA

JUN 08  FRI   iPe    23 22 36.6  22 48
        JAS   iPe    23 22 45.1
        LLA   iPe    23 22 54.0
        PRI   iPe    23 22 55.5
        SAO   iPe    23 22 58.6
        MHC   iPe    23 22 59.8
        PRS   iPe    23 23 00.5
        GCC   eP     23 23 03.0
        BKS   ePd    23 23 05.6                 • 23 18     • 23 39     • 23 42
                                                • 23 51
        PCC   eP     23 23 06.7
        MIN   eP     23 23 18.4
                     BRK  23 22 20.8, 37.5N, 118.8W, h= 14 km, ML=4.4
                          MAMMOTH LAKES, CALIFORNIA

JUN 09  PRI   eP     03 29 49.8
        FRI   eP     03 29 51.2
        SAO   eP     03 30 05.7
        JAS   eP     03 30 07.0
        MHC   eP     03 30 07.8
        BKS   eP     03 30 20.4  31 53         • 31 13     • 32 54     • 36 31
                                                • 32 10
                          MICRON    PERIOD
                     PZ     0.10       0.9
        ORV          03 30                     • 30 34
        MIN   eP     03 30 44.7
        WDC   eP     03 30 52.4
        FHC   eP     03 31 05.4
                     USGS 03 29 18.9, 32.2N, 115.0W, h=  5 km, mb=5.6, Ms=6.4
                          CALIFORNIA-MEXICO BORDER REGION

JUN 09  FHC   eP     17 37 47.0
        WDC   iPd    17 37 52.3
        MIN   eP     17 37 55.7
        BKS   ePd    17 37 56.6                PcP 38 03     • 38 21     Lq 58 29
                          MICRON    PERIOD
                     PZ     0.16       1.0
                     LN     0.4        20
                     LE     0.2        20
        ORV   iPd    17 37 57.2
        MHC   eP     17 37 59.8
        JAS   iPd    17 38 03.7
        PRI   eP     17 38 05.3
        FRI   iPd    17 38 07.8
        MNV   eP     17 38 12.4
                     Ms=4.8, DISTANCE=81°
                     USGS 17 25 43.0, 15.4N, 147.5E, h= 33 km, mb=5.6, Ms=4.9
                          MARIANA ISLANDS REGION

JUN 09  WVC   iPe    18 39 48.9
        FHC   iPe    18 39 53.0
        WDC   iPe    18 40 07.7  40 41
        MIN   iP     18 40 17.9
        ORV   iPd    18 40 20.7
        MHC   eP     18 40 36.0
        JAS   iPe    18 40 42.3
                     BRK  18 39 24.5, 40.5N, 126.1W, h=  5 km, ML=4.0
                          OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

JUN 09  FHC   eP     18 50 06.9
        WDC   iPd    18 50 12.0                • 53 09
        MIN   eP     18 50 15.2
        BKS   ePd    18 50 16.3                PcP 50 21     pP 51 06
                          MICRON    PERIOD
                     PZ     0.28       1.1
        ORV   iPd    18 50 16.9                • 53 12
        MHC   eP     18 50 19.4
        SAO          18 50                     • 50 20
        JAS   iP     18 50 23.4
        PRI   eP     18 50 25.4
        FRI   iPd    18 50 27.3
        MNV   eP     18 50 32.0
                     USGS 18 38 01.1, 15.4N, 147.5E, h= 23 km, mb=5.9, Ms=5.4
                          MARIANA ISLANDS REGION

JUN 09  WVC   eP     19 35 15.6
        WDC   iPd    19 35 22.0
        ORV   eP     19 35 26.8
        BKS   ePd    19 35 27.5                PcP 35 37     pP 36 21
                          MICRON    PERIOD
                     PZ     0.11       0.9
        MHC   eP     19 35 29.8
        JAS   eP     19 35 33.4
        PRI   eP     19 35 35.5
        FRI   eP     19 35 37.5
        MNV   eP     19 35 42.5
                     USGS 19 23 13.1, 15.4N, 147.5E, h= 33 km, mb=5.4
                          MARIANA ISLANDS REGION

JUN 09  FHC   eP     20 17 23.3
        WDC   iPe    20 17 29.0
        MIN   iPe    20 17 32.9
        ORV   iPe    20 17 35.8
        BKS   ePe    20 17 39.8          PcP 18 03     pP 18 30     sP 18 55
                                                • 27 16     • 27 36     • 27 39
                                                • 28 32
                          MICRON    PERIOD
                     PZ     0.35       1.1
        MHC   iPe    20 17 44.2
        JAS   iPe    20 17 46.4
        SAO   eP     20 17 46.5
        FRI   eP     20 17 52.2
        PRI   eP     20 17 52.6
        MNV   iPe    20 17 53.0
                     USGS 20 06 35.0, 40.8N, 139.9E, h=165 km, mb=5.6
                          NEAR WEST COAST OF HONSHU, JAPAN

JUN 10  FRI   iPe    15 21 53.0  22 05
        MNV   iPe    15 21 54.3
        JAS   iPe    15 22 00.3  22 17
        LLA   iPe    15 22 10.8  22 36
        PRI   iPd    15 22 13.0  22 41
        SAO   iPe    15 22 15.1
        MHC   ePe    15 22 15.6
        PRS   iPe    15 22 17.2
        BKS   e(Pn)  15 22 23                 • 22 33     • 22 58     • 23 00
                                                • 23 10
        PCC   e(P)   15 22 23
        ORV   ePe    15 22 24.8
                     BRK  15 21 35.4, 37.6N, 118.8W, h=  6 km, ML=3.5
                          MAMMOTH LAKES, CALIFORNIA

JUN 10  FHC   eP     23 22 19.4
        WDC   ePd    23 22 25.1                ScP 26 16
        MIN   eP     23 22 29.5                ScP 26 19
        ORV   ePd    23 22 33.0                ScP 26 21
        BRK   eP     23 22 38.2
        BKS          23 22                     • 37 42
        MHC   eP     23 22 43.2
        JAS   ePd    23 22 45.2                ScP 26 29
        SAO   eP     23 22 46.0
        MNV   ePd    23 22 51.5
        FRI   eP     23 22 51.8                ScP 26 34
        PRI   eP     23 22 52.9
                     USGS 23 13 23.7, 51.5N, 150.6E, h=543 km, mb=5.2
                          SEA OF OKHOTSK

JUN 11  FRI   eP     02 45 09.6
        MNV   eP     02 45 11.3
        PRI   eP     02 45 12.3
        JAS   eP     02 45 20.0
        MHC   eP     02 45 23.7
        ORV   eP     02 45 33.6                PcP 47 56
        WDC   eP     02 45 41.0                PcP 47 57
        FHC   eP     02 45 53.5
                     USGS 02 38 31.9, 14.1N,  91.0W, h= 95 km, mb=5.0
                          GUATEMALA

JUN 11  FRI   iPe    04 41 14.6  41 26
        MNV   iPe    04 41 18.4
        JAS   iPe    04 41 22.0
        LLA   iPe    04 41 32.3
        PRI   iPe    04 41 34.0
        SAO   iPe    04 41 36.7
        MHC   iPe    04 41 37.1
        PRS   iPe    04 41 38.6
        GCC   iPe    04 41 41.0
        BKS   iP•e   04 41 43.4                Pg 41 58    Sn 42 11     • 42 13
                                                • 42 18     Sg 42 27
        PCC   iPe    04 41 44.4
        ORV   e(P)   04 41 45
        MIN   e(P)   04 41 55
        WDC   e(P)   04 42 04
                     BRK  04 40 58.5, 37.5N, 118.9W, h=  8 km, ML=4.7
                          MAMMOTH LAKES, CALIFORNIA

JUN 11  LLA   i(P)   04 42 58
        PRI   e(P)   04 43 00    43 26
        SAO   i(P)   04 43 03
        MHC   i(P)   04 43 03
                     BRK  04 42 25.0, 37.5N, 118.9W, h=  8 km, ML=3.8
                          MAMMOTH LAKES, CALIFORNIA

JUN 11  FRI   iPe    04 47 51.9  48 04
        MNV   iPe    04 47 55.2
        JAS   iPd    04 47 59.0
        LLA   iPe    04 48 09.7  48 35
        PRI   ePe    04 48 11.4  48 39
        SAO   iPe    04 48 14.0
        MHC   ePe    04 48 14.4
        PRS   ePe    04 48 16.2
        BKS   e(Pn)  04 48 22                 • 48 24     • 48 58     • 49 08
        PCC   ePe    04 48 22.3
        ORV   e(P)   04 48 23
                     BRK  04 47 35.5, 37.6N, 118.9W, h=  6 km, ML=3.8
                          MAMMOTH LAKES, CALIFORNIA

JUN 11  LLA   iPd    07 34 12.9
        PRS   iPd    07 34 15.0
        SAO   iPe    07 34 15.6
        PRI   iPd    07 34 20.5
        GCC   ePd    07 34 24.9
        MHC   ePd    07 34 26.6  34 39
        FRI   ePe    07 34 31.4
        PCC   e(P)   07 34 33
        JAS   ePd    07 34 35.8
        BKS   e(Pn)  07 45 37    34 58         • 34 59     Sg 35 04
        ORV   e(P)   07 34 58
                     BRK  07 34 09.4, 36.5N, 121.1W, h=  7 km, ML=2.9
                          SOUTHEAST OF HOLLISTER, CALIFORNIA

JUN 11  WDC   ePKP   08 27 42.2                • 28 31
        ORV   ePKP   08 27 44.0                • 28 37
        BKS          08 27                     • 27 53     • 28 24     • 35 31
                                                • 38 30     • 43 35
        MHC   ePKP   08 27 45.4
        JAS   ePKP   08 27 46.6
        PRI   ePKP   08 27 47.8
        FRI   ePKP   08 27 48.0
                     USGS 08 10 07.5,  6.9S, 125.4E, h=532 km, mb=5.8
                          BANDA SEA

JUN 11  FHC   eP     10 20 19.6
        WDC   ePd    10 20 25.0
        MIN   ePd    10 20 28.5
        ORV   ePd    10 20 30.2
        BKS   ePe    10 20 31.3                PcP 20 36     pP 20 59     sP 21 13
                                                • 25 53
                          MICRON    PERIOD
                     PZ     0.07       1.3
        MHC   eP     10 20 34.4
        JAS   iPd    10 20 37.8
        PRI   eP     10 20 40.7
        FRI   eP     10 20 42.2
        MNV   eP     10 20 46.0
                     USGS 10 08 22.8, 21.4N, 144.1E, h= 33 km, mb=5.2
                          MARIANA ISLANDS REGION

JUN 11  WDC   ePd    10 57 59.4
        MIN   eP     10 58 02.8
        ORV   ePd    10 58 04.6
        MHC   eP     10 58 08.7
        JAS   eP     10 58 12.1
        PRI   eP     10 58 15.1
        FRI   eP     10 58 16.6
        MNV   eP     10 58 20.3
                     MARIANA ISLANDS REGION

JUN 11  FHC   eP     14 26 46.8
        WDC   eP     14 26 52.3
        MIN   eP     14 26 56.0
        ORV   eP     14 26 59.0
        BKS   eP     14 27 01.8                PcP 27 15     pP 27 58     sP 28 16
                                                • 30 02     pPP 30 53     • 31 09
                          MICRON    PERIOD
                     PZ     0.05       1.0
        MHC   eP     14 27 06.0
        JAS   eP     14 27 08.7
        PRI   eP     14 27 13.9
        FRI   eP     14 27 14.1
        MNV          14 27                     • 27 15
                     USGS 14 15 27.7, 35.1N, 141.1E, h= 36 km, mb=5.2, Ms=5.5
                          NEAR EAST COAST OF HONSHU, JAPAN
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JUN 11  FRI   eP     14 33 39.9
        PRI   eP     14 33 40.6
        MNV   eP     14 33 42.7
        SAO   eP     14 33 44
        JAS   iPe    14 33 46.5
        MHC   ePe    14 33 48.0
        BKS   eP     14 33 49.5  44 18      SKS 44 14      e 44 30     SeS 44 51
                                              PS 45 10     SS 49 53     SSS 53 53
                                              Lq 56 22      e 56 58
                                  MICRON     PERIOD
                              PZ    0.07       1.3
                              LZ    2.5        20
                              LN    2.1        20
                              LE    1.1        20
        ORV   iPe    14 33 55.4
        MIN   eP     14 33 57.7
        WDC   iPe    14 34 00.4
        FHC   iPe    14 34 06.7
                     Ms=5.6, DISTANCE=87°
                     USGS 14 21 18.9, 32.7S,  71.6W, h= 35 km, mb=5.5, Ms=5.5
                          NEAR COAST OF CENTRAL CHILE

JUN 11  FRI   iPe    17 10 40.0  10 52
        MNV   iPe    17 10 41.1
        JAS   iPe    17 10 46.3  11 03
        LLA   iPe    17 10 57.5  11 23
        PRI   e(P)   17 11 00     11 28
        SAO   iPe    17 11 01.6
        PRS   iPe    17 11 04.1
        GCC   ePe    17 11 05.9
        BRK   e(P)   17 11 08
        PCC   e(P)   17 11 09
        ORV   e(P)   17 11 12
                     BRK  17 10 22.7, 37.6N, 118.9W, h=  9 km, ML=3.6
                          MAMMOTH LAKES, CALIFORNIA

JUN 11  FHC   eP     23 10 00.4
        BKS          23 10                          Lr 38 00
                                  MICRON     PERIOD
                              LZ    1.0        20
                              LN    0          20
                              LE    0.7        20
        WDC   iPe    23 10 05.1
        MHC   eP     23 10 07.0
        MIN   eP     23 10 07.7
        ORV   ePe    23 10 07.8
        PRI   eP     23 10 10.5
        JAS   ePe    23 10 11.2
        FRI   eP     23 10 13.4
        MNV   ePe    23 10 20.8
                     USGS 22 57 08.1,  5.4S, 151.5E, h= 58 km, mb=5.4
                          NEW BRITAIN REGION

JUN 12  FRI   iPe    00 56 11.2  56 22
        MNV   iPe    00 56 15.5
        JAS   iPd    00 56 18.8  56 35
        LLA   ePe    00 56 29.0  56 54
        PRI   ePd    00 56 31.1  56 58
        SAO   ePd    00 56 33.5
        MHC   ePe    00 56 34.3
        PRS   ePe    00 56 35.5
        PCC   e(P)   00 56 41
        ORV   e(P)   00 56 46
                     BRK  00 55 55.4, 37.5N, 118.9W, h= 13 km, ML=3.5
                          MAMMOTH LAKES, CALIFORNIA

JUN 12  MNV   ePKP   03 23 29.7
        FRI   ePKP   03 23 32.7
        MIN   ePKP   03 23 33.4
        JAS   ePKP   03 23 33.8
        ORV   ePKP   03 23 34.1
        PRI   ePKP   03 23 36.0
                     USGS 03 03 41.9, 26.9S,  27.4E, h= 33 km, mb=4.8
                          REPUBLIC OF SOUTH AFRICA

JUN 12  FHC   eP     03 39 49.2
        MIN   ePe    03 39 52.2
        ORV   iPe    03 39 55.8
        BKS   ePd    03 40 04.2
                                  MICRON     PERIOD
                              PZ    0.06       1.0
        MNV   eP     03 40 04.7
        JAS   iPe    03 40 04.8
        MHC   eP     03 40 06.8
        SAO   eP     03 40 09.3
        FRI   eP     03 40 09.5
        PRI   eP     03 40 13.7
                     USGS 03 26 57.5, 49.9N,  79.0E, h=  0 km, mb=5.6
                          EASTERN KAZAKH SSR

JUN 12  FHC   eP     08 49 25.6
        WDC   iPd    08 49 30.8
        MIN   ePd    08 49 34.4
        BKS   e(P)   08 49 36                  e 01 00     Lr 02 30
                                  MICRON     PERIOD
                              PZ    0.04       1.0
                              LZ    0.8        20
                              LN    0          20
                              LE    0.7        20
        ORV   iPd    08 49 36.2
        MHC   eP     08 49 40.3
        SAO   eP     08 49 41.4
        JAS   iPd    08 49 43.7
        PRI   eP     08 49 46.8
        FRI   ePd    08 49 48.2
        MNV   eP     08 49 51.9
                     USGS 08 37 28.7, 21.4N, 144.0E, h= 33 km, mb=5.1, Ms=4.7
                          MARIANA ISLANDS REGION

JUN 12  FRI   iPe    17 15 43.9
        JAS   iPe    17 15 52.5
        PRI   iPe    17 15 57.3
        LLA   iPe    17 15 59.4
        SAO   iPe    17 16 03.1
        PRS   iP     17 16 03.7
        MHC   iPe    17 16 05.5
        ORV   iPe    17 16 10.9
        BKS   iPe    17 16 12.1                e 17 08
        PCC   eP     17 16 13.2
        MIN   iPe    17 16 18.2
        WDC   eP     17 16 27.5
                     ML=5.5, NUCLEAR EXPLOSION (KASH), N.T.S.
                     USGS 17 15 00.1, 37.3N, 116.4W, h=  0 km, mb=5.6
                          SOUTHERN NEVADA

JUN 13  PRI   eP     01 07 51
        FRI   eP     01 07 54.6
        MNV          01 08                      e 08 04
        JAS   eP     01 08 08
        MHC          01 08                      e 08 10
        BKS   iPd    01 08 20    11 24          e 10 30     Lq 11 00     Lr 12 00
                                  MICRON     PERIOD
                              PZ    0.17       1.1
        ORV   ePd    01 08 32.8
        MIN   ePd    01 08 40.8
        WDC          01 08                      e 08 44
        FHC          01 08                      e 08 58
                     USGS 01 04 36.3, 26.1N, 109.9W, h= 15 km, mb=5.0
                          GULF OF CALIFORNIA

JUN 13  WDC   eP     13 34 11.6
        MIN   eP     13 34 14.8
        ORV   eP     13 34 16.5
        JAS   eP     13 34 23.1
        MNV   eP     13 34 31.3
                     USGS 13 22 23.3, 16.2N, 145.4E, h=270 km, mb=4.8
                          MARIANA ISLANDS

JUN 13  FRI   iPe    14 57 15.7  57 27
        MNV   iPe    14 57 17.6
        JAS   iPd    14 57 22.0  57 39
        LLA   iPe    14 57 33.3  57 59
        PRI   ePe    14 57 35.1  58 04
        SAO   ePe    14 57 37.5
        MHC   ePe    14 57 37.7
        PRS   ePe    14 57 39.6
        GCC   eP     14 57 41.5
        BKS   iPe    14 57 43.7                e 58 19
        PCC   e(P)   14 57 45
        ORV   eP     14 57 46
                     BRK  14 56 58.9, 37.6N, 118.9W, h= 10 km, ML=3.8
                          MAMMOTH LAKES, CALIFORNIA

JUN 13  FRI   iPe    23 23 36.0
        MNV   iPe    23 23 39.9
        JAS   iPd    23 23 44.4
        LLA   iPe    23 23 53.5  24 19
        PRI   iPe    23 23 54.9  24 23
        SAO   iPe    23 23 58.2
        MHC   ePe    23 23 58.8
        PRS   iPe    23 23 59.9
        GCC   ePd    23 24 02.3
        BRK   e(P)   23 24 05
        PCC   ePd    23 24 06.1
        ORV   eP     23 24 09
        MIN   e(P)   23 24 23
        WDC   e(P)   23 24 31
                     BRK  23 23 19.9, 37.5N, 118.8W, h= 17 km, ML=4.1
                          MAMMOTH LAKES, CALIFORNIA

JUN 14  FRI   iPe    03 36 48.9
        MNV   iPe    03 36 51.9
        JAS   iPe    03 36 55.9
        LLA   iPe    03 37 06.7  37 33
        PRI   ePd    03 37 08.6  37 37
        SAO   iPe    03 37 10.9
        MHC   ePe    03 37 11.3
        PRS   ePe    03 37 13.0
        BKS   eP     03 37 17.8                Sg 37 53
        PCC   e(P)   03 37 19
                     BRK  03 36 32.4, 37.6N, 118.9W, h=  6 km, ML=3.5
                          MAMMOTH LAKES, CALIFORNIA

JUN 14  FRI   iPe    05 48 04.6  48 16
        MNV   iPe    05 48 06.6
        JAS   iPe    05 48 10.8  48 27
        LLA   iPe    05 48 22.1  48 48
        PRI   ePd    05 48 24.3  48 52
        SAO   ePe    05 48 26.3
        MHC   ePd    05 48 26.7
        PRS   ePe    05 48 28.6
        GCC   ePe    05 48 30.5
        BKS   iPe    05 48 32.9  49 05
        PCC   e(P)   05 48 34
                     BRK  05 47 47.7, 37.6N, 118.9W, h= 12 km, ML=3.5
                          MAMMOTH LAKES, CALIFORNIA

JUN 14  SAO   eP     19 43 29.8
        BKS   eP     19 43 30.9  52 36          i 52 58          i 56 04          i 56 30
                                  MICRON     PERIOD
                              PZ    0.05       1.2
        PRI   eP     19 43 31.6
        MHC   eP     19 43 31.6
        FHC   eP     19 43 35.0
        FRI   eP     19 43 36.9
        JAS   ePe    19 43 37.7                e 45 35
        ORV   eP     19 43 38.3
        WDC   iPe    19 43 38.8                e 45 37
        MIN   eP     19 43 40.5
        MNV   eP     19 43 46.7
                     USGS 19 32 36.1, 18.3S, 178.0W, h=553 km, mb=5.6
                          FIJI ISLANDS REGION

JUN 15  FHC   eP     19 16 40.2
        WDC   iPe    19 16 46.0
        MIN   ePe    19 16 49.7
        BKS   eP     19 16 51.5                PPS 27 47     Lr 40 20
                                  MICRON     PERIOD
                              PZ    0.02       0.8
                              LZ    1.1        20
                              LN    0.4        20
                              LE    1.0        20
        ORV   ePe    19 16 51.5
        MHC   eP     19 16 55.4
        JAS   ePe    19 16 59.1
        FRI   eP     19 17 03.9
                     Ms=5.1, DISTANCE=78°
                     USGS 19 04 51.1, 22.6N, 144.6E, h= 45 km, mb=5.1, Ms=5.1
                          VOLCANO ISLANDS REGION

JUN 15  WDC   ePe    22 27 18.7
        MIN   eP     22 27 22.0
        ORV   ePe    22 27 25.0
        BKS   ePe    22 27 29
                                  MICRON     PERIOD
                              PZ    0.01       0.6
        MHC   eP     22 27 29.7
        JAS   ePe    22 27 35.4
        FRI   eP     22 27 40.2
        PRI   eP     22 27 41.2
                     USGS 22 15 51.1, 32.4N, 142.3E, h= 44 km, mb=5.0, Ms=4.6
                          SOUTH OF HONSHU, JAPAN

JUN 15  PRI   eP     23 58 10.0
        JAS   iPd    23 58 15.5
        MHC          23 58                      e 58 24
        BKS   eP     23 58 21    07 31      PeP 58 34     pP 58 39     sP 58 53
                                              e 07 37     SeS 07 56     PS 08 19
                                              e 08 46      e 11 50      e 12 06
                                             SS 12 38     Lq 17 28
                                  MICRON     PERIOD
                              PZ    0.77       4
        ORV   iPd    23 58 26.3
        WDC   iPd    23 58 32.2
                     USGS 23 47 15.0, 15.5S,  75.2W, h= 26 km, mb=5.4, Ms=5.4
                          NEAR COAST OF PERU

JUN 16  PRI   eP     05 56 47.1
        MNV   eP     05 56 47.8
        FRI   eP     05 56 48.5
        SAO   eP     05 56 52.0
        JAS   iPd    05 56 52.5
        MHC   eP     05 56 55.0
        BKS   ePd    05 56 59.2  06 36      PPS 07 39
                                  MICRON     PERIOD
                              PZ    0.08       0.8
        ORV   iPd    05 57 01.9
        MIN   eP     05 57 03.7
        WDC   iPd    05 57 07.0
        FHC   eP     05 57 14.3
                     USGS 05 45 06.9, 22.0S,  68.5W, h= 87 km, mb=5.5
                          NORTHERN CHILE

JUN 16  FRI   iPe    08 22 55.9  23 07
        MNV   iP     08 22 56.8
        JAS   iPe    08 23 02.2  23 19
        LLA   iPe    08 23 13.2  23 39
        PRI   iPd    08 23 15.2  23 43
        SAO   iPd    08 23 17.5
        MHC   eP     08 23 17.9
        PRS   ePd    08 23 20.1
        BKS   iPd    08 23 24    23 59
        PCC   eP     08 23 25.0
        ORV   eP     08 23 25.5
                     BRK  08 22 38.4, 37.6N, 118.9W, h= 10 km, ML=3.5
                          MAMMOTH LAKES, CALIFORNIA
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JUN 16  MHC            15 27                    e 27 44
        JAS   eP       15 27 49.3
        ORV   eP       15 27 50.7
        WDC   eP       15 27 50.9
        MIN            15 27                    e 27 53

JUN 16  PRI   eP       18 37 12.0
        SAO            18 37                    e 37 14
        MHC   eP       18 37 17.8
        BKS   eP       18 37 20.2
                          MICRON    PERIOD
                       PZ   0.05      0.9
        JAS   eP       18 37 23.3
        MNV            18 37                    e 37 31
        ORV   eP       18 37 32.0
        WDC   iPe      18 37 35.9
              USGS 18 26 57.8, 22.0S, 138.9W, h=  0 km, mb=5.5
                   TUAMOTU ARCHIPELAGO REGION

JUN 16  BKS   ePd      20 00 27.7
                          MICRON    PERIOD
                       PZ   0.04      0.9
        PRI   eP       20 00 28.0
        MHC   eP       20 00 28.5
        FRI   eP       20 00 33.0
        JAS   eP       20 00 33.9
        ORV   eP       20 00 35.1
        WDC   eP       20 00 35.5
        MNV   eP       20 00 43.0
              USGS 19 49 12.0, 20.2S, 177.6W, h=405 km, mb=4.9
                   FIJI ISLANDS REGION

JUN 17  SAO   eP       08 53 58.7
        BKS   ePd      08 53 59.7  03 12      PP 57 01      e 06 47
                          MICRON    PERIOD
                       PZ   0.17      0.8
        PRI   iPd      08 54 00.0
        MHC   iPd      08 54 00.2
        FHC            08 54                    e 54 04
        FRI   iPd      08 54 05.2
        JAS   iPd      08 54 05.7
        ORV   iPd      08 54 07.0
        WDC   iPd      08 54 07.1  56 26
        MIN   eP       08 54 08.9
        MNV   eP       08 54 14.7
              USGS 08 42 56.9, 20.2S, 178.4W, h=580 km, mb=5.6
                   FIJI ISLANDS REGION

JUN 17  JAS   eP       12 06 06.3
        WDC   eP       12 06 07.0
        ORV   eP       12 06 07.2
              USGS 11 55 07.9, 17.9S, 178.6W, h=596 km, mb=5.2
                   FIJI ISLANDS REGION

JUN 17  FRI   iPe      12 26 55.2  27 06
        MNV   iPe      12 26 59.8
        JAS   iPe      12 27 03.0
        LLA   iPe      12 27 13.2  27 36
        PRI   iPd      12 27 15.3  27 41
        SAO   eP       12 27 17.5
        MHC   eP       12 27 18.4
        PRS   eP       12 27 20.0
        BKS   ePe      12 27 25                 e 27 56
        GCC   eP       12 27 25.6
        ORV   eP       12 27 26.9
              BRK  12 26 39.5, 37.5N, 118.9W, h=  9 km, ML=3.9
                   MAMMOTH LAKES, CALIFORNIA

JUN 17  FRI   e(P)     12 27 29    27 40
        MNV   e(P)     12 27 33
        JAS   e(P)     12 27 36
        LLA            12 27       28 10
        PRI            12 27       28 13
        MHC            12 27       28 21
              BRK  12 27 12.6, 37.5N, 118.9W, h=  4 km, ML=4.0
                   MAMMOTH LAKES, CALIFORNIA

JUN 18  GCC   iPe      03 48 15.3
        MHC   iPd      03 48 18.4  48 24
        PRS   iPd      03 48 20.5
        LLA   iPd      03 48 21.3
        PCC   ePe      03 48 24.6
        BKS   iP       03 48 28.2               e 48 39
        PRI   ePd      03 48 29.2  48 44
        JAS   iPe      03 48 34.4
        FRI   eP       03 48 36
        ORV   ePe      03 48 51.5
              BRK  03 48 09.0, 36.9N, 121.6W, h=  6 km, ML=3.7
                   NORTHWEST OF HOLLISTER, CALIFORNIA

JUN 18  GCC   iPe      04 52 32.8
        MHC   iPd      04 52 35.9  52 42
        PRS   iPd      04 52 38.1
        LLA   iPd      04 52 38.9
        PCC   iPe      04 52 42.2
        BKS   iPe      04 52 45.7               e 52 48      e 52 54
        PRI   ePd      04 52 46.8  53 02
        JAS   iPd      04 52 51.6
        FRI   ePe      04 52 52.4
        ORV   ePe      04 53 09
        WDC   e(P)     04 53 23
              BRK  04 52 26.6, 36.9N, 121.6W, h=  6 km, ML=4.2
                   NORTHWEST OF HOLLISTER, CALIFORNIA

JUN 18  GCC   iPe      05 31 11.3
        MHC   iPd      05 31 14.4  31 20
        PRS   iPd      05 31 16.9
        LLA   iPd      05 31 17.6
        PCC   iPe      05 31 20.7
        BKS   eP       05 31 24.2  31 41
        PRI   ePd      05 31 25.5  31 40
        JAS   ePd      05 31 30.2
        FRI   ePe      05 31 32
        ORV   eP       05 31 47.5
              BRK  05 31 05.2, 36.9N, 121.6W, h=  6 km, ML=3.8
                   NORTHWEST OF HOLLISTER, CALIFORNIA

JUN 18  GCC   iPe      05 43 02.5
        MHC   iPd      05 43 05.7  43 12
        PRS   iPd      05 43 08.4
        LLA   iPd      05 43 09.2
        PCC   ePe      05 43 11.8
        BKS   iPe      05 43 16.2               e 43 32
        PRI   ePe      05 43 17.2  43 32
        JAS   iPe      05 43 21.6
        FRI   iPd      05 43 24.5
              BRK  05 42 56.5, 36.9N, 121.7W, h=  5 km, ML=3.0
                   NORTHWEST OF HOLLISTER, CALIFORNIA

JUN 18  SAO   iPd      08 35 30.9
        GCC   iPe      08 35 32.8
        MHC   iPd      08 35 35.9  35 42
        PRS   iPd      08 35 38.6
        LLA   iPd      08 35 39.4
        PCC   iPe      08 35 42.2
        BKS   iPe      08 35 46.5  36 02
        PRI   ePd      08 35 47.3  36 02
        JAS   iPd      08 35 51.9
        FRI   ePd      08 35 53.7
        ORV   ePe      08 36 09.2
              BRK  08 35 26.8, 36.9N, 121.6W, h=  4 km, ML=3.5
                   NORTHWEST OF HOLLISTER, CALIFORNIA

JUN 18  FHC   e(P)     09 31 22
        WDC   iPe      09 31 26.2                e 35 04
        BKS   ePe      09 31 28.2          PP 34 56      PPP 36 46      SKS 42 00
                                           SeS 42 24       PS 42 48      PKS 43 56
                                            SS 48 10       Lg 55 28       Lr 59 06
                          MICRON    PERIOD
                       PZ   0.16      0.8
                       LZ   10        20
                       LN    2.5      20
                       LE   12        20
        MHC   e(P)     09 31 28
        ORV   iPe      09 31 28.9
        PRI   ePe      09 31 31.9                e 35 11
        JAS   iPe      09 31 32.5                e 35 15
        FRI   eP       09 31 34.6
        MNV   eP       09 31 40.6
              mb=6.3, DISTANCE=90°
              USGS 09 18 32.4,  5.2S, 152.1E, h= 61 km, mb=6.0
                   NEW BRITAIN REGION

JUN 18  SAO   ePd      11 00 27.1
        BKS   iPd      11 00 28.7  09 52        e 00 40       e 01 03      ScS 11 00
                                                e 14 10       Lr 20 56
                          MICRON    PERIOD
                       PZ   0.15      1.0
                       LZ   41        20
                       LN   28        20
                       LE   35        20
        PRI   ePd      11 00 29.0
        MHC   ePd      11 00 29.1
        FHC   e(P)     11 00 33
        FRI   iPd      11 00 34.7
        JAS   iPd      11 00 35.3
        ORV   iPd      11 00 36.8
        WDC   iPd      11 00 37.0
        MNV   iPd      11 00 45.8
              Ms=6.8, DISTANCE=74°
              USGS 10 49 10.0, 15.3S, 173.6W, h= 43 km, mb=5.9, Ms=6.5
                   TONGA ISLANDS

JUN 18  SAO   eP       13 11 29.7
        PRI   eP       13 11 31.1
        BKS   iPe      13 11 31.3
                          MICRON    PERIOD
                       PZ   0.03      0.7
        MHC   ePd      13 11 31.5
        JAS   iPd      13 11 36.8
        ORV   iPd      13 11 38.4
        WDC   iPd      13 11 38.7
        MNV   ePd      13 11 45.9
              USGS 13 00 13.4, 21.2S, 178.2W, h=449 km, mb=5.3
                   FIJI ISLANDS REGION

JUN 18  WDC   ePdif    17 28 41                 e 32 36
        BKS   ePdif    17 28 44    40 10      PP 33 00      SKS 39 15       PS 41 40
                                              SP 41 44      PPS 42 30       SS 47 15
                                             SSS 51 00       Lg 56 00       Lr 00 45
                          MICRON    PERIOD
                       LZ   80        20
                       LNE  37        20
                       LNW  80        20
        MIN   ePdif    17 28 44
        MHC   ePdif    17 28 45
        ORV   ePdif    17 28 46                 e 32 42
        SAO   ePdif    17 28 49
        JAS   ePdif    17 28 51                 e 44 57
        PRI   ePdif    17 28 54
        FRI   ePdif    17 28 55
              Ms=7.2, DISTANCE=101°
              USGS 17 14 54.5,  9.5N, 126.7E, h= 54 km, mb=5.8, Ms=6.8
                   MINDANAO, PHILIPPINE ISLANDS

JUN 19  FHC            06 54                    e 54 19
        WDC            06 54                    e 54 26
        BKS   ePdif    06 54 44    05 08        e 04 54      SKS 05 12       PS 07 32
                                              SP 07 34       e 07 56      PPS 08 30
                                              SS 12 45       e 13 28      SSS 17 00
                                            e 25 23       Lr 26 40       e 29 12
                                            e 31 16       e 31 44
                          MICRON    PERIOD
                       LZ    6        20
                       LN    1.8      20
                       LE    6        20
        MIN            06 54                    e 54 28
        MHC            06 54                    e 54 32
        ORV            06 54                    e 54 31
        JAS            06 54                    e 54 37
              Ms=6.1, DISTANCE=101°
              USGS 06 40 43.4,  9.5S, 126.7E, h= 45 km, mb=5.6, Ms=5.9
                   MINDANAO, PHILIPPINE ISLANDS

JUN 19  SAO   ePe      08 44 10.2
        PRI   ePe      08 44 11.1
        MHC   ePe      08 44 12.2                e 44 26      PP 47 47
        BKS   iPe      08 44 12.3  54 36      PP 47 32       e 53 56      SP 54 42
                                              PS 55 24       e 55 40       e 59 10
                                            e 59 40       e 59 48       SS 00 16
                                           SSS 03 42       Lg 06 16       e 07 00
                                            Lr 10 00
                          MICRON    PERIOD
                       PZ   0.22      1.0
                       LZ   20        20
                       LN   14        20
                       LE   12        20
        FRI   ePe      08 44 15.8
        JAS   iPe      08 44 17.0                e 44 31      PP 47 53 PKPPKP 10 21
        FHC   ePe      08 44 17.6
        ORV   ePe      08 44 19.1          PKPPKP 10 15
        WDC   iPe      08 44 19.9                e 44 35      e 44 46       e 44 59
                                           PKPPKP 10 11
        MIN   ePe      08 44 21.1                e 44 35
        MNV   ePe      08 44 24.6                e 44 39
              Ms=6.4, DISTANCE=85°
              USGS 08 31 38.7, 30.0S, 178.0W, h= 51 km, mb=6.1
                   KERMADEC ISLANDS

JUN 20  FRI   iPe      17 24 23.3  24 34
        MNV   iPe      17 24 27.5
        JAS   iPe      17 24 30.7  24 46
        LLA   iPe      17 24 41.2  25 06
        PRI   iPe      17 24 42.9  25 09
        SAO   iPe      17 24 45.6
        MHC   iPe      17 24 46.0
        PRS   iPe      17 24 47.6
        GCC   ePd      17 24 50.0
        BKS   iPnd     17 24 52.7                P* 24 56      Pg 25 03       e 25 22
                                                 S* 25 29      Sg 25 39
        PCC   ePe      17 24 53.4
              BRK  17 24 07.2, 37.5N, 118.9W, h=  4 km, ML=4.0
                   MAMMOTH LAKES, CALIFORNIA

JUN 20  BKS            19 10                    e 19 00       e 48 00
        WDC   ePKPe    19 10 19.0
        ORV   ePKPe    19 10 21.0
              USGS 18 51 31.4, 11.0S, 119.1E, h= 33 km, mb=5.6, Ms=5.3
                   SOUTH OF SUMBA ISLAND

JUN 21  WKC   iP       00 43 04.4  43 10
        FHC   iPe      00 43 09.3  43 18
        WDC   iPe      00 43 23.2  43 43
        MIN   iPe      00 43 33.1  44 00
        ORV   iPd      00 43 36.4
        MHC   eP       00 43 54.3
        PCC   eP       00 43 57.2
        SAO   eP       00 44 00.8
              BRK  00 42 56.5, 40.4N, 124.7W, h= 10 km, ML=3.8
                   OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA
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JUN 21  BKS          08 24                    Lr 53 00
                          MICRON    PERIOD
                     LZ     1.4       20
                     LN     0         20
                     LE     1.2       20
        WDC  ePc     08 24 35.3
        MIN  eP      08 24 37.7
        ORV  eP      08 24 38
        JAS  eP      08 24 41.3
        MNV          08 24                 e 24 50
             USGS 08 11 40.6,  5.2S, 152.2E, h= 51 km, mb=5.4, Ms=4.7
                  NEW BRITAIN REGION

JUN 21  SAO  iPe     18 14 39.0
        LLA  iPe     18 14 42.9
        PAS  iPd     18 14 43.2
        GOL  ePe     18 14 48.2
        MBC  ePd     18 14 50.6  15 02
        PRI  iPd     18 14 51.0  15 02
        PGC  ePd     18 14 57.5
        FRI  eP      18 15 00
        JAS  ePe     18 15 02.0
        BKS  iPe     18 15 03.1  15 24
             BRK  18 14 36.4, 36.7N, 121.3W, h=  5 km, ML=3.0
                  SOUTHEAST OF HOLLISTER, CALIFORNIA

JUN 21  PRI          20 38                 e 38 41     e 40 52
        JAS  ePKP    20 38 40.5            e 41 05     e 42 05     e 59 37
        MBC          20 38                 e 38 43
        ORV  ePKP    20 38 43.5            e 41 10
        BKS  ePKP    20 38 44              e 38 54     e 39 10     e 40 50
                                           e 42 05     e 42 52     e 54 50
                                           e 58 44     e 58 50     e 59 11
                                           e 59 35     e 01 32     e 03 16
                                        Lr 14 00
                          MICRON    PERIOD
                     PKPZ   0.03      0.8
        WDC  ePKP    20 38 45.5            e 41 17     e 59 25
             USGS 20 19 26.4, 58.0S,  10.7W, h= 10 km, mb=6.0, Ms=5.9
                  SOUTHWESTERN ATLANTIC OCEAN

JUN 21  PBC  iPe     21 41 15.8
        WDC  iPe     21 41 20.7
        MIN  iPe     21 41 24.3
        ORV  iPe     21 41 27.2
        BKS  iPe     21 41 30.8
                          MICRON    PERIOD
                     PZ     0.15      0.8
        MBC  ePe     21 41 34.7
        SAO  eP      21 41 36.6
        JAS  iPe     21 41 36.9
        FRI  iPe     21 41 42.2
        PRI  ePe     21 41 42.6
        MNV  ePe     21 41 43.0
             USGS 21 30 17.3, 37.3N, 135.0E, h=368 km, mb=5.0
                  SEA OF JAPAN

JUN 22  PRI  ePe     03 19 48.1
        MBC  eP      03 19 49
        BKS          03 19                Lq 46 00
        WKC  eP      03 19 52.5
        FRI  eP      03 19 52.7
        JAS  iPe     03 19 54.0
        ORV  ePe     03 19 55.8
        WDC  iPe     03 19 57.1
             USGS 03 07 21.2, 30.2S, 177.9W, h=101 km, mb=5.4
                  KERMADEC ISLANDS

JUN 22  PRI  eP      13 30 14.3
        FRI  eP      13 30 18.7
        JAS  eP      13 30 19.8
        ORV  eP      13 30 21.9
        WDC  eP      13 30 22.8
        MIN  eP      13 30 24
             USGS 13 17 59.1, 32.4S, 179.4E, h=338 km, mb=5.1
                  SOUTH OF KERMADEC ISLANDS

JUN 22  MBC  eP      19 32 04.3
        JAS  ePd     19 32 09.7
        ORV  eP      19 32 11.8
        WDC  ePd     19 32 12.5
             USGS 19 20 14.9, 22.9S, 176.1W, h=137 km, mb=4.4
                  SOUTH OF FIJI ISLANDS

JUN 23  PRI  iPe     05 17 09.8  17 21
        MNV  iPe     05 17 11.7
        JAS  iPd     05 17 16.7  17 33
        LLA  ePe     05 17 27.2
        PRI  eP      05 17 28.8  17 57
        SAO  ePd     05 17 31.6
        MBC  eP      05 17 32.3
        PAS  eP      05 17 33.7
        BKS  iPnd    05 17 38.8            P* 17 41    S* 18 14
             BRK  05 16 52.7, 37.6N, 118.9W, h= 11 km, ML=3.5
                  MAMMOTH LAKES, CALIFORNIA

JUN 23  PRI  eP      09 24 09.9            pP 24 29
        JAS  ePe     09 24 15.6            pP 24 34
        MBC  eP      09 24 17.6            pP 24 36
        BKS          09 24                 e 25 38
        ORV  iPe     09 24 25.0            pP 24 43
        WDC  iPe     09 24 29.9            pP 24 49
        WKC  eP      09 24 35              pP 24 54
             USGS 09 12 05.8, 29.4S,  70.8W, h= 86 km, mb=5.2
                  CENTRAL CHILE

JUN 23  PRI          10 06                 e 06 55
        MBC  eP      10 06 56.2            e 07 10
        BKS  eP      10 06 57    17 22     e 07 26     e 07 40     e 18 16
                                           e 23 04     e 24 12     Lq 28 35
                                        Lr 33 00
                          MICRON    PERIOD
                     PZ     0.02      0.9
                     LZ     4.5       19
                     LN     3.3       19
                     LE     2.5       20
        FRI  eP      10 07 00.2            e 07 14
        JAS  eP      10 07 01.3            e 07 15
        ORV  eP      10 07 03.5            e 07 16
        WDC  eP      10 07 04.7            e 07 18
        MIN  eP      10 07 05.7            e 07 19
        MNV  eP      10 07 09.6            e 07 23
             Ms=5.7, DISTANCE=85°
             USGS 09 54 29.6, 28.7S, 176.7W, h= 33 km, mb=5.2, Ms=5.7
                  KERMADEC ISLANDS REGION

JUN 23  JAS  ePe     14 05 33.0
        ORV  ePe     14 05 43.0
        WDC  ePe     14 05 48.0
             USGS 13 53 52.3, 20.7S,  69.5W, h= 57 km, mb=5.0
                  NORTHERN CHILE

JUN 23  PRI  eP      18 46 17.5            e 46 30
        JAS  eP      18 46 24.5            e 46 36
        MBC  eP      18 46 26.2            e 46 39
        ORV  eP      18 46 34.5            i 46 47
        WDC  eP      18 46 39.8            e 46 51
        WKC  eP      18 46 48.0
             USGS 18 35 21.2, 15.8S,  74.1W, h= 48 km, mb=5.0
                  NEAR COAST OF PERU

JUN 23  PRI  eP      19 32 08.3
        MBC          19 32                 e 32 15
        BKS          19 32                 e 32 14     e 32 25     e 32 35
        JAS  eP      19 32 16.8
        ORV  eP      19 32 27.7
        WDC  eP      19 32 31.5
        FHC          19 32                 e 32 37
             USGS 19 20 26.6, 36.2S, 100.5W, h= 10 km, mb=4.7
                  SOUTHERN PACIFIC OCEAN

JUN 23  SAO          20 25                 e 25 44
        PRI  eP      20 25 44.9
        MBC  eP      20 25 46.1
        BKS  ePd     20 25 46.5  36 16     e 26 03     PP 29 20    PPS 37 20
                                           e 41 00     SS 41 44     Lq 47 16
                                        Lr 51 00
                          MICRON    PERIOD
                     PZ     0.05      0.9
                     LZ     10        20
                     LN     9         20
                     LE     7         20
        FRI  eP      20 25 49.8
        WKC  iPe     20 25 50.0
        JAS  eP      20 25 51.1
        ORV  iPe     20 25 53.6
        WDC  iPe     20 25 54.4            PKPPKP 52 48
        MIN          20 25                 e 25 55
        MNV  eP      20 25 59.6
             Ms=6.2, DISTANCE=83°
             USGS 20 13 20.9, 28.8S, 176.7W, h= 49 km, mb=5.6, Ms=6.2
                  KERMADEC ISLANDS REGION

JUN 23  PRI  eP      21 17 02.3
        BKS  iPd     21 17 03.6
                          MICRON    PERIOD
                     PZ     0.04      0.9
        MBC  eP      21 17 03.8
        WKC  eP      21 17 06.8
        JAS  eP      21 17 08.2
        ORV  eP      21 17 10.6
        WDC  eP      21 17 11.3
             USGS 21 04 40.8, 28.5S, 176.9W, h= 63 km, mb=5.4
                  KERMADEC ISLANDS REGION

JUN 24  FRI  eP      00 24 52.3
        MNV  eP      00 24 52.4
        PRI  eP      00 24 55.0
        JAS  eP      00 25 01.6            e 30 20
        MBC  eP      00 25 04.8
        ORV  iPe     00 25 12.9            e 30 29
        MIN          00 25                 e 25 15
        WDC          00 25                 e 25 17     e 30 24
        WKC  iP      00 25 29.4
             USGS 00 15 53.4,  2.5N,  78.8W, h= 43 km, mb=5.0
                  NEAR WEST COAST OF COLOMBIA

JUN 24  BKS          07 07      18 12      e 07 51     e 20 23     e 20 58
                                           e 31 10     Lr 34 49     e 36 00
                          MICRON    PERIOD
                     LZ     2.7       20
                     LN     1.8       20
                     LE     1.4       20
        JAS  eP      07 07 51.2
        WDC  eP      07 07 51.7
        ORV  eP      07 07 53.7
        MIN          07 07                 e 07 55
        MNV          07 08                 e 08 03
             USGS 06 55 20.4, 29.0S, 176.5W, h= 50 km, mb=4.8
                  KERMADEC ISLANDS REGION

JUN 24  MNV  iPe     15 10 37.7
        FRI  ePe     15 10 48.8
        JAS  iPe     15 10 58.0
        PRI  ePe     15 11 01.2
        SAO  e(P)    15 11 08
        BKS  ePn     15 11 26.5            P* 11 36     e 11 47     e 11 54
                                           e 12 01     e 12 22
             ML=4.4, NUCLEAR EXPLOSION (HURON KING), N.T.S.
             USGS 15 00 00.0, 37.0N, 116.0W, h=  0 km, mb=4.4
                  SOUTHERN NEVADA

JUN 24  BKS          16 20                 e 48 00
        MBC  eP      16 20 53.0            e 21 05
        JAS  eP      16 20 59.5            e 21 11
        ORV  eP      16 21 00.0            e 21 12
        WDC  eP      16 21 01.2            e 21 13
             USGS 16 08 27.0, 28.4S, 176.8W, h= 33 km, mb=4.8
                  KERMADEC ISLANDS REGION

JUN 25  MNV  iPd     12 13 46.5            SeP 18 40
        FRI  eP      12 13 47.6
        PRI  eP      12 13 50.9            SeP 18 44
        JAS  iPd     12 13 55.3            pP 14 33    sP 14 48    SeP 18 46
        SAO  eP      12 13 56.5
        MBC  ePd     12 14 00.4            pP 14 37
        BKS  iPd     12 14 04              pP 14 36    e 14 44     sP 14 55
                                           PeP 15 16   PP 16 00    e 18 14
                                           SeP 18 55   e 19 38     e 20 54
                                           e 21 32     e 22 32     SeS 23 16
                                           SS 24 48    e 26 00     e 27 40
                                           e 28 00     e 31 00     e 37 00
                          MICRON    PERIOD
                     PZ     0.12      0.6
        ORV  iPd     12 14 06.7            SeP 18 54
        MIN  ePd     12 14 11.8
        WDC  iPd     12 14 12.5            sP 15 04    SeP 18 56
        FBC  ePd     12 14 23.0
             USGS 12 04 56.9,  4.4N,  75.8W, h=162 km, mb=5.7
                  COLOMBIA

JUN 25  FBC  eP      19 01 28.3
        WDC  iPd     19 01 32.7
        BKS  ePe     19 01 33.5                Lq 30 00
                          MICRON    PERIOD
                     PZ     0.04      1.0
                     LZ     0.9       20
                     LN     0.6       20
                     LE     0.7       20
        MBC  eP      19 01 35.1
        MIN  eP      19 01 35.3
        ORV  iPd     19 01 35.5
        PRI  eP      19 01 38.6
        JAS  iPd     19 01 39.1
        FRI  eP      19 01 41.5
        MNV  eP      19 01 47.5
             Ms=5.2, DISTANCE=95°
             USGS 18 48 11.0,  6.6S, 146.8E, h= 21 km, mb=5.7, Ms=5.2
                  EAST PAPUA, NEW GUINEA REGION

JUN 25  FHC  eP      23 31 13.3
        BKS  iPe     23 31 16    42 08     e 31 32     e 31 40     PP 34 52
                                           e 38 42     e 43 10     PPS 43 26
                                           e 44 11     e 48 00     e 52 12
                                        Lq 55 24    Lr 59 00
                          MICRON    PERIOD
                     PZ     0.2       1.1
                     LZ     24        20
                     LN     5         20
                     LE     19        20
        WDC  ePe     23 31 16.7            PKPPKP 57 05
        MIN  eP      23 31 18.4
        MBC  eP      23 31 18.7               PP 34 55
        SAO  eP      23 31 18.8
        ORV  ePe     23 31 19.4
        PRI  eP      23 31 22.5
        JAS  ePe     23 31 23.1               PP 35 01 PKPPKP 56 55
        FRI  eP      23 31 25.2
        MNV  eP      23 31 31.7
             Ms=6.5, DISTANCE=90°
             USGS 23 18 20.4,  5.2S, 151.7E, h= 49 km, mb=6.2, Ms=6.5
                  NEW BRITAIN REGION
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JUN 26  MHC   iPd   02 54 15.8  54 21
        SAO   iPd   02 54 15.9
        GCC   ePe   02 54 17.4
        LLA   ePe   02 54 21.2
        PRS   eP    02 54 23.4
        PCC   ePd   02 54 25.0  54 38
        BKS   ePe   02 54 28.5  54 43
        PRI   ePe   02 54 31.3
        JAS   ePd   02 54 31.5
        FRI   ePd   02 54 34.7
              BRK  02 54 09.5, 37.0N, 121.5W, h=  4 km, ML=2.7
                   EAST OF GILROY, CALIFORNIA

JUN 26  MHC   iPd   03 56 52.9  56 58
        SAO   iPd   03 56 53.0
        GCC   iPe   03 56 54.5
        LLA   iPe   03 56 58.4
        PRS   iPe   03 57 00.9
        PCC   iPd   03 57 02.3  57 16
        BKS   ePe   03 57 05.5          e 57 21
        PRI   ePe   03 57 08.5
        JAS   iPd   03 57 08.7  57 25
        FRI   iPd   03 57 12.0
        ORV   iPe   03 57 29.2
              BRK  03 56 46.6, 37.0N, 121.5W, h=  4 km, ML=3.2
                   EAST OF GILROY, CALIFORNIA

JUN 26  PRI   eP    12 24 16.0
        BKS   eP    12 24 16.5
                        MICRON     PERIOD
                    PZ    0.36        0.8
        MHC   eP    12 24 16.7
        FRI   eP    12 24 20.5
        JAS   ePd   12 24 21.3
        FHC   eP    12 24 21.5
        ORV   ePd   12 24 23.3
        WDC   ePd   12 24 24.1
        MIN   eP    12 24 25.2
        MNV   eP    12 24 29.2
              USGS 12 12 24.2, 30.5S, 178.9E, h=524 km, mb=5.0
                   KERMADEC ISLANDS REGION

JUN 27  FRI   iPe   01 29 46.1  29 58
        MNV   iPe   01 29 48.2
        JAS   iPe   01 29 53.1
        LLA   iPe   01 30 03.7  30 28
        PRI   iPe   01 30 05.0
        SAO   ePe   01 30 07.9
        MHC   iPe   01 30 08.3
        PRS   eP    01 30 09.9
        BKS   eP    01 30 14.7          Pg 30 24    Sn 30 45    e 30 49
                                        Sg 30 51
        PCC   eP    01 30 15.5
              BRK  01 29 29.2, 37.6N, 118.9W, h= 10 km, ML=3.7
                   MAMMOTH LAKES, CALIFORNIA

JUN 27  JAS   eP    20 14 51.2
        ORV   eP    20 14 52
        WDC   eP    20 14 53.8
              USGS 20 02 56.3, 21.3S, 174.0W, h= 33 km, mb=4.9
                   TONGA ISLANDS

JUN 27  BRK   eP    21 33 58.8
        MHC   ePd   21 33 59.5
        FRI   eP    21 34 04.0
        JAS   ePd   21 34 04.7
        ORV   ePd   21 34 06.3
        WDC   ePd   21 34 06.6
        MIN   eP    21 34 08.6
        MNV   iPd   21 34 13.5
              USGS 21 22 50.6, 21.5S, 179.0W, h=586 km, mb=4.8
                   FIJI ISLANDS REGION

JUN 28  FRI   iPe   00 57 50.9  58 02
        MNV   iPd   00 57 52.9
        JAS   iPe   00 57 58.1  58 15
        LLA   iPe   00 58 08.8
        PRI   iPe   00 58 10.2
        SAO   iPe   00 58 13.1
        MHC   iPe   00 58 13.5
        PRS   iPe   00 58 15.2
        GCC   ePd   00 58 17.7
        BKS   iPd   00 58 19.7
        PCC   ePd   00 58 21.0
        ORV   e(P)  00 58 25
              BRK  00 57 33.8, 37.6N, 118.8W, h= 10 km, ML=3.8
                   MAMMOTH LAKES, CALIFORNIA

JUN 28  FRI   iPe   00 58 59.2
        MNV   iP    00 59 01.6
        JAS   iPe   00 59 06.4
        LLA   iPe   00 59 17.1
        PRI   iPd   00 59 19.2
        SAO   iPe   00 59 21.5
        MHC   iPe   00 59 22.0
        PRS   iPe   00 59 23.5
        GCC   iPd   00 59 26.2
        BKS   eP    00 59 28.0          e 00 30
        PCC   eP    00 59 29.5
              BRK  00 58 42.8, 37.6N, 118.8W, h= 19 km, ML=4.2
                   MAMMOTH LAKES, CALIFORNIA

JUN 28  SAO   iPd   01 30 01.4
        GCC   iPe   01 30 04.1
        MHC   iPd   01 30 07.3  30 13
        PRS   iPd   01 30 09.0
        LLA   iPe   01 30 10.0
        PCC   ePe   01 30 13.4
        BKS   ePe   01 30 17.7  30 33
        PRI   iPe   01 30 18.0  30 33
        JAS   iPe   01 30 23.4
              BRK  01 29 57.7, 36.9N, 121.6W, h=  5 km, ML=2.9
                   NORTHWEST OF HOLLISTER, CALIFORNIA

JUN 28  FRI   iPe   03 53 18.6
        MNV   iPe   03 53 20.2
        JAS   iPe   03 53 25.7  53 42
        LLA   iPe   03 53 36.3  54 04
        PRI   ePd   03 53 38.3  54 07
        SAO   ePe   03 53 40.7
        MHC   ePd   03 53 41.2
        PRS   ePe   03 53 42.7
        BKS   ePd   03 53 47.5          e 54 16     e 54 24
        PCC   ePd   03 53 49.5
              BRK  03 53 01.4, 37.6N, 118.8W, h= 11 km, ML=3.6
                   MAMMOTH LAKES, CALIFORNIA

JUN 28  WDC   eP    05 27 00.1
        MIN   eP    05 27 03.7
        ORV   eP    05 27 06.2
        BRK   eP    05 27 07.8
        MHC   eP    05 27 12.0
        JAS   eP    05 27 15
        PRI   eP    05 27 19.2
              USGS 05 15 18.6, 29.3N, 142.2E, h= 33 km, mb=5.0
                   SOUTH OF HONSHU, JAPAN

JUN 29  FHC   ePe   02 45 49.8
        WDC   iPe   02 45 50.8
        MIN   ePe   02 45 52.8
        ORV   iPe   02 45 56.0
        BKS   ePe   02 46 04.3
                        MICRON     PERIOD
                    PZ    0.04        0.7
        MNV   iPe   02 46 05.2
        JAS   iPe   02 46 05.3
        MHC   eP    02 46 07.3
        SAO   eP    02 46 09.7
        FRI   eP    02 46 10.1
        PRI   eP    02 46 11.4
              USGS 02 22 57.7, 50.0N,  78.8E, h=  0 km, mb=5.7
                   EASTERN KAZAKH SSR

JUN 29  FRI   iPe   04 16 29.5  16 41
        MNV   iPe   04 16 32.7
        JAS   iPe   04 16 37.3  16 54
        LLA   ePe   04 16 47.2  17 13
        PRI   ePd   04 16 48.9  17 16
        SAO   iPd   04 16 51.9
        MHC   ePd   04 16 52.5
        PRS   ePe   04 16 53.7
        PCC   eP    04 17 00
              BRK  04 16 12.9, 37.5N, 118.8W, h=  8 km, ML=3.5
                   MAMMOTH LAKES, CALIFORNIA

JUN 29  WDC   eP    06 47 24.5
        MIN   eP    06 47 28.6
        ORV   eP    06 47 31.2
        MHC   eP    06 47 37.8
        JAS   eP    06 47 40.4
        PRI   eP    06 47 45.5
              USGS 06 35 44.5, 33.2N, 139.5E, h= 20 km, mb=5.0, Ms=4.6
                   SOUTH OF HONSHU, JAPAN

JUN 29  FHC   eP    07 31 36.3
        WDC   iPe   07 31 41.6
        MIN   ePe   07 31 45.2
        ORV   iPe   07 31 48.2
        BKS   ePe   07 31 51.1  41 33      Lg 51 46     Lr 54 22
                        MICRON     PERIOD
                    PZ    0.10        0.8
                    LZ    1.2         22
                    LN    3.5         22
                    LE    1.7         22
        MHC   eP    07 31 55.3
        SAO   eP    07 31 57.1
        JAS   iPe   07 31 57.8          e 32 05     PP 34 57
        PRI   iPe   07 32 03.0
        FRI   iPe   07 32 03.2
        MNV   ePe   07 32 04.5
              Ms=5.7, DISTANCE=76°
              USGS 07 20 05.5, 34.8N, 139.2E, h= 15 km, mb=5.8, Ms=6.2
                   NEAR SOUTH COAST OF HONSHU, JAPAN

JUN 29  FRI   iPd   07 46 37.7
        JAS   iPe   07 46 38.6
        LLA   eP    07 46 53.1
        MHC   iPe   07 46 55.0
        PRI   iPe   07 46 56.0
        SAO   iPe   07 46 56.0
        ORV   iPe   07 46 57.8
        GCC   ePe   07 46 59.4
        BKS   ePe   07 46 59.6          e 47 37
        PRS   ePe   07 47 00.4
        PCC   iPd   07 47 02.0
              BRK  07 46 13.5, 38.0N, 118.7W, h=  5 km, ML=5.0
                   MONO LAKE, CALIFORNIA

JUN 29  MNV   iPd   13 49 12.1  49 20
        FRI   iPd   13 49 24.7  49 41
        JAS   iPe   13 49 25.8  49 44
        LLA   ePd   13 49 41.0  50 11
        PRI   ePe   13 49 42.8
        MHC   eP    13 49 43.0
        ORV   ePd   13 49 45.1          i 49 49
        BKS   eP    13 49 46.5
              BRK  13 49 00.6, 38.0N, 118.7W, h=  8 km, ML=3.6
                   MONO LAKE, CALIFORNIA

JUN 29  WDC   iPe   16 30 13.1
        MIN   eP    16 30 16.7
        ORV   iPe   16 30 19.8
        BKS   ePe   16 30 23.1
                        MICRON     PERIOD
                    PZ    0.03        0.8
        MHC   eP    16 30 26.6
        JAS   iPe   16 30 29.7
        PRI   eP    16 30 35.5
        FRI   eP    16 30 36.0
        MNV   eP    16 30 37.2
              USGS 16 19 02.4, 37.8N, 141.7E, h= 54 km, mb=5.1
                   NEAR EAST COAST OF HONSHU, JAPAN

JUN 29  MNV   iPe   18 05 09.5
        FRI   iP    18 05 22.5
        JAS   iPe   18 05 23.6  05 41
        LLA   ePe   18 05 39.0  06 09
        MHC   eP    18 05 39.8
        PRI   eP    18 05 40.5
        SAO   e(P)  18 05 43
        BKS   eP    18 05 45.3          e 06 22     e 06 31
        PRS   ePd   18 05 45.5
        GCC   e(P)  18 05 46
        PCC   e(P)  18 05 48
              BRK  18 04 58.3, 38.0N, 118.7W, h=  9 km, ML=3.9
                   MONO LAKE, CALIFORNIA

JUN 29  SAO   eP    18 45 39.6
        BKS   eP    18 45 40.9
                        MICRON     PERIOD
                    PZ    0.03        0.8
        PRI   eP    18 45 41.0
        MHC   eP    18 45 41.2
        JAS   ePe   18 45 46.6
        ORV   eP    18 45 48.1
        WDC   ePe   18 45 48.3
        MIN   eP    18 45 50.3
        MNV   eP    18 45 56.2
              USGS 18 34 36.6, 20.3S, 178.3W, h=552 km, mb=4.8
                   FIJI ISLANDS REGION

JUN 29  WKC   iPe   20 06 33.0  06 43
        FHC   iPe   20 06 37.4  06 51
        WDC   iPe   20 06 52.2  07 18
        MIN   eP    20 07 01.6
        ORV   eP    20 07 05.2
        BKS   eP    20 07 10.9
        PCC   eP    20 07 13.7
        GCC   e(P)  20 07 21
        MHC   e(P)  20 07 21
        SAO   e(P)  20 07 27
        JAS   eP    20 07 27.5
              BRK  20 06 18.9, 40.4N, 125.2W, h=  9 km, ML=3.6
                   OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

JUN 30  FRI   iPe   01 49 31.0  49 42
        MNV   ePe   01 49 33.6
        JAS   iPe   01 49 37.4  49 54
        LLA   iPe   01 49 48.6  50 14
        PRI   ePe   01 49 50.2  50 18
        SAO   iPe   01 49 52.8
        MHC   ePe   01 49 53.0
        PRS   eP    01 49 55
        GCC   eP    01 49 57
        BKS   ePe   01 49 58.9          e 50 28
        PCC   eP    01 50 00.3
              BRK  01 49 14.3, 37.6N, 118.9W, h=  6 km, ML=3.5
                   MAMMOTH LAKES, CALIFORNIA

JUN 30  FRI   iPe   02 09 59.7  10 11
        MNV   iPe   02 10 04.4
        JAS   iPe   02 10 08.4  10 26
        LLA   ePe   02 10 16.9
        PRI   ePe   02 10 18.3  10 45
        SAO   ePe   02 10 21.6
        MHC   eP    02 10 22.7
        PRS   ePe   02 10 23.3
        BKS   eP    02 10 28.4
        PCC   eP    02 10 29.8
              BRK  02 09 43.7, 37.5N, 118.8W, h= 17 km, ML=3.6
                   MAMMOTH LAKES, CALIFORNIA
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JUN 30  MNV   iPd    10 23 12.3
        FRI   iPc    10 23 25.3  23 41
        JAS   iPc    10 23 26.4  23 44
        LLA   ePd    10 23 41.3  24 11
        MHC   ePc    10 23 42.9
        PRI   ePc    10 23 43.4  24 16
        ORV   ePc    10 23 45.0                  i 23 50
        BKS   eP     10 23 47.8                  e 24 19
        PRS   ePc    10 23 48.0
                     BRK  10 23 01.1, 38.0N, 118.7W, h=  3 km, ML=4.0
                          MONO LAKE, CALIFORNIA

JUN 30  WDC   eP     10 50 50.4
        JAS   eP     10 50 50.7
        ORV   eP     10 50 50.8
                     USGS 10 38 02.1, 20.8S, 169.3E, h= 33 km, mb=5.3
                          NEW HEBRIDES ISLANDS

JUN 30  MHC   eP     11 33 39.5
        JAS   eP     11 33 44.0
        ORV   eP     11 33 46.0
        WDC   eP     11 33 47.0
                     USGS 11 20 56.0, 35.1S, 178.4E, h=194 km, mb=5.4
                          OFF EAST COAST OF NORTH ISLAND, N.Z.

JUN 30  WDC   iPc    18 12 43.2
        MIN          18 12                      e 12 51
        ORV          18 12                      e 12 55
        MHC          18 13                      e 13 05
        BKS   eP     18 13 06.6
        JAS          18 13                      e 13 10
        MNV          18 13                      e 13 19
                     USGS 18 07 39.0, 60.0N, 141.0W, h= 13 km, mb=5.0
                          SOUTHEASTERN ALASKA

JUN 30  WDC   eP     18 52 52.5
        JAS          18 53                      e 53 19
                     USGS 18 47 49.1, 60.0N, 141.1W, h= 15 km
                          SOUTHEASTERN ALASKA

JUN 30  WDC   eP     19 04 34.2                 i 04 51
        BKS          19 05                      e 05 00      e 09 50      e 19 26
                                                e 21 42
        MHC          19 05                      e 05 12
        JAS          19 04                      e 04 03
        PRI          19 05                      e 05 19
                     USGS 18 59 31.7, 60.0N, 141.1W, h= 15 km, mb=4.9, Ms=4.8
                          SOUTHEASTERN ALASKA
```

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APPENDIX A - THE 1980 LIVERMORE EARTHQUAKE SEQUENCE

A sequence of 61 earthquakes ($2.5 \leq M_L \leq 5.8$) occurred near Livermore, California, during the period of January 24-June 30, 1980. The mainshock, on January 24 at 1900 UTC ($M_L = 5.8$), caused considerable damage in the Livermore area, injured fifty people (none seriously) and was felt throughout the San Francisco Bay area and much of Northern and Central California and Western Nevada. The mainshock was preceded by a single foreshock at 1858 UTC on January 24 ($M_L = 2.7$) and was immediately succeeded by three aftershocks ($M_L = 5.1, 4.0, 4.8$) within three minutes. The largest aftershock occurred on January 27 at 0233 UTC ($M_L = 5.4$) and caused additional damage in the Livermore area.

Locations. The Livermore earthquakes were located by a multiple master event method using the program RELP.* Station adjustments to the standard Berkeley velocity model were obtained by averaging the travel-time residuals from several master events to selected stations operated by UC Berkeley, the USGS, and Lawrence Livermore National Laboratory (LLNL). These master events, listed in Table 1, were well-distributed along the Marsh Creek and Greenville fault zones and were large enough to be well-recorded both by the permanent arrays and by a large number of local, temporary stations operated by UC Berkeley, LLNL, the USGS, and CDMG. The events were located using RELP and travel times to the close-in stations without station adjustments. The assumed velocity model (Model A) was:

$$\alpha = 4.30 + 0.140z \text{ km/sec}$$

$$\beta = 2.20 + 0.085z \text{ km/sec}$$

$$\alpha_o = 7.0 \text{ km/sec}$$

$$\beta_o = 4.0 \text{ km/sec}$$

$$Z_o = 16.0 \text{ km}$$

The event at 0544 on January 29 occurred well to the south of the others and yielded residuals significantly higher than average residuals, probably reflecting the influence of the lower velocities in the Livermore Valley. As a result, the station adjustments were divided into two groups, main and south, which are listed in Tables 2A and 2B, respectively. The majority of Livermore earthquakes were located using the Berkeley model and the main group of station adjustments. The southern-most events, close to the 0544 master event, were located using the Berkeley model and the south group of station adjustments and are denoted by an "S" in the listings. Master events in the listings are indicated with an "A" for Model A.

Magnitudes. The local magnitude (M_L) of the Livermore earthquakes were estimated from the maximum trace amplitudes measured on the standard Wood-Anderson torsion seismograms recorded at Berkeley (BKS), Mt. Hamilton (MHC), Mineral (MIN), and Arcata (ARC). Standard station adjustments (BKS = 0.0, MHC = 0.1, MIN = -0.1, ARC = 0.2) were included when computing the magnitude.

---

* See Appendix D for description of program.

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For the largest events in the sequence, M_L was estimated from the maximum trace amplitudes measured on the seismograms from the U.C. Berkeley stations at Arcata (ARC), Mineral (MIN) and Berkeley (BRK) (100X torsion), and on the seismograms from CIT stations at Tinemaha (TIN), Pasadena (PAS), Santa Barbara (SBC), and Riverside. The instrumental magnitude adjustments for the BRK 100X torsion are N = -0.4 and E = 0.0 and the CIT instrumental adjustments are given by Richter.

Only the BRK 100X torsion seismograms were useable in estimating M_L for the three moderate aftershocks which immediately followed the mainshock and the resulting magnitudes are listed in parentheses.

TABLE 1

Master Events

DATE	OT	LAT	LONG	DEPTH	SEO*	M_L	SOLN	COMMENTS
1/27	002329.15	37°51.29'	121°48.58'	11.7	0.093	3.0	8A	
1/27	023336.00	37°45.41'	121°43.62'	11.6	.115	5.4	12A	
1/27	223316.87	37°49.75'	121°48.52'	10.9	.117	3.3	8A	
1/29	014604.17	37°47.25'	121°45.62'	9.5	.117	3.5	22A	
1/29	031904.01	37°50.74'	121°48.62'	4.9	.106	2.0	11A	
1/29	054441.30	37°39.81'	121°38.95'	3.1	.191	2.6	16A	{South Group Master
1/30	040049.14	37°51.23'	121°47.41'	14.7	.081	2.4	10A	
2/1	210502.29	37°47.63'	121°46.11'	10.9	.155	2.4	19A	
2/2	055407.00	37°52.06'	121°49.39'	5.0	.173	1.7	16A	

* Standard error of a single observation.

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TABLE 2

STATION ADJUSTMENTS*

A. Main Group

Station	Latitude (N.)	Longitude (W.)	P (sec.)	S (sec.)	Agency
UC01	37°50.05'	121°37.43'	.54	1.36	UCB (Temp)
UC02	37°49.38'	121°44.00'	.32	.77	UCB (Temp)
UC03	37°46.00'	121°43.68'	.36	1.11	UCB (Temp)
UC04	37°46.39'	121°48.34'	.31	.98	UCB (Temp)
UC05	37°48.98'	121°51.21'	.27	.65	UCB (Temp)
UC06	37°53.52'	121°51.19'	.20	.87	UCB (Temp)
BKS	37°52.60'	122°14.10'	.33	.61	UCB
BRK	37°52.40'	122°15.60'	.24	.30	UCB
MHC	37°20.50'	121°38.50	.36	.50	UCB
PCC	37°30.00'	122°22.90'	.16		UCB
GCC	37°01.80'	121°59.80'	-.36		UCB
JAS	37°56.80'	120°26.30'	-.62	-.91	UCB
CMO	37°48.68'	121°48.15'	.30		USGS
CDO	37°43.80'	121°50.12'	.49		USGS
CCN	37°47.49'	121°56.89'	.68		USGS
CAC	37°58.57'	121°45.62'	.86		USGS
CMR	37°35.68'	121°38.22'	-.08		USGS
CRP	37°54.75'	121°54.33'	.04		USGS
CAL	37°27.07'	121°47.95'	.16		USGS
CBR	37°48.97'	122°03.72'	.69		USGS
CPL	37°38.25'	121°57.64'	.47		USGS
NHM	38°09.28'	121°48.07'	1.18		USGS
CMN	37°37.65'	121°42.50'	.29	.98	LLNL
CPN	37°39.01'	121°51.70'	.78	2.00	LLNL
CDV	37°33.98'	121°40.80'	.09	1.09	LLNL

B. South Group

BKS	37°52.60'	122°14.10'	.52	.70	UCB
MHC	37°20.50'	121°38.50'	.82	1.85	UCB
PCC	37°30.00'	122°22.90'	.44		UCB
JAS	37°56.80'	120°26.30'	-.18		UCB
CMO	37°48.68'	121°48.15'	.82		USGS
CDO	37°43.80'	121°50.12'	.95		USGS
CAC	37°58.57'	121°45.62'	1.28		USGS
CMR	37°45.68'	121°38.22'	.46		USGS
CAL	37°27.07'	121°47.95'	.50		USGS
CPL	37°38.25'	121°57.64'	.92		USGS
CPN	37°39.01'	121°51.70'	.91		LLNL
CMN	37°37.65'	121°42.50'	.15	.34	LLNL
CDV	37°33.98'	121°40.80'	.33	.93	LLNL

* To be added to calculated travel time.

LIVERMORE EARTHQUAKES

JANUARY - JUNE 1980

MAGNITUDE

- 2.5 - 2.9
- 3.0 - 3.9
- 4.0 - 4.9
- 5.0 - 5.5
- > 5.5

37° 52.5' N

121° 52.5' W

121° 37.5' W

37° 35' N

MARSH CREEK FAULT

GREENVILLE FAULT

LAS POSITAS FAULT

Frick Lake

Livermore

Lawrence Livermore Laboratory

Kilometers

1 0 1 2 3 4 5

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APPENDIX B - THE JANUARY-JUNE 1980 MAMMOTH LAKES EARTHQUAKE SEQUENCE

During the first half of 1980, a sequence of 221 earthquakes ($3.5 \leq M_L \leq 6.2$) occurred east of the Sierra crest, centered 15 km southeast of Mammoth Lakes, California (see Figure). The first large earthquake ($M_L = 6.1$) of the sequence occurred on May 25, 1980 at 1633 UTC. Three other large earthquakes occurred on May 25, 1980 at 1649 ($M_L = 6.0$), May 25, 1980 at 1944 ($M_L = 6.1$), and May 27, 1980 at 1450 ($M_L = 6.2$).

The region is bounded by permanent station networks operated by three groups: University of California, Berkeley (UCB); California Institute of Technology (CIT); and University of Nevada, Reno (UNR). The three nearest permanent stations are within about 20 km and 14 in all are within 200 km. After the May 25 earthquake, about 30 temporary stations were installed by UNR, CIT, the United States Geological Survey (USGS), CIT/USGS, and the California Division of Mines and Geology (CDMG).

From May 27 to June 8, 30 earthquakes occurred which were well recorded on both the temporary and permanent networks. These were used to determine a velocity model and average station adjustments. First, expected average station adjustments were calculated for the stations within the Long Valley Caldera using the refraction data of David P. Hill (1976). [Hill, D.P., Structure of Long Valley Caldera, California, From a Seismic Refraction Experiment, J. Geophys. Res. 81, 745-753, 1976.] This is a region of deep (2-3 km) volcanic deposits with relatively low velocities. Then a gradient half-space velocity model was selected which minimized the location variances.

$$\alpha = (5.73 + .033\ z)\ \text{km/sec}$$

$$\beta = (3.31 + .0192\ z)\ \text{km/sec}$$

β was obtained assuming $\alpha/\beta = 1.73$. Average station residuals were added to the geologic adjustments (if any) to obtain the final station adjustments. The final station adjustments were added to the observed arrival times.

All hypocenter locations were determined using the regional earthquake location program (RELP) which is described in Appendix D.

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The rest of the sequence was then located using whatever data was available and the station adjustments on page 78 . A quality code was assigned, e.g., 20A10, meaning 20 P observations were used and 10 S observations were used. The letter is a quality class:

A - Data includes regional and close-in data (Δ < 20 km). A typical epicenter standard error is .45 km, depth standard error .5 km to 1.0 km.

B - Like A, but event is one of 30 master events, standard error of epicenter = .25 km, depth standard error = .45 km.

C - Regional data including data between 20 and 80 km distance. Epicenter standard error variable, usually between .30 km and .80 km, depth standard error between 1.5 km and 3.5 km.

D - Distant regional data only. Poor depth control. Standard error variable, mostly between .5 km and 1.0 km.

E - Regional data very poor. Earthquake is in coda of earlier event. Location sometimes inferred from previous event.

Local Richter magnitudes were determined using the UCB network of Wood-Anderson seismographs, BKS ($\Delta \tilde{=}$ 300 km), MIN ($\Delta \tilde{=}$ 395 km), MHC ($\Delta \tilde{=}$ 250 km), ARC ($\Delta \tilde{=}$ 590 km).

The magnitudes and hypocentral data for all the earthquakes are tabulated in Part I of this Bulletin , pages 27-33.

Epicenters are plotted on the map, page 79.

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STATION ADJUSTMENTS*

Station	Latitude (N.)	Longitude (W.)	P (sec.)	S (sec.)	Agency
MNV	38°26.20'	118°08.90'			UNR
JAS	37°56.80'	120°26.30'	.29	.32	UCB
FRI	36°59.50'	119°42.50'	-.05	.30	UCB
BON	37°57.31'	118°18.10'	-.03		UNR
TNP	38°08.92'	117°13.06'	.28		UNR
WCN	39°18.10'	119°45.38'	.18		UNR
TIN	37°03.30'	118°13.70'	-.30	-.30	CIT
CWC	36°26.30'	118°04.70'	.15	.45	CIT
ISA	35°39.80'	118°28.40'	-.58		CIT
LLA	36°37.00'	120°56.60'	-.09		UCB
MHC	37°20.50'	121°38.50'	-.21		UCB
CRWL	37°41.52'	118°45.45'	-.58		CIT
LANV	37°41.22'	118°51.94'	-.36	-.49	CIT
SHRC	37°37.35'	118°56.92'	-.33	-.09	CIT
TOMS	37°33.03'	118°40.29'	-.14		CIT
TUN	37°21.28'	118°31.23'	-.11		CIT
HCR	37°38.56'	118°50.39'	-.32	-.50	CIT/USGS
AEB	37°51.58'	119°04.42'	-.36	-.40	CIT/USGS
GLM	37°45.23'	118°45.93'	-.23	-.35	CIT/USGS
CML4	37°43.34'	118°55.56'	-.71		CDMG
CCBH	37°40.76'	118°49.11'	-.49		CDMG
CCEX	37°36.84'	118°49.83'	-.11		CDMG
CCLE	37°38.65'	118°41.38'	.22		CDMG
COMC	37°37.71'	118°59.22'	-.07		CDMG
CRKC	37°29.77'	118°43.11'	-.08		CDMG
CSMR	37°31.00'	118°39.16'	.11		CDMG
CSWN	37°38.29'	118°53.50'			CDMG
CUMC	37°32.96'	118°48.80'	.06		CDMG
ORC	37°38.12'	118°39.36'	-.11		UNR
CLK	37°35.44'	118°49.45'	-.05		UNR
LMC	37°43.70'	118°57.66'	-.53		UNR
MONN	38°03.65'	118°46.55'	-.32		UNR
MNA	38°25.97'	118°09.40'	-.07	.18	UNR
RYNN	38°37.69'	118°31.38'			UNR
FERN	38°35.57'	118°10.50'			UNR
HOT	37°39.25'	118°48.29'	-.34	-.88	USGS
CBR	37°40.75'	118°49.51'	-.36	-.69	USGS
FIS	37°36.84'	118°49.82'	-.23	-.52	USGS
LAK	37°38.49'	118°43.70'	-.29	-.64	USGS
HCF	37°38.51'	118°50.98'	-.19	-.57	USGS
CON	37°35.38'	118°51.17'	-.08	-.12	USGS
MGE	37°33.67'	118°47.22'	.11	.15	USGS
LAR	37°37.37'	118°53.38'	-.38	-.70	USGS
TOM	37°33.05'	118°40.32'	.03	-.05	USGS
DMP	37°44.26'	118°49.54'	-.48	-1.17	USGS
LKM	37°41.80'	118°56.13'	-.58	-.89	USGS
TWL	37°36.93'	119°00.37'	-.22	-.20	USGS
ROC	37°29.78'	118°43.16'	-.05	-.08	USGS
BZS	37°33.00'	118°48.90'	.06	.10	UNR
MRS	37°38.88'	118°57.66'	-.20	-.33	UNR

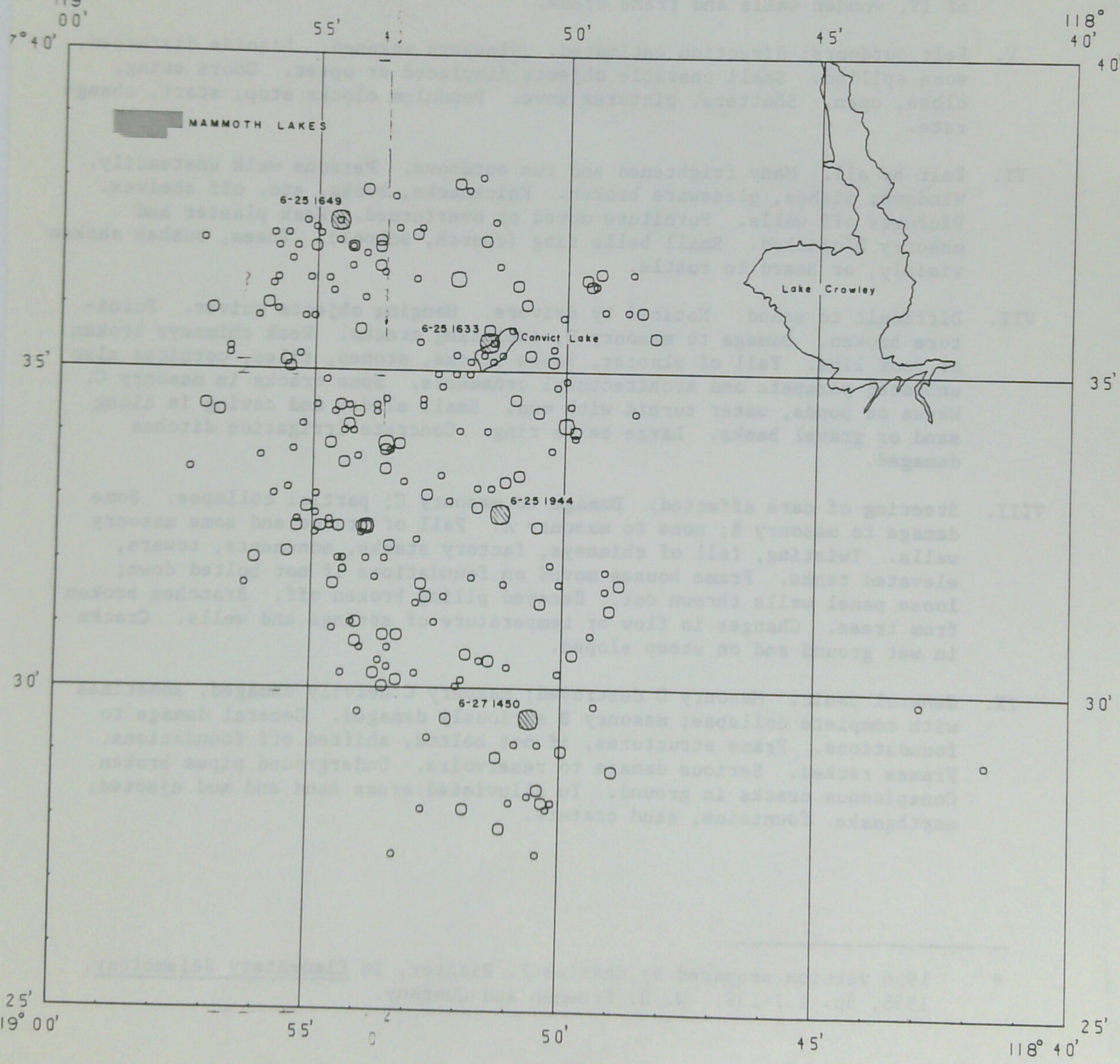
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* To be added to observed travel time.

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MAMMOTH LAKES, CALIFORNIA
EARTHQUAKE SEQUENCE
JAN. 1 - JUNE 30 1980

° 3.0 - 3.9
○ 4.0 - 4.9
○ 5.0 - 5.9
◎ 6.0 -



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APPENDIX C - MODIFIED MERCALLI INTENSITY SCALE (1956 VERSION)*

I. Not felt. Marginal and long-period effects of large earthquakes.

II. Felt by persons at rest, on upper floors, or favorably placed.

III. Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.

IV. Hanging objects swing. Vibration like passing of heavy trucks; or sensation of a jolt like a heavy ball striking the walls. Standing cars rock. Windows, dishes, doors rattle. Glasses clink. Crockery clashes. In the upper range of IV, wooden walls and frame creak.

V. Felt outdoors; direction estimated. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Shutters, pictures move. Pendulum clocks stop, start, change rate.

VI. Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Knicknacks, books, etc. off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster and masonry D cracked. Small bells ring (church, school). Trees, bushes shaken visibly, or heard to rustle.

VII. Difficult to stand. Noticed by drivers. Hanging objects quiver. Furniture broken. Damage to masonry D, including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices also unbraced parapets and architectural ornaments. Some cracks in masonry C. Waves on ponds, water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.

VIII. Steering of cars affected. Damage to masonry C; partial collapse. Some damage to masonry B; none to masonry A. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.

IX. General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. General damage to foundations. Frame structures, if not bolted, shifted off foundations. Frames racked. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluviated areas sand and mud ejected, earthquake fountains, sand craters.

---

* 1956 version prepared by Charles F. Richter, in Elementary Seismology, 1958, pp. 137-138. W. H. Freeman and Company.

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X. Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.

XI. Rails bent greatly. Underground pipelines completely out of service.

XII. Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into the air.

---

† Masonry A, B, C, D. To avoid ambiguity of language, the quality of masonry, brick or otherwise, is specified by the following lettering.

Masonry A. Good workmanship, mortar, and design; reinforced, especially laterally, and bound together by using steel, concrete, etc.; designed to resist lateral forces.

Masonry B. Good workmanship and mortar; reinforced, but not designed in detail to resist lateral forces.

Masonry C. Ordinary workmanship and mortar; no extreme weaknesses like failing to tie in at corners, but neither reinforced nor designed against horizontal forces.

Masonry D. Weak materials, such as adobe; poor mortar; low standards of workmanship; weak horizontally.

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APPENDIX D - REGIONAL EARTHQUAKE LOCATION PROGRAM (RELP)

FEATURES:

Velocity Model, Minimum Input, Output:

The RELP Program utilizes a gradient layer over half-space velocity model. For convergence, input in the simplest form must consist of at least four P and/or S arrival times (all receive equal initial weighting) along with an approximate starting hypocenter (latitude, longitude and origin time; starting depth is defaulted to 5.0 kilometers). Output consists of the calculated data for this initial location and that for the final solution upon iteration. The latter includes calculated origin time, latitude, longitude and depth (all with standard errors, including standard error in seconds for the solution as a whole); and station data including delta, azimuth, input P and S times, residuals and weights. Optional output includes the average P and S residuals for each station when using the program to locate a group of earthquakes in the same geographic region.

Station Data on Permanent File:

The program utilizes File Tape 11, an independent data file containing station location data for most of the operating stations maintained by the major operators within, or bordering, Northern California (U. C. Berkeley, C. D. W. R. and U. S. G. S., as well as some stations operated by C. I. T., University of Nevada in Reno, P. G. & E., and Woodward/ Clyde Consultants). The location of additional stations, if desired, can be added to input data at the beginning of each run.

Operational Parameters:

The first line of input data governs the operation of the program, containing parameters which specify number of additional stations to be added, number of fixed iterations (at starting depth), starting depth, damping (convergence criteria), and velocity model parameters. If this line is left blank the program operates with default values on the input data, utilizing only those P and S values for stations accessible on the permanent file.

Forced-Solution Features:

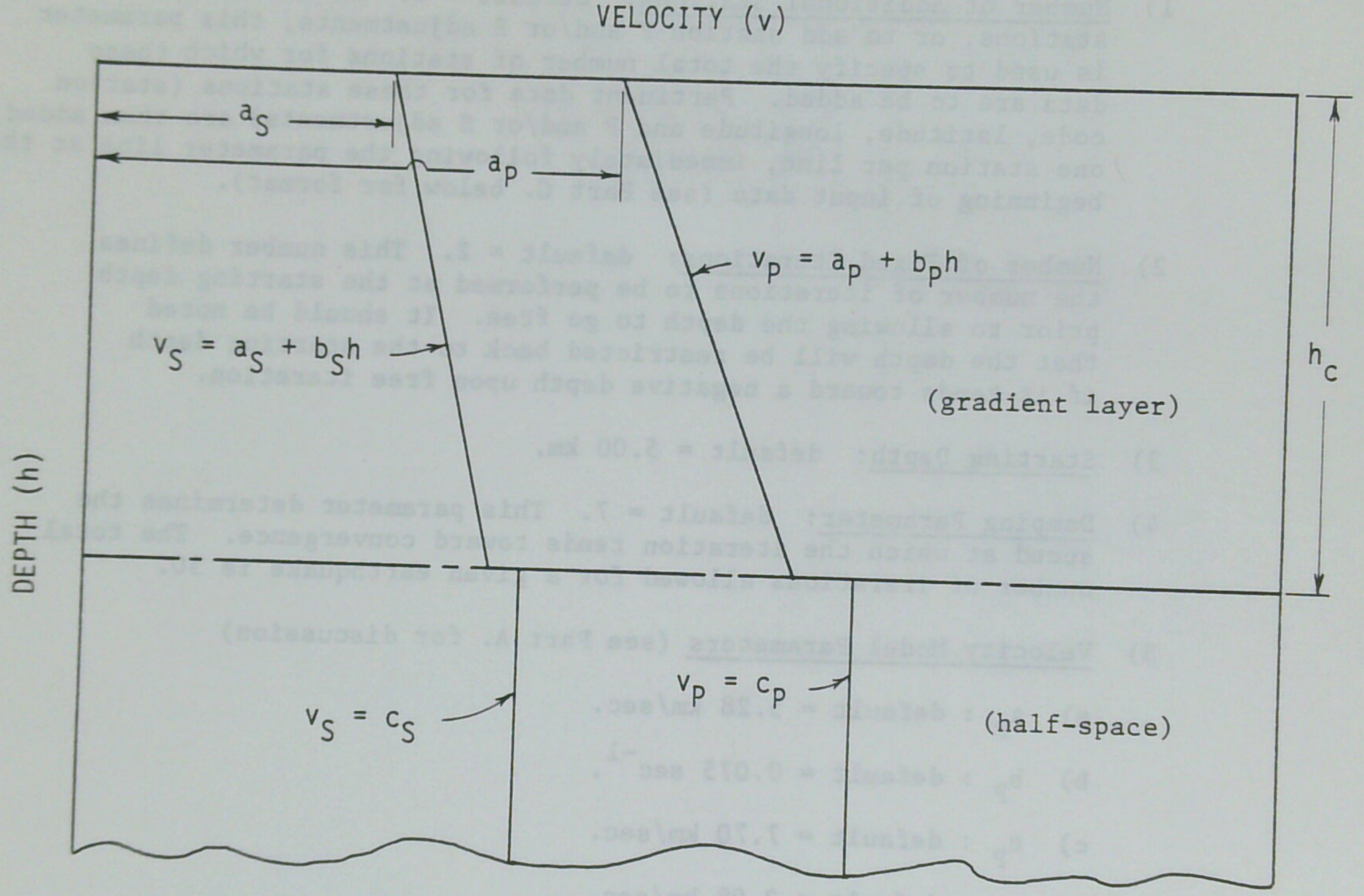
Solutions for which the depth tends toward a negative value upon free iteration cause the program to automatically restrain depth at its starting value. P and/or S arrival times which are significantly in variance with the norm are critically down-weighted to the point of having no effect upon a solution obtained with four (or more) readings from other stations.

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MODEL, PROGRAM PARAMETERS AND INPUT FORMAT:

A. MODEL

The RELP Program utilizes a gradient layer over half-space velocity model in its calculations. This model and associated parameters can be visualized as shown below:



"P" Surface Velocity = a_P = 5.28 km/sec

"P" Velocity Gradient = b_P = 0.075 sec^{-1}

"P" Half-Space Velocity = c_P = 7.70 km/sec

"S" Surface Velocity = a_S = 2.98 km/sec

"S" Velocity Gradient = b_S = 0.043 sec^{-1}

"S" Half-Space Velocity = c_S = 4.36 km/sec

Depth to Half-Space = h_C = 25.00 km

} MODEL FOR CENTRAL CALIFORNIA COASTAL REGION

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B. PROGRAM PARAMETERS

Program Parameters used by the RELP Program include those for the velocity model given in "A." above and the additional ones given below. These data are defined for the program in the first line of data input (see Part C. below for format). If this line is left blank, the program uses the default values shown here and above (Part A.). Whether the parameters are changed or are left unchanged at their default values, they will remain in effect throughout the duration of the program's run -- whether the program is used to calculate the hypocenter for just one, or for several earthquakes.

1) Number of Additional Stations: default = 0. To add additional stations, or to add station P and/or S adjustments, this parameter is used to specify the total number of stations for which these data are to be added. Pertinent data for these stations (station code, latitude, longitude and P and/or S adjustments) are then added, one station per line, immediately following the parameter line at the beginning of input data (see Part C. below for format).

2) Number of Fixed Iterations: default = 2. This number defines the number of iterations to be performed at the starting depth prior to allowing the depth to go free. It should be noted that the depth will be restricted back to the starting depth if it tends toward a negative depth upon free iteration.

3) Starting Depth: default = 5.00 km.

4) Damping Parameter: default = 7. This parameter determines the speed at which the iteration tends toward convergence. The total number of iterations allowed for a given earthquake is 30.

5) Velocity Model Parameters (see Part A. for discussion)

a) a_P : default = 5.28 km/sec.

b) b_P : default = 0.075 sec^{-1}.

c) c_P : default = 7.70 km/sec.

d) a_S : default = 2.98 km/sec.

e) b_S : default = 0.043 sec^{-1}.

f) c_S : default = 4.36 km/sec.

g) h_C : default = 25.00 km.

C. INPUT FORMAT

1) Program Parameters

Program Parameters are inserted as the first line of input data after the control statements have been entered for the program run.

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If the default values for the parameters (given in Part B above) are to be used, the first line of input data should be left blank (either a "RETURN" on the teletype, or a blank card in the punched data deck). The Fortran Format for this line of data, and an example (using the default values merely as an example) are given below:

a) Fortran Format (beginning in Column 1):

I2, I2, F5.2, I2, F5.2, F5.2, F5.2, F5.2, F5.2, F5.2, F5.2

- No. of Additional Stations
- No. of Fixed Iterations
- Starting Depth (km)
- Damping Parameter
- P Surf. Vel. (a_P)
- P Vel. Gradient (b_P)
- P Half-Space Vel. (c_P)
- S Surf. Vel. (a_S)
- S Vel. Gradient (b_S)
- S Half-Space Vel. (c_S)
- Depth to Half Space (h_C)

b) Example of Program Parameter Data Line (beg. in Col. 1):

```
00 2 5.99 7 5.28 .075 7.70 2.98 0.43 4.36 25.0
```

2) Additional Stations

Data for additional stations, when desired, is inputed immediately following the Program Parameter Line, using one line for each station added. The total number of stations to be added is specified in the Parameter Line. The format for each station line is given below, along with an example of this data line:

a) Fortran Format (Beginning in Column 1):

A4, 1X, I6, 1X, I7, 1X, F5.2, 1X, F5.2

- Station Code
- Space
- Station Latitude (degrees & minutes)
- Space
- Station Longitude (degrees & minutes)
- Space
- P Adjustment (seconds)
- Space
- S Adjustment (seconds)

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b) Example of Additional Station Data Line (beg. in Column 1):

AAR 391657 1210153 0.02 0.05

Note: (1) If the intent is merely to add readings for a station not in the station data listing, all that need be added is Station Code, Station Latitude, and Station Longitude, leaving the last two columns blank (in this case just "AAR", 39°16.57'N and 121°01.53'W)

(2) If the intent is to add P and S Arrival Time Adjustments, all five columns of data must be added, even for stations already in the station data listing (all entries here supercede those in the station listing; if Latitude and Longitude were left blank they would be read as 0°00.00'N and 0°00.00'W, superceding the actual coordinates found in the data list).

3) Earthquake Data

For each earthquake whose hypocenter is to be determined by the RELP Program, input data required consists of a Preliminary, or Starting Hypocenter and Arrival Times for the stations recording the event. This data is followed by either an end-of-information (single earthquake computer run, signified by "Control-D" on the teletype or 6/7/8/9 Pink Card for the card deck); or by an end-of-file (separating data for individual earthquakes - for solving two or more earthquakes - in a single computer run, signified by "Control-B" on the teletype or 7/8/9 computer card).

a) Preliminary Hypocenter Data consists of four lines of input:

1) Comment Line: 60 characters, beginning in Column 1. This line is usually used to enter data such as the date, time, and general location of the earthquake. There is no restriction on what is entered here. Lines longer than 60 characters are truncated. A sample Comment Line could be:

"06 AUG 1979 19:21 COYOTE LAKE A/S ML=2.7"

2) Preliminary Latitude: Format (F2.0, F4.2), giving starting hypocenter latitude to the nearest hundredth of a minute. Trailing blanks are interpreted as zeros. As an example:

39°27.00'N could be entered as "392700" or "3927".

Entries begin in Column 1.

3) Preliminary Longitude: Format (F3.0, F4.2), beginning in Column 1. The same comments apply as given for Preliminary Latitude above. As an example:

121°30.00'W could be entered as "1213000" or "12130".

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4) Preliminary Origin Time: Format (2F2.0, F4.2), beginning in Column 1. This entry gives the Origin time Hours, minutes and seconds. As an example:

20h 20m 31.00 s could be entered as "20203100" or "202031".

b) Station Arrival Time Data

This data follows the Preliminary Hypocenter data for each earthquake to be solved. Data is entered with one line per station, consisting of Station Code, P Arrival Time, and (if available) S Arrival Time. Initially both P and S data are equally weighted. At least four such readings are required for a solution (e.g. three P and one S reading would probably provide a solution). It is best to have at least five such readings, hopefully from all four azimuthal quadrants, for the best solutions. Format for this data is (A4, 1X, I2, F4.3, 1X, I3, F4.2). This allows up to four characters for the Station Code, and up to six characters for the minutes and seconds of both P and S readings. As an example, assume that for a given earthquake Station AAR has a P reading of 20h20m35.60s and an S reading of 20h20m40.00s. The data line for this station would then be (beginning in Column 1):

AAR 203560 204000

If no S reading were available, the last data entry would be left blank. Again, trailing blanks are interpreted as zeroes. The data line could then be:

AAR 20356

4) REQUEST FOR AVERAGE STATION P & S RESIDUALS

When using the RELP Program for the Group Location of several earthquakes in the same general region, the program contains the optional capability of providing the average P & S residual for each station used, averaged over solutions for all earthquakes in the group. This capability is called by inserting a line with the number "99" (beginning in Column 1) as the last line of data input. This request flag follows the end-of-file (Control-B on teletype or 7/8/9 on punched cards) for data for the last earthquake in the group, and precedes the end-of-information (Control D on the teletype, or 6/7/8/9 on punched cards) for the program.

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Bulletin of the Seismographic Stations

Volume 50, No. 2, pp. 88 - 156

ARCATA--BERKELEY--FICKLE HILL-- FRIANT

GRANITE CREEK--JAMESTOWN--LLANADA--MINA--MINERAL

MOUNT HAMILTON--OROVILLE--PARAISO--PILARCITOS CREEK

PRIEST--SAN ANDREAS GEOPHYSICAL OBSERVATORY

SAN PABLO DAM--WALKER RIDGE

WHISKEYTOWN DAM

Earthquakes and the Registration of Earthquakes

From July 1, 1980 to December 31, 1980

by

M. Richard McKenzie

Roy D. Miller

Robert A. Uhrhammer

International Seismological Centre

BULLETIN OF THE SEISMOGRAPHIC STATIONS

of the University of California

Volume 50, No 2

July 1, 1980 to December 31, 1980

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INTRODUCTION

Each issue of the Bulletin includes determination of epicenters, origin times, magnitudes and other information available at the time of writing, for earthquakes in Northern California and adjoining areas. Recorded arrival times of seismic waves are tabulated for the above earthquakes and for teleseisms.

Information items regarding the seismographic stations which comprise the Berkeley network are repeated in each issue.

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PERSONNEL (July 1982)

Director	Bruce A. Bolt
Assistant Director	Thomas V. McEvilly
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Assistant Research Seismologists	Richard W. Clymer Durward D. Skiles
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HISTORY OF THE UNIVERSITY OF CALIFORNIA STATIONS

"The Seismographic Stations at Mount Hamilton and Berkeley present several items of interest in the history of earthquake science, one of which is that according to the available records they were the first seismographic stations set up in America. Furthermore, they have functioned continuously from their founding to the present day, with improvements in instrumental equipment from time to time as the development of the science and opportunity have permitted.

Several outstanding figures in the seismology of the 1880's were impressed with the importance of these stations, and Ewing, Milne, and Gray each took a personal interest in aiding one or both stations to obtain their own best and most modern types of instruments."

The quotation is from "History of the University of California Seismographic Stations and Related Activities" by Professor George D. Louderback, published in the Bulletin of the Seismological Society of America, Vol. 32, No. 3, pp. 205-229, 1942. In this paper may be found a detailed account of the development of the Berkeley stations from the installation of the instruments (the first earthquake known recorded at Mount Hamilton was on April 24, 1887) to 1942.

Since 1942, the number of seismographic stations associated with the University of California has increased from six to nineteen in 1979. In 1950, Professor Perry Byerly was appointed Director by the Regents; he had been in charge of instruction and research since 1925. Professor Bruce A. Bolt was appointed Director in 1963. Since 1969, the stations have entered into research and service contracts with the Air Force Office of Scientific Research, the National Science Foundation, the California Department of Water Resources, the California State Division of Mines and Geology, the U.S. Geological Survey, the U.S. Corps of Engineers, the East Bay Municipal Utility District, and others. A telemetry network of seventeen stations in Central California, recording on film and selected stations on magnetic tape, is now operated together with seismographs with broadband frequency response at Berkeley, Jamestown, Oroville, San Andreas Geophysical Observatory, and Whiskeytown Dam. Copies of seismograms and magnetic tapes from seismographs of the Berkeley network are available, together with response characteristics, on request to the Director.

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THE BYERLY SEISMOGRAPHIC STATION (BKS)

Equipment of a WWSSN station began operating in a newly constructed tunnel east of the main campus on June 8, 1962. The closest buildings, part of the Lawrence Berkeley Laboratory, are about 0.8 km away. The tunnel was cut into the upper part of the Claremont Formation. Of Miocene age, this formation consists of thin layers of cherty material alternating with shale.

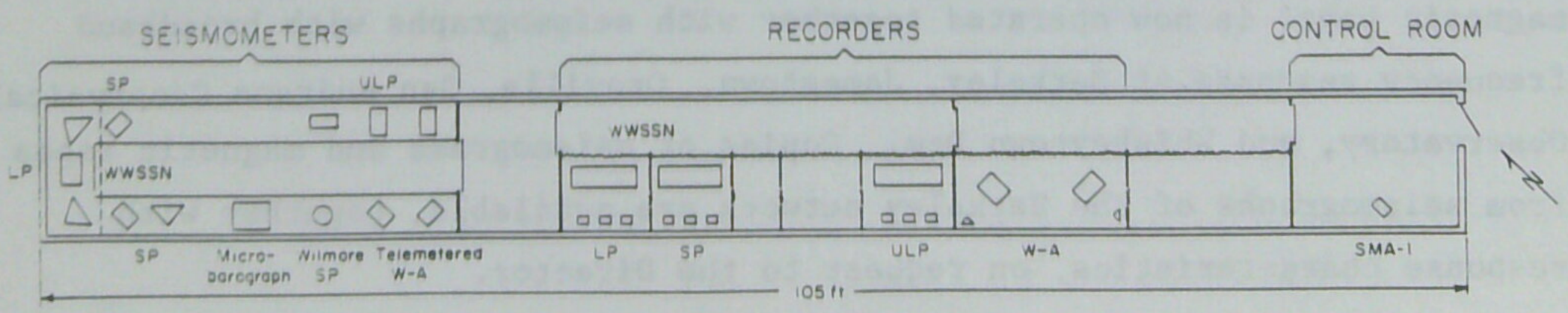
A plan of the tunnel is shown in the diagram below. Piers are constructed of reinforced concrete with no isolation from floor and walls. The temperature is stable. A ventilating and dehumidifying system is connected to all rooms.

Fourteen seismographs are currently operating in the tunnel. Their free periods range from 0.8 sec to 100 sec and the magnification of the photographic recordings ranges from approximately 500 to 25,000. Details are given in the section on instrumentation.

On March 20, 1964, the Regents of the University of California named this station the "Byerly Seismographic Station" in recognition of the work of Professor Perry Byerly.

Geology

The portal of the adit is in an old quarry which exposes near-vertical, intensely contorted, thinly-bedded, brittle chert, and softer interbedded shale of the Miocene Claremont Formation. Individual beds are one to a few inches thick; the chert beds are intensely fractured and intricately crisscrossed by fine patterns of jointing. Near-surface beds are warped by downhill creep; soil is very thin. The area is crossed by numbers of minor faults, and is about one mile from the active trace of the Hayward fault.



STATIONS IN OPERATION: July 1, 1980 to December 31, 1980

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Station (From N to S)	North Latitude	West Longitude	Elev. Meters	Foundation Material	Symbol	Present Auspices and Date Established
Arcata	40° 52!6	124° 04!5	60	Sandstone (loose)	ARC	Humboldt State Univ. 1948
Fickle Hill	40° 48!1	123° 59!1	610	Siltstone over graywacke	FHC	Humboldt State Univ. 1968
Whiskeytown Dam	40° 34!8	122° 32!4	300	Pre-Devonian metavolcanic	WDC	National Park Service 1973
Walker Ridge	40° 23!6	124° 17!3	976	Undivided cretaceous marine	WKC	Pacific Gas & Electric Company, 1976
Walker Ridge	40° 23!3	124° 17!7	976		WKC2	After Nov. 5, 1980
Mineral	40° 20!7	121° 36!3	1495	Volcanic	MIN	National Park Service 1938
Oroville	39° 33!3	121° 30!0	360	Basalt	ORV	Dept. of Water Resources 1963
Mina (Nevada)	38° 26!0	118° 09!2	1524	Limestone	MNV	Lawrence Livermore Lab. 1969
Jamestown	37° 56!8	120° 26!3	457	Metamorphic (serpentine)	JAS	Dept. of Water Resources 1964
San Pablo Dam	37° 56!7	122° 15!4	119	Middle Miocene marine	ZSP	East Bay M.U.D. Nov. 3, 1978
Berkeley (Byerly)	37° 52!6	122° 14!1	276	Claremont shales & cherts	BKS	University of Calif. 1962
Berkeley	37° 52!4	122° 15!6	81	Franciscan sandstone	BRK	University of Calif. 1887
Pilarcitos Creek	37° 30!0	122° 22!9	91	Granodiorite (weathered)	PCC	Sare Ranch, 1965
Mt. Hamilton	37° 20!5	121° 38!5	1282	Franciscan formation (greenstone)	MHC	Lick Observatory 1887
Granite Creek	37° 01!8	121° 59!8	122	Granite	GCC	Richard E. Randolph Santa Cruz, 1965
Friant	36° 59!5	119° 42!5	119	Alluvium overlying granite	FRI	Bureau of Reclamation 1971
San Andreas Geophysical Observatory	36° 45!9	121° 26!7	350	Granite	SAO	University of Calif. 1966
Llanada	36° 37!0	120° 56!6	475	Alluvium overlying sandstone	LLA	Charles McCullough Ranch, 1961
Paraiso	36° 19!9	121° 22!2	363	Grano-diorite	PRS	Paraiso Hot Springs 1961
Priest	36° 08!5	120° 39!9	1187	Greenstone basic metamorphic	PRI	Federal Aviation Agency 1961

STATION INSTRUMENTATION

July 1, 1980 to December 31, 1980

Station	Type of Instrument	T_o sec	T_g sec	Component	Mag at T_o	1	2	3	4	5	6	7
ARC	Wood-Anderson torsion	0.8	-	S, W	2,000	x						
BKS	Benioff 100 kg	1.0	0.75	N, E, Z	25,000	x						
	Sprengnether S-5007	15	100	N, E, Z	3,000	x						
	Wood-Anderson torsion	0.8	-	S, W	2,000	x						
	Sprengnether ULP S-5100	100	300 Filter	N45°W, N45°E, Z	500	x						
	Filtered Displacement				- - -				x			
	Displacement				- - -				x			
	Displacement Digital				- - -				x			
	Willmore MK II	1.0	0.2	Z	- - -				x			
	14000X torsion	0.8	-	N, E	14,000 max		x		x			
	700X torsion	0.8	-	N, E	700 max		x		x			
BRK	Benioff 100 kg	1.0	0.2	Z	25,000			x				
	Benioff 100 kg	1.0	8.0	Z	Variable						x	
	100X torsion	0.8	-	N, E	100 max	x						
	4X torsion	0.8	-	N, E	4 max	x						
	Press-Ewing	15	30	Z	1,000		x					
	Press-Ewing	30	BB	N45°W, N45°E, Z	- - -				x			
FHC	Benioff 14 kg	1.0	0.2	Z	50,000			x	x			
FRI	Benioff 14 kg	1.0	0.33 Filter	Z	150,000		x	x	x			
GCC	Benioff 14 kg	1.0	0.2	Z	50,000			x	x			
JAS	Benioff 14 kg	1.0	0.2	Z	600,000		x	x	x			
	Sprengnether S-5100	40	-	Z								
	BB velocity								x			
	Displacement								x			
	Filtered Displacement								x			
	Teledyne 210 & 220	15	-	N, E, Z	Digital Tape							x

1 Signals recorded on photographic paper.
2 Signals recorded on heat sensitive paper.
3 Signals telemetered to Berkeley. Magnifications using 20X viewer.
4 Signals recorded on magnetic tape, Berkeley.
5 Signals recorded on magnetic tape at SAO.
6 Ink recording.
7 Signals recorded on digital magnetic tape.

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STATION INSTRUMENTATION

July 1, 1980 to December 31, 1980

Station	Type of Instrument	T_o sec	T_g sec	Component	Mag at T_o	1	2	3	4	5	6	7
LLA	Benioff 14 kg	1.0	0.2	Z	50,000			x	x			
MHC	Benioff 14 kg	1.0	0.2	Z	50,000		x	x	x			
	Wood-Anderson torsion	0.8	-	S, E	2,000	x						
MIN	Wood-Anderson torsion	0.8	-	S, E	2,000	x						
	Teledyne S-13	1.0	0.2 Filter	Z	150,000			x	x			
MNV	Broadband instrument filtered to give short-period response			Z	600,000 at 1 sec			x	x			
ORV	Benioff 100 kg	1.0	0.2	Z	220,000			x	x			
	Geotech 7505 & 8700	2.0	BB	N, E, Z	- - -				x			
PCC	Benioff 14 kg	1.0	0.2	Z	50,000			x	x			
PRI	Benioff 14 kg	1.0	0.2	Z	50,000		x	x	x			
PRS	Benioff 14 kg	1.0	0.2	Z	50,000			x	x			
SAO	Benioff 14 kg	1.0	0.2	Z	- - -				x			
	Sprengnether 0.70 kg	0.2	0.05 Filter	Z	1,500,000		x	x		x		
	Sprengnether 0.70 kg	0.44	0.05 Filter	N, E, Z						x		
	Sprengnether S-5007 Displacement	30	BB	N, E, Z						x		
WDC	Sprengnether S-5100	40	-	Z								
	BB velocity				- - -				x			
	Displacement								x			
	Filtered Displacement								x			
	Short Period (Filter)				500,000		x	x	x			
WKC2	Kinemetrics SS-2 Ranger	1.0	0.2	Z	- - -		x		x			
ZSP	Teledyne 18300	1.0	0.2 Filter	Z	- - -		x		x			

1 Signals recorded on photographic paper.
2 Signals recorded on heat sensitive paper.
3 Signals telemetered to Berkeley. Magnifications using 20X viewer.
4 Signals recorded on magnetic tape, Berkeley.
5 Signals recorded on magnetic tape at SAO.
6 Ink recording.
7 Signals recorded on digital magnetic tape.

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Direction of motion: In the "Component" column, each horizontal component seismograph is designated by the direction of ground motion corresponding to upward trace motion on the seismogram when it is oriented so that time increases from left to right. On all vertical component (Z) instruments, upward trace motion corresponds to upward ground motion.

Relative magnification curves of instruments recording photographically and through the telemeter system are listed on pages 99 and 100. Absolute magnification may be obtained by use of calibration pulses recorded daily from each station.

A network of broadband seismographs is now operated by the University of California at seismographic stations at Berkeley (BKS), Jamestown (JAS), Oroville (ORV), San Andreas Geophysical Observatory (SAO), and Whiskeytown (WDC).

At Berkeley, broadband instrumentation has been gradually developed, starting with the installation in 1963 of a Press-Ewing seismometer operating at a free period of 30 seconds. In 1971, the installation of a 3-component set of special ultra-long period (ULP) seismometers in the Byerly Seismographic Vault was completed. The seismometers are Sprengnether S-5100 operated at a feedback-controlled free period of 100 seconds and they utilize electronic recentering feedback for long-term stability and temperature/barometric feedback also for the vertical component. The ultra-long period system generates photographic paper records equivalent to a 100 second pendulum with a velocity transducer recorded by a 300 second galvanometer with a magnification of 500 at a period of 100 seconds.

Starting in September 1975, low- (±2 mm) and high- (±0.02 mm) gain displacement signals from each of the three components were telemetered to the laboratory and recorded on 0.03 ips, 0-10 Hz, FM magnetic tape. The high-gain displacement signals are high-pass filtered at 500 seconds to reduce tidal signals. In 1980, a digital telemetry system was installed where the displacement signals from the three ULP seismometers are sampled at 99 samples per second each channel, with a resolution of 16 binary digits through a Phoenix Data 6816 ADC. An RCA COSMAC 1802 microprocessor system controls the analog-to-digital conversion process and buffers the incoming data. The digital data are temporarily stored in the microprocessor RAM memory, extra synchronization words are inserted, and finally the data are sent out bit-serially to a modem. The bit-serial digital data are transmitted over a leased phone line by a modem pair. At the receiving end, the reconstructed serial data are applied to a PCM encode module which codes the data as DM-M. The coded PCM data are applied through a high-density digital encoder to the record head for one track of a Honeywell Model 96 tape transport, recording at 15/16 inches per second. With a 7200 foot reel of tape, data may be recorded continuously for 26 hours. The density at which the data are recorded on tape is equivalent to 5120 bits per inch. The least significant bit is equivalent to 0.25 micrometers of boom displacement and the system is flat to displacement response over the band of 0.01-25 Hz.

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The instrumentation at Whiskeytown was installed in January 1973, and at Jamestown in November 1973. The Jamestown and Whiskeytown seismographs are closely matched and consist of a single vertical seismometer, a Sprengnether S-5100, operating with a free period of 40 seconds and a damping ratio of 0.70. Signals from these seismometers are telemetered to Berkeley via FM telemetry components and leased telephone lines where they are recorded on analog magnetic tape recorders. Low- (±2 mm) and high- (±0.01 mm) gain displacement signals from JAS and WDC are recorded on 0.03 ips, 0-10 Hz, FM magnetic tape. Velocity signals from JAS (one level) and WDC (two levels) are recorded at Berkeley on the 0.06 ips FM tape recorder. The seismometers at JAS and WDC are operated in sealed pressure vessels identical to those used with high-gain long-period (HGLP) instruments. An on-site digital recording system (DRS) was installed at Jamestown in September 1980. The DRS continuously records a three-component long-period (LP) channel at one sample per second each component and records, in an event detect mode, a three-component intermediate-period (IP) channel at 10 samples per second each component, and a vertical short-period (SP) channel at 20 samples per second. The DRS records the filtered output of Teledyne 210 and 220 seismometers operating with 16 bit resolution (no gain-ranging) on 1600 bpi magnetic tape.

Equipment was installed at Oroville in June 1979 to telemeter the three-component broadband velocity signals from the Geotech 7505 and 8700 seismometers,operating at a free period of 15 seconds, to Berkeley via FM telemetry over leased telephone lines where they are recorded on 0.06 ips, 0-10 Hz, analog magnetic tape recorders. In December 1979, the free period of the seismometers was changed to 20 seconds.

At SAO, the central vault is instrumented with Sprengnether S-5007 (WWSSN-type) three-component long-period (30 sec) seismometers with displacement transducers recording 0-10 Hz on 0.06 ips magnetic tape at SAO with 10 mm full-scale displacement; Sprengnether S-7000 three-component short-period (0.44 sec) seismometers recording on SAO magnetic tape (0-20 Hz) at two gain levels separated by a factor of 100; and a single vertical component S-7000 (5 Hz) telemetered to Berkeley and recorded on Develocorders ('William' channel).

Response curves for these broadband instruments are shown on pages 99 and 101.

UNIVERSITY OF CALIFORNIA ACCELEROGRAPH STATIONS

Station Name	Coordinates	Installation Date	Instrument S.N.	Component	Sensitivity (cm/g)	Period (sec)	Damping % of Critical	Structure	Location in Structure
BERKELEY MEMORIAL STADIUM	37.87 N 122.25 W	3 Aug 76	CRA-1 #148 (Recorder) FBA-3 downhole	V	1.79	.018	.64	4" I.D. cased borehole (163m deep)	Downhole (163m)
				L unknown	1.82	.019	.62		
				T unknown	1.83	.018	.66		
			FBA-3 uphole	V Down	1.90	.019	.63	Metal Box	Ground Level
				L North	1.83	.018	.63		
				T East	1.82	.018	.65		
BERKELEY UNIVERSITY LIBRARY	37.87 N 122.26 W	3 May 76	MO-2 trace #6	A Up	1.65	.03	.6		Ground Level
				B S45W	1.66	.03	.6		
				C S45E	2.40	.03	.6		

					Sensitivity (g/F.S.)	Bandwidth (Hz)			
RICHMOND FIELD STATION	37.92 N 122.33 W	12 May 76	Columbia Research Force Balance Accelerometer SA-107 (±2g units) (0-50Hz)	Z,H_1^*,H_2^{**}	±0.010	.05-50		5" I.D. uncased backfilled borehole (43.8m deep)	Downhole (43.7m)
				Z,H_1,H_2	±0.50	0-50			
				Z,H_1,H_2	±0.010	.05-50			Midhole (15.7m)
				Z,H_1,H_2	±0.50	0-50			
				Z,H_1,H_2	±0.010	.05-50		Metal Box	Ground Surface Level
				Z,H_1,H_2	±0.50	0-50			
EARTH SCIENCES BUILDING	37.87 N 122.26 W	01 Nov 68	Wilmot Seismoscope SR-100	Duplex Horizontal	5.45×10^{-2} (m/rad)	.75	~ 10	Metal Box	Ground Level

* accelerometer aligned S45W
** accelerometer aligned S45E
\+ recorded on magnetic tape

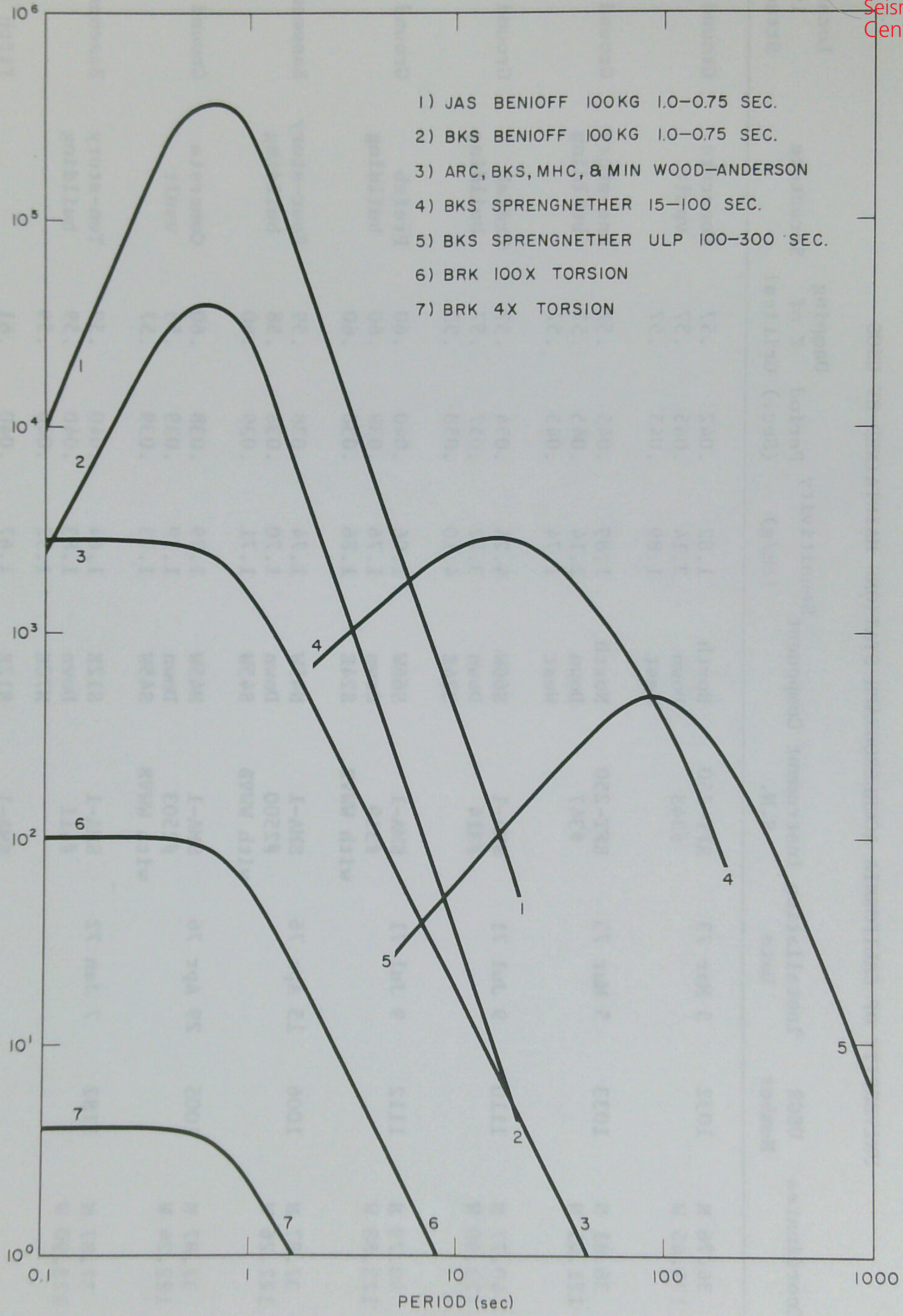
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UNIVERSITY OF CALIFORNIA ACCELEROGRAPH STATIONS MAINTAINED BY USGS

Station Name	Coordinates	USGS Number	Installation Date	Instrument S.N.	Component	Sensitivity (cm/g)	Period (Sec.)	Damping % of Critical	Structure	Location in Structure
SAGO CENTRAL	36.76 N 121.45 W	1032	5 Mar 73	RFT-250 #343	North Down West	1.82 2.14 1.89	.042 .045 .045	.57 .57 .57	Concrete vault	Ground level
SAGO EAST	36.81 N 121.41 N	1033	5 Mar 73	RFT-250 #347	North Down West	1.89 2.14 1.74	.045 .045 .045	.57 .57 .57	One-story building	Ground level
BUTLER VALLEY STA. 1 (RANCH)	40.77 N 123.90 W	1110	9 Jul 71	SMA-1 #314	S66W Down S24E	4.24 3.72 4.10	.054 .057 .058	.57 .57 .55	Prefab building	Ground level
BUTLER VALLEY STA. 2 (ABUTMENT)	40.79 N 123.88 W	1112	9 Jul 71	SMA-1 #319 with WWVB	S66W Down S24E	1.96 1.76 1.86	.040 .039 .038	.60 .60 .60	Prefab building	Ground level
BERKELEY HAVILAND HALL	37.87 N 122.26 W	1006	15 Apr 76	SMA-1 #2500 with WWVB	N45W Down S45W	1.74 1.70 1.71	.038 .038 .039	.59 .58 .60	Four-story building	Basement
BERKELEY BYERLY SEISM STATION	37.87 N 122.24 W	1005	29 Apr 76	SMA-1 #2503 with WWVB	N45W Down S45W	1.79 1.79 1.73	.038 .039 .039	.60 .55 .57	Concrete vault	Ground level
BERKELEY EVANS HALL	37.87 N 123.90 W	1182	7 Jan 72	SMA-1 #411	S12E Down N78E	1.64 1.83 1.92	.040 .040 .040	.59 .59 .59	Ten-story building	Basement
				SMA-1 #412	S12E Down N78E	1.67 1.96 1.92	.040 .038 .040	.61 .61 .59		Fifth floor
				SMA-1 #413	S12E Down N78E	2.01 1.88 1.85	.038 .037 .037	.60 .53 .55		Tenth floor

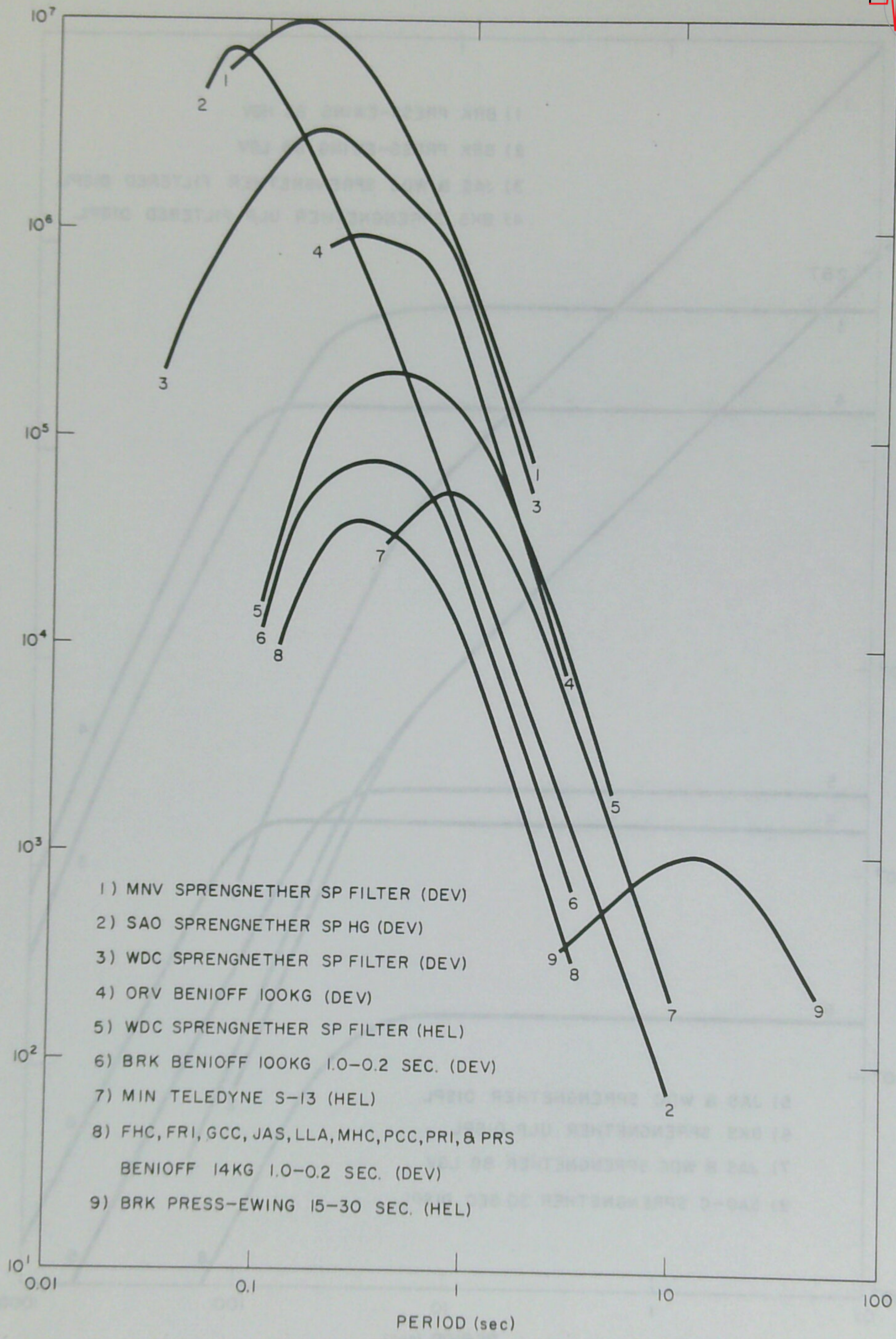
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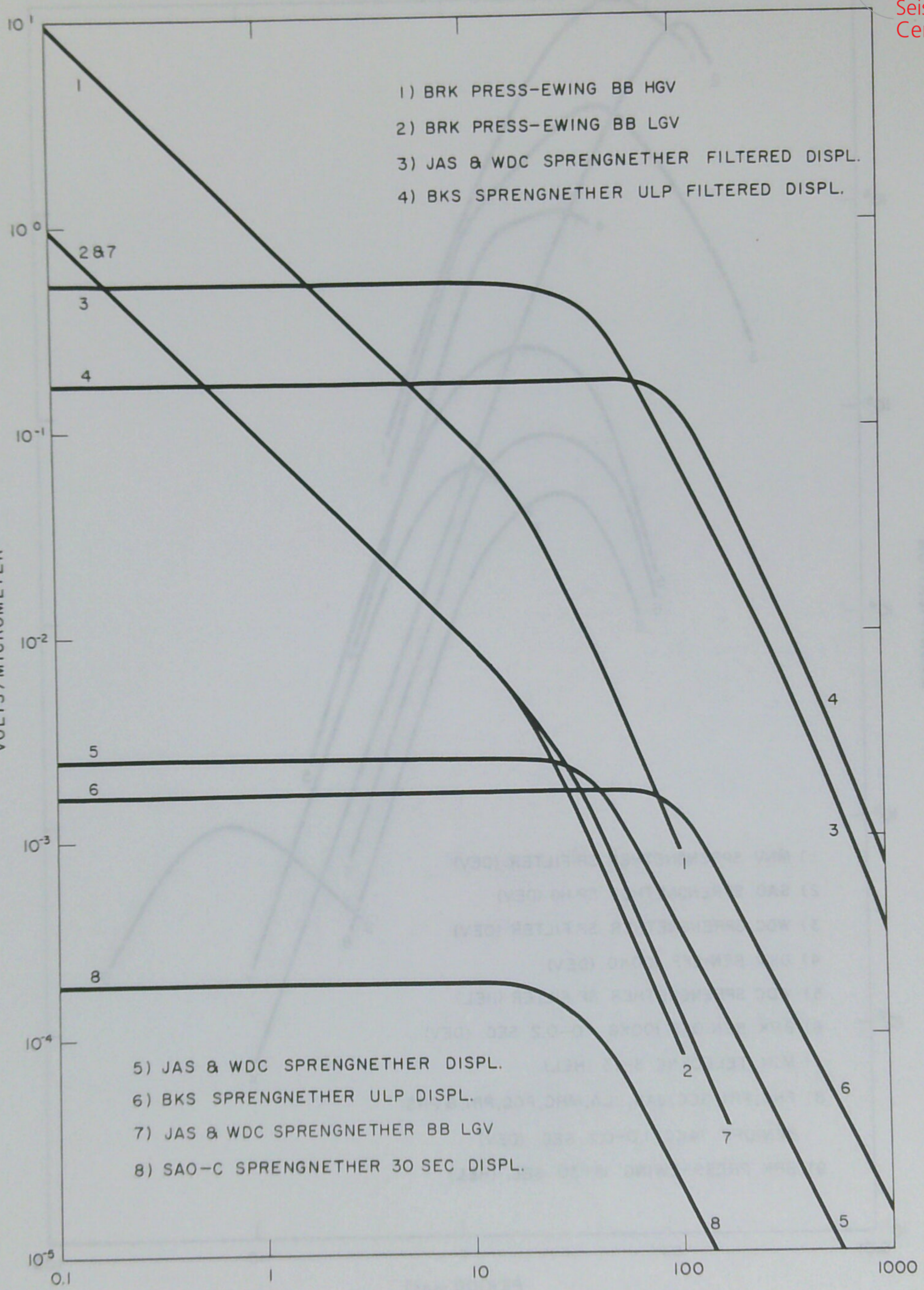
Response curves for photographically recording seismographs. The BKS Benioff and Sprengnether 15 - 100 second instruments are the WWSSN system.

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Response curves for Helicorder (HEL) and Develocorder (DEV) channels when viewed at 20X enlargement. The Benioff 14KG curve (8) represents several different stations and is normalized to 10,000 magnification at 1 second period. (See station instrumentation for actual magnification at 1 second period).

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Response curves for broadband seismographs recorded on slow-speed FM magnetic tape at BRK and SAO. Displacement sensitivity (magnification) in volt / micrometer when reproduced on Honeywell LAR 7400 system (±4 volts output).

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PART I. LOCAL EARTHQUAKES IN NORTHERN CALIFORNIA

This section includes information on earthquakes in Northern California (including adjacent offshore areas) which were well enough recorded at the U.C. stations (sometimes complemented by data from neighboring stations) to permit determination of the epicenter. Latitude and longitude of each epicenter and the corresponding data and origin time are tabulated in the following lists (see pages 108-115 and 118-122); epicenters are also plotted on the maps immediately following the lists (pages 116, 117 and 123).

For the entire Northern California region, every effort is made to list all earthquakes of Richter magnitude 3.0 or above, but it is likely that some shocks near the lower end of this range may have been omitted because the available seismographic data were inadequate for determination of the origin. Off the coast of Northern California, west of 125°W, only earthquakes of magnitude 3.5 or larger are listed and west of 126°W only earthquakes of magnitude 4.0 or larger are listed. Due to the number of earthquakes observed off the coast of Northern California during the period covered by this bulletin, a separate listing (pages 118 to 122) and a separate map (page 123) are included for this region.

Within the region covered by the map of the central coast ranges of California, locatable shocks of magnitude 2.5 or over are included in the tabulation and plotted on this map. Shocks of magnitude 3.0 or over occurring in this smaller region are plotted on both maps. Shocks of magnitude less than 3.0 in Northern California, and less than 2.5 in the central coast ranges, are tabulated only if reported felt or if they are of special interest for some other reason. Identified explosions are tabulated, but are not plotted on the maps. Due to the number of earthquakes involved in the series of earthquakes occurring in the Mammoth Lakes and Mono Lake regions, only those of magnitude 3.5 and greater are included.

Four procedures are followed to determine the epicenters of earthquakes in the present Bulletin: estimation by groups, by master events, by a special study, and individually. The method of solution used is specified for each earthquake (by a letter a through y) listed in the Table on pages 108-115 and 118-122. The group location method is described below and the master event methods used in determining the epicenters of earthquakes are described in Appendices A and B of Volume 48 (1978) of the Bulletin.

Group Location Method: A majority of the earthquakes in Northern and Central California were located by a group method. Northern and Central California was provisionally divided into regions for grouping the earthquakes. Two different velocity models were used, the first for the groups in the central coastal region and Northern California (described in Volume 47, No. 2, pages 70-72), and the second for the groups in the Sierra Nevada region from Lake Tahoe to Bishop (described in Appendix B of Volume 48). For a group of earthquakes within each region, the group location procedure simultaneously locates hypocenters and estimates station adjustments, using a fixed velocity model. A brief description of the program, called GHYP2, is given in Appendix A of Volume 47, No. 1. Once the station adjustments are known, the hypocenter locations can be individually determined using the program RELP, which is described in Appendix D of Volume 50, No. 1.

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The station adjustments (P/S), in units of tenths of a second) for each of the regions into which Central and Northern California was provisionally divided are given in the Table on page 104. These station adjustments are to be added to the calculated travel times.

Explanation of the Table:

Map No. for each epicenter corresponds to the number plotted beside that epicenter on the maps. Epicenters without numbers lie either outside the area of the map or off the coast of Northern California. The underlining of a map number in the table indicates that one point on a map has been used to represent more than one earthquake in the Table.

Date and Origin Time are given in Universal Coordinated Time (UTC). To obtain local time, subtract 8 hours for Pacific Standard Time (PST) and 7 hours for Pacific Daylight Time (PDT).

In selecting input for the computer, we sought the best possible distribution of stations, both in azimuth and distance. Where possible both P and S phases were used. However, the number of P arrivals greatly out-numbered the S arrivals. Geographic coordinates are quoted to tenths of a minute for computer-located epicenters. Uncertainties of order five kilometers or more exist in determinations where the depth has been restricted, or where the epicenters lie outside the network. Those epicenters located by the arc method have their coordinates expressed to tenths of a degree. This is the accuracy to which the arc method allows.

The Magnitude of the earthquake is determined on the Richter scale from the maximum trace amplitudes recorded for the shock by standard Wood-Anderson torsion seismographs. The magnitudes of earthquakes for which no Wood-Anderson records are available are determined from Benioff seismograph trace amplitudes, and are listed in parentheses.

Depth of focus (h) for each earthquake is given to the nearest kilometer. If the depth has been restrained, it is indicated by "(R)".

STATION ADJUSTMENTS

Region	ARC	BKS	FHC	FRI	GCC	JAS	LLA	MHC	MIN	MNV	ORV	PCC	PRI	PRS	SAO	WDC	WKC2
a	-4/	-3/3	1/3						1/0		0/	-9/				4/1	9/9
b	-2/1	-8/	-1/1						-1/		-3/1	-6/				2/1	
c			3/1						3/0		-3/					2/	2/0
e		-1/1							2/		-4/	-1/-1				8/	
f					-6/		-1/-4	2/1					1/-1	1/-4	-3/		
g					-5/		-2/-4	3/2					1/	1/0	-4/		
i				-2/-9		-4/-9				3/7							
j		1/0			-2/-2		0/0	3/0				-2/1	3/	-1/	-1/		
k		-1/1			-1/-3		0/	-1/-1				-3/-2		2/	1/		
m		1/1			-1/-2			1/2				1/-2			-1/		
n					-2/		0/	5/					-1/3	-4/4	-1/		
p				2/0		1/-7				-1/-3							
r		-4/1		1/		-2/-1	-3/-3	2/4					1/		2/		
s				2/0		0/-2				-2/-2	0/0						
w		-2/			-3/		-5/	1/				-7/	6/	-4/	3/		

Note: Station adjustments are given in the form of P/S in units of tenths of seconds.

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Solution indicates the number of stations and the method used in determining the epicenter. The lower case letter indicates the method of solution as follows:

Letter	No. of earthquakes	Location method	Region
a	59	group	Off coast (longitude $\geq$ 125° W)
b	57	group	Humboldt County (123° - 125° W)
c	10	group	Northern California (less Mt. Shasta)
d	0		Ukiah-Willits area
e	5	group	Santa Rosa-Clear Lake area
f	5	group	Stone Canyon
g	6	group	Bear Valley
h	0		Llanada area
i	71	group *	Mammoth Lakes area
j	7	group	Hollister
k	13	group	San Jose-Mt. Hamilton area
m	5	group	Berkeley-Delta area
n	6	group	Priest-San Simeon area
p	39	group *	Mono Lake area
q	0		Mt. Shasta
r	1	group	San Joaquin Valley
s	2	group *	Bridgeport
t	0		Vicinity of Paraiso
w	2	group	Coyote Lake area

* See Appendix B in Volume 48 of the Bulletin.

Under Remarks will be found a short descriptive location of the epicenter and felt information.

Recent Rate of Seismicity:

A plot of the cumulative number of earthquakes versus local Richter magnitude (M_L) is given in the figure on page 107. The data set consists of 895 earthquakes ($3.0 \leq M_L \leq 5.9$) listed in the U.C. Bulletin of the Seismographic Stations, in a 280,000 km^2 region in Northern and Central California during the decade of January 1, 1967, to December 31, 1976. The region is bounded

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on the north and east by the California border, on the southeast by the dashed line on the map on page 116, on the southwest by a line connecting 35° N-121° W and 39° N-125° W, and on the west by 125° longitude.

The earthquakes are grouped into 20 consecutive 6-month intervals for analysis and the average cumulative number of earthquakes N (total number with a magnitude $\geq M_L$) in a 6-month interval is given by

$$\text{Log } N = 4.412 - 0.912\ M_L$$

valid for $3.0 \leq M_L \leq 5.9$. The shaded zone depicts the 95 percent confidence interval for log N. Hence, the approximate interoccurrence time for earthquakes $\geq M_L$ in the 280,000 km^2 area is

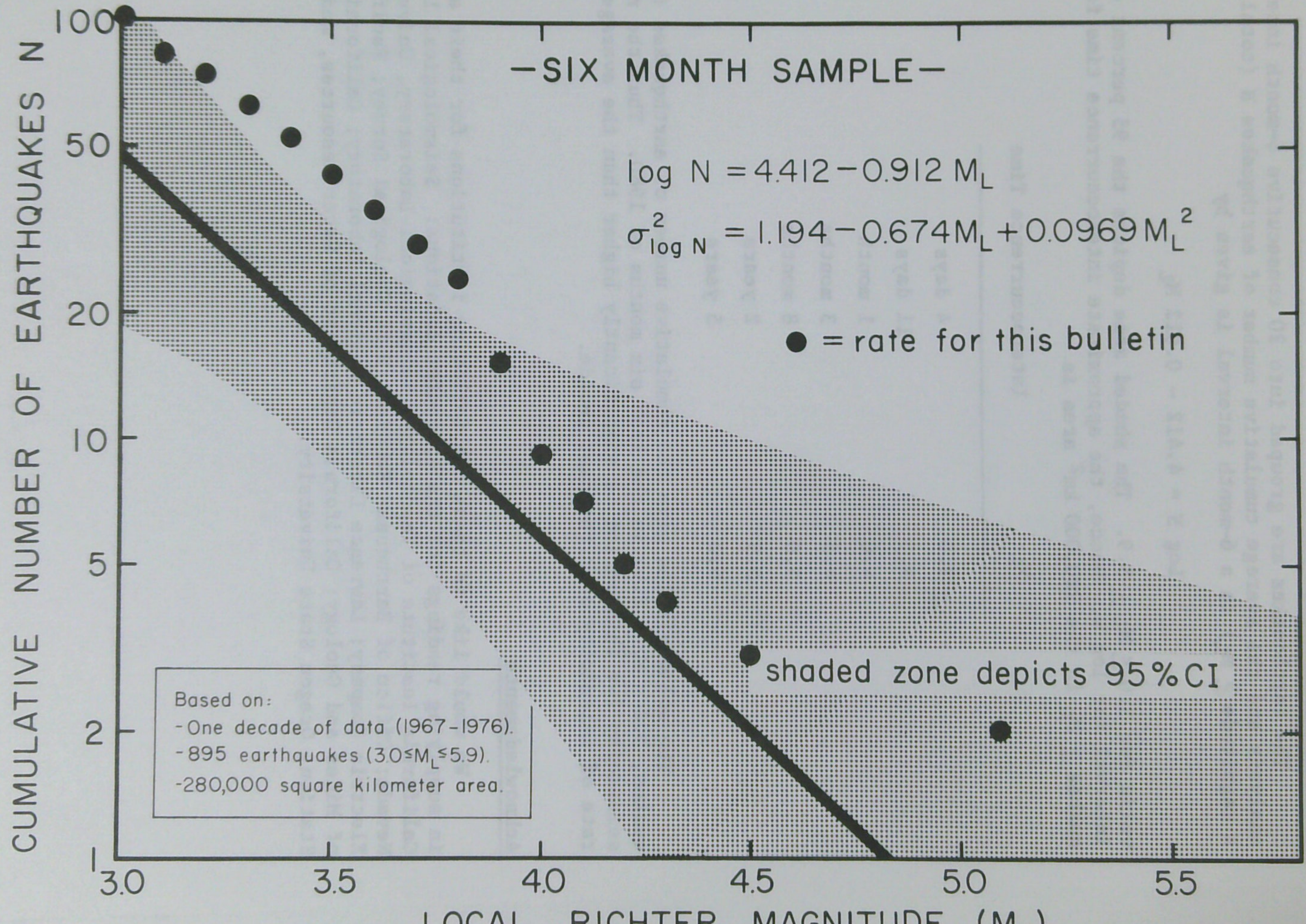
M_L	Interoccurrence Time
≥ 3.0	4 days
3.5	11 days
4.0	1 month
4.5	3 months
5.0	8 months
5.5	2 years
6.0	5 years

The solid circles give the cumulative number of earthquakes (102 earthquakes, $3.0 \leq M_L \leq 6.9$) in the last six months of 1980. Thus the rate of seismicity for this period is significantly higher than the average semiannual rate of seismicity over the past decade.

Acknowledgments

We would like to thank the following institutions for their assistance in supplying readings for the epicenter locations: Seismological Laboratory, California Institute of Technology; Seismological Laboratory, University of Nevada; Office of Earthquake Studies, U.S. Geological Survey; Pacific Gas and Electric Company; Lawrence Livermore National Laboratory; California Division of Mines and Geology; California Department of Water Resources, and Seismic Station, Oregon State University.

RECENT RATE OF SEISMICITY FOR NORTHERN & CENTRAL CALIFORNIA



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EARTHQUAKES IN NORTHERN CALIFORNIA

July 1 - December 31, 1980

Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
1	Jul 01	06 38 13.7	37°34.1'	118°51.4'	3.6	14	15i	Mammoth Lakes area. Felt.
1	Jul 01	14 25 12.1	37°36.3'	118°56.2'	3.5	8	15i	Mammoth Lakes area. Felt.
1	Jul 02	04 13 52.5	37°31.0'	118°51.2'	3.8	11	17i	Mammoth Lakes area. Felt.
1	Jul 03	02 19 31.5	37°38.7'	118°55.6'	4.0	4	16i	Mammoth Lakes area. Felt.
1	Jul 03	02 21 51.5	37°37.5'	118°57.7'	3.5	14	12i	Mammoth Lakes area. Felt.
1	Jul 03	02 39 58.2	37°39.4'	118°57.8'	4.2	6	13i	Mammoth Lakes area. Felt.
1	Jul 03	06 00 21.8	37°37.4'	118°57.4'	3.6	7	15i	Mammoth Lakes area. Felt.
2	Jul 05	09 13 37.4	36°03.3'	120°40.6'	3.1	6	16n	45 km SE of King City.
1	Jul 05	11 58 59.0	37°36.2'	118°49.6'	4.3	9	15i	Mammoth Lakes area. Felt.
3	Jul 05	14 19 25.7	37°24.0'	118°10.7'	3.6	13	11i	20 km E of Bishop.
4	Jul 06	12 04 45.6	37°58.8'	122°04.6'	3.0	11	20m	Concord, 20 km NE of Berkeley. Felt Concord, Martinez.
1	Jul 06	17 53 12.6	37°35.5'	118°46.7'	3.6	11	15i	Mammoth Lakes area. Felt.
4	Jul 07	02 35 24.1	37°59.1'	122°05.0'	2.5	10	22m	Concord. Felt Concord, Martinez.
5	Jul 07	11 32 14.2	38°01.2'	118°42.6'	3.5	6	8p	Area E of Mono Lake.
5	Jul 07	15 39 46.5	38°01.1'	118°43.1'	3.8	5	13p	Area E of Mono Lake.
5	Jul 07	20 46 44.5	38°01.7'	118°41.7'	3.9	10	15p	Area E of Mono Lake.
5	Jul 07	21 34 37.2	38°00.9'	118°42.5'	3.8	8	14p	Area E of Mono Lake.
6	Jul 08	17 13 02.1	37°03.0'	121°28.3'	3.0	7	18w	22 km N of Hollister. Felt Gilroy.
1	Jul 15	07 16 11.5	37°30.6'	118°51.1'	3.7	15	17i	Mammoth Lakes area. Felt.
1	Jul 18	20 14 52.1	37°31.0'	118°54.4'	3.7	9	18i	Mammoth Lakes area. Felt.
7	Jul 19	02 37 58.4	37°15.8'	121°37.9'	2.6	4	15k	25 km ESE of San Jose.
8	Jul 19	16 55 19.7	36°04.8'	120°02.7'	3.0	8	13n	Kettleman Hills area, 35 km ESE of Coalinga.
9	Jul 25	05 40 51.8	36°41.1'	121°22.3'	2.6	5	13f	Stone Canyon, 20 km S of Hollister.
1	Jul 25	06 44 19.2	37°34.6'	118°54.2'	3.8	14	15i	Mammoth Lakes area. Felt.
1	Jul 26	17 22 46.8	37°32.2'	118°54.3'	3.6	16	15i	Mammoth Lakes area. Felt.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
10	Jul 26	19 17 55.1	35°50.7'	121°12.6'	3.3	7	14n	43 km SSW of King City.
1	Jul 26	21 43 01.5	37°37.4'	118°55.7'	3.5	11	18i	Mammoth Lakes area. Felt.
1	Jul 27	16 55 30.8	37°28.4'	118°45.5'	3.6	18	16i	Mammoth Lakes area. Felt.
1	Jul 29	19 17 14.1	37°29.2'	118°54.4'	3.9	8	16i	Mammoth Lakes area. Felt.
11	Jul 29	20 11 07.8	37°29.3'	121°36.6'	2.5	7	16k	25 km SE of Livermore.
1	Jul 29	20 56 49.1	37°29.7'	118°54.4'	3.6	5	14i	Mammoth Lakes area. Felt.
12	Jul 31	09 20 45.6	37°51.0'	121°46.3'	2.6	11	20k	20 km N of Livermore. Felt.
1	Aug 01	16 38 55.9	37°32.9'	118°53.6'	5.4	8	18i	Mammoth Lakes area. Felt Eastern California and Western Nevada.
1	Aug 01	16 42 55.3	37°31.3'	118°54.4'	4.1	17	12i	Mammoth Lakes area. Felt.
1	Aug 01	16 48 54.6	37°32.8'	118°53.0'	4.6	13	13i	Mammoth Lakes area. Felt.
1	Aug 01	16 52 14.9	37°33.5'	118°56.7'	3.6	11	11i	Mammoth Lakes area. Felt.
1	Aug 01	16 52 31.7	37°33.5'	118°56.7'	3.9	10(R)	9i	Mammoth Lakes area. Felt.
1	Aug 01	16 59 12.6	37°31.9'	118°52.8'	3.5	10	11i	Mammoth Lakes area. Felt.
1	Aug 01	17 09 17.2	37°33.0'	118°52.0'	4.1	13	17i	Mammoth Lakes area. Felt.
1	Aug 01	17 32 54.6	37°31.9'	118°53.7'	3.5	14	12i	Mammoth Lakes area. Felt.
1	Aug 01	17 47 59.3	37°33.3'	118°52.2'	3.5	13	17i	Mammoth Lakes area. Felt.
1	Aug 01	17 48 15.2	37°33.7'	118°53.4'	3.8	10(R)	11i	Mammoth Lakes area. Felt.
1	Aug 01	18 52 51.6	37°32.5'	118°53.7'	3.5	13	12i	Mammoth Lakes area. Felt.
1	Aug 01	22 20 07.0	37°32.2'	118°54.1'	3.6	6	16i	Mammoth Lakes area. Felt.
1	Aug 02	01 15 50.0	37°32.0'	118°54.7'	3.6	24	14i	Mammoth Lakes area. Felt.
1	Aug 02	17 09 43.0	37°33.9'	118°54.2'	3.9	9	17i	Mammoth Lakes area. Felt.
13	Aug 03	02 56 47.2	36°49.9'	121°36.9'	2.9	4	17j	20 km W of Hollister.
1	Aug 03	07 32 42.1	37°32.6'	118°51.4'	3.7	21	17i	Mammoth Lakes area. Felt.
1	Aug 06	10 51 20.2	37°28.8'	118°50.5'	3.5	9	19i	Mammoth Lakes area. Felt.
1	Aug 08	02 14 38.2	37°32.7'	118°55.5'	3.8	5	16i	Mammoth Lakes area. Felt.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
1	Aug 08	08 16 58.5	37°33.6'	118°56.8'	3.5	4	17i	Mammoth Lakes area. Felt.
1	Aug 08	08 25 01.3	37°33.6'	118°57.1'	3.5	4	18i	Mammoth Lakes area. Felt.
1	Aug 09	23 26 03.4	37°32.5'	118°52.6'	3.7	12	18i	Mammoth Lakes area. Felt.
1	Aug 10	04 43 04.3	37°32.2'	118°52.6'	3.5	11	18i	Mammoth Lakes area. Felt.
1	Aug 14	14 21 48.1	37°37.1'	118°55.3'	3.7	10	17i	Mammoth Lakes area. Felt.
14	Aug 15	04 25 34.5	39°28.8'	120°18.6'	3.3	10(R)	12c	20 km NW of Truckee. Felt Truckee.
1	Aug 15	13 50 21.5	37°29.9'	118°49.5'	3.5	8	17i	Mammoth Lakes area. Felt.
1	Aug 16	21 46 33.2	37°26.8'	118°51.2'	3.7	12	17i	Mammoth Lakes area. Felt.
1	Aug 19	06 45 26.6	37°36.0'	118°51.6'	4.2	9	16i	Mammoth Lakes area. Felt.
1	Aug 20	05 29 00.5	37°31.3'	118°54.1'	3.8	9	17i	Mammoth Lakes area. Felt.
7	Aug 21	19 59 46.8	37°15.8'	121°37.8'	3.1	8	18k	27 km ESE of San Jose.
15	Aug 24	12 41 17.8	37°33.9'	121°39.8'	4.0	5	19k	16 km SE of Livermore. Felt Pleasanton, Fremont, Livermore.
16	Aug 25	15 58 37.6	39°57.1'	120°05.6'	3.4	2	13c	Doyle area, 75 km N of Truckee.
15	Aug 27	15 58 53.1	37°33.7'	121°39.9'	2.6	4	18k	16 km SSE of Livermore.
15	Aug 30	03 23 01.5	37°34.3'	121°38.8'	2.5	5	17k	16 km SSE of Livermore.
1	Aug 30	10 53 28.6	37°34.7'	118°46.8'	3.7	11	17i	Mammoth Lakes area. Felt.
17	Sep 04	13 39 09.4	38°05.0'	118°34.2'	4.6	1	20p	Area E of Mono Lake. Felt.
17	Sep 04	21 03 34.1	38°06.8'	118°33.6'	4.9	10	17p	Area E of Mono Lake. Felt Mono County.
17	Sep 05	15 52 56.1	38°05.5'	118°34.9'	3.7	4	17p	Area E of Mono Lake.
17	Sep 05	15 53 22.0	38°07.4'	118°36.8'	3.5	5	9p	Area E of Mono Lake.
17	Sep 06	05 31 03.5	38°05.7'	118°33.9'	4.0	9	16p	Area E of Mono Lake. Felt.
17	Sep 06	07 27 52.3	38°04.7'	118°34.3'	4.6	7	17p	Area E of Mono Lake. Felt Mono County.
17	Sep 07	01 30 42.8	38°05.0'	118°34.5'	5.1	7	19p	Area E of Mono Lake. Felt Mono County.
17	Sep 07	04 36 38.2	38°05.0'	118°36.0'	5.5	10	17p	Area E of Mono Lake. Felt Mono County.
17	Sep 07	04 40 04.6	38°05.4'	118°31.8'	4.0	5(R)	5p	Area E of Mono Lake.
17	Sep 07	06 48 10.6	38°05.6'	118°34.2'	4.7	5	15p	Area E of Mono Lake. Felt Mono County.
17	Sep 07	06 48 30.6	38°05.6'	118°34.2'	5.3	5(R)	9p	Area E of Mono Lake. Felt Mono County.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magni-tude	h	Solu-tion	Remarks
17	Sep 07	10 08 55.0	38°05.3'	118°36.0'	3.7	9	11p	Area E of Mono Lake.
17	Sep 07	11 58 02.4	38°05.3'	118°36.5'	3.8	10	12p	Area E of Mono Lake.
17	Sep 07	16 04 04.5	38°04.0'	118°36.5'	3.7	9	12p	Area E of Mono Lake.
17	Sep 07	16 57 34.4	38°06.6'	118°35.4'	3.9	9	14p	Area E of Mono Lake.
17	Sep 07	18 37 00.9	38°04.0'	118°35.7'	3.6	7	11p	Area E of Mono Lake.
17	Sep 08	04 26 19.8	38°02.7'	118°36.0'	4.6	8	12p	Area E of Mono Lake. Felt.
18	Sep 08	06 28 08.4	35°43.9'	121°20.2'	3.6	9	22n	15 km NW of San Simeon. Felt San Simeon.
17	Sep 08	08 19 26.5	38°04.6'	118°35.1'	3.6	7	12p	Area E of Mono Lake.
19	Sep 09	16 42 39.6	36°30.9'	121°08.7'	3.0	6	17g	Bear Valley, 45 km SE of Hollister.
17	Sep 11	04 16 49.5	38°06.3'	118°35.5'	3.7	6	12p	Area E of Mono Lake.
17	Sep 11	09 54 26.8	38°03.9'	118°35.5'	3.5	7	12p	Area E of Mono Lake.
9	Sep 13	10 50 19.4	36°39.5'	121°20.9'	3.3	6	17f	Stone Canyon, 22 km SSE of Hollister. Felt.
1	Sep 14	11 50 01.7	37°37.5'	118°57.0'	3.5	10	18i	Mammoth Lakes area. Felt.
17	Sep 15	15 08 42.5	38°04.3'	118°35.9'	3.8	10	18p	Area E of Mono Lake.
17	Sep 16	04 24 41.1	38°02.8'	118°34.0'	4.7	7	19p	Area E of Mono Lake. Felt.
1	Sep 17	05 41 04.9	37°38.0'	118°57.7'	3.5	18	12i	Mammoth Lakes area.
17	Sep 17	21 37 52.6	38°04.3'	118°36.5'	3.5	7	12p	Area E of Mono Lake.
17	Sep 18	06 06 40.3	38°06.6'	118°37.3'	3.5	5(R)	11p	Area E of Mono Lake.
19	Sep 18	17 27 05.0	36°33.9'	121°12.2'	2.5	4	15g	Bear Valley, 37 km SE of Hollister.
17	Sep 19	20 56 58.6	38°04.3'	118°35.5'	3.5	4	12p	Area E of Mono Lake.
17	Sep 20	01 35 42.5	38°05.1'	118°36.9'	3.5	10	13p	Area E of Mono Lake.
	Sep 20	21 14 44.8	38°50.8'	118°49.9'	4.0	27	17p	Walker Lake, Nevada.
17	Sep 21	15 15 55.6	38°03.7'	118°35.8'	3.8	8	12p	Area E of Mono Lake.
20	Sep 23	11 13 05.2	36°14.4'	120°09.7'	3.0	7	16n	22 km NE of Coalinga.
20	Sep 24	08 08 38.6	36°14.6'	120°09.9'	4.5	8	18n	22 km NE of Coalinga. Felt Coalinga, Fresno, and Hanford.
1	Sep 26	16 19 11.5	37°32.9'	118°50.1'	3.5	23	12i	Mammoth Lakes area. Felt.
1	Sep 27	19 16 24.5	37°37.3'	118°55.1'	4.1	14	13i	Mammoth Lakes area. Felt.
4	Oct 02	12 47 02.0	37°58.7'	122°04.1'	3.1	15	15m	Concord, 20 km NE of Berkeley. Felt Concord, Martinez, Walnut Creek, Orinda.
1	Oct 04	16 38 22.2	37°31.1'	118°50.4'	4.3	11	17i	Mammoth Lakes area. Felt.

Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
1	Oct 04	16 42 17.7	37°30.6'	118°49.9'	3.7	10	17i	Mammoth Lakes area. Felt.
1	Oct 05	11 38 27.2	37°32.7'	118°52.6'	3.5	12	17i	Mammoth Lakes area. Felt.
21	Oct 09	16 12 21.3	36°45.7'	121°31.4'	3.0	7	13f	Fremont Peak area, 15 km SW of Hollister. Felt.
6	Oct 12	21 41 13.2	37°03.9'	121°29.1'	2.5	8	16w	Coyote Lake area, 25 km NNW of Hollister.
22	Oct 13	01 16 45.2	40°25.5'	123°46.8'	3.9	20(R)	16b	Bridgeville area, 50 km SE of Eureka. Felt Rio Dell, Eureka, Carlotta, Bridgeville, Redcrest, Miranda, Scotia.
19	Oct 13	02 46 54.1	36°34.1'	121°05.3'	4.0	11	17j	Bear Valley area, 42 km SE of Hollister. Felt Aromas, Monterey, Tres Pinos.
23	Oct 13	05 20 17.3	37°36.2'	121°59.5'	2.5	5	11k	Union City area, 40 km SE of Berkeley. Felt Union City, Fremont, Hayward.
19	Oct 13	08 54 39.2	36°34.3'	121°12.8'	3.2	7	14g	Bear Valley, 37 km SE of Hollister. Felt.
24	Oct 16	13 55 08.5	40°08.8'	122°41.9'	3.2	10(R)	20c	W of Red Bluff, 55 km SW of Redding.
1	Oct 18	16 49 05.6	37°28.7'	118°52.0'	4.1	13	17i	Mammoth Lakes area. Felt.
12	Oct 19	05 13 21.6	37°50.0'	121°47.2'	2.5	14	18k	17 km N of Livermore.
1	Oct 21	03 04 09.0	37°34.1'	118°56.0'	3.5	3	17i	Mammoth Lakes area. Felt.
25	Oct 21	19 55 07.0	37°25.2'	121°46.4'	2.8	8	17k	15 km NE of San Jose.
17	Oct 21	21 31 46.4	38°04.0'	118°32.5'	3.5	3	16p	Area E of Mono Lake.
1	Oct 23	21 40 11.2	37°29.6'	118°38.8'	3.7	18	17i	Mammoth Lakes area. Felt.
1	Oct 25	05 26 43.6	37°36.7'	118°54.7'	4.4	7	18i	Mammoth Lakes area. Felt.
1	Oct 25	05 35 22.6	37°36.6'	118°55.2'	3.7	6	18i	Mammoth Lakes area. Felt.
1	Oct 25	06 02 06.3	37°37.2'	118°54.8'	3.5	10	16i	Mammoth Lakes area. Felt.
26	Oct 25	20 32 34.9	36°58.5'	122°14.1'	3.5	10	15j	Off coast 20 km W of Santa Cruz. Felt Santa Cruz.
9	Oct 26	00 25 47.2	36°36.1'	121°15.0'	2.6	6	12f	Stone Canyon area, 30 km SE of Hollister.
1	Oct 30	03 45 24.7	37°31.5'	118°46.8'	4.3	14	18i	Mammoth Lakes area. Felt.
27	Nov 02	23 39 24.6	37°50.5'	122°14.3'	3.0	6	16m	Oakland, 4 km SE of Berkeley. Felt Oakland, Alameda, Berkeley.
28	Nov 08	12 43 11.5	40°35.5'	124°03.5'	3.0	8(R)	19b	Fortuna area, 25 km S of Eureka. Felt Fortuna,

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
29	Nov 08	23 52 56.9	40°16.0'	124°20.4'	3.3	20(R)	18b	Petrolia area, 69 km SSW of Eureka. Felt.
1	Nov 11	05 30 12.5	37°32.6'	118°52.1'	3.9	11	17i	Mammoth Lakes area. Felt.
17	Nov 11	10 19 03.0	38°02.4'	118°35.4'	4.7	5	18p	Area E of Mono Lake. Felt.
17	Nov 11	10 33 51.3	38°01.7'	118°33.4'	4.0	4	18p	Area E of Mono Lake.
9	Nov 14	04 46 41.6	36°37.3'	121°17.4'	2.5	7	13f	Stone Canyon area, 22 km SSE of Hollister.
17	Nov 17	22 59 46.1	38°03.3'	118°34.0'	3.8	5	19p	Area E of Mono Lake.
30	Nov 18	16 10 43.1	37°28.5'	121°49.8'	2.9	5	16k	Calaveras Reservoir area, 18 km NNE of San Jose. Felt.
31	Nov 19	09 34 33.7	37°45.3'	121°57.1'	2.9	11	17k	San Ramon area, 30 km SE of Berkeley. Felt San Ramon, Danville, Dublin.
32	Nov 21	13 02 04.1	39°47.5'	120°26.4'	3.1	3	12c	45 km SE of Quincy.
1	Nov 21	23 10 42.6	37°32.0'	118°52.0'	3.8	13	19i	Mammoth Lakes area. Felt.
1	Nov 22	00 21 16.7	37°31.2'	118°52.7'	4.1	8	18i	Mammoth Lakes area. Felt.
19	Nov 22	02 55 18.9	36°33.7'	121°04.0'	2.8	10	17g	Bear Valley area, 45 km SE of Hollister.
19	Nov 22	11 48 49.7	36°32.9'	121°05.2'	3.0	12	16g	Bear Valley area, 45 km SE of Hollister.
13	Nov 24	05 49 31.4	36°51.5'	121°37.3'	3.0	4	16j	20 km W of Hollister.
33	Nov 24	19 10 48.2	39°16.0'	122°14.7'	3.6	5(R)	16r	15 km NW of Williams. Felt Willows.
1	Nov 25	00 59 49.4	37°37.6'	118°56.7'	3.5	9	17i	Mammoth Lakes area. Felt.
1	Nov 25	01 32 50.5	37°38.1'	118°57.1'	3.5	19	14i	Mammoth Lakes area. Felt.
34	Nov 28	17 11 39.5	39°14.2'	120°26.4'	3.3	10(R)	16c	25 km WSW of Truckee. Felt.
34	Nov 28	18 21 12.9	39°15.7'	120°28.0'	5.1	10(R)	24c	25 km WSW of Truckee. Felt from Reno to San Francisco. Strongly felt Quincy, Truckee, Downieville.
34	Nov 28	18 42 42.3	39°15.9'	120°28.2'	3.0	14	15c	25 km WSW of Truckee. Felt.
34	Dec 02	18 31 07.8	39°15.1'	120°27.5'	3.2	10(R)	21c	25 km WSW of Truckee. Felt.
1	Dec 05	00 53 12.2	37°37.0'	118°52.6'	3.8	15	10i	Mammoth Lakes area. Felt.
35	Dec 06	16 19 54.6	40°25.0'	124°19.9'	3.4	20(R)	10b	Cape Mendocino area, 50 km SSW of Eureka. Felt Petrolia.
36	Dec 08	16 56 49.6	38°42.8'	119°27.9'	3.8	12	10s	30 km E of Markleville.
36	Dec 08	17 28 59.1	38°42.1'	119°28.0'	3.5	10	9s	30 km E of Markleville.

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Map No.	Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
33	Dec 12	13 13 20.4	39°13.8'	122°11.5'	3.4	5(R)	14e	10 km NW of Williams. Felt Clear Lake area, Williams, Collusa.
37	Dec 12	14 24 09.1	38°57.0'	122°41.0'	3.2	4	15e	Clear Lake Highlands area, 20 km SE of Clear Lake. Felt.
37	Dec 12	14 27 17.7	38°57.8'	122°42.3'	3.1	5(R)	15e	Clear Lake Highlands area. Felt.
37	Dec 12	14 57 08.2	38°57.4'	122°41.2'	3.9	4	15e	Clear Lake Highlands area. Felt Clear Lake area, Kelseyville, Middletown.
37	Dec 12	21 17 12.3	38°58.0'	122°42.1'	3.2	5(R)	14e	Clear Lake Highlands area. Felt.
13	Dec 13	18 53 41.4	36°52.6'	121°38.8'	2.5	4	15j	20 km W of Hollister.
1	Dec 14	09 24 53.0	37°34.3'	118°54.2'	3.6	9	16i	Mammoth Lakes area. Felt.
1	Dec 14	20 19 15.5	37°36.1'	118°53.9'	3.5	12	15i	Mammoth Lakes area. Felt.
19	Dec 15	11 19 22.0	36°27.4'	121°04.4'	2.5	5	11g	Bear Valley area, 55 km SE of Hollister.
1	Dec 15	11 50 37.9	37°36.3'	118°55.4'	3.8	14	13i	Mammoth Lakes area. Felt.
38	Dec 17	00 40 35.5	40°47.4'	123°29.1'	3.4	20(R)	10b	60 km E of Eureka.
12	Dec 18	02 06 06.5	37°53.0'	121°42.6'	3.0	5(R)	18k	24 km NNE of Livermore.
39	Dec 24	12 00 11.3	36°56.4'	121°26.5'	3.4	3	17j	10 km NNW of Hollister. Felt Hollister.
39	Dec 24	12 08 09.4	36°56.5'	121°26.6'	2.7	5	18j	10 km NNW of Hollister.
1	Dec 24	13 25 49.3	37°32.0'	118°54.4'	4.2	12	17i	Mammoth Lakes area. Felt.
	Dec 24	13 29 15.3	42°22.1'	125°43.6'	5.0	15		Off coast of Oregon.
1	Dec 24	15 48 33.6	37°34.6'	118°52.0'	4.7	16	17i	Mammoth Lakes area. Felt.
	Dec 24	19 40 01.2	42°23.0'	125°42.2'	4.0	15		Off coast of Oregon.
	Dec 25	15 32 27.9	42°17.2'	125°57.8'	4.0	15		Off coast of Oregon.
17	Dec 28	22 58 09.8	38°09.4'	118°21.6'	5.0	5	18p	Area E of Mono Lake. Felt Bridgeport, Mono County.
17	Dec 28	23 00 39.0	38°09.4'	118°19.9'	4.0	5(R)	8p	Area E of Mono Lake.
17	Dec 28	23 05 38.8	38°10.2'	118°20.8'	3.9	5(R)	17p	Area E of Mono Lake.
34	Dec 29	06 05 26.5	39°16.3'	120°28.0'	3.0	5	18c	25 km WSW of Truckee. Felt.
17	Dec 29	12 24 54.7	38°09.6'	118°24.9'	3.7	4	14p	Area E of Mono Lake.
40	Dec 31	00 01 35.2	39°51.2'	123°12.0'	3.0	13	11c	60 km SE of Garberville.
41	Dec 31	12 16 29.5	37°41.7'	122°07.2'	3.5	10	20m	Hayward area, 23 km SE of Berkeley. Felt San Leandro, Hayward, San Francisco, Castro Valley.
1	Dec 31	20 22 45.7	37°33.7'	118°53.4'	3.5	12	15i	Mammoth Lakes area.

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EXPLOSIONS AT NEVADA TEST SITE

Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	
Jul 25	19 05 00.1	37.225°	116.477°	5.5	"TAFI"
Jul 31	18 19 00.1	37.012°	116.023°	4.2	"VERDELLO"
Sep 25	14 45 00.1	37.056°	116.048°	4.3	"BONARDA"
Oct 24	19 15 00.1	37.075°	115.999°	4.5	"DUTCHESS"
Oct 31	18 00 00.1	37.211°	116.205°	4.8	"MINERS IRON"
Nov 14	16 50 00.1	37.107°	116.019°	4.5	"DAUPHIN"
Dec 17	15 10 00.1	37.325°	116.312°	5.0	"SERPA"

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NORTHERN CALIFORNIA EARTHQUAKES

JULY–DECEMBER 1980

Seismographic Stations
University Of California, Berkeley

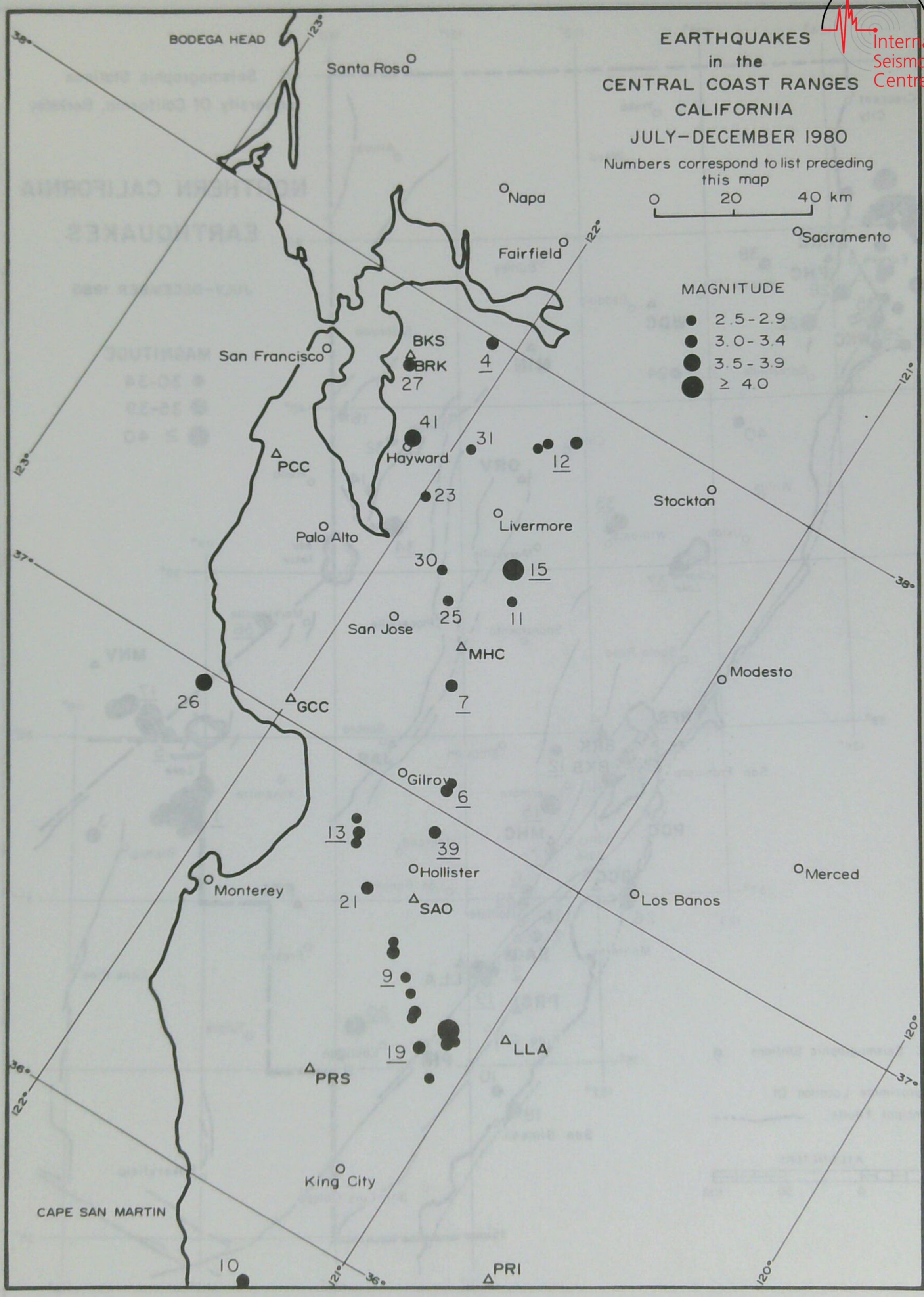
MAGNITUDE
- 3.0-3.4
- 3.5-3.9
- ≥ 4.0

U.C Seismographic Stations △

Approximate Location Of Principal Faults

KILOMETERS
50 0 50 100

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EARTHQUAKES OFF THE COAST OF NORTHERN CALIFORNIA

July 1 - December 31, 1980

Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
Jul 10	06 13 52.7	40°19.2'	125°42.5'	4.4	8(R)	13a	Off coast 140 km SW of Eureka.
Aug 02	23 15 43.5	41°50.7'	125°51.2'	4.0	8(R)	12a	Off coast 140 km W of Crescent City.
Aug 08	09 20 13.0	40°22.5'	124°50.8'	3.7	24	16b	Off coast 75 km SW of Eureka.
Aug 24	16 18 24.0	40°22.8'	124°54.2'	3.3	20	12b	Off coast 75 km SW of Eureka.
Sep 15	13 29 07.4	40°32.7'	124°24.2'	3.0	17	12b	Off coast near Ferndale 40 km S of Eureka. Felt.
Sep 19	15 11 45.1	41°11.9'	124°09.0'	3.2	20(R)	11b	Off coast 40 km N of Eureka.
Sep 27	02 51 40.3	41°11.8'	125°00.1'	3.2	8(R)	13a	Off coast 85 km NW of Eureka.
Oct 13	22 59 12.5	40°43.2'	124°24.6'	3.2	22	14b	Off coast 22 km SW of Eurkea. Felt Eureka.
Oct 22	02 29 14.5	41°05.9'	126°08.6'	4.1	8(R)	16a	Off coast 175 km WNW of Eureka.
Nov 01	22 20 01.9	40°22.0'	124°44.1'	3.7	20(R)	17b	Off coast 65 km SW of Eureka.
Nov 02	01 11 44.0	40°21.5'	124°43.9'	3.2	20(R)	16b	Off coast 65 km SW of Eureka.
Nov 08	10 27 34.0	41°00.3'	124°38.5'	6.9	9	71a	Off coast 50 km NW of Eureka. Strongly felt in Eureka and Arcata, with six injured due to driving off collapsed overpass. Felt from San Francisco to Central Oregon, to the California-Nevada border.
Nov 08	10 39 12.5	40°22.6'	125°57.6'	4.2	8(R)	31a	Off coast 160 km SW of Eureka.
Nov 08	10 47 33.2	40°23.5'	125°24.7'	4.8	13	39a	Off coast 120 km SW of Eureka.
Nov 08	10 51 20.0	40°25.4'	125°26.3'	4.8	8(R)	45a	Off coast 120 km SW of Eureka.
Nov 08	11 02 34.1	40°47.4'	125°00.1'	3.7	8(R)	21a	Off coast 70 km W of Eureka.
Nov 08	11 13 33.7	40°52.1'	124°51.2'	3.8	20(R)	38b	Off coast 55 km W of Eureka.
Nov 08	11 15 54.8	41°04.7'	126°00.8'	4.2	20(R)	13a	Off coast 160 km WNW of Eureka.
Nov 08	11 17 19.9	41°04.7'	126°00.8'	4.0	20(R)	8a	Off coast 160 km WNW of Eureka.
Nov 08	11 20 37.5	40°19.7'	125°01.7'	4.6	8(R)	51a	Off coast 90 km SW of Eureka.

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Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magni-tude	h	Solu-tion	Remarks
Nov 08	11 25 35.3	40°19.4'	125°35.8'	3.9	8(R)	36a	Off coast 135 km SW of Eureka.
Nov 08	11 37 33.9	40°59.1'	124°47.4'	3.6	20	23b	Off coast 55 km NW of Eureka.
Nov 08	11 44 13.6	41°00.1'	124°29.7'	3.3	21	34b	Off coast 35 km NW of Eureka.
Nov 08	11 50 26.3	40°56.2'	124°41.6'	3.7	20	31b	Off coast 50 km NW of Eureka.
Nov 08	11 52 09.8	40°21.2'	124°56.9'	3.5	8(R)	25b	Off coast 80 km SW of Eureka.
Nov 08	12 00 00.3	41°05.0'	124°41.6'	3.4	18	24b	Off coast 50 km NW of Eureka.
Nov 08	12 19 30.5	40°36.7'	125°01.3'	3.8	8(R)	38a	Off coast 75 km WSW of Eureka.
Nov 08	12 22 50.9	40°34.7'	125°27.6'	3.7	8(R)	30a	Off coast 110 km SW of Eureka.
Nov 08	12 24 36.0	40°43.2'	125°07.5'	3.5	8(R)	32a	Off coast 80 km SW of Eureka.
Nov 08	12 25 34.6	40°39.5'	125°02.7'	3.9	8(R)	27a	Off coast 75 km WSW of Eureka.
Nov 08	12 32 08.8	40°23.2'	125°32.1'	4.1	8(R)	65a	Off coast 125 km SW of Eureka.
Nov 08	12 41 12.9	40°25.2'	125°05.1'	3.5	8(R)	25a	Off coast 90 km SW of Eureka.
Nov 08	12 43 50.9	40°28.0'	125°26.4'	3.9	8(R)	26a	Off coast 120 km SW of Eureka.
Nov 08	12 46 05.5	40°29.3'	124°30.8'	3.3	24	19b	Off coast 45 km SW of Eureka.
Nov 08	13 02 36.9	40°47.3'	125°02.3'	3.1	8(R)	26a	Off coast 75 km W of Eureka.
Nov 08	13 06 54.0	40°40.9'	124°23.5'	3.4	2	12b	Off coast 25 km SW of Eureka.
Nov 08	13 20 36.7	40°27.7'	125°26.2'	3.5	20(R)	29a	off coast 120 km SW of Eureka.
Nov 08	13 30 31.6	40°36.8'	124°38.8'	3.5	20(R)	29b	Off coast 45 km SW of Eureka.
Nov 08	13 36 44.9	40°39.7'	125°11.6'	3.9	20(R)	47a	Off coast 85 km WSW of Eureka.
Nov 08	13 56 05.5	40°59.3'	124°36.5'	3.6	22	34b	Off coast 45 km NW of Eureka.
Nov 08	14 04 51.5	40°47.4'	125°13.4'	3.6	20(R)	25a	Off coast 90 km W of Eureka.
Nov 08	14 07 16.7	40°38.1'	125°05.8'	3.8	20(R)	46a	Off coast 80 km WSW of Eureka.
Nov 08	15 24 53.8	41°07.6'	124°28.0'	3.2	20	13b	Off coast 45 km NW of Eureka.
Nov 08	15 27 08.0	40°42.8'	125°04.0'	3.7	20(R)	47a	Off coast 80 km WSW of Eureka.
Nov 08	16 03 44.1	41°01.1'	124°17.8'	3.4	25	38b	Off coast 25 km NNW of Eureka. Felt Eureka, Arcata.

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Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
Nov 08	16 45 40.6	40°33.5'	125°41.1'	3.7	8(R)	11a	Off coast 135 km WSW of Eureka.
Nov 08	16 47 51.6	40°26.0'	125°31.9'	4.4	8(R)	67a	Off coast 120 km SW of Eureka.
Nov 08	16 52 27.5	40°23.9'	125°45.4'	4.9	8(R)	72a	Off coast 140 km SW of Eureka. Felt.
Nov 08	16 58 31.5	40°29.5'	125°29.3'	3.5	8(R)	31a	Off coast 120 km SW of Eureka.
Nov 08	16 59 52.8	40°25.0'	125°31.0'	3.7	8(R)	38a	Off coast 125 km SW of Eureka.
Nov 08	17 14 40.0	40°27.0'	125°36.1'	4.5	8(R)	69a	Off coast 125 km SW of Eureka. Felt.
Nov 08	17 33 25.4	40°28.7'	125°33.5'	3.9	8(R)	43a	Off coast 125 km SW of Eureka.
Nov 08	18 31 20.3	40°45.0'	125°09.1'	4.2	20(R)	72a	Off coast 85 km W of Eureka. Felt.
Nov 08	20 16 42.5	40°29.7'	125°39.8'	3.7	8(R)	33a	Off coast 135 km SW of Eureka.
Nov 08	20 47 46.5	40°24.1'	125°39.9'	4.2	8(R)	65a	Off coast 135 km SW of Eureka.
Nov 08	22 47 52.8	40°38.9'	125°15.7'	5.0	21	82a	Off coast 90 km WSW of Eureka. Felt Cape Mendocino area.
Nov 08	23 05 32.7	41°00.6'	124°43.6'	4.1	20	73b	Off coast 55 km WNW of Eureka. Felt.
Nov 08	23 07 06.3	40°26.9'	125°40.9'	4.8	8(R)	56a	Off coast 135 km SW of Eureka. Felt.
Nov 09	00 53 27.0	41°03.3'	124°50.1'	3.7	20(R)	17b	Off coast 65 km NW of Eureka.
Nov 09	01 58 57.9	41°08.6'	124°27.6'	4.3	24	77b	Off coast 45 km NW of Eureka. Felt Arcata, Eureka.
Nov 09	02 47 49.1	40°41.3'	125°27.7'	3.7	8(R)	28b	Off coast 110 km WSW of Eureka.
Nov 09	03 47 46.9	40°27.0'	125°50.1'	4.1	20(R)	76a	Off coast 145 km SW of Eureka.
Nov 09	03 50 18.1	40°27.6'	125°37.8'	3.7	8(R)	34a	Off coast 130 km SW of Eureka.
Nov 09	04 09 05.4	40°31.4'	125°48.8'	5.4	8(R)	59a	Off coast 140 km WSW of Eureka.
Nov 09	04 31 23.5	40°52.0'	124°23.3'	3.0	9	12b	Off coast 20 km NW of Eureka. Felt.
Nov 09	04 37 25.8	40°27.0'	125°33.6'	3.6	8(R)	47a	Off coast 120 km SW of Eureka.
Nov 09	05 12 26.6	40°29.5'	125°46.1'	3.6	19	47a	Off coast 140 km SW of Eureka.
Nov 09	06 02 49.7	40°42.8'	124°27.1'	3.3	20(R)	28b	Off coast 25 km SW of Eureka. Felt.
Nov 09	06 59 51.0	40°32.6'	125°24.1'	4.3	8(R)	39a	Off coast 110 km SW of Eureka. Felt.

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Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magni-tude	h	Solu-tion	Remarks
Nov 09	07 30 03.7	40°39.0'	125°25.4'	3.9	8(R)	29a	Off coast 105 km WSW of Eureka.
Nov 09	08 00 10.7	40°23.7'	125°36.0'	4.1	8(R)	79a	Off coast 125 km SW of Eureka.
Nov 09	08 26 53.6	41°01.0'	124°45.2'	3.9	20	51b	Off coast 55 km NW of Eureka. Felt.
Nov 09	08 29 31.3	40°25.6'	125°36.2'	3.7	8(R)	39a	Off coast 125 km SW of Eureka.
Nov 09	12 23 07.0	40°26.3'	125°36.6'	3.5	8(R)	30a	Off coast 130 km SW of Eureka.
Nov 09	14 57 11.3	41°07.6'	124°32.9'	3.6	23	41b	Off coast 50 km NW of Eureka.
Nov 09	18 13 10.8	40°52.3'	124°57.2'	3.0	8(R)	13b	Off coast 65 km W of Eureka.
Nov 09	19 06 07.9	41°03.7'	124°35.8'	3.1	19	13b	Off coast 45 km NW of Eureka.
Nov 09	21 51 28.7	40°16.4'	124°32.9'	3.1	8	29b	Off coast 70 km SSW of Eureka.
Nov 10	00 04 14.7	40°54.1'	124°41.2'	3.1	17	22b	Off coast 45 km WNW of Eureka.
Nov 10	03 29 23.3	41°00.8'	124°49.7'	3.2	20	14b	Off coast 60 km NW of Eureka.
Nov 10	04 35 57.6	41°06.1'	124°27.2'	3.0	3	16b	Off coast 40 km NW of Eureka.
Nov 10	05 06 18.2	41°05.2'	124°26.4'	3.8	9	51b	Off coast 40 km NW of Eureka. Felt Arcata, Eureka.
Nov 10	06 24 08.2	41°04.4'	124°21.8'	3.8	15	65b	Off coast 35 km NW of Eureka. Felt Arcata, Eureka.
Nov 10	08 24 53.1	40°39.0'	125°38.4'	3.6	8(R)	24a	Off coast 125 km WSW of Eureka.
Nov 10	15 41 04.2	40°19.1'	124°42.8'	4.1	20(R)	76b	Off coast 70 km SW of Eureka. Felt.
Nov 10	20 42 22.2	41°14.2'	124°26.2'	3.9	19	28b	Off coast 50 km NW of Eureka.
Nov 10	23 50 56.8	41°06.7'	124°27.8'	3.3	4	21b	Off coast 45 km NW of Eureka.
Nov 10	23 59 27.9	40°34.7'	125°27.3'	4.8	8(R)	74a	Off coast 110 km WSW of Eureka. Felt.
Nov 11	09 21 26.5	41°05.0'	124°41.8'	3.8	18	21b	Off coast 55 km NW of Eureka.
Nov 11	11 11 29.7	41°02.6'	124°44.0'	3.6	20	19b	Off coast 55 km NW of Eureka.
Nov 11	11 57 57.5	40°56.0'	124°52.6'	3.5	20(R)	39b	Off coast 60 km WNW of Eureka.
Nov 12	05 08 55.9	40°19.1'	124°41.8'	3.5	20(R)	43b	Off coast 70 km SW of Eureka.
Nov 13	03 49 26.5	41°05.1'	124°39.6'	3.9	22	48b	Off coast 50 km NW of Eureka.

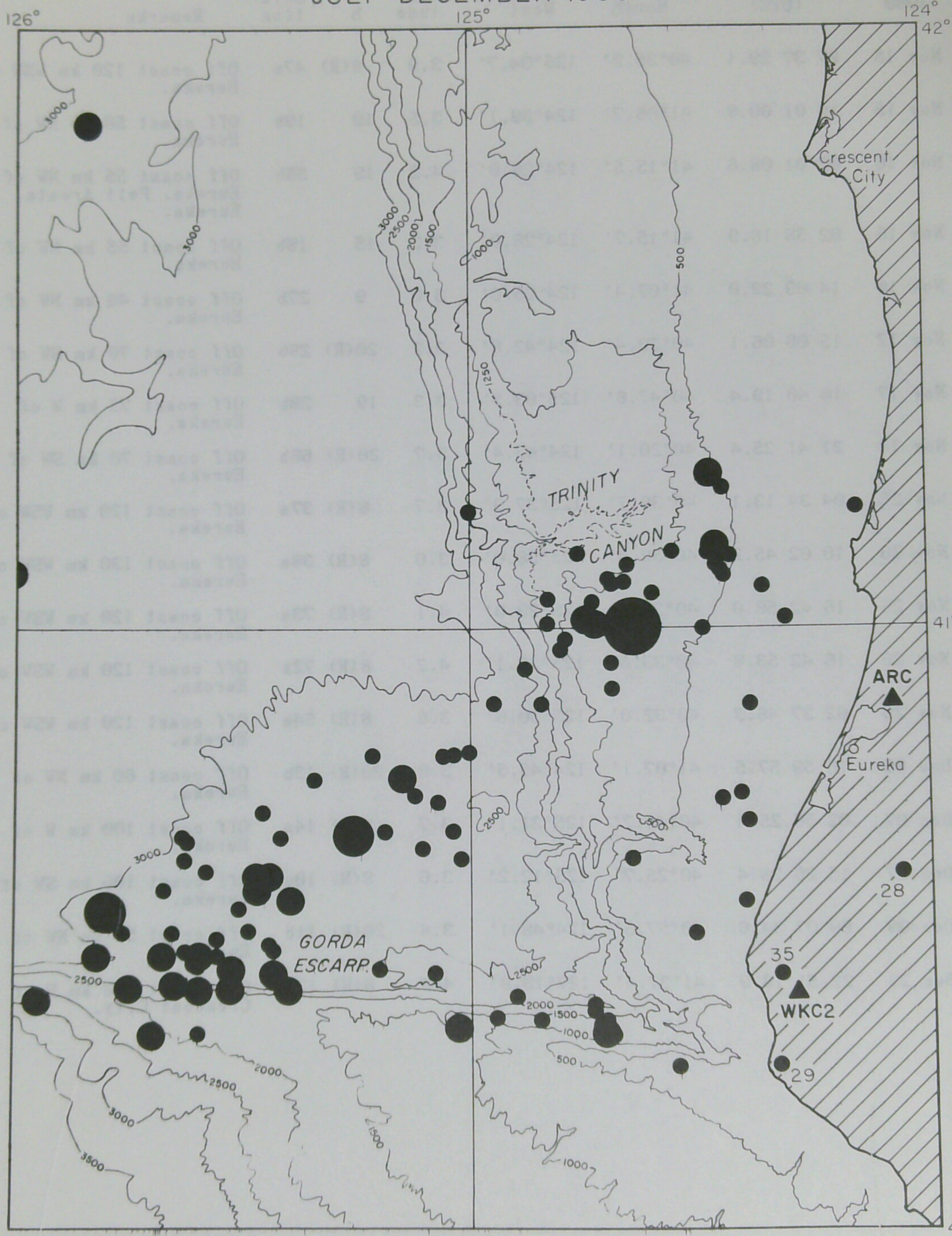
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Date 1980	Origin Time (UTC)	Latitude North	Longitude West	Magnitude	h	Solution	Remarks
Nov 15	07 37 29.1	40°35.2'	125°34.7'	3.9	8(R)	47a	Off coast 120 km WSW of Eureka.
Nov 15	19 01 00.8	41°06.7'	124°39.1'	3.5	19	19b	Off coast 50 km NW of Eureka.
Nov 16	02 01 08.6	41°15.5'	124°28.0'	4.2	19	55b	Off coast 55 km NW of Eureka. Felt Arcata, Eureka.
Nov 16	02 58 18.9	41°15.7'	124°28.0'	3.2	15	18b	Off coast 55 km NW of Eureka.
Nov 16	14 09 28.0	41°07.4'	124°25.6'	3.0	9	27b	Off coast 40 km NW of Eureka.
Nov 17	15 06 06.1	40°20.4'	124°42.8'	3.2	20(R)	28b	Off coast 70 km SW of Eureka.
Nov 17	18 40 19.4	40°47.6'	125°03.5'	3.3	19	28b	Off coast 75 km W of Eureka.
Nov 18	21 41 25.4	40°20.1'	124°43.4'	3.7	20(R)	66b	Off coast 70 km SW of Eureka.
Nov 26	04 34 13.1	40°36.7'	125°37.9'	3.7	8(R)	37a	Off coast 120 km WSW of Eureka.
Nov 26	10 02 45.2	40°38.4'	125°38.0'	3.6	8(R)	38a	Off coast 130 km WSW of Eureka.
Nov 26	16 42 50.0	40°34.8'	125°29.0'	4.1	8(R)	73a	Off coast 120 km WSW of Eureka.
Nov 26	16 42 53.8	40°33.6'	125°29.1'	4.2	8(R)	72a	Off coast 120 km WSW of Eureka.
Nov 29	02 37 46.3	40°32.0'	125°30.6'	3.6	8(R)	54a	Off coast 120 km WSW of Eureka.
Dec 06	16 59 57.5	41°07.1'	124°45.5'	3.8	20(R)	13b	Off coast 60 km NW of Eureka.
Dec 07	02 56 25.4	40°45.2'	125°21.1'	3.7	8(R)	14a	Off coast 100 km W of Eureka.
Dec 07	15 26 28.4	40°25.7'	125°12.2'	3.6	8(R)	10a	Off coast 100 km SW of Eureka.
Dec 08	08 07 34.6	40°57.5'	124°48.1'	3.8	20(R)	11b	Off coast 55 km NW of Eureka.
Dec 23	22 51 13.9	41°37.4'	127°13.8'	4.2	8(R)	12a	Off coast 180 km W of Crescent City.

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EARTHQUAKES OFF THE COAST OF NORTHERN CALIFORNIA

JULY–DECEMBER 1980



Map based on Bathymetric Map 1308N-12, Coast and Geodetic Survey, 1969
(Contours in Meters)

Prepared By
SEISMOGRAPHIC STATIONS
UNIVERSITY OF CALIFORNIA, BERKELEY

KILOMETERS
5 0 5 10 15 20 25 30

● 3.0-3.9 ● 4.0-4.9 ● 5.0-5.9 ● 6.9 MAGNITUDE (M_L)

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PART II. REGISTRATION OF EARTHQUAKES

This section tabulates measured arrival times of prominent phases of earthquakes and large explosions recorded at stations in the seismographic network operated by the University of California (Berkeley). Information regarding these stations and instrumentation will be found in the introductory section of this Bulletin. Berkeley source parameters from Part I (indicated by BRK) are repeated for all earthquakes in Northern California and adjoining areas. For earthquakes in the list that are located outside of Northern and Central California, location information from the California Institute of Technology (CIT) for Southern California earthquakes and the National Earthquake Information Service (USGS) for teleseisms are given as a guide when appropriate.

Phase arrival times are Universal Coordinated Time (UTC).

In the column identifying the P or PKP phase, "C" or "D" indicates initial compression or dilatation of the ground, respectively, from a wave of the compressional type.

S arrival times and arrival times of later phases are given in minutes and seconds after the hour of the P or PKP arrival time. When a later phase is recorded at a station, but no P or PKP phase, the time in hours and minutes of the first P or PKP arrival at the other stations of the network is printed in the P or PKP column.

The maximum amplitudes of earth displacement in micrometers and periods in seconds of the indicated phases are given for the Berkeley station, BKS, under the BKS phase arrival times. Unless otherwise specified, magnitudes given for earthquakes outside the Northern California, Nevada, and Oregon region correspond to the magnitude based on surface waves (M_S). The published value is obtained from the amplitude of surface waves of period near 20 seconds, according to the formula:

$$M_S = \log\left(\frac{A}{T}\right) + 1.66 \log \Delta + 3.3 \quad ,$$

where A = ground amplitude in microns (vector resultant of horizontal components),

T = period in seconds, and

Δ = distance to epicenter in degrees.

The Richter magnitude for local and regional earthquakes is designated M_L if it is determined from Wood-Anderson torsion seismographs and MAG if it is determined from vertical Benioff seismographs.

Distances are given in degrees from the Berkeley station, BRK. USGS magnitude, designated by m_b, is the body wave magnitude.

All measurements and interpretation of seismograms (i.e., identification of phases, arrival times, directions of initial ground motion, and ground amplitudes and periods) are done at Berkeley. Requests for additional data or for copies of seismograms should be addressed to the Director.

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UNIVERSITY OF CALIFORNIA
SEISMOGRAPHIC STATIONS
BERKELEY, CALIFORNIA 94720

JULY 01 THROUGH DECEMBER 31, 1980

DATE	STA	P OR PKP (Phase	h	m	s)	S (m s)	OTHER PHASES (Phase	m s	Phase	m s	Phase	m s)
JUL 01	FRI	iPe	06	38	30.7	38 42						
	JAS	iPe	06	38	37.8	38 54						
	LLA	iPe	06	38	48.1	39 13						
	PRI	iPe	06	38	49.7	39 18						
	SAO	eP	06	38	52.3							
	MHC	eP	06	38	52.6							
	PRS	eP	06	38	54.5							
	BKS	ePd	06	38	59.3		e	39 33				
		BRK 06 38 13.7, 37.6N, 118.9W, h= 14 km, ML=3.6										
		MAMMOTH LAKES AREA, CALIFORNIA										
JUL 01	MHC	eP	11	22	48.0							
	JAS	eP	11	22	53.7							
	WDC	eP	11	22	54.1							
	ORV	eP	11	22	55.6							
		USGS 11 10 39.4, 24.7S, 175.9W, h= 33 km, mb=5.1, Ms=5.0										
		SOUTH OF TONGA ISLANDS										
JUL 01	FRI	iPe	14	25	28.7	25 40						
	MNV	iPe	14	25	31.3							
	JAS	iPd	14	25	35.1	25 52						
	LLA	iPe	14	25	46.3	26 12						
	PRI	ePe	14	25	48.2	26 16						
	SAO	iPd	14	25	50.6							
	MHC	eP	14	25	50.8							
	PRS	ePe	14	25	52.8							
	BRK	e(P)	14	25	57							
	PCC	e(P)	14	25	58							
		BRK 14 25 12.1, 37.6N, 118.9W, h= 8 km, ML=3.5										
		MAMMOTH LAKES AREA, CALIFORNIA										
JUL 02	FRI	iPe	04	14	08.7	14 20						
	JAS	iPe	04	14	16.7							
	LLA	iPe	04	14	26.5	14 52						
	PRI	ePe	04	14	27.9	14 55						
	SAO	iPe	04	14	30.9							
	MHC	ePe	04	14	31.5							
	PRS	iPe	04	14	32.8							
	GCC	ePe	04	14	35.0							
	BKS	iPd	04	14	38.1		e	15 13				
	PCC	ePe	04	14	38.9							
	ORV	eP	04	14	43							
		BRK 04 13 52.5, 37.5N, 118.8W, h= 11 km, ML=3.8										
		MAMMOTH LAKES AREA, CALIFORNIA										
JUL 02	SAO	ePe	15	59	26.4							
	BKS	iPe	15	59	27.7							
						MICRON	PERIOD					
						PZ 0.12	0.8					
	PRI	ePe	15	59	28.2							
	MHC	iPe	15	59	28.5							
	FHC	ePe	15	59	32.7							
	FRI	ePe	15	59	33.7							
	JAS	iPe	15	59	34.7							
	ORV	iPe	15	59	36.2							
	WDC	iPe	15	59	36.4							
	MIN	ePe	15	59	38.6							
	MNV	iPe	15	59	45.0							
		USGS 15 48 08.3, 15.2S, 173.6W, h= 33 km, mb=5.7, Ms=5.1										
		TONGA ISLANDS										
JUL 03	FHC		01	13			e	13 32				
	WDC	ePe	01	13	36.8							
	MIN	ePe	01	13	41.2							
	ORV	eP	01	13	48.7							
	JAS	eP	01	14	06.6							
	MNV	eP	01	14	08							
	MHC	eP	01	14	09.6							
	PRI	eP	01	14	23							
		USGS 01 08 46.6, 60.3N, 137.1W, h= 33 km, mb=4.5										
		SOUTHERN YUKON TERRITORY, CANADA										
JUL 03	FRI	iPe	02	19	48.1							
	MNV	eP	02	19	49.7							
	JAS	iPe	02	19	54.1							
	LLA	iPe	02	20	05.5							
	PRI	iPe	02	20	07.7		i	20 35				
	SAO	iPe	02	20	09.8							
	MHC	iPe	02	20	09.9		i	20 37				
	PRS	iPe	02	20	11.9							
	GCC	ePe	02	20	13.8							
	BKS	iPe	02	20	15.9	20 48						
	PCC	ePe	02	20	17.0							
	ORV	e(P)	02	20	18							
	MIN	e(P)	02	20	29							
		BRK 02 19 31.5, 37.6N, 118.9W, h= 4 km, ML=4.0										
		MAMMOTH LAKES AREA, CALIFORNIA										
JUL 03	FRI	iPe	02	22	07.6	22 19						
	MNV	iPe	02	22	10.6							
	JAS	iPd	02	22	13.8							
	LLA	eP	02	22	25.6		i	22 51				
	PRI	e(P)	02	22	27							
	SAO	iP	02	22	29.5							
	MHC	eP	02	22	29.9							
	PRS	eP	02	22	31.9							
	GCC	eP	02	22	33.7							
	BKS	eP	02	22	35.6		e	23 07				
	PCC	eP	02	22	36.4							
		BRK 02 21 51.5, 37.6N, 119.0W, h= 14 km, ML=3.5										
		MAMMOTH LAKES AREA, CALIFORNIA										
JUL 03	FRI	iPe	02	40	15.3							
	MNV	i(P)	02	40	18							
	JAS	iPd	02	40	20.4							
	LLA	iPe	02	40	32.7		e	40 56				
	PRI	eP	02	40	34.9		i	41 02				
	SAO	eP	02	40	37.1							
	MHC	iPe	02	40	37.2							
	PRS	iPe	02	40	39.3							
	GCC	ePe	02	40	40.8							
	BKS	iPe	02	40	43.4	41 14						
	PCC	ePe	02	40	44.5							
	ORV	i(P)	02	40	46							
	MIN	ePe	02	40	56.0							
	WDC	e(P)	02	41	04		i	42 05				
		BRK 02 39 58.2, 37.7N, 119.0W, h= 6 km, ML=4.2										
		MAMMOTH LAKES AREA, CALIFORNIA										
JUL 03	PRI	eP	05	28	55.2							
	MHC	eP	05	28	55.2							
	JAS	ePd	05	29	01.3							
	ORV	eP	05	29	02.6							
	WDC	eP	05	29	02.8							
	MIN	eP	05	29	04.9							
	MNV	eP	05	29	11.5							
		USGS 05 17 54.5, 15.1S, 175.0W, h=253 km, mb=5.0										
		TONGA ISLANDS										
JUL 03	FRI	iPe	06	00	38.5	00 50						
	MNV	eP	06	00	40.7							
	JAS	iPe	06	00	44.4							
	LLA	iPe	06	00	56.1							
	PRI	iPe	06	00	58.2		i	00 26				
	MHC	ePe	06	01	00.3	01 27						
	SAO	iPe	06	01	00.3							
	PRS	eP	06	01	01.9							
	GCC	eP	06	01	04.4							
	BKS	iPe	06	01	06.4	01 38						
	PCC	ePe	06	01	07.6							
	ORV	eP	06	01	08.8							
		BRK 06 00 21.8, 37.6N, 119.0W, h= 7 km, ML=3.6										
		MAMMOTH LAKES AREA, CALIFORNIA										
JUL 03	JAS	eP	09	05	48.0							
	ORV	ePe	09	05	50.4							
	WDC	ePe	09	05	51.5							
	MIN	eP	09	05	53.4							
		USGS 08 53 25.9, 28.8S, 176.7W, h=113 km, mb=4.6										
		KERMADEC ISLANDS REGION										
JUL 05	PRI	iPd	09	13	39.2							
	LLA	iPd	09	13	49.3							
	PRS	iPe	09	13	49.4							
	SAO	iPe	09	13	54.5							
	FRI	iPd	09	13	59.2							
	GCC	eP	09	14	02.0							
	MHC	eP	09	14	04.0							
	PCC	eP	09	14	10							
	JAS	ePd	09	14	10.0							
	BKS	ePe	09	14	15.7	14 42	Pg	14 20	e	14 27	e	14 45
							e	14 53	e	14 58		
		BRK 09 13 37.4, 36.0N, 120.7W, h= 6 km, ML=3.1										
		SOUTHEAST OF KING CITY, CALIFORNIA										
JUL 05	FRI	iPe	11	59	16.4							
	MNV	iPe	11	59	17.2							
	JAS	iPe	11	59	23.2							
	LLA	iPe	11	59	34.0							
	PRI	ePe	11	59	35.6							
	SAO	ePe	11	59	38.3							
	MHC	ePe	11	59	38.6							
	PRS	ePd	11	59	39.6							
	GCC	ePe	11	59	42.5							
	BKS	ePe	11	59	44.9	00 20	Pg	59 55	e	00 29	e	00 38
	PCC	ePe	11	59	46.0							
	ORV	ePe	11	59	46.4							
	MIN	eP	11	59	56							
	WDC	eP	12	00	04.4							
		BRK 11 58 59.0, 37.6N, 118.8W, h= 9 km, ML=4.3										
		MAMMOTH LAKES AREA, CALIFORNIA										
JUL 05	FRI	iPe	14	19	49.5	20 06						
	JAS	iP	14	19	59.4	20 23						
	PRI	iPd	14	20	07.1	20 39						
	LLA	ePd	14	20	07.1	20 38						
	SAO	ePe	14	20	12.0							
	MHC	ePd	14	20	13.7							
	BKS	ePe	14	20	20.2		e	21 04				
	PCC	e(P)	14	20	21							
		BRK 14 19 25.7, 37.4N, 118.2W, h= 13, ML=3.6										
		EAST OF BISHOP, CALIFORNIA										
JUL 05	FHC	ePe	15	26	42.0							
	WDC	iPe	15	26	50.1		e	27 03				
	MIN	ePe	15	26	55.7							
	ORV	iPe	15	26	59.4							
	BKS	ePe	15	27	03.9		e	27 10	e	27 18	e	27 27
							e	27 34	ScS	36 58	Lr	38 06
						MICRON	PERIOD					
						PZ 0.14	1.0					
						LZ 1.8	20					
						LN 0.6	20					
						LE 1.4	20					
	MHC	ePe	15	27	10.2							
	SAO	eP	15	27	13.5							
	JAS	iPe	15	27	13.8		e	27 27				
	FRI	ePe	15	27	21.6							
	PRI	ePe	15	27	21.6							
		Ms=4.9, DISTANCE=42°										
		USGS 15 19 22.8, 51.5N, 178.4W, h= 51 km, mb=5.1, Ms=4										
		ANDREANOF ISLANDS, ALEUTIAN ISLANDS										
JUL 05	SAO	eP	16	39	48.5							
	BKS	ePe	16	39	49.6							
						MICRON	PERIOD					
						PZ 0.08	1.0					
	MHC	ePd	16	39	50.2							
	PRI	ePd	16	39	50.4							
	FHC	eP	16	39	53.0							
	FRI	eP	16	39	55.7							
	JAS	iPd	16	39	56.0							
	ORV	iPd	16	39	56.8							
	WDC	iPd	16	39	56.8							
	MIN	eP	16	39	58.9							
		USGS 16 28 52.6, 16.0S, 178.3W, h=445 km, mb=5.0										
		FIJI ISLANDS REGION										
JUL 06	SAO	eP	05	31	19.5							
	MHC	eP	05	31	20.8							
	WKC	eP	05	31	21.0							
	BKS	eP	05	31	21.3							
						MICRON	PERIOD					
						PZ 0.07	1.1					
	PRI	eP	05	31	21.9							
	WDC	eP	05	31	24.5							
	ORV	eP	05	31	25.4							
	JAS	eP	05	31	25.8							
	MIN	eP	05	31	26.7							
		USGS 05 18 43.2, 18.3S, 168.3E, h= 43 km, mb=5.1										
		VANUATU ISLANDS										
JUL 06	BKS	iP	12	04	49.1	04 52						
	MHC	iPe	12	04	59.4							
	JAS	iPd	12	05	07.0							
	SAO	iP	12	05	07.6							
		BRK 12 04 45.6, 38.0N, 122.1W, h= 11 km, ML=3.0										
		NORTHEAST OF BERKELEY, CALIFORNIA										
JUL 06	FRI	iPe	17	53	30.5	53 43						
	MNV	i(P)	17	53	31							
	JAS	iP	17	53	38.0	53 55						
	LLA	iPe	17	53	48.5							
	PRI	eP	17	53	50.1							
	SAO	iPd	17	53	52.9							
	MHC	eP	17	53	53.3							
	PRS	ePe	17	53	54.8							
	BKS	e(P)	17	54	01	54 34	e	54 48	e	54 50		
		BRK 17 53 12.6, 37.6N, 118.8W, h= 11 km, ML=3.6										
		MAMMOTH LAKES AREA, CALIFORNIA										
JUL 06	MNV	eP	18	39	51							
	PRI		18	39			e	39 55				
	JAS	eP	18	40	01							
	MHC	eP	18	40	05							
	ORV	eP	18	40	15		e	42 33	e	42 49		
	WDC	eP	18	40	22.5		e	42 36	e	42 51		
	WKC	eP	18	40	34							
		USGS 18 33 06.3, 14.1N, 90.5W, h= 56 km, mb=4.8										
		GUATEMALA										

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JUL 06  WKC   eP     18 50 57
        WDC   ePd    18 51 04.3                e 58 08
        MIN   eP     18 51 09.7
        ORV   iPd    18 51 14.7
        BKS   eP     18 51 30    56 22         e 52 15      e 56 15      e 56 31
                                                Lq 57 42     Lr 58 41
                                  MICRON    PERIOD
                              LZ    2.9       20
                              LN    2.2       19
                              LE    1.1       20
        JAS   ePd    18 51 31.5                e 52 13      e 58 13
        MNV   eP     18 51 38.5
              Ms=4.8, DISTANCE=30°
              USGS 18 45 30.8, 56.6N, 154.2W, h= 26 km, mb=5.2, Ms=4.9
                   KODIAK ISLANDS REGION

JUL 07  BKS   ePe    02 35 28.1  35 31
        PCC   iPe    02 35 34.3
        MHC   iPe    02 35 37.7  35 50
        GCC   ePe    02 35 41.0
        JAS   eP     02 35 45.8  36 03
        SAO   eP     02 35 46.3
              BRK  02 35 24.1, 38.0N, 122.1W, h= 10 km, ML=2.5
                   NORTHEAST OF BERKELEY, CALIFORNIA

JUL 07  MNV   iPd    11 32 25.3  32 33
        FRI   iPd    11 32 38.1  32 55
        JAS   iP     11 32 39.3  32 56
        LLA   ePd    11 32 54.3
        MHC   eP     11 32 56
        PRI   eP     11 32 56.6
        ORV   iPd    11 32 58.6                i 33 03
        SAO   eP     11 32 58.8
        BKS   eP     11 33 02.7  33 39         e 33 05
              BRK  11 32 14.2, 38.0N, 118.7W, h=  6 km, ML=3.5
                   AREA EAST OF MONO LAKE, CALIFORNIA

JUL 07  MNV   iP     15 39 57.7
        FRI   iPd    15 40 10.3  40 26
        JAS   iPe    15 40 11.4  40 27
        LLA   eP     15 40 26.7  40 53
        MHC   eP     15 40 27.8  41 01
        PRI   eP     15 40 27.9
        SAO   iPd    15 40 30.3
        BKS   eP     15 40 34.0  41 09         e 41 06
              BRK  15 39 46.5, 38.0N, 118.7W, h=  5 km, ML=3.8
                   AREA EAST OF MONO LAKE, CALIFORNIA

JUL 07  MNV   eP     16 57 34.7
        MHC   eP     16 57 48.3
        BKS   eP     16 57 53.2                e 58 35      e 58 46
                                  MICRON    PERIOD
                              PZ    0.02      0.8
        ORV   eP     16 57 55.1
        WDC          16 58                     e 58 01
              USGS 16 48 44.5,  4.3N,  76.2W, h=144 km, mb=4.9
                   COLOMBIA

JUL 07  MNV   iPd    20 46 55.0
        FRI   iPe    20 47 08.3  47 24
        JAS   iPe    20 47 09.5  47 26
        LLA   eP     20 47 24.0  47 54         i 47 25
        MHC   eP     20 47 26.1
        PRI   eP     20 47 26.4
        SAO   eP     20 47 26.8
        PRS   eP     20 47 30.7
        BKS   ePe    20 47 33.6  48 09
              BRK  20 46 44.5, 38.0N, 118.7W, h= 10 km, ML=3.9
                   AREA EAST OF MONO LAKE, CALIFORNIA

JUL 07  FRI   iPd    21 35 00.7  35 17
        JAS   iPe    21 35 02.0
        LLA   eP     21 35 17.0  35 46
        MHC   eP     21 35 18.4
        PRI   eP     21 35 18.9
        ORV   eP     21 35 21.0                i 35 25
        PRS   eP     21 35 22.5
        BKS   eP     21 35 26.0  36 01
              BRK  21 34 37.2, 38.0N, 118.7W, h=  8 km, ML=3.8
                   AREA EAST OF MONO LAKE, CALIFORNIA

JUL 08  WDC   eP     04 53 04.0                PKP 56 26    PP 57 15     PKKP 09 07
        MIN   eP     04 53                     e 09 09
        ORV   eP     04 53 09.0                PKP 56 36    PKKP 09 05
        BKS   eP     04 53 10    05 16         e 53 29      sP 53 45     PKP 57 08
                                               PP 57 50     pPP 58 10    sPP 58 20
                                               PPP 00 16    e 00 43      SKS 03 35
                                               SKKS 04 12   e 05 48      sS 06 08
                                               PS 07 10     e 07 33      SSS 17 17
                                               SKPPKP 21 44 Lq 24 07     Lr 27 44
                                  MICRON    PERIOD
                              LZ    3.4       20
                              LN    1.4       20
                              LE    2.5       20
        MHC           04 53                    e 09 03
        JAS   eP      04 53 18.1               PKP 56 37    PP 57 23     PKKP 09 02
        PRI           04 53                    e 08 01
        MNV           04 53                    PKKP 08 58
              USGS 04 39 28.7,  6.6N, 125.8E, h=178 km, mb=5.9
                   MINDANAO, PHILIPPINE ISLANDS

JUL 08  WKC   eP     15 25 32
        WDC   eP     15 25 46.4                e 26 06
        ORV   eP     15 25 55.0                e 26 15
        MHC   eP     15 26 06.1
        JAS   eP     15 26 08.4                e 26 28
              USGS 15 16 35.5, 52.7N, 159.4E, h= 33 km, mb=4.9, Ms=4.9
                   OFF EAST COAST OF KAMCHATKA

JUL 08  SAO   iPd    17 13 08.3
        MHC   iPd    17 13 08.4
        GCC   iPd    17 13 10.3
        LLA   iPe    17 13 13.6
        PRS   ePd    17 13 15.8
        PCC   ePe    17 13 17.3  13 31
        BKS   iPd    17 13 20.8  13 36         e 13 34
        PRI   eP     17 13 23
        JAS   iPd    17 13 23.9
        FRI   iPe    17 13 26.8
              BRK  17 13 02.1, 37.0N, 121.5W, h=  7 km, ML=3.0
                   NORTH OF HOLLISTER, CALIFORNIA

JUL 08  MIN   eP     23 12 33.0
        WDC   eP     23 12 33.6
        ORV   eP     23 12 36.3
        JAS   eP     23 12 41.8
        FRI   eP     23 12 43.8
        MHC   eP     23 12 49.6
        BKS   eP     23 12 50.6  21 04         e 13 02      e 13 07      PP 15 12
                                               PPP 16 25
                                  MICRON    PERIOD
                              PZ    0.01      0.9
        PRI   eP     23 12 52.7
              USGS 23 02 52.3, 55.5N,  35.2W, h= 10 km, mb=4.8, Ms=5.1
                   NORTH ATLANTIC OCEAN

JUL 08  WKC   eP     23 31 41.0
        SAO   eP     23 31 44.5
        BKS   eP     23 31 44.6  42 26         e 32 01      PP 35 21     e 34 25
                                               ScS 42 39    PPS 43 09    e 43 18
                                               SS 47 28     SSS 51 10    e 51 50
                                               Lr 57 00
                                  MICRON    PERIOD
                              PZ    0.07      0.8
                              LZ    500       20
                              LNE   420       20
                              LNW   120       20
        MHC   eP     23 31 45.4
        PRI   eP     23 31 47.1
        WDC   eP     23 31 47.6                PKPPKP 58 35
        ORV   eP     23 31 49.0                PKPPKP 58 35
        JAS   eP     23 31 49.7
        MIN   eP     23 31 50.4
        FRI   eP     23 31 51.4
              Ms=7.8, DISTANCE=84°
              USGS 23 19 19.8, 12.4S, 166.4E, h= 33 km, mb=5.9, Ms=7.5
                   SANTA CRUZ ISLANDS

JUL 09  WKC   eP     01 08 55
        BKS   e(P)   01 08 58                   e 09 43
                                  MICRON    PERIOD
                              PZ    0.02      0.8
        MHC   eP     01 08 59.7
        WDC   eP     01 09 01.2
        PRI   eP     01 09 01.7
        ORV   eP     01 09 03.5
        JAS   eP     01 09 04.5
              USGS 00 56 27.8, 12.6S, 165.6E, h= 33 km, mb=5.3
                   SANTA CRUZ ISLANDS

JUL 09  MIN   eP     02 25 13.0
        WDC   eP     02 25 13.0                e 42 20
        ORV   eP     02 25 15.5
        WKC   eP     02 25 18.0
        JAS   eP     02 25 21.4                e 42 15
        BKS          02 25                     e 25 32
        MHC   eP     02 25 26.5
        PRI   eP     02 25 30.2
              USGS 02 11 52.8, 39.3N,  23.0E, h= 14 km, mb=5.8, Ms=6.4
                   AEGEAN SEA

JUL 09  MIN   eP     02 49 09.0
        WDC   eP     02 49 09.0
        ORV   eP     02 49 11.5
        WKC   eP     02 49 13.5
        JAS   eP     02 49 17.3
        MHC   eP     02 49 22.0
        PRI   eP     02 49 25.7
              USGS 02 35 50.0, 39.3N,  22.6E, h= 20 km, mb=5.8, Ms=6.3
                   GREECE

JUL 09  MIN   eP     04 15 53.1
        WDC   eP     04 15 53.7
        ORV   eP     04 15 56.4
        JAS   eP     04 16 01.5
        MHC   eP     04 16 07.3
              USGS 04 06 13.3, 55.7N,  35.4W, h= 10 km, mb=4.8
                   NORTH ATLANTIC OCEAN

JUL 09  WKC   eP     11 12 42.5
        BKS   eP     11 12 45.7                e 12 52      e 13 04      e 13 31
                                               e 13 43      e 14 22      e 15 00
                                               e 19 28      e 23 10      ScS 23 33
                                               e 24 00      PPS 24 28    e 24 34
                                               e 25 58      e 27 10      SS 28 26
                                               e 32 06      SSS 32 18    Lq 34 46
                                               e 36 26      Lr 38 25
                                  MICRON    PERIOD
                              PZ    0.02      0.8
                              LZ    7         20
                              LN    3.5       21
                              LE    6         20
        MHC   eP     11 12 47.5
        PRI   eP     11 12 48.4
        WDC   eP     11 12 49.0
        ORV   eP     11 12 50.3
        JAS   eP     11 12 51.4
              Ms=6.0, DISTANCE=84°
              USGS 11 00 18.9, 12.8S, 166.1E, h= 37 km, mb=5.3, Ms=5.9
                   SANTA CRUZ ISLANDS

JUL 09  WKC   eP     11 37 14
        BRK   eP     11 37 15.0
        BKS          11 37                     e 37 21      e 37 23      Lr 03 20
                                  MICRON    PERIOD
                              PZ    0.04      0.8
                              LZ    5         20
                              LN    1.8       20
                              LE    5         20
        MHC   eP     11 37 18
        WDC   eP     11 37 19.7
        PRI   eP     11 37 19.9
        ORV   eP     11 37 21.8
        MIN   eP     11 37 22.7
        JAS   eP     11 37 23.0
              Ms=5.9, DISTANCE=84°
              USGS 11 24 50.6, 12.6S, 166.0E, h= 33 km, mb=5.4, Ms=5.9
                   SANTA CRUZ ISLANDS

JUL 09  BKS   eP     21 09 27                  e 09 39      e 09 46      e 09 53
                                               e 10 17      e 13 30      e 13 52
                                               e 20 14      e 20 30      PPS 21 00
                                               e 24 45      SS 25 20     SSS 28 38
                                               Lq 31 40     Lr 34 54
                                  MICRON    PERIOD
                              LZ    45        20
                              LN    47        20
                              LE    16        20
        MHC   e(P)   21 09 28                  e 09 37
        PRI          21 09                     e 09 39
        WDC   eP     21 09 29                  e 09 40      e 10 29
        ORV   eP     21 09 31.2                e 09 41      e 10 30
        JAS   eP     21 09 32.2                e 09 42      e 09 52      e 10 30
        FRI          21 09                     e 09 42
              Ms=6.9, DISTANCE=84°
              USGS 20 56 53.2, 12.7S, 166.0E, h= 33 km, mb=5.2, Ms=6.7
                   SANTA CRUZ ISLANDS

JUL 09  BKS          21 16                     e 16 51      e 16 56      e 17 10
                                               e 17 45
        MHC   eP     21 16 46                  e 16 53
        PRI          21 16                     e 16 55
        WDC   eP     21 16 49.0                e 16 56
        ORV   eP     21 16 51                  e 16 57
        JAS   eP     21 16 52                  e 16 59
        MIN          21 16                     e 16 59
        FRI          21 17                     e 17 00
              USGS 21 04 20.2, 12.6S, 165.9E, h= 33 km, mb=5.6
                   SANTA CRUZ ISLANDS

JUL 09  SAO   e(P)   22 36 17
        BRK   eP     22 36 17
        PRI   eP     22 36 17.8
        MHC   eP     22 36 18.2
        JAS   ePd    22 36 23.5
        ORV   ePd    22 36 24.9
        WDC   eP     22 36 25.1
        MIN   eP     22 36 27
              USGS 22 25 16.4, 20.0S, 178.2W, h=573 km, mb=4.7
                   FIJI ISLANDS REGION
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JUL 10  WKC   eP     02 55 38
        BKS           02 55                          e 55 39       e 56 06
                                MICRON     PERIOD
                          PZ      0.02       1.0
                          LZ      0.5         20
                          LN      0.3         20
                          LE      0.6         20
        WDC   eP      02 55 42.9
        ORV   eP      02 55 44.0
        JAS   eP      02 55 45
        MIN   e(P)    02 55 46
                      USGS 02 43 10.3, 12.8S, 165.9E, h= 33 km, mb=5.3
                           SANTA CRUZ ISLANDS

JUL 10  WKC   iPe     06 14 12.3
        FHC   iPe     06 14 16.3
        WDC   iPe     06 14 32.2                  i 14 48
        MIN   iPe     06 14 41.0
        ORV   eP      06 14 43.3
        BKS   eP      06 14 48.7   15 29
        PCC   eP      06 14 50.1                  e 14 51
        MHC   eP      06 14 58.0                  e 14 59
        GCC   eP      06 14 58.2                  e 15 00
        SAO   eP      06 15 04.2
        JAS   eP      06 15 05.3                  i 15 06       e 16 01
                      BRK  06 13 52.7, 40.3N, 125.7W, h=  8 km, ML=4.4
                           OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

JUL 10  FRI   e(P)    08 06 45
        MNV   eP      08 06 45
        PRI   eP      08 06 47.5
        JAS   e(P)    08 06 54                  PcP 08 55
        MHC   eP      08 06 58.5
        BKS   ePd     08 07 05.4                  e 07 13       e 08 17
                                MICRON     PERIOD
                          PZ      0.04       1.1
        ORV   eP      08 07 07                  PcP 09 02
        MIN   eP      08 07 10
        WDC   eP      08 07 14                  PcP 09 03
        FHC   eP      08 07 25
                      USGS 07 59 15.9, 10.8N,  86.1W, h= 67 km, mb=4.8
                           OFF COAST OF COSTA RICA

JUL 10  WDC   eP      09 22 07.5
        MIN           09 22                       e 22 13
        ORV           09 22                       e 22 17
        JAS           09 22                       e 22 30
                      USGS 09 14 03.3, 50.9N, 174.9E, h= 33 km, mb=4.5
                           ALEUTIAN ISLANDS REGION

JUL 10  WDC           19 52                       e 52 23
        ORV           19 52                       e 52 25
        JAS           19 52                       e 52 31
        BKS   e(P)    19 52 34
                                MICRON     PERIOD
                          PZ      0.03       1.0
                          LZ      1.5         20
                          LN      0.6         22
                          LE      0.5         20
                      USGS 19 39 00.6, 39.3N,  22.9E, h= 10 km, mb=5.2, Ms=5.3
                           GREECE

JUL 11  BKS   eP      03 15 08    25 23           e 15 28       e 15 33       e 15 46
                                                  e 23 10       e 25 41       e 26 34
                                              PPS 26 49         e 27 10       e 29 34
                                                  e 30 13       e 31 39       Lq 37 22
                                                  e 40 09       e 40 42
                                MICRON     PERIOD
                          LZ      2.4         20
                          LN      1.0         20
                          LE      1.7         20
        WDC           03 15                       e 15 35
        ORV           03 15                       e 15 39
        JAS           03 15                       e 15 41
                      Ms=5.5, DISTANCE=84°
                      USGS 03 02 40.2, 13.2S, 166.2E, h= 33 km, mb=5.2
                           VANUATU ISLANDS

JUL 11  MNV   ePKP    07 03 45.3
        PRI   ePKP    07 03 45.5
        SAO   ePKP    07 03 46.0
        JAS   iPKPe   07 03 46.9
        MHC   ePKP    07 03 47.5
        BKS   iPKPd   07 03 48.9                  e 03 50
                                MICRON     PERIOD
                          PKPZ    0.16       0.9
        ORV   ePKP    07 03 49.3                  e 04 10
        MIN   ePKP    07 03 50.8
        WDC   ePKP    07 03 51.7
                      USGS 06 44 57.5, 57.8S,  25.6W, h= 86 km, mb=5.3
                           SOUTH SANDWICH ISLANDS REGION

JUL 11  WKC   eP      09 53 47.6
        WDC   iP      09 53 53.9
        MIN   eP      09 53 57.6
        ORV   iPd     09 53 59.4
        JAS   eP      09 54 06.5
                      USGS 09 42 00.2, 20.0N, 147.3E, h= 33 km, mb=5.2
                           MARIANA ISLANDS REGION

JUL 11  WDC   eP      13 04 27.6
        MIN   eP      13 04 31.8
        ORV   iPe     13 04 35.2
        JAS   eP      13 04 46.3
                      USGS 12 54 12.0, 44.9N, 146.2E, h=161 km, mb=4.7
                           KURIL ISLANDS

JUL 12  WDC   ePe     00 42 06.7
        BKS           00 42                       e 42 18
        MHC   eP      00 42 08.7
        MIN   eP      00 42 09.1
        ORV   ePe     00 42 09.6
        PRI   eP      00 42 12.3
        JAS   eP      00 42 12.7
        FRI   eP      00 42 16.0
                      USGS 00 29 16.3,  5.6S, 149.0E, h=191 km, mb=5.4
                           NEW BRITAIN REGION

JUL 12  PRI   eP      15 43 08.1
        JAS   eP      15 43 12.9
        WDC   eP      15 43 13.2
        ORV   eP      15 43 13.5
        MIN   eP      15 43 17.5
                      USGS 15 30 57.0, 18.5S, 176.2E, h= 33 km, mb=4.7
                           FIJI ISLANDS REGION

JUL 12  BKS   eP      15 44 25.8
        PRI   eP      15 44 26.0
        MHC   eP      15 44 26.1
        JAS   ePd     15 44 32.0
        ORV   ePd     15 44 33.1
        WDC   ePd     15 44 33.5
        MIN   eP      15 44 35.6
                      USGS 15 33 22.9, 15.8S, 175.1W, h=261 km, mb=5.3
                           TONGA ISLANDS

JUL 13  FRI   eP      06 32 49.8
        PRI   iPd     06 32 50.6                pP 33 17
        SAO   eP      06 32 54.2
        JAS   iPd     06 32 56.2                pP 33 23
        MHC   ePd     06 32 57.7                pP 33 25
        BKS   eP      06 33 00.6                pP 33 28      e 40 00       e 43 28
                                MICRON     PERIOD
                          PZ      0.09       1.0
        ORV   iPd     06 33 05.1                pP 33 32
        MIN   ePd     06 33 06.8                pP 33 34
        WDC   iPd     06 33 09.7                pP 33 37
        WKC   iPe     06 33 15.5                pP 33 42
                      USGS 06 20 30.3, 33.5S,  70.2W, h=103 km, mb=5.6
                           CHILE-ARGENTINA BORDER REGION

JUL 13  SAO   eP      22 24 53.3
        BKS   eP      22 24 54.5   34 16            e 25 18      Lq 45 00
                                MICRON     PERIOD
                          PZ      0.04       0.9
                          LZ      2.9         20
                          LN      1.8         20
                          LE      2.3         20
        PRI   eP      22 24 55.0
        MHC   eP      22 24 55.2
        JAS   ePd     22 25 01.3                  e 25 16
        ORV   ePd     22 25 02.9
        WDC   ePd     22 25 03.3                  e 25 18
                      USGS 22 13 35.4, 15.3S, 173.5W, h= 33 km, mb=5.4, Ms=5.4
                           TONGA ISLANDS REGION

JUL 14  MIN   eP      04 35 10.4
        ORV   eP      04 35 12.0
        WDC   eP      04 35 12.1
        JAS   eP      04 35 12.5
        FHC   eP      04 35 20.2
        MHC   eP      04 35 20.4
        PRI   eP      04 35 20.5
        BKS           04 35                       e 35 26       e 44 16       e 51 30
                                                  e 56 00
                                MICRON     PERIOD
                          LZ      1.1         20
                          LN      2.7         20
                          LE      0.9         20
                      USGS 04 24 24.4, 35.1N,  35.5W, h= 10 km, mb=5.2, Ms=5.1
                           NORTH ATLANTIC RIDGE

JUL 14  FRI   eP      10 10 51.2
        PRI   eP      10 10 54.4                  PcP 12 57
        JAS   ePe     10 11 00.1                  PcP 12 58     ScP 16 42
        SAO   eP      10 11 00.5
        MHC   ePe     10 11 05.2
        BKS   eP      10 11 10.1                  e 13 03       e 17 29
                                MICRON     PERIOD
                          PZ      0.06       1.0
                          LZ      0.5         20
                          LN      1.1         20
                          LE      0.7         20
        ORV   iPe     10 11 12.9                  PcP 13 04     ScP 16 49
        MIN   ePe     10 11 15.8                  PcP 13 04
        WDC   ePe     10 11 19.8                  PcP 13 07     ScP 16 52
        FHC   eP      10 11 30.9
                      USGS 10 03 23.0, 11.1N,  85.5W, h= 96 km, mb=4.8
                           NICARAGUA

JUL 14  WDC   eP      10 30 34.3
        ORV   eP      10 30 41.5
        JAS   eP      10 30 52.8
                      USGS 10 19 52.7, 42.6N, 144.9E, h= 52 km, mb=5.0, Ms=4.5
                           HOKKAIDO, JAPAN REGION

JUL 14  PRI   eP      16 27 28.6
        MHC   eP      16 27 29.4
        BKS   e(P)    16 27 32    37 53           e 27 49       e 37 23     PPS 38 58
                                                  SS 42 57      e 43 44     SSS 46 40
                                                  e 47 07       e 48 25       Lq 49 00
                                                  Lr 53 00
                                MICRON     PERIOD
                          PZ      0.34       1.8
                          LZ      26          20
                          LN      21          20
                          LE      15          20
        FRI   e(P)    16 27 33
        JAS   ePe     16 27 34.3
        FHC   e(P)    16 27 35
        ORV   eP      16 27 36.5
        WDC   ePe     16 27 37.5
        MIN   e(P)    16 27 39
                      Ms=6.5, DISTANCE=83°
                      USGS 16 15 01.7, 29.3S, 177.2W, h= 49 km, mb=5.8, Ms=6.6
                           KERMADEC ISLANDS

JUL 14  JAS   eP      16 35 22.0
        ORV   eP      16 35 24.0
        WDC   eP      16 35 25.2
                      KERMADEC ISLANDS REGION

JUL 14  PRI   eP      16 53 53
        MHC   eP      16 53 54
        FRI   eP      16 53 58.5
        JAS   eP      16 54 00
        ORV   eP      16 54 01
        WDC   eP      16 54 03
                      USGS 16 41 22.1, 29.4S, 177.0W, h= 33 km, mb=5.4
                           KERMADEC ISLANDS

JUL 15  JAS   eP      02 36 40
        ORV   eP      02 36 42
        WDC   eP      02 36 43
                      USGS 02 24 09.3, 29.4S, 176.9W, h= 68 km, mb=5.1
                           KERMADEC ISLANDS REGION

JUL 15  JAS   eP      03 05 05.0
        ORV   eP      03 05 06.0
        WDC   eP      03 05 07.5
                      USGS 02 52 35.0, 29.5S, 177.3W, h= 87 km, mb=5.0
                           KERMADEC ISLANDS

JUL 15  FRI   iPe     07 16 27.8   16 39
        MNV   iPe     07 16 31.4
        JAS   iPd     07 16 35.9   16 52
        LLA   ePe     07 16 45.2   17 10
        PRI   ePe     07 16 46.6   17 14
        SAO   iPe     07 16 49.7
        MHC   ePd     07 16 50.6
        PRS   ePe     07 16 51.4
        GCC   eP      07 16 54
        BKS   e(P)    07 16 57                    e 17 41
        PCC   ePe     07 16 57.8
        ORV   e(P)    07 17 03
                      BRK  07 16 11.5, 37.5N, 118.8W, h= 15 km, ML=3.7
                           MAMMOTH LAKES AREA, CALIFORNIA

JUL 15  JAS   eP      10 38 09.0
        ORV   eP      10 38 10.0
        WDC   eP      10 38 10.5
        MIN   eP      10 38 12.2
                      USGS 10 26 50.7, 22.1S, 179.7W, h=594 km, mb=4.8
                           SOUTH OF FIJI ISLANDS

JUL 15  WDC   eP      14 30 32.5
        ORV   eP      14 30 47.0
        JAS   eP      14 31 11.3
                      USGS 14 29 19.9, 43.5N, 127.1W, h= 15 km, mb=4.5
                           OFF COAST OF OREGON

JUL 16  WDC   eP      08 30 43.5
        ORV   eP      08 30 49.5
        JAS   eP      08 30 59.8
                      USGS 08 19 27.4, 37.3N, 141.8E, h= 29 km, mb=5.4, Ms=4.6
                           NEAR EAST COAST OF HONSHU, JAPAN
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JUL 16  FHC   ePe    20 10 01.3
        WDC   iPe    20 10 05.6                    i 10 31      i 12 35      i 13 39
                                                  PP 14 00      e 16 05    SKS 20 36
                                                 SKS 22 04    PKKP 26 47   PKKP 27 19
                                                   e 35 31
        BKS   eP     20 10 06.1  21 18            e 10 29      e 10 32      e 10 37
                                                   e 10 39      sP 10 45     e 13 15
                                                   e 13 52      e 13 56     PP 14 02
                                                   e 14 07     pPP 14 35     e 15 37
                                                  PPP 16 31     e 18 28    SKS 20 34
                                                 SKKS 20 43     PS 23 00     SS 27 35
                                                 SSS 32 16      e 35 24     Lq 40 08
                                    MICRON    PERIOD
                                PZ     0.23      0.9
                                LZ      100       20
                                LN       60       20
                                LE       60       20
        ORV   ePe    20 10 08.3  21 20            e 13 40    SKS 20 41  PePPKP 31 35
                                                PKPPKP 35 13     e 35 24
        MBC   ePe    20 10 08.4  21 20            e 13 40     PP 14 04     pPP 14 39
                                                   e 16 06    SKKS 20 48   PKKP 26 48
                                                 PKKP 27 19  PKPPKP 35 12
        SAO   eP     20 10 08.8                   PP 14 06    SKS 20 40
        MIN   ePe    20 10 09.0
        JAS   ePe    20 10 12.1  21 24            e 13 45     PP 14 11     pPP 14 43
                                                  SKS 20 45    SKS 22 09    PKKP 26 53
                                                 PKKP 27 16  PePPKP 31 32  PKPPKP 35 04
                                                   e 36 44  PKPPKS 38 37
        PRI   ePe    20 10 12.3                   PP 14 10      e 14 51     SKS 20 44
                                                 PKKP 26 52    PKKP 27 16  PKPPKP 35 05
                                                   e 36 45
        FRI   eP     20 10 15.0                    e 13 48     PP 14 15     pPP 14 47
                                                  SKS 20 48
        MNV   eP     20 10 21.1                    e 13 53     PP 14 25      e 14 51
                                                  SKS 20 50
                                    mb=6.8, DISTANCE=97°
                                    USGS 19 56 46.7,  4.5S, 143.5E, h= 84 km, mb=6.5
                                         PAPUA NEW GUINEA

JUL 17  WDC   ePe    06 07 18.0
        MIN   eP     06 07 22.7
        ORV   eP     06 07 31.1
        JAS   ePe    06 07 48.7
        MBC          06 07                        e 07 52
        PRI          06 08                        e 08 07
                                    USGS 06 02 34.8, 59.4N, 136.9W, h= 15 km, mb=4.4
                                         SOUTHEASTERN ALASKA

JUL 17  BKS          10 49                        e 49 15      e 00 44      e 11 00
                                                   e 14 30
                                    MICRON    PERIOD
                                LZ     2.3       20
                                LN     1.4       20
                                LE     1.8       20
        MBC          10 49                        e 49 14
        PRI          10 49                        e 49 18
        WDC   e(P)   10 49 13
        ORV   ePe    10 49 18.7
        JAS   eP     10 49 20.0
        MIN          10 49                        e 49 20
        MNV          10 49                        e 49 38
                                    USGS 10 36 49.5, 12.5S, 166.3E, h= 46 km, mb=5.3, Ms=5.4
                                         SANTA CRUZ ISLANDS

JUL 17  SAO   eP     14 17 54.4
        PRI   ePe    14 17 55.8
        BKS   eP     14 17 56.0                    e 27 24      e 31 40
                                    MICRON    PERIOD
                                PZ     0.03      0.8
        MBC   ePe    14 17 56.2
        WKC   eP     14 17 58.0
        FRI   e(P)   14 18 01
        JAS   iPe    14 18 01.3                    e 20 00
        ORV   ePe    14 18 02.7                    e 20 02
        WDC   ePe    14 18 02.9                    e 20 02
        MIN   eP     14 18 04.8
        MNV   eP     14 18 10.1
                                    USGS 14 06 30.8, 23.6S, 179.0E, h=564 km, mb=5.0
                                         SOUTH OF FIJI ISLANDS

JUL 17  BKS   eP     14 30 49.8
                                    MICRON    PERIOD
                                PZ     0.03      0.8
        SAO          14 30                        e 30 50
        PRI   eP     14 30 50.1
        MBC   eP     14 30 50.1
        FHC   eP     14 30 54.1
        FRI   eP     14 30 55.1
        JAS   eP     14 30 55.5
        ORV   ePd    14 30 57.0
        WDC   eP     14 30 57.5
        MIN   eP     14 30 59.0
        MNV   eP     14 31 04
                                    USGS 14 19 47.8, 21.1S, 179.2W, h=654 km, mb=4.8
                                         FIJI ISLANDS REGION

JUL 17  BKS   eP     19 54 47    05 20            e 54 52      e 55 22      e 55 34
                                                   e 56 03      e 56 10      e 56 34
                                                  PP 58 32    PPS 06 40      e 09 22
                                                   e 10 16    SSS 14 45     Lq 17 20
                                    MICRON    PERIOD
                                PZ     0.09      0.8
                                LZ      800       20
                                LNE     600       20
                                LNW     220       20
        FHC   e(P)   19 54 51
        SAO   eP     19 54 51                     e 55 22
        MBC   eP     19 54 51.1                   e 54 56      i 55 21
        PRI   eP     19 54 52.9                   i 54 58      i 55 21  PKPPKP 21 41
        WDC   iPe    19 54 53.5                   i 54 58      i 55 20  PKPPKP 21 32
        ORV   eP     19 54 54.4
        MIN   eP     19 54 55.9                   e 54 58
        JAS   eP     19 54 56.4                   i 54 59      i 55 22
        FRI   eP     19 54 57.2
        MNV   e(P)   19 55 06
                                    Ms=8.0, DISTANCE=86°
                                    USGS 19 42 23.2, 12.5S, 165.9E, h= 33 km, mb=5.8, Ms=7.9
                                         SANTA CRUZ ISLANDS

JUL 17  MBC   eP     21 08 49.3
        PRI   eP     21 08 51.2
        WDC   ePe    21 08 51.7
        ORV   eP     21 08 52.9
        JAS   ePe    21 08 54.3
                                    USGS 20 56 16.6, 12.9S, 165.2E, h= 33 km, mb=5.6
                                         SANTA CRUZ ISLANDS

JUL 17  MBC          23 32                        e 32 04
        PRI          23 32                        e 32 09
        WDC   eP     23 32 03.5
        ORV   eP     23 32 05.9
        JAS   eP     23 32 07.1
                                    USGS 23 19 36.7, 11.6S, 166.3E, h= 33 km, mb=5.4
                                         SANTA CRUZ ISLANDS

JUL 18  BKS          13 55                        e 04 25      e 15 10      Lr 18 00
                                    MICRON    PERIOD
                                LZ     3.0       20
                                LN     1.4       20
                                LE     2.5       20
        FHC          13 55                        e 55 06
        MBC   e(P)   13 55 05
        PRI   e(P)   13 55 06
        WDC   eP     13 55 06.4
        ORV   eP     13 55 07.3                   i 55 11
        JAS   eP     13 55 08                     e 55 13
                                    Ms=5.6, DISTANCE=82°
                                    SANTA CRUZ ISLANDS

JUL 18  FRI   iPe    20 15 08.0  15 19
        MNV   iPe    20 15 12.5
        JAS   iPd    20 15 15.7  15 32
        LLA   iPe    20 15 25.9
        PRI   ePd    20 15 28.0  15 55
        SAO   iPe    20 15 30.8
        MHC   ePd    20 15 31.2
        PRS   ePd    20 15 32.7
        GCC   eP     20 15 35.5
        BKS   ePne   20 15 38.0  16 08            e 15 45     Pg 15 47      e 16 11
                                                   S* 16 14
        PCC   eP     20 15 39.0
                                    BRK  20 14 52.1, 37.5N, 118.9W, h=  9 km, ML=3.7
                                         MAMMOTH LAKES AREA, CALIFORNIA

JUL 19  MHC   iPd    02 38 00.1                   i 38 01
        GCC   iPd    02 38 05.8
        SAO   iPe    02 38 09.1
        PCC   iPd    02 38 10.4  38 21
        BKS   ePd    02 38 13.1  38 26
        LLA   eP     02 38 14.3
        PRS   e(P)   02 38 17    38 30
        JAS   ePd    02 38 19.3
                                    BRK  02 37 58.4, 37.3N, 121.6W, h=  4 km, ML=2.6
                                         EAST-SOUTHEAST OF SAN JOSE, CALIFORNIA

JUL 19  FRI   ePd    12 04 22.1
        PRI   ePd    12 04 23.4
        MNV   iPd    12 04 24.9                 PKPPKS 34 00
        SAO   ePd    12 04 27.0
        JAS   iPd    12 04 28.9                 PKPPKP 31 05
        MHC   ePd    12 04 30.6
        BKS   eP     12 04 34.2                   pP 05 15    PP 07 47    SKS 14 40
                                                  SP 15 30     e 19 50     SS 20 26
                                                   e 27 04     e 31 40
                                    MICRON    PERIOD
                                PZ     0.61      1.3
        ORV   iPd    12 04 37.8                   PP 07 52 PKPPKP 31 04 PKPPKS 34 14
        MIN   ePd    12 04 39.9
        WDC   iPd    12 04 42.8                 PKPPKP 31 00
        FHC   eP     12 04 49.3
                                    USGS 11 52 20.6, 29.0S,  69.7W, h=110 km, mb=6.1
                                         CHILE-ARGENTINA BORDER REGION

JUL 19  PRI   ePe    16 55 29.7  55 38
        LLA   ePe    16 55 35.9  55 49
        FRI   iPe    16 55 37.2
        PRS   ePe    16 55 38.8
        SAO   iPd    16 55 40.3
        MHC   ePd    16 55 49.0
        JAS   ePe    16 55 51.5
        BKS   e(P)   16 55 59
                                    BRK  16 55 19.7, 36.1N, 120.0W, h=  8 km, ML=3.0
                                         EAST-SOUTHEAST OF COALINGA, CALIFORNIA

JUL 19  PRI   ePe    23 57 12.1
        SAO   ePe    23 57 13.9
        MHC   ePe    23 57 18.0
        FRI   ePe    23 57 18.5
        BKS   ePe    23 57 20.1                   e 03 13
                                    MICRON    PERIOD
                                PZ     0.12      1.1
        JAS   iPe    23 57 23.4
        MNV   iPe    23 57 30.8
        ORV   iP     23 57 31.3
        WKC   eP     23 57 33.0
        WDC   iPe    23 57 36.1                 PP 59 50
        MIN   ePe    23 57 37.1
                                    USGS 23 46 58.2, 21.9S, 139.0W, h=  0 km, mb=5.9, Ms=5.2
                                         TUAMOTU ARCHIPELAGO REGION

JUL 20  FRI   eP     00 30 26.5
        MNV   eP     00 30 26.5                 PcP 32 32
        PRI   eP     00 30 29.3
        JAS   eP     00 30 35.8                 PcP 32 35    ScP 36 04
        MHC   eP     00 30 41.0
        BKS   e(P)   00 30 47    36 36          PcP 32 39
                                    MICRON    PERIOD
                                PZ     0.04      1.3
        ORV   eP     00 30 50.5
        MIN   eP     00 30 54.0
        WDC   eP     00 30 58.3                 PcP 32 42
        FHC   eP     00 31 10
                                    USGS 00 24 04.9, 16.4N,  91.9W, h= 64 km, mb=5.5
                                         MEXICO-GUATEMALA BORDER REGION

JUL 20  MNV   eP     05 09 45.5
        FRI   eP     05 09 52.0
        PRI   eP     05 09 57.5
        JAS   eP     05 09 58.5
        MHC   eP     05 10 05.0
        ORV   eP     05 10 07.0
        WDC   eP     05 10 10
                                    USGS 05 01 10.3, 17.7N,  69.0W, h= 28 km, mb=5.0
                                         DOMINICAN REPUBLIC REGION

JUL 20  FRI   eP     14 04 38.2
        MNV   eP     14 04 38.3
        PRI   eP     14 04 39.1
        JAS   iPd    14 04 45.3
        MHC   eP     14 04 48.3
        BKS   eP     14 04 52.8
                                    MICRON    PERIOD
                                PZ     0.04      0.8
        ORV   iPd    14 04 56.4
        MIN   eP     14 04 58.5
        WDC   iPd    14 05 02.0
        FHC   eP     14 05 10.8
                                    USGS 13 54 26.4,  9.7S,  75.0W, h=134 km, mb=5.2
                                         PERU

JUL 20  SAO   ePe    21 30 55.8
        BKS   eP     21 30 56.7                   pP 32 59     e 33 53     e 39 58
                                                  sS 43 20    sSS 48 00     e 51 27
                                                   e 00 46
                                    MICRON    PERIOD
                                PZ     2.20      1.2
        PRI   iPe    21 30 57.5                   pP 33 01
        MHC   ePe    21 30 57.5                   pP 33 02
        FHC   ePe    21 31 00.6
        FRI   iPe    21 31 03.0                   pP 33 07
        JAS   iPe    21 31 03.1                   pP 33 07
        WDC   iPe    21 31 04.0                   pP 33 09     e 40 25     e 57 55
        ORV   iPe    21 31 04.1                   pP 33 09
        MIN   iPe    21 31 06.0                   pP 33 11
        MNV   iPe    21 31 12.7                   pP 33 18     e 40 32
                                    USGS 21 20 03.9, 17.9S, 178.6W, h=591 km, mb=6.0
                                         FIJI ISLANDS REGION

JUL 21  BKS   eP     00 58 00.4                   ScS 09 00    PPS 09 58     e 18 16
                                                  Lq 21 00     Lr 25 00
                                    MICRON    PERIOD
                                PZ     0.04      0.9
                                LZ     6         20
                                LN     1.5       20
                                LE     6         20
        MBC   eP     00 58 01.0
        WDC   eP     00 58 02.5
        ORV   eP     00 58 03.8
        PRI   eP     00 58 05.5
        JAS   eP     00 58 06.5
        MNV   eP     00 58 13
                                    Ms=6.0, DISTANCE=88°
                                    USGS 00 45 09.9,  6.3S, 154.4E, h= 50 km, mb=5.4, Ms=5.7
                                         SOLOMON ISLANDS
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JUL 21  WKC   eP    16 46 42.5
        BKS   ePe   16 46 44.2  57 04        PPS 57 56        e 06 00     Lq 08 15
                                               Lr 11 30
                          MICRON     PERIOD
                    PZ      0.08        0.8
                    LZ         5         20
                    LN       2.3         20
                    LE         5         20
        SAO   eP    16 46 45.8
        MHC   eP    16 46 45.9
        PRI   eP    16 46 47.9
        WDC   eP    16 46 48.3
        ORV   eP    16 46 49.7
        MIN   eP    16 46 50.6
        JAS   eP    16 46 50.9
        FRI   eP    16 46 52.1
        MNV   eP    16 47 00.4
                    mb=5.8, DISTANCE=81°
                    USGS 16 34 25.6, 12.5S, 166.5E, h= 79 km, mb=5.7
                         SANTA CRUZ ISLANDS

JUL 21  BKS   eP    21 32 42.3  42 58        e 33 10        e 33 50     PP 35 58
                                           e 43 54        SS 47 40      e 51 38
                                             Lq 54 12       e 55 07     Lr 57 44
                          MICRON     PERIOD
                    PZ      0.08        1.2
                    LZ        37         20
                    LN        17         20
                    LE        28         20
        MHC   eP    21 32 44.5
        PRI   eP    21 32 46.4
        WDC   ePe   21 32 47.2                    PP 36 14
        ORV   ePe   21 32 48.3                    PP 36 16
        MIN   eP    21 32 49.4
        JAS   ePe   21 32 49.5                    PP 36 20
        FRI   eP    21 32 50.8
        MNV   ePe   21 32 59.0
                    mb=5.7, DISTANCE=82°
                    USGS 21 20 24.7, 12.3S, 166.5E, h= 80 km, mb=5.9
                         SANTA CRUZ ISLANDS

JUL 21  WKC   ePd   22 58 57.2
        SAO   eP    22 58 59.8
        BKS   ePe   22 59 00.1                 e 08 24
                          MICRON     PERIOD
                    PZ      0.10        1.0
        MHC   eP    22 59 00.9
        PRI   eP    22 59 02.6
        WDC   iPd   22 59 03.8
        ORV   iPd   22 59 05.0
        MIN   eP    22 59 06.0
        JAS   iPd   22 59 06.0
        FRI   eP    22 59 06.9
        MNV   iPd   22 59 15.1
                    USGS 22 47 42.5, 12.9S, 168.7E, h=636 km, mb=5.3
                         SANTA CRUZ ISLANDS REGION

JUL 22  SAO   ePd   07 18 53.0                 pP 19 24
        BKS   ePd   07 18 53.3                 pP 19 25       e 19 42     PP 22 14
                                               e 29 15        e 30 05       e 30 58
                                               e 31 07       SS 35 04     sSS 35 48
                                               e 37 07      SSS 39 05      Lq 41 48
                                               Lr 45 51
                          MICRON     PERIOD
                    PZ      1.44        1.4
        MHC   ePd   07 18 54.2                 pP 19 26
        FHC   eP    07 18 55.0                 pP 19 28
        PRI   ePd   07 18 55.0                 pP 19 27 PKPPKP 45 00      e 45 30
        WDC   iPd   07 18 58.3                 pP 19 30 PKPPKP 44 56      e 45 26
        JAS   iPd   07 18 59.0                 pP 19 31 PKPPKP 44 57      e 45 27
        ORV   iPd   07 18 59.1                 pP 19 31
        FRI   ePd   07 18 59.4                 pP 19 31
        MIN   ePd   07 19 00.5                 pP 19 32
        MNV   iPd   07 19 08.0
                    mb=6.8, h=120 km, DISTANCE=86°
                    USGS 07 06 23.0, 20.3S, 169.6E, h=122 km, mb=6.1
                         VANUATU ISLANDS

JUL 22  WKC   eP    14 36 14
        WDC   eP    14 36 31.3
        ORV   eP    14 36 40.2
        JAS   eP    14 36 54.0
                    USGS 14 27 29.2, 54.8N, 160.2E, h= 33 km, mb=4.8
                         NEAR EAST COAST OF KAMCHATKA

JUL 23  WDC   ePKPe  21 34 12.8                 e 36 16
        MIN   ePKP   21 34 15
        ORV   ePKPe  21 34 15.0
        BKS   ePKP   21 34 16.8
        MHC   ePKP   21 34 18.2
        JAS   ePKP   21 34 18.4                 e 36 20
        FRI   ePKP   21 34 20.9
        PRI   ePKP   21 34 21.4
                    USGS 21 15 15.4,  2.8S, 101.2E, h= 54 km, mb=5.5, Ms=5.0
                         SOUTHERN SUMATERA

JUL 24  PRI   eP    15 09 26.2
        FRI   eP    15 09 30.5
        MNV   eP    15 09 40
        JAS   eP    15 09 46.0
        MHC   eP    15 09 47
        BKS         15 09                      Lr 13 00
        ORV   eP    15 10 10
        MIN   eP    15 10 20
        WDC   eP    15 10 27
                    USGS 15 06 47.0, 27.5N, 112.4W, h= 10 km, mb=4.4
                         BAJA CALIFORNIA

JUL 24  BKS   e(P)  15 42 48    53 30        e 44 07        e 59 20     Lq 06 30
                                               Lr 10 00
                          MICRON     PERIOD
                    LZ      4.2         20
                    LN      2.0         20
                    LE      3.1         20
        MHC   eP    15 42 49.1
        PRI   eP    15 42 50.8
        JAS   eP    15 42 55.0
        WDC   eP    15 42 55.1
        ORV   eP    15 42 55.3
        FRI   eP    15 42 55.4
                    Ms=5.8, DISTANCE=88°
                    USGS 15 30 05.6, 22.0S, 170.1E, h= 33 km, mb=5.4, Ms=5.8
                         LOYALTY ISLANDS REGION

JUL 25  SAO   iPe   05 40 53.8
        LLA   iPe   05 40 59.0  41 04
        PRS   iPd   05 40 59.1  41 04
        GCC   eP    05 41 03.1
        MHC   ePd   05 41 05.6  41 16
        PRI   iPd   05 41 07.1
        PCC   eP    05 41 12.4
        FRI   ePd   05 41 16.8
        JAS   eP    05 41 17.5  41 35
                    BRK  05 40 51.8, 36.7N, 121.4W, h=  5 km, ML=2.6
                         SOUTH OF HOLLISTER, CALIFORNIA

JUL 25  FRI   iPe   06 44 35.5  44 47
        MNV   iPd   06 44 38.5
        JAS   iPd   06 44 42.4  44 59
        LLA   iPe   06 44 53.3  45 19
        PRI   ePe   06 44 54.9  45 23
        SAO   iPe   06 44 57.6
        MHC   iPe   06 44 57.9
        PRS   iPe   06 44 59.7
        GCC   eP    06 45 02.0
        BRK   eP    06 45 04.5
        PCC   ePd   06 45 05.3
        ORV   eP    06 45 06.5
                    BRK  06 44 19.2, 37.6N, 118.9W, h= 14 km, ML=3.8
                         MAMMOTH LAKES AREA, CALIFORNIA

JUL 25  MNV   iPe   19 05 32.0
        FRI   iPe   19 05 43.7
        JAS   iPe   19 05 52.3
        PRI   iPe   19 05 56.9
        LLA   iPe   19 05 57.5
        SAO   iPe   19 06 03.0
        PRS   iPe   19 06 03.4
        MHC   iPe   19 06 05.9
        GCC   eP    19 06 08.2
        ORV   iPe   19 06 10.8
        BKS   iPne  19 06 11.8                 P° 06 21       i 06 31     S° 07 23
                                               Sg 07 43
        PCC   ePe   19 06 12.5
        MIN   ePe   19 06 18.3
        WDC   iPe   19 06 27.5
        FHC   ePg   19 07 04
                    ML=5.5, NUCLEAR EXPLOSION (TAFI), N.T.S.
                    USGS 19 05 00.1, 37.3N, 116.5W, h=  0 km, mb=5.5, Ms=4.2
                         SOUTHERN NEVADA

JUL 26  JAS   eP    13 06 08.2
        PRI   eP    13 06 10.8
        MIN   e(P)  13 06 11
        ORV   eP    13 06 11.4
        MHC   e(P)  13 06 15
        BKS   eP    13 06 22    16 16        e 06 42        sP 07 06      e 09 22
                                           pPP 10 07       sPP 10 15       e 16 50
                                            PS 17 26        e 21 57      sSS 22 16
                                           SSS 25 36
                          MICRON     PERIOD
                    PZ      0.48          8
                    LZ       1.1         20
                    LN       0.7         20
                    LE       1.1         20
                    USGS 12 53 40.7,  7.1N,  34.0W, h= 10 km, mb=5.2, Ms=5.3
                         CENTRAL MID-ATLANTIC RIDGE

JUL 26  FRI   iPe   17 23 02.8  23 14
        MNV   iPe   17 23 06.7
        JAS   iPd   17 23 10.3  23 26
        LLA   iPe   17 23 20.6  23 46
        PRI   ePd   17 23 22.5
        SAO   iPd   17 23 25.5
        MHC   ePd   17 23 25.6
        PRS   ePe   17 23 27.1
        GCC   eP    17 23 30
        BKS   ePn   17 23 31.7  24 02        P° 23 35       Pg 23 43      i 24 06
                                               i 24 27
        PCC   ePe   17 23 32.9
        ORV   iPe   17 23 34.4
                    BRK  17 22 46.8, 37.5N, 118.9W, h= 16 km, ML=3.6
                         MAMMOTH LAKES AREA, CALIFORNIA

JUL 26  PRS   iPd   19 18 05.1
        PRI   iPd   19 18 05.8  18 13
        LLA   iPd   19 18 10.8  18 21
        SAO   iPd   19 18 12.6
        GCC   ePd   19 18 18.7
        MHC   ePd   19 18 22.3
        FRI   ePd   19 18 24.0
        PCC   eP    19 18 26.2
        BKS   ePn   19 18 30.2                 e 18 34        e 18 39      S° 18 59
                                               Sg 19 05
        JAS   iPd   19 18 31.6  18 57
                    BRK  19 17 55.1, 35.8N, 121.2W, h=  7 km, ML=3.3
                         SOUTH-SOUTHWEST OF KING CITY, CALIFORNIA

JUL 26  FRI   iPe   21 43 18.2  43 30
        JAS   iPe   21 43 24.3  43 41
        LLA   iPe   21 43 35.7  44 02
        PRI   ePe   21 43 37.6  44 06
        SAO   iPd   21 43 40.0
        MHC   ePd   21 43 40.2
        PRS   eP    21 43 42.0
        GCC   eP    21 43 44
        BKS   iPnd  21 43 46.4                 i 43 48        i 44 01      S° 44 24
                                               Sg 04 33
        PCC   e(P)  21 43 47
                    BRK  21 43 01.5, 37.6N, 118.9W, h= 11 km, ML=3.5
                         MAMMOTH LAKES AREA, CALIFORNIA

JUL 27  SAO   eP    00 39 41.8
        BKS   iPd   00 39 42.9                 PcP 39 47      pP 41 51     PPP 45 05
                                               SSS 58 33
                          MICRON     PERIOD
                    PZ      0.09        1.0
        PRI   ePd   00 39 43.4
        MHC   ePd   00 39 43.4
        FHC   eP    00 39 47.5
        FRI   eP    00 39 48.5
        JAS   iPd   00 39 49.0
        WDC   iPd   00 39 49.7
        ORV   iPd   00 39 49.8
        MIN   ePd   00 39 51.7
                    mb=5.1, h=600 km, DISTANCE=81°
                    USGS 00 28 32.1, 19.7S, 179.9E, h=525 km, mb=5.3
                         SOUTH OF FIJI ISLANDS

JUL 27  WDC   eP    09 11 38.0
        MIN   eP    09 11 42.0
        ORV   eP    09 11 48.0
        JAS   eP    09 12 04.8
                    USGS 09 05 35.0, 63.7N, 152.8W, h= 21 km, mb=4.7, Ms=3.7
                         CENTRAL ALASKA

JUL 27  FRI   iPe   16 55 47.9  55 59
        JAS   iPe   16 55 56.7  56 13
        LLA   ePe   16 56 05.9
        PRI   eP    16 56 06.9  56 35
        SAO   ePe   16 56 10.5
        MHC   eP    16 56 11.2
        PRS   ePd   16 56 12.2
        PCC   ePd   16 56 18.8
        BKS   e(Pn) 16 56 19                   i 56 33        i 56 37      e 56 54
                    BRK  16 55 30.8, 37.5N, 118.8W, h= 18 km, ML=3.6
                         MAMMOTH LAKES AREA, CALIFORNIA

JUL 27  JAS   ePe   18 58 17.9
        PRI   eP    18 58 23.0
        MHC   eP    18 58 28.0
        BKS         18 58                      Lq 06 40     Lr 09 21
                          MICRON     PERIOD
                    LN      4.3         20
                    LE        5         20
                    USGS 18 52 21.8, 38.2N,  83.9W, h=  8 km, mb=5.1, Ms=4.7
                         KENTUCKY

JUL 28  WDC   ePe   00 44 49.8
        ORV   ePe   00 44 50.7
        JAS   eP    00 44 51.2
                    USGS 00 32 33.4, 17.7S, 168.7E, h=231 km, mb=4.2
                         VANUATU ISLANDS

JUL 28  PRI   eP    17 13 05.7
        JAS   eP    17 13 09.5                 e 14 17
        MHC   eP    17 13 15.0
        ORV   eP    17 13 19.5
        BKS   iPd   17 13 20.2                 pP 13 41     PeP 14 35     PPP 16 17
                                              sSS 24 47      Lq 32 40
                          MICRON     PERIOD
                    PZ      0.04        0.8
        MIN   eP    17 13 22.0
        WDC   eP    17 13 25.7
        FHC   eP    17 13 36.3
                    USGS 17 04 08.3,  6.8N,  73.0W, h=158 km, mb=4.9
                         NORTHERN COLOMBIA
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JUL 28  BKS   e(P)   19 11 32
                          MICRON     PERIOD
                     PZ     0.03        1.0
        MHC   eP     19 11 32.0
        JAS   iPe    19 11 37.1
        ORV   iPe    19 11 39.3
        WDC   iPe    19 11 40.3
                     USGS 18 59 04.0, 29.2S, 176.5W, h= 33 km, mb=5.0
                          KERMADEC ISLANDS REGION

JUL 28  SAO   eP     20 25 15.0
        PRI   eP     20 25 16.1
        MHC   eP     20 25 16.9
        BKS   iPd    20 25 18.2                PcP 25 22     pP 25 44     sP 26 05
                                               PPP 30 33      e 31 08      e 33 30
                                                 e 35 34      e 37 09     SS 41 07
                                               sSS 41 45      e 45 16      e 48 22
                          MICRON     PERIOD
                     PZ     0.11        1.0
                     LZ     0.5          20
        FRI   eP     20 25 21.5
        PHC   eP     20 25 21.8
        JAS   eP     20 25 22.5
        WDC   eP     20 25 24.1
        ORV   eP     20 25 24.2
        MIN   eP     20 25 26.6
        MNV   eP     20 25 32.7
                     USGS 20 13 23.5, 22.1S, 175.7W, h= 65 km, mb=5.4
                          TONGA ISLANDS REGION

JUL 29  BKS          02 32                     Lq 55 40     Lr 59 16
                          MICRON     PERIOD
                     LZ     1.6          20
                     LN     1.1          20
                     LE     1.4          20
        MHC   e(P)   02 32 59
        PRI   eP     02 32 59
        FRI   e(P)   02 33 03
        JAS   eP     02 33 04.0
        WDC   eP     02 33 04.2
        ORV   eP     02 33 04.4
        MIN   eP     02 33 06.0
                     USGS 02 20 24.4, 21.9S, 173.2E, h= 33 km, mb=4.9
                          VANUATU ISLANDS REGION

JUL 29  BKS   ePe    03 24 22.0  34 44         i 24 32      i 24 46      e 25 10
                                               PP 27 30     SeS 35 11    PS 35 30
                                              PPS 35 54      e 37 13      e 37 28
                                                e 37 44     SS 39 56    SSS 43 40
                                               Lq 45 15      e 46 16     Lr 49 52
                          MICRON     PERIOD
                     PZ     0.12        0.8
                     LZ     110          20
                     LNE    120          20
                     LNW     26          20
        MHC   eP     03 24 23.6
        SAO   eP     03 24 23.7
        PRI   eP     03 24 25.6
        WDC   eP     03 24 26.1
        ORV   iPe    03 24 27.6
        JAS   eP     03 24 28.6
        MIN   eP     03 24 28.7
        FRI   eP     03 24 29.8
                     Ms=7.2, DISTANCE=83°
                     USGS 03 11 56.3, 13.1S, 166.3E, h= 48 km, mb=5.9, Ms=6.7
                          VANUATU ISLANDS

JUL 29  WDC   ePKP   15 17 22                PKKP 28 33
        MIN          15 17                     e 17 07
        ORV   ePKP   15 17                     e 18 10    PKKP 28 27
        BKS   e(P)   15 13 20                  e 17 50      i 18 07     e 18 28
                                               PPP 20 10      i 20 53    SKS 23 50
                                              SKKS 24 48     PS 26 38      i 27 24
                                                e 27 32     PPS 28 10      i 28 25
                                                e 29 10     SS 32 16       i 33 39
                                               SSS 37 00      e 37 28      i 37 42
                                            PKPPKP 38 02      i 38 28      i 38 48
                                                e 39 00      i 43 58      e 51 52
                                                i 52 34
                          MICRON     PERIOD
                     LZ     16           20
                     LN      9           22
                     LE     12           20
        JAS   ePKP   15 17 30              PKKP 28 23
        MHC          15 17                     e 17 15
        FRI          15 17                     e 17 15
        PRI   ePKP   15 17                     e 18 02
                     Ms=6.6, DISTANCE=108°
                     USGS 14 58 40.8, 29.6N,  81.1E, h= 18 km, mb=6.1, Ms=6.5
                          NEPAL

JUL 29  FRI   iPe    19 17 29.6
        MNV   iPe    19 17 34.8
        JAS   iPd    19 17 38.1  17 55
        LLA   ePd    19 17 47.8
        PRI   ePe    19 17 49.8  18 18
        SAO   iPd    19 17 52.4
        MHC   ePd    19 17 53.0
        PRS   ePd    19 17 54.3
        GCC   e(P)   19 17 57
        BKS   ePed   19 17 59.4  18 30       P* 18 03     Pg 18 10     S* 18 36
                                               Sg 18 47
        PCC   ePd    19 18 00.4
        ORV   e(P)   19 18 03
                     BRK  19 17 14.1, 37.5N, 118.9W, h=  8 km, ML=3.9
                          MAMMOTH LAKES AREA, CALIFORNIA

JUL 29  MHC   iPd    20 11 11.0
        GCC   ePd    20 11 18.6
        PCC   ePe    20 11 19.4
        BKS   iPe    20 11 19.9  11 28        i 11 22      i 11 33
        SAO   iPd    20 11 22.3
        LLA   ePd    20 11 26.6
        JAS   iPd    20 11 26.7  11 41
                     BRK  20 11 07.8, 37.5N, 121.6W, h=  7 km, ML=2.5
                          SOUTHEAST OF LIVERMORE, CALIFORNIA

JUL 29  FRI   iPe    20 57 04.9
        MNV   ePd    20 57 09.5
        JAS   iPd    20 57 13.1  57 30
        LLA   ePe    20 57 22.8
        PRI   ePd    20 57 24.8  57 53
        SAO   eP     20 57 27.7
        MHC   eP     20 57 28.2
        PRS   eP     20 57 29.3
        BKS          20 57          58 04      S* 58 10     Sg 58 21
        PCC   e(P)   20 57 36
        ORV   e(P)   20 57 38
                     BRK  20 56 49.1, 37.5N, 118.9W, h=  5 km, ML=3.6
                          MAMMOTH LAKES AREA, CALIFORNIA

JUL 30  FRI   ePe    07 04 43.8
        MNV   iPe    07 04 44.5
        PRI   ePe    07 04 46.4
        SAO   ePe    07 04 52.2
        JAS   iPe    07 04 52.9
        MHC   ePe    07 04 57.0
        BKS   iPe    07 05 02.5  12 12        sP 05 36     PcP 06 58    sPP 07 08
                                              PPP 07 16      e 07 48      e 08 01
                                                e 09 20      e 09 56      e 13 45
                                               sSS 14 30      e 15 01     Lq 15 49
                                                Lr 19 52
                          MICRON     PERIOD
                     PZ     0.61        1.3
                     LZ     19          20
                     LN     12          20
                     LE     16          20
        ORV   iPe    07 05 05.8
        MIN   ePe    07 05 08.6
        WDC   iPe    07 05 12.0
        FHC   ePe    07 05 22.6
                     USGS 06 56 16.7,  5.3N,  82.7W, h= 10 km, mb=5.8, Ms=5.9
                          SOUTH OF PANAMA

JUL 30  WDC   eP     13 28 15.0
        ORV   eP     13 28 28.0
        JAS   eP     13 28 35.2
                     USGS 13 16 21.0, 21.4N, 144.2E, h= 33 km, mb=4.8
                          MARIANA ISLANDS REGION

JUL 30  PRI   ePe    17 23 50.8
        MHC   eP     17 24 01.5
        JAS   ePe    17 24 03.3
        MNV   eP     17 24 03.6
        BKS   eP     17 24 09    31 12        PcP 25 25    PPP 26 52    Lq 35 18
                                                Lr 37 16
                          MICRON     PERIOD
                     LZ     0.7          20
                     LN     0.7          20
                     LE     0.4          20
        ORV   iPe    17 24 18.4
        WDC   ePe    17 24 24.8                e 25 26      e 25 45
                     Ms=4.7, DISTANCE=48°
                     USGS 17 15 21.2,  9.0S, 108.3W, h= 10 km, mb=5.4, Ms=5.3
                          NORTHERN EASTER ISLAND CORDILLERA

JUL 31  FHC   ePe    01 24 32.3
        WDC   ePe    01 24 38.1
        ORV   ePe    01 24 44.8
        BRK   eP     01 24 48.2
        MHC   eP     01 24 52.7
        JAS   ePe    01 24 55.0
                     USGS 01 13 23.9, 38.9N, 141.0E, h= 16 km, mb=5.0, Ms=4.6
                          NEAR EAST COAST OF HONSHU, JAPAN

JUL 31  WDC   ePe    03 45 52.0
        MIN   ePe    03 45 54.1
        ORV   ePe    03 45 57.5
        MNV   eP     03 46 06.0
        BKS   eP     03 46 06.1
                          MICRON     PERIOD
                     PZ     0.01        0.7
        JAS   ePe    03 46 06.7
        MHC   eP     03 46 08.6
        FRI   eP     03 46 11.4
        PRI   ePe    03 46 15.2
                     USGS 03 32 57.7, 49.8N,  78.1E, h=  0 km, mb=5.3
                          EASTERN KAZAKH, S.S.R.

JUL 31  PRI   ePe    05 03 30.2                sP 03 43
        FRI          05 03                     pP 03 34     sP 03 43     e 03 54
        MNV   ePe    05 03 31.6                pP 03 38     sP 03 44     e 03 50
        JAS   ePe    05 03 38.5                pP 03 46      e 06 41     e 06 50
        MHC   ePe    05 03 42.3
        BKS          05 03                     Lq 10 08     Lr 11 40
                          MICRON     PERIOD
                     LN     0.2          20
                     LE     3.4          20
        ORV   iPe    05 03 54.1                pP 04 02     sP 04 07     e 04 13
        MIN   ePe    05 03 58.4
        WDC   ePe    05 04 02.5                pP 04 10     sP 04 16    PcP 06 48
                                              pPcP 06 56
        FHC   eP     05 04 06.5                pP 04 14
                     USGS 04 57 34.9, 16.4N,  97.1W, h= 47 km, mb=5.1, Ms=5.4
                          OAXACA, MEXICO

JUL 31  BKS   ePe    09 20 52.8  20 59
        MHC   iPe    09 20 55.8
        PCC   eP     09 20 56.8
        GCC   eP     09 21 00.8
        JAS   ePe    09 21 04.3  21 18
        SAO   eP     09 21 07.0
        LLA   eP     09 21 09.3
                     BRK  09 20 45.6, 37.8N, 121.8W, h= 11 km, ML=2.6
                          NORTH OF LIVERMORE, CALIFORNIA

JUL 31  FRI   eP     18 19 48.8
        JAS   eP     18 19 57.9
        PRI   eP     18 20 01.7
        LLA   eP     18 20 03.9
        PRS   eP     18 20 08.2
        SAO   eP     18 20 08.6
        MHC   eP     18 20 11.0
        ORV   eP     18 20 15.8
                     ML=4.2, NUCLEAR EXPLOSION (VERDELLO), N.T.S.
                     USGS 18 19 00.1, 37.0N, 116.0W, h=  0 km, mb=4.3
                          SOUTHERN NEVADA

AUG 01  MNV   eP     08 23 26.0                PcP 25 45
        FRI          08 23                     PcP 25 45
        PRI   eP     08 23 27.2                PcP 25 46
        JAS   eP     08 23 35.1  29 33         PcP 25 48
        SAO   eP     08 23 36.0
        MHC   eP     08 23 40.8
        BKS   eP     08 23 45.9                pP 24 02     PcP 25 52      e 30 42
                                               SeS 33 52      Lq 34 28     Lr 35 04
                          MICRON     PERIOD
                     PZ     0.02        1.0
                     LZ     1.1          20
                     LN     0.9          20
                     LE     1.1          20
        ORV   eP     08 23 48.3  29 40         PcP 25 53
        MIN   eP     08 23 52.0
        WDC   eP     08 23 55.1  29 43         PcP 25 56
        FHC   eP     08 24 08.3
                     mb=5.0, h=66 km, DISTANCE=40°
                     USGS 08 16 17.5, 12.7N,  87.5W, h= 78 km, mb=5.2
                          NEAR COAST OF NICARAGUA

AUG 01  FRI   iPe    16 39 12.0
        MNV   iPe    16 39 15.7
        JAS   iPd    16 39 19.4
        LLA   iPe    16 39 29.8
        PRI   iPe    16 39 31.5
        SAO   iPe    16 39 34.2
        MHC   iPe    16 39 34.7
        PRS   iPe    16 39 36.2
        GCC   iPe    16 39 38.6
        BKS   iPd    16 39 40.8  40 15
        PCC   iPe    16 39 42.0
        ORV   e(P)   16 39 43
        MIN   iPd    16 39 53.0
        WDC   eP     16 40 00.6
                     BRK  16 38 55.9, 37.5N, 118.9W, h=  8 km, ML=5.4
                          MAMMOTH LAKES AREA, CALIFORNIA
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AUG 01  FRI   iPe    16 43 10.8  43 22       i 43 21
        LLA   iPe    16 43 28.7
        SAO   iPe    16 43 33.1
        MHC   iPe    16 43 33.7
        PRS   iPe    16 43 35.2
        GCC   eP     16 43 37.5
        PCC   eP     16 43 41.0
                BRK  16 42 55.3, 37.5N, 118.9W, h= 17 km, ML=4.1
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  FRI   iPe    16 49 10.3                  i 49 23
        MNV   iPe    16 49 14.3
        JAS   iPe    16 49 18.0
        LLA   iPe    16 49 28.3
        PRI   iPd    16 49 30.5
        SAO   iPe    16 49 32.9
        MHC   iPd    16 49 33.1
        PRS   iPe    16 49 34.7
        BKS   iPd    16 49 39.5
        PCC   eP     16 49 40.4
                BRK  16 48 54.6, 37.5N, 118.9W, h= 13 km, ML=4.6
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  FRI   iPe    16 52 30.6  52 42
        MNV   iPe    16 52 34.7
        JAS   i(P)   16 52 37
        LLA   ePe    16 52 48.6
        PRI   eP     16 52 50.7
        SAO   eP     16 52 52.3
        MHC   e(P)   16 52 53
        PRS   ePe    16 52 55.0
        PCC   ePe    16 53 01.4
                BRK  16 52 14.9, 37.6N, 118.9W, h= 11 km, ML=3.6
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  FRI   iPe    16 52 47.1  52 57
        JAS   i(P)   16 52 56
        LLA   iPe    16 53 05.1
        PRI   iP     16 53 07.6
        MHC   iPd    16 53 10.6
        PRS   iP     16 53 11.6
        PCC   iP     16 53 17.9
                BRK  16 52 31.7, 37.6N, 118.9W, h= 10 km, ML=3.9
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  FRI   iPe    16 59 28.8  59 40
        MNV   iPd    16 59 32.5
        JAS   iPe    16 59 36.2  59 51
        LLA   iPe    16 59 46.8
        PRI   iPe    16 59 48.8
        SAO   iPd    16 59 51.1
        MHC   eP     16 59 51.5
                BRK  16 59 12.6, 37.5N, 118.9W, h= 10 km, ML=3.5
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  FRI   iPe    17 09 33.7  09 45
        MNV   iPe    17 09 36.5
        JAS   iPe    17 09 41.0
        LLA   iPe    17 09 51.3
        PRI   iPe    17 09 52.9
        SAO   iPe    17 09 55.6
        MHC   iPe    17 09 56.1
        PRS   iPe    17 09 57.6
        GCC   eP     17 10 00.0
        BKS   ePd    17 10 02.5
        PCC   eP     17 10 03.4
                BRK  17 09 17.2, 37.5N, 118.9W, h= 13 km, ML=4.1
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  FRI   iPe    17 33 10.7  33 22
        MNV   iPd    17 33 15.0
        JAS   iPd    17 33 18.4  33 35
        LLA   iPe    17 33 28.6
        PRI   eP     17 33 30.3
        SAO   iPe    17 33 33.3
        MHC   eP     17 33 33.5
        PRS   eP     17 33 35.1
                BRK  17 32 54.6, 37.5N, 118.9W, h= 14 km, ML=3.5
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  FRI   iP     17 48 15.4  48 27
        MNV   iPd    17 48 18.5  48 32
        JAS   iPe    17 48 23.7
        LLA   iPe    17 48 33.0
        PRI   iPd    17 48 35.3
        SAO   eP     17 48 37.2
        MHC   eP     17 48 37.6
        PRS   eP     17 48 39.2
                BRK  17 47 59.3, 37.5N, 118.9W, h= 13 km, ML=3.5
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  FRI   iP     17 48 31.4
        LLA   iP     17 48 49.2
        PRI   iP     17 48 50.8
        SAO   iPe    17 48 53.6
        MHC   iP     17 48 53.9
        PRS   iPe    17 48 55.5
                BRK  17 48 15.2, 37.6N, 118.9W, h= 10 km, ML=3.8
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  FRI   iPe    18 53 07.3  53 19
        MNV   iPe    18 53 11.3
        JAS   iPd    18 53 14.3
        LLA   iPe    18 53 25.9  53 51
        PRI   iPd    18 53 28.0
        MHC   eP     18 53 29.7
        SAO   iPe    18 53 30.2
        PRS   eP     18 53 32.2
                BRK  18 52 51.6, 37.5N, 118.9W, h= 13 km, ML=3.5
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  PRI   eP     21 33 39.9
        MHC   eP     21 33 40.3
        FRI   eP     21 33 44.8
        JAS   eP     21 33 45.4
        ORV   eP     21 33 47.0
        WDC   eP     21 33 47.4
        MNV   eP     21 33 53.8
                USGS 21 22 07.2, 25.2S, 179.5E, h=515 km, mb=4.9
                     SOUTH OF FIJI ISLANDS

AUG 01  FRI   iPe    22 20 23.1  20 34
        MNV   iPe    22 20 26.7  20 42
        JAS   iPd    22 20 31.7
        LLA   iPe    22 20 41.0  21 06
        PRI   eP     22 20 43.2
        SAO   iPe    22 20 45.6
        MHC   eP     22 20 45.9
        PRS   eP     22 20 47.4
        PCC   eP     22 20 53.3
                BRK  22 20 07.0, 37.5N, 118.9W, h=  6 km, ML=3.6
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 01  FHC   eP     23 12 34.5
        WDC   iPe    23 12 40.7
        MIN   eP     23 12 45.7
        ORV   eP     23 12 51.1
        BKS   iPd    23 13 03.4                  e 17 46     Lr 20 26
                          MICRON    PERIOD
                PZ        0.11       1.0
                LZ        6         20
                LN        3.4       20
                LE        6         20
        JAS   iPe    23 13 08.7
        MHC   eP     23 13 09.1
        FRI   eP     23 13 18.0
        PRI   eP     23 13 22.3
                Ms=5.3, DISTANCE=29°
                USGS 23 07 14.7, 59.6N, 148.9W, h= 26 km, mb=5.4, Ms=5.1
                     KENAI PENINSULA, ALASKA

AUG 02  MNV   eP     01 00 11.0
        PRI   eP     01 00 12.0
        JAS   eP     01 00 19.0
        BKS   eP     01 00 30    06 06       PP 01 56     Lq 00 58     Lr 13 50
                          MICRON    PERIOD
                LZ        2.5       20
                LN        6         20
                LE        5         20
        ORV   eP     01 00 33.6
        WDC   eP     01 00 44.0
                Ms=5.5, DISTANCE=35°
                USGS 00 53 40.8, 14.5N,  92.9W, h= 50 km, mb=4.8, Ms=5.1
                     NEAR COAST OF CHIAPAS, MEXICO

AUG 02  FRI   iPe    01 16 05.8  16 16
        JAS   iPe    01 16 13.4                  i 16 29
        LLA   iPe    01 16 23.7  16 49
        PRI   iPd    01 16 25.7
        SAO   iPe    01 16 28.1
        MHC   iPd    01 16 28.7
        PRS   iPd    01 16 30.2
        PCC   eP     01 16 35.9
                BRK  01 15 50.0, 37.5N, 118.9W, h= 24 km, ML=3.6
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 02  WDC   eP     07 01 53.4
        ORV   eP     07 01 54.8
        JAS   eP     07 01 56.8
                USGS 06 49 25.9, 11.1S, 165.4E, h= 33 km, mb=5.0, Ms=5.3
                     SANTA CRUZ ISLANDS

AUG 02  FHC   eP     07 13 49.0                  e 13 59
        WDC   iP     07 13 57.0                  i 14 06
        MIN          07 14                       e 14 12
        ORV   eP     07 14 06.5                  i 14 16     i 14 26
        BKS          07 14       19 52           e 14 22     Lq 22 12     Lr 23 54
        MHC   eP     07 14 18.6                  e 14 28
        JAS   eP     07 14 22.0                  i 14 31
        FRI          07 14                       e 14 40
        PRI          07 14                       e 14 45
                USGS 07 07 17.3, 52.1N, 169.4W, h= 33 km, mb=5.3, Ms=5.2
                     FOX ISLANDS, ALEUTIAN ISLANDS

AUG 02  ORV   eP     09 19 25.0
        JAS   eP     09 19 25.0
        WDC   eP     09 19 25.9
                USGS 09 06 59.3, 27.8S, 176.1W, h= 60 km, mb=4.7
                     KERMADEC ISLANDS REGION

AUG 02  FHC   eP     15 59 50.0
        BKS   ePd    15 59 51.0  10 10       PPS 11 14    SS 15 20     Lq 21 28
                                                Lr 25 40
                          MICRON    PERIOD
                LN        13        20
                LE        3.0       20
        SAO   eP     15 59 52.2
        MHC   eP     15 59 52.8
        WDC   iPd    15 59 54.5
        PRI   eP     15 59 55.0
        ORV   iPd    15 59 56.2
        MIN   eP     15 59 57.2
        JAS   iPd    15 59 57.8
        FRI   eP     15 59 58.4
                Ms=6.3, DISTANCE=82°
                USGS 15 47 26.1, 11.1S, 165.4E, h= 33 km, mb=5.7, Ms=6.3
                     SANTA CRUZ ISLANDS

AUG 02  WKC   iPe    16 10 27.8
        BKS   eP     16 10 33.0
        MHC   eP     16 10 34.7
        WDC   iPe    16 10 36.6
        PRI   eP     16 10 37.0
        ORV   iP     16 10 38.4
        MIN   eP     16 10 39.2
        JAS   iPe    16 10 40.0
        FRI          16 10                       e 10 40
                USGS 15 58 07.4, 11.1S, 165.3E, h= 33 km, mb=5.3
                     SANTA CRUZ ISLANDS

AUG 02  FRI   iPe    17 09 59.5  10 10
        MNV   eP     17 10 02.4
        JAS   iPe    17 10 06.7
        LLA   iPe    17 10 17.2
        PRI   eP     17 10 18.9
        SAO   iPe    17 10 21.6
        MHC   iPe    17 10 22.0
        PRS   iPe    17 10 23.6
        GCC   eP     17 10 26.0
        BKS   eP     17 10 28.7  11 03
        PCC   eP     17 10 29.9
        ORV   iPe    17 10 30.3
                BRK  17 09 43.0, 37.6N, 118.9W, h=  9 km, ML=3.9
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 02  FHC   iPe    23 16 12.4  16 35
        WKC   iP     23 16 14.4  16 38
        WDC   iPe    23 16 27.8                  i 17 01
        MIN   eP     23 16 39.1
        ORV   iPd    23 16 44.2
                BRK  23 15 43.5, 41.8N, 125.8W, h=  8 km, ML=4.0
                     OFF COAST WEST OF CRESCENT CITY, CALIFORNIA

AUG 03  SAO   iPd    02 56 50.3
        GCC   iPe    02 56 54.4
        MHC   iPd    02 56 57.7  57 04
        PRS   iPd    02 56 58.0  57 05
        LLA   iPe    02 56 58.8
        PCC   eP     02 57 03.8
        PRI   eP     02 57 07.6
        BKS   eP     02 57 09.3  57 25
        JAS   iPe    02 57 13.8
                BRK  02 56 47.2, 36.8N, 121.6W, h=  4 km, ML=2.9
                     WEST OF HOLLISTER, CALIFORNIA

AUG 03  PRI   eP     03 13 12.6
        BRK   eP     03 13 22.8
        ORV   iPd    03 13 27.0                  pP 14 04
        MIN   eP     03 13 29.4                  pP 14 07
        WDC   eP     03 13 31.4                  e 14 09
                USGS 03 00 49.7, 35.3S,  70.0W, h=151 km, mb=5.3
                     CHILE-ARGENTINA BORDER REGION

AUG 03  FRI   iPe    07 32 58.4  33 10
        JAS   iPe    07 33 05.7
        LLA   iPe    07 33 15.9                  i 33 42
        PRI   ePe    07 33 17.5
        SAO   iPe    07 33 20.3
        MHC   e(P)   07 33 21
        PRS   ePe    07 33 22.3
        GCC   ePd    07 33 24.7
        BKS   eP     07 33 27.8  34 03
        PCC   ePe    07 33 28.0
        ORV   eP     07 33 28.7
        MIN   e(P)   07 33 39
                BRK  07 32 42.1, 37.5N, 118.9W, h= 21 km, ML=3.7
                     MAMMOTH LAKES AREA, CALIFORNIA

AUG 03  FHC   iPe    08 24 34.0                  i 24 59
        WDC   iPe    08 24 48.7  25 28
        MIN   ePe    08 24 58.8                  e 25 44
        ORV   ePe    08 25 06.4  25 58           i 25 08
        BRK          08 25                       e 25 20
        MHC   e(P)   08 25 29
        JAS   ePe    08 25 33.9                  i 25 35
        SAO          08 25                       e 25 35
        PRI   e(P)   08 25 46
        FRI          08 25                       e 25 49
                USGS 08 24 02.0, 42.4N, 125.7W, h= 15 km, mb=4.5, Ms=3.2
                     OFF COAST OF OREGON
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AUG 03  FHC   ePd   09 05 00.3
        WDC   ePd   09 05 15.0                 i 05 50       i 05 55
        MIN   e(P)  09 05 25
        ORV   e(P)  09 05 33                   i 05 38       i 06 25
        MHC         09 05                      e 05 53
        JAS         09 05                      e 05 59
                    USGS 09 04 23.4, 42.3N, 126.2W, h= 15 km, mb=4.5
                         OFF COAST OF OREGON

AUG 03  PRI   e(P)  13 54 06
        JAS   ePe   13 54 15.5
        BRK         13 54                      e 54 18
        ORV   eP    13 54 27.4
        MIN         13 54                      e 54 30
        WDC   ePe   13 54 32.2
                    USGS 13 42 35.4, 35.6S, 104.6W, h= 10 km, mb=5.1, Ms=4.8
                         SOUTHERN PACIFIC OCEAN

AUG 03  FHC         14 43                      e 43 29
        WDC   ePe   14 43 43.8                e 44 22
        MIN         14 43                      e 43 56
        ORV   ePe   14 44 02.9                e 44 48       i 44 54
        MHC   e(P)  14 44 24
        JAS   e(P)  14 44 28
                    USGS 14 43 04.2, 42.5N, 124.6W, h= 15 km, mb=4.5
                         NEAR COAST OF OREGON

AUG 03  BKS   eP    15 37 22
        SAO   eP    15 37 22
        MHC   eP    15 37 23.5
        PRI   ePe   15 37 25.6
        ORV   ePe   15 37 26.9
        MIN   eP    15 37 28.0
        JAS   ePe   15 37 28.6
        FRI   ePe   15 37 29.9
        MNV   eP    15 37 38.0
                    USGS 15 24 57.5, 10.9S, 165.4E, h= 33 km, mb=5.1
                         SANTA CRUZ ISLANDS

AUG 04  FRI   eP    00 28 56
        PRI   ePe   00 28 56.4                e 29 05
        JAS   ePe   00 29 04.5                e 29 12
        MHC   ePe   00 29 08.4                e 29 16
        BKS   eP    00 29 16    35 16      Lq 37 46
                         MICRON    PERIOD
                    LN     2.1       20
                    LE     3.4       20
        ORV   ePe   00 29 18.4                e 29 27
        MIN   ePe   00 29 23.8                e 29 32
        WDC   ePe   00 29 28                  e 29 36
        FHC   eP    00 29 39.3
                    Ms=5.1, DISTANCE=32°
                    USGS 00 22 50.9, 16.3N,  95.7W, h= 33 km, mb=5.1, Ms=4.9
                         OAXACA, MEXICO

AUG 04  BRK   ePe   04 17 27.3
        SAO   eP    04 17 27.5
        MHC   ePe   04 17 28.8
        PRI   ePe   04 17 29.6
        WDC   ePe   04 17 32.7
        ORV   iPe   04 17 33.6
        JAS   ePe   04 17 33.7
        FRI   eP    04 17 34.2
        MIN   eP    04 17 34.8
                    USGS 04 05 04.3, 19.1S, 169.0E, h=159 km, mb=5.0
                         VANUATU ISLANDS

AUG 04  WDC   eP    09 41 29                   e 42 02       e 42 22
        MIN         09 41                      e 41 55
        ORV   eP    09 42 01                   e 42 51
        MHC         09 42                      e 42 21
        JAS         09 42                      e 42 27
                    USGS 09 40 44.7, 42.3N, 126.9W, h= 15 km, mb=4.4
                         OFF COAST OF OREGON

AUG 06  FRI   iPe   10 51 35.8  51 48
        MNV   iPe   10 51 40.7  51 56
        JAS   iPe   10 51 44.6
        LLA   iPe   10 51 54.0
        PRI   eP    10 51 55.2
        SAO   iP    10 51 58.5
        MHC   iPe   10 51 59.5
        PRS   iPe   10 52 00.2
        BKS   eP    10 52 05.5
        PCC   eP    10 52 06.7
                    BRK  10 51 20.2, 37.5N, 118.8W, h=  9 km, ML=3.5
                         MAMMOTH LAKES AREA, CALIFORNIA

AUG 06  WDC   iPe   10 55 32.5
        MIN   eP    10 55 36.7
        ORV   iPe   10 55 40.2
        BKS   eP    10 55 44.8
        MHC   eP    10 55 49.2
        JAS   iPe   10 55 51.7
        PRI   eP    10 55 58.3
        MNV   eP    10 55 58.9
                    USGS 10 45 27.9, 45.8N, 149.1E, h=129 km, mb=5.2
                         KURIL ISLANDS

AUG 06  PRI   eP    15 44 23.5
        PRI   e(P)  15 44 24
        JAS   eP    15 44 37.9
        MHC   e(P)  15 44 39
        ORV   e(P)  15 44 54
        WDC         15 45                      e 45 10
                    USGS 15 39 43.6, 19.8N, 105.0W, h= 84 km, mb=4.5
                         NEAR COAST OF JALISCO, MEXICO

AUG 08  FRI   iPe   02 14 54.3  15 05
        MNV   eP    02 14 58.4
        JAS   iPe   02 15 01.5
        LLA   iPe   02 15 12.2  15 38
        PRI   eP    02 15 14.6
        MHC   eP    02 15 16.9
        PRS   eP    02 15 18.7
        GCC   eP    02 15 20.9
        BKS   eP    02 15 23.7  15 57
                    BRK  02 14 38.2, 37.5N, 118.9W, h=  5 km, ML=3.8
                         MAMMOTH LAKES AREA, CALIFORNIA

AUG 08  FRI   iPe   08 17 14.5  17 26
        MNV   iPe   08 17 18.8
        JAS   iPe   08 17 21.5
        LLA   iPe   08 17 32.4  17 55
        PRI   eP    08 17 34.7
        SAO   eP    08 17 36.6
        MHC   eP    08 17 37.0
        PRS   iPe   08 17 39.0
        BKS   eP    08 17 44.0  18 16
        PCC   eP    08 17 45.0
                    BRK  08 16 58.5, 37.6N, 118.9W, h=  4 km, ML=3.5
                         MAMMOTH LAKES AREA, CALIFORNIA

AUG 08  FRI   iPe   08 25 17.1  25 28
        MNV   iPe   08 25 21.4
        JAS   iPe   08 25 24.1
        LLA   iPe   08 25 35.0  26 00
        PRI   eP    08 25 37.3
        SAO   eP    08 25 39.3
        MHC   eP    08 25 39.7
        PRS   iPe   08 25 41.5
        BKS   eP    08 25 45.8  26 20
                    BRK  08 25 01.3, 37.6N, 118.9W, h=  4 km, ML=3.5
                         MAMMOTH LAKES AREA, CALIFORNIA

AUG 08  WKC   iP    09 20 21.3  20 28
        FHC   iPe   09 20 26.8  20 37       i 20 41
        WDC   iPe   09 20 40.8
        MIN   ePe   09 20 51.1
        ORV   ePe   09 20 53.3
        BKS   e(P)  09 20 58
        PCC   eP    09 21 02.8
        MHC   ePe   09 21 10.4
        GCC   eP    09 21 10.7
        SAO   eP    09 21 16.7
        PRS   eP    09 21 20.3
        LLA   eP    09 21 20.3
                    BRK  09 20 13.0, 40.4N, 124.8W, h= 24 km, ML=3.7
                         OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

AUG 09  FHC   ePe   05 32 56.0
        WDC   eP    05 33 10.8
        MIN   eP    05 33 20.4
        ORV   iPe   05 33 28.5
        JAS   ePe   05 33 52.3
        FRI   eP    05 34 08
        MHC   eP    05 34 49
                    USGS 05 31 53.3, 43.8N, 127.8W, h= 15 km, mb=4.6
                         OFF COAST OF OREGON

AUG 09  MNV   ePd   05 51 58.0
        FRI   eP    05 51 59.0
        PRI   eP    05 52 02.3
        JAS   eP    05 52 08.1                 e 54 38       e 58 24
        SAO   e(P)  05 52 11
        MHC   ePd   05 52 13.5
        BKS   ePe   05 52 20.0  58 07       PP 53 48     Lq 01 00     Lr 03 00
                         MICRON    PERIOD
                    PZ     0.08      1.0
                    LZ      110       20
                    LNE     140       20
                    LNW     120       20
        ORV   eP    05 52 21.5                 e 58 30
        MIN   ePd   05 52 24.9
        WDC   eP    05 52 28.5                 e 54 19       e 58 33
        FHC   eP    05 52 40.6
                    Ms=6.7, DISTANCE=36°
                    USGS 05 45 09.5, 15.9N,  88.5W, h= 22 km, mb=6.1, Ms=6.4
                         HONDURAS

AUG 09  FRI   iPe   23 26 19.7  26 31
        MNV   iPe   23 26 23.0                i 26 36
        JAS   iPe   23 26 27.3  26 44
        LLA   ePe   23 26 37.4                e 26 59
        PRI   ePe   23 26 38.9
        SAO   iPe   23 26 41.8
        MHC   ePe   23 26 42.3
        PRS   ePe   23 26 43.7
        GCC   ePe   23 26 46.0
        BKS   eP    23 26 48.5  27 23
        PCC   ePe   23 26 49.6
        ORV   eP    23 26 50.8
                    BRK  23 26 03.4, 37.5N, 118.9W, h= 12 km,  ML=3.7
                         MAMMOTH LAKES AREA, CALIFORNIA

AUG 10  BKS         02 42                      e 42 19     Lq 04 00     Lr 07 00
                         MICRON    PERIOD
                    LZ     0.7       20
                    LN     0.5       20
                    LE     0.7       20
        WDC   ePe   02 42 19.0
        ORV   eP    02 42 19.6
        MIN   eP    02 42 21.5
        JAS   e(P)  02 42 22
                    USGS 02 29 48.7, 11.0S, 165.3E, h= 33 km, mb=5.1, Ms=5.1
                         SANTA CRUZ ISLANDS

AUG 10  FRI   iPe   04 43 20.6  43 32
        MNV   iPe   04 43 24.0                i 43 39
        JAS   ePe   04 43 28.2  43 45        i 43 43
        LLA   ePe   04 43 38.2
        PRI   ePe   04 43 39.6
        SAO   ePe   04 43 42.3
        MHC   eP    04 43 43.1
        PRS   ePe   04 43 44.3
        GCC   eP    04 43 47.1
        BKS   ePe   04 43 49.5  43 23
        PCC   eP    04 43 50.4
                    BRK  04 43 04.3, 37.5N, 118.9W, h= 11 km, ML=3.5
                         MAMMOTH LAKES AREA, CALIFORNIA

AUG 10  MHC   eP    05 04 50.5
        WDC   ePd   05 04 52.5
        PRI   e(P)  05 04 54
        ORV   eP    05 04 54.1
        JAS   eP    05 04 55.7
        MIN   eP    05 04 56.2
        MNV   e(P)  05 05 05
                    USGS 04 52 24.4, 11.2S, 165.4E, h= 33 km, mb=5.0, Ms=4.6
                         SANTA CRUZ ISLANDS

AUG 10  PRI   eP    10 13 46
        MHC   eP    10 13 46.9
        FRI   eP    10 13 51
        JAS   ePe   10 13 51.8
        ORV   ePe   10 13 53.9
        WDC   ePe   10 13 54.9
        MIN   eP    10 13 56.0
                    USGS 10 01 10.9, 30.1S, 178.2W, h= 33 km, mb=5.1
                         KERMADEC ISLANDS

AUG 10  FHC   eP    10 46 52.6
        WDC   ePd   10 46 58.3
        MIN   ePd   10 47 01.9
        BRK   ePd   10 47 03.2
        ORV   iPd   10 47 03.5
        MHC   eP    10 47 06.7
        JAS   ePd   10 47 10.3
        PRI   e(P)  10 47 13
        FRI   ePd   10 47 14.4
        MNV   eP    10 47 18.3
                    USGS 10 35 16.8, 18.2N, 145.4E, h=264 km, mb=4.8
                         MARIANA ISLANDS

AUG 11  MNV   e(P)  19 51 56
        FRI         19 51                      e 52 06
        PRI   eP    19 51 58.2                 e 52 06
        MHC   eP    19 52 07
        BKS         19 52       01 20       SS 06 00
                         MICRON    PERIOD
                    LZ     0.9       20
                    LN     0.5       20
                    LE     0.9       20
        ORV   iP    19 52 15.5                 i 52 23
        MIN         19 52                      e 52 20
        WDC   eP    19 52 21.1                 e 52 29
        FHC   eP    19 52 30                   e 52 38
                    USGS 19 41 05.8, 15.5S,  75.2W, h= 33 km, mb=5.1, Ms=5.1
                         NEAR COAST OF PERU

AUG 13  FRI   eP    04 31 56.1                 pP 34 16
        JAS   iPe   04 31 56.6                 pP 34 16
        ORV   iPe   04 31 58.2                 pP 34 17
        WDC   iPe   04 31 58.4                 pP 34 17
        MIN   eP    04 31 59.9                 pP 34 19
        MNV   eP    04 32 05.7                 pP 34 25
                    USGS 04 20 46.7, 21.6S, 179.2W, h=655 km, mb=4.8
                         FIJI ISLANDS REGION

AUG 13  WDC   eP    11 44 30.0                 i 44 58
        ORV   iPe   11 44 38.0                 i 45 06
        JAS   iPe   11 44 50.5                 e 45 19
                    USGS 11 35 02.0, 50.2N, 154.9E, h=119 km, mb=4.8
                         KURIL ISLANDS
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AUG 13  JAS   eP     20 58 19.8                  e 58 28
        PRI   eP     20 58 22.3                  e 58 30
        ORV   eP     20 58 23.6                  e 58 31
        MHC   eP     20 58 26.0                  e 58 34
        BKS          20 58                       e 07 54      Lq 19 00     Lr 24 00
                                  MICRON    PERIOD
                             LZ     0.9       20
                             LN     1.2       20
                             LE     0.9       20
        WDC   eP     20 58 26.2                  e 58 34
              USGS 20 46 22.0,  8.8N,  39.9W, h= 10 km, mb=5.1, Ms=5.2
                   CENTRAL MID-ATLANTIC RIDGE

AUG 14  FRI   iPe    14 22 05.0  22 16
        JAS   iPd    14 22 11.2  22 28
        LLA   iPe    14 22 22.3                  i 22 48
        PRI   ePe    14 22 24.3
        SAO   ePe    14 22 26.6
        MHC   ePe    14 22 26.7
        PRS   ePe    14 22 28.7
        GCC   ePe    14 22 30.8
        BKS   iPd    14 22 33.0  23 08
        PCC   e(P)   14 22 34
        ORV   e(P)   14 22 34
              BRK  14 21 48.1, 37.6N, 118.9W, h= 10 km, ML=3.7
                   MAMMOTH LAKES AREA, CALIFORNIA

AUG 14  WDC   iPe    21 18 58.3
        ORV   iPe    21 19 04.9
        BKS   iPd    21 19 08.1
                                  MICRON    PERIOD
                             PZ     0.07      1.0
        JAS   eP     21 19 14.3
              USGS 21 07 33.5, 34.7N, 139.6E, h=103 km, mb=5.0
                   NEAR S. COAST OF HONSHU, JAPAN

AUG 15  ORV   iPe    04 25 51.0
        MIN   iPe    04 25 57.7  26 15
        JAS   iPd    04 26 02.2  26 23
        WDC   iPe    04 26 09.4  26 34
              BRK  04 25 34.5, 39.5N, 120.3W, h= 10 km, ML=3.3
                   NORTHWEST OF TRUCKEE, CALIFORNIA

AUG 15  FRI   iPe    13 50 38.2  50 50
        JAS   iPe    13 50 46.4
        LLA   eP     13 50 56.2  51 21
        PRI   eP     13 50 58.3
        SAO   eP     13 51 00.8
        MHC   eP     13 51 01.4
        PRS   eP     13 51 03.0
              BRK  13 50 21.5, 37.5N, 118.8W, h=  8 km, ML=3.5
                   MAMMOTH LAKES AREA, CALIFORNIA

AUG 15  MNV   eP     21 39 36.1
        FRI   eP     21 39 39.0
        PRI   eP     21 39 42.7
        JAS   eP     21 39 46.5                  PcP 40 54
        SAO   eP     21 39 48.0
        MHC   eP     21 39 51.9
        BKS   eP     21 39 56.5
                                  MICRON    PERIOD
                             PZ     0.11      0.7
        ORV   ePe    21 39 56.9
        MIN   eP     21 39 59.7
        WDC   eP     21 40 02.5
        FHC   eP     21 40 13.3
              USGS 21 30 45.7,  6.8N,  73.0W, h=161 km, mb=5.1
                   NORTHERN COLOMBIA

AUG 15  WDC   ePe    22 35 39.6
        ORV   iPe    22 35 57.5
        BKS          22 35                       e 40 10
        JAS   ePe    22 36 20.5
              USGS 22 34 03.9, 44.4N, 129.5W, h= 15 km, mb=4.7, Ms=3.7
                   OFF COAST OF OREGON

AUG 16  FRI   iPe    21 46 48.6  47 00
        MNV   ePe    21 46 54.0
        JAS   iPd    21 46 57.9  47 14
        LLA   ePe    21 47 06.4  47 32
        PRI   ePe    21 47 07.8
        SAO   iPe    21 47 11.2
        MHC   ePe    21 47 12.3
        PRS   ePe    21 47 12.7
        BKS   e(P)   21 47 18                    e 47 55
        PCC   ePe    21 47 19.5
              BRK  21 46 33.2, 37.4N, 118.8W, h= 12 km, ML=3.7
                   MAMMOTH LAKES AREA, CALIFORNIA

AUG 17  PRI   eP     23 07 10.0
        JAS   eP     23 07 18.7
        ORV   eP     23 07 27.0
        WDC   eP     23 07 34.4
              USGS 22 55 34.8, 36.0S, 104.3W, h= 10 km, mb=4.5
                   SOUTHERN PACIFIC OCEAN

AUG 18  FRI   eP     15 17 09.0
        MNV   eP     15 17 10.0
        PRI   eP     15 17 10.8
        JAS   iPd    15 17 17.3
        MHC   eP     15 17 20.9
        BKS   ePd    15 17 25.3  25 18       e 17 43     e 17 57     e 18 24
                                              PP 19 32    PPP 20 48   e 22 16
                                              ScS 27 06   SS 29 36    Lr 35 00
                                  MICRON    PERIOD
                             PZ     0.44      1.7
                             LZ     5         20
                             LN     2.0       20
                             LE     4.4       20
        ORV   iP     15 17 29.5
        MIN   eP     15 17 32.5
        WDC   iPd    15 17 36.0
              Ms=5.6, DISTANCE=57°
              USGS 15 07 52.6,  1.9S,  80.0W, h= 55 km, mb=5.6
                   NEAR COAST OF ECUADOR

AUG 18  PRI          17 50                       e 50 47
        BKS          17 50                       e 51 06
        MHC          17 50                       e 50 47     e 51 05
        FRI          17 50                       e 50 51
        JAS   eP     17 50 52.6                  i 51 10
        ORV   eP     17 50 54.8
        WDC   eP     17 50 55.9                  i 51 13
        MNV          17 51                       e 51 19
              USGS 17 38 11.4, 30.0S, 178.1W, h= 33 km, mb=5.3, Ms=4.6
                   KERMADEC ISLANDS

AUG 19  FRI   iPe    06 45 43.9
        MNV   iPe    06 45 45.2
        JAS   iPe    06 45 50.4
        LLA   iPe    06 46 01.5
        PRI   iPe    06 46 03.4
        SAO   iPe    06 46 05.8
        MHC   iP     06 46 06.0
        PRS   iPe    06 46 07.9
        GCC   eP     06 46 10.0
        BKS   iPe    06 46 12.2                  e 46 18     e 46 41     e 46 47
        PCC   eP     06 46 13.1
        ORV   iPd    06 46 14.0
              BRK  06 45 26.6, 37.6N, 118.9W, h=  9 km, ML=4.2
                   MAMMOTH LAKES AREA, CALIFORNIA

AUG 19  WDC   eP     21 15 03.2
        ORV   ePe    21 15 06.5
        BKS          21 15                       e 48 16
                                  MICRON    PERIOD
                             LZ     1.8       20
                             LN     1.3       20
                             LE     1.5       20
        JAS   eP     21 15 10.8
              USGS 21 01 29.0,  3.6S, 140.0E, h= 33 km, mb=5.8, Ms=5.6
                   WEST IRIAN

AUG 20  BRK   eP     04 56 06.1
        PRI   ePe    04 56 06.5
        MHC   eP     04 56 06.8
        JAS   ePe    04 56 13.0
        ORV   ePe    04 56 14.8
        WDC   ePe    04 56 15.3
        MIN   ePe    04 56 17.3
              USGS 04 44 47.1, 16.0S, 172.6W, h= 33 km, mb=4.8
                   SAMOA ISLANDS REGION

AUG 20  FRI   iPe    05 29 16.5  29 27
        MNV   iPe    05 29 20.6
        JAS   iPe    05 29 24.0  29 41
        LLA   iPe    05 29 34.4  30 00
        PRI   ePe    05 29 35.8  30 04
        SAO   iPe    05 29 38.9
        MHC   ePe    05 29 39.3
        PRS   ePe    05 29 40.9
        GCC   eP     05 29 43
        BKS   ePe    05 29 45.6                  e 29 57     e 30 19     e 30 32
        PCC   ePe    05 29 46.5
              BRK  05 29 00.5, 37.5N, 118.9W, h=  9 km, ML=3.8
                   MAMMOTH LAKES AREA, CALIFORNIA

AUG 20  MIN   eP     14 35 25.9
        WDC   eP     14 35 27.0
        ORV   ePd    14 35 30.8                  e 35 40
        WKC   eP     14 35 35.4
        JAS   eP     14 35 37.5
        BKS   e(P)   14 35 44
                                  MICRON    PERIOD
                             LZ     1.2       20
                             LN     1.1       21
                             LE     0.8       20
        MHC   eP     14 35 45.8
        PRI   eP     14 35 50.5
              USGS 14 25 34.7, 62.7N,  25.4W, h= 10 km, mb=4.8, Ms=4.6
                   ICELAND REGION

AUG 20  WDC   eP     15 15 52.9
        ORV   eP     15 15 55.5
        JAS   eP     15 16 02
        MHC          15 16                       e 16 11
        PRI   eP     15 16 14.5
              USGS 15 05 58.1, 63.0N,  25.1W, h= 10 km, mb=4.5, Ms=4.6
                   ICELAND REGION

AUG 21  WKC   eP     08 29 45
        WDC   ePe    08 29 50.0
        MIN   eP     08 29 53.1
        BRK   eP     08 29 54
        ORV   ePe    08 29 54.5
        MHC   eP     08 29 57
        JAS   eP     08 30 00.5
        PRI   eP     08 30 02.7
        FRI   e(P)   08 30 04
              USGS 08 17 09.1, 11.8N, 142.0E, h= 35 km, mb=4.9
                   SOUTH OF MARIANA ISLANDS

AUG 21  BKS   e(PKP) 12 27 20                    e 34 49     e 37 32     e 40 07
                                              SKSP 42 27    e 45 26     e 50 09
                                              SS 52 26    SSS 59 00     Lq 15 00
                                              Lr 23 32
                                  MICRON    PERIOD
                             LZ     8.9       20
                             LN     5.5       20
                             LE     8.0       20
        WDC   ePKP   12 27 20.5                  e 28 15     e 29 11     e 30 44
                                                  e 32 01
        MHC   ePKP   12 27 24.3
        ORV   ePKP   12 27 24.9                  e 28 13     e 29 09     e 30 50
                                                  e 32 06
        PRI   ePKP   12 27 25
        JAS   ePKP   12 27 25.8                  e 28 12
        FRI   ePKP   12 27 26.5
        MNV   ePKP   12 27 34
              Ms=6.8, DISTANCE=163°
              USGS 12 07 20.1, 41.3S,  80.5E, h= 10 km, mb=5.6, Ms=6.3
                   MID-INDIAN RISE

AUG 21  MHC   iPd    19 59 48.8
        GCC   iPd    19 59 54.2
        SAO   iPd    19 59 57.4
        PCC   iPe    19 59 58.8  00 07
        BKS   iPe    20 00 01.8  00 14
        LLA   eP     20 00 02.7
        PRS   eP     20 00 04.5
        JAS   iPe    20 00 08.0  00 22          i 00 14
        FRI   iP     20 00 13.9
              BRK  19 59 46.8, 37.3N, 121.6W, h=  8 km, ML=3.1
                   EAST-SOUTHEAST OF SAN JOSE, CALIFORNIA

AUG 21  WDC   ePKP   22 30 36.3
        ORV   ePKP   22 30 38.9
        MNV   ePKP   22 30 39.6
        FRI          22 30                       e 30 41
        MHC          22 30                       e 30 41
        SAO          22 30                       e 30 42
        PRI   ePKP   22 30 44.3
              USGS 22 11 03.3,  2.0S,  68.1E, h= 10 km, mb=5.3, Ms=5.5
                   CARLSBERG RIDGE

AUG 23  FHC   eP     00 51 54.8
        WDC   iPd    00 52 02.8
        MIN   ePd    00 52 08.7
        ORV   iPd    00 52 13.4
        BKS   ePd    00 52 20.5                  e 52 31     e 54 16     e 55 50
                                                  Lr 00 16
                                  MICRON    PERIOD
                             PZ     0.04      0.7
                             LZ     1.4       20
                             LN     1.6       20
                             LE     1.6       20
        MHC   eP     00 52 27.1
        JAS   iPd    00 52 29.5
        FRI   e(P)   00 52 39
        PRI   e(P)   00 52 40
              Ms=4.8, DISTANCE=31°
              USGS 00 45 54.8, 55.0N, 160.4W, h= 38 km, mb=5.3, Ms=4.4
                   ALASKA PENINSULA

AUG 23  MNV   e(P)   01 43 17
        FRI   eP     01 43 18.5
        PRI   eP     01 43 23.2
        SAO          01 43                       e 43 30
        JAS   ePd    01 43 27.9
        MHC   eP     01 43 32.8
        ORV   eP     01 43 38.4
        WDC   e(P)   01 43 44
        FHC   e(P)   01 43 55
              USGS 01 34 43.5,  8.0N,  77.7W, h= 33 km, mb=5.0
                   PANAMA-COLOMBIA BORDER REGION

AUG 23  MNV   eP     18 36 19.3
        FRI   eP     18 36 20.0
        PRI   eP     18 36 23.0
        JAS   eP     18 36 28.5
        MHC   eP     18 36 33.2
        BKS   eP     18 36 38.5
                                  MICRON    PERIOD
                             PZ     0.03      0.8
        ORV   eP     18 36 42.3
        MIN   eP     18 36 44.5
        WDC   eP     18 36 48.5
        FHC   eP     18 37 00.0
              USGS 18 28 44.8, 11.0N,  85.6W, h= 33 km, mb=4.9, Ms=3.9
                   NICARAGUA
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AUG 24  MNV   e(P)   01 01 20
        FRI   eP     01 01 22.0
        PRI   eP     01 01 25.3
        JAS   eP     01 01 30
        MHC   eP     01 01 35.0
        BKS   e(P)   01 01 37                          e 17 00
                                 MICRON    PERIOD
                           LZ      0.9       20
                           LN      0.9       20
                           LE      1.6       20
        ORV   eP     01 01 41.5
        WDC   eP     01 01 47.4
        FHC   eP     01 01 59.6
                     USGS 00 52 46.7,  7.9N,  77.8W, h= 33 km, mb=5.2, Ms=4.4
                          PANAMA-COLOMBIA BORDER REGION

AUG 24  MHC   iPe    12 41 22.4
        PCC   iPd    12 41 28.6
        BKS   iPe    12 41 28.7  41 37
        GCC   iPd    12 41 29.2
        SAO   iPd    12 41 33.7
        JAS   iPd    12 41 36.4
        LLA   ePe    12 41 37.9
        PRS   ePd    12 41 40.3
        PRI   eP     12 41 46.1
        FRI   ePe    12 41 46.5
        ORV   eP     12 41 50
        WDC   eP     12 42 04.6
                     BRK  12 41 17.8, 37.6N, 121.7W, h=  5 km, ML=4.0
                          SOUTH-SOUTHEAST OF LIVERMORE, CALIFORNIA

AUG 24  WKC   iPe    16 18 33.3  18 40
        FHC   iPd    16 18 38.6  18 50
        WDC   iPe    16 18 51.1
        MIN   iPe    16 19 01.0
        ORV   ePe    16 19 04.0
        PCC   eP     16 19 17.1
        MHC   eP     16 19 24.3
        GCC   eP     16 19 26.2
                     BRK  16 18 24.0, 40.4N, 124.9W, h= 20 km, ML=3.3
                          OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

AUG 24  SAO   eP     20 21 22.0
        BKS   eP     20 21 23.4  30 42      PP 24 15      SS 35 04      Lq 39 06
                                             e 41 50      Lr 42 00
                                 MICRON    PERIOD
                           PZ      0.20      0.7
                           LZ        24        20
                           LN        15        20
                           LE        18        20
        PRI   ePe    20 21 23.8
        MHC   ePe    20 21 24.0
        FHC   ePe    20 21 28.3
        FRI   eP     20 21 29.8
        JAS   iPe    20 21 30.3                e 21 41
        ORV   iPe    20 21 31.7
        WDC   iPe    20 21 32.0                e 21 43
        MIN   eP     20 21 34.0
        MNV   eP     20 21 40.8
                     Ms=6.4, DISTANCE=70°
                     USGS 20 10 04.2, 15.2S, 173.7W, h= 39 km, mb=6.0, Ms=6.2
                          TONGA ISLANDS

AUG 25  ORV   iPe    15 58 58.8
        MIN   iPe    15 59 00.5  59 16
        WDC   iPe    15 59 12.9  59 38
        JAS   iPe    15 59 13.8  59 40
        MNV   iPe    15 59 16.1  59 44
        BKS   eP     15 59 24.8
                     BRK  15 58 37.6, 39.9N, 120.1W, h=  2 km, ML=3.4
                          NORTH OF TRUCKEE, CALIFORNIA

AUG 27  MHC   iPe    15 58 57.8  59 02
        BRK   ePe    15 59 04.1
        PCC   iPd    15 59 04.1
        GCC   ePd    15 59 04.6
        SAO   iPe    15 59 09.2
        JAS   ePd    15 59 11.7
        LLA   eP     15 59 13.4
                     BRK  15 58 53.1, 37.6N, 121.7W, h=  4 km, ML=2.6
                          SOUTH-SOUTHEAST OF LIVERMORE, CALIFORNIA

AUG 29  WDC   eP     07 53 40.3
        MIN   eP     07 53 43.8
        ORV   iPd    07 53 45.5
        JAS   eP     07 53 52.6
        FRI   eP     07 53 57.2
                     USGS 07 41 50.0, 19.5N, 145.2E, h=151 km, mb=4.7
                          MARIANA ISLANDS

AUG 29  JAS   eP     10 51 05.0
        MHC   eP     10 51 05.2
        ORV   eP     10 51 13.2
        WDC   eP     10 51 17.5
                     USGS 10 38 13.7, 39.7S,  73.1W, h= 34 km, mb=5.4, Ms=4.7
                          NEAR COAST OF CENTRAL CHILE

AUG 30  MHC   iPd    03 23 06.3  23 10
        PCC   iPe    03 23 12.5
        BKS   iPe    03 23 12.8  23 21
        SAO   iPe    03 23 17.7
        JAS   iPd    03 23 20.3  23 34
        LLA   eP     03 23 21.7
        FRI   eP     03 23 30.2
                     BRK  03 23 01.5, 37.6N, 121.6W, h=  5 km, ML=2.5
                          SOUTH-SOUTHEAST OF LIVERMORE, CALIFORNIA

AUG 30  MHC   eP     09 53 27.0
        JAS   eP     09 53 33.0
        ORV   eP     09 53 34.3
        WDC   eP     09 53 34.6
        MIN   eP     09 53 36.3
        MNV   eP     09 53 43.0
                     USGS 09 42 04.4, 15.3S, 174.0W, h= 33 km, mb=4.7, Ms=5.0
                          TONGA ISLANDS

AUG 30  FRI   iPe    10 53 46.5  53 59
        MNV   iPd    10 53 46.8
        JAS   iPe    10 53 53.7
        LLA   iPe    10 54 04.2  54 32
        PRI   iPd    10 54 06.3
        SAO   ePe    10 54 08.9
        MHC   ePe    10 54 08.9
        PRS   eP     10 54 10.3
        GCC   eP     10 54 13.2
        BKS   iPe    10 54 15.2  54 46      i 54 20
        PCC   eP     10 54 16.3
                     BRK  10 53 28.6, 37.6N, 118.8W, h= 11 km, ML=3.7
                          MAMMOTH LAKES AREA, CALIFORNIA

AUG 31  BRK   eP     14 25 03
        MHC   eP     14 25 04.9
        WDC   ePe    14 25 07.2
        PRI   eP     14 25 07.8
        ORV   eP     14 25 08.7
        MIN   eP     14 25 09.7
        JAS   eP     14 25 09.9
        FRI   eP     14 25 11.0
        MNV   eP     14 25 19
                     USGS 14 12 40.1, 12.5S, 166.5E, h= 42 km, mb=5.6, Ms=5.1
                          SANTA CRUZ ISLANDS

AUG 31  PRI   ePe    17 13 03.0                e 13 10
        MNV   eP     17 13 03.6
        SAO          17 13                     e 17 13
        JAS   eP     17 13 10.3
        MHC   eP     17 13 13.1
        BRK   eP     17 13 17
        ORV   iPe    17 13 22.2                i 13 27
        MIN   eP     17 13 25
        WDC   eP     17 13 28.5
        FHC   eP     17 13 37.9
                     USGS 17 03 22.3,  6.2S,  80.9W, h= 28 km, mb=5.2, Ms=4.5
                          NEAR COAST OF NORTHERN PERU

SEP 02  MHC          01 10                     e 10 41
        JAS   eP     01 10 46
        ORV   eP     01 10 47
        WDC   eP     01 10 47
                     USGS 00 59 00.9, 16.2S, 177.7W, h= 33 km, mb=4.6
                          FIJI ISLANDS REGION

SEP 02  MNV   ePe    10 34 58.5
        FRI   eP     10 34 59.4
        PRI   eP     10 35 02.7
        JAS   ePe    10 35 08.5                e 35 42
        SAO   eP     10 35 09.6
        MHC   ePe    10 35 14.2                e 35 45
        BKS   eP     10 35 19.2  41 08      PP 36 45      e 44 18      Lq 47 00
                                             Lr 48 40      i 57 06
                                 MICRON    PERIOD
                           LZ      0.9       20
                           LN      2.9       20
                           LE      2.5       20
        ORV   iPe    10 35 22.1                e 35 54
        MIN   ePe    10 35 25.2
        WDC   iPe    10 35 29.3
                     Ms=5.2, DISTANCE=38°
                     USGS 10 28 08.8, 15.9N,  88.3W, h= 25 km, mb=5.3, Ms=4.7
                          HONDURAS

SEP 02  FRI   eP     16 33 19.7
        MNV   eP     16 33 20.5
        PRI   eP     16 33 21.9
        JAS   eP     16 33 29.8
        MHC   eP     16 33 33.5
        BKS   ePe    16 33 40    39 30      pP 34 09      sP 34 18      PP 35 09
                                             e 39 36      sS 40 10      e 40 32
                                             ScS 44 02     e 45 50
                                 MICRON    PERIOD
                           PZ      0.02      1.0
        ORV   eP     16 33 43.5
        MIN   e(P)   16 33 48
        WDC   e(P)   16 33 51
        FHC   eP     16 34 02.5
                     USGS 16 26 36.3, 13.6N,  91.4W, h= 60 km, mb=5.0
                          NEAR COAST OF GUATEMALA

SEP 02  PRI   eP     22 29 11.1
        FRI   eP     22 29 14.5
        MHC   eP     22 29 19.7
        JAS   eP     22 29 22.4
        BKS          22 29                     e 37 08       e 45 24
        ORV   eP     22 29 34.8
        WDC   eP     22 29 39.7
                     USGS 22 18 41.6, 26.8S, 112.9W, h= 10 km, mb=5.0, Ms=4.9
                          EASTER ISLAND REGION

SEP 03  JAS   eP     04 30 40.2
        ORV   eP     04 30 48.2
        WDC          04 30                     e 30 56
                     USGS 04 19 41.8, 37.9N,  31.2W, h= 10 km, mb=4.8, Ms=4.2
                          AZORES ISLANDS REGION

SEP 03  MNV   eP     05 43 14.5
        FRI   eP     05 43 16.5
        PRI   eP     05 43 20.0
        JAS   eP     05 43 25.0
        MHC   eP     05 43 29.8
        BKS   eP     05 43 34
        ORV   eP     05 43 36.2
        MIN   eP     05 43 39
        WDC   eP     05 43 44.3
                     USGS 05 34 41.5,  8.0N,  77.7W, h= 33 km, mb=4.8
                          PANAMA-COLOMBIA BORDER REGION

SEP 03  WDC   eP     13 13 20
        ORV   eP     13 13 32.8
        JAS   eP     13 13 56.4
                     USGS 13 12 06.8, 43.6N, 126.6W, h= 15 km
                          OFF COAST OF OREGON

SEP 03  MNV   ePd    18 57 52.0
        PRI   eP     18 57 53.5
        JAS   ePd    18 57 59.5
        MHC   eP     18 58 02.9
        BKS   iPd    18 58 08.2
                                 MICRON    PERIOD
                           PZ      0.06      0.8
        ORV   iPd    18 58 11.7
        MIN   eP     18 58 14
        WDC   iPd    18 58 17.7
        FHC   ePd    18 58 27.0
                     USGS 18 48 36.8,  1.9S,  78.1W, h=154, mb=4.8
                          ECUADOR

SEP 03  MNV   eP     22 21 38.0                pP 21 50
        FRI   eP     22 21 38.9                pP 21 50
        PRI   eP     22 21 41.0                pP 21 53
        SAO   eP     22 21 45.8
        JAS   eP     22 21 46.9                pP 21 59
        MHC   eP     22 21 50.0                pP 22 03
        BKS   iPd    22 21 56.1  29 28         pP 22 08      sP 22 23      e 22 34
                                               i 22 44      PP 24 08      SeP 27 04
                                               i 30 24      ScS 31 34     SS 33 24
                                               e 33 52
                                 MICRON    PERIOD
                           PZ      0.03      1.0
        ORV   ePe    22 21 58.1                pP 22 10
        MIN   e(P)   22 22 01                  pP 22 13
        WDC   eP     22 22 04.5                pP 22 16
        FHC   e(P)   22 22 15                  pP 22 27
                     USGS 22 12 39.1,  3.2N,  78.2W, h= 55 km, mb=5.7, Ms=5.8
                          SOUTH OF PANAMA

SEP 04  PRI   ePd    10 05 07.0                pP 05 27      sP 05 36
        JAS   eP     10 05 12.5                pP 05 33      sP 05 41
        MHC   ePd    10 05 14.6                pP 05 35      sP 05 43
        BRK   eP     10 05 18.0
        ORV   iPd    10 05 22.1                pP 05 43      sP 05 51
        WDC   eP     10 05 27.1                pP 05 47      sP 05 55
        WKC   eP     10 05 33.3
                     USGS 09 53 18.7, 24.3S,  69.4W, h= 76 km, mb=4.9
                          NORTHERN CHILE

SEP 04  WKC   e(P)   10 59 03
        WDC   ePd    10 59 05.7
        MIN   ePd    10 59 10.5
        ORV   ePd    10 59 13.6
        BKS   eP     10 59 28    04 10         e 59 42       e 59 59      PP 00 30
                                               e 01 10       e 02 00      e 04 36
                                               e 05 20      SeP 06 12     PeS 06 20
        JAS   eP     10 59 33.0
        MHC   eP     10 59 34
        MNV          10 59
        PRI   e(P)   10 59 47                  e 59 40
                     USGS 10 53 59.6, 59.5N, 143.9W, h= 33 km, mb=5.0, Ms=5.4
                          GULF OF ALASKA
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SEP 04  MNV   iPd   13 39 18.3
        FRI   eP    13 39 35.0                 i 39 39
        JAS   iPc   13 39 35.9  39 56          i 39 40
        LLA   ePc   13 39 51.6                 i 39 56
        MHC   ePc   13 39 53.9                 e 39 56      i 39 58      S• 40 30
        PRI   eP    13 39 55.3                 e 39 57      i 39 59      S• 40 33
        SAO   eP    13 39 56.0                 i 40 00
        ORV   iPc   13 39 57.7
        GCC   e(P)  13 40 00
        BKS   eP    13 40 00.5
        PCC   e(P)  13 40 02                   e 40 07
        PRS   e(P)  13 40 02
        MIN   eP    13 40 05.6
        WDC   eP    13 40 15.1                 i 40 24      i 41 19
                    BRK  13 39 09.4, 38.1N, 118.6W, h=  1 km, ML=4.6
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 04  MNV   iPc   21 03 42.8
        FRI   iPd   21 03 59.5
        JAS   iPc   21 04 00.4  04 20
        LLA   eP    21 04 14.0
        MHC   eP    21 04 16.6
        PRI   ePd   21 04 16.8
        SAO   iPc   21 04 17.7
        ORV   iPc   21 04 18.0
        BKS   eP    21 04 20.0
        PRS   eP    21 04 20.3
        GCC   eP    21 04 21.0
        PCC   eP    21 04 23.5
                    BRK  21 03 34.1, 38.1N, 118.6W, h= 10 km, ML=4.9
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 05  MNV   eP    11 55 32.3
        JAS   eP    11 55 33.7
        MHC         11 55                      e 55 37
        ORV   eP    11 55 37.4                 i 55 51
        MIN   eP    11 55 38.3
        BKS         11 55                      e 55 54
        WDC         11 55                      e 55 50
                    USGS 11 45 24.0, 12.0N,  59.3W, h= 33 km, mb=4.9
                         WINDWARD ISLANDS

SEP 05  MNV   iPc   15 53 04.9
        FRI   iPd   15 53 21.7  53 40
        JAS   iPc   15 53 22.6  53 41
        LLA   eP    15 53 38.0
        MHC   eP    15 53 40.2  54 14
                    BRK  15 52 56.1, 38.1N, 118.6W, h=  4 km, ML=3.7
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 05  MNV   iP    15 53 30.9
        FRI   iP    15 53 47.7  54 06
        JAS   iP    15 53 48.6  54 07
        LLA   eP    15 54 04.0
        MHC   eP    15 54 06.2
        ORV   eP    15 54 08.1
                    BRK  15 53 22.0, 38.1N, 118.6W, h=  5 km, ML=3.5
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 05  SAO   eP    19 33 47.7
        BKS   eP    19 33 49                   Lq 58 20     Lr 59 30
                                MICRON    PERIOD
                          PZ      0.03       0.7
        PRI   eP    19 33 49.2
        MHC   eP    19 33 49.5
        FRI   eP    19 33 54.5
        JAS   iPd   19 33 54.8
        ORV   iPd   19 33 56.5
        WDC   iPd   19 33 56.7
        MNV   eP    19 34 04.1
                    USGS 19 22 23.3, 21.1S, 178.1W, h=352 km, mb=4.9
                         FIJI ISLANDS REGION

SEP 05  PRI   eP    19 55 39
        FRI   e(P)  19 55 41
        MNV   e(P)  19 55 50
        MHC   e(P)  19 55 57
        JAS   eP    19 55 57
        ORV   e(P)  19 56 21
        MIN   e(P)  19 56 30
        WDC   eP    19 56 39
        WKC   eP    19 56 46
                    USGS 19 53 27.9, 29.7N, 113.3W, h= 15 km, mb=4.9, Ms=4.6
                         GULF OF CALIFORNIA

SEP 06  MNV   iPc   05 31 12.2
        FRI   iPd   05 31 28.8
        JAS   iPc   05 31 29.7
        LLA   iPc   05 31 45.4
        MHC   eP    05 31 46
        PRI   eP    05 31 46.2
        SAO   eP    05 31 46.9
        ORV   eP    05 31 47.9
                    BRK  05 31 03.5, 38.1N, 118.6W, h=  9 km, ML=4.0
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 06  MNV   iPd   07 28 01.0  28 08
        FRI   iPd   07 28 17.6
        JAS   iPc   07 28 18.6
        LLA   iPd   07 28 33.8
        MHC   ePc   07 28 34.4
        PRI   ePc   07 28 35.4
        SAO   eP    07 28 35.4
        ORV   iPc   07 28 36.4
        BKS   ePn   07 28 38.3  29 16         e 28 43      e 28 46      Pg 28 51
                                               e 28 54      Lq 29 32
        PRS   ePc   07 28 40.2
        GCC   eP    07 28 40.3
        PCC   eP    07 28 41
        MIN   eP    07 28 44.5
                    BRK  07 27 52.3, 38.1N, 118.6W, h=  7 km, ML=4.6
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 06  SAO   eP    15 44 36.1
        BKS   eP    15 44 36.5
                                MICRON    PERIOD
                          PZ      0.02       0.7
        PRI   eP    15 44 37.4
        MHC   eP    15 44 37.8
        FRI   eP    15 44 42.5
        JAS   iPc   15 44 43.0
        ORV   iPc   15 44 44.5
        WDC   iPc   15 44 44.8
        MIN   eP    15 44 46.6
        MNV   eP    15 44 51.8
                    USGS 15 33 26.3, 21.9S, 179.6W, h=597 km, mb=5.0
                         FIJI ISLANDS REGION

SEP 07  MNV   iPd   01 30 51.7
        FRI   iPd   01 31 08.2
        JAS   iPc   01 31 09.1
        LLA   iPd   01 31 24.4
        MHC   iPc   01 31 25.3
        PRI   ePd   01 31 25.5
        SAO   eP    01 31 26.2
        ORV   iPd   01 31 27.0
        GCC   ePc   01 31 29.5
        BKS   ePc   01 31 29.8                 e 31 55      e 32 06      e 35 28
                                               e 38 34
        PRS   ePd   01 31 30.5
        PCC   e(P)  01 31 32
        WDC   ePd   01 31 44.5
        MHC   e(P)  01 32 00
        WKC   eP    01 32 00
                    BRK  01 30 42.8, 38.1N, 118.6W, h=  7 km, ML=5.1
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 07  FRI   iPd   04 37 03.3
        JAS   iPc   04 37 04.3
        LLA   ePd   04 37 17.7
        MHC   iPc   04 37 20.4
        PRI   iPd   04 37 20.6
        SAO   iPc   04 37 21.4
        ORV   iPc   04 37 22.0
        PRS   ePd   04 37 23.8
        GCC   ePc   04 37 24.7
        BKS   iPc   04 37 24.9  38 00
        PCC   ePc   04 37 26.8
        MIN   ePc   04 37 30.7
        WDC   iPc   04 37 39.5
        WKC   e(P)  04 37 54
        FHC   e(P)  04 37 55
                    BRK  04 36 38.2, 38.1N, 118.6W, h= 10 km, ML=5.5
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 07  FRI   eP    04 40 31.8
        JAS   eP    04 40 32.8
        MHC   eP    04 40 48.9
        SAO   eP    04 40 50
                    BRK  04 40 04.6, 38.1N, 118.5W, h=  5 km, ML=4.0
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 07  FRI   iPd   06 48 35.6
        JAS   iPc   06 48 36.5
        MHC   eP    06 48 52.3
        PRI   e(P)  06 48 53
        SAO   eP    06 48 53.6
        ORV   iPc   06 48 54.5
        BKS   eP    06 48 58.5
        WDC   eP    06 49 12.8
                    BRK  06 48 10.6, 38.1N, 118.6W, h=  5 km, ML=4.7
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 07  LLA   eP    06 49 10
        MHC   eP    06 49 12.4
        PRI   iP    06 49 13.0
        SAO   eP    06 49 16.0
        BKS   e(P)  06 49 19
        WDC   iPc   06 49 32.0
                    BRK  06 48 30.6, 38.1N, 118.6W, h=  5 km, ML=5.3
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 07  FRI   iPd   10 09 20.4  09 38
        JAS   iPc   10 09 21.3  09 40
        MHC   e(P)  10 09 37
        PRI   eP    10 09 37.7
        ORV   iPc   10 09 39.4
        BKS   ePc   10 09 45.5                 e 10 25
                    BRK  10 08 55.0, 38.1N, 118.6W, h=  9 km, ML=3.7
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 07  FRI   iPd   11 58 27.5  58 45
        JAS   iPc   11 58 28.5  58 47
        LLA   i(P)  11 58 44
        MHC   eP    11 58 44.6
        PRI   eP    11 58 45.0
        ORV   ePc   11 58 46.6
        BKS   ePd   11 58 51.6                 e 59 35      e 59 46
                    BRK  11 58 02.4, 38.1N, 118.6W, h= 10 km, ML=3.8
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 07  FRI   iPd   16 04 29.5  04 47
        JAS   iPd   16 04 30.7  04 49
        LLA   i(P)  16 04 46
        MHC   eP    16 04 47.0
        PRI   ePc   16 04 47.2
        SAO   eP    16 04 48.0
        ORV   ePc   16 04 48.8
        BKS   eP    16 04 55.4  05 31         e 05 36      Sg 05 47
                    BRK  16 04 04.5, 38.1N, 118.6W, h=  9 km, ML=3.7
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 07  FRI   iPd   16 58 00.1
        JAS   iPc   16 58 00.8  58 19
        LLA   e(P)  16 58 16
        MHC   eP    16 58 17.0
        PRI   ePc   16 58 18.0
        SAO   eP    16 58 18.0
        ORV   ePc   16 58 19.0
        BKS   ePnc  16 58 24                   P• 58 29     e 58 33      Pg 58 36
                                               e 59 11
                    BRK  16 57 34.4, 38.1N, 118.6W, h=  9 km, ML=3.9
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 07  FRI   iPd   18 37 26.0  37 44
        JAS   iPd   18 37 27.1  37 46
        LLA   e(P)  18 37 42
        MHC   eP    18 37 43.7
        PRI   eP    18 37 43.9
        SAO   eP    18 37 44.8
        ORV   eP    18 37 45
        BKS   e(P)  18 37 52     38 27         e 59 04      e 59 11
                    BRK  18 37 00.9, 38.1N, 118.6W, h=  7 km, ML=3.6
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 07  FRI   ePKP  22 59 21.9
        PRI   ePKPc 22 59 22.6
        SAO   ePKP  22 59 23.3
        JAS   ePKPc 22 59 24.5
        MHC   ePKPc 22 59 25.1
        BKS   ePKPc 22 59 25.8
        ORV   ePKP  22 59 27.2
        MIN   ePKP  22 59 28.0
        WDC   ePKPc 22 59 29.4
        WKC   ePKP  22 59 33.3
                    USGS 22 40 28.9, 57.9S,  25.5W, h= 33 km, mb=5.3
                         SOUTH SANDWICH ISLANDS REGION

SEP 08  FRI   iPd   04 26 44.9  27 03
        JAS   iPc   04 26 46.1  27 05
        LLA   eP    04 26 59.7
        PRI   eP    04 27 02.0
        MHC   eP    04 27 02.3
        SAO   eP    04 27 03.0
        ORV   ePc   04 27 04.0
        PRS   eP    04 27 06.3
        GCC   eP    04 27 06.6
        BKS   eP    04 27 08                   e 27 10      e 27 16      e 27 19
                                               e 27 23      e 27 36
        WDC   e(P)  04 27 22
                    BRK  04 26 19.8, 38.0N, 118.6W, h=  8 km, ML=4.6
                         AREA EAST OF MONO LAKE, CALIFORNIA

SEP 08  PRS   iPd   06 28 20.0
        PRI   iPd   06 28 21.8  28 31
        LLA   iPd   06 28 26.6
        SAO   iPc   06 28 27.1
        GCC   eP    06 28 31.8
        MHC   ePc   06 28 36.0  28 54
        FRI   iPc   06 28 39.0
        PCC   eP    06 28 39.3
        BKS   eP    06 28 43.8  29 19
        JAS   iPc   06 28 46.2  29 14
                    BRK  06 28 08.4, 35.7N, 121.3W, h=  9 km, ML=3.6
                         NORTHWEST OF SAN SIMEON, CALIFORNIA

SEP 08  FRI   iPd   08 19 51.9  20 10
        JAS   iP    08 19 52.8
        LLA   eP    08 20 08.4  20 39
        MHC   iPc   08 20 10.9
        PRI   eP    08 20 11.0
        ORV   iPc   08 20 11.0                 i 20 16
        SAO   eP    08 20 11.9
        PRS   eP    08 20 16.4
        BKS   eP    08 20 17                   e 20 58
                    BRK  08 19 26.5, 38.1N, 118.6W, h=  7 km, ML=3.6
                         AREA EAST OF MONO LAKE, CALIFORNIA
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SEP 08  PRI              16 48                    e 48 11
        MHC              16 48                    e 48 11
        JAS    eP        16 48 16.4
        ORV    iPd       16 48 17.8
        WDC    eP        16 48 18.1
                  USGS 16 36 37.7, 26.0S, 178.4E, h=596 km, mb=5.0
                       SOUTH OF FIJI ISLANDS

SEP 08  BKS    ePKP      21 03 19.5
        ORV    iPKPe     21 03 20.5
        MHC    ePKP      21 03 22.7
        JAS    ePKP      21 03 24.0
        PRI    ePKP      21 03 25.2
        FRI    ePKP      21 03 26.5
                  USGS 20 43 44.3, 26.2S,  98.2E, h= 10 km, mb=5.3
                       SOUTH INDIAN OCEAN

SEP 09  LLA    iPe       16 42 43.5
        PRS    iPd       16 42 45.2
        SAO    iPe       16 42 46.2
        PRI    iPd       16 42 50.2
        GCC    ePe       16 42 55.1
        MHC    ePe       16 42 57.3  43 10
        FRI    iPd       16 43 01.8
        PCC    ePd       16 43 03.5
        JAS    iPd       16 43 06.6  43 26
        BKS    iPe       16 43 07.4  43 28    e 43 10      e 43 26      e 43 33
                                               e 43 40
                  BRK  16 42 39.6, 36.5N, 121.1W, h=  6 km, ML=3.0
                       SOUTHEAST OF HOLLISTER, CALIFORNIA

SEP 09  FHC    eP        22 32 14.1
        WDC    ePe       22 32 19.5               PP 35 20
        MIN    eP        22 32 23.0
        ORV    ePe       22 32 25.8
        BKS    eP        22 32 29.4               Lq 52 30     Lr 55 00
                                 MICRON    PERIOD
                            PZ     0.04       1.2
        MHC    eP        22 32 32.5
        JAS    ePe       22 32 35.3               PP 35 30
        PRI    eP        22 32 40.1
        FRI    eP        22 32 40.4
                  USGS 22 20 42.1, 34.0N, 138.9E, h= 33 km, mb=5.3, Ms=5.2
                       NEAR SOUTH COAST OF HONSHU, JAPAN

SEP 10  SAO    eP        06 13 34.5
        BKS    eP        06 13 36
                                 MICRON    PERIOD
                            PZ     0.03       0.7
        MHC    eP        06 13 36.0
        PRI    eP        06 13 36.3
        WKC    ePd       06 13 37.0
        FRI    eP        06 13 41.1
        JAS    ePd       06 13 41.4
        WDC    ePd       06 13 41.7
        ORV    ePd       06 13 42.0
        MIN    eP        06 13 43.7
                  USGS 06 01 09.2, 21.6S, 175.2E, h= 33 km, mb=5.1
                       SOUTH OF FIJI ISLANDS

SEP 10  BKS    eP        07 52 00    03 00        Lq 16 40
                                 MICRON    PERIOD
                            LZ     1.4       20
                            LN     0.5       20
                            LE     0.9       20
        MHC    eP        07 52 00.5
        PRI    ePd       07 52 01.1
        FRI    eP        07 52 06.0
        JAS    ePd       07 52 06.2
        WDC    ePd       07 52 06.3
        ORV    ePd       07 52 06.7
        MIN    ePd       07 52 08.2
                  USGS 07 39 47.2, 18.6S, 176.1E, h= 29 km, mb=5.5, Ms=5.5
                       FIJI ISLANDS REGION

SEP 10  MHC    eP        12 15 22.2
        PRI    eP        12 15 22.8
        JAS    eP        12 15 27.6
        WDC    eP        12 15 27.6
        FRI    eP        12 15 27.7
        ORV    eP        12 15 28.0
        MIN    eP        12 15 30
                  USGS 12 03 09.6, 18.7S, 176.3E, h= 33 km, mb=5.3
                       FIJI ISLANDS REGION

SEP 11  FRI    ePe       04 17 15.2  17 33        i 17 17
        JAS    iPe       04 17 16.0  17 35
        LLA    ePe       04 17 31.4               i 18 07
        MHC    ePe       04 17 32.0               i 17 34      i 18 08
        PRI    eP        04 17 33
        SAO    eP        04 17 33.3               e 17 36
        ORV    ePe       04 17 33.9               i 17 39
        GCC    eP        04 17 37
        PRS    eP        04 17 37.7
        BKS    ePd       04 17 38.9  18 15        S• 18 22     e 18 27
        PCC    e(P)      04 17 40
                  BRK  04 16 49.5, 38.1N, 118.59W, h=  6 km, ML=3.7
                       AREA EAST OF MONO LAKE, CALIFORNIA

SEP 11  FRI    iPd       09 54 51.7  55 10        i 54 53
        JAS    iPe       09 54 53.0  55 12
        LLA    eP        09 55 08.2               i 55 08
        MHC    eP        09 55 09                 e 55 11      e 55 43
        PRI    eP        09 55 10                 e 55 11
        SAO    eP        09 55 10                 e 55 12
        PRS    eP        09 55 14
        BKS    eP        09 55 17.0               P• 55 22     Pg 55 31     e 55 58
                  BRK  09 54 26.8, 38.1N, 118.6W, h=  7 km, ML=3.5
                       AREA EAST OF MONO LAKE, CALIFORNIA

SEP 11  SAO    ePe       10 41 41.9
        PRI    ePe       10 41 43.1
        BKS    ePe       10 41 43.5
                                 MICRON    PERIOD
                            PZ     0.08       0.6
        MHC    ePe       10 41 43.6
        WKC    iPe       10 41 45.8
        PRI    iPe       10 41 47.9
        JAS    iPe       10 41 48.5
        ORV    iPe       10 41 50.1
        WDC    iPe       10 41 50.6
        MIN    ePe       10 41 51.9
                  USGS 10 30 06.7, 25.7S, 179.5E, h=503 km, mb=5.1
                       SOUTH OF FIJI ISLANDS

SEP 11  SAO    e(P)      13 17 41
        PRI    eP        13 17 47
        JAS    eP        13 17 47.3
        ORV    ePd       13 17 48.9
        WDC    eP        13 17 49.4
        MIN    eP        13 17 51.0
                  USGS 13 06 09.4, 23.5S, 179.2W, h=416 km, mb=4.5
                       SOUTH OF FIJI ISLANDS

SEP 12  WDC    eP        00 49 40.4
        ORV    eP        00 49 41.5
        JAS    eP        00 49 41.5
        FRI              00 49                    e 49 43
                  USGS 00 37 05.4, 18.4S, 168.5E, h= 99 km, mb=4.7
                       VANUATU ISLANDS

SEP 12  PRI    eP        20 13 10.0
        BKS    e(P)      20 13 10                 e 37 44      Lr 41 38
                                 MICRON    PERIOD
                            PZ     0.03       1.1
                            LZ     1.1       20
                            LN     1.1       20
                            LE     0.9       20
        MHC    eP        20 13 11.1
        FRI    eP        20 13 14.7
        JAS    eP        20 13 16.0
        ORV    eP        20 13 18.0
        WDC    eP        20 13 19.0
                  USGS 20 00 26.5, 32.0S, 178.0W, h= 17 km, mb=5.1, Ms=4.9
                       SOUTH OF KERMADEC ISLANDS

SEP 12  PRI    eP        20 29 34.0
        BKS    eP        20 29 34.4
                                 MICRON    PERIOD
                            PZ     0.03       1.0
                            LZ     0.7       20
                            LN     0.6       20
                            LE     0.5       20
        MHC    eP        20 29 35.1
        FRI    eP        20 29 38.8
        JAS    eP        20 29 40.2
        ORV    eP        20 29 42.2
        WDC    ePe       20 29 43.3
                  USGS 20 16 52.2, 32.2S, 178.1W, h= 35 km, mb=5.2, Ms=5.1
                       SOUTH OF KERMADEC ISLANDS

SEP 13  SAO    iPe       10 50 22.1
        LLA    iPe       10 50 26.0
        PRS    iPd       10 50 26.2
        GCC    iPe       10 50 31.3
        MHC    iPd       10 50 33.8  50 45
        PRI    iPd       10 50 33.9
        PCC    eP        10 50 40
        BKS    eP        10 50 43.0  51 01
        FRI    iPe       10 50 43.3  51 01
        JAS    ePd       10 50 45.0
        ORV    iPe       10 51 06.2
                  BRK  10 50 19.4, 36.7N, 121.3W, h=  6 km, ML=3.3
                       SOUTH-SOUTHEAST OF HOLLISTER, CALIFORNIA

SEP 14  FHC    ePe       02 55 31.2
        WDC    iPe       02 55 32.4
        ORV    iPe       02 55 37.7
        BKS    ePe       02 55 45.1               e 55 53
                                 MICRON    PERIOD
                            PZ     0.16       0.8
        MNV    iPe       02 55 46.7
        JAS    iPe       02 55 46.9
        MHC    iPe       02 55 49.0
        SAO    eP        02 55 51.1
        FRI    iPe       02 55 51.5
        PRI    ePe       02 55 55.6
                  USGS 02 42 39.3, 50.0N,  78.9E, h=  0 km, mb=6.2, Ms=4.2
                       EASTERN KAZAKH, S.S.R.

SEP 14  FRI    iPe       11 50 18.3  50 30
        MNV    iPd       11 50 20.8
        JAS    iPe       11 50 24.0  50 40
        LLA    iPe       11 50 35.7
        PRI    eP        11 50 38.0  51 06
        MHC    eP        11 50 39.9  51 09
        SAO    iPe       11 50 39.9
        PRS    ePd       11 50 42.4
        GCC    eP        11 50 44
        BKS    iPe       11 50 45.5  51 19
        PCC    ePd       11 50 57.3
        ORV    eP        11 50 58.4
                  BRK  11 50 01.7, 37.6N, 118.9W, h= 10 km, ML=3.5
                       MAMMOTH LAKES AREA, CALIFORNIA

SEP 15  FRI    ePKP      04 46 43.7               PKKP 57 43
        JAS    ePKP      04 46 45.7               PKKP 57 38
        BKS    ePKP      04 46 46.5                   e 47 44      SKS 53 30      PS 57 06
                                                   PKKP 57 36       e 58 27      SS 03 47
                                                   SSS 07 41        Lr 21 16
                                 MICRON    PERIOD
                            PKPZ   0.01       0.8
                            LZ     2.3       20
                            LN     2.0       20
                            LE     0.9       20
        ORV    ePKP      04 46 47.6                   e 47 39      PKKP 57 32
        WDC    ePKP      04 46 49.0               PKKP 57 26
                  Ms=5.7, DISTANCE=116°
                  USGS 04 28 13.7, 61.4S,  56.4W, h= 33 km, mb=5.8, Ms=5.8
                       SOUTH SHETLAND ISLANDS

SEP 15  WKC    iPd       13 29 11.7  29 15
        FHC    iPd       13 29 15.6  29 22
        WDC    iPe       13 29 30.3
        ORV    iPd       13 29 44.3
                  BRK  13 29 07.4, 40.5N, 124.4W, h= 17 km, ML=3.0
                       OFF COAST SOUTH OF EUREKA, CALIFORNIA

SEP 15  MNV    iP        15 08 51.7
        FRI    iPd       15 09 07.4
        JAS    iPe       15 09 08.7               i 09 26
        LLA    eP        15 09 23.9
        MHC    eP        15 09 24.7
        PRI    eP        15 09 25.3
        ORV    eP        15 09 26.9
        BKS    eP        15 09 31.0               e 10 13
        PRS    eP        15 09 32.4
                  BRK  15 08 42.5, 38.1N, 118.6W, h= 10 km, ML=3.8
                       AREA EAST OF MONO LAKE, CALIFORNIA

SEP 15  MHC    eP        23 41 45.7
        BKS    eP        23 41 46.0  50 58        e 42 04      e 51 56      Lr 02 48
                                 MICRON    PERIOD
                            PZ     0.04       1.0
                            LZ     1.1       20
                            LN     0.9       20
                            LE     0.7       20
        PRI    eP        23 41 46.0
        FRI    eP        23 41 51.5
        JAS    eP        23 41 52.3               e 42 09
        ORV    eP        23 41 53.5               e 42 12
        WDC    eP        23 41 53.7               e 42 11
        MIN              23 41                    e 41 56
        MNV              23 42                    e 42 02
                  USGS 23 30 27.6, 15.6S, 173.7W, h= 68 km, mb=5.3
                       TONGA ISLANDS

SEP 16  MNV    iPd       04 24 50.5
        FRI    iPd       04 25 06.1
        JAS    iPe       04 25 07.3
        LLA    eP        04 25 21.4
        MHC    iPe       04 25 23.5  25 53
        PRI    iPe       04 25 24.1
        SAO    eP        04 25 24.5
        ORV    iPe       04 25 25.7
        BKS    e(P)      04 25 28                 e 26 08
        PRS    eP        04 25 28.9
        GCC    eP        04 25 29.1
        PCC    eP        04 25 30.0
        MIN    eP        04 25 34.1
        WKC    eP        04 26 00.3
                  BRK  04 24 41.1, 38.0N, 118.6W, h=  7 km, ML=4.7
                       AREA EAST OF MONO LAKE, CALIFORNIA
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SEP 16  MNV   eP      12 36 39.2
        JAS   eP      12 36 47.7                e 36 56
        MHC   eP      12 36 52.1
        BKS   e(P)    12 36 57
                          MICRON    PERIOD
                      PZ    0.01       1.0
        ORV   iPe     12 36 59.8                i 37 07
        WDC   iPe     12 37 05.9
              USGS 12 27 46.8,  3.5N,  79.1W, h= 33 km, mb=4.6
                   SOUTH OF PANAMA

SEP 16  SAO   eP      23 44 43.5
        PRI   eP      23 44 45.0
        MHC   ePd     23 44 45.2
        BKS   ePd     23 44 45.6                e 45 08
                          MICRON    PERIOD
                      PZ    0.12       0.9
        FHC   eP      23 44 48.8
        PRI   ePd     23 44 50.0
        JAS   ePd     23 44 50.5
        ORV   iPd     23 44 51.8
        WDC   ePd     23 44 52.3
        MIN   eP      23 44 54.0
        MNV   ePd     23 44 59.5
              USGS 23 33 40.9, 20.6S, 178.8W, h=599 km, mb=5.3
                   FIJI ISLANDS REGION

SEP 17  SAO   eP      05 18 50.9
        BKS   eP      05 18 52.1  28 08         e 19 24      e 28 46     Lr 39 38
                          MICRON    PERIOD
                      PZ    0.13       1.1
                      LZ     2.9        20
                      LN     1.5        20
                      LE     2.0        20
        PRI   eP      05 18 52.6
        MHC   eP      05 18 52.9
        FHC   eP      05 18 57.1
        FRI   eP      05 18 58.4
        JAS   ePd     05 18 59.0
        ORV   iPd     05 19 00.6
        WDC   ePd     05 19 00.8
        MIN   eP      05 19 02.8
        MNV   eP      05 19 09.5
              Ms=5.5, DISTANCE=71°
              USGS 05 07 32.7, 15.3S, 173.6W, h= 33 km, mb=5.6, Ms=5.4
                   TONGA ISLANDS

SEP 17  FRI   iPe     05 41 21.4  41 33
        MNV   iPe     05 41 23.7
        JAS   iPe     05 41 27.1  41 43
        LLA   i(P)    05 41 38    42 04
        PRI   ePe     05 41 40.7
        SAO   iPe     05 41 42.7
        MHC   ePe     05 41 42.8
        PRS   iPe     05 41 45.1
        GCC   ePd     05 41 47.0
        BKS   ePd     05 41 48.9  42 22
        PCC   eP      05 41 50
              BRK  05 41 04.9, 37.6N, 119.0W, h= 18 km, ML=3.5
                   MAMMOTH LAKES AREA, CALIFORNIA

SEP 17  SAO   eP      05 48 00.8
        BKS   ePe     05 48 02.3                Lq 05 36     Lr 08 44
                          MICRON    PERIOD
                      PZ    0.05       0.7
                      LZ     1.7        20
                      LN     1.0        20
                      LE     1.2        20
        PRI   eP      05 48 02.4
        MHC   eP      05 48 02.5
        FHC   eP      05 48 06.8
        FRI   eP      05 48 08.1
        JAS   eP      05 48 08.7
        ORV   eP      05 48 10.2
        WDC   ePd     05 48 10.7
        MIN   eP      05 48 12.8
        MNV   eP      05 48 19.2
              Ms=5.3, DISTANCE=70°
              USGS 05 36 42.6, 15.3S, 173.4W, h= 33 km, mb=5.4, Ms=5.3
                   TONGA ISLANDS

SEP 17  MNV   iPd     21 38 01.8  38 09
        FRI   iPd     21 38 17.6  38 35
        JAS   ePe     21 38 18.8  38 38
        LLA   iPe     21 38 34.2  39 05
        PRI   e(P)    21 38 35
        MHC   eP      21 38 35                  e 38 37      e 39 08
        PRS   eP      21 38 39.8
        BKS   e(P)    21 38 40                  e 39 21
              BRK  21 37 52.6, 38.1N, 118.6W, h=  7 km, ML=3.5
                   AREA EAST OF MONO LAKE, CALIFORNIA

SEP 18  MNV   iPd     06 06 49.6
        FRI   iPd     06 07 05.7  07 24
        JAS   iPe     06 07 06.6  07 25
        LLA   iPe     06 07 22.3
        MHC   eP      06 07 23
        PRI   eP      06 07 23.5
        ORV   ePd     06 07 24.8
        PRS   eP      06 07 28.1
        BKS   ePe     06 07 32.1  08 10
        WDC   eP      06 07 42.8
              BRK  06 06 40.3, 38.1N, 118.6W, h=  5 km, ML=3.5
                   AREA EAST OF MONO LAKE, CALIFORNIA

SEP 18  SAO   eP      17 11 12.6
        BKS   eP      17 11 13.5                e 41 25
                          MICRON    PERIOD
                      PZ    0.02       0.7
        MHC   eP      17 11 13.8
        PRI   eP      17 11 14.1
        FHC   eP      17 11 17.0
        FRI   eP      17 11 19.3
        JAS   eP      17 11 19.5
        WDC   eP      17 11 20.3
        ORV   eP      17 11 20.4
        MIN           17 11
        MNV   eP      17 11 29.4
              USGS 17 00 21.5, 17.8S, 178.6W, h=599 km, mb=5.0
                   FIJI ISLANDS REGION

SEP 18  SAO   eP      17 11 24.5
        PRI   eP      17 11 24.9
        BKS   eP      17 11 25.3
        MHC   eP      17 11 26.1
        FHC   eP      17 11 29.0
        FRI   eP      17 11 31.1
        JAS   iP      17 11 31.5
        WDC   iP      17 11 32.5
        ORV   iP      17 11 32.6
        MNV   eP      17 11 41.2
              USGS 17 00 29.8, 17.8S, 178.6W, h=556 km, mb=5.1
                   FIJI ISLANDS REGION

SEP 18  LLA   iPe     17 27 09.4
        SAO   iPe     17 27 10.3
        PRS   iPd     17 27 10.7  27 15
        PRI   eP      17 27 17.3
        GCC   eP      17 27 19.7
        MHC   eP      17 27 21.6  27 35
        FRI   eP      17 27 27.5  27 44
        BKS   ePe     17 27 33.9                e 27 56
              BRK  17 27 05.0, 36.6N, 121.2W, h=  4 km, ML=2.5
                   SOUTHEAST OF HOLLISTER, CALIFORNIA

SEP 19  FHC   eP      08 59 14.9
        WDC   eP      08 59 18.9                PP 03 26
        MIN           08 59                       e 59 22
        ORV   eP      08 59 23.7                PP 03 35
        BKS   eP      08 59 24.5  10 58           e 59 29    PP 03 35    PS 12 20
                                                  e 13 20      e 13 31     e 14 13
                                                SS 17 37     sSS 19 04     Lr 31 56
                          MICRON    PERIOD
                      PZ    0.02       1.0
                      LZ     0.5        20
                      LN     0.2        20
                      LE     0.5        20
        MHC           08 59                       e 59 29
        JAS   eP      08 59 33.0                  e 03 40
        PRI           08 59                       e 59 37
              USGS 08 45 46.5, 13.9N, 120.7E, h=148 km, mb=5.7
                   MINDANAO, PHILIPPINE ISLANDS

SEP 19  WKC           09 56                       e 56 31
        WDC   eP      09 56 38.9
        MIN   eP      09 56 44.3
        ORV   eP      09 56 48.2
        BKS   ePe     09 56 52.6                e 59 57
                          MICRON    PERIOD
                      PZ    0.01       0.8
        MHC   eP      09 56 59.0
        JAS   eP      09 57 02.5
        SAO           09 57                       e 57 10
              USGS 09 49 13.1, 51.6N, 178.2W, h= 54 km, mb=5.0
                   ANDREANOF ISLANDS, ALEUTIAN ISLANDS

SEP 19  FHC   iPd     15 11 53.7  12 00
        WKC   iPd     15 11 59.3  12 09         e 12 22
        WDC   iPe     15 12 07.7  12 24         e 12 14
        MIN   eP      15 12 18
        ORV   eP      15 12 23.5
              BRK  15 11 45.1, 41.2N, 124.1W, h= 20 km, ML=3.2
                   OFF COAST NORTH OF EUREKA, CALIFORNIA

SEP 19  MNV   iPd     20 57 08.0
        FRI   iPd     20 57 23.6  57 42
        JAS   iPe     20 57 25.0  57 44
        LLA   iPe     20 57 40.2
        PRI   eP      20 57 41.5
        MHC   eP      20 57 42.6
        SAO   ePd     20 57 44.2
        BKS   ePd     20 57 50.6  58 26
              BRK  20 56 58.6, 38.1N, 118.6W, h=  4 km, ML=3.5
                   AREA EAST OF MONO LAKE, CALIFORNIA

SEP 20  MNV   iPd     01 35 52.0
        FRI   iPd     01 36 07.8  36 24
        JAS   iPe     01 36 08.9  36 27
        LLA   iPe     01 36 24.3
        PRI   ePd     01 36 25.6
        MHC   eP      01 36 26
        ORV   iPd     01 36 27.2
        SAO   eP      01 36 28.0
        BKS   eP      01 36 34.3  37 09
              BRK  01 35 42.5, 38.1N, 118.6W, h= 10 km, ML=3.5
                   AREA EAST OF MONO LAKE, CALIFORNIA

SEP 20  FHC   ePKP    18 03 26.7
        WDC   ePKPd   18 03 27.9
        MIN   ePKP    18 03 29.2
        ORV   ePKPd   18 03 30.1
        BKS   ePKPd   18 03 31.5
        MHC   ePKP    18 03 33.0
        JAS   ePKPd   18 03 33.7
        FRI   ePKP    18 03 35.6
        PRI   ePKP    18 03 36.1
              USGS 17 44 24.8,  5.1S, 102.4E, h= 28 km, mb=5.5, Ms=5.0
                   SOUTHERN SUMATERA

SEP 20  MNV   iPe     21 14 56.9  15 06
        JAS   iPe     21 15 12.1  15 32
        FRI   ePd     21 15 18.6
        ORV   iPd     21 15 21.5
        MHC   e(P)    21 15 29    16 04
        BKS   ePe     21 15 35.1  16 11
        WDC   e(P)    21 15 37
        PCC   e(P)    21 15 38
        PRI   e(P)    21 15 39
              ML=4.0, WALKER LAKE AREA, NEVADA
              USGS 21 14 44.8, 38.8N, 118.8W, h= 27 km
                   NEVADA

SEP 20  FRI   iPd     22 55 16.5
        MNV   iPd     22 55 17.8
        PRI   ePd     22 55 19.0
        SAO   eP      22 55 25.5
        JAS   ePd     22 55 26.3                  e 55 41     PcP 58 08
        MHC   ePd     22 55 30.5                PcP 58 09
        BRK   eP      22 55 36.5
        BKS           22 55                       Lq 07 20     Lr 08 30
        ORV   iPd     22 55 41.0                PcP 58 12
        MIN   ePd     22 55 45.0
        WDC   iPd     22 55 49.0                PcP 58 15
        FHC   iPd     22 56 00.4
              USGS 22 48 51.7, 14.9N,  93.1W, h= 58 km, mb=5.1
                   NEAR COAST OF CHIAPAS, MEXICO

SEP 20  WDC   eP      23 02 23
        ORV   eP      23 02 24
        JAS   eP      23 02 27
              USGS 22 49 10.4,  6.4S, 148.1E, h= 64 km, mb=5.6
                   NEW BRITAIN REGION

SEP 21  PRI   e(P)    02 13 40                    e 16 45
        FRI   ePe     02 13 45.0
        MNV   ePe     02 13 55.3
        JAS   ePe     02 14 00.6                  e 16 53
        MHC           02 14                       e 14 03
        BKS           02 14                     Lq 16 10     Lr 16 50
        ORV   ePe     02 14 25.0
        MIN   eP      02 14 36.0
        WDC   eP      02 14 43.2
        FHC   eP      02 14 54.3
              USGS 02 11 33.7, 29.7N, 113.6W, h= 15 km, mb=5.1, Ms=5.2
                   GULF OF CALIFORNIA

SEP 21  MNV   iPd     15 16 04.9
        FRI   iPd     15 16 20.7  16 38
        JAS   iPe     15 16 21.8  16 41
        LLA   eP      15 16 37.0
        MHC   e(P)    15 16 38
        PRI   ePe     15 16 38.3
        SAO   e(P)    15 16 40
        ORV   iPd     15 16 40.2
        BKS   eP      15 16 46.1  17 22
        PCC   e(P)    15 16 47
              BRK  15 15 55.6, 38.1N, 118.6W, h=  8 km, ML=3.8
                   AREA EAST OF MONO LAKE, CALIFORNIA

SEP 23  PRI   eP      05 57 50.0
        BKS   iPd     05 57 50.7
                          MICRON    PERIOD
                      PZ    0.06       0.8
        MHC   eP      05 57 50.8
        FRI   eP      05 57 54.6
        JAS   iPd     05 57 55.6
        ORV   iPd     05 57 57.8
        WDC   iPd     05 57 58.5
        MIN   eP      05 58 00.0
        MNV   eP      05 58 03.8
              USGS 05 45 36.3, 29.7S, 178.8W, h=224 km, mb=5.0
                   KERMADEC ISLANDS
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SEP 23  PRI   iPd    11 13 13.7
        LLA   iPe    11 13 19.5
        FRI   iPd    11 13 21.0  13 33
        PRS   iPe    11 13 23.2
        SAO   iPd    11 13 26.2
        JAS   iPe    11 13 35.4
                BRK  11 13 05.2, 36.2N, 120.2W, h=  7 km, ML=3.0
                     NORTHEAST OF COALINGA, CALIFORNIA

SEP 23  FHC   eP     19 21 38.0
        WDC   ePd    19 21 43.7
        MIN   ePd    19 21 47.1
        ORV   ePd    19 21 50.0              pP 22 11
        BKS   ePd    19 21 53.6              pP 22 14
                                MICRON    PERIOD
                          PZ      0.08       0.8
        MHC   eP     19 21 57.2
        SAO   eP     19 21 59.5
        JAS   ePd    19 21 59.8
        FRI   ePd    19 22 05.2              pP 22 26
        PRI   eP     19 22 05.2
        MNV   eP     19 22 06.8
                USGS 19 10 22.7, 36.0N, 139.6E, h= 89 km, mb=5.4
                     HONSHU, JAPAN

SEP 24  PRI   iPd    08 08 47.1  08 53
        LLA   ePe    08 08 52.4  09 03
        FRI   iPd    08 08 54.4  09 06
        PRS   iPe    08 08 56.5
        SAO   iPe    08 08 59.6
        MHC   ePe    08 09 05.8
        GCC   ePe    08 09 06.0
        JAS   iPd    08 09 08.7
        PCC   eP     08 09 13.2
        BKS   iPe    08 09 15.5  09 44
        MNV   ePd    08 09 24.0
        ORV   ePe    08 09 33.3
        MIN   e(P)   08 09 46
                BRK  08 08 38.6, 36.2N, 120.2W, h=  8 km, ML=4.5
                     NORTHEAST OF COALINGA, CALIFORNIA

SEP 24  SAO   ePe    18 03 11.9
        BKS   ePe    18 03 13.1
                                MICRON    PERIOD
                          PZ      0.04       0.7
        PRI   ePe    18 03 13.4
        MHC   ePe    18 03 13.5
        FRI   ePe    18 03 18.4
        JAS   iPe    18 03 19.1              e 05 16
        ORV   ePe    18 03 20.1              e 05 20
        WDC   iPe    18 03 20.4              e 05 20
        MIN   eP     18 03 23.0
        MNV   ePe    18 03 28.6
                USGS 17 52 17.2, 18.8S, 177.9W, h=569 km, mb=5.2
                     FIJI ISLANDS REGION

SEP 24  FHC   eP     18 05 41.8              pP 06 00
        WDC   eP     18 05 47.2              pP 06 07     e 06 32
        MIN   ePe    18 05 51.0              pP 06 11
        ORV   ePe    18 05 53.7
        BKS   iPe    18 05 57.7  15 27       pP 16 18     sP 06 24     e 16 00
                                              e 16 30     PS 16 40     Lq 25 10
                                             Lr 28 30
                                MICRON    PERIOD
                          PZ      0.17       1.0
        MHC   eP     18 06 01.0              pP 06 19
        SAO   eP     18 06 02.9              pP 06 21
        JAS   ePe    18 06 03.7              pP 06 23
        PRI   eP     18 06 08.9              pP 06 27
        FRI   eP     18 06 09.2              pP 06 29
        MNV   eP     18 06 10.8              pP 06 32
                USGS 17 54 24.1, 35.4N, 140.0E, h= 73 km, mb=6.0
                     NEAR EAST COAST OF HONSHU, JAPAN

SEP 24  FHC   ePd    18 11 06.0              e 11 27
        WDC   iPd    18 11 11.6
        MIN   eP     18 11 16
        ORV   iPd    18 11 18.2
        BKS   ePd    18 11 21.2
                                MICRON    PERIOD
                          PZ      0.08       0.8
        MHC   ePd    18 11 25
        JAS   iPd    18 11 27.8
        SAO   e(P)   18 11 28
        PRI   ePd    18 11 33.3
        FRI   eP     18 11 33.5
        MNV   ePd    18 11 35.4
                USGS 17 59 48.7, 35.5N, 140.1E, h= 74 km, mb=5.5
                     NEAR EAST COAST OF HONSHU, JAPAN

SEP 24  WDC   eP     20 15 41.0
        ORV   eP     20 15 47.5
        JAS   eP     20 15 57.3
        PRI   eP     20 16 02.8
        FRI   eP     20 16 02.9
                USGS 20 04 17.9, 35.5N, 140.0E, h= 75 km, mb=4.7
                     NEAR EAST COAST OF HONSHU, JAPAN

SEP 25  MNV   iPe    14 45 24.5
        FRI   iPe    14 45 48.4
        JAS   iPe    14 45 57.8
        PRI   eP     14 46 01.0
        LLA   eP     14 46 03.6
        SAO   eP     14 46 08.0
        PRS   eP     14 46 08.4
        MHC   eP     14 46 10.2
        ORV   eP     14 46 16.3
        BKS   eP     14 46 20.0
                ML=4.3, NUCLEAR EXPLOSION (BONARDA), N.T.S.
                USGS 14 45 00.1, 37.1N, 116.0W, h=  0 km, mb=4.6
                     SOUTHERN NEVADA

SEP 26  PRI   iPe    13 19 04.9
        FRI   iPd    13 19 10.3
        LLA   iP     13 19 11.6  19 20
        PRS   eP     13 19 12.0
        SAO   eP     13 19 16.5
        MHC   eP     13 19 24.4  19 57
        JAS   iPd    13 19 26.0
        BKS   ePe    13 19 33.9  20 12
        ORV   iPe    13 19 52.4
                ML=4.2, SOUTHWEST OF BAKERSFIELD, CALIFORNIA
                PAS  13 18 41.2, 35.3N, 119.4W, h=  5 km, ML=4.4
                     SOUTHERN CALIFORNIA

SEP 26  FHC          15 34                   e 34 00
        WDC   ePd    15 34 04.0
        BKS   eP     15 34 04.5              PP 37 56     SKS 44 38     e 45 26
                                             PS 46 38      e 51 08     SS 51 36
                                              e 52 05      e 55 12      e 59 08
                                             Lq 01 44     Lr 03 54
                                MICRON    PERIOD
                          PZ      0.07       1.5
                          LZ      22         20
                          LN       4.3       20
                          LE      20         20
        MHC          15 34                   e 34 06
        ORV   ePd    15 34 06.8
        PRI          15 34                   e 34 11
        JAS   e(P)   15 34 12
        FRI          15 34                   e 34 13
                Ms=6.6, DISTANCE=98°
                USGS 15 20 37.1,  3.2S, 142.2E, h= 33 km, mb=5.9, Ms=6.5
                     NEAR NORTH COAST OF PAPUA, NEW GUINEA

SEP 26  FRI   iPe    16 19 28.3  19 40
        JAS   iPe    16 19 35.8  19 52
        LLA   ePe    16 19 45.6
        PRI   ePe    16 19 47.1
        SAO   iPe    16 19 49.9
        MHC   eP     16 19 50.7
        PRS   ePe    16 19 52
        BKS   e(P)   16 19 56
                BRK  16 19 11.5, 37.5N, 118.8W, h= 23 km, ML=3.5
                     MAMMOTH LAKES AREA, CALIFORNIA

SEP 26  FHC   eP     17 40 36.3
        BKS   ePe    17 40 36.7              pP 41 07
                                MICRON    PERIOD
                          PZ      0.03       0.8
        SAO   eP     17 40 36.7
        MHC   ePe    17 40 37.6              pP 41 08
        PRI   ePe    17 40 39.2
        WDC   iPe    17 40 40.5              pP 41 11
        ORV   iPe    17 40 41.8              pP 41 12
        JAS   iPe    17 40 42.6              pP 41 13
        MIN   eP     17 40 42.8
        FRI   ePe    17 40 43.5              pP 41 14
        MNV   ePe    17 40 52.0
                USGS 17 28 15.4, 15.0S, 167.3E, h=116 km, mb=5.9
                     VANUATU ISLANDS

SEP 26  PRI   eP     20 38 10.4
        FRI   eP     20 38 12.6
        MHC   eP     20 38 18.3
        JAS   eP     20 38 19.6
        MNV   eP     20 38 20.0
        ORV   eP     20 38 29.7
        WDC   eP     20 38 35.4
        FHC          20 38                   e 38 43
                USGS 20 26 34.8, 35.9S, 102.9W, h= 10 km, mb=4.9, Ms=5.0
                     SOUTHERN PACIFIC OCEAN

SEP 27  FHC   iPe    02 51 56.4
        WDC   iPe    02 52 12.4
        MIN   ePe    02 52 22.5              e 52 57
        ORV   iPd    02 52 28.2             Sg 53 07
                BRK  02 51 40.3, 41.2N, 125.0W, h=  8 km, ML=3.2
                     OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

SEP 27  MNV   eP     06 33 54.8
        FRI   ePe    06 34 00.8             PcP 35 27
        PRI   eP     06 34 06.1
        JAS   iPe    06 34 07.0              e 34 41     PcP 35 30
        SAO   eP     06 34 10.7
        MHC   ePe    06 34 14.3
        ORV   iPe    06 34 14.8             PcP 35 33
        MIN   eP     06 34 15.6
        BKS   eP     06 34 18.0              e 34 52      e 35 11      e 41 22
                                MICRON    PERIOD
                          PZ      0.03       0.8
        WDC   iPe    06 34 19.7             PcP 35 35
        FHC   eP     06 34 30.5              e 35 05     PcP 35 42
                USGS 06 25 36.7, 18.5N,  68.9W, h=159 km, mb=4.9
                     MONO PASSAGE

SEP 27  FRI   iPe    19 16 41.4  16 53
        MNV   iPe    19 16 43.2
        JAS   iPe    19 16 47.7
        LLA   iPe    19 16 58.8  17 23
        PRI   ePe    19 17 00.7
        SAO   iPe    19 17 03.0
        MHC   ePe    19 17 03.1
        PRS   ePe    19 17 05.2
        GCC   ePe    19 17 07.2
        BKS   eP     19 17 09.4
        PCC   ePe    19 17 10.3
        ORV   ePd    19 17 11.2
        WDC   eP     19 17 29.2
                BRK  19 16 24.5, 37.6N, 118.9W, h= 14 km, ML=4.1
                     MAMMOTH LAKES AREA, CALIFORNIA

SEP 28  FHC   ePd    00 32 09.8
        WDC   iPd    00 32 13.8
        MIN   eP     00 32 16.7
        ORV   ePd    00 32 19.0
        JAS   e(P)   00 32 27
        FRI   ePd    00 32 31.5
                USGS 00 19 30.6, 25.7N, 125.8E, h= 96 km, mb=4.9
                     SOUTHWESTERN RYUKYU ISLANDS

SEP 28  FHC   eP     08 29 27.8
        WDC   iPd    08 29 28.0
        ORV   iPd    08 29 30.5
        JAS   eP     08 29 34.0
        FRI   eP     08 29 36.6
                USGS 08 16 35.3,  5.4S, 151.1E, h=104 km, mb=5.1
                     NEW BRITAIN REGION

SEP 28  FRI   ePKP   14 48 23.2
        MNV   ePKP   14 48 24.0
        PRI   ePKP   14 48 24.0
        JAS   ePKPe  14 48 25.7
        MHC   ePKP   14 48 26.6
        BKS   ePKP   14 48 27.0
        ORV   ePKPe  14 48 28.5
        MIN   ePKP   14 48 29.4
        WDC   ePKPe  14 48 30.6
        FHC   ePKP   14 48 33.4
                USGS 14 29 41.5, 56.0S,  27.6W, h= 96 km, mb=5.6
                     SOUTH OF SANDWICH ISLANDS REGION

SEP 28  FHC   eP     18 38 44.2
        BKS   ePe    18 38 46.4              e 49 28      e 50 32      Lr 05 48
                                MICRON    PERIOD
                          PZ      0.20       0.8
                          LZ      2.1        20
                          LN      0.7        20
                          LE      2.5        20
        WDC   iPe    18 38 47.2
        MHC   ePe    18 38 48.5
        SAO   eP     18 38 48.5
        MIN   eP     18 38 49.5
        ORV   iPe    18 38 50.0
        PRI   ePe    18 38 52.0
        JAS   iPe    18 38 52.9
        FRI   iPe    18 38 55.0
        MNV   iPe    18 39 02.3
                Ms=5.7, DISTANCE=89°
                USGS 18 25 59.7,  6.3S, 154.8E, h= 68 km, mb=6.0
                     SOLOMON ISLANDS

SEP 28  FHC   ePe    21 47 57.1
        WDC   iPe    21 48 02.8
        MIN   ePe    21 48 06.7
        ORV   iPe    21 48 09.6
        BKS   eP     21 48 13.0
        MHC   eP     21 48 17.2
        JAS   ePe    21 48 19.9
        PRI   e(P)   21 48 25
        FRI   eP     21 48 25.7
        MNV   iPe    21 48 26.8
                USGS 21 36 58.3, 38.7N, 141.7E, h= 78 km, mb=4.9
                     NEAR EAST COAST OF HONSHU, JAPAN

SEP 29  FRI   eP     00 43 02.5
        PRI   eP     00 43 04.9
        JAS   eP     00 43 10.2
        MHC   eP     00 43 13.1
        ORV   iPd    00 43 20.4
        MIN   eP     00 43 22.6
        WDC   iPd    00 43 25.6
        FHC   ePd    00 43 33.5
                USGS 00 31 54.8, 17.4S,  69.9W, h=135 km, mb=4.9
                     PERU-BOLIVIA BORDER REGION
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SEP 29 FHC eP 18 44 19.0
WDC iPe 18 44 25.0
MIN eP 18 44 29.3
ORV iPe 18 44 32.6
BKS eP 18 44 36.8
MICRON PERIOD
PZ 0.03 0.7
MHC eP 18 44 41.5
JAS iPe 18 44 44.2
FRI eP 18 44 50.4
PRI eP 18 44 50.6
MNV eP 18 44 51.1
USGS 18 34 18.1, 45.8N, 148.6E, h=130 km, mb=4.9
KURIL ISLANDS

OCT 02 WDC eP 01 24 41.6 e 24 49 e 24 52
MIN e(P) 01 24 45
ORV eP 01 24 48.1 e 24 56 e 24 59
JAS eP 01 24 58.9 e 25 06 e 25 10
FRI eP 01 25 05
PRI eP 01 25 08
USGS 01 12 44.8, 51.5N, 108.3E, h= 33 km, mb=4.9, Ms=4.6
LAKE BAIKAL REGION

OCT 02 FHC eP 03 45 20.6
WDC ePe 03 45 30.8 i 45 40
MIN ePe 03 45 37.4
ORV ePe 03 45 47.1
BKS ePe 03 46 04.5 48 40 e 46 23 e 49 02 Lr 49 14
MICRON PERIOD
PZ 0.55 1.6
JAS ePe 03 46 10.7 i 46 20
MHC ePe 03 46 12.8 i 46 22
MNV ePe 03 46 17.6
SAO e(P) 03 46 20
FRI ePe 03 46 25.0
PRI ePe 03 46 31.7
USGS 03 42 48.6, 50.3N, 130.0W, h= 10 km, mb=5.3, Ms=5.0
VANCOUVER ISLAND REGION

OCT 02 SAO eP 05 38 28
BKS ePd 05 38 28.5
MICRON PERIOD
PZ 0.03 0.9
MHC ePd 05 38 29.0
FHC ePd 05 38 29.1
PRI ePd 05 38 30
WDC ePd 05 38 32.8
ORV ePd 05 38 33.3
JAS ePd 05 38 33.6
FRI ePd 05 38 34.3
MIN eP 05 38 34.7
USGS 05 26 00.6, 19.4S, 169.1E, h=129 km, mb=4.8
VANUATU ISLANDS

OCT 02 BKS iPe 12 47 06.2 47 09
PCC iPd 12 47 12.3
MHC iPd 12 47 15.2 47 26
GCC ePd 12 47 18.5
JAS iPe 12 47 23.2 47 41
SAO ePd 12 47 23.6
ORV eP 12 47 26.9
LLA e(P) 12 47 28
PRS e(P) 12 47 30
FRI ePd 12 47 35.9
MIN eP 12 47 39.9
WDC ePe 12 47 40.8
BRK 12 47 02.0, 38.0N, 122.1W, h= 15 km, ML=3.1
NORTHEAST OF BERKELEY, CALIFORNIA

OCT 02 PRI 16 00 e 00 42
SAO 16 00 e 00 43
BKS 16 00 e 00 43
MHC 16 00 i 00 45
FHC 16 00 e 00 48
FRI 16 00 e 00 48
JAS eP 16 00 49.0
ORV eP 16 00 49.7 i 00 52
WDC eP 16 00 50.0 i 00 52
MNV eP 16 00 56.0 i 00 59
USGS 15 49 36.2, 21.0S, 178.7W, h=604 km, mb=5.3
FIJI ISLANDS REGION

OCT 03 SAO eP 02 04 18.2
BKS ePe 02 04 19.3 e 06 17
MICRON PERIOD
PZ 0.06 0.9
PRI eP 02 04 19.5
MHC eP 02 04 19.7 e 06 18
FRI eP 02 04 24.5
FHC 02 04 e 04 25
JAS iPe 02 04 25.2 e 06 23
ORV iPe 02 04 26.7 e 06 25
WDC iPe 02 04 26.9 e 06 25
MIN eP 02 04 28.5
USGS 01 53 16.5, 20.2S, 177.8W, h=554 km, mb=5.4
FIJI ISLANDS REGION

OCT 04 SAO eP 04 49 16.4
BKS eP 04 49 17 59 00 e 55 36 e 59 24 SoS 59 36
SS 03 38 Lq 08 34 e 09 08
Lr 11 24
MICRON PERIOD
PZ 0.04 0.6
LZ 8 20
LN 6 20
LE 7 20
MHC eP 04 49 18.1
PRI eP 04 49 18.3
FHC eP 04 49 22.3
FRI eP 04 49 23.6
JAS eP 04 49 23.8
ORV eP 04 49 24.3
WDC eP 04 49 24.3
MIN eP 04 49 26.6
Ms=6.0, DISTANCE=74°
USGS 04 37 34.1, 15.7S, 179.4W, h= 33 km, mb=5.5, Ms=6.0
FIJI ISLANDS REGION

OCT 04 FRI iPe 16 38 38.7 38 50
MNV iPe 16 38 42.0
JAS iPe 16 38 46.9 39 04
LLA iPd 16 38 57.1
PRI ePd 16 38 58.4
SAO iPd 16 39 01.6
MHC eP 16 39 02.2
PRS iPd 16 39 03.5
GCC ePd 16 39 05.9
BKS ePd 16 39 08.5 S° 39 43
PCC eP 16 39 09.8
ORV eP 16 39 11
BRK 16 38 22.2, 37.5N, 118.8W, h= 11 km, ML=4.3
MAMMOTH LAKES AREA, CALIFORNIA

OCT 04 FRI iPe 16 42 34.3 42 46
MNV iPd 16 42 37.6
JAS iPe 16 42 42.4 42 59
LLA iPe 16 42 52.5
PRI ePd 16 42 54.3
SAO iPe 16 42 56.9
MHC ePd 16 42 57.6
PRS ePe 16 42 58.5
BKS ePd 16 43 04.0 43 39
PCC ePd 16 43 05
BRK 16 42 17.7, 37.5N, 118.8W, h= 10 km, ML=3.7
MAMMOTH LAKES AREA, CALIFORNIA

OCT 04 FHC ePe 23 46 43.1
WDC iPe 23 46 48.0
MIN ePe 23 46 51.6
ORV iPe 23 46 54.5
BKS eP 23 46 58.4
MICRON PERIOD
PZ 0.04 0.9
MHC eP 23 47 02.0
JAS iPe 23 47 04.0
SAO eP 23 47 04.5
FRI eP 23 47 09.5
PRI eP 23 47 09.8
MNV ePe 23 47 10.2
USGS 23 35 43.6, 37.3N, 134.7E, h=366 km, mb=4.9
SEA OF JAPAN

OCT 05 FRI iPe 11 38 43.5 38 55
MNV iPe 11 38 46.9 39 01
JAS iPe 11 38 51.1 39 08
LLA iPe 11 39 01.2 39 27
PRI eP 11 39 02.9
SAO iPd 11 39 05.7
MHC ePd 11 39 06.3
PRS ePd 11 39 07.8
BKS eP 11 39 13.2 e 39 48
BRK 11 38 27.2, 37.5N, 118.9W, h= 12 km, ML=3.5
MAMMOTH LAKES AREA, CALIFORNIA

OCT 05 FHC ePKP 17 37 29.0
WDC ePKPd 17 37 31.3
MIN ePKP 17 37 32.4
ORV ePKPd 17 37 33.0
BKS ePKP 17 37 33.7
MICRON PERIOD
PKPZ 0.03 1.0
MHC ePKP 17 37 34.5
JAS ePKPd 17 37 35.5
PRI ePKP 17 37 36.9
FRI ePKP 17 37 37.2
MNV ePKP 17 37 39.6
USGS 17 18 41.1, 11.4S, 117.6E, h= 33 km, mb=5.7, Ms=5.0
SOUTH OF SUMBAWA ISLAND

OCT 07 MNV eP 19 24 56
JAS eP 19 25 28.5

OCT 08 SAO eP 09 54 37.3
PRI ePe 09 54 38.7
MHC ePe 09 54 39.2
BKS ePe 09 54 39.6
MICRON PERIOD
PZ 0.07 0.9
FRI ePe 09 54 44.7
JAS ePe 09 54 45.3 e 55 12 e 57 27
ORV ePe 09 54 46.6 e 57 30
WDC ePe 09 54 47.0 e 55 16
MIN ePe 09 54 49.0
USGS 09 43 17.5, 15.2S, 174.0W, h= 33 km, mb=5.5, Ms=4.9
TONGA ISLANDS

OCT 08 FHC ePKP 16 23 45.6
WDC ePKPe 16 23 46.8 i 23 49
MIN ePKPe 16 23 48.0
ORV ePKPe 16 23 48.9 i 23 51
BKS ePKP 16 23 50 PP 25 50 SKP 27 00 SP 37 32
PS 37 48 SS 43 12 e 43 40
Lq 58 00 Lr 04 30
MICRON PERIOD
PKPZ 0.05 1.2
LZ 5 20
LN 2.5 20
LE 5 20
MHC ePKPe 16 23 51.7
JAS ePKPe 16 23 52.4 e 27 10
FRI ePKP 16 23 54.3 i 27 14 e 27 44
PRI ePKP 16 23 54.8 e 27 14 e 27 44
MNV ePKP 16 23 56 e 27 16 e 27 46
Ms=6.3, DISTANCE=132°
USGS 16 04 45.6, 5.4S, 103.1E, h= 33 km, mb=5.8, Ms=6.3
SOUTHERN SUMATERA

OCT 08 PRI ePd 20 27 49.8 e 28 18
FRI eP 20 27 52.7 e 28 24
MHC e(P) 20 28 01 e 28 29
JAS ePd 20 28 02.5 e 28 35
BKS e(P) 20 28 17 35 30 e 28 48 Lq 39 00 e 39 40
e 40 00 Lr 41 00
MICRON PERIOD
LZ 7 20
LN 9 20
LE 3.6 20
ORV iPd 20 28 17.2 i 28 45
WDC eP 20 28 25.2 e 28 55 e 29 00
Ms=5.8, DISTANCE=48°
USGS 20 19 46.5, 4.9S, 105.9W, h= 10 km, mb=5.0, Ms=5.6
NORTHERN EASTER ISLAND CORDILLERA

OCT 08 FRI ePd 22 10 44.0
MNV ePd 22 10 44.7
PRI ePd 22 10 46.0
SAO eP 22 10 52.0
JAS iPd 22 10 52.4 e 11 04
MHC ePd 22 10 56.0 e 11 08
BKS eP 22 11 00.3
MICRON PERIOD
PZ 0.12 0.8
ORV iPd 22 11 04.2 i 11 48
MIN ePd 22 11 06.5
WDC iPd 22 11 10.2
FHC ePd 22 11 19.8
USGS 22 01 34.8, 1.4S, 77.7W, h=190 km, mb=5.5
ECUADOR

OCT 09 WDC iP 02 18 53.5 i 18 05
MIN eP 02 18 57.0 e 19 10
ORV eP 02 19 00 i 19 12
BRK eP 02 19 03 e 19 15
MHC eP 02 19 07.3 e 19 19
JAS eP 02 19 09.9 e 19 22
PRI e(P) 02 19 15 e 19 28
FRI eP 02 19 15.4 e 19 28
MNV 02 19 e 19 30
USGS 02 07 33.5, 36.3N, 140.9E, h= 52 km, mb=5.2, Ms=5.0
NEAR EAST COAST OF HONSHU, JAPAN

OCT 09 WDC eP 06 09 14.6
MIN eP 06 09 17.9
BKS eP 06 09 18.8
MICRON PERIOD
PZ 0.03 0.8
ORV eP 06 09 19.0
MHC eP 06 09 22.1
JAS eP 06 09 25.4
FRI eP 06 09 29.0
USGS 05 56 26.1, 11.1N, 140.7E, h= 33 km, mb=5.0
WEST CAROLINE ISLANDS

OCT 09 BKS eP 06 24 14.3
MICRON PERIOD
PZ 0.08 1.3
MHC eP 06 24 15.3
PRI e(P) 06 24 16
WDC ePe 06 24 18.2
FRI eP 06 24 20
ORV ePe 06 24 20.3
JAS ePe 06 24 20.3
MIN eP 06 24 20.9
USGS 06 11 37.0, 19.2S, 169.6E, h= 33 km, mb=5.1, Ms=5.2
VANUATU ISLANDS

International Seismological Centre

International Seismological Centre

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OCT 09  ORV   eP      10 28 09.5                 e 28 14
        JAS   eP      10 28 09.5                 e 28 14
        FRI           10 28                      e 28 15
                      USGS 10 15 26.4, 19.3S, 169.6E, h= 33 km, mb=4.5
                           VANUATU ISLANDS

OCT 09  MHC   e(P)    10 56 50
        WDC   ePd     10 56 52.6
        JAS   eP      10 56 55.2
        ORV   eP      10 56 55.3
        FRI   eP      10 56 56
        MIN   e(P)    10 56 57
                      USGS 10 44 13.2, 19.2S, 169.6E, h= 33 km, mb=4.9, Ms=5.2
                           VANUATU ISLANDS

OCT 09  MHC   ePd    11 45 34.4
        PRI   ePd     11 45 35.4
        BKS   ePd     11 45 36.0  57 10          e 45 57     Lr 12 00
                                MICRON     PERIOD
                           PZ     0.20        1.8
                           LZ     5           20
                           LN     2.7         20
                           LE     3.0         20
        WDC   ePd     11 45 38.7                 i 45 41
        ORV   ePd     11 45 39.3                 i 45 42
        JAS   ePd     11 45 39.5
        FRI   ePd     11 45 39.8
        MIN   ePd     11 45 40.7
        MNV   eP      11 45 48
                      Ms=5.9, DISTANCE=87°
                      USGS 11 32 56.4, 19.3S, 169.7E, h= 33 km, mb=5.4, Ms=5.4
                           VANUATU ISLANDS

OCT 09  SAO   iPd     16 12 22.7
        PRS   iPd     16 12 30.1
        GCC   iPd     16 12 30.2
        LLA   iPe     16 12 30.8
        MHC   iPd     16 12 33.2  12 41
        PRI   iPe     16 12 39.1
        PCC   iPd     16 12 39.5                 i 12 43
        BKS   ePd     16 12 42.5  13 00
        FRI   eP      16 12 46.2
        JAS   iPd     16 12 47.5
                      BRK  16 12 21.3, 36.8N, 121.5W, h=  7 km, ML=3.0
                           SOUTHWEST OF HOLLISTER, CALIFORNIA

OCT 09  SAO   eP      16 30 56.3
        PRI   eP      16 30 57.0
        BKS   ePd     16 30 57.6  40 20          e 31 20     ScS 41 00     SS 44 30
                                                 e 46 32     Lq 48 24      e 50 48
                                                Lr 51 40
                                MICRON     PERIOD
                           PZ     0.14        1.0
                           LZ     12          20
                           LN     9           20
                           LE     9           20
        MHC   eP      16 30 58.2
        FHC           16 31                      e 31 02
        FRI   iPd     16 31 03.9
        JAS   iPd     16 31 04.4
        ORV   eP      16 31 05.7
        WDC   iPd     16 31 06.3
        MIN   eP      16 31 08.2
        MNV   eP      16 31 14.9
                      Ms=6.2, DISTANCE=71°
                      USGS 16 19 38.2, 15.4S, 173.4W, h= 33 km, mb=5.7, Ms=6.0
                           TONGA ISLANDS

OCT 10  JAS   eP      12 13 36.5
        ORV   eP      12 13 45.5
        WDC   eP      12 13 50.8
                      USGS 12 01 14.2, 31.7S,  71.9W, h= 33 km, mb=4.7
                           NEAR EAST COAST OF CENTRAL CHILE

OCT 10  MNV   eP      12 38 11.3
        MIN   ePe     12 38 13.0
        WDC   ePe     12 38 13.7
        ORV   ePe     12 38 15.0
        FHC   eP      12 38 17.5
        JAS   ePe     12 38 19.2
        FRI   ePe     12 38 20.3
        MHC   ePe     12 38 24.6
        SAO   eP      12 38 24.8
        BKS   ePe     12 38 25.1  49 04          PP 42 00    SKS 49 00     SeS 49 32
                                                 PS 50 32    PPS 50 40      SS 54 30
                                                 Lq 02 00     Lr 07 50
                                MICRON     PERIOD
                           PZ     0.41        1.6
                           LZ     250         20
                           LNE    270         20
                           LNW    180         20
        PRI   ePe     12 38 26.6
                      Ms=7.7, DISTANCE=88°
                      USGS 12 25 23.5, 36.2N,   1.4E, h= 10 km, mb=6.5, Ms=7.3
                           ALGERIA

OCT 10  MIN   eP      12 49 59.4
        WDC   eP      12 50 00.0
        ORV   eP      12 50 01.5
        JAS   eP      12 50 05.5
        FRI   eP      12 50 06.7
        MHC   eP      12 50 11.0
        PRI           12 50                      e 50 13
                      USGS 12 37 09.7, 36.4N,   1.6E, h= 10 km, mb=5.9
                           ALGERIA

OCT 10  MIN   ePe     14 57 42.1
        WDC   ePe     14 57 42.5
        ORV   ePe     14 57 44.5
        JAS   ePe     14 57 48.3
        FRI   eP      14 57 49.7
        MHC   eP      14 57 53.8
        PRI   eP      14 57 55.8
                      USGS 14 44 52.6, 36.2N,   1.5E, h= 10 km, mb=5.3
                           ALGERIA

OCT 10  MNV   ePe     15 51 58.0
        MIN   ePe     15 51 59.7
        WDC   ePe     15 51 59.9
        ORV   ePe     15 52 01.7
        FHC   ePe     15 52 04.4
        JAS   ePe     15 52 05.6
        FRI   ePe     15 52 06.9
        BKS   ePe     15 52 10.5  03 08          SS 08 30     Lr 21 48
                                MICRON     PERIOD
                           PZ     0.07        1.2
        MHC   eP      15 52 11.2
        PRI   ePe     15 52 13.2
                      USGS 15 39 09.8, 36.2N,   1.6E, h= 10 km, mb=6.2, Ms=6.1
                           ALGERIA

OCT 10  JAS   ePe     19 20 57.0
        MHC   eP      19 21 02
        PRI   eP      19 21 04
                      USGS 19 08 01.6, 36.4N,   1.6E, h= 11 km, mb=5.3
                           ALGERIA

OCT 11  WDC   iPe     07 20 48.6          PKPPKP 49 23
        FHC   ePe     07 20 48.7
        MIN   ePe     07 20 50.5
        ORV   iPe     07 20 54.9          PKPPKP 49 19
        JAS   ePe     07 21 05.7          PKPPKP 49 16
        BKS   ePe     07 21 06.7
                                MICRON     PERIOD
                           PZ     0.07        1.0
        MHC   ePe     07 21 10.2
        FRI   ePe     07 21 11.7
        SAO   eP      07 21 13.2
        PRI   ePe     07 21 17.8          PKPPKP 49 11
                      USGS 07 09 57.0, 73.4N,  55.0E, h=  0 km, mb=5.8, Ms=5.3
                           NOVAYA ZEMLYA

OCT 11  PRI   eP      11 09 16.5
        MHC   eP      11 09 17.1
        FRI   eP      11 09 21.7
        JAS   ePe     11 09 22.5
        ORV   ePe     11 09 24.5
        WDC   ePe     11 09 25.1
        MIN   eP      11 09 26.9
                      USGS 10 57 16.6, 23.6S, 175.9W, h= 67 km, mb=4.5
                           TONGA ISLANDS REGION

OCT 11  BKS   eP      12 11 39.5
                                MICRON     PERIOD
                           PZ     0.03        1.0
        MHC   eP      12 11 40.4
        PRI   eP      12 11 40.5
        FRI   ePe     12 11 45.5
        JAS   iPe     12 11 45.9
        ORV   iPe     12 11 46.9
        WDC   iPe     12 11 47.0
        MIN   eP      12 11 49.0
                      USGS 12 00 49.2, 17.8S, 178.6W, h=614 km, mb=4.8
                           FIJI ISLANDS REGION

OCT 11  FHC   ePe     15 56 28.5
        WDC   ePe     15 56 37.7
        MIN   ePe     15 56 43.8
        ORV   ePe     15 56 48.7
        BKS   ePe     15 56 57.2
                                MICRON     PERIOD
                           PZ     0.04        1.0
        MHC   eP      15 57 03.6
        JAS   ePe     15 57 05.7                 e 57 19
        FRI   eP      15 57 15.0
        PRI   eP      15 57 17.1
                      USGS 15 51 25.5, 54.8N, 151.4W, h= 33 km, mb=4.7
                           SOUTH OF ALASKA

OCT 12  FHC   ePe     03 47 05.8
        WDC   iPe     03 47 07.0
        ORV   iPe     03 47 12.3
        BKS   ePe     03 47 20.4
                                MICRON     PERIOD
                           PZ     0.09        0.9
        JAS   iPe     03 47 21.5
        MNV   eP      03 47 21.9
        MHC   ePe     03 47 23.5
        SAO   eP      03 47 25.9
        FRI   ePe     03 47 26.2
        PRI   eP      03 47 30.2
                      USGS 03 34 14.1, 50.0N,  79.1E, h=  0 km, mb=5.9, Ms=4.3
                           EASTERN KAZAKH, S.S.R.

OCT 12  MHC   iPd     21 41 19.3  41 24
        SAO   iPd     21 41 19.5
        GCC   iPe     21 41 21.2
        LLA   iPe     21 41 24.9
        PRS   ePe     21 41 27.2
        PCC   eP      21 41 28.5
        BKS   ePe     21 41 32.0  41 46
        PRI   e(P)    21 41 34
        JAS   iPd     21 41 34.9
        FRI   eP      21 41 38
                      BRK  21 41 13.2, 37.1N, 121.5W, h=  8 km, ML=2.5
                           NORTH-NORTHWEST OF HOLLISTER, CALIFORNIA

OCT 13  FHC   iPd     01 16 53.3  17 01
        WDC   iPe     01 17 00.8
        MIN   iPe     01 17 10.5
        ORV   iPe     01 17 14.1
        BKS   ePd     01 17 27.1
        PCC   eP      01 17 30
        MHC   ePe     01 17 37.4
        GCC   eP      01 17 37.5
        JAS   ePe     01 17 37.8
        SAO   iPe     01 17 44.1
        LLA   eP      01 17 49.1
        PRS   eP      01 17 49.5
        FRI   ePd     01 17 53.8
        PRI   ePd     01 17 58
                      BRK  01 16 45.2, 40.4N, 123.8W, h= 20 km, ML=3.9
                           SOUTHEAST OF EUREKA, CALIFORNIA

OCT 13  LLA   iPe     02 46 56.6
        PRS   iPd     02 47 00.8
        SAO   iPe     02 47 01.0
        PRI   iPd     02 47 05.1
        GCC   iPe     02 47 09.5
        MHC   iPd     02 47 10.6
        FRI   iPe     02 47 14.5
        PCC   ePd     02 47 17.4
        JAS   ePd     02 47 18.8
        BKS   iPe     02 47 20.4  47 40
                      BRK  02 46 54.1, 36.6N, 121.1W, h= 11 km, ML=4.0
                           SOUTHEAST OF HOLLISTER, CALIFORNIA

OCT 13  PCC   iPe     05 20 23.9  20 29
        BKS   iPd     05 20 24.0  20 29
        MHC   iPd     05 20 25.1  20 31
        GCC   iPd     05 20 28.4
        SAO   ePd     05 20 34.8
        JAS   eP      05 20 40.0
                      BRK  05 20 17.3, 37.6N, 122.0W, h=  5 km, ML=2.5
                           SOUTHEAST OF BERKELEY, CALIFORNIA

OCT 13  MIN   ePe     06 50 28.8
        WDC   ePe     06 50 29.9
        ORV   ePe     06 50 31.1
        JAS   ePe     06 50 35.0
        FRI   eP      06 50 36.2
        PRI   eP      06 50 42.5
                      USGS 06 37 39.2, 36.3N,   1.6E, h= 10 km, mb=5.2, Ms=5.2
                           ALGERIA

OCT 13  LLA   iPe     08 54 43.8
        SAO   iPe     08 54 44.4
        PRS   iPd     08 54 45.0
        PRI   iPd     08 54 51.3
        GCC   ePd     08 54 53.7
        MHC   iPd     08 54 55.8
        FRI   iPe     08 55 01.7
        PCC   iPe     08 55 02.4
        BKS   iPe     08 55 05.6  55 28          i 55 40
        JAS   iPd     08 55 05.8
                      BRK  08 54 39.2, 36.6N, 121.2W, h=  7 km, ML=3.2
                           SOUTHEAST OF HOLLISTER, CALIFORNIA

OCT 13  FHC   iPe     22 59 19.1
        WKC   iPe     22 59 19.6  59 25
        WDC   iPe     22 59 35.3
        MIN   iPe     22 59 45.8
        ORV   iPd     22 59 50.6
                      BRK  22 59 12.5, 40.7N, 124.4W, h= 22 km, ML=3.2
                           OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

OCT 15  FRI   eP      09 49 11.8
        JAS   ePe     09 49 21.6
        ORV   ePe     09 49 36.4
                      USGS 09 41 10.4,  3.6S, 103.7W, h= 10 km, mb=4.5, Ms=4.1
                           NORTHERN EASTER ISLAND CORDILLERA

OCT 16  WDC   iPe     13 55 16.4  55 24
        MIN   ePe     13 55 24.2  55 37
        ORV   iPe     13 55 27.3
        FHC   iPd     13 55 30.4
        WKC   e(P)    13 55 31
        JAS   e(P)    13 55 53
                      BRK  13 55 08.5, 40.1N, 122.7W, h= 10 km, ML=3.2
                           SOUTHWEST OF REDDING, CALIFORNIA
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OCT 18  FRI   eP     05 24 48.0
        JAS   e(P)   05 24 50
        ORV   eP     05 24 50.4
        WDC   eP     05 24 51.0
        MIN   eP     05 24 53
                     USGS 05 12 09.7, 18.5S, 173.4W, h= 33 km, mb=5.1
                          TONGA ISLANDS

OCT 18  PRI   eP     10 08 01.2
        BKS   eP     10 08 02.2
                          MICRON    PERIOD
                     PZ     0.03       0.8
        MHC   eP     10 08 02.2
        FRI   eP     10 08 05.7
        WKC   eP     10 08 06
        JAS   eP     10 08 06.8
        ORV   eP     10 08 09.0
        WDC   eP     10 08 10.0
        MIN   eP     10 08 11.3
                     USGS 09 55 40.0, 33.0S, 179.7W, h=280 km, mb=4.8
                          SOUTH OF KERMADEC ISLANDS

OCT 18  FRI   iPe    16 49 21.1  49 33
        MNV   eP     16 49 26.1  49 41
        JAS   iPe    16 49 29.9  49 45
        LLA   ePe    16 49 38.9  50 04
        PRI   ePe    16 49 40.3
        SAO   iPe    16 49 43.6
        MHC   ePe    16 49 44.3
        PRS   ePe    16 49 45.3
        GCC   ePe    16 49 48.0
        BKS   eP     16 49 50.6  50 23      e 49 57      e 50 27
        PCC   ePe    16 49 51.8
        ORV   eP     16 49 55.5
        MIN   e(P)   16 50 08
                     BRK  16 49 05.6, 37.5N, 118.9W, h= 13 km, ML=4.1
                          MAMMOTH LAKES AREA, CALIFORNIA

OCT 19  BKS   iPe    05 13 28.5  13 34
        MHC   iPe    05 13 31.4  13 39
        PCC   iPe    05 13 32.3  13 41
        JAS   iPe    05 13 39.9  13 44
        SAO   e(P)   05 13 41
        ORV   iPd    05 13 51.4
                     BRK  05 13 21.6, 37.8N, 121.8W, h= 14 km, ML=2.5
                          NORTH OF LIVERMORE

OCT 19  FHC   eP     15 16 42.7            pP 17 19
        WDC   iPd    15 16 47.1            pP 17 21     PP 20 40
        BKS   eP     15 16 47.5            pP 17 21      e 17 31      e 17 39
                                           PP 20 38     Lr 47 00
                          MICRON    PERIOD
                     PZ     0.07       1.2
        MIN   eP     15 16 49.7
        MHC   eP     15 16 49.7            pP 17 24     PP 20 43    pPP 21 15
        ORV   iPd    15 16 49.9            pP 17 23     PP 20 44
        PRI   eP     15 16 53.3            PP 20 49
        JAS   ePd    15 16 53.5            PP 20 50
        FRI   ePd    15 16 56.0            PP 20 54
                     USGS 15 03 35.4,  6.1S, 145.5E, h=125 km, mb=5.8
                          PAPUA NEW GUINEA

OCT 20  FHC   eP     03 40 46.0                e 41 07
        WDC   eP     03 40 51.5                e 41 13
        MIN   eP     03 40 55.0                e 41 16
        ORV   eP     03 40 57.0                e 41 18
        BKS   eP     03 41 00.1                e 41 21      Lr 04 00
                          MICRON    PERIOD
                     PZ     0.01       0.6
        MHC   eP     03 41 04.0                e 41 25
        JAS   eP     03 41 07.0                e 41 28
        PRI   eP     03 41 11.0
        FRI   eP     03 41 12.0                e 41 33
                     USGS 03 29 21.3, 33.1N, 140.4E, h= 81 km, mb=5.6
                          SOUTH OF HONSHU, JAPAN

OCT 20  BKS   eP     11 07 28.8
                          MICRON    PERIOD
                     PZ     0.09       0.8
        WDC   ePe    11 07 29.4
        MHC   eP     11 07 30.9
        SAO   eP     11 07 31.8
        ORV   ePe    11 07 32.2
        MIN   eP     11 07 33.3
        PRI   eP     11 07 34.4
        JAS   ePe    11 07 35.2
        FRI   eP     11 07 37.4
        MNV   eP     11 07 44.3
                     USGS 10 54 42.2,  6.3S, 154.8E, h= 65 km, mb=5.7
                          SOLOMON ISLANDS

OCT 20  WDC   eP     19 54 46.8                e 55 35
        ORV   eP     19 54 48.7                e 55 36
        JAS   e(P)   19 54 51                  e 55 38
        FRI          19 54                     e 54 52      e 55 42
                     USGS 19 42 37.3, 13.1S, 167.0E, h=191 km, mb=5.2
                          VANUATU ISLANDS

OCT 21  PRI   eP     00 47 10.6
        MHC   eP     00 47 11.1
        FRI   eP     00 47 16.4
        JAS   eP     00 47 17.1
        ORV   eP     00 47 18.8
        WDC   eP     00 47 19.2
        MIN   eP     00 47 21
                     USGS 00 35 45.5, 16.8S, 173.4W, h= 37 km, mb=5.1
                          TONGA ISLANDS

OCT 21  FRI   iPe    03 04 25.0  04 36
        MNV   ePd    03 04 29.1
        JAS   iPd    03 04 32.5  04 49
        LLA   ePe    03 04 43.4
        PRI   ePd    03 04 45.6
        MHC   eP     03 04 47.9
        SAO   iPe    03 04 47.9
        PRS   e(P)   03 04 50
        GCC   e(P)   03 04 52
        BKS   eP     03 04 54.3  05 28
        PCC   e(P)   03 04 55
                     BRK  03 04 09.0, 37.6N, 118.9W, h=  3 km, ML=3.5
                          MAMMOTH LAKES AREA, CALIFORNIA

OCT 21  MHC   iPe    19 55 09.9
        GCC   iPd    19 55 15.4  55 22
        PCC   iPe    19 55 16.3
        BKS   iPe    19 55 18.4  55 27
        SAO   iPd    19 55 20.8
        LLA   ePe    19 55 25.6
        PRS   ePe    19 55 27.4
        JAS   iPe    19 55 28.5  55 44
        PRI   ePe    19 55 34.4
        FRI   ePd    19 55 36.5
                     BRK  19 55 07.0, 37.4N, 121.8W, h=  8 km, ML=2.8
                          NORTHEAST OF SAN JOSE, CALIFORNIA

OCT 21  MNV   iPd    21 31 55.0  32 02
        FRI   iPd    21 32 10.8  32 27
        JAS   iPe    21 32 12.0
        MHC   ePd    21 32 28.3
        PRI   eP     21 32 28.7
        ORV   ePe    21 32 29.5
        BKS   e(P)   21 32 35                  P* 32 38      e 33 06      S* 33 12
                     BRK  21 31 46.4, 38.1N, 118.5W, h=  3 km, ML=3.5
                          AREA EAST OF MONO LAKE, CALIFORNIA

OCT 22  PRI   eP     00 10 05.2
        MHC   eP     00 10 06.0
        FRI   eP     00 10 09.7
        JAS   ePe    00 10 10.8
        ORV   ePe    00 10 12.8
        WDC   ePe    00 10 13.7
                     USGS 23 58 00.7, 31.2S, 179.9E, h=404 km, mb=4.9
                          KERMADEC ISLANDS REGION

OCT 22  WKC   iP     02 29 41.0  30 02
        FHC   iPe    02 29 42.5  30 03
        WDC   iPe    02 29 58.3
        MIN   ePe    02 30 08.4
        ORV   ePd    02 30 12.5
        BKS   e(P)   02 30 20                  e 31 08      e 31 11
        PCC   eP     02 30 22.2
                     BRK  02 29 14.5, 41.1N, 126.1W, h=  8 km, ML=4.1
                          OFF COAST WEST-NORTHWEST OF EUREKA, CALIFORNIA

OCT 22  WDC   eP     15 39 13.0
        MIN   eP     15 39 17.8
        ORV   eP     15 39 23.7
        JAS   eP     15 39 39.7
                     USGS 15 33 55.7, 59.6N, 146.6W, h= 33 km, mb=4.8, Ms=4.5
                          GULF OF ALASKA

OCT 22  WDC   iPe    18 00 45.3
        ORV   eP     18 00 52.8
                     USGS 17 51 02.9, 47.4N, 156.3E, h= 18 km, mb=4.8, Ms=5.3
                          KURIL ISLANDS REGION

OCT 22  PRI          23 11                     e 11 37
        MHC          23 11                     e 11 48
        BKS   e(P)   23 11 51      21 28       e 22 22      SS 26 54     Lq 32 33
                                               Lr 35 45
                          MICRON    PERIOD
                     PZ     0.03       0.7
        JAS          23 11                     e 11 52
        WDC          23 12                     e 12 05
                     USGS 22 59 54.1, 36.5S,  98.6W, h= 10 km, mb=4.9, Ms=5.6
                          SOUTHERN PACIFIC OCEAN

OCT 22  PRI   eP     23 38 46.2
        FRI   eP     23 38 48.8
        MHC   eP     23 38 54.1
        JAS   eP     23 38 55.7
        BKS          23 38                     e 38 57
        ORV          23 39                     e 39 05
        WDC   iP     23 39 11.5
                     USGS 23 27 16.6, 35.1S, 104.1W, h= 10 km, mb=5.0, Ms=4.7
                          SOUTHERN PACIFIC OCEAN

OCT 23  FRI   iPe    21 40 29.7                i 40 42
        MNV   ePd    21 40 29.7
        JAS   iPe    21 40 38.2
        LLA   eP     21 40 47.0
        PRI   eP     21 40 48.1
        SAO   eP     21 40 51.4
        MHC   eP     21 40 51.9
        PRS   eP     21 40 53.1
        BKS   ePn    21 40 57.8  41 38       P* 41 03      e 41 06
        PCC   eP     21 40 59.0
        ORV   iPe    21 40 59.9
        WDC   iPd    21 41 18.6
                     BRK  21 40 11.2, 37.5N, 118.6W, h= 18 km, ML= 3.7
                          MAMMOTH LAKES AREA, CALIFORNIA

OCT 24  BKS   eP     03 38 18.4  49 11      e 39 33      e 40 54      e 41 38
                                           e 45 54     SKS 48 54      e 49 58
                                          SP 50 06      PS 50 14      e 50 35
                                           e 51 30      e 53 08      SS 54 20
                                           e 54 48      e 55 14      e 56 20
                                          SSS 58 12      e 58 18      e 00 30
                                           e 01 22      Lq 01 40     Lr 05 20
                          MICRON    PERIOD
                     PZ     0.10       1.4
                     LZ     29         20
                     LN     14         20
                     LE     21         20
        SAO   eP     03 38 18.5
        MHC   eP     03 38 19.5
        WKC   eP     03 38 19.9
        PRI   eP     03 38 20.3
        WDC   eP     03 38 24.0          PKPPKP 04 19
        JAS   eP     03 38 24.4
        ORV   eP     03 38 24.5          PKPPKP 04 19
        FRI   eP     03 38 24.6          PKPPKP 04 19
        MIN   eP     03 38 25.7
                     ADDITIONAL PHASES RECORDED AT BKS:
                       (G2) 05:17:40; R2 05:35:35; G3 06:28:00; R3 06:33:00.
                     Ms=6.6, DISTANCE=88°
                     USGS 03 25 34.4, 22.0S, 170.2E, h= 33 km, mb=5.8, Ms=6.7
                          LOYALTY ISLANDS REGION

OCT 24  BKS          04 54                     e 54 40      e 55 09
        MHC          04 54                     e 54 40
        PRI          04 54                     e 54 41
        FRI          04 54                     e 54 42
        JAS   eP     04 54 42.8
        SAO          04 54                     e 54 43
        ORV   eP     04 54 43.0
        WDC   eP     04 54 43.9
        MIN          04 54                     e 54 44
                     USGS 04 41 53.3, 22.0S, 169.9E, h= 33 km, mb=5.5
                          LOYALTY ISLANDS REGION

OCT 24  FRI   ePd    14 59 07.2                ScP 06 40      e 31 54
        PRI   ePd    14 59 09.2                pP 59 36     PcP 02 34      e 31 41
        SAO   eP     14 59 15.9
        JAS   ePd    14 59 17.5                pP 59 41     PcP 02 35     ScP 06 43
                                               ScS 09 00      e 31 48
        MHC   ePd    14 59 21.3                pP 59 42
        BKS   eP     14 59 27.7  04 44         e 59 35      pP 59 52      e 59 56
                                               e 01 16      e 01 32      e 01 36
                                               e 02 13      e 02 23      e 02 38
                                               e 02 50      e 04 20      e 05 06
                                               Lq 06 30     Lr 07 58
                          MICRON    PERIOD
                     PZ     1.98       1.8
                     LZ     160        20
                     LNE    260        20
                     LNW    200        20
        MIN   ePd    14 59 37.5
        WDC   iPd    14 59 41.4                PcP 02 42    pPcP 03 07     ScP 06 53
                                               e 31 41
        FHC   ePd    14 59 53.2                pP 00 16
                     mb=6.4, DISTANCE=33°
                     USGS 14 53 35.1, 18.2N,  98.2W, h= 72 km, mb=6.4
                          CENTRAL MEXICO

OCT 24  MNV   ePe    19 15 37.0
        FRI   iPe    19 15 48.9
        JAS   ePe    19 15 58.0                i 16 07
        PRI   ePe    19 16 01.7
        LLA   eP     19 16 03.5
        SAO   eP     19 16 08.2                i 16 21
        PRS   eP     19 16 08.5
        MHC   e(P)   19 16 10                 P* 16 20     Pg 16 29     Sg 17 25
        ORV   ePe    19 16 16.5
                     ML=4.5, NUCLEAR EXPLOSION (DUCHESS), N.T.S.
                     USGS 19 15 00.1, 37.1N, 116.0W, h=  0 km, mb=4.4
                          SOUTHERN NEVADA
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OCT 25  FRI   iPe    05 27 00.5   27 12
        MNV   iPe    05 27 02.4   27 17
        JAS   iPe    05 27 06.7   27 23
        LLA   iPe    05 27 18.0
        PRI   iPe    05 27 20.0
        SAO   iPe    05 27 22.3
        MHC   iPe    05 27 22.4
        PRS   iPe    05 27 24.4
        GCC   iPe    05 27 26.5
        BKS   iPe    05 27 28.7
        PCC   iPe    05 27 29.7
        ORV   iPd    05 27 30.4
        MIN   e(P)   05 27 40
        WDC   eP     05 27 49
                  BRK  05 26 43.6, 37.6N, 118.9W, h=  7 km, ML=4.4
                       MAMMOTH LAKES AREA, CALIFORNIA

OCT 25  FRI   iPe    05 35 39.5   35 51
        MNV   ePd    05 35 41.7   35 56
        JAS   iPe    05 35 45.7   36 02
        LLA   iPe    05 35 57.1
        PRI   ePe    05 35 58.9
        SAO   iPe    05 36 01.3
        MHC   iPe    05 36 01.4
        PRS   iPe    05 36 03.5
        GCC   ePe    05 36 05.5
        BKS   eP     05 36 07.7
        PCC   ePe    05 36 08.7
        ORV   ePd    05 36 10.0
        MIN   eP     05 36 21
                  BRK  05 35 22.6, 37.6N, 118.9W, h=  6 km, ML=3.7
                       MAMMOTH LAKES AREA, CALIFORNIA

OCT 25  FRI   iPe    06 02 23.2   02 35
        MNV   eP     06 02 25.0   02 39
        JAS   iPe    06 02 29.5   02 46
        LLA   iPe    06 02 40.8   03 06
        PRI   ePe    06 02 42.6
        MHC   ePe    06 02 45.0
        SAO   iPe    06 02 45.0
        PRS   ePe    06 02 47.3
        GCC   eP     06 02 49.0
        BKS   eP     06 02 51.3
        PCC   eP     06 02 52.5
        ORV   eP     06 02 54
                  BRK  06 02 06.3, 37.6N, 118.9W, h= 10 km, ML=3.5
                       MAMMOTH LAKES AREA, CALIFORNIA

OCT 25  BKS   e(P)   07 12 51    23 20      SS 29 00     Lq 36 05     Lr 40 00
                          MICRON  PERIOD
                  LZ       7       20
                  LNE     11       20
                  LNW      7       20
        MHC   eP     07 12 52.7
        PRI   eP     07 12 53.2
        FHC   eP     07 12 54.0
        WDC   ePe    07 12 57.3
        JAS   ePe    07 12 57.4
        FRI   eP     07 12 57.5
        ORV   ePe    07 12 57.7
        MIN   eP     07 12 59.0
                  Ms=6.4, DISTANCE=87°
                  USGS 07 00 07.9, 22.0S, 170.0E, h= 33 km, mb=5.7, Ms=6.7
                       LOYALTY ISLANDS REGION

OCT 25  SAO   eP     11 12 48.0
        MHC   eP     11 12 49.2
        PRI   eP     11 12 49.8
        FHC   eP     11 12 50.1
        BKS   e(P)   11 12 51    23 40      Lq 36 00     Lr 40 00
                          MICRON    PERIOD
                  PZ      0.04      0.9
                  LZ     90        20
                  LNE    70        20
                  LNW    11        20
        WDC   ePe    11 12 53.8          PKPPKP 39 03
        JAS   ePe    11 12 54.1             PP 16 50 PKPPKP 39 03
        FRI   eP     11 12 54.2          PKPPKP 39 06
        ORV   ePe    11 12 54.3          PKPPKP 39 03
        MIN   eP     11 12 55.6
                  Ms=7.1, DISTANCE=87°
                  USGS 11 01 05.1, 21.9S, 169.8E, h= 33 km, mb=5.8, Ms=7.2
                       LOYALTY ISLANDS REGION

OCT 25  SAO   eP     11 24 40.5
        MHC   eP     11 24 41.0
        PRI   eP     11 24 42.5
        WDC   eP     11 24 45.5
        JAS   eP     11 24 45.7
        FRI   eP     11 24 46.0
        ORV   eP     11 24 46.0
                  USGS 11 11 55.9, 21.9S, 169.6E, h= 33 km, mb=5.1
                       LOYALTY ISLANDS REGION

OCT 25  MHC   eP     12 10 55.8
        PRI   eP     12 10 57.4
        WDC   eP     12 11 00.4
        JAS   eP     12 11 00.6
        ORV   eP     12 11 00.9
        FRI   eP     12 11 01.0
                  USGS 11 58 10.1, 21.9S, 169.7E, h= 33 km, mb=5.5
                       LOYALTY ISLANDS REGION

OCT 25  BKS          13 41                    e 41 13
        MHC   eP     13 41 13.4
        PRI   eP     13 41 15.0
        WDC   eP     13 41 18.0
        JAS   eP     13 41 18.2
        ORV   eP     13 41 18.6
        FRI   eP     13 41 18.7
                  USGS 13 28 27.1, 21.9S, 169.5E, h= 28 km, mb=5.1
                       LOYALTY ISLANDS REGION

OCT 25  SAO   eP     16 32 48.3
        BKS   eP     16 32 49.5   44 20      e 48 30      Lq 56 00     Lr 59 00
                          MICRON    PERIOD
                  LZ      16        20
                  LN       8        20
                  LE      14        20
        MHC   eP     16 32 49.9
        PRI   eP     16 32 50.5
        FHC   eP     16 32 51.2
        WDC   eP     16 32 54.8
        JAS   eP     16 32 54.9
        FRI   eP     16 32 55.0
        ORV   eP     16 32 55.1
        MIN   eP     16 32 56.5
                  Ms=6.4, DISTANCE=88°
                  USGS 16 20 04.8, 22.3S, 170.4E, h= 33 km, mb=5.9, Ms=6.5
                       LOYALTY ISLANDS REGION

OCT 25  WDC   eP     20 17 27.3
        MIN   eP     20 17 30.4
        BRK   eP     20 17 30.9
        ORV   eP     20 17 31.7
        MHC   eP     20 17 34.2
        JAS   eP     20 17 37.9
        PRI   eP     20 17 39.7
        FRI   eP     20 17 41.6
                  USGS 20 05 04.6, 13.2N, 145.6E, h= 43 km, mb=5.3, Ms=4.6
                       MARIANA ISLANDS

OCT 25  PCC   ePe    20 32 45.2
        MHC   iPd    20 32 47.0
        SAO   iPd    20 32 47.4
        BKS   iP     20 32 51.3   33 04
        PRS   ePd    20 32 52.4
        LLA   ePd    20 32 54.6
        PRI   eP     20 33 01.0
        JAS   iPe    20 33 04.2
        FRI   eP     20 33 08
                  BRK  20 32 34.9, 37.0N, 122.2W, h= 10 km, ML=3.5
                       OFF COAST WEST OF SANTA CRUZ, CALIFORNIA

OCT 26  SAO   iPe    00 25 51.5
        LLA   iPe    00 25 52.3
        PRS   iPd    00 25 53.3
        PRI   ePd    00 26 00.2
        MHC   ePd    00 26 03.1   26 14
        PCC   ePd    00 26 09.5
        FRI   ePe    00 26 10.2   26 27
        JAS   ePe    00 26 13.5
                  BRK  00 25 47.2, 36.6N, 121.2W, h=  6 km, ML=2.6
                       SOUTHEAST OF HOLLISTER, CALIFORNIA

OCT 26  WDC   eP     00 27 12.2
                  USGS 00 18 35.0,  3.6S, 102.9W, h= 10 km, mb=4.6
                       NORTHERN EASTER ISLAND CORDILLERA

OCT 26  FHC   eP     05 27 49.8
        WDC   eP     05 27 54.0
        MIN   eP     05 27 57.0
        ORV   eP     05 27 58.8
        MHC   eP     05 28 03.4
        BKS   e(P)   05 28 04                  e 38 36      e 39 29      e 40 58
                                               e 46 36      e 46 44      e 55 48
                                               e 59 40
                          MICRON    PERIOD
                  LZ       7        20
                  LN       3.2      20
                  LE       8        20
        JAS   eP     05 28 07.7               e 32 34
        FRI   eP     05 28 14.5
                  USGS 05 14 19.1, 11.8N, 125.5E, h= 48 km, mb=6.0, Ms=6.1
                       SAMAR, PHILIPPINE ISLANDS

OCT 26  WDC   eP     07 15 23.1
        JAS   eP     07 15 23.3
        ORV   eP     07 15 23.5
        FRI   eP     07 15 23.6
                       LOYALTY ISLANDS REGION

OCT 26  SAO   eP     07 20 01.1
        BKS   eP     07 20 02.7
                          MICRON    PERIOD
                  PZ      0.09      1.1
        MHC   eP     07 20 02.7
        FHC   eP     07 20 03.8
        PRI   eP     07 20 05.0
        WDC   eP     07 20 07.5
        JAS   eP     07 20 07.6
        ORV   eP     07 20 07.8
        FRI   eP     07 20 07.9
        MIN   eP     07 20 09.3
        MNV   e(P)   07 20 16
                  USGS 07 07 15.9, 22.1S, 169.5E, h= 33 km, mb=5.6
                       LOYALTY ISLANDS REGION

OCT 26  MHC   eP     07 26 11.7
        WDC   eP     07 26 16.4
        JAS   eP     07 26 16.7
        FRI   eP     07 26 16.9
        ORV   eP     07 26 16.9
        MIN   eP     07 26 18.3
                       LOYALTY ISLANDS REGION

OCT 26  SAO   eP     07 33 13.7
        MHC   eP     07 33 15.1
        BKS   eP     07 33 15.2
                          MICRON    PERIOD
                  PZ      0.06      1.0
        PRI   eP     07 33 15.8
        FHC   eP     07 33 16.2
        WDC   eP     07 33 19.8
        JAS   eP     07 33 19.9
        FRI   eP     07 33 20.2
        ORV   eP     07 33 20.2
        MIN   eP     07 33 21.6
                  USGS 07 20 28.1, 22.0S, 169.4E, h= 33 km, mb=5.4
                       LOYALTY ISLANDS REGION

OCT 26  BRK   eP     07 50 22.5
        WDC   eP     07 50 28.5
        JAS   eP     07 50 28.6
        FRI   eP     07 50 28.8
        ORV   eP     07 50 28.8
        MIN   eP     07 50 30.3
                  USGS 07 37 37.7, 22.0S, 169.5E, h= 33 km, mb=4.9
                       LOYALTY ISLANDS REGION

OCT 26  BKS          08 50                    e 13 20      e 17 00
                          MICRON    PERIOD
                  LZ      1.8       20
                  LN      1.4       20
                  LE      2.0       20
        MHC   eP     08 50 19.0
        PRI   eP     08 50 20.0
        WDC   eP     08 50 24.0
        JAS   eP     08 50 24.3
        ORV   eP     08 50 24.4
        FRI   eP     08 50 24.6
        MIN   eP     08 50 26.0
                  USGS 08 37 36.2, 21.4S, 170.2E, h= 33 km, mb=5.1
                       LOYALTY ISLANDS REGION

OCT 26  MHC   eP     09 18 13.1
        FHC   eP     09 18 15.9
        WDC   eP     09 18 17.3
        JAS   eP     09 18 17.5
        ORV   eP     09 18 17.6
        FRI   eP     09 18 17.7
        MIN   eP     09 18 19.3
                       LOYALTY ISLANDS REGION

OCT 26  MHC   eP     09 22 38.3
        PRI   eP     09 22 39.3
        WDC   eP     09 22 43.3
        JAS   eP     09 22 43.4
        ORV   eP     09 22 43.5
        FRI   eP     09 22 43.6
                  USGS 09 09 51.9, 21.9E, 169.3E, h= 33 km, mb=4.7
                       LOYALTY ISLANDS REGION

OCT 26  MHC   eP     09 23 20.8
        PRI   eP     09 23 22.1
        WDC   eP     09 23 25.4
        JAS   eP     09 23 25.6
        FRI   eP     09 23 25.8
        ORV   eP     09 23 25.8
        MIN   eP     09 23 27.2
                  USGS 09 10 34.0, 22.1S, 169.5E, h= 33 km, mb=5.1
                       LOYALTY ISLANDS REGION
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OCT 26  SAO   eP     09 44 36.8
        MHC   eP     09 44 37.3                    e 44 48
        PRI   eP     09 44 37.9
        BKS   eP     09 44 38.1                    e 11 30
                          MICRON     PERIOD
                  PZ        0.07        0.9
                  LZ         2.0         20
                  LN         1.1         20
                  LE         2.1         20
        FHC   eP     09 44 38.5
        WDC   eP     09 44 42.0                    e 44 52
        JAS   eP     09 44 42.2                    e 44 53
        ORV   eP     09 44 42.3
        FRI   eP     09 44 42.4                    e 44 53
        MIN   eP     09 44 43.9                    e 44 54
        MNV   e(P)   09 44 51
                  USGS 09 31 50.4, 22.1S, 169.5E, h= 33 km, mb=5.5, Ms=5.5
                       LOYALTY ISLANDS REGION

OCT 26  MHC   eP     09 46 47.1
        FHC   eP     09 46 47.4
        PRI   eP     09 46 47.7
        WDC   eP     09 46 51.9                    e 47 00
        JAS   eP     09 46 52.0                    e 47 01
        FRI   eP     09 46 52.3
        ORV   eP     09 46 52.3                    e 47 01
        MIN   eP     09 46 53.7
                       LOYALTY ISLANDS REGION

OCT 26  MHC   eP     09 56 50.4
        PRI   eP     09 56 51.0
        JAS   eP     09 56 55.2
        WDC   eP     09 56 55.2
        FRI   eP     09 56 55.4
        ORV   eP     09 56 55.5
        MIN   eP     09 56 56.9
                       LOYALTY ISLANDS REGION

OCT 26  BKS          12 48                         e 48 50
        MHC   eP     12 48 50.6
        JAS   eP     12 48 55.4
        WDC   eP     12 48 55.4
        ORV   eP     12 48 55.6
        FRI   eP     12 48 55.8
        MIN   eP     12 48 57.1
                  USGS 12 36 03.8, 22.0S, 169.3E, h= 33 km, mb=5.2, Ms=4.5
                       LOYALTY ISLANDS REGION

OCT 26  BKS   eP     19 31 21                      e 42 00      e 54 30      Lr 58 30
                          MICRON     PERIOD
                  LZ         2.3         20
                  LN         1.6         20
                  LE         2.7         20
        JAS   eP     19 31 25.5
        WDC   eP     19 31 25.5
        ORV   eP     19 31 25.8
        FRI   eP     19 31 25.9
        MIN   eP     19 31 26.9
                  USGS 19 18 35.5, 22.3S, 170.2E, h= 33 km, mb=5.3, Ms=5.6
                       LOYALTY ISLANDS REGION

OCT 26  BKS   e(P)   19 40 49
                          MICRON     PERIOD
                  PZ        0.03        1.0
        MHC   eP     19 40 50.0
        PRI   eP     19 40 50.9
        WDC   eP     19 40 54.5
        JAS   eP     19 40 54.9
        FRI   eP     19 40 55.0
        ORV   eP     19 40 55.1
        MIN   eP     19 40 56.5
                  USGS 19 28 03.1, 21.8S, 169.2E, h= 33 km, mb=5.1
                       LOYALTY ISLANDS REGION

OCT 26  JAS   eP     20 25 07.4
        FRI          20 25                         e 25 07
        WDC   eP     20 25 07.6
        ORV   eP     20 25 07.6
                  USGS 20 12 18.0, 22.3S, 170.2E, h= 33 km, mb=5.4, Ms=5.2
                       LOYALTY ISLANDS REGION

OCT 27  WDC   eP     01 44 09.1
        JAS   eP     01 44 09.3
        ORV   eP     01 44 09.4
                  USGS 01 31 20.4, 21.4S, 169.2E, h= 33 km, mb=4.4
                       LOYALTY ISLANDS REGION

OCT 27  WDC   eP     03 31 07.4
        JAS   eP     03 31 07.8
        FRI   eP     03 31 07.9
        ORV   iPe    03 31 08.0
                  USGS 03 18 15.2, 22.2S, 169.4E, h= 33 km, mb=4.9
                       LOYALTY ISLANDS REGION

OCT 27  JAS   eP     03 43 53.5
        WDC   eP     03 43 53.7
        ORV   eP     03 43 53.8
        FRI   eP     03 43 54.0
                  USGS 03 31 01.7, 22.1S, 169.4E, h= 33 km, mb=5.0, Ms=4.8
                       LOYALTY ISLANDS REGION

OCT 27  JAS   eP     04 15 56.0
        WDC          04 15                         e 15 56
        ORV   eP     04 15 56.2
        FRI   eP     04 15 56.3
                  USGS 04 03 04.0, 22.0S, 169.4E, h= 33 km, mb=4.8
                       LOYALTY ISLANDS REGION

OCT 27  BKS          13 17       27 59             e 17 20      e 17 28      PS 28 53
                                                   e 32 56      e 36 26      Lq 39 20
                                                                Lr 42 20
                          MICRON     PERIOD
                  LZ         21          20
                  LN         11          20
                  LE         19          20
        MHC          13 17                         e 17 23
        WDC   eP     13 17 28.1                    i 17 45
        ORV   eP     13 17 29.5                    i 17 47
        JAS   eP     13 17 31.3
        FRI          13 17                         e 17 32
                  Ms=6.4, DISTANCE=87°
                  USGS 13 04 54.9, 13.1S, 166.2E, h= 33 km, mb=5.3, Ms=6.2
                       VANUATU ISLANDS

OCT 27  BKS          14 23                         e 23 26
        MHC   eP     14 23 27.3
        WDC   eP     14 23 31.8
        FRI   eP     14 23 32.2
        JAS   eP     14 23 32.2
        ORV   eP     14 23 32.3
        MIN   eP     14 23 33.8
                  USGS 14 10 39.5, 22.3S, 169.5E, h= 33 km, mb=5.3
                       LOYALTY ISLANDS REGION

OCT 27  MHC   eP     21 09 12.6
        WDC   eP     21 09 17.4
        JAS   eP     21 09 17.5
        FRI   eP     21 09 17.7
        ORV   eP     21 09 17.7
                  USGS 20 56 25.1, 22.1S, 169.2E, h= 33 km, mb=4.9
                       LOYALTY ISLANDS REGION

OCT 28  MHC   eP     02 16 35.8
        BKS   eP     02 16 36.0                    e 16 34
                          MICRON     PERIOD
                            0.07        1.0
                  LZ         0.5         20
                  LN         0.4         20
                  LE         0.5         20
        SAO   eP     02 16 36.0
        PRI   eP     02 16 37.7
        FHC   eP     02 16 38.3
        WDC   iPd    02 16 41.6
        FRI   eP     02 16 42.0
        JAS   iPd    02 16 42.1
        ORV   iPd    02 16 42.3
                  USGS 02 03 49.1, 22.2S, 169.5E, h= 33 km, mb=5.5, Ms=5.0
                       LOYALTY ISLANDS REGION

OCT 28  SAO          02 50                         e 50 45
        PRI   eP     02 50 46.1
        BKS   eP     02 50 47.5                    e 01 25      e 13 12      e 16 30
                          MICRON     PERIOD
                  PZ        0.04        1.0
                  LZ         2.7         20
                  LN         2.0         20
                  LE         2.1         20
        MHC   eP     02 50 47.5
        FRI   eP     02 50 51.0
        JAS   eP     02 50 51.5
        ORV   eP     02 50 54.0
        WDC   eP     02 50 55.2
        MIN   eP     02 50 56.0
                  Ms=5.6, DISTANCE=89°
                  USGS 02 38 10.0, 30.5S, 177.9W, h= 33 km, mb=5.6, Ms=5.6
                       KERMADEC ISLANDS

OCT 28  WDC   eP     02 58 26.7
        ORV   eP     02 58 27.0
        JAS   eP     02 58 27.0
        FRI   eP     02 58 27.2
                       LOYALTY ISLANDS REGION

OCT 28  WDC   eP     03 39 25.0                    i 39 34
        JAS   eP     03 39 25.4
        FRI   eP     03 39 25.5
        ORV   eP     03 39 25.6
                  USGS 03 26 33.1, 22.2S, 169.5E, h= 33 km, mb=4.9
                       LOYALTY ISLANDS REGION

OCT 28  WDC          03 41                         e 41 20
        JAS   eP     03 41 20.5
        FRI   eP     03 41 20.6
        ORV   eP     03 41 20.6
                       LOYALTY ISLANDS REGION

OCT 28  WDC   eP     03 42 38.0
        JAS   eP     03 42 38.2
        ORV   eP     03 42 38.3
        FRI   eP     03 42 38.4
                       LOYALTY ISLANDS REGION

OCT 28  WDC   eP     03 55 23.0                    e 55 29
        FRI   eP     03 55 23.1
        ORV   eP     03 55 23.2
        JAS   eP     03 55 23.4                    e 55 29
                       LOYALTY ISLANDS REGION

OCT 28  ORV   eP     05 23 29.7                    i 23 37
        WDC   eP     05 23 29.7                    e 23 37
        JAS   eP     05 23 30.0                    e 23 37
        FRI   eP     05 23 30.3                    e 23 38
                  USGS 05 10 37.7, 22.2S, 169.5E, h= 33 km, mb=5.1
                       LOYALTY ISLANDS REGION

OCT 28  WDC   eP     07 04 25.9                    e 04 33
        ORV   eP     07 04 26.0
        JAS   eP     07 04 26.2                    e 04 35
        FRI   eP     07 04 26.4                    e 04 35
                  USGS 06 51 34.6, 22.1S, 169.5E, h= 33 km, mb=4.9
                       LOYALTY ISLANDS REGION

OCT 28  BRK          07 53                         e 53 50
        WDC   eP     07 53 56.3
        ORV   eP     07 53 56.6
        JAS   eP     07 53 56.6
        FRI   eP     07 53 56.7
        MIN   eP     07 53 58.0
                  USGS 07 41 04.3, 22.2S, 169.5E, h= 33 km, mb=5.0
                       LOYALTY ISLANDS REGION

OCT 28  FRI          23 29                         PeP 30 09
        JAS          23 29                         PeP 30 13
        MHC          23 28                          pP 29 05
        BKS          23 29                         e 29 09
        ORV   ePd    23 29 10.0                     pP 29 26     PeP 30 20
        WDC   ePd    23 29 15.7                    PeP 30 22
        FHC   eP     23 29 26.6                     pP 29 44
                  USGS 23 20 00.0,  7.2N,  74.8W, h= 72 km, mb=5.1
                       NORTHERN COLOMBIA

OCT 29  BKS          02 27                         e 27 12      e 27 25      e 37 28
                                                   e 54 10
                          MICRON     PERIOD
                  LZ         1.1         20
                  LN         0.6         20
                  LE         0.5         20
        MHC   eP     02 27 04.1
        PRI   eP     02 27 04.7
        FHC   eP     02 27 05.2
        WDC   eP     02 27 08.9                    e 27 19
        JAS   eP     02 27 09.1                    e 27 19
        FRI   eP     02 27 09.3                    e 27 19
        ORV   eP     02 27 09.3                    e 27 19
        MIN   eP     02 27 10.7
                  USGS 02 14 16.0, 22.6S, 169.7E, h= 33 km, mb=5.4, Ms=4.9
                       LOYALTY ISLANDS REGION

OCT 29  WDC   eP     05 32 35.0                    e 32 41
        JAS   eP     05 32 35.1                    e 32 41
        FRI   eP     05 32 35.4                    e 32 41
        ORV   eP     05 32 35.4                    e 32 41
                  USGS 05 19 44.0, 22.0S, 169.3E, h= 33 km
                       LOYALTY ISLANDS REGION

OCT 29  WDC   eP     17 33 42.3
        MIN   eP     17 33 45.0
        ORV   eP     17 33 46.5
        BKS   eP     17 33 47.0
        MHC   eP     17 33 49.3
        JAS   eP     17 33 52.7
        FRI   eP     17 33 56.4
                  USGS 17 20 53.6, 11.1N, 140.6E, h= 33 km, mb=5.0
                       WEST CAROLINE ISLANDS
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OCT 29  BKS   eP     17 56 58.6  07 30      PPS 08 40     SS 13 47     Lq 19 50
                                            Lr 24 00
                          MICRON    PERIOD
                     PZ     0.04       1.0
                     LZ       21        20
                     LN        9        20
                     LE       16        20
        SAO   eP     17 56 58.6
        MHC   ePe    17 56 59.0
        PRI   eP     17 56 59.8
        FHC   ePe    17 57 00.0
        WDC   ePe    17 57 03.7
        ORV   eP     17 57 03.9
        JAS   ePe    17 57 04.1
        FRI   eP     17 57 04.4
        MIN   eP     17 57 05.5
                     Ms=6.5, DISTANCE=87°
                     USGS 17 44 14.0, 21.5S, 169.5E, h= 33 km, mb=5.5, Ms=6.4
                          LOYALTY ISLANDS REGION

OCT 29  BKS   eP     23 25 43.8
                          MICRON    PERIOD
                     PZ     0.03       0.8
                     LZ      0.9        20
                     LN      0.5        20
                     LE      0.9        20
        MHC   eP     23 25 44
        PRI   e(P)   23 25 45
        FHC   eP     23 25 45.0
        WDC   ePe    23 25 48.0
        FRI   eP     23 25 49.0
        JAS   ePe    23 25 49.0
        ORV   eP     23 25 49.1
        MIN   eP     23 25 50
                     USGS 23 12 59.2, 21.8S, 169.7E, h= 33 km, mb=5.3, Ms=5.0
                          LOYALTY ISLANDS REGION

OCT 30  FRI   iPe    03 45 41.5
        MNV   ePe    03 45 43.9  45 58
        JAS   iPe    03 45 49.8  46 07
        LLA   iPe    03 45 59.2
        PRI   iPe    03 46 00.7  46 26
        SAO   iPe    03 46 03.9
        MHC   iPe    03 46 04.5  46 34
        PRS   iPe    03 46 05.6
        GCC   ePe    03 46 08.2
        BKS   eP     03 46 10.8          e 46 51      e 46 44
        PCC   iPe    03 46 11.8
        ORV   e(P)   03 46 13
        WDC   e(P)   03 46 32                    i 47 35
                     BRK  03 45 24.7, 37.5N, 118.8W, h= 14 km, ML=4.3
                          MAMMOTH LAKES AREA, CALIFORNIA

OCT 30  MHC   eP     08 35 17
        WDC   eP     08 35 21.9
        JAS   eP     08 35 22.1
        FRI   eP     08 35 22.5
        ORV   eP     08 35 22.5
                     USGS 08 22 32.0, 21.5S, 169.3E, h= 33 km, mb=4.9
                          LOYALTY ISLANDS REGION

OCT 30  FHC   eP     09 56 18.7
        WDC   ePe    09 56 24.6
        ORV   eP     09 56 32.1
        JAS   ePe    09 56 43.3
        FRI          09 56                   e 56 49
                     KURIL ISLANDS REGION

OCT 30  SAO   eP     10 05 52.9
        BKS   eP     10 05 53.2  16 19      e 17 40     PPS 18 00     SS 22 08
                                            SSS 26 03    Lq 29 45     Lr 33 00
                          MICRON    PERIOD
                     PZ     0.08       1.0
                     LZ      4.1        20
                     LN      2.7        20
                     LE      2.9        20
        MHC   ePd   10 05 54.1
        PRI   ePd   10 05 54.9
        FHC   ePd   10 05 55.3
        WDC   ePd   10 05 58.6
        JAS   ePd   10 05 58.9
        FRI   ePd   10 05 59.1
        ORV   iPd   10 05 59.4
        MIN   ePd   10 06 00.7
                     Ms=5.7, DISTANCE=87°
                     USGS 09 53 06.3, 22.2S, 169.5E, h= 33 km, mb=5.8, Ms=5.8
                          LOYALTY ISLANDS REGION

OCT 30  BKS   e(P)   10 24 53
                          MICRON    PERIOD
                     PZ     0.02       1.0
        MHC   eP     10 24 54
        PRI   eP     10 24 55
        WDC   ePd    10 24 58.4
        JAS   ePd    10 24 58.8
        FRI   eP     10 24 59
        ORV   ePd    10 24 59.0
        MIN   eP     10 25 00
                     USGS 10 12 06.5, 22.2S, 169.4E, h= 33 km, mb=4.6
                          LOYALTY ISLANDS REGION

OCT 30  BKS   eP     11 25 14.7
        SAO          11 25                  pP 25 23
        MHC   ePd    11 25 15.7             pP 25 24
        PRI   eP     11 25 16.4             pP 25 25
        WDC   ePd    11 25 20.2             pP 25 28
        JAS   ePd    11 25 20.6             pP 25 29
        ORV   ePd    11 25 20.7             pP 25 29
        FRI   ePd    11 25 20.8             pP 25 29
        MIN   eP     11 25 22.0             pP 25 30
                     USGS 11 12 29.9, 21.5S, 169.3E, h= 33 km, mb=4.3
                          LOYALTY ISLANDS REGION

OCT 30  SAO   eP     17 51 35.6
        BKS   eP     17 51 35.7  02 16      PS 03 16     SS 07 36     Lq 14 50
                                            Lr 18 20
                          MICRON    PERIOD
                     PZ     0.06       1.0
                     LZ      2.1        20
                     LN      1.4        20
                     LE      1.6        20
        MHC   eP     17 51 36.4
        FHC   eP     17 51 37.5
        PRI   eP     17 51 37.6             e 51 47
        WDC   iPe    17 51 40.8             i 51 52
        FRI   eP     17 51 41.6
        ORV   iPe    17 51 41.8
        JAS   iPe    17 51 41.8
        MIN   eP     17 51 42.9
                     Ms=5.4, DISTANCE=88°
                     USGS 17 38 51.2, 21.4S, 169.2E, h= 33 km, mb=5.2, Ms=5.4
                          LOYALTY ISLANDS REGION

OCT 30  FHC          20 58                  e 58 46
        WDC   iPd    20 58 53.4
        MIN   eP     20 58 59.0
        ORV   iPd    20 59 04.0
        MHC   eP     20 59 18.8
        JAS   iPd    20 59 20.4
        PRI          20 59                  e 59 31
                     USGS 20 53 09.4, 57.3N, 158.1W, h=125 km, mb=4.7
                          ALASKA PENINSULA

OCT 30  FHC          22 16                  e 16 03
        PRI   eP     22 16 07.4
        JAS   eP     22 16 10.5             e 17 18
        MHC   eP     22 16 16.1
        BKS          22 16                  e 16 21
        ORV   eP     22 16 20.9
        WDC   eP     22 16 26.5
        FHC   eP     22 16 37.4
                     USGS 22 07 09.8,  6.7N,  73.0W, h=167 km, mb=5.8
                          NORTHERN COLOMBIA

OCT 31  MHC   eP     05 41 30.5
        WDC   eP     05 41 40.0
        JAS   eP     05 41 40.4
        ORV   eP     05 41 40.5
        FRI   eP     05 41 40.7
                     USGS 05 28 49.0, 21.4S, 169.1E, h= 33 km, mb=4.4
                          LOYALTY ISLANDS REGION

OCT 31  MNV   iPe    18 00 34.6
        FRI   iPe    18 00 46.7
        JAS   iPe    18 00 55.5
        PRI   ePe    18 00 59.7
        LLA   eP     18 01 01
        PRS   eP     18 01 06
        SAO   eP     18 01 06
        MHC   eP     18 01 08
        ORV   ePe    18 01 13.4
        BKS   iPne   18 01 14.9  02 06      P• 01 25          i 01 38     Sg 02 44
                     ML=4.8, NUCLEAR EXPLOSION (MINERS IRON), N.T.S.
                     USGS 18 00 00.1, 37.2N, 116.2W, h=  0 km, mb=4.7
                          SOUTHERN NEVADA

NOV 01  FHC   eP     04 52 44.1
        WDC   ePe    04 52 48.4                pP 53 15
        BKS   eP     04 52 53.1             e 53 04      e 53 15      e 53 29
                          MICRON    PERIOD
                     PZ     0.04       0.9
        ORV   ePe    04 52 53.3                pP 53 19
        MHC   eP     04 52 55.8                pP 53 22
        JAS   ePe    04 52 59.5                pP 53 26
        PRI   eP     04 53 01.4
        FRI   eP     04 53 03.3                pP 53 30
                     USGS 04 40 36.8, 14.4N, 145.8E, h=103 km, mb=5.6
                          MARIANA ISLANDS

NOV 01  SAO   eP     09 33 31.2
        BKS   eP     09 33 32.5
                          MICRON    PERIOD
                     PZ     0.04       1.0
        PRI   eP     09 33 32.7
        MHC   eP     09 33 33.2
        FHC   eP     09 33 37.4
        FRI   eP     09 33 37.9
        JAS   ePe    09 33 38.5
        ORV   iPe    09 33 40.2
        WDC   iPe    09 33 40.5
        MIN   eP     09 33 42.2
                     USGS 09 22 06.6, 22.0S, 178.1W, h=383 km, mb=4.9
                          SOUTH OF FIJI ISLANDS

NOV 01  FHC   ePe    13 11 33.5
        WDC   iPe    13 11 35.8
        MIN   ePe    13 11 38.6
        ORV   iPe    13 11 42.7
        BKS   iPd    13 11 52.0
                          MICRON    PERIOD
                     PZ     0.03       0.9
        MNV          13 11                  e 11 53
        JAS   iPe    13 11 53.7
        MHC   eP     13 11 55.3
        SAO   eP     13 11 58.2
        FRI   eP     13 11 59.7
        PRI   eP     13 12 03.8
                     USGS 12 59 57.8, 60.8N,  97.6E, h=  0 km, mb=5.2
                          CENTRAL SIBERIA

NOV 01  WKC   iPd    22 20 09.4  20 14
        FHC   iPd    22 20 15.1
        WDC   iPe    22 20 28.3
        MIN   eP     22 20 38.2
        ORV   iPd    22 20 40.7
        BKS   iPnd   22 20 48.9                i 21 25
        PCC   eP     22 20 51.5
        GCC   eP     22 20 59
        MHC   eP     22 20 59
        JAS   eP     22 21 04
        SAO   eP     22 21 05.3
        FRI   eP     22 21 19
                     BRK  22 20 01.9, 40.4N, 124.7W, h= 20 km, ML=3.7
                          OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 01  PRI   ePd    22 56 59.1
        FRI   ePd    22 57 00.5
        SAO   eP     22 57 08.5
        JAS   ePd    22 57 12.4
        MHC   eP     22 57 13.5
        BKS          22 57 21.5  01 49      i 58 03      i 58 19      e 02 10
                                            e 02 32      i 03 12
                          MICRON    PERIOD
                     PZ     0.06       1.0
        ORV   iPd    22 57 31.9
        MIN   eP     22 57 35.6
        WDC   eP     22 57 43
                     USGS 22 52 19.6, 19.0N, 107.6W, h= 33 km, mb=5.5, Ms=6.1
                          OFF COAST OF JALISCO, MEXICO

NOV 02  WKC   iPd    01 11 51.5
        FHC   iPd    01 11 57.1  12 06
        WDC   ePe    01 12 10.4
        MIN   eP     01 12 20
        ORV   ePe    01 12 23.0
        PCC   eP     01 12 34
                     BRK  01 11 44.0, 40.4N, 124.7W, h= 20 km, ML=3.2
                          OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 02  PRI   eP     18 30 46.0
        JAS   eP     18 30 52.5
        MHC   eP     18 30 56.0
        ORV   iPd    18 31 04.9
        MIN   eP     18 31 07.4
        WDC   iPd    18 31 10.8
        FHC   ePd    18 31 20.3
                     USGS 18 21 15.6,  4.5S,  79.4W, h= 95 km, mb=5.0
                          PERU-ECUADOR BORDER REGION

NOV 02  BKS   iPd    23 39 25.7  39 27
        PCC   iPd    23 39 32.0
        MHC   eP     23 39 38.2  39 48
        GCC   eP     23 39 40.2
        SAO   iPe    23 39 46.2
        JAS   eP     23 39 49.3  40 08
        ORV   ePe    23 39 54.0
                     BRK  23 39 24.6, 37.8N, 122.2W, h=  6 km, ML=3.0
                          SOUTHEAST OF BERKELEY, CALIFORNIA

NOV 03  FHC   eP     01 17 11.6
        WDC   ePe    01 17 17.2
        MIN   eP     01 17 20.8
        ORV   iPe    01 17 23.7
        BKS   iPe    01 17 27.8
                          MICRON    PERIOD
                     PZ     0.04       0.8
        MHC   eP     01 17 31.5
        JAS   ePe    01 17 33.9
        FRI   eP     01 17 39.7
        PRI   eP     01 17 39.8
                     USGS 01 06 13.0, 38.3N, 140.5E, h=136 km, mb=5.0
                          HONSHU, JAPAN
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NOV 04  FRI   ePd   16 27 57.4
        MNV   ePd   16 27 58.2              pP 28 14
        PRI   ePd   16 28 00.1              pP 28 15
        SAO   eP    16 28 07
        JAS   ePd   16 28 07.0              pP 28 22    PeP 30 35   pPeP 30 53
                                           ScP 34 18
        MHC   ePd   16 28 11.5              pP 28 26
        BKS   iPd   16 28 17.0  33 33      PP 29 32    sPP 29 57       e 31 00
                                           Lq 40 28     Lr 41 23
                          MICRON    PERIOD
                    PZ      0.06      0.8
                    LZ      2.3       20
                    LN      2.5       20
                    LE      3.6       20
        ORV   ePd   16 28 21.0              pP 28 37      i 28 59    PeP 30 40
                                          pPeP 30 57    SeP 34 25
        MIN   ePd   16 28 24.8              pP 28 41
        WDC   ePd   16 28 28.5              pP 28 41      e 30 38    PeP 30 43
                                          pPeP 30 59    SeP 34 27
        FHC   ePd   16 28 40.0              pP 28 55
                    USGS 16 21 15.3, 13.9N,  90.9W, h= 83 km, mb=5.4
                         NEAR COAST OF GUATEMALA

NOV 04  FHC   ePe   20 34 57.4
        WDC   ePe   20 35 03.9              e 35 21
        MIN   ePe   20 35 08.8
        ORV   ePe   20 35 12.6              e 35 31
        BKS         20 35                   i 42 50
                          MICRON    PERIOD
                    LZ      4.5       20
        MHC   ePe   20 35 24.0              e 35 54
        JAS   ePe   20 35 26.3              e 35 44      e 35 56
        MNV   eP    20 35 33.4
        FRI   ePe   20 35 33.5
        PRI   eP    20 35 34.7
                    USGS 20 26 00.7, 53.8N, 160.7E, h= 33 km, mb=5.9, Ms=5.5
                         NEAR EAST COAST OF KAMCHATKA

NOV 04  WDC   ePe   22 10 53.2
        JAS   ePe   22 10 53.5
        FRI   eP    22 10 53.6
        ORV   iPe   22 10 53.8
        MIN   eP    22 10 55.3
                    USGS 21 58 00.6, 22.3S, 169.5E, h= 33 km, mb=5.0
                         LOYALTY ISLANDS REGION

NOV 06  WDC   eP    01 47 36.2
        MIN   eP    01 47 38.2
        ORV   eP    01 47 41.4
        BKS         01 47                   e 30 36      e 33 50
        JAS   eP    01 47 50.3
        FRI   eP    01 47 55.1
                    USGS 01 34 24.8, 43.8N,  86.1E, h= 14 km, mb=5.6, Ms=5.4
                         NORTHERN SINKIANG PROVINCE, CHINA

NOV 06  WDC   ePe   07 56 52.8
        MIN         07 56                   e 56 59
        ORV         07 57                   e 57 10
        JAS         07 57                   e 57 30
        FRI         07 57                   e 57 43

NOV 07  BKS         04 51                   e 51 32      e 04 49
        WDC   eP    04 51 24.8
        JAS   eP    04 51 25.0
        FRI   eP    04 51 25.0
        ORV   iP    04 51 25.2
                    USGS 04 38 33.0, 22.1S, 169.4E, h= 33 km
                         LOYALTY ISLANDS REGION

NOV 07  WDC   iPd   12 49 59.1
        ORV   iPd   12 50 04.2
        JAS   eP    12 50 12.0
        FRI   eP    12 50 16.4
                    USGS 12 36 51.6, 24.1N, 122.3E, h= 33 km, mb=5.4, Ms=5.4
                         TAIWAN REGION

NOV 08  MIN   ePe   08 07 08.2
        ORV   ePe   08 07 10.5
        FHC   eP    08 07 13.0
        JAS   ePe   08 07 14.3
        FRI   ePe   08 07 15.5
        MHC   eP    08 07 19.7
        PRI   eP    08 07 21.9
                    USGS 07 54 18.2, 36.1N,   1.4E, h= 10 km, mb=5.3, Ms=5.1
                         ALGERIA

NOV 08  FHC   iPe   10 27 44.3
        WKC2  iPd   10 27 46.8
        WDC   iPe   10 28 00.4
        MIN   iPe   10 28 10.7
        ORV   iPe   10 28 15.9
        BKS   ePd   10 28 28.3
        PCC   ePd   10 28 31.7
        MHC   ePd   10 28 38.8
        GCC   ePd   10 28 39.4
        JAS   ePe   10 28 40.5
        SAO   iPd   10 28 46.1
        LLA   iPd   10 28 51.2
        PRS   ePd   10 28 51.3
        FRI   ePe   10 28 56.1
        MNV   ePe   10 28 56.4
        PRI   iPd   10 28 59.1
                    BRK  10 27 34.0, 41.0N, 124.6W, h=  9 km, ML=6.9
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  BRK   eP    10 40 10                e 40 52
        PCC   eP    10 40 12
        MHC   eP    10 40 20
        SAO   iP    10 40 27.5
                    BRK  10 39 12.5, 40.4N, 126.0W, h=  8 km, ML=4.2
                         OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iP    10 47 52.5
        MIN   e(P)  10 48 18
        BKS   eP    10 48 26.3
        PCC   eP    10 48 29.0
        MHC   eP    10 48 36.0
        GCC   eP    10 48 36.5
        SAO   iP    10 48 43.0
        FRI   eP    10 48 56
        PRI   eP    10 48 57.5
                    BRK  10 47 33.2, 40.4N, 125.4W, h= 13 km, ML=4.8
                         OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iP    10 51 40
        BRK   eP    10 52 11.5
        PCC   eP    10 52 14.7
        MHC   eP    10 52 22.5
        GCC   eP    10 52 23.0
        SAO   eP    10 52 31.0
        FRI   eP    10 52 42.5
        FRI   eP    10 52 44.5
                    BRK  10 51 20.0, 40.4N, 125.4W, h=  8 km, ML=4.8
                         OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe   11 02 48.8
        WDC   e(P)  11 03 07
        MIN   ePe   11 03 14.8
        BRK   e(P)  11 03 29
        PCC   e(P)  11 03 31
        SAO   eP    11 03 45
        FRI   eP    11 03 58
                    BRK  11 02 34.1, 40.8N, 125.0W, h=  8 km, ML=3.7
                         OFF COAST WEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe   11 13 45.6
        WDC   iPe   11 14 02.0
        MIN   iPe   11 14 12.2
        ORV   iPd   11 14 17.3
        BKS   eP    11 14 30
        PCC   eP    11 14 32.5
        MHC   eP    11 14 38.2
        JAS   eP    11 14 40.4
        SAO   eP    11 14 45.5
        FRI   eP    11 14 56
                    BRK  11 13 33.7, 40.9N, 124.8W, h= 20 km, ML=3.8
                         OFF COAST WEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe   11 16 20.3
        WDC   e(P)  11 16 36
        MIN   iP    11 16 46.0
        BKS   ePe   11 16 59.7  17 41
        PCC   eP    11 17 02.7
        GCC   eP    11 17 10
        MHC   eP    11 17 10
        SAO   eP    11 17 16
                    BRK  11 15 54.8, 41.1N, 126.0W, h= 20 km, ML=4.2
                         OFF COAST WEST-NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPd   11 17 45.4
        BRK   eP    11 18 30
        PCC   eP    11 18 33.5
        SAO   eP    11 18 48
        LLA   eP    11 18 53.5
                    BRK  11 17 19.9, 41.1N, 126.0W, h= 20 km, ML=4.0
                         OFF COAST WEST-NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPd   11 20 54.5
        WDC   iPe   11 21 08.2
        MIN   iPe   11 21 18.1
        ORV   iPe   11 21 20.2
        BKS   eP    11 21 27.7
        PCC   eP    11 21 30.5
        MHC   eP    11 21 37.8
        GCC   eP    11 21 38.5
        JAS   eP    11 21 43.0
        SAO   eP    11 21 44.5
        LLA   eP    11 21 50.2
        PRS   eP    11 21 50.5
        FRI   ePe   11 21 58.0
        PRI   eP    11 21 58.5
        MNV   ePe   11 22 02.8
                    BRK  11 20 37.5, 40.3N, 125.0W, h=  8 km, ML=4.6
                         OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe   11 25 57.3
        WDC   iPe   11 26 12.5
        MIN   iPe   11 26 22.4
        ORV   iPd   11 26 25.7
        BKS   eP    11 26 30.0  27 09
        PCC   eP    11 26 33
        GCC   eP    11 26 40
        MHC   eP    11 26 40
        JAS   eP    11 26 47
        SAO   eP    11 26 47.5
        FRI   eP    11 27 00
                    BRK  11 25 35.3, 40.3N, 125.6W, h=  8 km, ML=3.9
                         OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe   11 37 45.6  37 54
        WDC   iPd   11 38 02.0
        MIN   eP    11 38 12      38 42
        ORV   eP    11 38 17.7
        BKS   eP    11 38 28.9
        JAS   eP    11 38 41.2
        SAO   eP    11 38 46
                    BRK  11 37 33.9, 41.0N, 124.8W, h= 20 km, ML=3.6
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe   11 44 22.2
        WDC   iPe   11 44 38.2
        MIN   iPd   11 44 48.8
        ORV   iPd   11 44 54.9
        BRK   eP    11 45 06.6
        PCC   eP    11 45 09
        MHC   eP    11 45 17.5
        GCC   eP    11 45 18.0
        SAO   eP    11 45 24.5
        LLA   eP    11 45 30
                    BRK  11 44 13.6, 41.0N, 124.5W, h= 21 km, ML=3.3
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe   11 50 36.7
        WKC2  iPe   11 50 38.0
        WDC   iPe   11 50 53.5
        MIN   iPe   11 51 03.3
        ORV   iPe   11 51 09.0
        BRK   eP    11 51 19.5
        PCC   eP    11 51 23
        MHC   eP    11 51 30.0
        GCC   eP    11 51 30.5
        JAS   ePd   11 51 32.8
        SAO   eP    11 51 37.5
        LLA   eP    11 51 43.5
        FRI   eP    11 51 47.5
                    BRK  11 50 26.3, 40.9N, 124.7W, h= 20 km, ML=3.7
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPd   11 52 24.2
        WDC   iPd   11 52 40.2
        MIN   iPd   11 52 49.9
                    BRK  11 52 09.8, 40.3N, 124.9W, h=  8 km, ML=3.5
                         OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPd   12 00 11.7
        WDC   iPd   12 00 27.7
        MIN   ePe   12 00 38.2  01 07
        ORV   iPe   12 00 44.1
        BKS   eP    12 00 56.7
        PCC   eP    12 00 59
        MHC   eP    12 01 06.5
        GCC   eP    12 01 07.0
        JAS   eP    12 01 08.3
        SAO   eP    12 01 13.4
        LLA   eP    12 01 18.6
                    BRK  12 00 00.3, 41.1N, 124.7W, h= 18 km, ML=3.4
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe   12 19 43.0
        FHC   iPe   12 19 45.4
        WDC   iPe   12 20 01.1
        MIN   iPe   12 20 11.2
        ORV   iPd   12 20 15.3
        BKS   eP    12 20 23.5
        PCC   eP    12 20 26
        MHC   eP    12 20 33.5
        GCC   eP    12 20 34
        JAS   ePd   12 20 38.4
        SAO   eP    12 20 40.2
        FRI   eP    12 20 53.5
                    BRK  12 19 30.5, 40.6N, 125.0W, h=  8 km, ML=3.8
                         OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  ePe   12 23 09.0
        FHC   iPe   12 23 11.0  23 25
        WDC   iP    12 23 27.0  23 54
        MIN   ePe   12 23 36.5  24 11
        ORV   iPe   12 23 40.2
        BKS   eP    12 23 46.8  24 29
        PCC   eP    12 23 49
        MHC   eP    12 23 56
        GCC   eP    12 23 56.5
        JAS   ePe   12 24 02.3
        SAO   eP    12 24 03.0
        FRI   eP    12 24 16.7
                    BRK  12 22 50.9, 40.6N, 125.5W, h=  8 km, ML=3.7
                         OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA
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NOV 08  WKC2  iPe     12 24 51.0
        FHC   iPe     12 24 51.7
        WDC   iPd     12 25 08.2
        MIN   iPe     12 25 17.9
        ORV   iP      12 25 22.0
        BKS   eP      12 25 30.9
        PCC   eP      12 25 34
        MHC   eP      12 25 41.0
        GCC   eP      12 25 41.5
        SAO   eP      12 25 48
        FRI   eP      12 26 00
                BRK  12 24 36.0, 40.7N, 125.1W, h=  8 km, ML=3.5
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  i(P)    12 25 47
        FHC   iPe     12 25 49.7
        WDC   e(P)    12 26 04
        MIN   e(P)    12 26 16
        ORV   e(P)    12 26 20
        BKS   eP      12 26 27.8   27 11
        PCC   eP      12 26 31
        MHC   eP      12 26 39.5
        GCC   eP      12 26 40
        SAO   eP      12 26 46
        FRI   eP      12 26 57.5
                BRK  12 25 34.6, 40.7N, 125.0W, h=  8 km, ML=3.9
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     12 32 26.5
        FHC   iPd     12 32 30.2
        WDC   iPd     12 32 45.4
        MIN   ePe     12 32 55.2
        ORV   ePd     12 32 57.8
        BKS   eP      12 33 03.7   33 44
        PCC   eP      12 33 06.0
        MHC   eP      12 33 13
        GCC   eP      12 33 13.5
        JAS   ePd     12 33 19.9
        SAO   eP      12 33 20
        FRI   eP      12 33 34.5
                BRK  12 32 08.8, 40.4N, 125.5W, h=  8 km, ML=4.1
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  e(P)    12 41 26                    i 41 40
        FHC   iPe     12 41 31.2                  e 41 42
        WDC   iPd     12 41 44.5
        MIN   ePe     12 41 54.0
        ORV   eP      12 41 57.5
                BRK  12 41 12.9, 40.4N, 125.1W, h=  8 km, ML=3.5
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPd     12 43 15.6
        WKC2  iPd     12 43 17.0
        WDC   iPd     12 43 30.2
        MIN   eP      12 43 39.9
        ORV   eP      12 43 45.5
                BRK  12 43 11.5, 40.6N, 124.1W, h=  8 km, ML=3.0
                     SOUTH OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPd     12 44 13.0
        FHC   iPe     12 44 14.7
        WDC   eP      12 44 26.5
        MIN   eP      12 44 36.0
        ORV   e(P)    12 44 41
        SAO   eP      12 45 13
        FRI   eP      12 45 23.3
                BRK  12 43 50.9, 40.5N, 125.4W, h=  8 km, ML=3.9
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  BKS   eP      12 46 56.2   47 39
        PCC   eP      12 47 00
        MHC   eP      12 47 07.5
        GCC   eP      12 47 08.0
        SAO   eP      12 47 13.5
                BRK  12 46 05.5, 40.5N, 124.5W, h= 24 km, ML=3.3
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     13 02 51.0
        FHC   iPe     13 02 52.0
        WDC   iPe     13 03 08.4
        MIN   ePe     13 03 18.1
        ORV   iPe     13 03 22.6
        BKS   e(P)    13 03 32                    e 04 15
                BRK  13 02 36.9, 40.8N, 125.0W, h=  8 km, ML=3.1
                     OFF COAST WEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     13 06 58.5
        FHC   iPd     13 07 00.9
        WDC   iPd     13 07 16.8   07 37
        MIN   eP      13 07 27.0   07 54
        ORV   e(P)    13 07 33
                BRK  13 06 54.0, 40.7N, 124.4W, h=  2 km, ML=3.4
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe     13 20 55.6
        WDC   iPd     13 21 11.1
        MIN   iPd     13 21 21.0
        ORV   iP      13 21 24.0
                BRK  13 20 36.7, 40.5N, 125.4W, h= 20 km, ML=3.5
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     13 30 39.5
        FHC   iPe     13 30 41.4
        WDC   iPe     13 30 56.8
        MIN   iPe     13 31 07.0
        ORV   iPe     13 31 10.8
                BRK  13 30 31.6, 40.6N, 124.6W, h= 20 km, ML=3.5
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     13 36 58.5
        FHC   iPe     13 37 00.2
        WDC   iPe     13 37 15.8
        MIN   iPe     13 37 26.3
        ORV   iPd     13 37 30.5
        BKS   eP      13 37 39.1   38 20
        PCC   eP      13 37 41.5
        MHC   eP      13 37 48.5
        GCC   eP      13 37 49.0
        JAS   ePe     13 37 53.1
        SAO   iPe     13 37 55.5
        FRI   eP      13 38 09
                BRK  13 36 44.9, 40.7N, 125.2W, h= 20 km, ML=3.9
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe     13 56 14.8
        WKC2  i(P)    13 56 17
        WDC   iPe     13 56 31.0
        MIN   iPd     13 56 41.5
        ORV   iPe     13 56 47.2
                BRK  13 56 05.5, 41.0N, 124.6W, h= 22 km, ML=3.6
                     OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  i(P)    14 05 04
        FHC   iPe     14 05 07.6
        WDC   iPe     14 05 24.2
        MIN   e(P)    14 05 36
        ORV   iP      14 05 39.2
        BKS   eP      14 05 47.5
        MHC   eP      14 05 56.5
        GCC   eP      14 05 57.0
        SAO   eP      14 06 02.7
        FRI   eP      14 06 16
                BRK  14 04 51.5, 40.8N, 125.2W, h= 20 km, ML=3.6
                     OFF COAST WEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     14 07 29.9
        FHC   iPe     14 07 31.0
        WDC   iPe     14 07 46.8
        MIN   iPe     14 07 56.9
        ORV   iPe     14 08 00.9
        BKS   eP      14 08 10.0   08 50
        PCC   eP      14 08 12.2
        MHC   eP      14 08 20
        GCC   eP      14 08 20.5
        JAS   eP      14 08 24
        SAO   ePe     14 08 26.4
        FRI   ePe     14 08 39.2
                BRK  14 07 16.7, 40.6N, 125.1W, h= 20 km, ML=3.8
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe     15 25 02.7
        WKC2  iPe     15 25 07.5   25 17
        WDC   iPd     15 25 19.0
        MIN   eP      15 25 29.0
        ORV   e(P)    15 25 36
                BRK  15 24 53.8, 41.1N, 124.5W, h= 20 km, ML=3.2
                     OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iP      15 27 20.0
        FHC   iPe     15 27 21.9
        WDC   iPd     15 27 38.7
        MIN   ePe     15 27 48.2
        ORV   iPe     15 27 52.2
        BKS   eP      15 28 01.9   28 42
        PCC   eP      15 28 04.5
        MHC   eP      15 28 11.6
        GCC   eP      15 28 12.3
        JAS   e(P)    15 28 16
        SAO   iP      15 28 18.0
        FRI   eP      15 28 31.1
                BRK  15 27 08.0, 40.7N, 125.1W, h= 20 km, ML=3.7
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe     16 03 50.8
        WKC2  iPd     16 03 55.5                  i 04 05
        WDC   iPe     16 04 06.9
        MIN   ePe     16 04 17.0
        ORV   iPe     16 04 22.6
        BKS   e(P)    16 04 37
        SAO   eP      16 04 55.5
                BRK  16 03 44.1, 41.0N, 124.3W, h= 25 km, ML=3.4
                     OFF COAST NORTH-NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  i(P)    16 46 00     46 15
        FHC   iPe     16 46 03.2
        WDC   iPd     16 46 19.0
        MIN   iPd     16 46 29.0
        ORV   e(P)    16 46 34
        JAS   eP      16 46 54
                BRK  16 45 40.6, 40.6N, 125.7W, h=  8 km, ML=3.7
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     16 48 09.4
        FHC   iPe     16 48 12.5
        WDC   iPe     16 48 27.9
        MIN   iPe     16 48 37.9
        ORV   iPd     16 48 41.5                  i 49 03
        BKS   eP      16 48 47.3                  e 49 23      e 49 27
        PCC   eP      16 48 49.6
        MHC   eP      16 48 57.0
        GCC   eP      16 48 57.5
        SAO   iP      16 49 04.6
        FRI   eP      16 49 17.2
                BRK  16 47 51.6, 40.4N, 125.5W, h=  8 km, ML=4.4
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     16 52 47.8
        FHC   iPe     16 52 50.9
        WDC   iPe     16 53 06.2
        MIN   iPe     16 53 16.3
        ORV   ePe     16 53 18.6
        BKS   eP      16 53 24.5   54 07
        PCC   eP      16 53 27.5
        MHC   eP      16 53 34.7
        GCC   eP      16 53 35.3
        JAS   ePe     16 53 41
        SAO   eP      16 53 41.7
        PRS   eP      16 53 48.5
        FRI   eP      16 53 55.4
        PRI   e(P)    16 53 57
                BRK  16 52 27.5, 40.4N, 125.8W, h=  8 km, ML=4.9
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     16 58 48.5   59 03
        FHC   iPe     16 58 52.0   59 07
        WDC   iPd     16 59 07.9   59 35
        MIN   iPd     16 59 17.7   59 54
        ORV   iPe     16 59 22.0   59 58
                BRK  16 58 31.5, 40.5N, 125.5W, h=  8 km, ML=3.5
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     17 00 10.3   00 25
        FHC   iPe     17 00 13.5   00 28
        WDC   iPd     17 00 29.3   00 57
        MIN   ePe     17 00 38.9
        ORV   iPe     17 00 42.3
        JAS   ePd     17 01 04.2
                BRK  16 59 52.8, 40.4N, 125.5W, h=  8 km, ML=3.7
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe     17 14 58.8
        FHC   iPe     17 15 01.7
        WDC   iPe     17 15 17.1
        MIN   iPe     17 15 27.0
        ORV   iPe     17 15 30.2
        BKS   eP      17 15 35.8   16 16
        PCC   eP      17 15 39.1
        MHC   eP      17 15 45.5
        GCC   eP      17 15 46.1
        JAS   ePd     17 15 50.9
        SAO   eP      17 15 53.0
        PRS   eP      17 15 58
        PRI   e(P)    17 16 06
        FRI   eP      17 16 06.3
                BRK  17 14 40.0, 40.4N, 125.6W, h=  8 km, ML=4.5
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPd     17 33 43.6   33 58
        FHC   iPe     17 33 46.5   34 03
        WDC   iPe     17 34 01.9
        MIN   ePe     17 34 11.9
        ORV   iPd     17 34 15.6
        BKS   eP      17 34 21.6   35 05
        JAS   ePe     17 34 36.6
        SAO   eP      17 34 39
        FRI   eP      17 34 51.7
                BRK  17 33 25.4, 40.5N, 125.6W, h=  8 km, ML=3.9
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPd     18 31 34.2
        FHC   iPe     18 31 35.6
        WDC   iPe     18 31 51.7
        MIN   iPe     18 32 02.0
        ORV   iPe     18 32 06.1
        BKS   eP      18 32 14.9                  e 32 55
        PCC   ePd     18 32 17.9
        MHC   ePe     18 32 24.9
        GCC   ePd     18 32 25.5
        JAS   ePd     18 32 29.1
        SAO   iPd     18 32 30.8
        FRI   ePd     18 32 44.4
                BRK  18 31 20.3, 40.7N, 125.1W, h= 20 km, ML=4.2
                     OFF COAST WEST OF EUREKA, CALIFORNIA
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NOV 08  WKC2  iPe    20 17 01.8                    e 17 17
        FHC   iPe    20 17 04.7
        WDC   iPd    20 17 20.5
        MIN   ePe    20 17 30.5
        ORV   ePd    20 17 33.3
        BKS   eP     20 17 45.4  18 23
        JAS   ePd    20 17 55.8
        FRI   eP     20 18 10.3
                BRK  20 16 42.5, 40.5N, 125.7W, h= 8 km, ML=3.7
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  WKC2  iPe    20 48 05.8
        FHC   iPe    20 48 09.0
        WDC   iPe    20 48 24.3
        MIN   iPe    20 48 34.4                    e 49 29
        ORV   iPd    20 48 37.7
        BKS   eP     20 48 43.0  49 25
        PCC   eP     20 48 46.0
        MHC   eP     20 48 53.0
        GCC   eP     20 48 53.5
        SAO   iPd    20 48 59.4
        JAS   ePe    20 48 59.5
        FRI   eP     20 49 13.5
                BRK  20 47 46.5, 40.4N, 125.7W, h= 8 km, ML=4.2
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FRI   ePd    21 47 32.0
        PRI   ePd    21 47 33.6
        SAO   eP     21 47 37.5
        JAS   iPd    21 47 39.0
        MHC   eP     21 47 41.2
        BKS   eP     21 47 44.8
                          MICRON    PERIOD
                PZ          0.10       1.0
        ORV   iPd    21 47 48.2                 pP 48 22
        WDC   iPd    21 47 53.2
        FHC   eP     21 48 00.0
                USGS 21 35 43.1, 24.3S,  67.7W, h=103 km, mb=5.4
                     CHILE-ARGENTINA BORDER REGION

NOV 08  WKC2  iPe    22 48 06.8
        FHC   iPe    22 48 09.0
        WDC   iPe    22 48 24.5
        MIN   iPe    22 48 34.8
        ORV   iPe    22 48 38.5
        BKS   eP     22 48 47.2                    e 49 27
        PCC   iP     22 48 50.0                    i 49 23
        MHC   ePd    22 48 57.0
        GCC   ePd    22 48 57.4
        JAS   ePe    22 49 01.4
        SAO   iPd    22 49 03.6
        PRS   ePd    22 49 09.3
        LLA   ePd    22 49 09.3
        FRI   ePe    22 49 16.7
        PRI   e(P)   22 49 17
        MNV   e(P)   22 49 20
                BRK  22 47 52.8, 40.6N, 125.3W, h= 21 km, ML=5.0
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe    23 05 43.8
        WKC2  iPe    23 05 46.0
        WDC   iPe    23 06 00.2
        MIN   iPe    23 06 10.4
        ORV   ePd    23 06 16.4
        BKS   eP     23 06 28.0                    e 07 11
        JAS   iPd    23 06 40.6
                BRK  23 05 32.7, 41.0N, 124.7W, h= 20 km, ML=4.1
                     OFF COAST WEST-NORTHWEST OF EUREKA, CALIFORNIA

NOV 08  BKS   eP     23 08 03.1                    e 08 44
        PCC   eP     23 08 06
        GCC   eP     23 08 13
        MHC   eP     23 08 13
        SAO   eP     23 08 20
                BRK  23 07 06.3, 40.4N, 125.7W, h= 8 km, ML=4.8
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 08  FHC   iPe    23 53 00.4                    i 53 10
        WKC2  i(P)   23 53 07
        WDC   iPd    23 53 23.9                    i 53 29
        MIN   eP     23 53 33
        ORV   e(P)   23 53 39
                BRK  23 52 56.9, 40.3N, 124.3W, h= 20 km, ML=3.3
                     SOUTH-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  FHC   iPe    00 53 39.5
        WKC2  e(P)   00 53 44
        WDC   iPe    00 53 55.9
        MIN   eP     00 54 05.7
        ORV   iPd    00 54 12.0
                BRK  00 53 27.0, 41.0N, 124.8W, h= 20 km, ML=3.7
                     OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 09  FHC   iPd    01 59 07.7
        WKC2  iPd    01 59 11.3
        WDC   iPe    01 59 22.8
        MIN   ePe    01 59 33.0
        ORV   iPe    01 59 40.1
        BKS   eP     01 59 53.2  00 34
        PCC   ePd    01 59 56.3
        MHC   ePe    02 00 03.4
        GCC   eP     02 00 04.0
        JAS   ePe    02 00 05.3
        SAO   ePd    02 00 09.8
        PRS   eP     02 00 16
        LLA   eP     02 00 16
        FRI   eP     02 00 20.0
        PRI   ePe    02 00 23.7
                BRK  01 58 57.9, 41.1N, 124.5W, h= 24 km, ML=4.3
                     OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iPd    02 48 07.0  48 21
        FHC   iPe    02 48 09.1  48 24
        WDC   eP     02 48 25.0
        MIN   eP     02 48 34.5
        ORV   iPd    02 48 38.4
        BKS   e(P)   02 48 45
        FRI   eP     02 49 16
                BRK  02 47 49.1, 40.7N, 125.5W, h= 8 km, ML=3.7
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iPe    03 48 06.8
        FHC   iPe    03 48 10.0
        WDC   iPe    03 48 25.7
        MIN   ePe    03 48 35.2
        ORV   iPd    03 48 38.8
        BKS   eP     03 48 46.3  49 26
        JAS   ePe    03 49 00.3
        SAO   eP     03 49 00.5
        FRI   eP     03 49 16
                BRK  03 47 46.9, 40.4N, 125.8W, h= 20 km, ML=4.1
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iP     03 50 36.8  50 52
        FHC   iPe    03 50 39.9
        WDC   iPd    03 50 55.8
        MIN   ePe    03 51 05.3
        ORV   ePd    03 51 08.8
        BKS   e(P)   03 51 14                      e 51 58
        JAS   ePe    03 51 30.8
        SAO   iPd    03 51 32.2
        FRI   e(P)   03 51 46
                BRK  03 50 18.1, 40.5N, 125.6W, h= 8 km, ML=3.7
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iPe    04 09 26.6                    e 09 46
        FHC   iPe    04 09 29.5
        WDC   iPe    04 09 44.7
        MIN   iPe    04 09 54.9
        ORV   iPe    04 09 57.5
        BKS   eP     04 10 04.3  10 44       Lr 11 14
        PCC   eP     04 10 05.7
        GCC   eP     04 10 13.5
        MHC   eP     04 10 13.5
        SAO   eP     04 10 19.8
        JAS   ePe    04 10 20.0
        PRS   eP     04 10 26.5
        LLA   eP     04 10 26.5
        FRI   eP     04 10 34.5
        PRI   eP     04 10 34.7
        MNV   eP     04 10 38
                BRK  04 09 05.4, 40.5N, 125.8W, h= 8 km, ML=5.4
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  FHC   iPd    04 31 30.0                    i 31 36
        WKC2  e(P)   04 31 33                      i 31 38
        WDC   iPe    04 31 46.6                    i 31 53
        MIN   ePd    04 31 57    32 25
        ORV   iPe    04 32 02.8
                BRK  04 31 23.5, 40.9N, 124.4W, h= 9 km, ML=3.0
                     OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iPd    04 37 44.0  37 59
        FHC   iPe    04 37 47.0                    i 37 54      i 38 04
        WDC   iPd    04 38 02.8                    i 38 10
        MIN   iPd    04 38 12.7  38 49
        ORV   iPe    04 38 16.1                    i 38 22
        JAS   ePd    04 38 37.7
                BRK  04 37 25.8, 40.4N, 125.6W, h= 8 km, ML=3.6
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iPd    05 12 46.0  13 02
        FHC   iPe    05 12 48.8                    i 12 55
        WDC   iPd    05 13 05.0                    i 13 11
        MIN   iPd    05 13 14.7
        ORV   iPd    05 13 17.7
        BKS   eP     05 13 25.0  14 07
        JAS   ePd    05 13 39.7
        FRI   e(P)   05 13 55
                BRK  05 12 26.6, 40.5N, 125.8W, h= 19 km, ML=3.6
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iPd    06 02 57.2                    i 03 03
        FHC   iPe    06 02 57.6
        WDC   iPd    06 03 13.3                    i 03 20
        MIN   ePe    06 03 23.2
        ORV   iPd    06 03 28.0  03 57
        JAS   ePd    06 03 51.5
        SAO   eP     06 03 58.5
        FRI   e(P)   06 04 06
                BRK  06 02 49.7, 40.7N, 124.4W, h= 20 km, ML=3.3
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iP     07 00 08.3
        FHC   iPe    07 00 10.5
        WDC   iPd    07 00 26.5
        MIN   iPd    07 00 35.9
        ORV   iPd    07 00 39.8
        BKS   eP     07 00 45.4  01 30
        SAO   eP     07 01 02.5
                BRK  06 59 51.0, 40.5N, 125.4W, h= 8 km, ML=4.3
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  eP     07 30 20.5  30 34
        FHC   iPe    07 30 23.2  30 38
        WDC   iPd    07 30 39.0  31 07
        MIN   ePd    07 30 49.0
        ORV   ePe    07 30 52.5
                BRK  07 30 03.7, 40.6N, 125.4W, h= 8 km, ML=3.9
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iPe    08 00 29.1  00 43
        FHC   iPe    08 00 32.5
        WDC   iPe    08 00 47.8
        MIN   iPe    08 00 57.9
        ORV   ePe    08 01 00
        BKS   eP     08 01 06.4  01 48
        PCC   eP     08 01 09.0
        MHC   eP     08 01 16.5
        GCC   eP     08 01 17.1
        SAO   eP     08 01 23.0
        JAS   ePd    08 01 23.1
        FRI   eP     08 01 37.5
                BRK  08 00 10.7, 40.4N, 125.6W, h= 8 km, ML=4.1
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  FHC   iPd    08 27 04.8
        WKC2  iPd    08 27 06.7  27 19
        WDC   iPe    08 27 20.6  27 42
        MIN   ePd    08 27 31.3
        ORV   iPe    08 27 36.6  28 08
        BKS   eP     08 27 49.0
        MHC   eP     08 27 59.0
        GCC   eP     08 27 59.5
        JAS   ePe    08 28 01.1
        SAO   eP     08 28 05.7
        FRI   eP     08 28 16.3
                BRK  08 26 53.6, 41.0N, 124.7W, h= 20 km, ML=3.9
                     OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iPe    08 29 49.8  30 04
        FHC   iPe    08 29 53.0  30 09
        WDC   iPd    08 30 09.0
        MIN   iPd    08 30 18.9  30 55
        ORV   i(P)   08 30 22    30 59
        BKS   e(P)   08 30 31                      e 31 11
        JAS   ePd    08 30 44.0
                BRK  08 29 31.3, 40.4N, 125.6W, h= 8 km, ML=3.7
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iPe    12 23 25.7  23 41
        FHC   iPe    12 23 28.7  23 45
        WDC   iPd    12 23 44.5
        MIN   iPd    12 23 54.5
        ORV   iPd    12 23 57.5
        JAS   ePd    12 24 19.5
                BRK  12 23 07.0, 40.4N, 125.6W, h= 8 km, ML=3.5
                     OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 09  FHC   iPd    14 57 21.4                    i 57 29
        WKC2  iPd    14 57 24.9                    i 57 31      i 57 49
        WDC   ePe    14 57 36.7                    i 57 43      i 58 07
        MIN   eP     14 57 47.0                    i 57 56
        ORV   eP     14 57 53.8                    i 58 08
        BKS   e(P)   14 58 08
        MHC   e(P)   14 58 17
        JAS   e(P)   14 58 18
                BRK  14 57 11.3, 41.1N, 124.5W, h= 23 km, ML=3.6
                     OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 09  WKC2  iPe    18 13 24.0                    i 13 34      i 13 36
        FHC   iPe    18 13 25.2                    i 13 32      i 13 49
        WDC   iPd    18 13 41.8                    i 13 48
        MIN   eP     18 13 51.5
        ORV   iPe    18 13 55.6  14 30
                BRK  18 13 10.8, 40.9N, 124.9W, h= 8 km, ML=3.0
                     OFF COAST WEST OF EUREKA, CALIFORNIA

NOV 09  FHC   iPe    19 06 18.1
        WKC2  e(P)   19 06 21                      i 06 29
        WDC   iPe    19 06 34.0  06 54           i 06 41
        MIN   eP     19 06 44.3
        ORV   ePe    19 06 50.3  07 23
                BRK  19 06 07.9, 41.1N, 124.6W, h= 19 km, ML=3.1
                     OFF COAST NORTHWEST OF EUREKA, CALIFORNIA
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NOV 09  WKC2  iPd   21 51 33.0
        FHC   iPe   21 51 42.0
        WDC   iPe   21 51 54.4                 i 51 58       i 52 01
        MIN   ePe   21 52 04.5
        ORV   iPd   21 52 07.7
                    BRK  21 51 28.7, 40.3N, 124.5W, h=  8 km, ML=3.1
                         SOUTH-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 10  FHC   iPe   00 04 25.1                 i 04 39       i 04 46
        WKC2  iPe   00 04 26.0                 i 04 36       i 04 50
        WDC   iPe   00 04 41.7  05 03
        MIN   iPd   00 04 51.9  05 22
        ORV   iPd   00 04 57.0  05 30
                    BRK  00 04 14.7, 40.9N, 124.7W, h= 17 km, ML=3.1
                         OFF COAST WEST-NORTHWEST OF EUREKA, CALIFORNIA

NOV 10  FHC   iPe   03 29 35.7
        WKC2  e(P)  03 29 36                   i 29 40
        WDC   iPd   03 29 52.5  30 13
        MIN   ePd   03 30 02.7
        ORV   iPd   03 30 08.0
                    BRK  03 29 23.3, 41.0N, 124.8W, h= 20 km, ML=3.2
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 10  WKC2  eP    04 36 07.0                 i 36 16       i 36 22
        FHC   iPe   04 36 07.4                 i 36 15
        WDC   ePe   04 36 23.3
        MIN   ePd   04 36 33.7
        ORV   eP    04 36 38.5
                    BRK  04 35 57.6, 41.1N, 124.4W, h=  3 km, ML=3.0
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 10  FHC   iPe   05 06 27.5
        WKC2  iPd   05 06 31.9
        WDC   iPe   05 06 43.5
        MIN   ePe   05 06 53.8
        ORV   ePe   05 06 59.1
        BKS   eP    05 07 14.3  07 53
        JAS   ePd   05 07 25.5
                    BRK  05 06 18.2, 41.1N, 124.4W, h=  9 km, ML=3.8
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 10  FHC   iPe   06 24 16.4
        WKC2  iPd   06 24 20.9
        WDC   iPe   06 24 32.4
        MIN   ePe   06 24 42.5
        ORV   ePe   06 24 48.3
        BKS   eP    06 25 06.4
        MHC   eP    06 25 13
        JAS   ePd   06 25 14.5
        SAO   eP    06 25 21.2
        PRI   eP    06 25 29
                    BRK  06 24 08.2, 41.1N, 124.4W, h= 15 km, ML=3.8
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 10  WKC2  iPe   08 25 12.0  25 27
        FHC   iPe   08 25 15.2
        WDC   iPd   08 25 31.1
        MIN   eP    08 25 40.5
        ORV   iPd   08 25 44.1
        BKS   eP    08 25 53.2  26 35
        JAS   ePd   08 26 06.0
                    BRK  08 24 53.1, 40.6N, 125.6W, h=  8 km, ML=3.6
                         OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 10  SAO   eP    10 38 53.2
        PRI   eP    10 38 54.5
        MHC   eP    10 38 55.8
        BKS   eP    10 38 55.8                                e 49 19
                                 MICRON    PERIOD
                    PZ             0.04       1.1
        FRI   eP    10 39 01.0
        JAS   eP    10 39 01.0
        FHC   eP    10 39 01.5
        ORV   eP    10 39 03.0
        WDC   eP    10 39 03.7
        MIN   eP    10 39 05.5
                    USGS 10 27 07.0, 21.2S, 174.3W, h= 33 km, mb=5.0
                         TONGA ISLANDS

NOV 10  WKC2  iPe   15 41 11.9
        FHC   iPd   15 41 17.6
        WDC   iPe   15 41 30.7
        MIN   ePe   15 41 40.4
        BKS   eP    15 41 51.0  42 26
        PCC   ePe   15 41 53.4
        MHC   eP    15 42 01.0                e 42 44
        GCC   ePd   15 42 01.3
        JAS   eP    15 42 06.2
        SAO   iPe   15 42 07.2
        FRI   eP    15 42 21.5
                    BRK  15 41 04.2, 40.3N, 124.7W, h= 20 km, ML=4.1
                         OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 10  FRI         16 37                     e 37 09
        PRI         16 37                     e 37 11
        JAS   iPe   16 37 16.1
        MHC   eP    16 37 18.0
        BKS         16 37                     e 37 26
        ORV   iPe   16 37 24.8
        WDC   ePe   16 37 29.5
                    USGS 16 24 40.5, 31.6S,  67.5W, h= 21 km, mb=5.7, Ms=5.4
                         SAN JUAN PROVINCE, ARGENTINA

NOV 10  FHC   iPd   20 42 33.0
        WKC2  iPd   20 42 37.1
        WDC   iPe   20 42 47.9
        MIN   ePe   20 42 58.0
        ORV   eP    20 43 05.6
        BKS   eP    20 43 19.4                e 43 53       e 44 55
        PCC   iPd   20 43 22.4
        MHC   ePe   20 43 28.8
        SAO   eP    20 43 36.1
        LLA   eP    20 43 41.5
                    BRK  20 42 22.2, 41.2N, 124.4W, h= 19 km, ML=3.9
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 10  FHC   iPe   23 51 06.6  51 14
        WKC2  eP    23 51 10.8                i 51 23
        WDC   eP    23 51 22.5  51 41
        ORV   eP    23 51 40.5
                    BRK  23 50 56.8, 41.1N, 124.5W, h=  4 km, ML=3.3
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 10  WKC2  iPe   23 59 45.2
        FHC   iPe   23 59 48.2
        WDC   iPe   00 00 03.5
        MIN   iPe   00 00 13.6
        ORV   ePe   00 00 16.2
        BKS   eP    00 00 22.3  01 01
        PCC   eP    00 00 23.4
        GCC   eP    00 00 32.4
        MHC   eP    00 00 32.5
        SAO   eP    00 00 38.4
        JAS   eP    00 00 38.7
        FRI   eP    00 00 52.5
                    BRK  23 59 27.9, 40.6N, 125.4W, h=  8 km, ML=4.8
                         OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 11  FRI   iPe   05 30 28.8
        JAS   iPe   05 30 36.3
        LLA   iPe   05 30 46.5
        PRI   iPe   05 30 47.9
        SAO   iPe   05 30 50.8
        MHC   iPe   05 30 51.3
        PRS   eP    05 30 52.8
        GCC   eP    05 30 55.0
        BKS   eP    05 30 57.5                e 31 29
        PCC   eP    05 30 58.5
        ORV   eP    05 30 59.9
                    BRK  05 30 12.5, 37.5N, 118.9W, h= 11 km, ML=3.9
                         MAMMOTH LAKES AREA, CALIFORNIA

NOV 11  FHC   iPe   09 21 38.0                 i 21 44       i 21 47
        WKC2  eP    09 21 39.6
        WDC   iPe   09 21 54.0                 i 22 00
        MIN   ePe   09 22 04.3
        ORV   e(P)  09 22 10
                    BRK  09 21 26.5, 41.1N, 124.7W, h= 18 km, ML=3.8
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 11  FRI   iPd   10 19 27.7                 i 19 44
        JAS   iPe   10 19 29.1
        LLA   iPd   10 19 44.2
        MHC   ePe   10 19 45.0
        SAO   eP    10 19 46.1
        PRI   iPe   10 19 46.6
        ORV   iPe   10 19 47.2
        BKS   eP    10 19 49.9                e 20 28
        PRS   eP    10 19 49.9
        GCC   ePe   10 19 51.0
        PCC   ePd   10 19 51.8
        MIN   eP    10 19 55.5
        WDC   iP    10 20 04.9
                    BRK  10 19 03.0, 38.0N, 118.6W, h=  5 km, ML=4.7
                         AREA EAST OF MONO LAKE, CALIFORNIA

NOV 11  FRI   iPd   10 34 16.1  34 33
        JAS   iPe   10 34 17.4
        LLA   iPe   10 34 32.9
        MHC   eP    10 34 33.2
        PRI   eP    10 34 33.8
        ORV   ePe   10 34 35.4
        SAO   eP    10 34 36.4
        PRS   eP    10 34 38.8
        GCC   eP    10 34 39.6
                    BRK  10 33 51.3, 38.0N, 118.6W, h=  4 km, ML=4.0
                         AREA EAST OF MONO LAKE, CALIFORNIA

NOV 11  FRI   ePKP  10 56 50.3                 i 57 10
        BKS   ePKP  10 56 50.8              PP 00 56    PPP 04 26    SKKS 07 21
                                          SKKKS 07 56    SKSP 11 02  ScSPKP 12 09
                                              e 14 58        e 16 18 PKPPKP 17 31
                                          PKPPKP 19 09     SS 20 22        e 21 40
                                              e 22 32    SSS 24 24        e 31 01
                                             Lq 38 54     Lr 56 48
                                MICRON    PERIOD
                    PKPZ          0.12       1.2
                    LZ              21         20
                    LN              11         20
                    LE               8         20
        JAS   ePKP  10 56 51.6              PP 01 07
        PRI   ePKP  10 56 51.7
        MHC   ePKP  10 56 52.9
        ORV   ePKP  10 56 53.3              PP 01 04
        MIN   ePKP  10 56 53.5
        WDC   ePKP  10 56 53.6              PP 01 07
                    Ms=6.8, DISTANCE=157°
                    USGS 10 36 58.2, 51.4E,  28.8E, h= 10 km, mb=6.2, Ms=6.7
                         SOUTH OF AFRICA

NOV 11  FHC   iPe   11 11 41.3                 i 10 50
        WKC2  eP    11 11 43.9
        WDC   iPd   11 11 57.8                 e 12 18
        MIN   e(P)  11 12 08
        ORV   ePd   11 12 13.8
                    BRK  11 11 29.7, 41.0N, 124.7W, h= 20 km, ML=3.6
                         OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 11  WKC2  iPd   11 58 10.2                 i 58 20
        FHC   iPe   11 58 10.3
        WDC   iPe   11 58 26.4                 i 58 48
        MIN   ePe   11 58 36.8
        ORV   e(P)  11 58 41
        PCC   eP    11 58 55.0
        MHC   e(P)  11 59 02
                    BRK  11 57 57.5, 40.9N, 124.9W, h= 20 km, ML=3.5
                         OFF COAST WEST-NORTHWEST OF EUREKA, CALIFORNIA

NOV 11  FHC   ePe   19 33 45.0
        WDC   iPe   19 33 49.9
        MIN   eP    19 33 53.7
        ORV   iPe   19 33 55.3
        BKS   eP    19 33 55.9  43 53
                                 MICRON    PERIOD
                    PZ             0.05       0.85
        MHC   ePe   19 33 59.4
        SAO   eP    19 34 00.3
        JAS   iPe   19 34 02.7
        PRI   ePe   19 34 05.8
        FRI   iPe   19 34 07.1
        MNV   eP    19 34 09.6
                    USGS 19 22 16.9, 21.6N, 143.0E, h=324 km, mb=5.0
                         MARIANA ISLANDS REGION

NOV 12  BKS   eP    04 40 03.7
        PRI   ePe   04 40 04.1
        MHC   ePe   04 40 04.6
        FRI   ePe   04 40 08.9
        JAS   ePe   04 40 09.6
        ORV   iPe   04 40 11.1
        WDC   iPe   04 40 11.5
        MIN   eP    04 40 13.3
                    USGS 04 28 37.0, 23.9S, 179.8E, h=524 km, mb=5.0
                         SOUTH OF FIJI ISLANDS

NOV 12  WKC2  iPd   05 09 03.2  09 07
        FHC   iPd   05 09 09.1                 i 09 17
        WDC   iPd   05 09 22.4
        MIN   iPd   05 09 32.6
        ORV   i(P)  05 09 35
        BKS   e(P)  05 09 42                   e 10 16
        PCC   eP    05 09 45.2
        MHC   e(P)  05 09 52
        GCC   e(P)  05 09 53
        JAS   eP    05 09 57.2
        SAO   eP    05 09 58.9
                    BRK  05 08 55.9, 40.3N, 124.7W, h= 20 km, ML=3.5
                         OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 12  BKS   eP    08 27 04.6
                                 MICRON    PERIOD
                    PZ             0.02       0.9
        SAO         08 27                      e 27 05
        MHC   ePe   08 27 05.8
        PRI   eP    08 27 06.3
        WDC   iPe   08 27 10.3
        JAS   ePe   08 27 10.5
        ORV   iPe   08 27 10.8
        FRI   ePe   08 27 10.9
        MIN   eP    08 27 11.6
                    USGS 08 14 19.3, 21.8S, 169.3E, h= 33 km, mb=5.0
                         LOYALTY ISLANDS REGION

NOV 12  PRI   eP    12 05 55.5                e 06 11      pP 06 24
        FRI   e(P)  12 05 57
        JAS   eP    12 06 01.0              pP 06 29
        MHC   eP    12 06 03.8              pP 06 32
        BKS   ePe   12 06 07.7              pP 06 36
                                 MICRON    PERIOD
                    PZ             0.04       1.0
        ORV   iPd   12 06 10.9              pP 06 39
        MIN   eP    12 06 12.6
        WDC   ePd   12 06 16.0              pP 06 44
        FHC   ePd   12 06 23.5
                    USGS 11 54 33.9, 18.9S,  69.2W, h=113 km, mb=5.1
                         NORTHERN CHILE
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NOV 13  BKS          03 11                    e 11 11
        WDC    eP    03 11 04.2               e 11 17
        JAS    eP    03 11 04.8               e 11 17
        FRI          03 11                    e 11 06      e 11 17
        ORV    eP    03 11 05.5               i 11 18
        MIN          03 11                    e 11 21
                     USGS 02 58 35.2, 12.1S, 166.3E, h= 51 km, mb=5.1
                          SANTA CRUZ ISLANDS

NOV 13  FHC    iPe   03 49 37.4
        WKC2   iPd   03 49 39.6               i 49 46      i 49 57
        WDC    iPe   03 49 53.6               i 50 14
        ORV    eP    03 50 08.6
        BKS    eP    03 50 22.9  51 04
        PCC    ePd   03 50 25.3
        MHC    e(P)  03 50 32
        GCC    e(P)  03 50 33
        JAS    e(P)  03 50 34
                     BRK  03 49 26.5, 41.1N, 124.7W, h= 22 km, ML=3.9
                          OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 13  FHC    eP    20 00 24.4
        WDC    eP    20 00 30.0               i 01 06
        MIN    eP    20 00 34.2
        ORV    iPe   20 00 38.6
        BKS          20 00                    e 01 21
        MHC    eP    20 00 52.5
        JAS    eP    20 00 53.2
        MNV    eP    20 00 59.2
        FRI    eP    20 01 00.6
                     USGS 19 51 33.7, 55.6N, 161.4E, h= 33 km, mb=5.4, Ms=4.9
                          NEAR EAST COAST OF KAMCHATKA

NOV 14  SAO    iPe   04 46 45.3
        LLA    iPe   04 46 47.3  46 51
        PRS    iPd   04 46 47.8  46 52
        GCC    eP    04 46 54.5
        MHC    eP    04 46 56.9  47 08
        PCC    eP    04 47 03.2
        FRI    eP    04 47 04.9
                     BRK  04 46 41.6, 36.6N, 121.3W, h=  7 km, ML= 2.5
                          SOUTH-SOUTHEAST OF HOLLISTER, CALIFORNIA

NOV 14  FHC          13 49                    e 49 59
        WDC    eP    13 50 02.8               i 50 11      i 51 15
        MIN    eP    13 50 05.0
        ORV    eP    13 50 07.6
        BKS    eP    13 50 11.4
                          MICRON    PERIOD
                     PZ     0.04       1.0
        MHC    eP    13 50 14.7
        JAS    eP    13 50 15.7               e 51 20
        FRI    eP    13 50 20.4
                     USGS 13 37 01.2, 24.6N, 122.0E, h= 76 km, mb=5.2
                          TAIWAN REGION

NOV 14  MNV    ePe   16 50 36.7
        FRI    iPe   16 50 48.8               i 50 59
        JAS    iPe   16 50 57.8
        PRI    eP    16 51 02.0
        LLA    eP    16 51 03.5
        PRS    eP    16 51 08.5
        SAO    eP    16 51 10
        MHC    eP    16 51 10.8
        ORV    eP    16 51 16.5
        MIN    eP    16 51 24
        WDC    eP    16 51 33.5
                     ML=4.5, NUCLEAR EXPLOSION (DAUPHIN), N.T.S.
                     USGS 16 50 00.1, 37.1N, 116.0W, h=  0 km, mb=4.1
                          SOUTHERN NEVADA

NOV 15  WKC2   iPe   07 37 47.8  38 04
        FHC    iPe   07 37 50.8
        WDC    iPd   07 38 06.6
        MIN    ePe   07 38 14.4
        ORV    iPe   07 38 19.1
        JAS    ePd   07 38 41.4
        SAO    eP    07 38 42.8
        FRI    eP    07 38 56
                     BRK  07 37 29.1, 40.6N, 125.6W, h=  8 km, ML= 3.9
                          OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 15  FHC    iPe   19 01 12.0
        WKC2   eP    19 01 15                 i 01 21      i 01 25
        WDC    iPe   19 01 28.0
        MIN    eP    19 01 38.3
        ORV    iPd   19 01 44.5
        JAS    e(P)  19 02 09
                     BRK  19 01 00.8, 41.1N, 124.6W, h= 19 km, ML= 3.5
                          OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 16  FHC    iPd   02 01 19.8
        WKC2   iP    02 01 24.0               i 01 29      i 01 48
        WDC    iPe   02 01 34.6
        MIN    ePe   02 01 44.8
        ORV    iPe   02 01 52.3
        BKS    ePd   02 02 06.5               i 02 11      i 02 41
        PCC    ePe   02 02 08.5
        MHC    ePe   02 02 15.7
        GCC    eP    02 02 16.8
        JAS    eP    02 02 17.5
        SAO    iPd   02 02 23.1
        LLA    ePe   02 02 28
                     BRK  02 01 08.6, 41.3N, 124.5W, h= 19 km, ML= 4.2
                          OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 16  FHC    iPd   02 58 30.1
        WKC2   iPe   02 58 34.8               i 58 40      i 58 59
        WDC    iPe   02 58 45.0
                     BRK  02 58 18.9, 41.3N, 124.5W, h= 15 km, ML=3.2
                          OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 16  FHC    iPe   14 09 37.2
        WKC2   eP    14 09 42.0  09 53
        WDC    iPe   14 09 53.2
                     BRK  14 09 28.0, 41.1N, 124.4W, h=  9 km, ML=3.0
                          OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

NOV 17  WKC2   iPe   15 06 13.7               i 06 19
        FHC    iPd   15 06 19.5               e 06 29
        WDC    ePd   15 06 31.0               e 06 48
        MIN    eP    15 06 42.5
        ORV    iPd   15 06 45.5               e 07 13
                     BRK  15 06 06.1, 40.3N, 124.7W, h= 20 km, ML=3.2
                          OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 17  WKC2   iP    18 40 32.9  40 42
        FHC    iPe   18 40 33.8  40 40
        WDC    iPd   18 40 50.2
        MIN    eP    18 41 00.1
                     BRK  18 40 19.4, 40.8N, 125.1W, h= 19 km, ML=3.3
                          OFF COAST WEST OF EUREKA, CALIFORNIA

NOV 17  MNV    iPd   22 59 55.4
        FRI    iPd   23 00 11.9  00 29
        JAS    iPe   23 00 12.1
        LLA    iPe   23 00 27.5
        MHC    eP    23 00 28.2
        ORV    iPe   23 00 30.2
        PRI    eP    23 00 30.9
        SAO    eP    23 00 31.3
        BKS    eP    23 00 35.7  01 16
                     BRK  22 59 46.1, 38.0N, 118.6W, h=  5 km, ML=3.8
                          AREA EAST OF MONO LAKE, CALIFORNIA

NOV 18  FHC          06 49                    e 49 14
        WDC    eP    06 49 23.1
        MIN          06 49                    e 49 34
        ORV    eP    06 49 41.0
        BKS          06 49                    e 49 53
        MHC          06 50                    e 50 02
        JAS          06 50                    e 50 06
        FRI          06 50                    e 50 20
                     USGS 06 48 15.8, 43.5N, 126.8W, h= 15 km, mb=4.0
                          OFF COAST OF OREGON

NOV 18  PRI          07 13                    e 13 51
        MHC          07 13                    e 13 53
        BKS          07 13                    e 13 54
        FRI          07 13                    e 13 57
        JAS    eP    07 13 59.5
        WDC    eP    07 14 01.3
        ORV    eP    07 14 01.7
        MIN          07 14                    e 14 03
                     USGS 07 01 59.0, 21.7S, 175.1W, h= 33 km, mb=5.3, Ms=5.2
                          TONGA ISLANDS

NOV 18  MHC    iPe   16 10 47.1
        PCC    iPe   16 10 51.6
        GCC    iPd   16 10 52.2
        BKS    iPe   16 10 53.2  11 02
        SAO    iPd   16 10 58.0
        LLA    eP    16 11 02.9
        PRS    eP    16 11 04.6
        JAS    iPd   16 11 04.8
        PRI    eP    16 11 11
                     BRK  16 10 43.1, 37.5N, 121.8W, h=  5 km, ML=2.9
                          NORTH-NORTHEAST OF SAN JOSE, CALIFORNIA

NOV 18  FRI    eP    16 43 31.7
        PRI    e(P)  16 43 36
        JAS    eP    16 43 38.8
        MHC    eP    16 43 41.6
        BKS    iPd   16 43 49.3
                          MICRON    PERIOD
                     PZ     0.04       0.7
        ORV    ePe   16 43 49.8
        WDC    ePe   16 43 55.1
        FHC    eP    16 44 06.2
                     USGS 16 34 38.0,  6.8N,  72.9W, h=168 km, mb=4.9
                          NORTHERN COLOMBIA

NOV 18  WKC2   iPe   21 41 33.0
        FHC    iPd   21 41 38.9
        WDC    ePe   21 41 51.7  42 13
        MIN    ePd   21 42 01.9
        ORV    eP    21 42 04.5  42 34
        BKS    ePd   21 42 12.2  42 48
        PCC    eP    21 42 14.3
        MHC    eP    21 42 22.2
        GCC    eP    21 42 22.7
        JAS    iPd   21 42 27.5
        SAO    eP    21 42 28.8
        FRI    eP    21 42 42.3
                     BRK  21 41 25.4, 40.3N, 124.7W, h= 20 km, ML=3.7
                          OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA

NOV 19  BKS    iPd   09 34 39.0  34 43
        PCC    iPd   09 34 42.2
        MHC    iPe   09 34 43.3  34 50
        GCC    ePd   09 34 47.7
        SAO    eP    09 34 52.3
        JAS    eP    09 34 53.8  35 10
        LLA    eP    09 34 57.3
        PRS    eP    09 34 59.4
                     BRK  09 34 33.7, 37.7N, 121.9W, h= 11 km, ML=2.9
                          SOUTHEAST OF BERKELEY, CALIFORNIA

NOV 19  WDC    ePdif 19 15 10.5                     PP 19 46   PKKP 30 31
        ORV    ePdif 19 15 11.9                     PP 19 47   PKKP 30 30
        JAS    ePdif 19 15 17.2                     PP 19 48   PKKP 30 24
        PRI          19 15                          e 19 23
                     USGS 19 00 46.9, 27.4N,  88.8E, h= 17 km, mb=6.0, Ms=6.1
                          SIKKIM

NOV 20  MNV    iPd   03 42 22.2
        FRI    eP    03 42 26.0
        JAS    iPd   03 42 30.5
        PRI          03 42                    e 42 31
        MIN    eP    03 42 33.0
        ORV    iPd   03 42 35.0
        WDC    iPd   03 42 37.9
        FHC          03 42                    e 42 46
                     USGS 03 29 42.9,  4.5S,  38.3W, h= 10 km, mb=5.1, Ms=4.6
                          BRAZIL

NOV 20  WDC    eP    16 35 52.6
        ORV    eP    16 35 57.8
        JAS    eP    16 36 04.9
        FRI    eP    16 36 09.2
                     USGS 16 24 03.7, 19.4N, 145.4E, h=169 km, mb=4.9
                          MARIANA ISLANDS

NOV 20  WDC    eP    19 28 08.3
        ORV    eP    19 28 08.9
        MIN    eP    19 28 11.6
        FRI    eP    19 28 14.3
                     USGS 19 14 56.8,  6.1S, 149.3E, h= 38 km, mb=5.5, Ms=5.8
                          NEW BRITAIN REGION

NOV 20  MHC    eP    22 59 45.0
        FRI    eP    22 59 50.6
        JAS    eP    22 59 51.3
        ORV    eP    22 59 51.4
        WDC          22 59                    e 59 52
        MIN    eP    22 59 52.7
                     USGS 22 48 07.9, 15.5S, 175.9W, h= 13 km, mb=5.2
                          TONGA ISLANDS

NOV 20  FHC    eP    23 21 10.3
        WDC    eP    23 21 22.9
        ORV    iP    23 21 41.8  22 37
        JAS          23 22                    e 22 07
                     USGS 23 20 33.8, 42.5N, 125.8W, h= 15 km
                          OFF COAST OF OREGON

NOV 21  WDC          02 47                    e 47 28
        MIN    eP    02 47 31.8
        ORV    iP    02 47 35.3
        JAS    eP    02 47 46.2
                     USGS 02 37 00.4, 44.0N, 143.6E, h=180 km, mb=4.7
                          HOKKAIDO, JAPAN REGION

NOV 21  ORV    iPe   13 02 20.2
        MIN    iPe   13 02 24.0  02 38
        WDC    iPd   13 02 36.5
        JAS    eP    13 02 37.4  03 02
        MHC    eP    13 02 49.0
        FRI    eP    13 02 53.6
                     BRK  13 02 04.1, 39.8N, 120.4W, h=  3 km, ML=3.1
                          SOUTHEAST OF QUINCY, CALIFORNIA
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NOV 21  FHC   eP    15 03 20.4
        WDC   iPe   15 03 28.4                 e 09 24
        MIN   eP    15 03 34.0
        ORV   iPe   15 03 38.0                 e 09 29
        BKS   iP    15 03 43.5  09 47          e 04 02      PP 05 00      e 05 49
                                                PeP 05 55    PeS 09 44     SeS 14 22
                                                Lq 12 00     Lr 13 00
                          MICRON    PERIOD
                    PZ      0.04      0.8
                    LZ        10        20
                    LN         5        20
                    LE        10        20
        MHC   eP    15 03 48.8
        JAS   eP    15 03 52.4                 e 09 36
        SAO         15 03                      e 03 52
        FRI   eP    15 04 00.6                 e 09 40
        PRI         15 04                      e 04 01
        MNV         15 04                      e 04 02
                Ms=5.6, DISTANCE=36°
                USGS 14 56 13.6, 51.8N, 176.1W, h= 53 km, mb=5.6, Ms=5.7
                     ANDREANOF ISLANDS, ALEUTIAN ISLANDS

NOV 21  FRI   iPe   23 10 58.7                 i 11 10
        MNV   iPe   23 11 02.4
        JAS   iPe   23 11 06.3  11 23
        LLA   iPe   23 11 16.3
        PRI   iPe   23 11 17.8
        MHC   ePe   23 11 21.2
        PRS   iPe   23 11 22.6
        GCC   ePe   23 11 24.9
        BKS   eP    23 11 27.4  12 01
        PCC   ePe   23 11 28.4
        ORV   eP    23 11 29                   i 11 33
                BRK  23 10 42.6, 37.5N, 118.9W, h= 13 km, ML=3.8
                     MAMMOTH LAKES AREA, CALIFORNIA

NOV 22  FRI   iPe   00 21 32.7  21 44
        MNV   iPe   00 21 36.7
        JAS   iPe   00 21 40.4                 i 21 54
        LLA   iPe   00 21 50.3                 i 22 15
        PRI   iPe   00 21 52.0
        SAO   iPe   00 21 54.7
        MHC   ePe   00 21 55.3
        PRS   iPe   00 21 56.7
        GCC   ePe   00 21 59.0
        BKS   eP    00 22 02.4  22 35
        PCC   ePe   00 22 02.6
        ORV   ePe   00 22 03.9
        MIN   e(P)  00 22 16                   e 22 19
                BRK  00 21 16.7, 37.5N, 118.9W, h=  8 km, ML=4.1
                     MAMMOTH LAKES AREA, CALIFORNIA

NOV 22  LLA   iPd   02 55 21.4
        PRS   iPd   02 55 25.6
        SAO   iPe   02 55 26.1
        PRI   eP    02 55 29.5
        GCC   iPe   02 55 34.5
        MHC   eP    02 55 35.6                 e 55 50
        FRI   eP    02 55 39.0
        PCC   eP    02 55 42.5
        JAS   eP    02 55 44.2  56 03
        BKS   ePd   02 55 45.6  56 06
                BRK  02 55 18.9, 36.6N, 121.1W, h= 10 km, ML=2.8
                     SOUTHEAST OF HOLLISTER, CALIFORNIA

NOV 22  LLA   iPd   11 48 52.3
        PRS   iPd   11 48 56.5  49 00
        SAO   iPe   11 48 57.0
        PRI   ePe   11 49 00.3
        GCC   iPe   11 49 05.3
        MHC   ePe   11 49 06.4                 i 49 21
        FRI   eP    11 49 09.8
        PCC   ePe   11 49 13.3
        JAS   ePd   11 49 14.9  49 34
        BKS   ePd   11 49 16.6  49 38         e 49 22      e 49 45
                BRK  11 48 49.7, 36.5N, 121.1W, h= 12 km, ML=3.0
                     SOUTHEAST OF HOLLISTER, CALIFORNIA

NOV 23  MHC   e(P)  08 16 19
        PRI   eP    08 16 21.8
        JAS   ePe   08 16 25.0
        WDC   ePe   08 16 25.3
        ORV   eP    08 16 26.0
        FRI   ePe   08 16 26.2
                USGS 08 03 32.5, 21.8S, 168.8E, h= 33 km, mb=4.4
                     LOYALTY ISLANDS

NOV 23  MIN   eP    18 47 56.0
        WDC   ePd   18 47 56.1                 i 47 00      PKKP 05 29
        ORV   ePd   18 47 58.3                 PKKP 05 27
        FHC   eP    18 47 59.3
        JAS   ePd   18 48 03.8                 i 48 07      PKKP 05 26
        FRI   eP    18 48 05.8                 i 48 10      PKKP 05 25
        BKS   eP    18 48 07.1  59 06          e 48 50      PP 51 52      e 52 06
                                                e 52 30      PPS 00 37     SS 04 58
                                                e 06 04      e 12 15       Lq 13 56
                                                e 14 50      e 17 58       Lr 19 24
                          MICRON    PERIOD
                    PZ      0.71      2.0
                    LZ       100        20
                    LNE       90        20
                    LNW       24        20
        MHC   ePd   18 48 08.8                 e 48 13      PKKP 05 24
        SAO   eP    18 48 10
        PRI   eP    18 48 11.9                 PKKP 05 23
                Ms=7.2, DISTANCE=93°
                USGS 18 34 53.8, 40.9N,  15.4E, h= 10 km, mb=6.0, Ms=6.9
                     SOUTHERN ITALY

NOV 23  FHC   ePe   22 51 54.8
        WDC   ePe   22 52 01.3
        ORV   ePe   22 52 09.9
        BRK   eP    22 52 15.3
        MHC   ePe   22 52 20.8
        JAS   ePe   22 52 23.0
        SAO   eP    22 52 26.1
        FRI   eP    22 52 30.0
                USGS 22 42 45.8, 52.4N, 158.6E, h= 33 km, mb=5.0
                     NEAR EAST COAST OF KAMCHATKA

NOV 24  SAO   eP    01 46 09
        MHC   ePd   01 46 09.5
        BKS   eP    01 46 09.7
                          MICRON    PERIOD
                    PZ      0.11      1.0
        PRI   eP    01 46 09.8
        FRI   ePd   01 46 14.6
        FHC   ePd   01 46 14.7
        JAS   ePd   01 46 15.1                 e 48 28
        ORV   ePd   01 46 16.5                 e 46 29
        WDC   ePd   01 46 16.6                 e 48 30
        MNV   eP    01 46 25.0
                USGS 01 34 53.2, 22.6S, 179.1E, h=617 km, mb=5.3
                     SOUTH OF FIJI ISLANDS

NOV 24  SAO   iPd   05 49 34.6
        GCC   ePe   05 49 38.2
        MHC   iPd   05 49 41.3  49 48
        PRS   iPd   05 49 42.3
        LLA   iPd   05 49 43.2
        PCC   eP    05 49 47.6
        PRI   ePe   05 49 51.6
        BKS   eP    05 49 51.7  50 09
        JAS   ePd   05 49 56.5                 i 50 16
        FRI   e(P)  05 49 57
        ORV   iP    05 50 15.7
                BRK  05 49 31.4, 36.9N, 121.6W, h=  4 km, ML=3.0
                     WEST OF HOLLISTER, CALIFORNIA

NOV 24  FRI   eP    09 43 11.6
        JAS   eP    09 43 19.8                 e 43 22
        MNV         09 43                      Lr 01 44
        BKS         09 43
                          MICRON    PERIOD
                    LZ      2.1        20
                    LN      1.9        20
                    LE      0.4        20
        ORV   eP    09 43 34.0
        WDC   eP    09 43 39.0
                USGS 09 33 05.0, 22.7S, 113.5W, h= 10 km, mb=5.4, Ms=5.4
                     EASTER ISLAND REGION

NOV 24  ORV   iPd   19 11 00.9
        MIN   iPe   19 11 09.5
        WDC   iPe   19 11 10.1
        BKS   ePd   19 11 11.3                 e 11 36
        PCC   e(P)  19 11 15
        JAS   eP    19 11 20.0  11 46
        MHC   eP    19 11 20.2
        FHC   e(P)  19 11 27
                BRK  19 10 48.2, 39.3N, 122.2W, h=  5 km, ML=3.6
                     NORTHWEST OF WILLIAMS, CALIFORNIA

NOV 24  FRI         20 58                      e 58 14
        PRI   eP    20 58 15.3
        JAS   eP    20 58 20.7
        MHC   eP    20 58 23.3
        ORV   iPd   20 58 30.0                 i 59 00
        WDC   iPd   20 58 35.1                 e 59 05
        FHC         20 58                      e 58 42
                USGS 20 46 36.8, 22.5S,  68.6W, h=116 km, mb=5.1
                     NORTHERN CHILE

NOV 24  FRI         21 50                      e 50 04
        JAS   eP    21 50 11.8
        MHC   eP    21 50 16.2
        BKS   ePd   21 50 21.3
                          MICRON    PERIOD
                    PZ      0.03      0.8
        ORV   iPd   21 50 22.2
        WDC   eP    21 50 27.6
        FHC   iPd   21 50 38.5
                USGS 21 41 09.7,  6.7N,  73.0W, h=168 km, mb=5.0
                     NORTHERN COLOMBIA

NOV 25  FRI   iPe   01 00 06.0  00 17
        MNV   eP    01 00 08.3
        JAS   iPe   01 00 11.7
        LLA   iPe   01 00 23.2
        PRI   eP    01 00 25.4
        MHC   eP    01 00 27.4
        SAO   iPe   01 00 27.4
        PRS   eP    01 00 29.6
        BKS   iPe   01 00 33.4  01 07
        GCC   eP    01 00 35.0
        PCC   iPe   01 00 35.6
        ORV   eP    01 00 35.8
                BRK  00 59 49.4, 37.6N, 118.9W, h=  9 km, ML=3.5
                     MAMMOTH LAKES AREA, CALIFORNIA

NOV 25  FRI   iPe   01 33 07.0  33 18
        MNV   eP    01 33 09.5
        JAS   iPe   01 33 12.8
        LLA   iPe   01 33 24.3  33 50
        PRI   eP    01 33 26.8
        SAO   iPd   01 33 28.6
        PRS   eP    01 33 30.8
        GCC   eP    01 33 32.6
        BKS   eP    01 33 34.5  34 08
                BRK  01 32 50.5, 37.6N, 118.9W, h= 19 km, ML=3.5
                     MAMMOTH LAKES AREA, CALIFORNIA

NOV 25  FRI   eP    06 16 26.9
        PRI   eP    06 16 28.4
        JAS   iPd   06 16 33.7                 e 16 58
        MHC   eP    06 16 35.3
        BKS   eP    06 16 38.4
                          MICRON    PERIOD
                    PZ      0.04      0.8
        ORV   iPd   06 16 42.3                 i 17 07
        MIN   eP    06 16 44.3
        WDC   iPd   06 16 47.1                 i 17 22
                USGS 06 04 02.9, 34.9S,  70.7W, h= 96 km, mb=5.1
                     CHILE-ARGENTINA BORDER REGION

NOV 25  BKS         22 10                      e 11 08      e 40 54      e 47 16
        MHC   eP    22 10 52.5                 e 11 08
        FRI   eP    22 10 56.5
        ORV   e(P)  22 11 00                   e 11 15
        WDC   ePe   22 11 00.6                 e 11 08      e 11 16
                USGS 21 58 28.2, 30.2S, 178.0W, h=131 km, mb=4.8
                     KERMADEC ISLANDS

NOV 26  WKC2  eP    04 34 31.5  34 47
        FHC   iPe   04 34 35.3  34 51
        WDC   ePd   04 34 51.0  35 19
        MIN   ePd   04 35 01.0  35 43
        ORV   eP    04 35 03.7
        PCC   eP    04 35 12.4
        SAO   eP    04 35 26.8
                BRK  04 34 13.1, 40.6N, 125.6W, h=  8 km, ML=3.7
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 26  WKC2  iPe   10 03 04.0  03 19
        FHC   iPe   10 03 07.3  03 24
        WDC   ePd   10 03 23.2  03 52
        MIN   e(P)  10 03 33                   e 04 11
        ORV   ePe   10 03 36.5                 e 04 15
        BKS   e(P)  10 03 41                   e 04 23      e 06 00
        PCC   e(P)  10 03 44
                BRK  10 02 45.2, 40.6N, 125.6W, h=  8 km, ML=3.6
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 26  WKC2  iPe   16 43 07.4                 i 43 11      i 43 18
        FHC   iPe   16 43 10.6  43 26         i 43 14
        WDC   iPe   16 43 25.9  43 53
        MIN   iPe   16 43 36.0
        ORV   ePe   16 43 38.2                 i 43 40
        BKS   eP    16 43 45.7                 e 44 27      e 44 30
                BRK  16 42 50.0, 40.6N, 125.5W, h=  8 km, ML=4.1
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 26  WKC2  i(P)  16 43 11
        FHC   i(P)  16 43 15  43 30
        WDC   i(P)  16 43 30  43 57
        MIN   i(P)  16 43 40
        ORV   e(P)  16 43 42
        BKS   e(P)  16 43 50
                BRK  16 42 53.8, 40.6N, 125.5W, h=  8 km, ML=4.2
                     OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 26  FHC   iPe   23 59 54.8
        WDC   iPe   00 00 00.2
        MIN   ePe   00 00 04.2
        ORV   iPe   00 00 07.3
        BKS   ePe   00 00 10.6                 e 09 28      e 21 28
                          MICRON    PERIOD
                    PZ      0.27      1.2
        MHC   ePe   00 00 15.4
        SAO   ePe   00 00 17.4
        FRI   ePe   00 00 23.7
        PRI   ePe   00 00 23.9
        MNV   ePe   00 00 24.5
                USGS 23 49 02.0, 40.4N, 141.3E, h= 95 km, mb=5.8
                     NEAR EAST COAST OF HONSHU, JAPAN
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NOV 27  FBC   ePe    02 01 31.0
        WDC   iPe    02 01 36.6
        MIN   ePe    02 01 40.4
        ORV   iPe    02 01 43.5
        BKS   ePe    02 01 47.0
                          MICRON     PERIOD
                     PZ     0.19        1.1
        MHC   ePe    02 01 51.6
        SAO   ePe    02 01 53.7
        FRI   ePe    02 01 59.9
        PRI   ePe    02 02 00.0
        MNV   ePe    02 02 01.1
                     USGS 01 50 38.1, 40.4N, 141.3E, h= 94 km, mb=5.4
                          NEAR EAST COAST OF HONSHU, JAPAN

NOV 28  ORV   iPe    17 11 54.8
        MIN   ePd    17 12 04.4  12 23
        BKS   ePd    17 12 13.0                 • 12 16      • 12 38
        WDC   ePd    17 12 15.2  12 40
        MHC   ePd    17 12 15.8
        FRI   ePd    17 12 18.8
        SAO   ePd    17 12 22.5
                     BRK  17 11 39.5, 39.2N, 120.4W, h= 10 km, ML=3.3
                          WEST-SOUTHWEST OF TRUCKEE, CALIFORNIA

NOV 28  ORV   iPe    18 21 28.1
        MIN   iPd    18 21 37.6
        BKS   iPd    18 21 45.6  22 12      • 22 17
        MNV   ePe    18 21 45.7
        WDC   ePd    18 21 47.7
        MHC   iPd    18 21 48.8
        PCC   ePd    18 21 50.5
        FRI   iPd    18 21 52.4
        GCC   ePd    18 21 53.5
        SAO   ePd    18 21 55.3
        LLA   ePd    18 21 56.0
        PRS   ePd    18 22 01.0
        PRI   ePd    18 22 02.8
        FHC   ePe    18 22 03.9
        WKC2  iPd    18 22 04.5
                     BRK  18 21 12.9, 39.3N, 120.5W, h= 10 km, ML=5.1
                          WEST-SOUTHWEST OF TRUCKEE, CALIFORNIA

NOV 28  ORV   iPe    18 42 57.3  43 09
        MIN   ePd    18 43 06.5
        MHC   ePd    18 43 18.5
        FRI   ePd    18 43 21.5
                     BRK  18 42 42.3, 39.3N, 120.5W, h= 14 km, ML=3.0
                          WEST-SOUTHWEST OF TRUCKEE, CALIFORNIA

NOV 29  WKC2  iPe    02 38 04.0  38 17
        FHC   iPe    02 38 07.4  38 23
        WDC   iPe    02 38 22.5
        MIN   iPe    02 38 32.7
        ORV   ePd    02 38 36.0
        BKS   ePd    02 38 41.7
        PCC   ePd    02 38 45.0
        MHC   e(P)   02 38 52
        SAO   ePd    02 38 59
        FRI   e(P)   02 39 12
                     BRK  02 37 46.3, 40.5N, 125.5W, h=  8 km, ML=3.6
                          OFF COAST WEST-SOUTHWEST OF EUREKA, CALIFORNIA

NOV 29  PRI   ePd    07 01 45.5
        MHC   ePd    07 01 46.5
        BKS   ePd    07 01 47.2                 • 11 44      • 29 50      • 12 26
                          MICRON     PERIOD
                     PZ     0.03        1.0
        FRI   ePd    07 01 49.7
        ORV   ePe    07 01 53.0
        WDC   ePe    07 01 54.5
                     USGS 06 48 46.9, 35.3S, 180.0E, h= 33 km, mb=5.7, Ms=5.7
                          OFF EAST COAST OF NORTH ISLAND, NEW ZEALAND

NOV 30  WDC   ePKP   03 03 54                 • 04 06
        ORV   ePKP   03 03 56.2               • 04 08
        MHC   ePKP   03 03 59.0               • 04 10
        FRI   ePKP   03 04 01.5               • 04 13
        PRI   ePKP   03 04 02.0
                     USGS 02 44 55.2,  5.5S, 103.0E, h= 58 km, mb=5.4
                          SOUTHERN SUMATERA

NOV 30  SAO   ePe    12 36 05.7
        BKS   ePe    12 36 07.1                pP 37 03      • 45 34      • 47 11
                          MICRON     PERIOD
                     PZ     0.20        0.8
        PRI   iPe    12 36 07.3                pP 37 03
        MHC   ePe    12 36 07.5                pP 37 03
        FHC   iPe    12 36 11.8                pP 37 08
        FRI   iPe    12 36 12.7                pP 37 09
        ORV   iPe    12 36 14.8                pP 37 11
        WDC   iPe    12 36 15.2                pP 37 11
        MIN   iPe    12 36 16.8                pP 37 13
        MNV   ePe    12 36 23.0                pP 37 19
                     mb=5.9, h=250 km, DISTANCE=77°
                     USGS 12 24 39.8, 19.4S, 175.8W, h=202 km, mb=6.0
                          TONGA ISLANDS

NOV 30  SAO   eP     20 43 54.8
        PRI   eP     20 43 55.9
        BKS   eP     20 43 56.8
                          MICRON     PERIOD
                     PZ     0.03        0.8
        MHC   eP     20 43 56.8
        FRI   eP     20 44 00.3
        FHC   eP     20 44 01.5
        ORV   eP     20 44 03.6
        WDC   eP     20 44 04.6
                     USGS 20 31 12.0, 33.0S, 179.7W, h= 80 km, mb=5.1
                          SOUTH OF KERMADEC ISLANDS

NOV 30  WDC   eP     21 37 22.5                • 37 42
        MIN   eP     21 37 27.7                • 37 47
        ORV   eP     21 37 33.0
        FRI   eP     21 37 59.5
                     USGS 21 31 47.3, 59.4N, 153.3W, h= 87 km, mb=4.9
                          SOUTHERN ALASKA

DEC 01  PRI   eP     12 13 45.2
        MHC   eP     12 13 46
        FRI   eP     12 13 48.5
        ORV   ePd    12 13 51.5
        WDC   ePd    12 13 52
        MIN   eP     12 13 53.8
                     USGS 12 01 49.0, 22.2S, 174.9W, h= 33 km, mb=5.4, Ms=5.2
                          TONGA ISLANDS REGION

DEC 02  MHC   eP     13 29 24.6
        BKS   eP     13 29 24.8                • 29 52      • 56 19
                          MICRON     PERIOD
                     PZ     0.02        0.8
        FRI   eP     13 29 28.6
        ORV   eP     13 29 31.9                i 29 48
        WDC   eP     13 29 32.8                i 29 49
                     USGS 13 17 03.3, 27.1S, 176.5W, h= 27 km, mb=5.5, Ms=5.4
                          KERMADEC ISLANDS REGION

DEC 02  ORV   iPe    18 31 23.2
        MIN   iPd    18 31 33.5  31 51
        BRK   e(P)   18 31 42
        WDC   ePd    18 31 43.5
        MHC   eP     18 31 44
        MNV   eP     18 31 44.5
        FRI   eP     18 31 47.8
        PCC   e(P)   18 31 48
        SAO   eP     18 31 51
                     BRK  18 31 07.8, 39.2N, 120.5W, h= 10 km, ML=3.2
                          WEST-SOUTHWEST OF TRUCKEE, CALIFORNIA

DEC 03  PRI   ePe    17 43 12.3
        SAO   ePe    17 43 13.9
        MHC   eP     17 43 18.0
        FRI   ePe    17 43 18.3
        BKS   e(P)   17 43 20
        MNV   eP     17 43 30.7
        ORV   eP     17 43 31.2
        WDC   iPe    17 43 36.1
                     USGS 17 32 58.2, 21.9S, 139.0W, h=  0 km, mb=5.6
                          TUAMOTU ARCHIPELAGO REGION

DEC 03  MHC   eP     20 49 18.0
        PRI          20 49                     • 49 22
        WDC   iPe    20 49 21.8
        ORV   iPe    20 49 22.8
        FRI   ePe    20 49 23.7
        MIN   e(P)   20 49 25
        MNV   e(P)   20 49 32
                     USGS 20 36 43.0, 18.0S, 169.0E, h= 33 km, mb=5.2, Ms=5.0
                          VANUATU ISLANDS

DEC 04  MNV   eP     00 56 40.2
        FRI          00 57                     • 57 10
        JAS   ePe    00 57 13.1
        ORV   eP     00 57 33.3

DEC 04  MHC   eP     19 09 48.6
        PRI          19 09                     • 09 49
        FRI   eP     19 09 53.7
        JAS   iPe    19 09 54.0
        WDC   iPe    19 09 54.7
        ORV   iPe    19 09 54.8
                     USGS 18 58 54.8, 17.8S, 180.0W, h=642 km, mb=5.1
                          FIJI ISLANDS REGION

DEC 05  FRI   iPe    00 53 29.1  53 41
        JAS   iPe    00 53 35.8
        LLA   iPe    00 53 47.0
        PRI   iPd    00 53 49.2  54 17
        SAO   iPe    00 53 51.2
        MHC   iPd    00 53 51.9
        PRS   ePe    00 53 53.3
        BKS   eP     00 53 57.5
        PCC   eP     00 53 59.1
                     BRK  00 53 12.2, 37.6N, 188.9W, h= 15 km, ML=3.8
                          MAMMOTH LAKES AREA, CALIFORNIA

DEC 05  BKS          07 25                     • 25 51
        PRI          07 25                     • 25 56
        MHC   eP     07 25 51.3
        FRI   eP     07 25 55.4
        JAS   eP     07 25 56.0
        ORV   eP     07 25 57.4
        WDC   eP     07 25 57.9
        MIN          07 26                     • 26 01
                     USGS 07 14 18.0, 24.7S, 178.4E, h=545 km, mb=5.3
                          SOUTH OF FIJI ISLANDS

DEC 05  WDC   eP     11 55 58.7
        MIN   eP     11 56 02.1
        BKS   eP     11 56 03.2
        ORV   iPd    11 56 03.6
        MHC   eP     11 56 06.1
        JAS   eP     11 56 09.8
        FRI   eP     11 56 13.9
                     USGS 11 43 44.8, 15.1N, 146.4E, h= 39 km, mb=5.0
                          MARIANA ISLANDS

DEC 06  FHC   iPe    16 20 03.1  20 11
        WDC   iPe    16 20 16.7  20 34
        MIN   iPe    16 20 26.6
        ORV   iPe    16 20 29.7
        PCC   e(P)   16 20 44
                     BRK  16 19 54.6, 40.4N, 124.3W, h= 20 km, ML=3.4
                          SOUTH-SOUTHWEST OF EUREKA, CALIFORNIA

DEC 06  FHC   iPe    17 00 09.9  00 19
        WDC   iPe    17 00 26.0  00 47
        MIN   iPe    17 00 36.3
        ORV   iPd    17 00 41.7
        BKS   e(P)   17 00 54
        PCC   e(P)   17 00 57
        MHC   eP     17 01 04
        JAS   ePd    17 01 06.6
        SAO   eP     17 01 11
                     BRK  16 59 57.5, 41.1N, 124.8W, h= 20 km, ML=3.8
                          OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

DEC 06  WDC   iPe    19 39 51.7
        ORV   iPe    19 40 01.4
        BKS   eP     19 40 06.3
                          MICRON     PERIOD
                     PZ     0.02        0.7
        MHC   ePe    19 40 12.8
        JAS   iPe    19 40 16.3
        PRI   eP     19 40 24.3
        FRI   ePe    19 40 24.4
                     USGS 19 32 54.5, 52.1N, 173.1W, h= 65 km, mb=4.7
                          ANDREANOF ISLANDS, ALEUTIAN ISLANDS

DEC 06  WDC   ePKP   21 32 13.0
        ORV   ePKP   21 32 17.0
        JAS   e(PKP) 21 32 22
                     USGS 21 12 32.8,  7.3S,  67.9E, h= 10 km, mb=4.7
                          MID-INDIAN RISE

DEC 07  FHC   iPe    02 56 44.0  56 59
        WDC   iPe    02 56 59.8  57 26
        MIN   iPe    02 57 10.0
        ORV   iPe    02 57 13.6
        BKS   eP     02 57 21.5                • 58 02
        PCC   eP     02 57 24.5
        MHC   eP     02 57 31.3
        GCC   eP     02 57 32.0
        JAS   eP     02 57 37.0
        SAO   eP     02 57 38.5
        FRI   eP     02 57 52
                     BRK  02 56 25.4, 40.7N, 125.3W, h=  8 km, ML=3.7
                          OFF COAST WEST OF EUREKA, CALIFORNIA

DEC 07  FHC   eP     09 44 45.5
        WDC   iPd    09 44 50.8
        MIN   eP     09 44 54.4
        ORV   iPd    09 44 57.2
        BKS   eP     09 45 00.2
                          MICRON     PERIOD
                     PZ     0.06        0.8
        MHC   eP     09 45 03.5
        JAS   iPd    09 45 06.3
        PRI   eP     09 45 11.1
        FRI   eP     09 45 11.7
                     USGS 09 33 24.9, 32.8N, 139.9E, h=137 km, mb=5.0
                          SOUTH OF HONSHU, JAPAN

DEC 07  WDC   eP     15 07 08.6                • 07 16
        ORV   eP     15 07 14.5                • 07 22
        JAS   eP     15 07 21.6                • 07 30
        FRI   eP     15 07 26.2
                     USGS 14 55 11.1, 22.8N, 142.4E, h= 86 km, mb=4.9
                          VOLCANO ISLANDS REGION

DEC 07  FHC   iPe    15 26 46.4  27 00
        WDC   iPd    15 27 01.5  27 27
        MIN   iPe    15 27 11.2
        ORV   iPe    15 27 14.1
        PCC   eP     15 27 22.4
        JAS   eP     15 27 36
                     BRK  15 26 28.4, 40.4N, 125.2W, h=  8 km, ML=3.6
                          OFF COAST SOUTHWEST OF EUREKA, CALIFORNIA
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DEC 07  MIN   eP      17 50 01.0
        WDC   eP      17 50 01.5
        ORV   eP      17 50 03.0
        JAS   eP      17 50 07.0
        BKS           17 50                    e 56 32      e 04 12     Lr 19 45
                                  MICRON    PERIOD
                           LZ       2.5        20
                           LN       3.0        20
                           LE       1.2        20
        FRI   eP      17 50 08.1
        PRI   eP      17 50 16.0
              USGS 17 37 09.7, 36.0N,   1.2E, h= 10 km, mb=5.5, Ms=5.7
                   ALGERIA

DEC 07  FHC   eP      20 46 02.3
        WDC   ePe     20 46 07.4
        MIN   eP      20 46 10.5
        ORV   ePe     20 46 13.8
        BKS   eP      20 46 17.3
                                  MICRON    PERIOD
                           PZ       0.04       0.8
        MHC   eP      20 46 20.1
        JAS   ePe     20 46 23.3
        FRI   eP      20 46 28.5
        PRI   eP      20 46 28.7
              USGS 20 35 02.3, 37.0N, 135.0E, h=360 km, mb=4.9
                   SEA OF JAPAN

DEC 08  JAS   eP      01 04 12.1
        ORV           01 04                    e 04 19
        WDC   eP      01 04 25.7

DEC 08  SAO           01 52                    e 52 11
        PRI   eP      01 52 12.0
        BRK           01 52                    e 52 12
        MHC   eP      01 52 12.7
        FRI   eP      01 52 17.0
        JAS   eP      01 52 18.0
        ORV   eP      01 52 19.0
        WDC   eP      01 52 20.3
        MIN   eP      01 52 22.3
              TONGA ISLANDS REGION

DEC 08  PRI   eP      05 22 31.5
        FRI   eP      05 22 34.2
        BKS   eP      05 22 39.0
        JAS   eP      05 22 41.2
        ORV   eP      05 22 51.0
        WDC   eP      05 22 57.0

DEC 08  FHC   iPd     08 07 46.6  07 56
        WDC   iPd     08 08 03.2  08 24
        MIN   eP      08 08 13.3
        ORV   iPe     08 08 18.4
              BRK  08 07 34.6, 41.0N, 124.8W, h= 20 km, ML=3.8
                   OFF COAST NORTHWEST OF EUREKA, CALIFORNIA

DEC 08  MNV   iPe     16 57 08.7  57 23
        JAS   iPe     16 57 09.0  57 23
        FRI   iPd     16 57 20.3  57 43
        ORV   iPe     16 57 21.0  57 45
        MHC   eP      16 57 28.0
        BKS   ePnd    16 57 29.6  58 01      P* 57 30      Pg 57 32
        LLA   eP      16 57 30.5
        MIN   eP      16 57 31.4
        SAO   iPd     16 57 31.9
        PCC   eP      16 57 33.1
        PRI   eP      16 57 37.0
              BRK  16 56 49.6, 38.7N, 119.5W, h= 12 km, ML=3.8
                   EAST OF MARKLEEVILLE, CALIFORNIA

DEC 08  MNV   iPe     17 29 18.1  29 33
        JAS   iPe     17 29 18.5
        FRI   iPd     17 29 29.9
        ORV   iPe     17 29 30.8
        MHC   eP      17 29 38.3
        BKS   e(P*)   17 29 39    30 10      Pg 29 41
        LLA   iP      17 29 40.4
        SAO   iPe     17 29 41.5
              BRK  17 28 59.1, 38.7N, 119.5W, h= 10 km, ML=3.5
                   EAST OF MARKLEEVILLE, CALIFORNIA

DEC 11  FHC   iPd     02 08 51.5
        WDC   iPd     02 08 56.5                pP 10 40
        MIN   eP      02 09 00.0
        ORV   iPd     02 09 02.3
        BKS   ePd     02 09 03.8                e 10 48      e 11 32
                                  MICRON    PERIOD
                           PZ       0.12       0.8
        MHC   ePd     02 09 07.3
        SAO   eP      02 09 08.7
        JAS   iPd     02 09 10.2                pP 10 54
        PRI   ePd     02 09 14.2
        FRI   ePd     02 09 14.9
              USGS 01 57 45.4, 26.5N, 140.5E, h=471 km, mb=5.3
                   BONIN ISLANDS REGION

DEC 11  FRI   iPd     18 26 41.0
        PRI   iPd     18 26 42.7
        MNV           18 26                    e 26 43
        SAO   iPd     18 26 47.2
        JAS   iP      18 26 47.8                i 27 22
        MHC   iPd     18 26 50.6
        BKS   iPd     18 26 54.2  36 38        e 27 08      e 27 27      e 27 40
                                               PP 29 50     PPP 31 48    PS 37 24
                                               e 38 00      SS 41 58     SSS 46 24
                                               e 48 00      e 50 24      e 53 00
                                  MICRON    PERIOD
                           PZ       0.59       1.1
        ORV   iPd     18 26 57.3
        MIN   iPd     18 26 59.5
        WDC   iPd     18 27 02.8                i 27 23
        FHC   iPd     18 27 10.0
              USGS 18 15 03.5, 21.3S,  68.2W, h= 80 km, mb=6.1
                   CHILE-BOLIVIA BORDER REGION

DEC 11  WDC   eP      23 03 04.2                e 04 41
        ORV   iPe     23 03 11.7                e 04 48
        JAS   eP      23 03 23.3                e 05 08
              USGS 22 53 22.7, 47.8N, 146.0E, h=417 km, mb=5.2
                   NORTHWEST OF KURIL ISLANDS

DEC 11  FHC   eP      23 22 04.5
        WDC   iPd     23 22 09.1
        MIN   eP      23 22 12.7
        ORV   iPd     23 22 15.2
        BKS   eP      23 22 18.3                e 22 30      e 22 42
                                  MICRON    PERIOD
                           PZ       0.10       0.8
        MHC   eP      23 22 22.1
        SAO           23 22                    e 22 24
        JAS   ePd     23 22 24.0                i 22 39      e 25 34
        PRI   eP      23 22 29.2
        FRI   eP      23 22 29.2
        MNV           23 22                    e 22 31
              USGS 23 10 02.0, 32.4N, 131.7E, h= 51 km, mb=5.6, Ms=5.6
                   KYUSHU, JAPAN

DEC 12  ORV   iPd     13 13 33.0
        MIN   iPd     13 13 41.3  13 59
        WDC   eP      13 13 42.3
        BKS   eP      13 13 43.2  14 00      e 13 55
        PCC   eP      13 13 48.2
        MHC   eP      13 13 51.8
        JAS   eP      13 13 52.1
              BRK  13 13 20.4, 39.2N, 122.2W, h=  5 km, ML=3.4
                   NORTHWEST OF WILLIAMS, CALIFORNIA

DEC 12  ORV   iPd     14 24 28.5
        BKS   eP      14 24 29.6  24 46      i 24 31
        MIN   eP      14 24 37.1
        WDC   eP      14 24 37.1
        MHC   eP      14 24 38.8
        JAS   ePe     14 24 42.9  25 09
              BRK  14 24 09.1, 38.9N, 122.7W, h=  4 km, ML=3.2
                   SOUTHEAST OF CLEAR LAKE, CALIFORNIA

DEC 12  ORV   iPd     14 27 37.4
        BKS   eP      14 27 39.5  27 56
        WDC   eP      14 27 45.4
        MIN   iP      14 27 46.0
        MHC   eP      14 27 48.5
        JAS   eP      14 27 51.5
        FRI   eP      14 28 07.0
              BRK  14 27 17.7, 39.0N, 122.7W, h=  5 km, ML=3.1
                   SOUTHEAST OF CLEAR LAKE, CALIFORNIA

DEC 12  ORV   iPe     14 57 27.8
        BKS   ePe     14 57 28.5  57 45
        PCC   eP      14 57 32.9
        WDC   eP      14 57 35.7
        MIN   eP      14 57 36.0
        MHC   eP      14 57 37.9
        JAS   ePe     14 57 41.8
        SAO   eP      14 57 46.8
        FRI   eP      14 57 56.8
              BRK  14 57 08.2, 39.0N, 122.7W, h=  4 km, ML=3.9
                   SOUTHEAST OF CLEAR LAKE, CALIFORNIA

DEC 12  SAO   eP      17 15 38.6
        MHC   eP      17 15 40.3
        PRI   eP      17 15 40.4
        FRI   eP      17 15 45.7
        JAS   ePe     17 15 45.8
        ORV   ePe     17 15 46.5
        WDC   ePe     17 15 46.6
              USGS 17 04 47.1, 17.9S, 179.8W, h=648 km, mb=4.7
                   FIJI ISLANDS REGION

DEC 12  ORV   iPd     21 17 32.3
        BKS   eP      21 17 32.8                i 17 51
        PCC   e(P)    21 17 36
        WDC   e(P)    21 17 39
        MIN   ePd     21 17 40.1
        MHC   eP      21 17 42
        GCC   e(P)    21 17 46
        JAS   iPe     21 17 46.2
        SAO   eP      21 17 49.8
        FHC   eP      21 17 53.5
        LLA   ePd     21 17 55.1
        PRS   e(P)    21 17 56
              BRK  21 17 12.3, 39.0N, 122.7W, h=  5 km, ML=3.2
                   SOUTHEAST OF CLEAR LAKE, CALIFORNIA

DEC 13  WDC   eP      16 44 25.2                i 44 41
        ORV   eP      16 44 30.8                e 44 47
        BKS           16 44                     e 44 41      e 44 51      e 44 54
        MHC           16 44                     e 44 44
        JAS   eP      16 44 39                  e 44 55
        PRI           16 44                     e 44 45
        FRI   eP      16 44 44
              USGS 16 32 03.9, 29.4N, 131.1E, h= 33 km, mb=5.4, Ms=5.3
                   RYUKYU ISLANDS REGION

DEC 13  SAO   iPd     18 53 45.1
        GCC   iPe     18 53 47.8  53 52
        MHC   iPd     18 53 50.9
        PRS   iPd     18 53 52.7
        LLA   iPd     18 53 53.5
        PCC   eP      18 53 57.1
        PRI   ePe     18 54 01.7
        BKS   iPe     18 54 02.3  54 18
        JAS   e(P)    18 54 07    54 25
        FRI   e(P)    18 54 08
              BRK  18 53 41.4, 36.9N, 121.6W, h=  4 km, ML=2.5
                   WEST OF HOLLISTER, CALIFORNIA

DEC 14  FHC   ePe     03 59 58.5
        WDC   iPe     03 59 59.5                e 03 21
        MIN   ePe     04 00 01.4
        ORV   iPe     04 00 04.8
        BKS   eP      04 00 13.0
                                  MICRON    PERIOD
                           PZ       0.11       1.0
        MNV   eP      04 00 13.7
        JAS   ePe     04 00 14.0
        MHC   ePe     04 00 16.0
        SAO   eP      04 00 18.4
        FRI   ePe     04 00 18.7
        PRI   ePe     04 00 22.8
              USGS 03 47 06.6, 49.9N,  79.0E, h=  0 km, mb=5.9, Ms=4.1
                   EASTERN KAZAKH, S.S.R.

DEC 14  FHC   eP      06 35 41.8
        WDC   eP      06 35 49.2
        MIN   eP      06 35 54.3
        ORV   eP      06 35 58.0
        MHC   eP      06 36 12.0
        JAS   eP      06 36 12.5
        FRI   eP      06 36 20
        PRI   eP      06 36 23
              USGS 06 27 29.8, 53.0N, 171.1E, h= 24 km, mb=5.6, Ms=4.8
                   NEAR ISLANDS, ALEUTIAN ISLANDS

DEC 14  MHC   eP      07 03 29.4
        FRI   eP      07 03 32.9
        JAS   ePe     07 03 34.0
        ORV   ePe     07 03 36.2
        WDC   ePe     07 03 37.5
              USGS 06 50 51.9, 30.8S, 177.8W, h= 33 km, mb=5.2, Ms=4.6
                   KERMADEC ISLANDS

DEC 14  FRI   iPe     09 25 09.3  25 21
        MNV   ePe     09 25 12.7
        JAS   iPd     09 25 16.6  25 32
        LLA   iPe     09 25 27.2
        PRI   ePd     09 25 29.3
        SAO   iPe     09 25 31.5
        MHC   eP      09 25 31.7
        PRS   iPe     09 25 33.6
        BKS   eP      09 25 34.5  26 11
        PCC   eP      09 25 39.5
        ORV   ePd     09 25 40.2
              BRK  09 24 53.0, 37.6N, 118.9W, h=  9 km, ML=3.6
                   MAMMOTH LAKES AREA, CALIFORNIA

DEC 14  FRI   iPe     20 19 32.4  19 44
        MNV   ePe     20 19 34.1
        JAS   iPe     20 19 38.7  19 54
        LLA   iPe     20 19 50.0
        PRI   ePd     20 19 52.0
        SAO   iPe     20 19 54.1
        MHC   iPe     20 19 54.3
        PRS   ePe     20 19 56.3
        GCC   ePe     20 19 58.5
        BKS   ePe     20 20 00.5                e 20 45
        PCC   eP      20 20 01.5
        ORV   ePe     20 20 03
              BRK  20 19 15.5, 37.6N, 118.9W, h= 12 km, ML=3.5
                   MAMMOTH LAKES AREA, CALIFORNIA

DEC 14  FHC   eP      22 18 12.0
        WDC   ePe     22 18 25.0
        MIN   eP      22 18 37.0
        ORV   ePe     22 18 43.6
        JAS   ePe     22 19 08.8
        FRI   eP      22 19 23.3
              USGS 22 17 10.1, 43.8N, 127.7W, h= 15 km, mb=4.2, Ms=3.3
                   OFF COAST OF OREGON
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DEC 15  BKS   ePe    08 24 10.2  33 38       i 24 19      e 24 31      i 24 44
                                              i 24 47      e 25 11      e 27 44
                                              i 34 17      e 41 52     Lq 42 48
                                             Lr 45 48
                                    MICRON    PERIOD
                                PZ     4.7       3.5
                                LZ      15         20
                                LN      11         20
                                LE      12         20
        PRI   eP     08 24 10.7
        SAO   eP     08 24 10.7
        MHC   eP     08 24 11.3
        FRI   eP     08 24 15.4
        FHC          08 24                 e 24 16
        JAS   ePe    08 24 16.3
        ORV   ePe    08 24 18.0
        WDC   iPe    08 24 18.8
        MIN   eP     08 24 21.1
                     USGS 08 12 45.4, 17.6S, 172.3W, h= 33 km, mb=6.1, Ms=6.3
                          TONGA ISLANDS REGION

DEC 15  FRI          10 16                 e 16 51
        JAS          10 17                 e 17 02      e 19 02
        MHC          10 17                 e 17 05
        ORV   eP     10 17 13.3            e 19 08
        WDC          10 17                 e 17 20      e 19 09
        FHC          10 17                 e 17 31
                     USGS 10 09 33.0, 11.5N,  86.2W, h=136 km, mb=5.1
                          NEAR COAST OF NICARAGUA

DEC 15  LLA   iPd    11 19 26.0  19 29       i 19 33
        PRS   iP     11 19 27.7  19 32
        SAO   iPe    11 19 30.1
        PRI   eP     11 19 31.2
        GCC   eP     11 19 39.5
        MHC   eP     11 19 40.9
        JAS   eP     11 19 50.3
                     BRK  11 19 22.0, 36.5N, 121.1W, h=  5 km, ML=2.5
                          SOUTHEAST OF HOLLISTER, CALIFORNIA

DEC 15  FRI   iPe    11 50 55.1  51 05
        JAS   iPe    11 51 00.4
        LLA   iPe    11 51 12.1
        MHC   eP     11 51 16.1
        SAO   eP     11 51 16.3
        PRS   eP     11 51 18.3
        BKS   eP     11 51 22    51 58
        ORV   iP     11 51 24.9
                     BRK  11 50 37.9, 37.6N, 118.9W, h= 14 km, ML=3.8
                          MAMMOTH LAKES AREA, CALIFORNIA

DEC 15  WDC   eP     13 19 40.5
        ORV   iPd    13 19 46.5
        MHC   eP     13 19 52.0
        JAS   iPd    13 19 54.8
        FRI          13 19                 e 19 59

DEC 15  WDC   eP     22 24 41.6
        MIN   eP     22 24 44.8
        ORV   eP     22 24 48.3
        JAS   eP     22 24 57.3
        FRI   eP     22 25 02.7
        PRI   eP     22 25 05.0
                     USGS 22 11 49.6, 46.0N,  90.4E, h= 33 km, mb=5.5, Ms=5.2
                          NORTHERN SINKIANG PROVINCE, CHINA

DEC 17  FHC   iPe    00 40 43.0
        WDC   iPe    00 40 48.8
        MIN   ePe    00 40 59.1            Pg 41 02
        ORV   e(P)   00 41 06               i 41 12
                     BRK  00 40 35.5, 40.8N, 123.5W, h= 20 km, ML=3.4
                          EAST OF EUREKA, CALIFORNIA

DEC 17  SAO   e(P)   01 00 31
        BKS   ePe    01 00 32    11 08       i 00 55      e 00 58      i 01 07
                                              i 04 36      i 12 18      e 12 32
                                              i 12 52      i 24 10      e 24 24
                                             Lr 27 18
                                    MICRON    PERIOD
                                PZ     0.22      1.0
                                LZ       10        20
                                LN        5        20
                                LE        9        20
        MHC   ePe    01 00 32.1            e 01 08
        PRI   eP     01 00 32.8
        FHC   ePe    01 00 33.1            e 01 09
        WDC   ePe    01 00 36.6            e 01 13      e 04 03      e 04 24
        JAS   ePe    01 00 37.0            i 01 13      e 04 01
        FRI   ePe    01 00 37.1
        ORV   ePe    01 00 37.2            e 01 13      e 04 01      e 04 27
        MIN   ePe    01 00 38.6            e 01 14
                     USGS 00 47 54.7, 21.4S, 169.9E, h= 86 km, mb=6.0
                          LOYALTY ISLANDS REGION

DEC 17  FRI   eP     11 38 03.3
        JAS   eP     11 38 03.4
        ORV   e(P)   11 38 06
        WDC   eP     11 38 06.7
                     USGS 11 25 45.0, 26.6S, 176.0W, h= 56 km, mb=5.2
                          SOUTH OF FIJI ISLANDS

DEC 17  WDC   ePd    11 29 44.5
        MIN   eP     11 29 51.0
        ORV   eP     11 30 01
        JAS   e(P)   11 30 24
        FRI   e(P)   11 30 39
                     USGS 11 27 14.2, 49.5N, 129.5W, h= 10 km, mb=4.3, Ms=4.1
                          VANCOUVER ISLAND REGION

DEC 17  MNV   iPe    15 10 32.7
        FRI   iPe    15 10 45.4
        JAS   iPe    15 10 53.8            i 11 01
        PRI   iPe    15 10 58.8            i 11 05
        LLA   eP     15 11 00.7
        SAO   eP     15 11 04.8            e 11 11
        PRS   ePe    15 11 05.1
        MHC   iPee   15 11 07.1            P* 11 13     Pg 11 17
        ORV   iPe    15 11 11.7
        PCC   e(P)   15 11 13
        BKS   ePee   15 11 13.0            Pg 11 24
        MIN   iPe    15 11 19.0
        WDC   ePe    15 11 28.3            e 11 48
                     ML=5.0, NUCLEAR EXPLOSION (SERPA), N.T.S.
                     USGS 15 10 00.1, 37.3N, 116.3W, h=  0 km, mb=5.1
                          SOUTHERN NEVADA

DEC 17  FHC   eP     16 24 16.7
        WDC   iPe    16 24 28.2
        MIN   ePe    16 24 35.1
        ORV   ePe    16 24 44.8
        BKS   iPe    16 25 04.2  27 20       i 25 11      i 27 34
                                    MICRON    PERIOD
                                PZ     0.50      1.0
        JAS   ePe    16 25 10.0
        MHC   ePe    16 25 10.4
        SAO   eP     16 25 16.7
        MNV   eP     16 25 18.9
        FRI   ePe    16 25 23.2
        PRI   ePe    16 25 29.5
                     USGS 16 21 58.8, 49.5N, 129.5W, h= 10 km, mb=5.9, Ms=6.8
                          VANCOUVER ISLAND REGION

DEC 17  FHC   eP     16 40 38.5
        WDC   eP     16 41 02.5
        MIN   eP     16 41 09.9
        ORV   eP     16 41 18
                     VANCOUVER ISLAND REGION
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DEC 17  FHC   eP     17 08 39.5
        WDC   eP     17 08 50
        MIN   ePe    17 08 58.2
        ORV   eP     17 09 06.8
        JAS   e(P)   17 09 32
        MHC   e(P)   17 09 33
        PRI   e(P)   17 09 50
                     VANCOUVER ISLAND REGION

DEC 17  WDC   eP     17 18 01
        MIN   eP     17 18 08.4
        ORV   e(P)   17 18 17
        JAS          17 18                 e 18 43
                     USGS 17 15 31.0, 49.7N, 129.3W, h= 10 km, mb=4.6
                          VANCOUVER ISLAND REGION

DEC 18  FHC   ePe    00 54 10.1            pP 55 36
        WDC   iPe    00 54 15.1            pP 55 41
        MIN   ePe    00 54 18.6            pP 55 44
        ORV   iPe    00 54 21.3            pP 55 47
        BKS   iPe    00 54 24.2
                                    MICRON    PERIOD
                                PZ     0.05      0.8
        MHC   ePe    00 54 28.0
        JAS   ePe    00 54 30.3            pP 55 56
        SAO          00 54                 e 54 32
        PRI   ePe    00 54 35.3
        FRI   ePe    00 54 35.5            pP 56 01
                     USGS 00 43 05.4, 33.8N, 136.4E, h=383 km, mb=5.0
                          NEAR SOUTH COAST OF SOUTHERN HONSHU, JAPAN

DEC 18  BKS   iPd    02 06 14.8  06 19
        MHC   iPe    02 06 17.4  06 25
        PCC   iPd    02 06 18.3
        GCC   eP     02 06 21.9
        JAS   iPe    02 06 25.4  06 39
        SAO   eP     02 06 26.0            i 06 28
        LLA   e(P)   02 06 30
        ORV   eP     02 06 34.9
        FRI   eP     02 06 37.0
        PRI   eP     02 06 38.5
                     BRK  02 06 06.5, 37.9N, 121.7W, h=  5 km, ML=3.0
                          NORTH-NORTHEAST OF LIVERMORE, CALIFORNIA

DEC 18  WDC   eP     08 26 28.1
        MIN   eP     08 26 35.7
        ORV   eP     08 26 44.4
                     USGS 08 24 00.7, 49.6N, 128.8W, h= 10 km, mb=4.6
                          VANCOUVER ISLAND REGION

DEC 18  JAS   ePKP   16 05 45.7
        WDC   ePKPe  16 05 51.5
                     USGS 15 46 50.5, 59.5S,  27.1W, h= 33 km, mb=5.1
                          SOUTH SANDWICH ISLANDS REGION

DEC 19  SAO   eP     03 09 45.3
        PRI   eP     03 09 46.6
        MHC   eP     03 09 46.7
        BKS   ePe    03 09 47.5            i 09 59      i 10 17      e 19 36
                                            Lr 33 30
                                    MICRON    PERIOD
                                PZ     0.15      1.0
                                LZ       11        20
                                LN        6        20
                                LE        5        20
        FRI          03 09                 e 09 52
        JAS   eP     03 09 52.7
        FHC          03 09                 e 09 53
        WDC   eP     03 09 55.0
        ORV   iPe    03 09 55.4
        MIN          03 09                 e 09 56
        MNV          03 10                 e 10 03
                     USGS 02 57 57.4, 21.3S, 174.4W, h= 33 km, mb=5.9, Ms=6.1
                          TONGA ISLANDS

DEC 19  WDC   ePe    20 38 17.9
        MIN   eP     20 38 24.7
        ORV   eP     20 38 32.3
        JAS          20 38                 e 38 58
                     USGS 20 35 46.1, 49.6N, 129.8W, h= 10 km, mb=4.1
                          VANCOUVER ISLAND REGION

DEC 19  FHC   iPe    23 44 13.9
        WDC   iPe    23 44 19.0            i 47 03 PKPPKP 11 17      e 14 31
                                            e 14 53
        MIN   iPe    23 44 22.8            e 47 21
        ORV   iPe    23 44 25.4            e 47 07 PKPPKP 11 12      e 14 33
                                            e 14 52
        BKS   ePe    23 44 27.7  54 08     e 44 35      e 44 48      e 46 11
                                            e 46 46      e 47 14      e 54 33
                                            e 55 12     SS 59 20     SSS 02 36
                                           Lq 05 12     Lr 07 19      e 08 00
                                    MICRON    PERIOD
                                PZ     0.84      0.9
                                LZ      2.1        18
                                LN        0        18
                                LE      3.1        18
        MHC   iPe    23 44 31.5            e 47 19
        SAO   ePe    23 44 33.1
        JAS   iPe    23 44 34.3            e 47 29      e 14 34      e 14 51
        PRI   iPe    23 44 38.9
        FRI   iPe    23 44 39.5            e 47 21      e 47 39
        MNV   ePe    23 44 41.9
                     USGS 23 32 41.9, 30.6N, 140.6E, h= 82 km, mb=6.2
                          SOUTH OF HONSHU, JAPAN

DEC 20  FHC   ePe    04 01 55.0
        WDC   iPe    04 02 00.1
        MIN   ePe    04 02 03.4
        ORV   iPe    04 02 05.6
        BKS   eP     04 02 07.5
                                    MICRON    PERIOD
                                PZ     0.02      0.7
        MHC   ePe    04 02 11.0
        JAS   ePe    04 02 13.8
        PRI   ePe    04 02 17.9
        FRI   ePe    04 02 18.5
                     USGS 03 50 52.0, 27.6N, 139.7E, h=499 km, mb=4.9
                          BONIN ISLANDS REGION

DEC 20  PRI          09 07                 e 07 08
        FRI   ePe    09 07 08.7            e 07 14
        JAS   ePe    09 07 20.7
        MHC          09 07                 e 07 22
        BKS   eP     09 07 32.7  11 00     e 07 38      Lq 11 40     Lr 12 40
                                    MICRON    PERIOD
                                PZ     0.04      1.6
        ORV   iPe    09 07 41.2            e 07 48      e 07 53
        MIN   e(P)   09 07 48               e 07 53
        WDC   eP     09 07 53.8            e 07 59
        FHC   ePe    09 08 04.7            e 08 10
                     USGS 09 03 16.5, 23.7N, 108.8W, h= 15 km, mb=4.4
                          GULF OF CALIFORNIA

DEC 20  WDC   eP     15 04 05.0
        BKS          15 04                 e 04 07      Lr 30 40
                                    MICRON    PERIOD
                                LZ       0.4       20
                                LN       0.5       20
                                LE       0.4       20
        MIN          15 04 08
        ORV   ePe    15 04 08.8
        MHC   ePe    15 04 09.7
        JAS   ePe    15 04 13.5
        PRI   eP     15 04 14.2
        FRI   ePe    15 04 16.5
                     USGS 14 50 32.4,  1.0S, 138.6E, h= 33 km, mb=5.5, Ms=5.1
                          NEAR NORTH COAST OF WEST IRIAN
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DEC 20  PRI   eP      15 03 59.0
        MHC   eP      15 03 59.5
        FRI   eP      15 04 04.7
        FHC   eP      15 04 05.2
        JAS   eP      15 04 05.5
        ORV   e(P)    15 04 07
        WDC   eP      15 04 08.2
              USGS 14 52 16.5, 20.1S, 173.8W, h= 33 km, mb=5.0, Ms=5.2
                   TONGA ISLANDS

DEC 20  FRI   eP      17 09 16.6
        JAS   eP      17 09 24.1
        SAO   eP      17 09 26.5
        MHC   eP      17 09 29.7
        BKS           17 09                   e 09 52     e 10 05     Lq 35 06
                                              e 36 00
                            MICRON    PERIOD
                      LN      4.3       20
                      LE      7         20
        ORV   ePe     17 09 34.3              i 09 43
        MIN   eP      17 09 36.5
        FHC   eP      17 09 50.8
              USGS 17 00 19.8,  9.6N,  72.6W, h= 24 km, mb=4.7
                   VENEZUELA

DEC 20  PRI   e(P)    17 31 21
        FRI   ePd     17 31 22.0              e 31 26     e 31 32     e 31 38
                                              e 31 44
        MNV           17 31                   e 31 31
        JAS   eP      17 31 34
        MHC   e(P)    17 31 37
        BKS   e(P)    17 31 47                e 31 55     e 31 58     e 32 09
                            MICRON    PERIOD
                      PZ      0.15      1.4
        ORV   iPd     17 31 58.4
        MIN   e(P)    17 32 04
        WDC   e(P)    17 32 09
        FHC           17 32                   e 32 21
              USGS 17 27 37.6, 24.2N, 108.9W, h= 15 km, mb=4.9
                   GULF OF CALIFORNIA

DEC 20  FRI   e(P)    20 38 03                pP 40 06
        PRI   ePe     20 38 04.3              pP 40 06
        JAS   ePe     20 38 08.7              pP 40 12
        MHC   ePe     20 38 11.2              pP 40 14
        BKS   e(P)    20 38 15
                            MICRON    PERIOD
                      PZ      0.02      0.4
        ORV   eP      20 38 17.4              pP 40 18
        MIN   eP      20 38 19                pP 40 24
        WDC   ePe     20 38 21.7              pP 40 25
        FHC   ePe     20 38 28.8
              USGS 20 26 47.2, 24.4S,  63.4W, h=571 km, mb=5.2
                   SALTA PROVINCE, ARGENTINA

DEC 20  FHC           21 57                   e 57 35
        WDC   eP      21 57 48.0
        MIN   eP      21 57 57.3
        ORV   iPe     21 58 05.5
        JAS   eP      21 58 28.8
        MHC           21 58                   e 58 46
        FRI           21 58                   e 58 43
              USGS 21 56 28.9, 43.8N, 127.8W, h= 15 km, mb=4.2
                   OFF COAST OF OREGON

DEC 20  WDC   eP      22 21 32.2
        MIN   eP      22 21 41.7
        ORV   iPe     22 21 49.8
        JAS   eP      22 22 13.3
        FRI           22 22                   e 22 28
              USGS 22 20 14.8, 43.8N, 127.7W, h= 15 km, mb=4.1
                   OFF COAST OF OREGON

DEC 21  FHC           01 57                   e 57 11
        WDC   eP      01 57 22.8
        MIN   eP      01 57 30.6
        ORV   iPd     01 57 40.3
        BKS   eP      01 57 56.4              e 58 09     e 58 44     e 59 55
                                              e 00 50     e 01 19     e 02 02
                                              e 02 50     e 03 39     e 05 22
                                              e 07 04
                            MICRON    PERIOD
                      PZ      0.45      1.6
        JAS   eP      01 58 04.6
        MHC   eP      01 58 05.3
        FRI   eP      01 58 19.3
        PRI           01 58                   e 58 25
              USGS 01 55 17.2, 47.8N, 128.7W, h= 15 km, mb=4.8, Ms=4.3
                   OFF COAST OF WASHINGTON

DEC 21  WDC   eP      05 55 43.8
        MIN   eP      05 55 52.7
        ORV   eP      05 56 02.7
        BKS   e(P)    05 56 18
                            MICRON    PERIOD
                      PZ      0.01      0.8
        JAS   eP      05 56 26.9
        MHC           05 56                   e 56 29
        FRI           05 56                   e 56 42
              USGS 05 53 44.9, 47.6N, 128.0W, h= 15 km, mb=4.3
                   OFF COAST OF WASHINGTON

DEC 21  WDC   iPe     12 15 16.0
        MIN   eP      12 15 25.0
        ORV   eP      12 15 33.0
        BKS   eP      12 15 49.2              e 15 51     e 17 58     e 18 21
                                              e 19 18
                            MICRON    PERIOD
                      PZ      0.03      0.8
        JAS   eP      12 15 58.4
        MHC   eP      12 15 59.6
        FRI   eP      12 16 12.5
              USGS 12 13 12.0, 47.7N, 128.6W, h= 15 km, mb=4.6, Ms=3.8
                   OFF COAST OF WASHINGTON

DEC 21  WDC   eP      14 34 16.8
        MIN   eP      14 34 24.9
        ORV   eP      14 34 34.6
        BKS           14 34                   e 34 50
        JAS   eP      14 34 59.8
        FRI           14 35                   e 35 14
              USGS 14 32 15.5, 47.7N, 128.3W, h= 15 km, mb=4.0
                   OFF COAST OF WASHINGTON

DEC 21  WDC   eP      15 20 14.1
        MIN   eP      15 20 24.1
        ORV   eP      15 20 32.2
        JAS   eP      15 20 57.5
              OFF COAST OF WASHINGTON

DEC 21  WDC   eP      15 21 26.4
        MIN           15 21                   e 21 37
        ORV   eP      15 21 43.0
        JAS           15 22                   e 22 13
              USGS 15 19 12.9, 48.2N, 129.4W, h= 15 km, mb=4.3
                   VANCOUVER ISLAND REGION

DEC 21  BKS   eP      18 38 27    48 49       e 38 38     e 38 39     e 38 50
                                              e 39 21     e 41 28     e 42 54
                                              e 43 14     e 46 15     e 50 07
                                              e 51 20     SSS 58 20   e 01 45
                                              e 02 10     e 04 44     e 07 30
                                              e 05 05
                            MICRON    PERIOD
                      PZ      0.01      0.6
                      LZ      3.0       20
                      LN      0         20
                      LE      2.3       20
        MHC   eP      18 38 28.9
        WDC   eP      18 38 29.0
        ORV   eP      18 38 31.2
        PRI   eP      18 38 31.6
        JAS   eP      18 38 33.4
        FRI   eP      18 38 35.0
              Ms=5.6, DISTANCE=87°
              USGS 18 25 41.1,  9.0S, 158.4E, h= 28 km, mb=5.5, Ms=5.9
                   SOLOMON ISLANDS

DEC 21  WDC   eP      22 48 38.1
        MIN   eP      22 48 48.1
        ORV   eP      22 48 56.7
        BKS   eP      22 49 11.6              e 49 17     e 49 21     e 49 26
                                              e 52 13     e 52 36     e 52 58
                                              e 55 29
                            MICRON    PERIOD
                      PZ      0.09      1.4
        JAS   eP      22 49 21.3
        MHC           22 49                   e 49 22
        FRI   eP      22 49 36.0
        PRI           22 49                   e 49 41
              USGS 22 46 34.0, 47.8N, 128.7W, h= 15 km, mb=4.6
                   OFF COAST OF WASHINGTON

DEC 22  FHC   iPe     20 41 13.4
        WDC   iPe     20 41 18.8              e 42 50
        MIN   ePe     20 41 22.8
        ORV   iPe     20 41 26.3              e 42 59
        BKS   ePe     20 41 31.5              e 42 02     e 42 15     e 42 45
                            MICRON    PERIOD
                      PZ      0.16      0.8
        MHC   ePe     20 41 35.8
        JAS   iPe     20 41 37.8              e 42 19
        SAO   e(P)    20 41 39
        FRI   iPe     20 41 44.1
        MNV   ePe     20 41 44.7
        PRI   iPe     20 41 44.9
              USGS 20 31 45.3, 48.2N, 146.2E, h=483 km, mb=5.4
                   SEA OF OKHOTSK

DEC 23  SAO   e(P)    10 05 38
        BKS   eP      10 05 38    15 40       e 07 28     e 07 33     e 07 52
                                              e 11 29     e 15 02     e 16 06
                                              e 25 20     Lr 28 35
                            MICRON    PERIOD
                      PZ      0.19      1.1
                      LZ      9         20
                      LN      7         20
                      LE      7         20
        MHC   eP      10 05 38.8
        PRI   eP      10 05 39.3
        FHC   eP      10 05 40.7
        FRI   eP      10 05 44.5
        WDC   ePe     10 05 44.5              e 08 44
        JAS   ePe     10 05 44.6
        ORV   ePe     10 05 45.0              e 08 42
        MIN   e(P)    10 05 47
              USGS 09 53 42.6, 16.3S, 178.2E, h= 33 km, mb=5.9, Ms=5.7
                   FIJI ISLANDS

DEC 23  BRK   eP      11 30 44
        MHC   eP      11 30 45.4
        PRI           11 30                   pP 31 13
        JAS   eP      11 30 50.7              pP 31 17
        FRI   eP      11 30 50.7              pP 31 17
        WDC   eP      11 30 51.1              pP 31 17
        ORV   eP      11 30 51.3              pP 31 18
        MIN   eP      11 30 53.3              pP 30 20
              USGS 11 19 18.6, 18.4S, 178.7E, h= 92 km, mb=5.1
                   FIJI ISLANDS

DEC 23  PRI   eP      13 00 59
        FRI   eP      13 01 03.3
        JAS   eP      13 01 04
        ORV   eP      13 01 05.7
        WDC   eP      13 01 06.8
              USGS 12 49 03.6, 22.3S, 176.5W, h= 85 km, mb=5.2
                   SOUTH OF FIJI ISLANDS

DEC 23  FHC   eP      22 28 43
        WDC   eP      22 28 57.7
        MIN   eP      22 29 09.0
        ORV   eP      22 29 15.2
        BKS   eP      22 29 28.3              e 29 47     e 30 06     e 31 07
                                              e 31 39
                            MICRON    PERIOD
                      PZ      0.02      0.8
        MHC   eP      22 29 34
        JAS   eP      22 29 39.0
        SAO   eP      22 29 42
        FRI   eP      22 29 53
        PRI   eP      22 29 55.2
              USGS 22 27 20.6, 44.5N, 129.5W, h= 15 km, mb=4.8, Ms=4.6
                   OFF COAST OF OREGON

DEC 23  FHC   iPe     22 51 54.8  52 26
        WDC   iPe     22 52 10.8              e 52 55
        MIN   ePe     22 52 21.1              e 53 09
        ORV   iPe     22 52 25.9
        BKS   eP      22 52 34.5  55 34       e 52 37
        PCC   eP      22 52 36.9              e 53 36
        MHC   e(P)    22 52 45                e 53 52
        GCC   e(P)    22 52 45                e 53 52
        JAS   e(P)    22 52 48
        PRI   e(P)    22 53 05
        FRI   e(P)    22 53 05
              BRK  22 51 13.9, 41.6N, 127.2W, h=  8 km, ML=4.2
                   OFF COAST WEST OF CRESCENT CITY, CALIFORNIA

DEC 23  WDC           23 52                   e 52 57
        MIN   eP      22 53 09.3
        ORV   eP      23 53 13.9
        BKS           22 53                   e 55 22
        JAS   eP      23 53 38                e 53 50     e 53 58
        FRI   e(P)    23 53 56                e 54 15
              USGS 23 51 20.5, 44.4N, 129.5W, h= 15 km, mb=4.7
                   OFF COAST OF OREGON

DEC 23  WDC           22 58                   e 58 31
        MIN   eP      22 58 38.5
        ORV   ePd     22 58 46.4
        BKS           22 58                   e 00 41     e 01 10
        JAS   eP      22 59 09.7
        FRI   ePd     22 59 26.2
              USGS 22 56 52.3, 44.4N, 129.6W, h= 15 km, mb=4.7
                   OFF COAST OF OREGON

DEC 24  ORV   eP      03 10 13
        JAS   eP      03 10 35
        FRI           03 10                   e 10 52
              USGS 03 08 19.7, 44.4N, 129.3W, h= 15 km, mb=3.9
                   OFF COAST OF OREGON
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International Seismological Centre

International Seismological Centre

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DEC 24  SAO   iPd    12 00 15.3
        GCC   iPe    12 00 20.0
        MHC   iPd    12 00 20.1
        LLA   iPe    12 00 21.1
        PRS   iPd    12 00 23.1
        PCC   iPe    12 00 28.4
        PRI   ePd    12 00 30.7
        BKS   ePe    12 00 31.8  00 49       e 00 34
        JAS   iPd    12 00 34.3  00 51
        FRI   iPe    12 00 35.9
        ORV   eP     12 00 53
                BRK  12 00 11.3, 36.9N, 121.4W, h= 3 km, ML=3.4
                     NORTH-NORTHWEST OF HOLLISTER, CALIFORNIA

DEC 24  SAO   iPd    12 08 13.4
        GCC   iPe    12 08 18.1
        MHC   ePe    12 08 18.2  08 25
        LLA   iPe    12 08 19.3
        PRS   ePd    12 08 21.2
        PCC   ePe    12 08 26.5
        PRI   eP     12 08 29.7
        BKS   eP     12 08 29.8  08 48       e 08 33
        JAS   ePd    12 08 32.6  08 49
        FRI   iPe    12 08 34.0  08 52
        ORV   eP     12 08 52
                BRK  12 08 09.4, 36.9N, 121.4W, h= 5 km, ML=2.7
                     NORTH-NORTHWEST OF HOLLISTER, CALIFORNIA

DEC 24  FRI   iPe    13 26 05.2  26 16
        MNV   iPe    13 26 09.3
        JAS   ePd    13 26 12.7  26 29
        LLA   iPe    13 26 22.9  26 46
        PRI   ePe    13 26 24.6              i 26 53
        SAO   ePe    13 26 27.4
        MHC   ePe    13 26 28.1              i 26 57
        PRS   ePe    13 26 29.5
        GCC   eP     13 26 32
        BKS   eP     13 26 34.2  27 08       e 26 35
        PCC   ePe    13 26 35.5
        ORV   eP     13 26 36
                BRK  13 25 49.3, 37.5N, 118.9W, h= 12 km, ML=4.2
                     MAMMOTH LAKES AREA, CALIFORNIA

DEC 24  FHC   iPe    13 29 47.5  30 19
        WDC   iPe    13 30 02.3
        MIN   iPd    13 30 12.7
        ORV   iPe    13 30 19.9
        BKS   eP     13 30 33            e 31 35     Lq 32 08
        PCC   eP     13 30 34.7
        MHC   eP     13 30 42
        GCC   eP     13 30 42.5
        JAS   eP     13 30 45
        SAO   eP     13 30 49
        LLA   eP     13 30 55
        PRS   eP     13 30 58
        FRI   eP     13 31 00.6
        PRI   eP     13 31 04.5
                ML=5.0, OFF THE OREGON COAST
                USGS 13 29 15.3, 42.4N, 125.7W, h= 15 km, mb=5.2, Ms=5.3
                     OFF COAST OF OREGON

DEC 24  FRI   iPe    15 48 49.1
        MNV   iPe    15 48 52.7
        JAS   iP     15 48 56.7
        LLA   iPe    15 49 07.4
        PRI   iPd    15 49 09.8  49 32
        SAO   iPe    15 49 11.9
        MHC   eP     15 49 12.2
        PRS   iPe    15 49 13.8
        GCC   ePd    15 49 16.5
        BKS   ePe    15 49 18.9          Pg 49 27    e 49 51
        PCC   ePe    15 49 19.0
        ORV   iPe    15 49 20.4
        MIN   e(P)   15 49 30              i 44 36
        WDC   iPe    15 49 39.0
                BRK  15 48 33.6, 37.6N, 118.9W, h= 16 km, ML=4.7
                     MAMMOTH LAKES AREA, CALIFORNIA

DEC 24  FHC   eP     19 40 33.5              e 41 00
        WDC   ePd    19 40 48.5            Sg 41 28
        MIN   eP     19 40 58.5
        ORV   ePe    19 41 10
                ML=4.0, OFF THE OREGON COAST
                USGS 19 40 01.2, 42.4N, 125.7W, h= 15 km, mb=4.3
                     OFF COAST OF OREGON

DEC 25  FHC   ePKP   00 13 55.7
        WDC   ePKP   00 13 57.2
        MIN   ePKP   00 13 58.3
        ORV   ePKP   00 13 59.0
        BKS   ePKP   00 13 59.8
                          MICRON    PERIOD
                PKPZ      0.02       0.8
        MHC   ePKP   00 14 01.1
        JAS   ePKP   00 14 01.9
        FRI   ePKP   00 14 03.7
        PRI   ePKP   00 14 03.8
                USGS 23 55 06.4,  9.0S, 112.0E, h= 63 km, mb=5.6
                     SOUTH OF JAVA

DEC 25  SAO   eP     03 48 32.4
        BKS   ePd    03 48 33.3
                          MICRON    PERIOD
                PZ        0.06       0.8
        MHC   ePd    03 48 34.0
        PRI   ePd    03 48 34.3
        FHC   ePd    03 48 36.7
        FRI   ePd    03 48 39.3
        JAS   iPd    03 48 39.6
        WDC   iPd    03 48 40.2
        ORV   ePd    03 48 40.4
        MIN   ePd    03 48 42.5
                USGS 03 37 34.7, 16.6S, 178.9W, h=475 km, mb=5.0
                     FIJI ISLANDS REGION

DEC 25  FRI   eP     06 45 02.8
        PRI   ePd    06 45 04.2
        JAS   ePd    06 45 09.5
        MHC   eP     06 45 11.3
        BKS   eP     06 45 14.1              e 45 37
                          MICRON    PERIOD
                PZ        0.01       0.7
        ORV   iPd    06 45 18.0
        MIN   eP     06 45 20.0
        WDC   iPd    06 45 22.8
        FHC   eP     06 45 30.0
                USGS 06 32 46.0, 31.5S,  67.1W, h=122 km, mb=5.1
                     SAN JUAN PROVINCE, ARGENTINA

DEC 25  SAO   eP     08 05 23.3
        PRI   eP     08 05 24.6
        BKS   eP     08 05 25.3              e 05 36
                          MICRON    PERIOD
                PZ        0.04       0.8
        MHC   eP     08 05 25.5
        PRI   ePd    08 05 30.3
        FHC   eP     08 05 30.7
        JAS   iPd    08 05 31.3
        ORV   iPd    08 05 33.1
        WDC   iPd    08 05 34.1
        MIN   eP     08 05 35.7
                USGS 07 53 36.5, 21.4S, 174.1W, h= 33 km, mb=5.1, Ms=4.8
                     TONGA ISLANDS

DEC 25  WDC   eP     11 47 28.8
        MIN   eP     11 47 28.9
        FHC   eP     11 47 32.4
        ORV   eP     11 47 33.0
        JAS   eP     11 47 40.7
        FRI   eP     11 47 45.2
        BKS   eP     11 47 46.4              e 12 00
                          MICRON    PERIOD
                PZ        0.03       0.9
        MHC   eP     11 47 48.4
        PRI   eP     11 47 53.6
                USGS 11 37 27.5, 66.4N,  17.7W, h= 10 km, mb=5.1, Ms=5.1
                     ICELAND REGION

DEC 25  FHC   ePe    15 33 01.7  33 27
        WDC   ePd    15 33 17.0  33 55
        MIN   ePe    15 33 27.2
        ORV   eP     15 33 34              i 33 36
        BKS   e(P)   15 33 46              e 33 48     e 33 55
        PCC   e(P)   15 33 50
                ML=4.0, OFF THE OREGON COAST
                USGS 15 32 27.9, 42.3N, 126.0W, h= 15 km, mb=4.2, Ms=3.8
                     OFF COAST OF OREGON

DEC 26  SAO   eP     06 02 57.2
        BKS   eP     06 02 58.4
                          MICRON    PERIOD
                PZ        0.05       0.7
        PRI   eP     06 02 58.7
        MHC   eP     06 02 59.0
        FHC   eP     06 03 02.9
        FRI   eP     06 03 03.6
        JAS   iPd    06 03 04.2          pP 05 14
        ORV   iPd    06 03 05.6          pP 05 15
        WDC   iPd    06 03 05.9          pP 05 15
        MIN   eP     06 03 07.7
                USGS 05 51 45.3, 22.2S, 179.6W, h=592 km, mb=5.5
                     SOUTH OF FIJI ISLANDS

DEC 26  SAO   eP     14 07 51.0
        PRI   eP     14 07 52.4
        BKS   eP     14 07 53.0              e 33 00
                          MICRON    PERIOD
                PZ        0.08       1.0
                LZ        1.4         20
        MHC   ePe    14 07 53.2
        FRI   ePe    14 07 58.0
        JAS   ePe    14 07 58.8
        ORV   iPe    14 08 01.0
        WDC   iPe    14 08 01.5
        MIN   eP     14 08 03.2
                USGS 13 56 04.2, 21.1S, 174.3W, h= 33 km, mb=5.5, Ms=5.3
                     TONGA ISLANDS

DEC 27  FHC   ePe    04 21 59.5
        WDC   iPe    04 22 00.5
        MIN   ePe    04 22 02.4
        ORV   iPe    04 22 06.0
        BKS   ePe    04 22 14.2
                          MICRON    PERIOD
                PZ        0.10       1.1
        MNV   ePe    04 22 14.6
        JAS   iPe    04 22 15.0
        MHC   ePe    04 22 17.0
        SAO   eP     04 22 19.2
        FRI   ePe    04 22 19.7
        PRI   ePe    04 22 23.7
                USGS 04 09 08.2, 50.0N,  79.0E, h=  0 km, mb=5.9
                     EASTERN KAZAKH, S.S.R.

DEC 28  SAO   eP     01 17 12.5
        PRI   eP     01 17 14.0
        BKS   eP     01 17 14.3
        MHC   ePe    01 17 14.7
        FRI   ePe    01 17 19.4
        JAS   iPe    01 17 20.5
        FHC   eP     01 17 20.6
        ORV   iPe    01 17 22.2
        WDC   iPe    01 17 23.0
        MIN   eP     01 17 24.7
                USGS 01 05 28.9, 20.9S, 173.8W, h= 33 km, mb=5.1
                     TONGA ISLANDS

DEC 28  PRI   eP     17 11 51.8
        FRI   eP     17 11 54.4
        MHC   eP     17 11 59.8
        JAS   eP     17 12 02.3
        ORV   eP     17 12 13.8
        WDC   eP     17 12 20.5
                EASTER ISLANDS REGION

DEC 28  PRI   eP     17 13 26.5
        FRI   eP     17 13 30.0
        MHC   eP     17 13 35.4
        JAS   eP     17 13 38.1
        ORV   eP     17 13 49.2
        WDC   eP     17 13 56.1
                USGS 17 03 15.5, 23.8S, 111.6W, h= 10 km, mb=5.1
                     EASTER ISLAND REGION

DEC 28  FRI          17 15                   pP 15 22
        PRI   eP     17 15 08.7              pP 15 23
        JAS   eP     17 15 13.8              pP 15 29
        MHC          17 15                   pP 15 31
        BKS          17 15                   e 15 35
        ORV   iPd    17 15 23.1              pP 15 39
        MIN          17 15                   pP 15 41
        WDC   ePd    17 15 28.1              pP 15 44
        FHC          17 15                   pP 15 51
                USGS 17 03 16.1, 25.2S,  70.0W, h= 54 km, mb=5.0
                     NEAR COAST OF NORTHERN CHILE

DEC 28  MNV   iPd    22 58 15.3
        FRI   iPd    22 58 38.3
        JAS   iPe    22 58 38.6
        LLA   eP     22 58 52.2              i 58 55
        MHC   eP     22 58 54.4
        ORV   iPe    22 58 55.0
        PRI   iPe    22 58 55.3
        SAO   ePd    22 58 55.7
        BKS   eP     22 58 59.3              e 59 40
        MIN   eP     22 59 02.9
        WDC   ePe    22 59 12
                BRK  22 58 09.8, 38.2N, 118.4W, h=  5 km, ML=5.0
                     AREA EAST OF MONO LAKE, CALIFORNIA

DEC 28  MNV   iPd    23 00 44.1  00 49
        BKS   e(P)   23 01 36
                BRK  23 00 39.0, 38.2N, 118.3W, h=  5 km, ML=4.0
                     AREA EAST OF MONO LAKE, CALIFORNIA

DEC 28  MNV   iPd    23 05 44.7
        FRI   iPe    23 06 07.6
        JAS   iPe    23 06 08.3  06 30
        ORV   iPe    23 06 24.3
        LLA   iPd    23 06 24.3
        PRI   eP     23 06 24.5
        MHC   eP     23 06 24.5
        SAO   eP     23 06 27.5
        BKS   e(P)   23 06 31
                BRK  23 05 38.8, 38.2N, 118.3W, h=  5 km, ML=3.9
                     AREA EAST OF MONO LAKE, CALIFORNIA
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DEC 29  FRI   eP     05 52 58.5
        PRI   eP     05 53 02.8
        JAS   iPe    05 53 04.2
        ORV   iPe    05 53 11.0
        MHC   ePe    05 53 11.5
        MIN   eP     05 53 12.0
        BKS   eP     05 53 15.2
                              MICRON    PERIOD
                        PZ      0.04       0.9
        WDC   iPe    05 53 15.3
        FHC   ePe    05 53 26.2
                  USGS 05 43 45.6, 18.7N,  62.8W, h= 33 km, mb=5.1
                       LEEWARD ISLANDS

DEC 29  ORV   iPe    06 05 42.2
        JAS   iPd    06 05 50.2  06 07
        MIN   ePe    06 05 53.0
        BKS   e(Pn)  06 06 00                  e 06 02      e 06 04      e 06 25
                                               e 06 29      e 06 34
        WDC   eP     06 06 02
        MHC   ePe    06 06 03.1
        FRI   ePd    06 06 06.1
        PCC   ePe    06 06 06.5
        SAO   ePe    06 06 09.5
                  BRK  06 05 26.5, 39.3N, 120.5W, h=  5 km, ML=3.0
                       WEST-SOUTHWEST OF TRUCKEE, CALIFORNIA

DEC 29  MNV   iPd    12 25 00.8  25 06
        FRI   iPd    12 25 23.0  25 43
        JAS   iPe    12 25 23.5  25 44
        LLA   iPe    12 25 39.7
        ORV   iPd    12 25 40.2
        MHC   e(P)   12 25 41
        PRI   eP     12 25 41.5
        SAO   e(P)   12 25 43
        BKS   eP     12 25 47.6                e 25 53      e 26 25      e 26 28
                                               e 26 39
                  BRK  12 24 54.7, 38.2N, 118.4W, h=  4 km, ML=3.7
                       AREA EAST OF MONO LAKE, CALIFORNIA

DEC 29  FRI          22 16                     e 16 03
        PRI   eP     22 16 04.0
        JAS   eP     22 16 12.5
        MHC   eP     22 16 16.5
        ORV   eP     22 16 28.0
        MIN   eP     22 16 33.7
        WDC   eP     22 16 39.9
        FHC          22 16                     e 16 48
                  USGS 22 10 21.7, 17.2N,  97.9W, h= 74 km, mb=5.2
                       OAXACA, MEXICO

DEC 30  PRI   ePd    16 00 42.5
        FRI   ePd    16 00 44.0
        JAS   iPd    16 00 55.8
        MHC   eP     16 00 57.0
        BKS   e(P)   16 01 02                  e 05 30      e 05 38      e 07 14
                                               e 07 25
        ORV   iPd    16 01 14.5
        MIN   ePd    16 01 20.2
        WDC   ePd    16 01 24.2
        FHC   ePd    16 01 33.7
                  USGS 15 55 57.3, 18.6N, 107.2W, h= 33 km, mb=4.9
                       OFF COAST OF JALISCO, MEXICO

DEC 30  PRI   eP     19 05 06.3
        FHC   eP     19 05 12
        FRI   eP     19 05 12.1
        JAS   eP     19 05 13.1
        ORV   eP     19 05 14.8
        WDC   eP     19 05 15.5
        MIN   eP     19 05 17.3
                  USGS 18 53 41.7, 17.6S, 172.2W, h= 33 km, mb=5.4, Ms=4.9
                       TONGA ISLANDS REGION

DEC 31  WDC   iPe    00 01 50.9
        FHC   eP     00 01 55.5                e 01 57
        MIN   eP     00 01 57.7
        ORV   ePe    00 01 58.0
        JAS   e(P)   00 02 24
                  BRK  00 01 35.2, 39.8N, 123.2W, h= 13 km, ML=3.0
                       SOUTHEAST OF GARBERVILLE, CALIFORNIA

DEC 31  FHC   ePe    10 42 09.5
        WDC   iPe    10 42 15.7                e 42 48 PKPPKP 11 40
        MIN   ePe    10 42 20.1
        ORV   iPe    10 42 23.6          PKPPKP 11 40
        BKS   eP     10 42 27.7  50 51         i 43 44      e 44 09      e 45 15
                                               e 52 16      e 54 37      e 57 43
                                               e 00 27
                              MICRON    PERIOD
                        PZ      0.23       0.7
                        LZ        11        20
                        LN        18        20
                        LE        15        20
        MHC   eP     10 42 32.5                e 42 44
        SAO   eP     10 42 35.1
        JAS   iPe    10 42 35.3                e 42 47      e 43 03 PKPPKP 11 39
        FRI   eP     10 42 41.6          PKPPKP 11 39
        PRI   eP     10 42 41.8
                  Ms=6.4, DISTANCE=63°
                  USGS 10 32 11.0, 46.1N, 151.5E, h= 33 km, mb=6.1, Ms=6.5
                       KURIL ISLANDS

DEC 31  BKS   iPe    12 16 33.6  16 37
        PCC   iPd    12 16 35.6
        MHC   iPe    12 16 39.7  16 50
        GCC   iPe    12 16 42.3
        SAO   iPe    12 16 48.4
        JAS   iPe    12 16 52.7  17 10
        LLA   ePd    12 16 54.0
        PRS   eP     12 16 55.0
        ORV   iPe    12 16 59.9
        FRI   ePe    12 17 02.5
                  BRK  12 16 29.5, 37.7N, 122.1W, h= 10 km, ML=3.5
                       SOUTHEAST OF BERKELEY, CALIFORNIA

DEC 31  MHC   eP     12 43 38.1
        FHC   eP     12 43 38.4
        PRI   eP     12 43 38.8
        WDC   ePe    12 43 42.1
        ORV   ePe    12 43 42.8
        JAS   ePe    12 43 43.0
        FRI   eP     12 43 43.4
        MIN   eP     12 43 44.3
                  USGS 12 31 25.9, 19.0S, 169.3E, h=252 km, mb=4.5
                       VANUATU ISLANDS

DEC 31  PRI   eP     13 10 14.5
        MHC   eP     13 10 14.8
        FRI   eP     13 10 20.3
        JAS   eP     13 10 21.0
        ORV   eP     13 10 22.5
        WDC   eP     13 10 23.0
        MIN   eP     13 10 24.8
                  USGS 12 58 53.6, 15.5S, 173.5W, h= 33 km, mb=5.6, Ms=5.3
                       TONGA ISLANDS

DEC 31  SAO   eP     14 11 39.1
        MHC   eP     14 11 40.6
        PRI   eP     14 11 40.8
        FHC   eP     14 11 43.7
        FRI   eP     14 11 46.0                pP 13 46
        JAS   iPe    14 11 46.3                pP 13 46
        ORV   ePe    14 11 47.2                pP 13 47
        WDC   iPe    14 11 47.2                pP 13 47
        MIN   eP     14 11 49.3
                  USGS 14 00 45.1, 17.8S, 178.7W, h=564 km, mb=5.3
                       FIJI ISLANDS REGION

DEC 31  FRI   iPe    20 23 02.2  23 13
        JAS   iPe    20 23 09.4  23 24
        LLA   ePe    20 23 19.8
        PRI   eP     20 23 21.6
        SAO   iPe    20 23 24.2
        MHC   ePe    20 23 24.6
        PRS   ePd    20 23 26.4
                  BRK  20 22 45.7, 37.6N, 118.9W, h= 12 km, ML=3.5
                       MAMMOTH LAKES AREA, CALIFORNIA
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