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BERKELEY--MOUNT HAMILTON--PALO ALTO
SAN FRANCISCO--FERNDALE--FRESNO
MINERAL--ARCATA--RENO--CORVALLIS--SHASTA
MANZANITA LAKE--VINEYARD--CONCORD--SANTA CRUZ
LLANADA--CALISTOGA--POINT REYES--PARAISO
PRIEST

Earthquakes and the Registration of Earthquakes

From January 1, 1962 to March 31, 1962

By

Thomas Turcotte

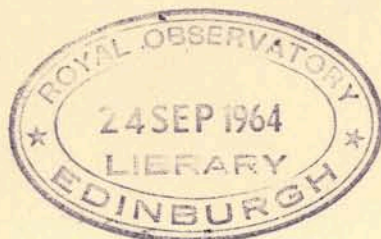
and

Hemendra Acharya

University of California

Berkeley

1964





SEISMOGRAPHIC STATIONS OF THE UNIVERSITY OF CALIFORNIA

Perry Byerly, Director (retired March, 1963)
Bruce A. Bolt, Director (March, 1963 --)

EARTHQUAKES IN NORTHERN CALIFORNIA, NEVADA AND OREGON

and

REGISTRATION OF EARTHQUAKES AT: BERKELEY, MOUNT HAMILTON,
PALO ALTO, SAN FRANCISCO, FERNDALE, FRESNO, MINERAL,
ARCATA, RENO, CORVALLIS, SHASTA, MANZANITA LAKE,
VINEYARD, CONCORD, SANTA CRUZ, LLANADA,
CALISTOGA, POINT REYES, PARAISO, PRIEST

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INTRODUCTION

Each number in this series includes determinations of epicenters, origin times, and magnitudes, as well as other information available at the time of writing, for earthquakes in northern California and adjoining areas (Part I), and tabulates recorded arrival times of seismic waves and other information for teleseisms and for the larger earthquakes in the local area (Part II).

Information regarding the seismographic stations which comprise the Berkeley network, instruments operated regularly at each station, and any changes in instrumentation during the period covered by this issue will be found on the following three pages.

Information of a general nature such as the Modified Mercalli Intensity Scale will be found only in the first number of each volume.

STATIONS IN OPERATION - JANUARY - MARCH 1962

Station	North Latitude	West Longitude	Elev. Meters	Symbol	Present Auspices and Date Established
Berkeley (Haviland)	37° 52.4'	122° 15.6'	81	BRK, BRX	Univ. of California, 1887
Mt. Hamilton	37° 20.5'	121° 38.5'	1282	MHC	Lick Observatory, 1887
Palo Alto	37° 25.0'	122° 10.9'	83	PAC	Stanford Univ., 1927
San Francisco	37° 46.6'	122° 27.1'	100	SFB	Univ. of San Francisco, 1931
Ferndale	40° 34.6'	124° 15.7'	15	FER	City of Ferndale, 1933
Fresno	36° 46.0'	119° 47.8'	88	FRE	Fresno City College, 1935
Mineral	40° 20.7'	121° 36.3'	1495	MIN	National Park Service, 1938
Arcata	40° 52.6'	124° 04.5'	59	ARC	Humboldt State College, 1948
Reno	39° 32.3'	119° 48.8'	1386	REN	Univ. of Nevada, 1948
Shasta	40° 41.7'	122° 23.3'	312	SHS	Bureau of Reclamation, 1942
Corvallis	44° 35.1'	123° 18.2'	123	COR	Oregon State Univ., 1950
Manzanita Lake	40° 32.2'	121° 33.7'	1800	MLC	National Park Service, 1956
Vineyard (local)	36° 45.0'	121° 23.1'	330	VIN	W. A. Taylor and Co., 1959
(telemeter)	36° 45.0'	121° 23.3'	380	VIT	
Concord	37° 58.1'	122° 04.3'	36	CNC	Diablo Valley College, 1960
Santa Cruz	37° 00.4'	121° 59.8'	128	SCC	City of Santa Cruz, 1961
Paraiso	36° 19.9'	121° 22.2'	363	PRS	Paraiso Hot Springs, 1961
Llanada	36° 37.0'	120° 56.6'	475	LLA	Charles McCullough Ranch, 1961
Calistoga	38° 38.2'	122° 35.1'	457	CLS	Terrance Kirk Ranch, 1961
Point Reyes	38° 04.8'	122° 52.0'	404	PRC	Federal Aviation Agency, 1961
Priest	36° 08.5'	120° 39.9'	1187	PRI	Federal Aviation Agency, 1961

STATION INSTRUMENTATION

January - March 1962

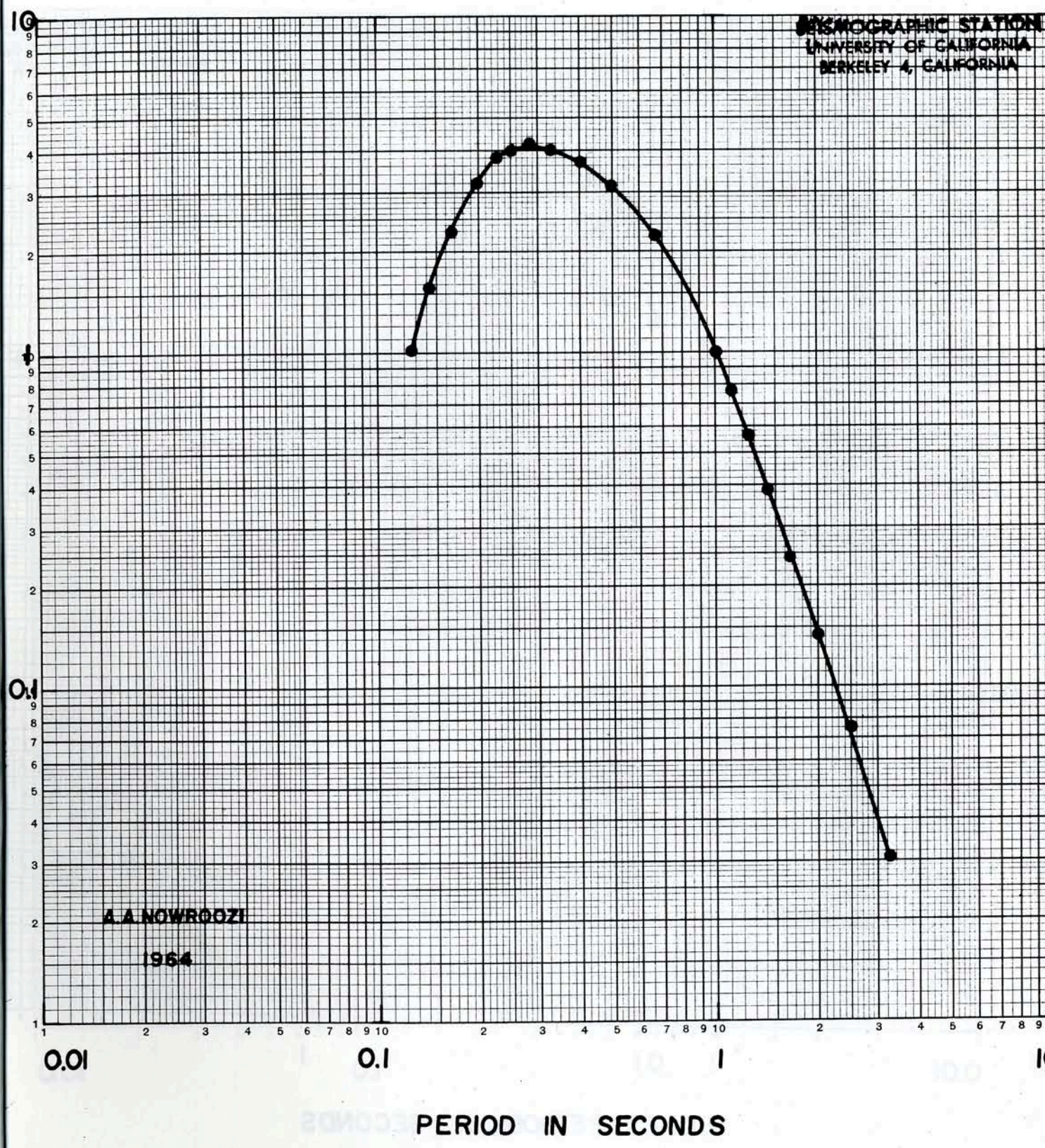
Station	Type of Instrument	T _o sec	T _g sec	Component
BRK	Benioff 100 kg (Z)	1.0	0.4	Z
	Benioff 100 kg (Z)	1.0	8.0	Z
	Wood-Anderson torsion	0.8	-	S,W
	100X torsion	0.8	-	N,W
BRX	Galitzin-Wilip moving coil	12	12	N,E,Z
	Press-Ewing moving coil	30	90	N,E,Z
MHC	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	S,E
PAC	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	N,E
SFB	Lehner-Griffith moving coil	1.2	0.3	Z
	Wood-Anderson torsion	0.8	-	S,W
FER	Bosch-Omori 25 kg	12	-	S,W
FRE	Sprengnether moving coil	2.0	2.0	N,E,Z
MIN	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	S,E
ARC	Marion-Slichter moving coil	1.1	0.2	Z
	Wood-Anderson torsion	0.8	-	N,E
REN	Sprengnether moving coil	2.0	2.0	N,E,Z
SHS	Benioff 50 kg moving coil	1.5	0.45	N,E,Z
COR	Slichter	1.0	-	N,E,Z
	Wilson-Lamison	1.0	1½	Z
MLC	Loucks-Omori	3½	-	S,E
VIN	Benioff 100 kg (Z)	1.0	0.2	Z
	Wood-Anderson torsion	0.8	-	S,W
VIT ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
CNC ^Δ	Benioff 100 kg (Z)	1.0	0.2	Z
SCC ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
PRS ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
LLA ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
CLS ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
PRC ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
PRI ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z

^ΔSignals from these eight stations are transmitted via leased telephone lines to recorders at Berkeley.

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.

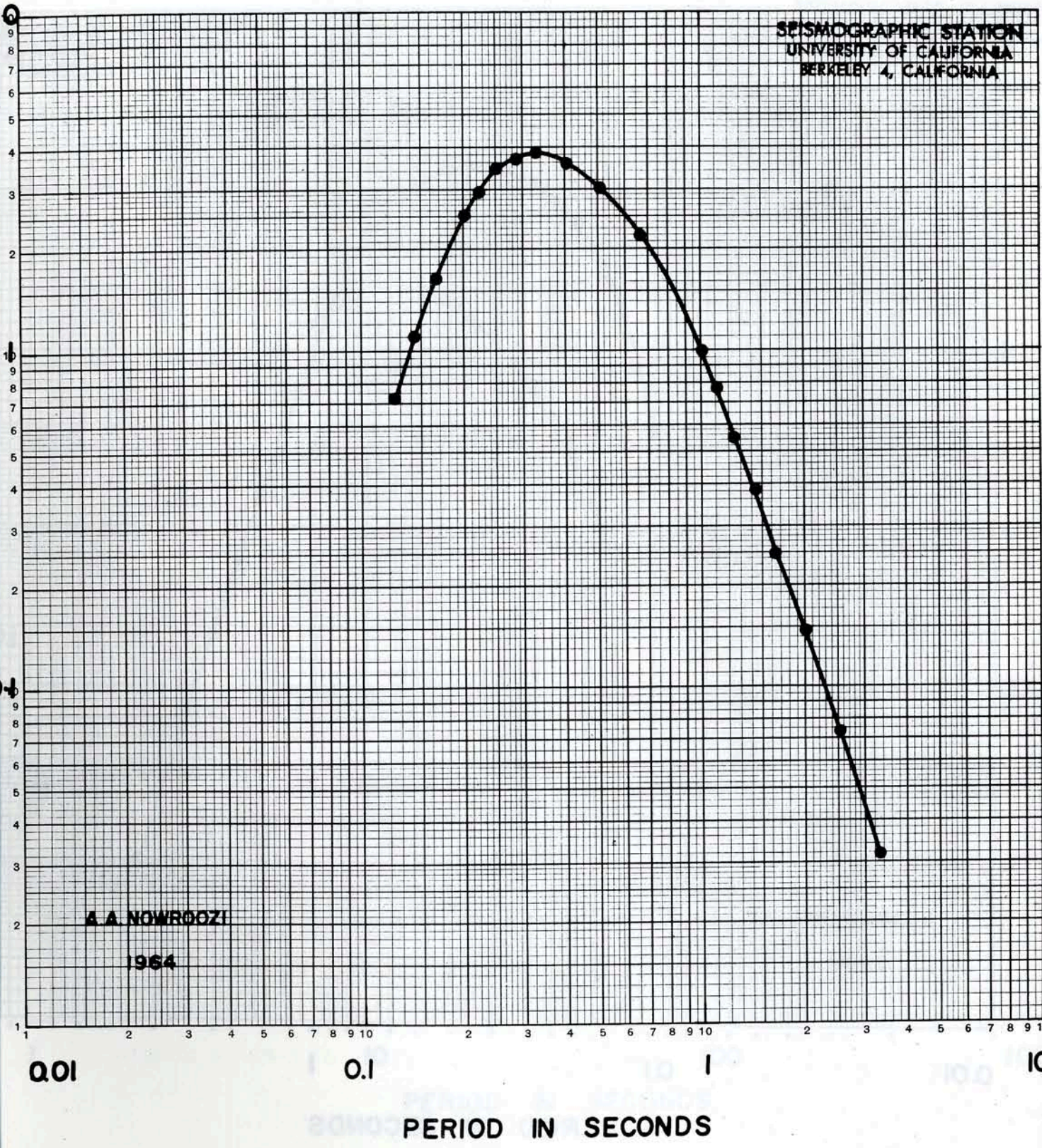
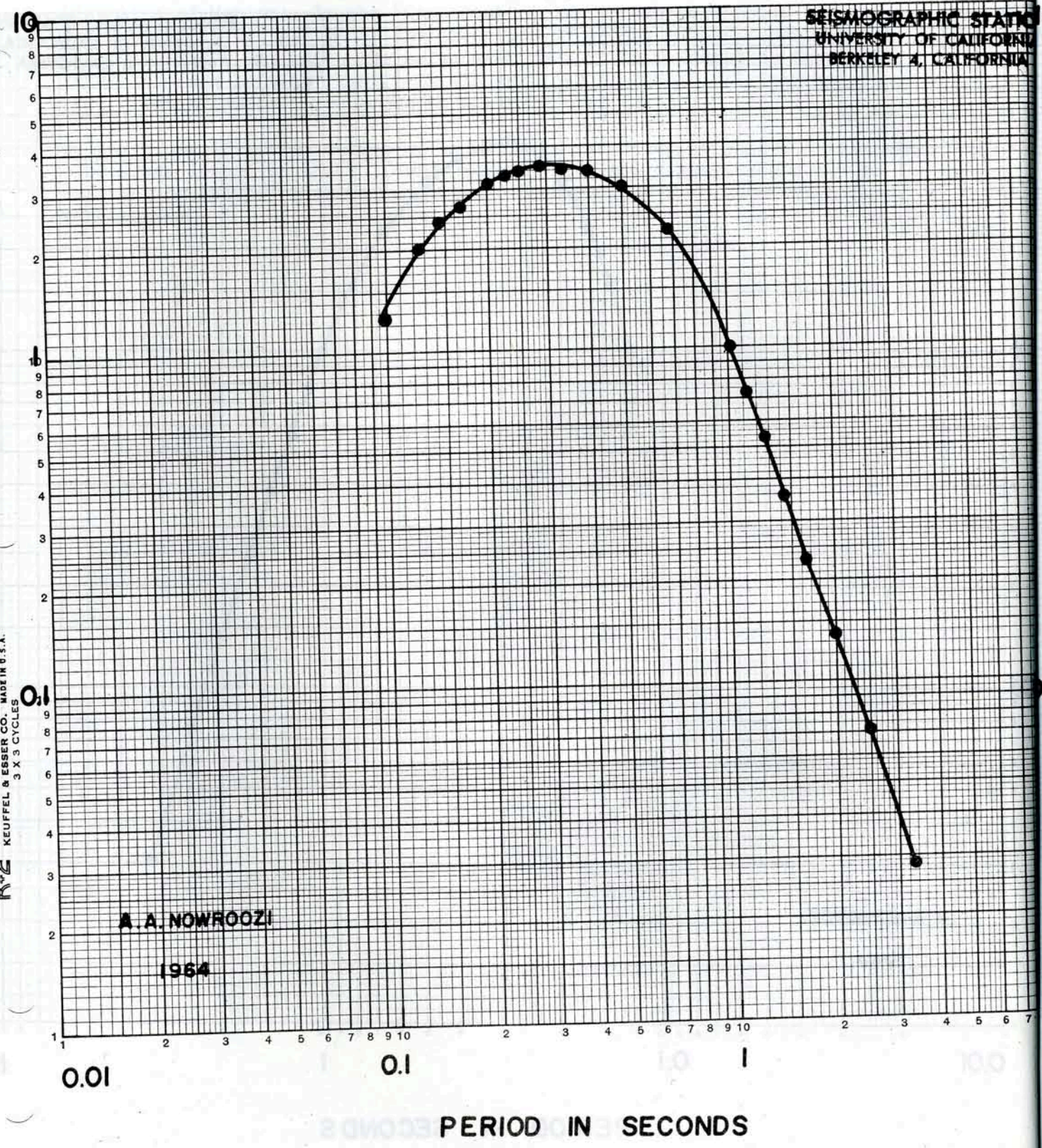
Relative magnification curves of instruments recording through the telemeter system are listed on the following pages. Absolute magnification may be obtained by use of calibration pulses recorded daily from each telemetered station.

RESPONSE OF SEISMOMETER-DEVELOCORDER SYSTEM. 14.7 KG. Z. S.P

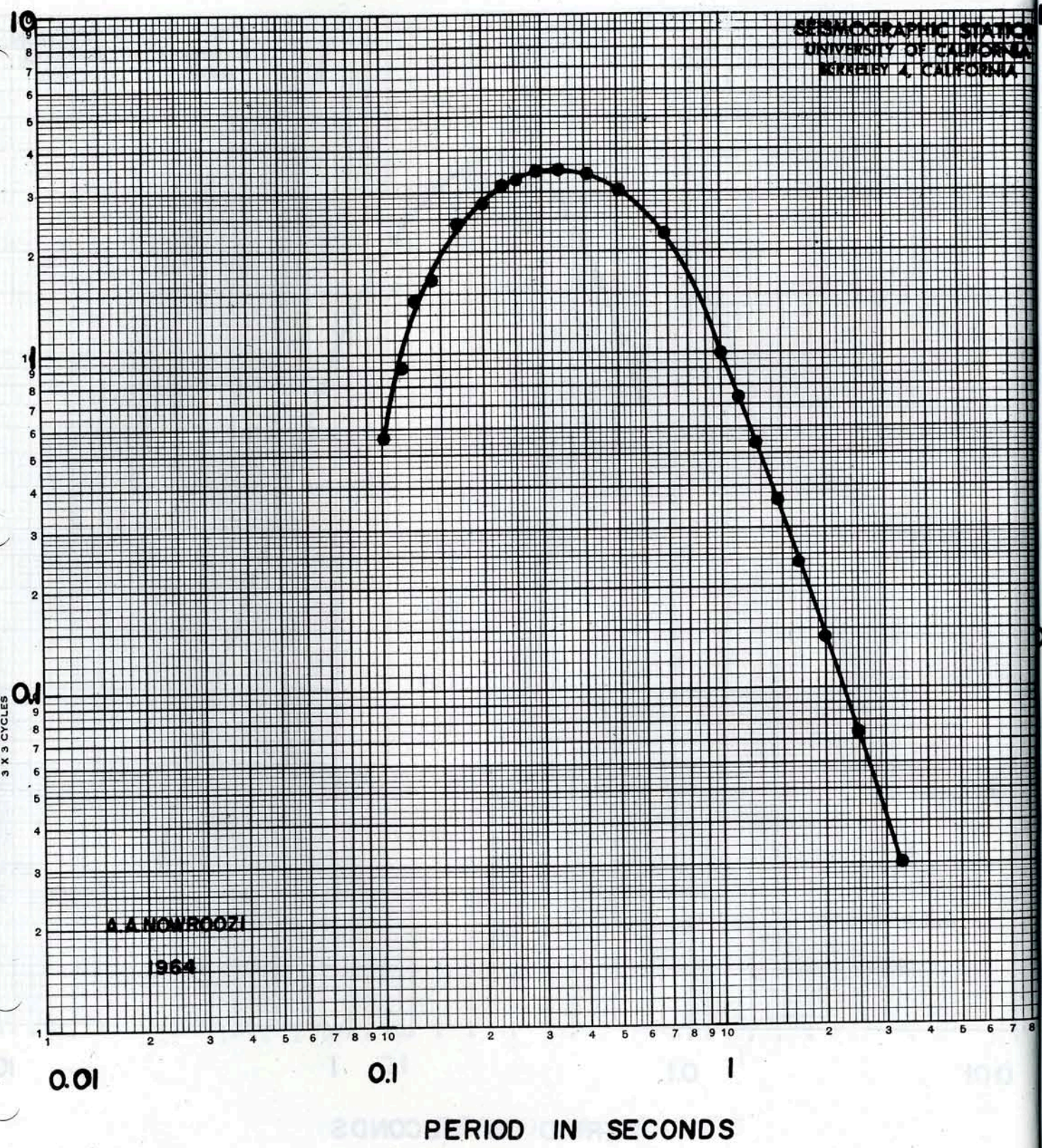


RESPONSE OF SEISMOMETER-DEVELORECORDER SYSTEM. 100KG. Z. S. P

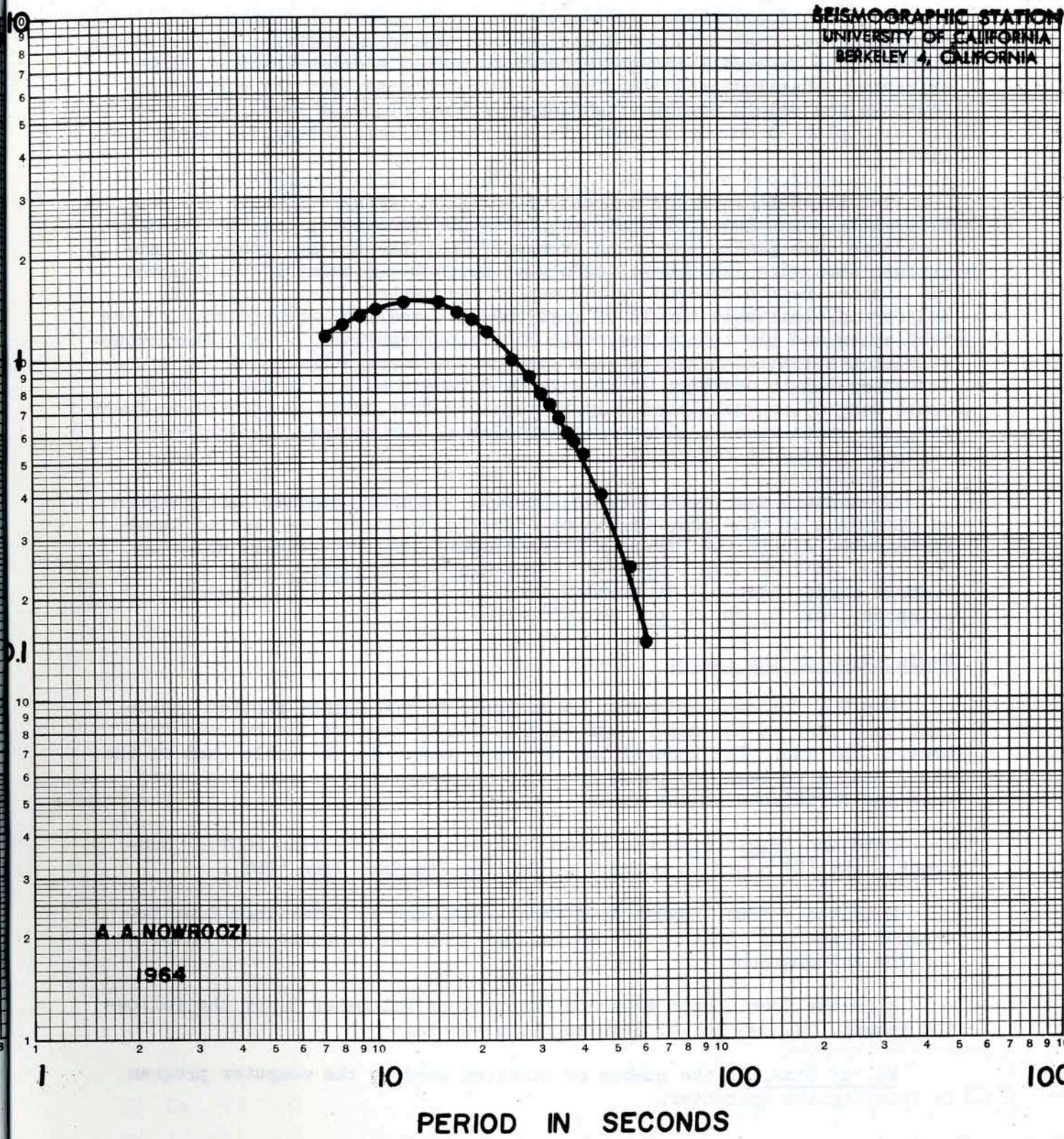
RESPONSE OF SEISMOMETER-HELICORDER SYSTEM. 14.7 KG. Z. S. P



RESPONSE OF SEISMOMETER - HELICORDER SYSTEM. 100KG. Z. S.P.



RESPONSE OF SEISMOMETER - HELICORDER SYSTEM. PRESS-EWING. Z. T.G=30S., T.S=15S.



PART I. LOCAL EARTHQUAKES IN NORTHERN CALIFORNIA, NEVADA, AND OREGON

This section includes information on earthquakes in northern California (including adjacent offshore areas) and in adjoining sections of Nevada and Oregon which were well enough recorded to permit a determination of the epicenter. Latitude and longitude of each epicenter and the corresponding date and origin time are tabulated in the following list; epicenters are also plotted on one or both of the two maps immediately following the list.

For the entire northern California region, every effort is made to list all earthquakes of Richter magnitude 3.0 and above, but it is likely that some such shocks have been overlooked because the available seismographic data were inadequate for a good epicenter determination. Within the limited region covered by the map of the central Coast Ranges of California, locatable shocks of magnitude 2.0 and over are included in the tabulation and plotted on the map. Shocks of magnitude 3.0 and over occurring in the limited region are plotted on both maps. Shocks of magnitude less than 3.0 in northern California (and less than 2.0 in the central Coast Ranges) are tabulated only if reported felt or if of special interest for some other reason. Identified artificial earthquakes (explosions) ordinarily are not tabulated.

Epicenters are located by an IBM 7090 computer program. Information on Version I of this program may be found in "Computer Location of Local Earthquakes within the Berkeley Seismographic Network" by Bolt and Turcotte, published in Computers in the Mineral Industries, Part 2, (George Parks, Editor); Stanford University Publications, Geological Sciences, Vol. 9, No. 2, pp. 561-576, 1964.

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 (and on the maps) 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 Greenwich Civil Time (GCT). Subtract eight (8) hours to convert to Pacific Standard Time (PST).

M is the Richter magnitude of the earthquake as determined from the maximum trace amplitudes recorded for the shock by standard Wood-Anderson torsion seismographs.

h is the focal depth given to the nearest kilometer or by the following ranges: a, 0-5 km; b, 5-10 km; c, 10-15 km.

No. of Stas. is the number of stations used by the computer program in locating the epicenter.

The quality of the solution is partially reflected by the number of stations. Excellent locations are given to the nearest minute of arc in latitude and longitude and to the tenth of a second origin time. Focal depths are listed in kilometers. Poorer quality locations are given to the tenth of a degree in latitude and longitude and to the nearest second in origin time.

Under Remarks will be found a short descriptive location of the epicenter, usually relative to a point named on the map. Information on small foreshocks and aftershocks is sometimes included under Remarks, but when numerous foreshocks or aftershocks accompany a large earthquake, a separate tabulation may be included following the main list of local shocks.

Information on maximum intensities of shocks reported felt is also included under Remarks. Reports on felt earthquakes may be obtained from the Seismological Field Survey of the U.S. Coast and Geodetic Survey, which publishes a more complete summary in "Abstracts of Earthquake Reports for the Pacific Coast and Western Mountain Region." This regular quarterly publication may be obtained from the District Officer, San Francisco District, Coast and Geodetic Survey, 121 Customhouse, San Francisco 26, California, or from the Director, U.S. Coast and Geodetic Survey, Washington 25, D.C. Intensities given in Roman numerals are assigned by the Coast and Geodetic Survey and based on the Modified Mercalli Intensity Scale of 1931.

MODIFIED MERCALLI INTENSITY SCALE OF 1931

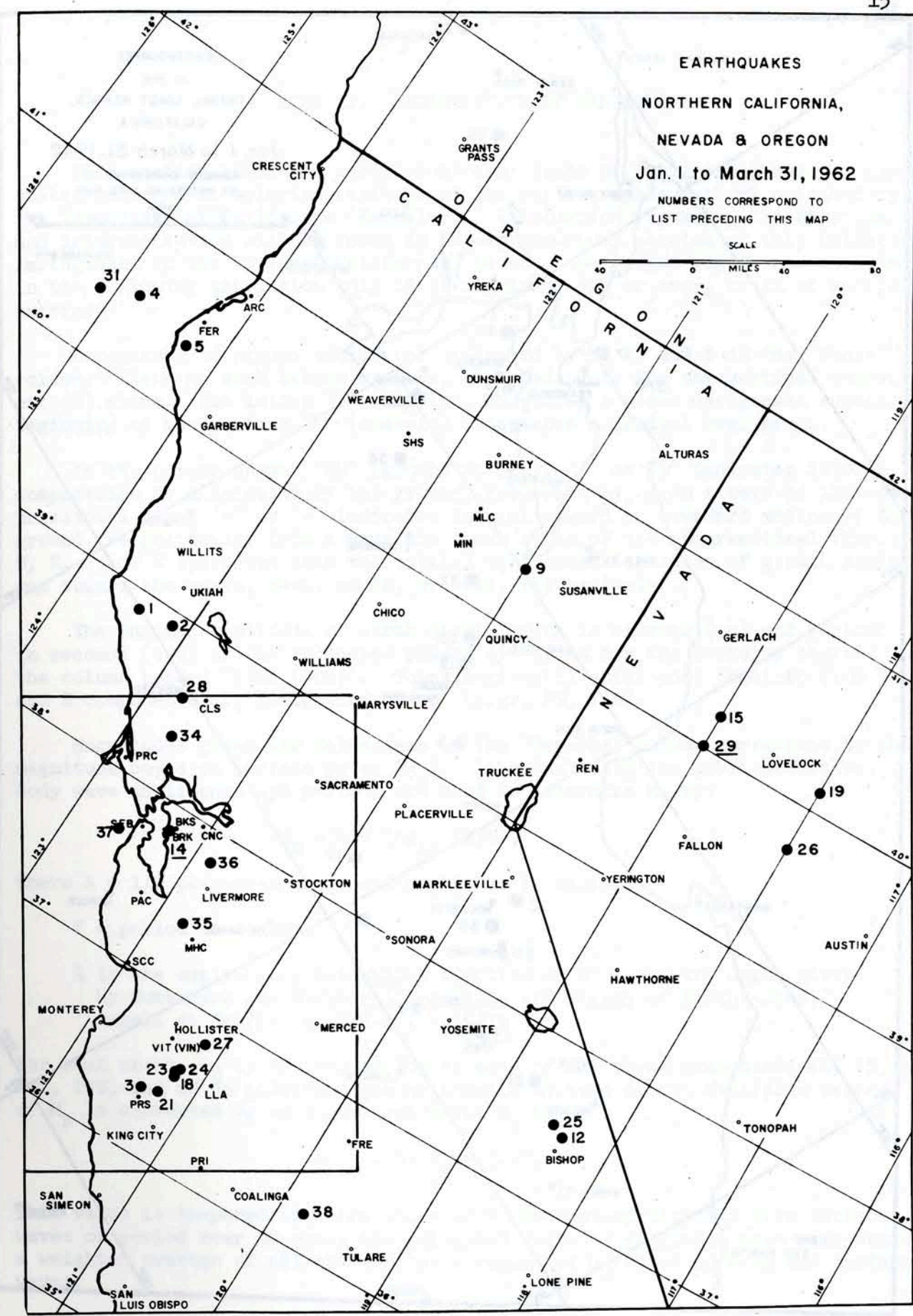
(Abridged)

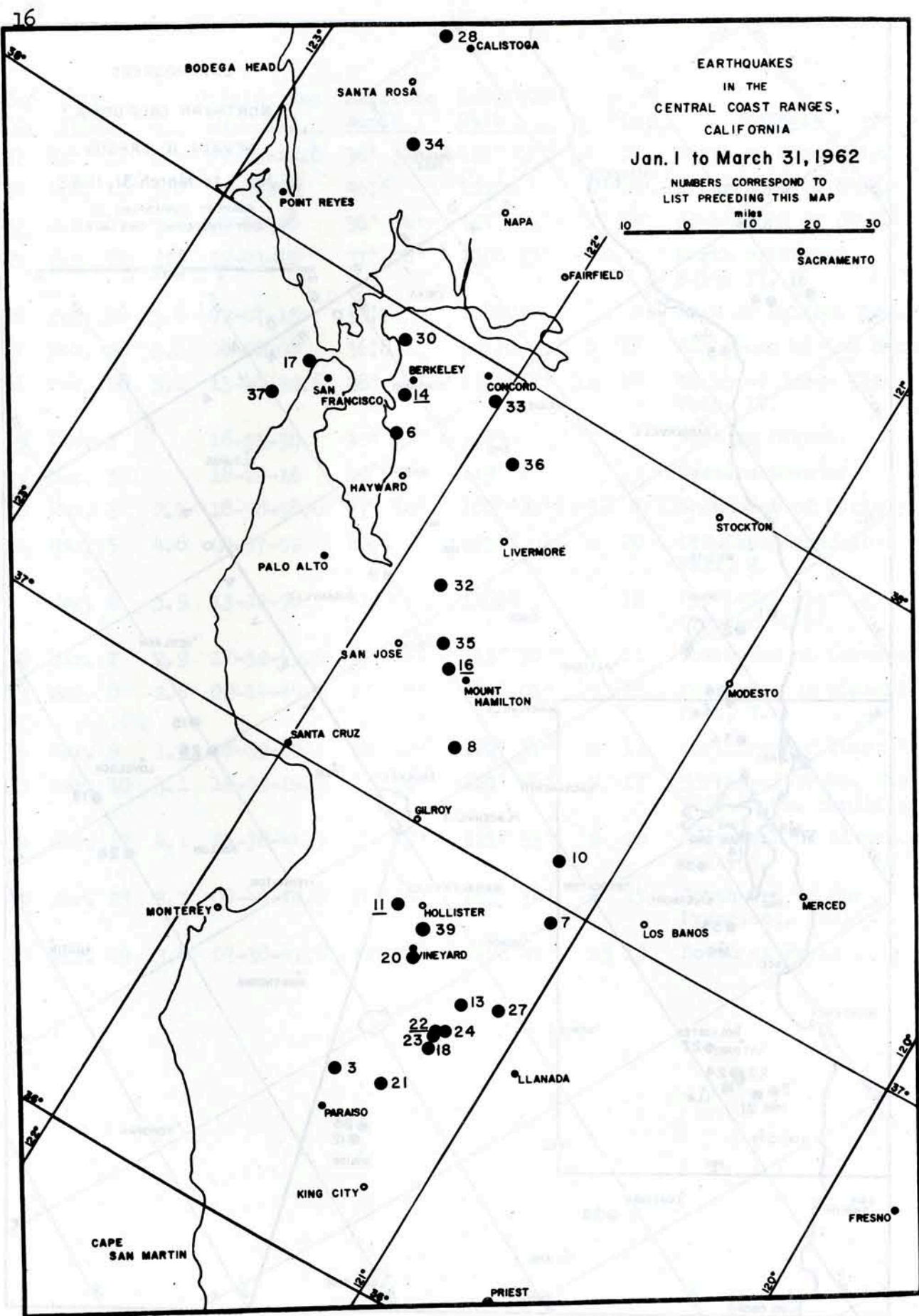
- I. Not felt except by a very few under especially favorable circumstances.
- II. Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.
- III. Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration like passing truck. Duration estimated.
- IV. During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls made creaking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
- V. Felt by nearly everyone; many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned; Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
- VI. Felt by all; many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.
- VII. Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.
- VIII. Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Disturbs persons driving motor cars.
- IX. Damage considerable in specially designed structures; well designed frame structures thrown out of plumb; great in substantial buildings with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
- X. Some well-built/wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.
- XI. Few, if any (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipe lines completely out of service. Earth slips and land slips in soft ground. Rails bent greatly.
- XII. Damage total. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into the air.

EARTHQUAKES IN NORTHERN CALIFORNIA, NEVADA, AND OREGON

Map No.	Date 1962	M	Origin Time (G.C.T.)	Latitude North	Longitude West	h	No. of Stas.	Remarks
1	Jan. 1	4.1	17-20-59.5	38° 53'	123° 24'	a	15	Southeast of Ukiah. Felt, V.
2	Jan. 1	2.5	17-49-26.4	38° 54'	123° 08'	b	9	Aftershock. Felt.
3	Jan. 4	3.0	03-56-10	36° 4'	121° 4'	b	11	Northwest of King City.
4	Jan. 4	3.7	15-32-38	40° 5'	124° 8'	a	6	Off Cape Mendocino.
5	Jan. 5	3.8	05-21-21.7	40° 24'	124° 17'	4	13	South of Ferndale.
6	Jan. 5	2.8	07-40-54.6	37° 44'	122° 13'	18	11	Southeast of Berkeley. Felt.
7	Jan. 6	2.4	22-33-25.7	36° 57'	121° 06'	8	6	Southwest of Los Banos.
8	Jan. 8	2.4	08-51-20.9	37° 10'	121° 36'	a	9	North of Gilroy.
9	Jan. 8	3.6	10-48-49.0	40° 22'	121° 00'	a	14	West of Susanville.
10	Jan. 9	2.6	08-27-05.8	37° 04'	121° 10'	4	9	West of Los Banos.
11	Jan. 15	2.5	12-45-54.2	36° 48'	121° 30'	8	9	Southwest of Hollister. Felt, V.
12	Jan. 15	3.7	23-17-21	37° 25'	118° 22'	a	12	Northeast of Bishop. Felt, IV.
39	Jan. 17	2.0	01-35-46	36° 47'	121° 25'		4	Near Vineyard. Felt, I
13	Jan. 23	2.0	23-16-38.5	36° 34'	121° 12'	a	6	Southeast of Vineyard.
14	Jan. 24	3.7	15-13-05.5	37° 50'	122° 15'	2	11	Southeast of Berkeley. Felt, IV.
14	Jan. 24	1.8	15-19-37.6	37° 50'	122° 16'	5	7	Aftershock of 1513. Fe
15	Jan. 27	3.7	16-28-36	40° 2'	119° 0'		9	West of Lovelock, Nev.
16	Jan. 28	2.2	21-47-35.9	37° 19'	121° 44'	4	9	West of Mt. Hamilton.
16	Jan. 29	2.5	00-55-02.7	37° 19'	121° 43'	5	11	West of Mt. Hamilton.
17	Jan. 29	2.6	20-08-17.5	37° 46'	122° 32'	a	12	West of San Francisco. Felt, IV.
18	Jan. 31	3.9	03-17-21.3	36° 33'	121° 13'	8	15	Southeast of Vineyard. Felt, IV.
19	Jan. 31	4.0	04-07-32	40° 1'	118°		13	Central Nevada.
11	Feb. 1	2.7	17-41-38	36° 8'	121° 5'	a	7	Southwest of Hollister.
20	Feb. 1	2.5	22-12-39.5	36° 43'	121° 23'	a	6	Near Vineyard.
21	Feb. 4	3.2	11-43-34.1	36° 25'	121° 16'	a	12	Foreshock of 0953.
22	Feb. 11	2.5	06-56-12.2	36° 35'	121° 14'	a	13	Foreshock of 0953.
22	Feb. 11	2.7	08-14-41.5	36° 35'	121° 13'	2	12	Foreshock of 0953.

Map No.	Date 1962	M	Origin Time (G.C.T.)	Latitude North	Longitude West	No. of Stas. h	Remarks
23	Feb. 11	3.4	09-53-11.8	36° 34'	121° 14'	7 17	North of King City.
24	Feb. 11	3.0	09-54-08	36° 6'	121° 2'	a 10	Aftershock of 0953.
22	Feb. 11	3.1	09-55-20	36° 34'	121° 14'	a 15	Aftershock of 0953.
25	Feb. 22	3.4	22-03-20	37° 28'	118° 28'	7	North of Bishop. Felt, IV.
26	Feb. 26	3.6	09-07-15	39° 7'	118° 0'	9	East of Fallon, Nev.
27	Feb. 28	3.1	04-00-08	36° 8'	121° 1'	b 13	Southwest of Los Banos.
28	Feb. 28	3.1	13-40-32.6	38° 34'	122° 44'	11 14	North of Santa Rosa. Felt, IV.
29	Mar. 3		16-51-30	40°	119°		Western Nevada.
29	Mar. 3		18-29-16	40°	119°		Western Nevada.
30	Mar. 3	2.1	18-58-58.6	37° 56'	122° 20'	5 7	Northwest of Berkeley.
31	Mar. 5	4.6	20-57-52	40° 4'	125° 1'	a 20	Off Cape Mendocino. Felt, V.
	Mar. 6	3.9	13-12-58	41° 9'	126° 8'	16	Off coast west of Crescent City.
32	Mar. 7	2.9	17-52-49.9	37° 29'	121° 50'	3 11	Southwest of Livermore.
33	Mar. 8	2.6	02-14-45.2	37° 55'	122° 01'	9 11	Southeast of Concord. Felt, V.
34	Mar. 9	3.0	08-39-02	38° 20'	122° 37'	a 12	Northeast of Point Reyes.
35	Mar. 10	3.1	19-02-29.9	37° 22'	121° 46'	9 17	Northwest of Mt. Hamilton. Felt at Mt. Hamilton.
36	Mar. 17	4.1	21-38-44.5	37° 49'	121° 53'	2 20	Northwest of Livermore. Felt, V.
37	Mar. 23	3.1	08-46-18.0	37° 40'	122° 34'	a 15	Southwest of San Francisco. Felt, V.
38	Mar. 24	3.4	03-38-41.8	36° 12'	119° 47'	13 19	South of Fresno.





PART II. REGISTRATION OF EARTHQUAKES

This section tabulates measured arrival times of prominent phases of earthquakes recorded at selected stations of the seismographic network operated by the University of California (Berkeley). Information regarding the stations and instrumentation will be found in the introductory section of this Bulletin. Earthquakes in the northern California, Nevada, and Oregon region are included in the following tabulation only if of magnitude 4.0 or over, or if of special interest.

Components of ground motion are indicated by N, E, and Z in the "Phase" column. Where no such letter appears, the reading is for the vertical component (Z) alone. The letter "i" (impetus) preceding a phase designates sudden beginning of the motion; "e" (emersio) designates a gradual beginning.

In the column headed "GM" (ground motion), "c" or "d" indicates initial compression or dilatation of the ground, respectively, from a wave of the compressional type; "+" or "-" indicates initial upward or downward motion of the ground, respectively, from a wave not known to be of the compressional type. N, E, S, or W indicates that the initial horizontal direction of ground motion was toward the north, east, south, or west, respectively.

The maximum amplitude of earth displacement in microns (μ) and periods in seconds (sec) in the indicated phases are given for the Berkeley station in the column headed "Time (GCT)". Total horizontal amplitudes combined from N and E components are designated by "H" (e.g., PH, PPH).

Magnitudes given for teleseisms in the "Remarks" column correspond to the magnitude based on surface waves (M_s). In calculating the published value, body wave amplitudes and periods are used to determine M_B by:

$$M_B = Q + \log_{10} (A/T),$$

where A = 1/2 peak-to-peak ground amplitude in microns,

T = period in seconds

Q is the empirically determined function of distance and depth given by Gutenberg and Richter ("Magnitude and Energy of Earthquakes," *Annali di Geofisica*, 9:1-15, 1956).

For each shock, M_B is determined for as many of the phase components PZ, PH, PPZ, PPH, and SH as possible; the arithmetic average of the available values of M_B is converted to an equivalent value M_s by:

$$M_s = 1.59 M_B - 3.97.$$

This value is compared with the value of M_s determined directly from surface waves of period near 20 sec.; the published value of magnitude then represents a weighted average of all the available values of M_s based on body and surface waves.

Frequently quoted sources of information regarding epicenters, origin times, or shock magnitudes are as follows:

USCGS - U.S. Coast and Geodetic Survey, Washington, D.C.

PAS - Seismological Laboratory, Pasadena, California

PAL - Lamont Geological Observatory, Palisades, N.Y.

All measurement 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. Readings from the remaining stations in the network other than the six listed (BRK, CLS, MHC, MIN, PRI, REN) are available on request. Requests for additional data or for copies of seismograms should be addressed to:

Director of the Seismographic Stations
 Earth Sciences Building
 University of California
 Berkeley, California 94720.

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Jan. 1	BRK	iP	02 49 08.4	d	USCGS: 52.2°N, 177.7°E, 0 = 02 41 12. Rat Islands, Aleutian Islands h about 48 km.
	MHC	iP	17.8	d	
	MIN	iP	48 52.6	d	
	PRI	iP	49 29.1	d	
	CLS	iP	06.8	d	
	REN	eP	15.7	d	
Jan. 1	BRK	eP	06 58 01	d	USCGS: 52.0°N, 177.6°E, 0 = 06 49 58. Rat Islands, Aleutian Islands. h about 33 km.
	MHC	eP	06.4	c	
	MIN	eP	57 51.1	d	
	PRI	eP	58 18	c	
	CLS	eP	57 55.1	c	
	REN	eP	10.1	c	
Jan. 1	BRK	e(P)	10 25 05.9	c	USCGS: 51.8°N, 177.6°E, 0 = 10 17 02. Rat Islands, Aleutian Islands. h about 33 km.
	MHC	iP	25 11.6	c	
	MIN	iP	24 56.7	c	
	PRI	eP	25 22.9	c	
	CLS	eP	00.7	c	
	REN	eP	10.1	c	
Jan. 1	BRK	eP	12 28 08	c	USCGS: 27.2°S, 175.2°W, 0 = 12 15 52. Kermadec Islands region. h about 33 km.
	MHC	eP	08.2	d	
	MIN	iP	19.2	c	
	PRI	eP	06	c	
	CLS	eP	09	d	
	REN	eP	28.3	c	
Jan. 1	BRK	eP	15 43 43		USCGS: 22.4°S, 171.5°E, 0 = 15 31 12. Loyalty Islands region. h about 98 km.
	MHC	eP	45.5	c	
	MIN	iP	52.8	d	
Jan. 1	BRK	iP	23 48.4		USCGS: 52.2°N, 177.7°E, 0 = 23 40 23. Rat Islands, Aleutian Islands. Magnitude 5.2.
		eSNEZ	54.8		
		eQN	58.5		
		eRZ	24 00.1		
			R from W		
	MHC	eP	23 48 30.7	d	
	MIN	eP	16.1	c	
	PRI	eP	44.8	c	
	CLS	eP	19.7	d	
	REN	eP	28.9	c	
Jan. 2	BRK	eP	05 35 12		USCGS: 18.1°S, 70.6°W, 0 = 05 23 42. Peru-Chile border region. Felt. h about 77 km.
	MHC	iP	07.0	d	
	MIN	eP	17.9	c	
	PRI	iP	34 59.8	c	
	CLS	iP	35 15.2	c	
	REN	iP	09.9	c	
Jan. 2	MHC	eP	12 00 34.5	c	USCGS: 21.9°S, 169.7°E, 0 = 11 47 30. Loyalty Islands region. h about 56 km.
	MIN	e	33	c	
Jan. 2	BRK	e	12 33 10		USCGS: 79.7°N, 22.7°E, 0 = 12 22 58.3. Svalbard Region. h about 33 km.
	MHC	iP	32 34.5	d	
	MIN	eP	52.5	c	
	PRI	eP	33 22.5	d	
	CLS	iP	05.5	c	
	REN	eP	32 58.1	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Jan. 2	MIN	iP	19 15 00.6	c	USCGS: 19.2°N, 145.4°E, 0 = 19 03 06. Mariana Islands. h about 33 km.
Jan. 3	MHC	eP	11 32 40.2	c	USCGS: 20.6°S, 174.5°W, 0 = 11 20 55. Tonga Islands. h about 33 km.
Jan. 3	BRK	iP	18 01 08.4	c	USCGS: 52.2°N, 177.5°E, 0 = 17 53 05. Rat Islands, Aleutian Islands.
Jan. 3	MHC	iP	14.2	c	
Jan. 3	REN	eP	01.2	c	h about 68 km.
Jan. 4	BRK	iP	04 27 30.6	d	USCGS: 35.0°N, 139.1°E, 0 = 04 16 03. Near south coast of Honshu, Japan.
Jan. 4	MHC	iP	34.1	c	
Jan. 4	MIN	eP	25.3	d	Felt. h about 161 km.
Jan. 4	PRI	eP	42	(d)	
Jan. 4	CLS	i	27.0	(d)	
Jan. 4	BRK	iP	04 47 41.2	d	USCGS: 33.7°N, 135.2°E, 0 = 04 35 41. Near east coast of Shikoku, Japan.
Jan. 4		iS	57.6		Felt. h about 43 km.
Jan. 4		e(SSS)E	05 06.4		Magnitude 6 1/2
Jan. 4		eGEN	08.9		
Jan. 4		iREZ	12.1		
Jan. 4			R from W		Magnitude 6 - 6 1/4.
Jan. 4			mu sec		
Jan. 4		PZ	3 10		
Jan. 4		SH(E)	3.5 20		
Jan. 4		MaxH	9 28		
Jan. 4	MHC	iP	04 47 45.7	c	
Jan. 4	MIN	eP	37.0	c	
Jan. 4	REN	iP	45.7	d	
Jan. 5	BRK	eP	00 35 11		USCGS: 15.5°S, 177.7°W, 0 = 00 23 32. Fiji Islands region.
Jan. 5		eSNZ	44.8		h about 24 km.
Jan. 5		eRZ	57.1		Magnitude 6 1/4 - 6 1/2.
Jan. 5			R from SW		
Jan. 5			mu sec		
Jan. 5		SH	11 25		
Jan. 5		MaxH	18 20		
Jan. 5	MHC	eP	00 35 12	(c)	
Jan. 5	MIN	eP	19.5	c	
Jan. 5	REN	eP	35.3		
Jan. 5	BRK	eP	08 19 25		USCGS: 15.1°S, 172.7°W, 0 = 08 08 07. Samoa Islands region.
Jan. 5		eS	29.5		h about 33 km.
Jan. 5		eR	40.5		
Jan. 5			R from SW		
Jan. 5			mu sec		
Jan. 5		SH	7.8 20		
Jan. 5		MaxH	7.5 30		
Jan. 5	MHC	e	08 19 25.7	d	
Jan. 5	MIN	eP	35.3	c	
Jan. 5	CLS	iP	14		
Jan. 5	REN	eP	38.3		
Jan. 5	MHC	iP	13 43 23.6	c	
Jan. 5	MIN	eP	43.6	c	
Jan. 5	REN	eP	32.4		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Jan. 5	MHC	iP	23 16 25.9	c	USCGS: 52.2°N, 177.5°E, 0 = 23 08 31. Rat Islands, Aleutian Islands.
Jan. 5	MIN	eP	19		h about 60 km.
Jan. 5	MIN	eP	23 39 18.7	c	
Jan. 6	MIN	eP	01 09 35.2	c	
Jan. 7	BRK	iP	01 19 59.9	d	USCGS: 55.2°N, 153.9°W, 0 = 01 14 16. Near Kodiak Islands.
Jan. 7		eR	27		h about 33 km.
Jan. 7	MHC	iP	20 06.1	c	
Jan. 7	MIN	eP	19 47.4	c	
Jan. 7	PRI	iP	20 17.7	c	
Jan. 7	CLS	iP	19 53.7	d	
Jan. 7	REN	eP	20 00.7		
Jan. 7	MHC	iP	01 38 43.3	c	USCGS: 52.0°N, 177.8°E, 0 = 01 30 34. Rat Islands, Aleutian Islands.
Jan. 7	MIN	eP	28.7	c	h about 55 km.
Jan. 7	REN	eP	40.4		
Jan. 7	MHC	e	08 51 12.2		USCGS: 27.6°N, 44.0°W, 0 = 08 40 38. North Atlantic Ocean.
Jan. 7	MIN	iP	09.8	c	h about 33 km.
Jan. 7	REN	eP	02.2		
Jan. 7	MHC	e	10 16 20		USCGS: 43.3°N, 17.1°E, 0 = 10 03 14. Yugoslavia, 2 killed, 19 injured.
Jan. 7	MIN	eP	06.5	c	h about 33 km.
Jan. 7	REN	iP	08		
Jan. 7	BRK	i(P)	13 39 46.4	c	
Jan. 7	CLS	i(P)	34.6	c	
Jan. 7	REN	eP	15 10.2		
Jan. 8	BRK	iP	01 09 09.4	c	USCGS: 18.4°N, 70.4°W, 0 = 01 00 23. Dominican Republic. 1 killed, 6 injured. h about 32 km.
Jan. 8		iPPZE	11 20		
Jan. 8		eSNE	16.2		
Jan. 8		e(S _c S) _N	18.8		Magnitude 6 1/4 - 6 1/2.
Jan. 8		eSS	20.5		
Jan. 8		eR	24		
Jan. 8			mu sec		
Jan. 8		SH	25		
Jan. 8		MaxH	34		
Jan. 8	MHC	iP	09 05.2	c	
Jan. 8	MIN	iP	07.5	c	
Jan. 8	PRI	iP	08 55.3		
Jan. 8	CLS	iP	09 08.6	c	
Jan. 8	REN	eP	08 57.4		
Jan. 8		eR	31.5		
Jan. 8	BRK	iP	01 13 11.1	c	
Jan. 8	MHC	iP	06.0		
Jan. 8	CLS	iP	13.2	c	
Jan. 8	MHC	iP	02 13 01.1	d	USCGS: 18.5°N, 70.6°W, 0 = 02 05 21. Dominican Republic.
Jan. 8	MIN	eP	14 05.7	d	h about 50 km.
Jan. 8	BRK	eP	05 55 06	d	USCGS: 24.2°S, 177.7°W, 0 = 05 43 02.2 Tonga Islands region.
Jan. 8	MHC	iP	06.7	d	h about 133 km.
Jan. 8	MIN	eP	17.0	d	
Jan. 8	PRI	e(P)	06.2	d	
Jan. 8	CLS	i(P)	07.6	d	
Jan. 8	REN	eP	55.3		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Jan. 9	MIN	eP	06 55 45.9	c	USCGS: 32.6°N, 40.6°W, 0 = 06 45 17. North Atlantic Ocean. h about 33 km.
Jan. 9	BRK	eP	12 51 40		USCGS: 43.0°N, 144.9°E, 0 = 12 40 49. Hokkaido, Japan h about 53 km.
		eS	13 00.5		
		eR	11.6		
	MHC	eP	12 51 44.6	c	
	MIN	eP	33.8	c	
	PRI	iP	12 51 54	c	
	CLS	iP	38	c	
	REN	eP	43.8		
Jan. 9	MHC	i	16 59 07.5	d	
Jan. 9	BRK	iP	22 23 36.2	c	USCGS: 48.2°N, 147.4°E, 0 = 22 13 50. Sea of Okhotsk. h about 436 km.
	MHC	iP	36.3	d	
	MIN	eP	28.4	c	
	PRI	i(P)	50.3	c	
	CLS	i(P)	31.4	d	
Jan. 10	BRK	eP	03 06 20	c	USCGS: 17.3°S, 68.7°W, 0 = 02 55 01. Peru-Bolivia border. h about 208 km.
	MHC	iP	16.6	c	
	PRI	iP	08.3	c	
Jan. 10	BRK	eP	06 30 26		USCGS: 44.3°N, 128.7°W, 0 = 06 28 40. Off coast of Oregon. h about 33 km. Magnitude 4 3/4
	MHC	iP	47.5	c	
	MIN	iP	21.3	d	
	PRI	eP	31 07	d	
	CLS	i(P)	30 26.2	(c)	
	REN	e(P)	44.2		
		e(R)	35		
Jan. 11	BRK	eP	03 02 18		USCGS: 51.5°N, 176.9°E, 0 = 02 54 14. Rat Islands, Aleutian Islands. h about 57 km.
	MHC	iP	25.3	d	
	MIN	eP	10.1	c	
	PRI	e(P)	41	c	
	CLS	iP	14.9	c	
	REN	e(P)	02.4		
Jan. 11	BRK	eP	05 18 09		USCGS: 43.3°N, 17.1°E, 0 = 05 05 14. Yugoslavia. 4 killed, 20 injured. h about 33 km. Magnitude 5 3/4
		eRZ	50		
	MHC	eP	18 10.6	c	
	MIN	iP	17 57.1	c	
	PRI	iP	18 13.0	d	
	CLS	iP	06.4	c	
	REN	eP	17 58.1		
Jan. 11	BRK	iP	06 56 56		USCGS: 51.4°N, 179.4°W, 0 = 06 49 11. Andreanof Islands, Aleutian Islands. h about 62 km. Magnitude 5 1/4
		eRZ	07 08.4		
	MHC	eP	06 57 00.9	c	
	MIN	eP	56 52.1	c	
	CLS	eP	53	(c)	
	REN	eP	59.6		
Jan. 11	BRK	iP	18 50 39.8	c	
	MHC	e	33.6	d	
	MIN	e	11		
	CLS	iP	39.9	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Jan. 11	BRK	iP	18 59 14	d	
	CLS	iP	25.2	d	
Jan. 11	BRK	iP	19 07 37.2	c	
Jan. 12	BRK	eP	09 02 29		USCGS: 20.3°N, 145.9°E, 0 = 08 50 26. Mariana Islands. h about 51 km.
	MHC	iP	37.0	c	
	MIN	eP	27.0	c	
	PRI	eP	33.5	c	
	CLS	eP	24.	c	
	REN	eP	02.6		
Jan. 12	BRK	eP	11 02 53		USCGS: 52.3°N, 177.7°E, 0 = 10 55 02 Rat Islands, Aleutian Islands. h about 33 km.
		eR	15		
	MHC	eP	02 10.4	c	
	MIN	eP	54.3	c	
	CLS	eP	59	(d)	
	REN	eP	03 08		
Jan. 12	BRK	eP	11 27 39		USCGS: 34.6°S, 111.9°W, 0 = 11 16 15. South Pacific Ocean. h about 33 km.
	MHC	eP	39.6	c	
	MIN	e	57.4	c	
	PRI	eP	32	c	
	CLS	eP	47	d	
	REN	eP	51.9		
Jan. 12	MHC	iP	22 06 14.0	d	
	MIN	eP	05 47.4	c	
	PRI	iP	06 28.5	d	
Jan. 13	BRK	iP	04 56 39.8	c	USCGS: 52.2°N, 177.5°E, 0 = 04 48 37. Rat Islands, Aleutian Islands. h about 32 km.
	MHC	iP	41.1	c	
	MIN	iP	30.7	c	
	PRI	eP	58.0	d	
	CLS	eP	35.4	d	
	REN	e(P)	43.5		
Jan. 13	MIN	eP	11 35 11.6	c	
Jan. 13	MIN	iP	11 52 45.2	c	USCGS: 15.1°S, 174.0°W, 0 = 11 41 10. Tonga Islands. h about 25 km.
Jan. 13	MIN	eP	13 35 30.1	d	
Jan. 14	BRK	iP	08 48 13.6	d	
	MHC	eP	10.8	c	
	MIN	eP	49 16.1	c	
Jan. 14	MHC	iP	13 45 06.7	d	USCGS: 43.1°N, 145.1°E, 0 = 07 24 48. Near east coast of Hokkaido, Japan. h about 30 km.
	MIN	iP	44 42.9	c	
Jan. 15	COR	eP	05 29 49.7		Seattle. Epicenter 47°50'N, 120°13'W.
		iSN	30 41.9		
	MIN	e	44		
Jan. 15	BRK	eP	08 32 31		USCGS: 131°N, 60.4°W, 0 = 08 22 14. Windward Islands. Felt.
	MHC	iP	12.8	c	
	CLS	eP	18.4	c	
Jan. 16	BRK	eP	11 48 19		h about 62 km.
		eSNE	21		
		iPPSZ	59.7		
		eSSN	12 03.9		
		eGN	10.6		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Jan. 16	BRK	eP eSNE iPPSZ eSSN eGN eRNEZ	11 48 19 58.5 59.7 12 03.9 10.6 14.0		USCGS: 30.5°S, 177.9°W, 0 = 11 35 41. Kermadec Islands. Felt. h about 39 km. Magnitude 6 1/2
			R from SW mu sec		
		PZ	2.3 15		
		SH	9.5 23		
		MaxH	13.5 30		
	MHC	iP	11 48 20.6	c	
	MIN	eP	30.5	c	
	PRI	eP	19.0	c	
	CLS	eP	21.4	c	
	REN	eP	35.2	d	
Jan. 17	MHC	iP	11 41 34.7	c	USCGS: 20.8°S, 178.5°W, 0 = 11 30 29. Fiji Islands. h about 571 km.
	MIN	eP	42.8	c	
Jan. 18	MHC	eP	16 07 00.5	c	
	MIN	eP	06 45.5	d	
Jan. 18	BRK	iP	18 01 36.3		
		eSN	02 32.4		
	MHC	e(P)	01 11.8	c	
		eSN	02 24.3		
	MIN	eP	24.3	c	
		iS	03 03.0		
Jan. 19	MHC	iP	06 10 35.8	d	USCGS: 51.5°N, 161.1°E, 0 = 06 01 10 Off southeast coast of Kamchatka. h about 29 km.
	MIN	iP	21.2	d	
	CLS	iP	25.7	c	
	REN	eP	32		
Jan. 19	MHC	iP	13 34 31.6	c	USCGS: 21.5°S, 174.6°W, 0 = 13 22 37. Tonga Islands. h about 25 km.
	MIN	eP	43.4	c	
Jan. 23	MHC	eP	16 06 32		USCGS: 52.8°N, 169.0°W, 0 = 15 59 27. Fox Islands, Aleutian Islands. h about 65 km.
	MIN	eP	13		
	REN	eP	43.7		
Jan. 24	BRK	eP	03 12 59.8		USCGS: 21.6°S, 66.7°W, 0 = 03 01 19. Southern Bolivia. h about 219 km.
	MHC	iP	56.5	d	
	MIN	eP	13 04.3	d	
Jan. 24	BRK	iP	15 13 06.5	c	37°52'N, 122°15'W, 0 = 15 13 05.5. Depth 10 km. Berkeley. Felt.
		iS	07.5		
	CNC	iP	09.5	d	
	PRC	iP	15.8	d	
	CLS	iP	20.7	d	
	VIT	i(P)	28.8	(c)	
	LLA	iP	33.1	c	
	PAC	iP	14.0	d	
	MHC	iP	18.8	d	
		iSNE	30.0		
	MIN	iP	48.2	c	
	USF	iP	09.5		
	REN	e	57.4	d	
	FRE	e	14 10.6		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962					
Jan. 24	BRK	eP	15 52 58.9		USCGS: 24.7°N, 121.8°E, 0 = 15 39 49. Near northeast coast of Formosa. h about 72 km.
	MHC	iP	53 01.2	d	
	MIN	iP	52 53.6	d	
	CLS	iP	55.8	d	
	REN	eP	53 01.9		
Jan. 25	BRK	(i)P	07 37 16		USCGS: 15.7°S, 69.6°W, 0 = 07 26 05. Bolivia. h about 190 km.
	MHC	iP	10.9	d	
	MIN	eP	19.4	c	
Jan. 25	MHC	iP	10 12 06.0	c	
	MIN	iP	22.6	d	
	CLS	iP	13.9	d	
Jan. 26	MHC	iP	05 34 17.7	c	USCGS: 32.2°N, 138.1°E, 0 = 05 22 51. South of Honshu, Japan. h about 333 km.
	MIN	iP	07.8	c	
	CLS	eP	10.0	c	
	REN	eP	35 18.0		
Jan. 26	MHC	iP	06 21 15.8	c	USCGS: 23.4°S, 176.1°W, 0 = 06 09 33. Tonga Islands region. h about 214 km.
	MIN	iP	25.9	d	
	CLS	iP	16.6	c	
	REN	eP	29.4	d	
Jan. 26	MHC	eP	08 31 20.5		USCGS: 35.4°N, 22.7°E, 0 = 08 17 40. Crete region. h about 33 km. Magnitude 5 - 5 1/4
		ePP	35 18		
	MIN	eP	31 13.9		
		ePP	35 11.9		
	REN	eP	31 15.6		
		iPP	35 13.6		
Jan. 26	MHC	iP	14 46 52.9	c	USCGS: 36.9°S, 88.9°W, 0 = 14 34 46. Off coast of Chile. h about 60 km.
	REN	eP	57.2	d	
Jan. 26	REN	eP	18 47 50.0		USCGS: 10.3°N, 90.6°W, 0 = 18 40 23. Off coast of El Salvador. h 45 km.
Jan. 27	MHC	eP	07 34 07.8	d	
Jan. 27	BRK	(i)P	23 10 00.3	(c)	USCGS: 31.4°N, 114.2°W, 0 = 23 07 49. Gulf of California. h about 36 km. Magnitude 5.3
		eLENZ	12		
	MHC	iP	09 54.1	c	
	CLS	eP	10 17.3	c	
	REN	eP	05.8		
Jan. 28	REN	eP	02 24 53.7		
Jan. 28	MHC	iP	05 29 37.6	c	USCGS: 13.5°N, 92.1°W, 0 = 05 22 44. Off coast of Guatemala. h about 52 km.
	REN	eP	39.0		
Jan. 28	BRK	iP	05 51 31.5	c	USCGS: 17.2°S, 172.0°W, 0 = 05 40 08. Samoa Islands region. Felt. h about 25 km. Magnitude 6 1/4
		ipP	41.8	d	
		eS	06 00 54	SEd	
		eR	12.6		
			R from SW		
	MHC	iP	05 50 32.5	c	
		ipP	42.4	d	
	CLS	iP	33	c	
	REN	iP	46.2	c	
		ipP	57.2	c	
Jan. 29	BRK	eP	11 55 51		USCGS: 9.1°S, 157.7°E, 0 = 11 43 07.

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Jan. 29	MHC	eP	53.0	c	Solomon Islands. h about 63 km.
(Cont.)	REN	eP	56 01.1		
Jan. 29	MIN	eP	21 51 35.0	d	
Jan. 30	BRK	eP	08 41 35.0	d	USCGS: 12.7°N, 87.5°W, 0 = 08 34 24.
		eSNE	48.1	SE	Near west coast of Nicaragua. Felt.
		eR	54.8		h about 49 km.
			R from East		Magnitude 4 3/4 - 5. (PAL)
	MHC	iP	08 41 48.0	c	
	MIN	iP	42 01.2	c	
	CLS	iP	00.2	d	
	REN	eP	41 47.9	c	
Jan. 30	BRK	iP	08 43 59.9	d	
	MHC	eP	55.6	c	
	CLS	iP	44 02	(c)	
Jan. 30	MHC	eP	15 12 11.6	c	USCGS: 16.2°S, 176.0°W, 0 = 15 01 12.
	MIN	eP	21.1	c	Fiji Islands region.
					h about 383 km.
Jan. 30	BRK	iP	15 34 42.2	d	USCGS: 20.7°N, 144.5°E, 0 = 15 22 49.
		ipP	35 17.2		Mariana Islands region.
	MHC	iP	34 45.9	d	h about 187 km.
		ipP	35 21.0	d	
	MIN	iP	34 53.9	d	
		ipP	35 15.3	d	
	CLS	eP	34 40	d	
	REN	eP	48.3		
		ipP	35 24.0		
Jan. 30	BRK	iP	17 24 17.7	d	USCGS: 78.9°N, 125.8°E, 0 = 17 15 29.
	MHC	iP	25 22.9	c	Laptev Sea. h about 33 km.
	MIN	eP	24 59.6	c	
	REN	eP	25 05.7		
Jan. 30	BRK	i(P)	18 01 37.1	d	
		i(S)	02 00.3		
	CLS	iP	01 24.7	c	
		iS	43.7		
	VIT	iP	10.4	c	
		iS	20.8		
	LLA	iP	03.7	(c)	
	PRS	iP	08.2	d	
		i(S)	22.8		
	USF	e(P)	30.0		
	PAC	e	24		
	MHC	iP	11.9	c	
		i(S)	02 09.7		
	MIN	iP	01 24.4	d	
		i(S)	02 48.2		
	REN	iP	01 12.6		
	FRE	iP	00 50.8	d	
	LIV	iP	01 13.7		
Jan. 31	BRK	iP	08 55 37.3	d	
	MHC	iP	36.2	d	
	MIN	eP	59.8	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Feb. 1	BRK	eP	00 52 36.1	d	USCGS: 31.7°S, 177.3°W, 0 = 00 39 55.
		eR	01 18.7		Kermadec Islands region.
	MHC	iP	00 52 37.2	c	h about 30 km.
	MIN	eP	45.0	d	
	CLS	eP	38.0	d	
	REN	eP	48.4	d	
Feb. 1	BRK	iP	06 38 44.6	d	USCGS: 35.0°N, 120.6°W, 0 = 11 25 17.
		iS	39 02.8		Near coast of Southern California.
	PRS	iP	38 16.6	c	Felt. h about 25 km.
	LLA	eP	20.1	c	Magnitude 4.5
	VIT	eP	22.6	c	
	SCC	eP	28.6	c	
	PRC	eP	46.3	d	
	CLS	iP	52.8	d	
	CNC	eP	42.8	d	
	USF	eP	42.0		
	PAC	iP	35.1	d	
	MHC	iP	31.7	d	
	SHS	e(P)	53.6		
	MIN	iP	39 16.4	c	
	REN	eP	09.4		
	FRE	iP	38 25.3		
	LIV	iP	34.1		
Feb. 1	BRK	eP	18 10 35		USCGS: 26.1°N, 109.2°W, 0 = 18 06 50.
	REN	eP	34.6		Gulf of California. h about 45 km.
Feb. 2	MIN	eP	05 51 49.6	c	USCGS: 45.7°N, 151.6°E, 0 = 05 41 39.
					Kurile Islands. h about 37 km.
Feb. 2	MHC	eP	06 49 02.7	c	USCGS: 36.3°N, 89.4°W, 0 = 06 43 29.
	MIN	eP	00.5	d	Northwestern Tennessee. Felt.
	REN	eP	48 48.1		h about 25 km.
Feb. 2	MHC	iP	08 13 08.9	d	USCGS: 49.7°N, 78.1°E, 0 = 07 59 38.
	MIN	eP	12 54.3	c	Kazakh S.S.R. h about 0 km.
	CLS	eP	13 02.1	c	
	REN	eP	12 59.9	c	
Feb. 2	MIN	e	17 30 43		USCGS: 43.8°N, 148.4°E, 0 = 17 20 1.3.
					Kurile Islands. h about 38 km.
Feb. 2	MIN	eP	17 43 08.8	d	
Feb. 2	BRK	eP	23 09 23		USCGS: 18.2°N, 104.9°W, 0 = 23 03 59.
	MHC	iP	15.0	d	Off coast of Colima, Mexico.
	MIN	eP	36.9	d	h about 17 km.
	CLS	eP	27		
	REN	eP	23.7		
Feb. 3	BRK	eP	00 51 38.5		USCGS: 1.3°S, 137.5°E, 0 = 00 37 57.
		ePP	55 48		North of New Guinea.
		eSEZ	01 02 16		h about 33 km.
		eGN	18		
		eREZ	22.6		BKS: Magnitude 6 1/4.
			R from W		
			mu sec		
	PZ		0.9 14		
	SH		0.6 18		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Feb. 3 (Cont.)	MHC	MaxH	12 20		
	MIN	eP	00 51 43.7	c	
	CLS	eP	36		
	REN	eP	36		
		ePP	42.2	d	
		eS	55 48.2		
		eP	01 02 23.2		
Feb. 3	MIN	eP	01 08 29.4	(c)	
	REN	e(P)	20.7	(c)	
Feb. 3	MHC	eP	07 20 22.6	d	
Feb. 3	MHC	eP	13 36 59.5	c	USCGS: 21.2°S, 175.5°W, 0 = 13 25 12. Tonga Islands region. h about 25 km.
	MIN	eP	37 21.4	c	
Feb. 3	MHC	iP	21 47 25.5	c	USCGS: 6.8°N, 73.0°W, 0 = 21 38 18. Northern Colombia. h about 160 km.
	MIN	eP	32.0	d	
	REN	eP	21.8	d	
Feb. 4	BRK	eP	03 14 21		USCGS: 4.6°S, 118.9°E, 0 = 02 54 44 Celebes. h about 89 km.
		eSEZ	24 05		
		eGN	43		
		eREZ	47		
		R from W			
	MHC	e	03 13 27.9	c	
	MIN	eP	20.9		
	REN	eP	14 31.2		
Feb. 4	MIN	eP	13 12 49		USCGS: 5.3°S, 151.6°E, 0 = 12 59 52. New Britain. Felt. h about 81 km.
Feb. 4	BRK	eP	17 56 13.9	d	USCGS: 7.3°N, 82.0°W, 0 = 17 47 45. South of Panama. h about 89 km.
		eR	18 11		
		R from SE			
	MHC	iP	17 56 09.4	c	
	MIN	eP	20.7	c	
	CLS	eP	18	d	
	REN	iP	08.5	d	
Feb. 4	MIN	eP	21 42 58.0	c	USCGS: 0.5°S, 20.2°W, 0 = 21 29 37. Atlantic Ocean. h about 33 km.
Feb. 4	BRK	e(S)E	21 56 21		
		e(G)NZ	22 11.5		
		eR	16		
	MHC	eP	21 47 23	c	
	MIN	e	12		
	REN	eP	06.3		
Feb. 5	MIN	eP	08 45 57.0	c	
Feb. 5	MHC	iP	18 56 42.4	c	
	MIN	eP	33.1	c	
Feb. 5	BRK	iP	23 07 20.2	c	USCGS: 35.9°N, 139.1°E, 0 = 22 55 52. Central Honshu, Japan. Felt.
	MHC	iP	24.4	c	h about 136 km.
	MIN	iP	15.0	d	
	CLS	iP	16.2	c	BKS: Magnitude 6.0.
	REN	eP	24.0	c	
Feb. 6	REN	eP	02 08 26.4		USCGS: 29.5°N, 130.4°E, 0 = 01 55 50. Ryukyu Islands region. h about 40 km.

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Feb. 6	MIN	eP	04 46 40.6	d	USCGS: 56.8°N, 156.0°W, 0 = 04 40 58 Kodiak Islands region, Alaska. h about 80 km.
Feb. 8	MHC	iP	08 37 35.9	c	
Feb. 8	BRK	eSNEZ	12 20 49		
		eQN	28.6		
		eREZ	33.0		
		R from W			
Feb. 8	LLA	iP	18 01 11.2	c	
		e(S)	02 09.6		
	PRS	eP	01 08.5	c	
	VIT	e(P)	17.9	c	
		i(S)	02 21.7		
	CLS	eP	01 24.2	(c)	
		i(S)	02 36.6		
	MIN	i(P)	01 29		
	MHC	i(P)	13.5	d	
		iS	02 24.4		
	REN	iP	01 15.9		
		iSN	02 09.1		
	FRE	iP	01 00.3	c	
Feb. 9	LLA	i(P)	16 31 06.2	c	
		e(S)	32 04.5		
	PRS	e(P)	31 11.5	c	
		e(S)	32 06.7		
	VIT	e(P)	31 17.9	c	
		e(S)	32 13.3		
	CLS	e	31 26.9	d	
	MHC	i(P)	20.4		
	REN	iP	13.0	d	
		iSEZ	32 05.7		
	FRE	eP	30 52	d	
Feb. 10	BRK	eP	13 17 14.9	(d)	
	MHC	iP	22.0	c	
	MIN	eP	16.9	d	
Feb. 10	BRK	iP	19 41 28.9	c	USCGS: 17.9°N, 62.2°W, 0 = 19 31 56. Leeward Islands region. h about 71 km.
		eG	59.5		
	MHC	iP	41 25.5	d	
	MIN	iP	26.1	c	
	CLS	iP	31.1	c	
Feb. 10	BRK	eP	19 58 35	c	USCGS: 33.1°S, 69.8°W, 0 = 19 46 07. Chile-Argentina border. h about 123 km.
	MHC	iP	32.3	c	
	MIN	eP	41.1	c	
	CLS	eP	38.4	d	
	REN	eP	35.5	d	
Feb. 11	BRK	iP	02 53 56.2	d	USCGS: 29.6°N, 139.1°E, 0 = 02 42 36. South of Honshu, Japan. h about 401 km. Magnitude 6 1/4.
		eSNE	03 03 13	NE	
		eGNEZ	14.5	SWd	
	MHC	iP	02 53 59.7	c	
	MIN	iP	52.3	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Feb. 11 (Cont.)	CLS	iP	53.5	c	
	REN	eP	54 01.6	c	
Feb. 11	MHC	iP	08 30 50.0	c	
	MIN	eP	34.6	c	
	REN	iP	45.6	d	
Feb. 11	BRK	iP	10 08 12.0	c	USCGS: 52.0°N, 168.0°W, 0 = 10 01 25. Fox Islands, Aleutian Islands. h about 50 km.
		ePP	09 43		
		eGNE	16.4	SW	
	MHC	iP	08 18.0	d	
	MIN	eP	02.4	d	
	CLS	iP	06.5	c	
	REN	eP	16.9		
Feb. 11	BRK	eP	19 08 07	c	USCGS: 4.5°S, 153.5°E, 0 = 18 55 33. New Ireland region. Felt. h about 111 km.
		ipPEZ	37	Wd	
		iSE	18 37	SWd	
		iSSE	19 33	NEd	
		eSSNE	24.7	NEd	Magnitude 6.
		eGN	31.5	SWd	
		eREZ	35		
			R from W		
			mu sec		
		PZ	2.1 12		
		SH	9.5 26		
		MaxH	46 36		
	MHC	iP	19 08 17.9	d	
	MIN	eP	16.9	c	
	CLS	eP	57	c	
	REN		45.8		
Feb. 14	BRK	iP	06 48 53	d	USCGS: 38.1°S, 73.0°W, 0 = 07 08 18. Near coast of Chile. h about 20 km. Magnitude 7 1/2.
		iSNE	59 20	SE	
		iGNE	07 12.5		
		eRNEZ	17.5		
			mu sec		
		PZ	26 18		
		PH	10 18		
		SH	110 17		
		MaxH	220 20		
	MHC	eP	06 48 49.4	c	
		iPP	52 21.3		
	MIN	eP	48 57	d	
	CLS	eP	58		
	REN	eP	53.9		
		iSEN	59 26.9		
		eR	07 17.8		
Feb. 15	MHC	iP	07 14 59.4	d	USCGS: 36.9°N, 112.4°W, 0 = 07 12 43. Arizona-Utah border. Felt. h about 26 km.
	REN	eP	42.6		
Feb. 15	BRK	eP	15 38.7	c	USCGS: 4.4°S, 153.8°E, 0 = 15 25 30. New Ireland region. Felt. h about 109 km.
		eSNE	48.5		
		eGNE	16 04.5		
		eREZ	05.5		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Feb. 15 (Cont.)			R from W		
Feb. 15	CLS	iPP	15 41 22	d	
Feb. 15	BRK	iP	18 01 16.5	d	
		i(S)	02 21.2		
	LLA	iP	01 03.7	c	
	PRS	eP	07.6	c	
	VIT	e(P)	09.3	(c)	
	SCC	e(P)	15.7	c	
	CNC	eP	15.9	(c)	
	CLS	iP	22.5	c	
	PRC	e(P)	23.9	(c)	
	MHC	iP	10.0	c	
		e(S)NE	02 22.3		
	MIN	iP	01 23.3	d	
	FRE	iP	00 49.9	d	
	COR	eP	02 18.8		
	REN	iP	01 00.3	c	
		iSE	02 08.6		
	SFB	e	01 36.2		
	PAC	e	02 32.6		
Feb. 17	BRK	eG	04 36.2		
		eR	49.8		
			R from SW		
Feb. 17	BRK	eGE	11 54.8		
Feb. 18	MHC	eP	01 38 26.1	d	USCGS: 49.3°N, 156.3°E, 0 = 01 28 39. Kurile Islands. h about 62 km.
	MIN	eP	17		
	REN	eP	31.9		
Feb. 18	BRK	iP	17 34 22.0	d	USCGS: 8.1°N, 74.8°W, 0 = 17 25 15. Northern Colombia. Felt. h about 41 km.
		ipP	36.2	d	
		iPP	36 19.8		
		eSNZ	41 42		
		eRE	50.2		
	MHC	iP	34 17.8	c	
		ipP	31.8	d	
	MIN	iP	25.4	c	
	CLS	iP	25.7	d	
	REN	iP	14.6	d	
		ipP	28.5		
Feb. 18	MHC	iP	23 20 25.7	c	
	CLS	eP	32.5		
Feb. 18	MHC	iP	23 33 50.9	c	USCGS: 0.7°S, 91.7°W, 0 = 23 25 21. Galapagos Islands. h about 33 km.
	CLS	eP	34 01.6	c	
	REN	iP	33 55.9		
Feb. 19	MHC	iP	11 16 37.9	d	USCGS: 20.2°S, 175.1°W, 0 = 11 04 47. Tonga Islands. h about 95 km.
	MIN	eP	37.4	c	
	REN	eP	41		
Feb. 19	LLA	i(P)	16 31 05.0	(d)	
	VIT	e(P)	10.0	(c)	
	MHC	iP	19.0	d	
	MIN	eP	26.0	d	
	REN	iP	17.7	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Feb. 19 (Cont.)	LIV	iP	16 31 27.5	(c)	
Feb. 19	BRK	iP	17 51 29.3	c	
	MHC	iP	19.2	c	
		iS	52 24.4		
	MIN	e	51 25.1		
	CLS	eP	26	c	
	REN	iP	11.8		
Feb. 20	BRK	iP	10 18 55.3	c	USCGS: 25.7°S, 178.2°E, 0 = 10 07 27.
	MHC	iP	54.3	d	South of Fiji Islands.
	MIN	iP	19 04.1	c	h about 651 km.
	CLS	eP	18 55.7	c	
	REN	eP	19 07.6		
Feb. 20	BRK	iP	16 16 36.3	d	USCGS: 43.1°N, 144.8°E, 0 = 16 05 45.
		eR	36.4		Near coast of Hokkaido, Japan.
			R from NW		Felt. h about 56 km.
	MHC	iP	16 16 40.9	c	
	MIN	iP	29		
	CLS	iP	32.4	d	
	REN	iP	39.4		
Feb. 20	BRK	eP	19 18 49	d	USCGS: 46.8°N, 152.8°E, 0 = 19 08 40.
	MIN	iP	42.2	d	Kurile Islands. h about 22 km.
	REN	eP	54.2		
Feb. 20	MHC	i	22 21 51.0		USCGS: 25.8°N, 96.8°E, 0 = 22 02 40.
	MIN	eP	01.2	c	Northern Burma. h about 33 km.
	REN	eP	10.6		
Feb. 20	MHC	e(P)	22 31.0	(d)	
		eR	54.4		
Feb. 21	BRK	eP	00 18 14		USCGS: 24.8°S, 177.1°W, 0 = 00 06 02.
	MHC	iP	15.4	c	Tonga Islands region.
	MIN	eP	24.8	d	h about 38 km.
Feb. 21	BRK	eP	17 28 31.5	d	USCGS: 16.7°N, 93.0°W, 0 = 17 22 11.
	MHC	iP	25.5	d	Chiapas, Mexico. h about 202 km.
	MIN	iP	39.3	c	
	CLS	eP	36.7	c	
	REN	eP	26.2		
Feb. 23	BRK	eREZ	12 23.5		USCGS: 6.1°S, 147.7°E, 0 = 11 40 49.
	MHC	iP	11 54 07.7	d	Near coast of northeast New Guinea.
	CLS	e(P)	05	d	Felt. h about 33 km.
Feb. 23	BRK	e	18 01 26.2	d	
	LLA	eP	04		
	PRS	eP	08.3	(c)	
	SCC	e	21.7		
	CLS	eP	23.8	c	
	CNC	e	25.6		
	MIN	eP	23.6	d	
	PAC	eP	26.2	c	
	REN	e(P)	05.0	(c)	
		iSE	02 00.2		
	FRE	eP	00 50.9	(c)	
		iSENZ	01 51.2		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Feb. 23 (Cont.)	VIN	eNE	00 21		
Feb. 23	BRK	i(P)	20 42 33	d	USCGS: 11.1°N, 125.8°E, 0 = 19 29 15.
		eREZ	21 02.1		Samar, Philippine Islands.
					h about 100 km.
Feb. 23	CLS	eP	21 23 46	c	
Feb. 24	MIN	e	12 32 27.7		USCGS: 49.2°N, 156.2°E, 0 = 12 22 50.
					Kurile Islands. h about 56 km.
Feb. 25	MIN	iP	06 08 17.1	c	USCGS: 49.3°N, 129.2°W, 0 = 06 05 45.
					Vancouver Islands region.
					h about 25 km.
Feb. 26	MIN	eP	01 24 09.7	d	USCGS: 41.7°N, 141.9°E, 0 = 01 13 12.
	REN	eP	38.3		South of Hokkaido, Japan.
					h about 71 km.
Feb. 26	BRK	eGNE	13 27.3		USCGS: 27.4°N, 115.1°W, 0 = 13 21 55.
	MHC	iP	24 37.7	c	Baja California. h about 25 km.
	MIN	eP	25 17.0		
	REN	eP	25.0		
Feb. 27	MHC	iP	00 14 47.2	d	USCGS: 6.2°S, 77.0°W, 0 = 00 04 44.
	CLS	iP	55.7	c	Northern Peru. h about 61 km.
Feb. 27	BRK	iP	05 58 52.2	c	USCGS: 63.0°N, 150.0°W, 0 = 05 52 28.
		ipP	59 02.7		Central Alaska. h about 100 km.
	MHC	iP	58 58.1	c	
	MIN	iP	57 34.7	d	
	CLS	i(P)	58 45	(d)	
Feb. 27	BRK	iP	12 53 38	c	USCGS: 37.4°S, 72.5°W, 0 = 12 40 50.
		eSN	13 04 00		Near coast of Chile.
		iPPSN	06.1		h about 63 km.
		eSSN	10.6		Magnitude 6 1/4 - 6 1/2.
		eSSSNZ	14.0		
		eGN	16.5		Magnitude 6.
		eRNZ	22.0		
			R from SW		
			mu sec		
		PZ	2.2 16		
		SH	8.6 26		
		MaxH	11 20		
	MHC	iP	12 53 25.7		
	MIN	eP	38		
	CLS	e(P)	37	(c)	
	REN	eP	34.5		
Feb. 27	MHC	i	19 01 28.4	c	
Feb. 28	BRK	iP	07 31 38.3	c	USCGS: 32.2°N, 139.6°E, 0 = 07 19 52.
	MHC	iP	42.0	c	South of Honshu, Japan.
	MIN	eP	33.1	d	h about 60 km.
	REN	e(P)	42.8		
Mar. 1	BRK	iP	02 23 43.6	d	USCGS: 15.7°S, 74.3°W, 0 = 02 12 37.
	CLS	eP	47	c	Near coast of southern Peru.
	MHC	iP	39.0	c	h about 64 km.
	REN	eP	39.4		
Mar. 1	BRK	eP	19 11 34.8	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Mar. 1 (Cont.)	MHC	iS iP	12 35.8 11 11.4		
	MIN	iP	24.9	c	
	REN	eP	10.4	d	
Mar. 1	BRK	iP	23 53 20.0	d	USCGS: 14.0°S, 172.1°E, 0 = 23 41 11. Santa Cruz Islands region.
	BRX	iSN	00 03 27		
			mu sec		
		PZ	3.3 7		Magnitude 6 - 6 1/4.
		SH	2.7 10		
		MaxH	3.1 12		
	CLS	eP	23 53 20.2	d	
	MHC	iP	21.6	d	
	MIN	eP	27.3	d	
Mar. 3	REN	iP	33.6		
	BRK	eP	12 28 40.7	c	USCGS: 7.4°N, 126.6°E, 0 = 12 14 55. Near east coast of Mindanao, Philippine Islands. h about 87 km.
	CLS	eP	38.7	d	
	MHC	eP	44.0	d	Magnitude 5 3/4.
Mar. 3	PRI	eP	50.5	d	USCGS: 16.1°S, 174.2°W, 0 = 16 13 57. Tonga Islands. h about 129 km.
	BRK	iP	16 25 15.0		
	MHC	iP	15.7	c	
	MIN	eP	25.9	c	
	REN	eP	30	c	
Mar. 4	BRK	iP	11 48 02.3	d	USCGS: 67.5°N, 171.6°W, 0 = 11 40 28. Near northeast coast of Chukotsky Peninsula, USSR.
	CLS	iP	47 56.2	c	
	MHC	iP	48 08.3	c	
	MIN	iP	47 46.5	d	
	PRI	eP	48 20.2	d	
	REN	eP	47 57.8		
Mar. 5	MHC	eP	01 56 21		USCGS: 16.8°N, 105.0°W, 0 = 01 50 59. Off coast of Jalisco, Mexico.
	MIN	eP	48		
	REN	e	21		
Mar. 5	MHC	eP	18 16 23		
	PRI	eP	15 58.9	c	
	REN	iP	16 09.3		
Mar. 5	BRK	iP	20 58 42.8	c	40.4°N, 124.9°W, 0 = 20 57 54.
	CLS	iP	33.3	c	
	MHC	eP	53		Magnitude 4.6. Off Cape Mendocino, California.
	MIN	eP	35		
	PRI	iP	59 13.9	c	
	REN	iP	58 59.8	d	
Mar. 7	BRX	iPEZ epPNEZ iSNEZ	11 12 12 14 25 21 23	Wd	USCGS: 19.2°N, 145.1°E, 0 = 11 01 05. Mariana Islands. h about 685 km.
			mu sec		Magnitude 6.
		PZ	7.1 8		
		PH	1.7 8		
		PPZ	6.3 16		
		PPH	2.6 24		
		SH	15 20		
	CLS	iP	11 12 07.5	c	
	MHC	iP	13.6	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Mar. 7 (Cont.)	MIN	iP	08.7	d	
	PRI	iP	19.4	d	
	REN	iP	17.0	d	
Mar. 8	BRK	eP	08 23 14		USCGS: 17.9°N, 146.5°E, 0 = 08 11 13. Mariana Islands. h about 131 km.
	MHC	iP	20.4	c	
	MIN	eP	14.6	c	
	REN	eP	24.6		
Mar. 8	BRK	iP	18 01 28.5	c	
	CLS	eP	23.6	c	
	MHC	i	10.6	d	
	MIN	iP	24.3	c	
	PRI	iP	02.2	c	
	REN	eP	11.7	d	
Mar. 9	CLS	iP	07 08 17.8	d	USCGS: 18.6°S, 177.9°W, 0 = 06 57 11. Fiji Islands region. h about 443 km.
	MHC	iP	17.7	d	
	MIN	iP	26.4	d	
	PRI	eP	17.4	d	
	REN	eP	31.2	d	
Mar. 9	BRK	iP	17 41 23.4	c	USCGS: 24.2°S, 179.1°W, 0 = 17 29 44. Fiji Islands region h about 385 km.
	MHC	iP	23.6	c	
	MIN	iP	33.2	d	
Mar. 11	CLS	eP	15 31 28.5	c	USCGS: 52.3°N, 178.0°E, 0 = 15 23 41. Rat Islands, Aleutian Islands. h about 135 km.
	MHC	iP	38.9	c	
	MIN	iP	23.6	c	
	REN	iP	36.5		
Mar. 11	BRX	eP	19 33 01	d	USCGS: 9.0°N, 126.5°E, 0 = 19 19 09. Near east coast of Mindanao, Philippine Islands. h about 51 km.
		eS	43 33		
		eREZ	20 05.0		
	CLS	eP	19 32 59.1	c	
Mar. 12	BRK	eP	09 50 01.5	c	USCGS: 8.2°N, 82.8°W, 0 = 09 41 34. Near south coast of Panama and Costa Rica. h about 25 km.
	CLS	eP	04.5	d	
	MHC	iP	49 55.6	d	
	MIN	eP	50 05.0	c	
	PRI	eP	49 44	d	
Mar. 12	BRK	eP	11 48 39	c	USCGS: 8.1°N, 82.9°W, 0 = 11 40 12. Near south coast of Panama and Costa Rica.
	BRX	iS	55 33		
	CLS	eP	48 44		
	MHC	iP	33.7	c	
	MIN	eP	43.0		Magnitude 6 3/4.
	PRI	eP	11 48 25.4	d	
Mar. 12	BRK	iP	12 20 14.4	d	USCGS: 50.8°N, 152.5°E, 0 = 12 10 50. Sea of Okhotsk. h about 360 km.
	MHC	iP	19.2	c	
	MIN	iP	05.4	c	
Mar. 12	MHC	e	13 50 51		USCGS: 9.0°N, 82.7°W, 0 = 13 42 41. Near south coast of Panama. h about 56 km.
	MIN	e	51 04		
Mar. 14	MHC	iP	03 12 39.5	c	USCGS: 7.6°N, 83.6°W, 0 = 03 04 19. Near south coast of Panama.
	MIN	eP	50.8	d	
Mar. 15	BRK	iP	13 18 12.0	c	USCGS: 20.6°S, 178.8°W, 0 = 13 07 07. Fiji Islands region. h about 623 km.
	CLS	iP	13.0	d	
	MHC	iP	12.6	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Mar. 15 (Cont.)	MIN	eP	21	d	
	PRI	eP	12.3	c	
	REN	eP	25		
Mar. 15	CLS	eP'	14 57 04	c	USCGS: 9.5°S, 67.1°E, 0 = 14 37 10. West of Maldive Islands.
	MHC	iP'	12.0	c	
	MIN	eP'	56 58		
	PRI	eP'	57 14	c	
Mar. 15	BRK	iP	16 31 22.1	c	
	MHC	iP	10.9	d	
	MIN	eP	14.2	c	
	PRI	eP	01.8	c	
	REN	iP	11.9	d	
Mar. 15	CLS	e	16 46 35	d	
	MHC	iP	12.9	d	
	MIN	e	25.8	c	
	PRI	eP	45 59.4	c	
	REN	eP	46 04.3	c	
Mar. 15	BRK	iP	22 55 15.1	c	USCGS: 51.5°N, 177.9°E, 0 = 22 47 14. Rat Islands, Aleutian Islands.
	CLS	iP	10.3	c	
	MHC	iP	25.9	c	
	MIN	iP	10.5	c	
	PRI	eP	32.5	c	
Mar. 16	BRK	iP	19 55 03.6	c	USCGS: 10.8°S, 165.7°E, 0 = 19 42 39. Santa Cruz Islands region. h about 25 km.
	MHC	iP	05.5	c	
	MIN	eP	09	c	
Mar. 17	BRX	iP	20 59 15	c	USCGS: 10.9°N, 43.2°W, 0 = 20 47 32. North Atlantic ocean.
		iS	21 09 01		
		iG	18.8		
		iR	23.6		Magnitude 6.7.
			mu sec		
		PZ	10 10		
		PH	5 11		
		SH	21 20		
		MaxH	44 16		
	CLS	iP	20 59 16.9	d	
	MHC	iP	14.0	d	
	MIN	iP	10.2	c	
	PRI	eP	08.8	d	
	REN	eP	01.6		
Mar. 18	BRK	iP	03 18 54.7	c	USCGS: 16.5°S, 168.2°E, 0 = 03 06 19. New Hebrides Islands. h about 14 km.
		iSEZ	29 21		
	MIN	eP	19 02	c	
	PRI	eP	18 57.8	c	
	REN	iP	19 06.9	c	
Mar. 18	MHC	iP	15 43 55.5	d	USCGS: 40.9°N, 19.5°E, 0 = 15 30 35. Near coast of southern Albania.
	MIN	eP	40.4	c	
	REN	eP	40.2		
Mar. 20	BRX	eGNE	10 08.3		USCGS: 28.0°N, 111.3°W, 0 = 10 04 00. Near coast of Sonora, Mexico.
		eREZ	12.4		
	MHC	i	07 04.4	d	
	MIN	e	33.7	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Mar. 20	CLS	eP	11 12 25	d	USCGS: 44.4°S, 82.8°W, 0 = 10 59 24. South Pacific ocean. h about 30 km.
	MIN	eP	28.7	c	
	PRI	eP	13	d	
	REN	eP	25.1		
Mar. 20	BRK	iP	16 34 54.0	d	USCGS: 50.6°N, 130.3°W, 0 = 16 31 46. Queen Charlotte Sound area.
	BRX	eSEZ	37 53		
	MHC	eP	35 15.1	c	
	MIN	eP	34 21.6	c	
	REN	eP	57.1		
Mar. 20	BRK	iP	19 04 57.0	c	USCGS: 22.8°N, 143.2°E, 0 = 18 52 56. Mariana Islands region. h about 98 km.
	CLS	eP	54.2	c	
	MHC	iP	05 01.2	d	
	MIN	eP	04 54.2	d	
	PRI	iP	05 07.6	c	
	REN	iP	03.6	d	
Mar. 21	CLS	iP'	23 15 37.9	d	USCGS: 6.1°S, 112.9°E, 0 = 22 57 54. Java Sea. h about 630 km.
		i	17 13.2	d	
	MHC	iP'	15 40.8	d	
	MIN	iP'	38.4	c	
	PRI	eP'	43.3	d	
	REN	iP'	41.5		
Mar. 22	CLS	eP'	00 37 29.7	c	USCGS: 6.0°S, 113.0°E, 0 = 00 19 43. Java Sea. h about 575 km.
	MHC	e(P')	34	c	
	MIN	iP'	31.1	d	
Mar. 22	BRK	e	00 56 07	d	USCGS: 5.9°S, 112.9°E, 0 = 00 37 36. Java Sea. h about 590 km.
	CLS	e	10.9	d	
	MHC	iP'	04.1	d	
	MIN	iP'	55 22.8	d	
	PRI	e	56	d	
	REN	iP'	06.2	d	
Mar. 22	CLS	eP	12 19 30	d	USCGS: 29.8°S, 71.5°W, 0 = 12 07 07. Near coast of central Chile. h about 48 km.
	MHC	iP	23.2	d	
	PRI	eP	15		
Mar. 22	BRX	iP	15 26 31	c	USCGS: 3.3°S, 142.7°E, 0 = 15 13 14. Near north coast of New Guinea. h about 100 km.
		iSN	37 05		
		iREZ	56.3		
			mu sec		
		PZ	1.0 16		Magnitude 5.7.
		PPZ	1.3 16		
		SH	1.6 15		
Mar. 22	CLS	eP	19 11 05.4	d	USCGS: 28.3°S, 68.9°W, 0 = 18 58 50. La Rioja Province, Argentina. h about 101 km.
	MHC	iP	02.1	d	
	PRI	eP	10 54.5	c	
	REN	iP	11 04.6	c	
Mar. 24	BRK	iP	13 12 48.7	d	USCGS: 5.7°S, 145.2°E, 0 = 12 59 32. Near north coast of New Guinea. h about 98 km.
	BRX	eP	49	d	
		iSE	23.1		
		eGN	37.3		
		eREZ	46.0		Magnitude 4 3/4.
			mu sec		
			0.7 20		
			1.7 20		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Mar. 24 (Cont.)	CLS	eP	13 12 45	d	
	MHC	eP	49		
	MIN	eP	50.6		
	REN	e	57		
Mar. 25	BRK	iP	08 19 37.0	d	USCGS: 51.2°N, 169.8°W, 0 = 08 12 38. Fox Islands, Aleutian Islands. h about 45 km.
	CLS	eP	31.4	d	
	MHC	iP	43.2	d	
	MIN	eP	28.6	d	
	PRI	eP	55.5	c	
	BRK	eP	14 36 00	c	
Mar. 25	MHC	eP	35 58	c	
	MIN	eP	36 04	d	
	BRK	eP	15 38 02.4	c	USCGS: 8.5°N, 73.3°W, 0 = 15 28 54. Northern Columbia. h about 92 km.
	MHC	iP	37 58.5	c	
MIN	eP	38 05.5	d		
REN	eP	37 54.9	c		
Mar. 26	BRK	iP	16 45 41.6	d	USCGS: 40.6°S, 73.3°W, 0 = 16 32 44. Near coast of southern Chile. h about 32 km.
	BRX	eS	56.7		
		eRNZ	17 15 21		
	CLS	eP	16 45 45.4	d	
	MHC	iP	39.2	d	
	MIN	eP	47.6	d	
	PRI	eP	32.2	d	
	REN	eP	43.2		
	BRK	eP	21 25 25.9	c	
	BRX	eSNZ	30.8		
Mar. 27		eGNE	33.5		USCGS: 17.0°N, 99.8°W, 0 = 21 19 31. Near coast of Guerrero, Mexico. h about 30 km.
		eRNZ	36.1		
	CLS	eP	25 40	c	
	MHC	iP	20.7	d	
	PRI	eP	06.4	d	
	REN	iP	25.6		
	BRK	iP	14 19 38.8	c	
		iP	54.7	d	
	BRX	eSNE	23 43		
		eRNZ	26.1		
Mar. 28	CLS	eP	19 44.7	c	USCGS: 19.9°N, 108.6°W, 0 = 14 14 58. Off coast of Jalisco, Mexico. h about 122 km.
	MHC	iP	14 19 31.5	d	
	PRI	eP	18.1	c	
	REN	eP	44.1		
	BRK	iP	18 01 29.4	c	
	CLS	eP	23.9	c	
	MHC	iP	17.8	c	
	MIN	eP	25.7	d	
Mar. 28	PRI	eP	02.5	c	
	REN	eP	11.9	d	
	BRK	iP	02 01 49.9	d	USCGS: 55.7°N, 157.3°E, 0 = 01 52 23. Near south coast of Kamchatka. h about 123 km.
	CLS	iP	45.6	c	
	MHC	iP	55.3	c	
	MIN	iP	41.5	c	
	PRI	eP	02 05.5	c	
	REN	eP	01 53.2	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Mar. 29	MHC	iP	03 12 15.7	c	USCGS: 58.4°N, 137.9°W, 0 = 03 07 02. Off coast of Sitka, Alaska.
	MIN	iP	11 41.7	c	
	REN	eP	12 02		
Mar. 30	BRK	eP	14 35 38.1	d	USCGS: 28.6°S, 179.3°W, 0 = 14 23 42. Kermadec Islands region. h about 370 km.
	MHC	iP	38.0	c	
	MIN	eP	47		
	REN	eP	35.8		
	BRK	eP'	12 21 06.7	d	
Mar. 31	MIN	iP'	09.1	c	USCGS: 57.1°S, 25.6°W, 0 = 12 02 08. Sandwich Islands. h about 16 km.
	CLS	eP	18 01 45.1	d	
Mar. 31	MHC	iP	15.4	c	
	MIN	eP	26.0		
	PRI	eP	02.7	d	
	REN	eP	15.7	c	

Bulletin of the Seismographic Stations

Volume 32, No. 2, pp. 40 - 88

ARCATA--BERKELEY--CALISTOGA--CONCORD
CORVALLIS--FERNDALE--FRESNO--LLANADA
MANZANITA LAKE--MINERAL--MOUNT HAMILTON
PALO ALTO--PARAISO--POINT REYES--PRIEST
RENO--SAN FRANCISCO--SANTA CRUZ
SHASTA--VINEYARD

Earthquakes and the Registration of Earthquakes

From April 1, 1962 to June 30, 1962

By
Bruce A. Bolt
and
Hemendra Acharya

University of California
Berkeley
1964



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INTRODUCTION

Each number in this series includes determinations of epicenters, origin times, and magnitudes, as well as other information available at the time of writing, for earthquakes in northern California and adjoining areas (Part I), and tabulates recorded arrival times of seismic waves and other information for teleseisms and for the larger earthquakes in the local area (Part II).

Information regarding the seismographic stations which comprise the Berkeley network, instruments operated regularly at each station, and any changes in instrumentation during the period covered by this issue will be found on the following pages of the Introduction.

Information of a general nature such as the Modified Mercalli Intensity Scale will be found only in the first number of each volume.

PERSONNEL (AUGUST 1964)

Station Director	Bruce A. Bolt
Director Emeritus	Perry Byerly
Associate Research Seismologist	Cinna Lomnitz
Assistant Research Seismologist	Helen Freedman
Associate	Don Tocher (U.S. Coast and Geodetic Survey, Albuquerque, New Mexico)
Associate Engineer	Walter Marion
Full-time Technical Staff	J. Meeker, G. Mitchell, R. Sell, M. Hilger, J. Firby, M. Blackford
Research Assistants	M. Niazi, A. Nowroozi, H. Acharya

MAILING ADDRESS

The Director Seismographic Station University of California 475 Earth Sciences Building Berkeley, California 94720	Telephone: THornwall 5-6000 (Est. 3977) (Area Code 415)
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WORLD-WIDE STANDARD STATION (BKS)

Standardized equipment began operating in a newly constructed tunnel east of the main campus on June 8, 1962. The closest buildings, part of the Lawrence Radiation 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. 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.

The short-period world-wide standard instruments are operated with an approximate magnification of 25,000 at 1 sec and the long-period standard instruments with 3,000 at 30 sec.

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 twenty in 1962. In 1950, Professor Perry Byerly was appointed Director by the Regents; he had been in charge of instruction and research since 1925. In 1960, the University entered into a contract with the Air Force Office of Scientific Research of the Research Projects Agency of the Department of Defense. Funds were made available under the Vela Uniform program to design and operate a telemetered network of eight new stations in central California and to construct a new seismic vault near the Berkeley campus.

STATIONS IN OPERATION: APRIL - JUNE 1962

Station	North Latitude	West Longitude	Elev. Meters	Symbol	Present Auspices and Date Established
Berkeley (Haviland)	37° 52.4'	122° 15.6'	81	BRK, BRX	Univ. of California, 1887
Berkeley (Strawberry)	37° 52.6'	122° 14.1'	276	BKS	Univ. of California, 1962
Mt. Hamilton	37° 20.5'	121° 38.5'	1282	MHC	Lick Observatory, 1887
Palo Alto	37° 25.0'	122° 10.9'	83	PAC	Stanford University, 1927
San Francisco	37° 46.6'	122° 27.1'	100	SFB	Univ. of San Francisco, 1931
Ferndale	40° 34.6'	124° 15.7'	15	FER	City of Ferndale, 1933
Fresno	36° 46.0'	119° 47.8'	88	FRE	Fresno City College, 1935
Mineral	40° 20.7'	121° 36.3'	1495	MIN	National Park Service, 1938
Arcata	40° 52.6'	124° 04.5'	59	ARC	Humboldt State College, 1948
Reno	39° 32.3'	119° 48.8'	1386	REN	Univ. of Nevada, 1948
Shasta	40° 41.7'	122° 23.3'	312	SHS	Bureau of Reclamation, 1942
Corvallis	44° 35.1'	123° 18.2'	123	COR	Oregon State Univ., 1950
Manzanita Lake	40° 32.2'	121° 33.7'	1800	MLC	National Park Service, 1956
Vineyard (local)	36° 45.0'	121° 23.1'	330	VIN	W. A. Taylor and Co., 1959
(telemeter)	36° 45.0'	121° 23.3'	380	VIT	
Concord	37° 58.1'	122° 04.3'	36	CNC	Diablo Valley College, 1960
Santa Cruz	37° 00.4'	121° 59.8'	128	SCC	City of Santa Cruz, 1961
Paraiso	36° 19.9'	121° 22.2'	363	PRS	Paraiso Hot Springs, 1961
Llanada	36° 37.0'	120° 56.6'	475	LLA	Charles McCullough Ranch, 1961
Calistoga	38° 38.2'	122° 35.1'	457	CLS	Terrance Kirk Ranch, 1961
Point Reyes	38° 04.8'	122° 52.0'	404	PRC	Federal Aviation Agency, 1961
Priest	36° 08.5'	120° 39.9'	1187	PRI	Federal Aviation Agency, 1961

STATION INSTRUMENTATION

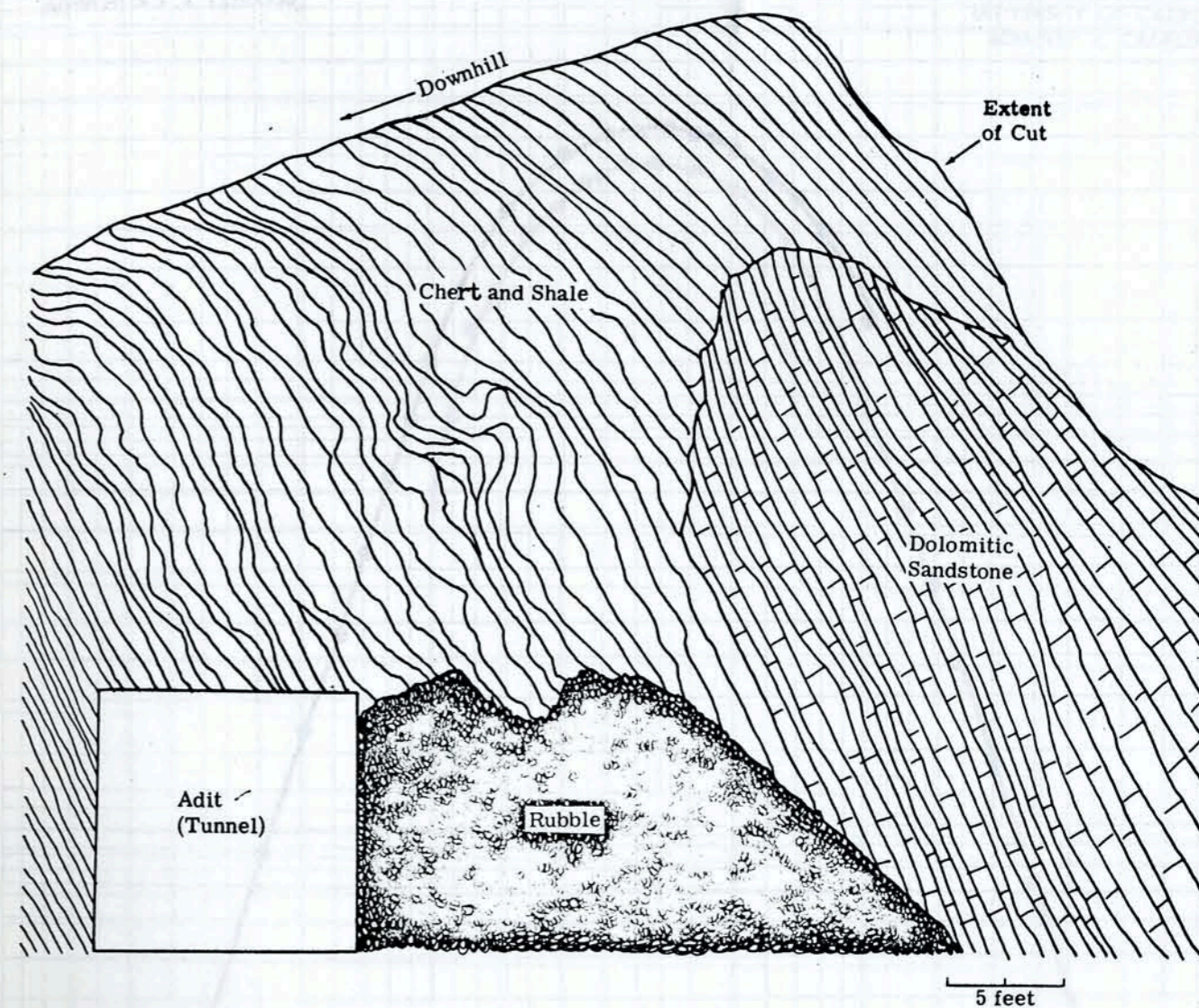
April - June 1962

Station	Type of Instrument	T _o sec	T _g sec	Component
BRK	Benioff 100 kg (Z)	1.0	0.4	Z
	Benioff 100 kg (Z)	1.0	8.0	Z
	Wood-Anderson torsion	0.8	-	S,W
	100X torsion	0.8	-	N,W
BKS	Benioff 100 kg	1.0	0.75	N,E,Z
	Sprengnether	30	100	N,E,Z
BRX	Galitzin-Wilip moving coil	12	12	N,E,Z
	Press-Ewing moving coil	30	90	N,E,Z
MHC	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	S,E
PAC	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	N,E
SFB	Lehner-Griffith moving coil	1.2	0.3	Z
	Wood-Anderson torsion	0.8	-	S,W
FER	Bosch-Omori 25 kg	12	-	S,W
FRE	Sprengnether moving coil	2.0	2.0	N,E,Z
MIN	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	S,E
ARC	Marion-Slichter moving coil	1.1	0.2	Z
	Wood-Anderson torsion	0.8	-	N,E
REN	Sprengnether moving coil	2.0	2.0	N,E,Z
SHS	Benioff 50 kg moving coil	1.5	0.45	N,E,Z
COR	Slichter	1.0	-	N,E,Z
	Wilson-Lamison	1.0	1½	Z
MLC	Loucks-Omori	3½	-	S,E
VIN	Benioff 100 kg (Z)	1.0	0.2	Z
	Wood-Anderson torsion	0.8	-	S,W
VIT ^Δ	Benioff 14 kg (Z)	1.0	2.0	Z
CNC ^Δ	Benioff 100 kg (Z)	1.0	0.2	Z
SCC ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
PRS ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
LLA ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
CLS ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
PRC ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
PRI ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z

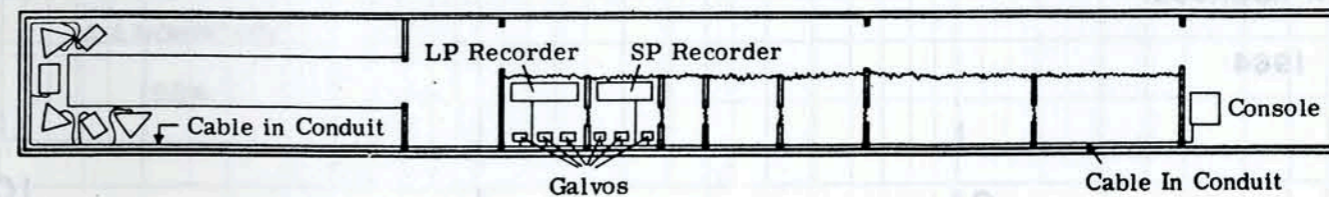
△ Signals from these eight stations are transmitted via leased telephone lines to recorders at Berkeley.

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 through the tele-meter system are listed on the following pages. Absolute magnification may be obtained by use of calibration pulses recorded daily from each telemetered station.



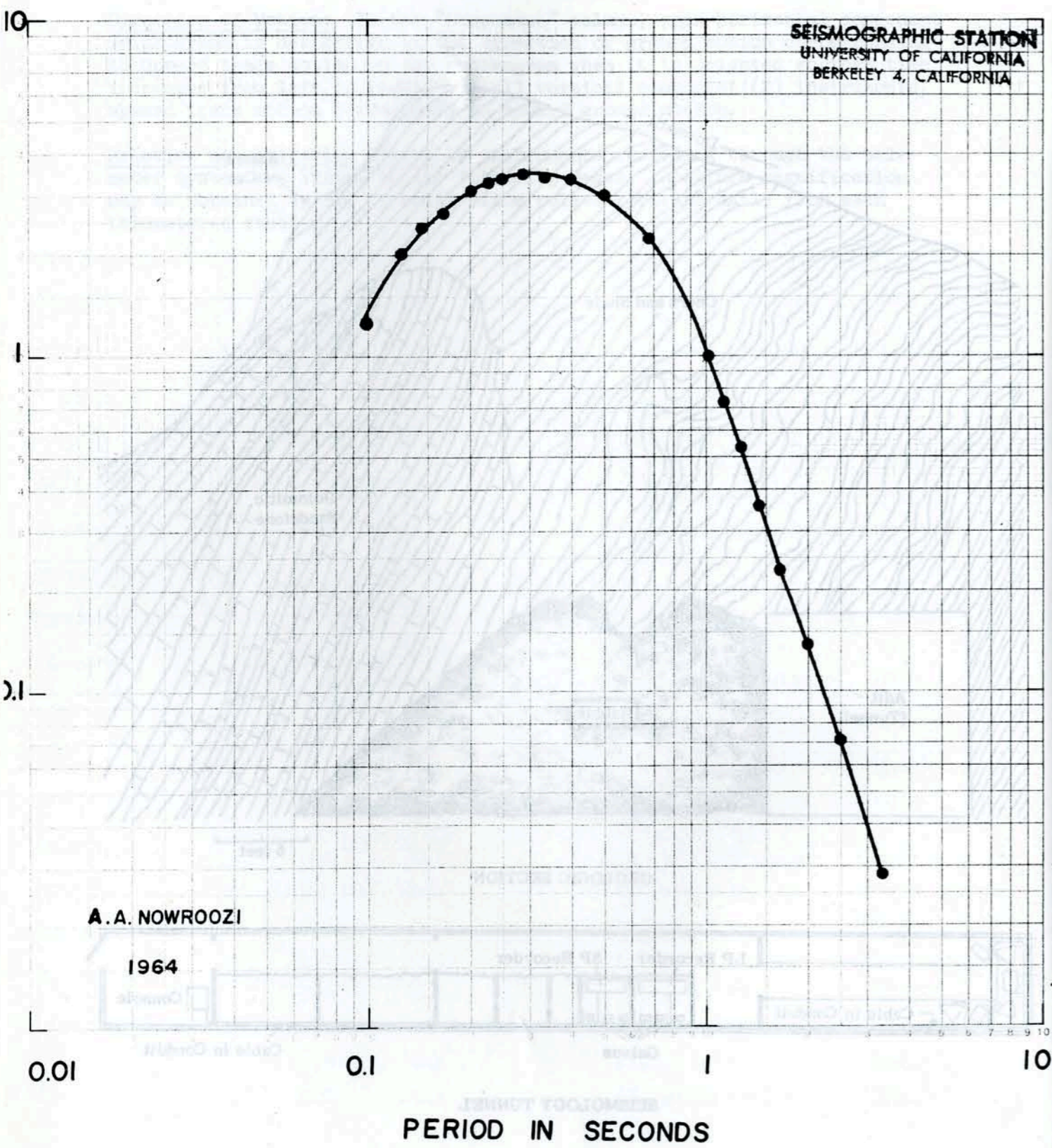
GEOLOGIC SECTION



SEISMOLOGY TUNNEL

RESPONSE OF SEISMOMETER-DEVELOCORDER SYSTEM. 100KG. Z. S.P

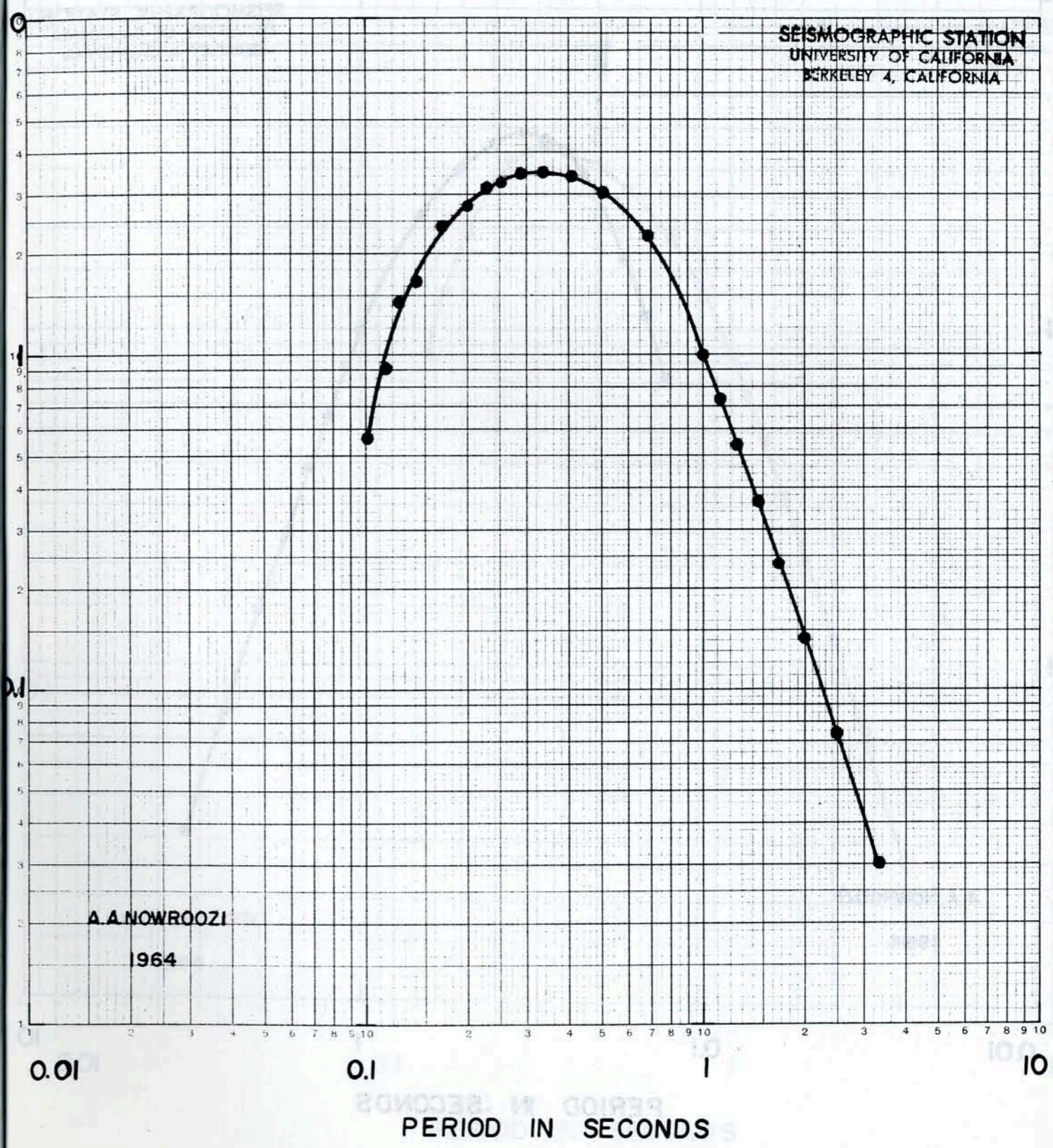
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UNIVERSITY OF CALIFORNIA
BERKELEY 4, CALIFORNIA



A. A. NOWROOZI
1964

RESPONSE OF SEISMOMETER-HELICORDER SYSTEM. 100KG. Z. S.P

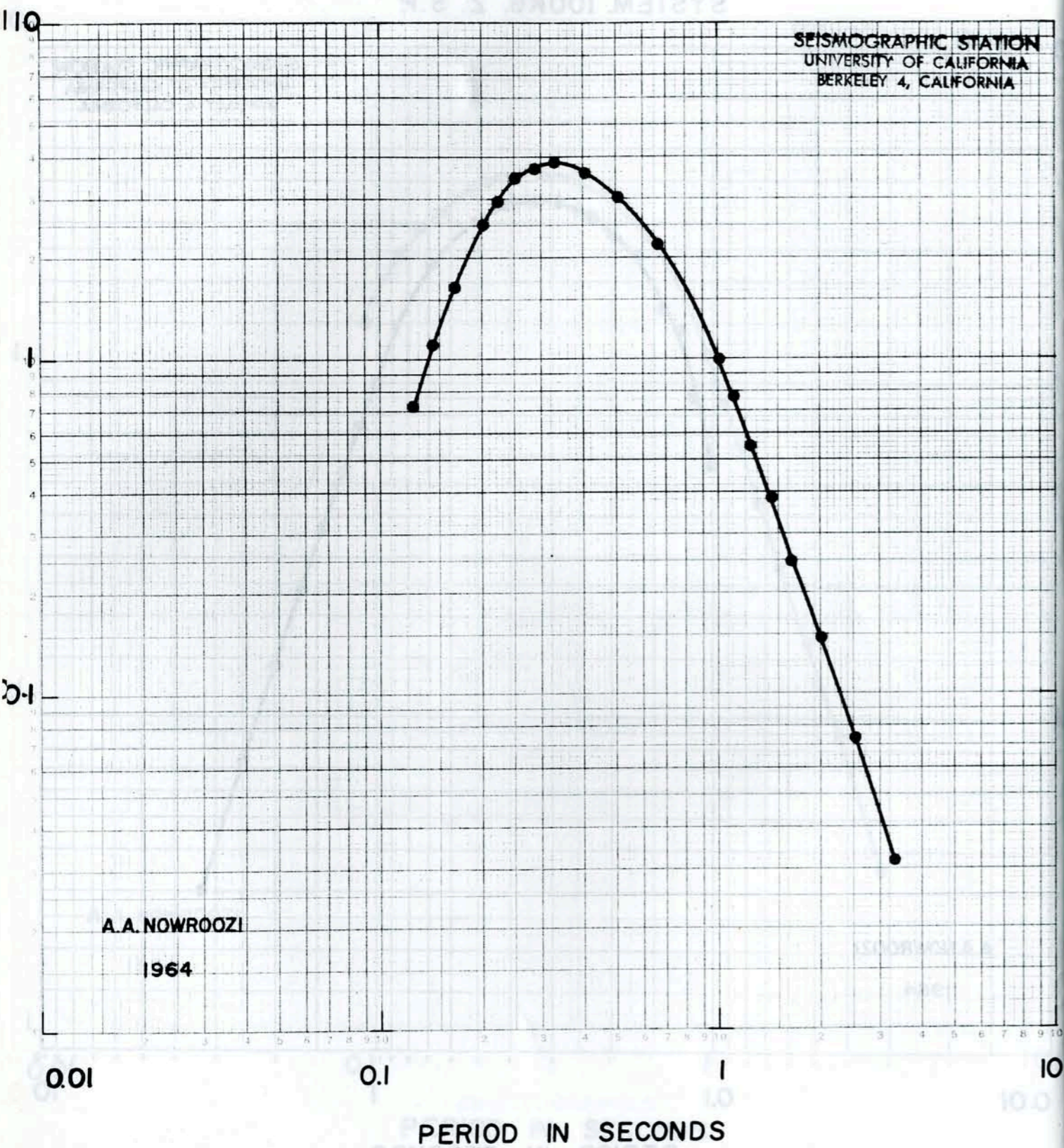
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A. A. NOWROOZI
1964

RESPONSE OF SEISMOMETER—HELICORDER SYSTEM. 14.7 KG. Z. S.P

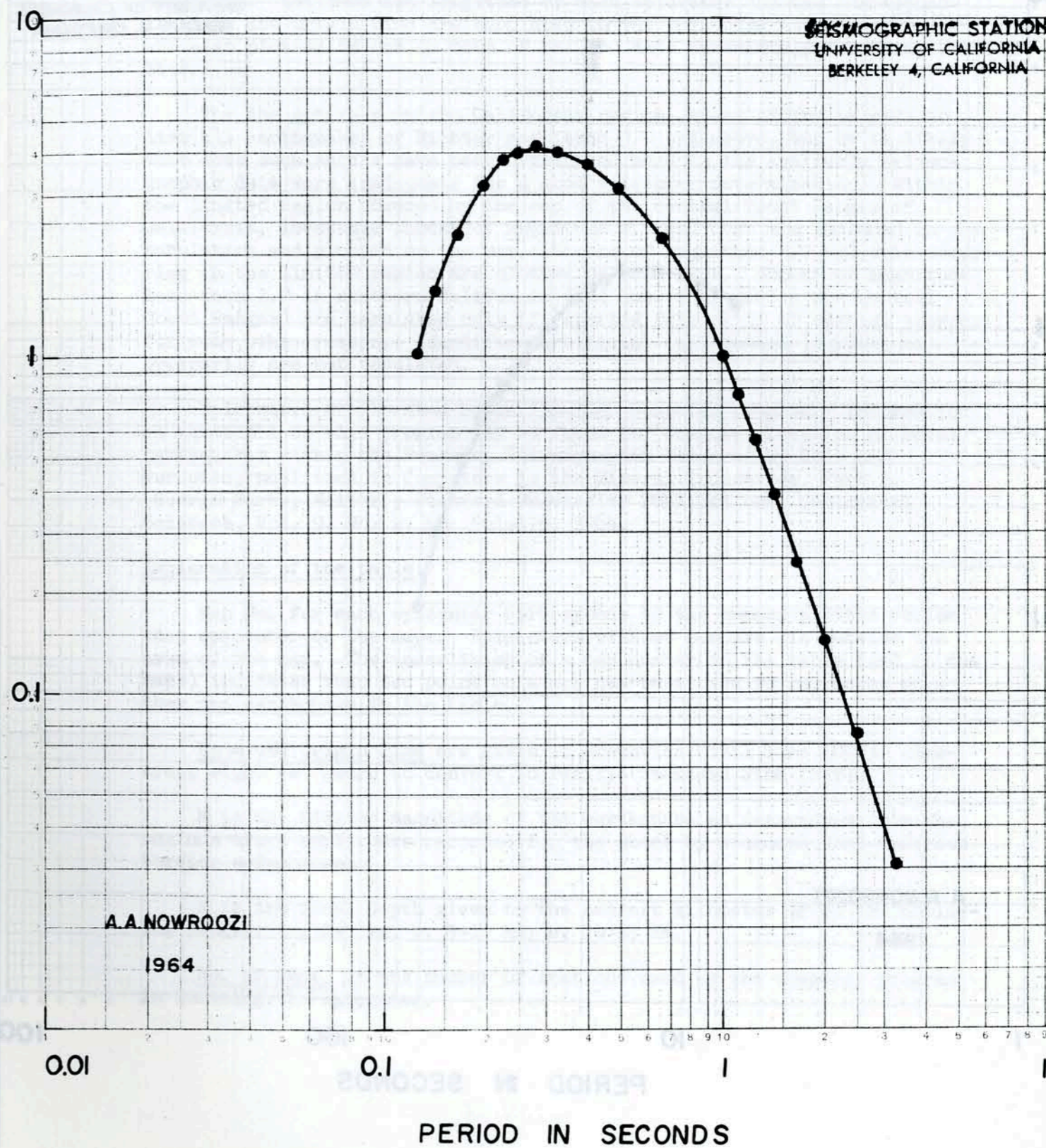
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1964

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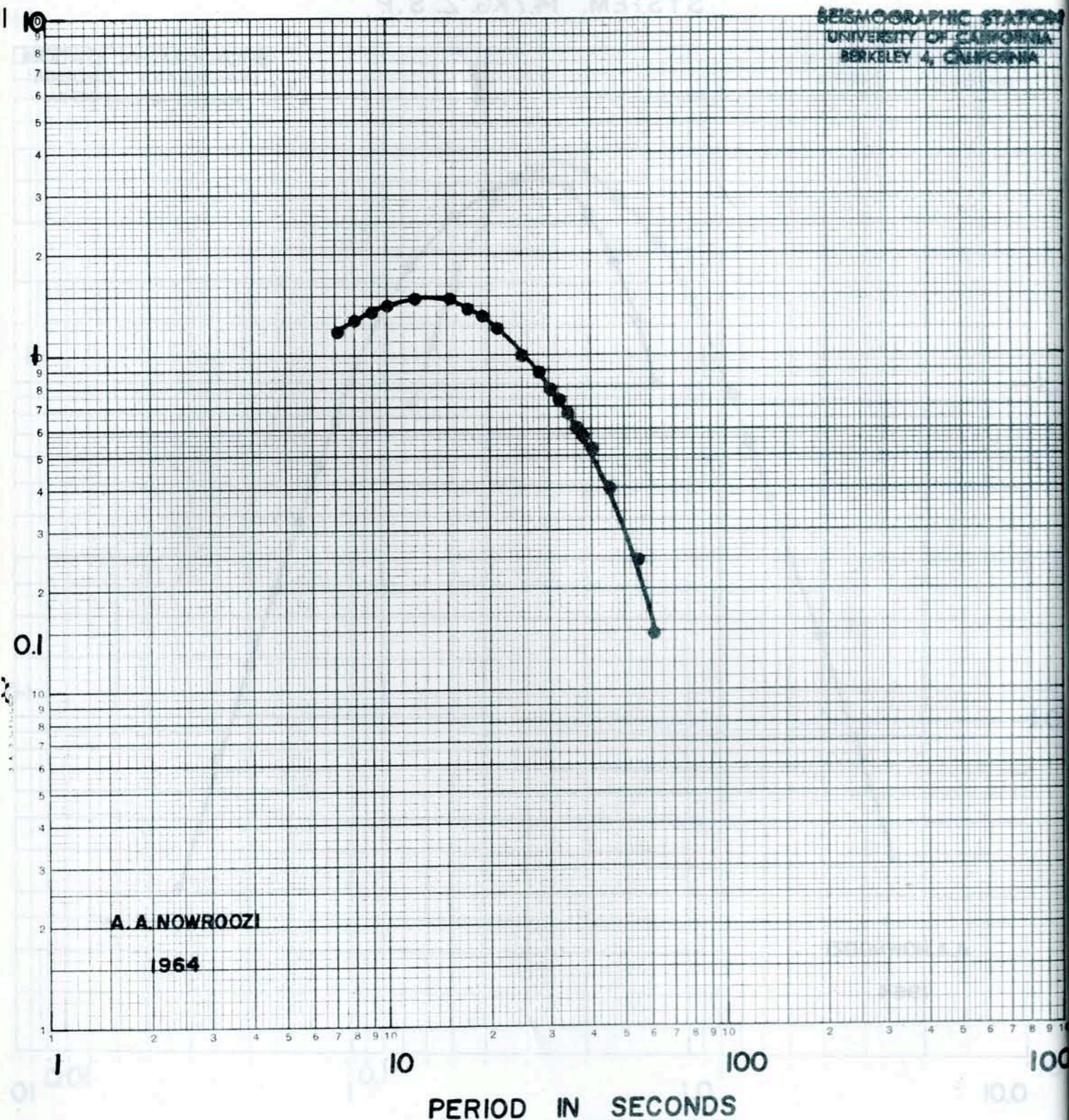
A.A. NOWROOZI
1964

RESPONSE OF SEISMOMETER - HELICORDER

SYSTEM. PRESS-EWING.

Z. T.G=30S., T.S=15S.

SEISMOGRAPHIC STATION
UNIVERSITY OF CALIFORNIA
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PART I. LOCAL EARTHQUAKES IN NORTHERN CALIFORNIA, NEVADA, AND OREGON

This section includes information on earthquakes in northern California (including adjacent offshore areas) and in adjoining sections of Nevada and Oregon which were well enough recorded to permit a determination of the epicenter. Latitude and longitude of each epicenter and the corresponding date and origin time are tabulated in the following list; epicenters are also plotted on one or both of the two maps immediately following the list.

For the entire northern California region, every effort is made to list all earthquakes of Richter magnitude 3.0 and above, but it is likely that some such shocks have been overlooked because the available seismographic data were inadequate for a good epicenter determination. Within the limited region covered by the map of the central Coast Ranges of California, locatable shocks of magnitude 2.0 and over are included in the tabulation and plotted on the map. Shocks of magnitude 3.0 and over occurring in the limited region are plotted on both maps. Shocks of magnitude less than 3.0 in northern California (and less than 2.0 in the central Coast Ranges) are tabulated only if reported felt or if of special interest for some other reason. Identified artificial earthquakes (explosions) ordinarily are not tabulated.

Epicenters are located by an IBM 7090 computer program. Information on Version I of this program may be found in "Computer Location of Local Earthquakes within the Berkeley Seismographic Network" by Bolt and Turcotte, published in Computers in the Mineral Industries, Part 2, (George Parks, Editor); Stanford University Publications, Geological Sciences, Vol. 9, No. 2, pp. 561-576, 1964.

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 (and on the maps) 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 Greenwich Civil Time (GCT). Subtract eight (8) hours to convert to Pacific Standard Time (PST).

M is the Richter magnitude of the earthquake as determined from the maximum trace amplitudes recorded for the shock by standard Wood-Anderson torsion seismographs.

h is the focal depth given to the nearest kilometer or by the following ranges: a, 0-5 km; b, 5-10 km; c, 10-15 km.

No. of Stas. is the number of stations used by the computer program in locating the epicenter.

RESPONSE OF SEISMOGRAPH - HELICORDER

The quality of the solution is partially reflected by the listed number of stations. Excellent locations are given to the nearest minute of arc in latitude and longitude and to the tenth of a second origin time. Focal depths are listed in kilometers. Poorer quality locations are given to the tenth of a degree in latitude and longitude and to the nearest second in origin time.

Under Remarks will be found a short descriptive location of the epicenter, usually relative to a point named on the map. Information on small foreshocks and aftershocks is sometimes included under Remarks, but when numerous foreshocks or aftershocks accompany a large earthquake, a separate tabulation may be included following the main list of local shocks.

Information on maximum intensities of shocks reported felt is also included under Remarks. Reports on felt earthquakes may be obtained from the Seismological Field Survey of the U.S. Coast and Geodetic Survey, which publishes a more complete summary in "Abstracts of Earthquake Reports for the Pacific Coast and Western Mountain Region." This regular quarterly publication may be obtained from the District Officer, San Francisco District, Coast and Geodetic Survey, 121 Customhouse, San Francisco 26, California, or from the Director, U.S. Coast and Geodetic Survey, Washington 25, D.C. Intensities given in Roman numerals are assigned by the Coast and Geodetic Survey and based on the Modified Mercalli Intensity Scale of 1931.

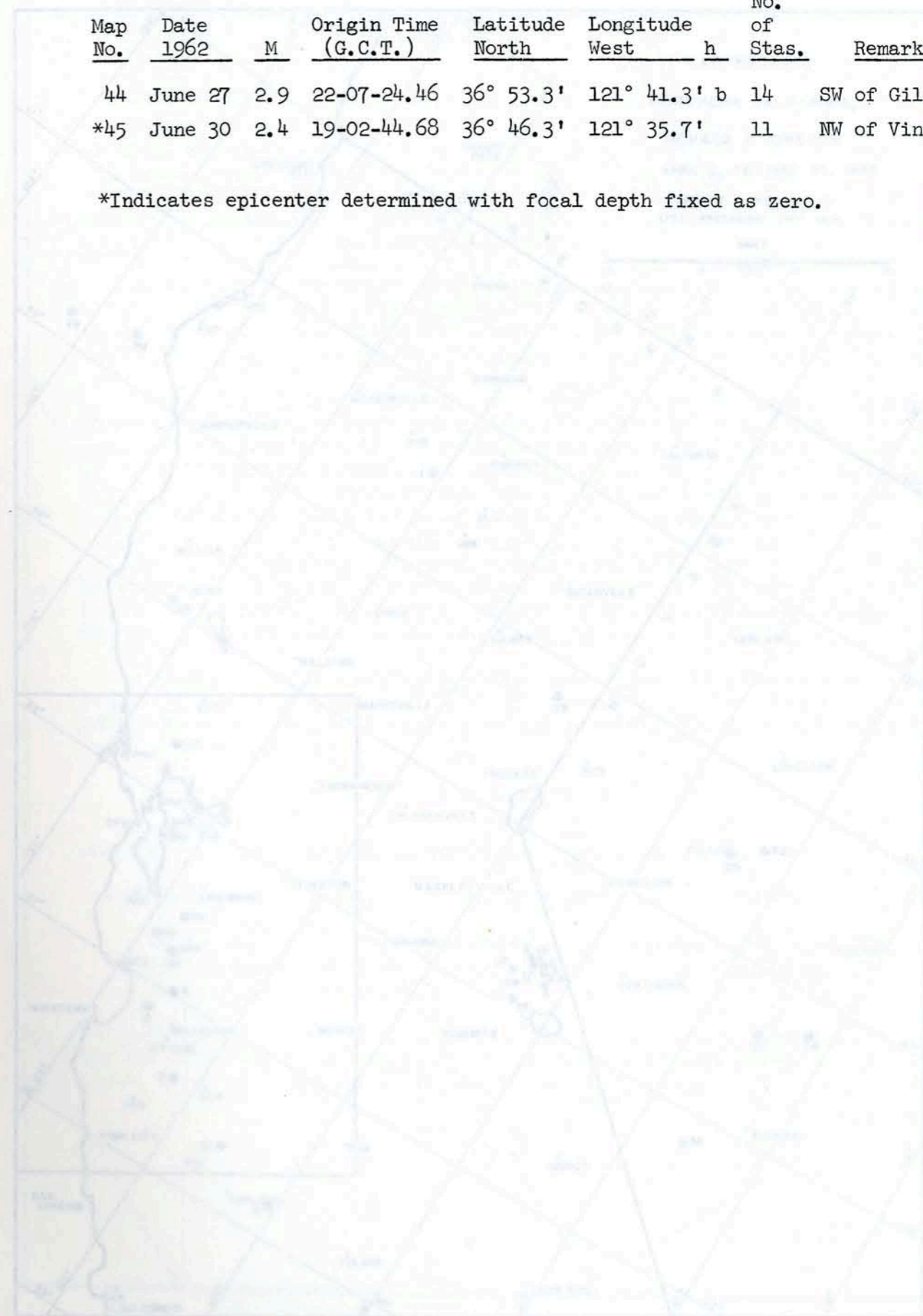
EARTHQUAKES IN NORTHERN CALIFORNIA, NEVADA, AND OREGON

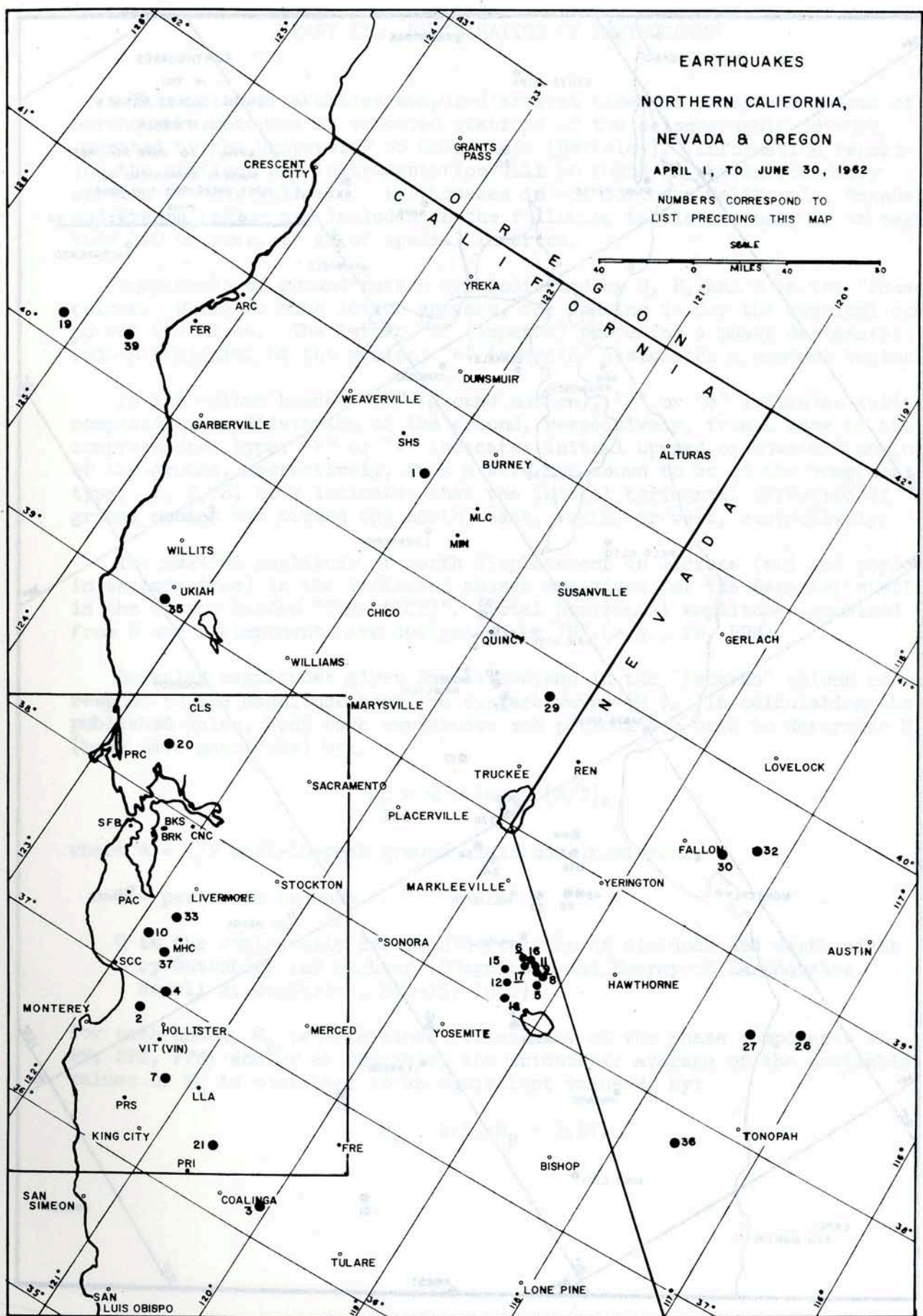
Map No.	Date 1962	M	Origin Time (G.C.T.)	Latitude North	Longitude West	No. of Stas.	Remarks
* 1	Apr. 1	3.0	00-52-02	40° 35'	122° 04'	4	S of Shasta.
2	Apr. 1	3.0	10-40-43.61	36° 51.7'	121° 39.8'	a 16	W of Hollister.
3	Apr. 2	3.7	03-06-03.16	36° 15.4'	120° 05.9'	a 16	E of Coalinga. Felt V (Tehachapi).
4	Apr. 2	3.5	16-41-57.28	37° 00.9'	121° 32.9'	b 20	N of Hollister. Felt IV (Gilroy).
5	Apr. 4	3.5	17-00-29.1	38° 16'	119° 10.1'	c 19	NE of Yosemite. Felt.
* 6	Apr. 4	3.5	21-47-55.4	38° 21.5'	119° 22.7'	16	SE of Markleeville. Felt.
7	Apr. 5	3.0	11-16-59.27	36° 35.9'	121° 13.0'	a 18	NE of Paraiso.
* 8	Apr. 5	4.1	21-27-51.58	38° 18.5'	119° 09.9'	19	NE of Yosemite. Felt IV (Bridgeport).
9	Apr. 5	3.6	22-01-44.3	38° 17.0'	119° 09.5'	c 17	NE of Yosemite. Felt.
10	Apr. 7	3.5	07-19-37.51	37° 17.0'	121° 54.5'	9 20	W of Mt. Hamilton. Felt IV (Aptos).
*11	Apr. 7	3.5	14-52-38.5	38° 20.0'	119° 16.0'	21	NE of Yosemite.
12	Apr. 7	3.0	15-03-10.17	38° 09.3'	119° 23.9'	c 9	NE of Yosemite.
*13	Apr. 7	2.7	23-00-29.87	36° 41.6'	121° 02.1'	9	NW of Llanada.
*11	Apr. 8	3.9	01-07-14.77	38° 18.7'	119° 14.2'	20	NE of Yosemite. Felt.
*14	Apr. 12	2.6	19-03-49.21	36° 49.9'	121° 39.1'	14	W of Hollister.
15	Apr. 13	5.1	15-38-51.94	38° 13.3'	119° 27.3'	6 21	NE of Yosemite. Felt V (Bridgeport).
16	Apr. 13	3.0	16-12-14.57	38° 21.3'	119° 18.8'	c 17	NE of Yosemite.
* 6	Apr. 13	3.5	16-31-30.18	38° 17.4'	119° 25.0'	17	NE of Yosemite.
*17	Apr. 13	3.8	16-40-00.23	38° 19.1'	119° 18.4'	20	NE of Yosemite.
* 2	Apr. 13	4.2	20-21-03.9	38° 20.7'	119° 10.4'	19	NE of Yosemite. Felt.
18	Apr. 13	3.0	18-45-56.55	38° 04.4'	119° 20.10'	c 9	NE of Yosemite.
*17	Apr. 13	3.6	19-17-39.71	38° 18.9'	119° 20.10'	16	NE of Yosemite.
*19	Apr. 14	5.4	07-53-14.72	40° 16.1'	125° 18.6'	23	Off Cape Mendocino.
20	Apr. 14	3.0	19-37-37.05	38° 20.7'	122° 35.7'	13 12	S of Calistoga.

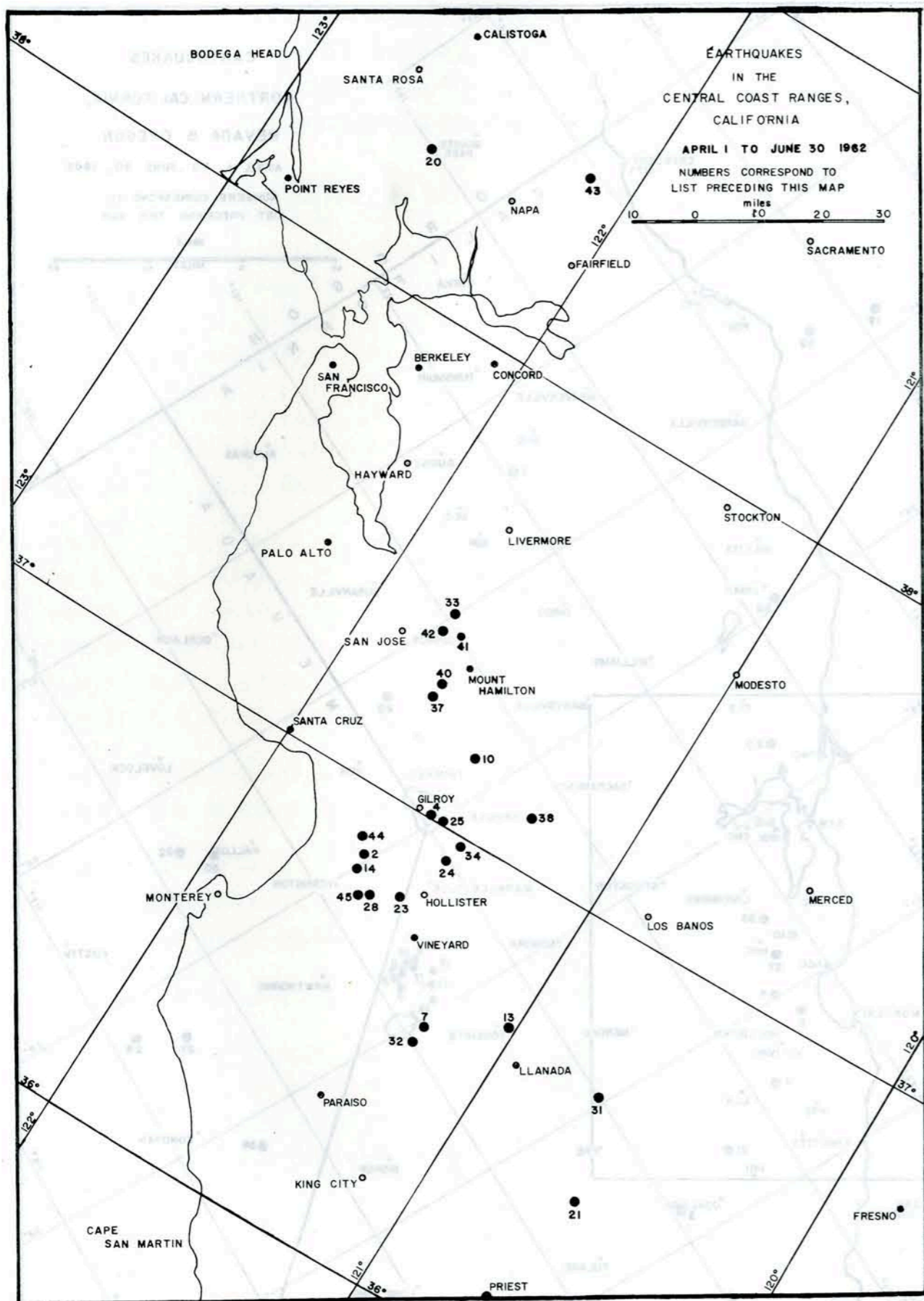
Map No.	Date 1962	M	Origin Time (G.C.T.)	Latitude North	Longitude West	h	No. of Stas.	Remarks
* 9	Apr. 15	3.0	05-01-34.68	38° 21.7'	119° 09.9'		15	NE of Yosemite.
21	Apr. 15	4.7	08-41-02.32	36° 24.9'	120° 37.0'	21	23	SE of Llanada. Felt V (Idria).
*22	Apr. 17	4.3	12-19-13.85	39° 39.2'	118° 14.7'		19	NE of Fallon.
*17	Apr. 22	3.0	12-38-10.89	38° 21.3'	119° 19.7'		14	NE of Yosemite.
23	Apr. 22	2.7	21-02-19.11	36° 49.9'	121° 29.3'	c	15	SW of Hollister.
24	Apr. 23	2.8	22-00-51.96	36° 56.4'	121° 26.9'	b	14	N of Hollister.
25	Apr. 24	2.3	16-18-07.22	37° 00.1'	121° 29.8'	b	14	E of Gilroy.
*26	Apr. 25	4.6	08-48-49.05	38° 47.6'	117° 10.8'		19	NE of Tonopah. Felt V (Lunig).
*27	Apr. 26	3.5	01-31-09.98	38° 38.9'	117° 30.6'		12	NW of Tonopah.
28	Apr. 29	2.7	20-11-54.63	36° 46.9'	121° 35.8'	7	18	NW of Vineyard.
*29	Apr. 29	3.8	20-37-26.97	39° 47.7'	120° 17.2'		14	NW of Reno. Felt IV (Portola).
*30	May 2	3.7	08-01-02.3	39° 30.6'	118° 27.3'		16	E of Fallon.
31	May 9	2.7	18-59-18.79	36° 39.1'	120° 42.4'	a	16	E of Llanada.
32	May 21	2.4	22-48-00.19	36° 33.5'	121° 14.3'	c	10	NE of Paraiso.
33	June 2	3.1	03-57-16.2	37° 26.4'	121° 48.8'	b	19	NW of Mt. Hamilton.
*34	June 3	2.4	03-28-55.51	36° 58.0'	121° 25.9'		12	N of Hollister.
35	June 6	5.2	17-50-06.21	39° 04.1'	123° 18.6'	5	20	S of Ukiah. Felt VII (Lakeport).
*36	June 6	3.7	19-46-02.86	37° 45.7'	117° 38.5'		11	SW of Tonopah.
37	June 7	3.8	04-20-58.89	37° 15.7'	121° 43.4'	b	18	SW of Mt. Hamilton. (Felt IV (Daly City)).
*38	June 7	2.8	16-40-25.07	37° 07.5'	121° 18.8'		5	NE of Gilroy.
*17	June 8	4.2	06-28-04.19	38° 19.5'	119° 18.10'		20	NE of Yosemite.
* 9	June 8	3.6	08-34-48.64	38° 19.4'	119° 11.0'		18	NE of Yosemite. Felt IV (Bridgeport).
*39	June 10	3.8	12-36-28.04	40° 18.7'	124° 37.6'		21	Off Cape Mendocino. Felt V.
*40	June 11	2.8	08-10-20.5	37° 16.0'	121° 43.0'		14	SW of Mt. Hamilton.
41	June 17	2.6	04-57-27.64	37° 23.9'	121° 44.9'	10	15	NW of Mt. Hamilton.
42	June 23	2.3	08-19-36.21	37° 23.8'	121° 48.5'	a	14	NW of Mt. Hamilton.
*43	June 24	2.7	15-03-50.08	38° 28.4'	122° 09.7'		7	NW of Fairfield.

Map No.	Date 1962	M	Origin Time (G.C.T.)	Latitude North	Longitude West	h	No. of Stas.	Remarks
44	June 27	2.9	22-07-24.46	36° 53.3'	121° 41.3'	b	14	SW of Gilroy.
*45	June 30	2.4	19-02-44.68	36° 46.3'	121° 35.7'		11	NW of Vineyard.

*Indicates epicenter determined with focal depth fixed as zero.







PART II. REGISTRATION OF EARTHQUAKES

This section tabulates measured arrival times of prominent phases of earthquakes recorded at selected stations of the seismographic network operated by the University of California (Berkeley). Information regarding the stations and instrumentation will be found in the introductory section of this Bulletin. Earthquakes in the northern California, Nevada, and Oregon region are included in the following tabulation only if of magnitude 4.0 or over, or if of special interest.

Components of ground motion are indicated by N, E, and Z in the "Phase" column. Where no such letter appears, the reading is for the vertical component (Z) alone. The letter "i" (impetus) preceding a phase designates sudden beginning of the motion; "e" (emersio) designates a gradual beginning.

In the column headed "GM" (ground motion), "c" or "d" indicates initial compression or dilatation of the ground, respectively, from a wave of the compressional type; "+" or "-" indicates initial upward or downward motion of the ground, respectively, from a wave not known to be of the compressional type. N, E, S, or W indicates that the initial horizontal direction of ground motion was toward the north, east, south, or west, respectively.

The maximum amplitude of earth displacement in microns (μ) and periods in seconds (sec) in the indicated phases are given for the Berkeley station in the column headed "Time (GCT)". Total horizontal amplitudes combined from N and E components are designated by "H" (e.g., PH, PPH).

Berkeley magnitudes given for teleseisms in the "Remarks" column correspond to the magnitude based on surface waves (M_S). In calculating the published value, body wave amplitudes and periods are used to determine M_B (body wave magnitude) by:

$$M_B = Q + \log_{10} (A/T),$$

where $A = 1/2$ peak-to-peak ground amplitude in microns,

$T =$ period in seconds

Q is the empirically determined function of distance and depth given by Gutenberg and Richter ("Magnitude and Energy of Earthquakes," *Annali di Geofisica*, 9:1-15, 1956).

For each shock, M_B is determined for as many of the phase components PZ, PH, PPZ, PPH, and SH as possible; the arithmetic average of the available values of M_B is converted to an equivalent value M_S by:

$$M_S = 1.59 M_B - 3.97.$$

This value is compared with the value of M_s determined directly from surface waves of period near 20 sec.; the published value of magnitude then represents a weighted average of all the available values of M_s based on body and surface waves.

Frequently quoted sources of information regarding epicenters, origin times, or shock magnitudes are as follows:

USCGS - U.S. Coast and Geodetic Survey, Washington, D.C.

BCIS - Bureau Central International de Seismologie

PAS - Seismological Laboratory, Pasadena, California.

All measurement 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. Readings from the remaining stations in the network other than the six listed (BRK, CLS, MHC, MIN, PRI, REN) are available on request. Requests for additional data or for copies of seismograms should be addressed to the Director.

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
April 1	BKS	e(P)	05 13 12	c	USCGS: 41.9°N, 143.4°E, 0 = 05-01-56.0. Near south coast of Hokkaido, Japan. h about 55 km.
	MHC	iP	14.9	c	
	MIN	eP	12 51.1	d	
	CLS	iP	13 04.4	d	
	PRI	eP	21.1	c	
	REN	eP	05.1	c	
April 1	MIN	eP	09 36 02.3	c	USCGS: 81.5°N, 119.5°E, 0 = 09 26 35.6 North Polar region. h about 25 km.
	CLS	eP	14	c	
	REN	e(P)	18.0	c	
April 1	BKS	eP	12 06 47	c	USCGS: 53.4°N, 164.5°W, 0 = 12 00 04.1. Fox Islands, Aleutian Islands. h about 36 km.
	MIN	eP	28.7	c	
	CLS	eP	35.0	d	
April 1	BKS	eP	24 30	c	USCGS: 4.2°S, 143.6°E, 0 = 12-11-09.2. Near north coast of New Guinea. Felt. h about 80 km.
		e(S)NE	35.6		
		eGN	49.1		
		eREZ	54.8		
		mu	sec		
		MaxZ(PE)	2.9 24		
	MaxH(NPE)	3.0 24			
April 1	MHC	eP	12 24 40.9	c	USCGS: 63.1°N, 152.3°W, 0 = 12 11 51.0. Central Alaska. h about 100 km.
	MIN	eP	32.3	c	
	CLS	iP	34.1	d	
	PRI	eP	34	d	
	MHC	iP	18 09.9	c	
	MIN	iP	17 45.8	c	
April 1	BKS	iP	15 49 45.7	c	USCGS: 17.9°S, 167.2°E, 0 = 15 37 02.5. New Hebrides Islands. Felt. h about 80 km.
	MHC	iP	45.9	d	
	REN	eP	56.2	d	
April 2	BKS	eP	00 26 40.0	d	USCGS: 18.6°N, 145.5°E, 0 = 00 14 50.4. Mariana Islands. h about 205 km.
		eSNZ	36 31	Sd	
	MHC	iP	26 46.2	c	
		ipP	27 31.5	d	
	MIN	eP	26 40.2	c	
	CLS	iP	39.5	d	
April 3	PRI	eP	52.5	c	USCGS: 9.6°S, 74.7°W, 0 = 01 21 34.8. Peru. h about 125 km.
	REN	iP	48.5	c	
	MHC	iP	01 32 59.2	d	
	MIN	eP	09.1	d	
	BKS	iP	16 37 22.3	c	
		eLNEZ	59.1	NEc	
April 3	BKS	iP	16 37 22.3	c	USCGS: 10.6°S, 164.9°E, 0 = 16 24 55.6. Santa Cruz Islands region. h about 36 km. Magnitude 5 1/2 (PAL)
		eREZ	17 02.8	Wc	
		R from SW			
	MHC	iP	16 37 23.2	d	
	MIN	iP	24.6	d	
	PRI	eP	25	d	
April 4	REN	eP	34.7	d	USCGS: 8.0°N, 83.0°W, 0 = 14 02 32.2. Near south coasts of Panama and Costa Rica. h about 23 km.
	BKS	iP	14 10 51.0	d	
		eSEZ	17 45	Ed	
		eGNE	22.1	NW	
		eR	24.9	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
April 4 (Cont.)			R from SW		USCGS: 53.7°N, 163.6°W, 0 = 03 40 08.9. Unimak Island. h about 65 km. USCGS: 37°02'40"N, 116°01'25" W. Nevada Test Site. Dormous E. Shot elevation 963.4 meters (AEC).
	MHC	iP	14 10 57.9	d	
	MIN	eP	11 06.4	c	
	CLS	eP	10 54.9	d	
	PRI	eP	49.2	c	
April 5	MIN	eP	03 46 26.8	c	
April 5	PRI	iP	18 01 01.7	c	USCGS: 26.7°S, 113.2°W, 0 = 16 50 14.2. Easter Island region. h about 33 km.
	BKS	e	35.4	c	
	CLS	e(P)	25.3	c	
	MIN	eP	24.8	d	
	MHC	iP	18 01 12.7	d	
	BKS	eP	09 48.0	d	
April 5	MHC	iP	57.3	c	USCGS: 37°07'04"N, 116°02'38"W. Nevada Test Site. PASSAIC. Shot elevation 1036.0 meters (AEC).
	MIN	eP	03.8	c	
	CLS	eP	10 16.0	c	
	PRI	eP	09 49.7	c	
	REN	iP	48.9	c	
	MHC	iP	17 00 51.6	c	
April 6	MIN	eP	01 09	c	USCGS: 10.0°N, 144.4°E, 0 = 06 21 38.4. Mariana Islands region. h about 50 km. Magnitude 6.0.
	CLS	eP	00 59.6	c	
	PRI	eP	42.8	c	
	REN	eP	01 03.8	c	
	BKS	i(P)	18 01 29.2	c	
	MHC	iP	11.3	c	
April 6	MIN	eP	24.0	d	USCGS: 18.7°S, 168.7°E, 0 = 08 04 20.6. New Hebrides Islands. Felt. h about 23 km.
	CLS	eP	23.6	c	
	PRI	eP	02.2	d	
	REN	i(P)	10.6	c	
		i(S)E	54.2		
	BKS	iP	06 34 19.5	d	
April 7		eSEZ	44.8		USCGS: 15.2°S, 177.6°W, 0 = 10 32 28.1. Fiji Islands. h about 446 km. USCGS: 35.1°S, 70.8°W, 0 = 13 00 26.3. Central Chile. h about 108 km. USCGS: 15.0°N, 60.5°W, 0 = 23 04 12.2. Windward Islands. h about 77 km.
		eGNE	56.9		
		eREZ	07 00.9	dW	
		R from W			
	MHC	iP	06 34 22.5	d	
	MIN	eP	19.3	d	
April 7	CLS	eP	17.6	d	USCGS: 15.2°S, 177.6°W, 0 = 10 32 28.1. Fiji Islands. h about 446 km.
	PRI	eP	27.7	d	
	REN	eP	27.4	d	
	MHC	iP	08 16 58.1	c	
	MIN	eP	17 07	d	
	MIN	iP	10 43 33.1	c	
April 7	MIN	e	13 13 09.7	d	
	BKS	eP	23 14 05	c	
April 7	MHC	iP	03.2	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
April 7 (Cont.)	MIN	eP	12.5	c	
	CLS	eP	07.3	c	
	PRI	eP	13 55	d	
April 8	REN	eP	14 03.0		
	BKS	eP	21 56 34	N	USCGS: 15.6°N, 99.6°W, 0 = 21 50 28.9.
		eSNZ	22 01 40	SU	Off coast of Mexico.
		eGN	03 34	N	h about 48 km.
		eRNEZ	05.1		
			R from SW		
April 9	MHC	eP	21 56 29.7	c	
	CLS	eP	50.7	c	
	PRI	eP	21	c	
	REN	e(P)	25.6		
	MHC	iP	04 26 08.9	d	USCGS: 18.6°N, 145.5°E, 0 = 04 14 23.0.
	MIN	eP	13.2	c	Mariana Islands. h about 200 km.
	CLS	eP	17	c	
April 10	PRI	e(P)	25.5	d	
	REN	eP	22.8		
	BKS	iP	48 39.6	c	USCGS: 28.6°S, 68.8°W, 0 = 04 36 27.5.
		isP	49 25.1	c	Chile-Argentina border.
		epPP	52.4		h about 130 km.
		eSNEZ	58.8		
		MHC	eP	48 34.6	c
April 10	MIN	eP	45	c	
	CLS	eP	43.1	c	
	PRI	eP	29.5		
	REN	iP	39.6		
	MIN	iP	10 41 29.7	c	USCGS: 51.1°N, 157.7°E, 0 = 10 31 58.5.
April 10	REN	eP	40.9	d	Near south coast of Kamchatka.
					h about 33 km.
April 10	MIN	iP	17 18 21.5	d	USCGS: 16.7°S, 175.5°W, 0 = 17 07 11.9.
	REN	eP	25.0		Fiji Islands. h about 383 km.
April 10	BKS	iP	20 34 57.9	d	USCGS: 49.1°N, 128.5°W, 0 = 20 32 19.4.
	MHC	eP	35 43		Vancouver Island region.
	MIN	iP	34 45.1	c	h about 25 km.
	CLS	eP	35 00.4	c	
	PRI	eP	30.2	d	
April 10	BKS	eP	21 50 42	c	USCGS: 37.9°N, 20.1°E, 0 = 21 37 12.6.
		eLNZ	22 23.5	S.d	Ionian Sea. Felt.
			R from SE		h about 35 km.
April 11	MHC	iP	21 51 06.0	c	Magnitude 5 - 5 1/4. (PAL)
	MIN	eP	50 32.3	c	
	REN	eP	33.9		
	MIN	eP	11 00 51.6	c	USCGS: 38.2°N, 20.0°E, 0 = 10 47 34.0.
April 11	BKS	iP	23 29 59.9	d	USCGS: 0.2°S, 91.5°W, 0 = 23 21 26.3.
	MHC	iP	54.7	d	Galapagos Islands. h about 25 km.
	MIN	eP	30 09.8	d	Magnitude 7 - 7 1/4.
	CLS	eP	05.7	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
April 11 (Cont.)	PRI	eP	29 43.8	c	
	REN	eP	30 00.8		
April 12	BKS	iP	01 04 01.7	d	USCGS: 38.1°N, 142.3°E, 0 = 00 52 44.8
		ipP	13.3	c	Near east coast of Honshu, Japan.
		iPP	06 44.4	c	Felt. h about 48 km.
		iPPP	08 38		Magnitude 7 - 7 1/4.
		eSNE	13 10	NE	Magnitude 6.8 to 6.9.
		eLgNEZ	21.6	NEd	
		eLrNE	25.9		
			R from NW		
			mu sec		
		PZ	PZ	20 8.2	
April 12		PH	20 4.6		
		PPZ	20 2.5		
		PPH	22 9.6		
		SH	30 75		
		MaxZ	23 77		
		MaxH	22 111		
		MHC	iP	01 04 06	c
		MIN	eP	03 56.0	c
		CLS	eP	58.6	c
		PRI	eP	04 15.6	
April 12	REN	eP	04.1		
		i(pP)	17.2		
	MHC	eP	05 27 29.8	d	USCGS: 38.2°N, 142.5°E,
	MIN	eP	16.2	c	0 = 05 16 05.0. Near east coast
	CLS	eP	18.5	c	of Honshu, Japan. h about 26 km.
April 12	PRI	eP	43.8	c	
	REN	e	40		
	BKS	iP	16 48 23.8	d	USCGS: 28.7°S, 71.9°W, 0 = 16 36 08.4.
	MIN	e	29.8	c	Near coast of northern Chile.
	CLS	eP	26.8	c	h about 34 km.
April 13	PRI	eP	12.4	c	
	REN	eP	23.0		
	LLA	eP	15 39 25.0	c	USCGS: 38.3°N, 119.3°W, 0 = 15 38 51.0.
	CNC	iP	25.8	c	Mono County, California.
	VIT	iP	27.6	c	Felt. Magnitude 4.9.
	BRK	iP	27.9	c	h about 33 km.
		e(S)	58.7		
	PRI	e(P)	29.6	(c)	Magnitude 5.1.
	PRC	iP	34.0	c	
	SCC	eP	29.7	c	
April 13	CLS	iP	30.9	c	
	MHC	iP	24.5	c	
	MIN	eP	15 39 35.7		
		iSNE	40 11.4		
	SHS	eP	39 42.4		
	FER	eE	41 12		
	PAC	iP	39 29.2	c	
	iSNE	40 02.6			

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
April 13 (Cont.)	USF	eP	39 30.6		
	REN	iP	11.5	d	
		i(S)E	31.1		
	FRE	iP	16.6	c	
	ARC	eP	40 01.0	d	
April 13	LIV	iP	39 23.7	d	
	COR	iP	40 37.0	c	
	BKS	iP	18 48 27.6	d	USCGS: 49.1°N, 87.2°E, 0 = 18 35 58.3. Sinkiang Province, China. h about 28 km.
	MHC	eP	57.8	d	
	CLS	eP	22.2	c	
April 14	PRI	eP	49 06.0	c	
	CLS	iP	07 53 57.6	d	USCGS: 40.3°N, 125.1°W, 0 = 07 53 15.7. Off coast of Northern California. h about 18 km. Magnitude 5.0.
	PRC	i(P)	54 00.0	d	
	BKS	eP	06.4		
	CNC	eP	09.3		
	SCC	eP	18.2		
	VIT	eP	25.8		
	PRS	eP	29.9		
	LLA	iP	30.5		
	MHC	eP	17.7	c	
	SHS	iP	53 52.0	c	
	MIN	iP	54 00.2	c	
	ARC	iP	53 34.3	d	
	PAC	eP	54 11.6	d	
	FRE	eP	41.2	c	
April 14	REN	iSN	55 47.7		
	COR	eP	54 21.3	c	
	LIV	iP	24.7	c	
	BKS	eP	16 08 37	d	
	CLS	eP	52.5	d	
April 14	MIN	eP	17 01 05.9	c	USCGS: 38.2°N, 142.5°E, 0 = 16 50 05.8. Near east coast of Honshu, Japan. h about 53 km.
April 14	BKS	i(P)	18 01 26.2	c	USCGS: 37°13'19"N, 116°09'27"W. Nevada Test Site. PLATTE. Shot elevation 1531.1 meters (AEC)
		eS	02 39.9		
	MHC	iP	01 09.5	d	
	MIN	eP	02 25.4	d	
	CLS	eP	01 22	c	
	PRI	eP	01.2	c	
	REN	eP	09.3		
April 15	MHC	iP	07 43 57.3	c	USCGS: 36.3°N, 140.8°E, 0 = 07 32 11.4. Honshu, Japan. Felt. h about 69 km.
	CLS	e(P)	49	c	
	PRI	eP	44 06	d	
	REN	e(P)	43 57.5		
April 15	BRK	iP	08 41 32.8	c	USCGS: 36.5°N, 120.7°W, 0 = 08 41 01.2. 0 = 08 41 01.2. San Benito County, California. Felt. Magnitude 4 1/4 - 4 1/2.
		iSNE	42 08.0		
	CNC	eP	41 32.3		
	CLS	eP	43.2		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
April 15 (Cont.)	PRC	eP	39.3			
	LLA	iP	08.5	c		
	PRS	iP	14.6	c		
	PRI	i(P)	08.7	d		
	LIV	iP	27.0	c		
	VIT	iP	15.8	c		
	MHC	iP	22.4	c		
	MIN	eP	42 03.5	c		
	PAC	iP	41 28.0	d		
		iSNE	55.2			
April 15	USF	eP	34.1	c		
	FRE	iP	12.0	d		
	REN	eP	53.1	d		
	ARC	eP	42 31.8	c		
	MHC	iP	22 49 55.1	d	USCGS: 56.6°S, 26.2°W, 0 = 22 31 06.2. Sandwich Islands. h about 25 km.	
	MIN	eP	59.0	d		
	April 16	BKS	iP	11 47 46.9	d	USCGS: 10.5°S, 161.6°E, 0 = 11 35 08.8 Solomon Islands. h about 53 km.
	MHC	eP	47.6	c		
	April 16	REN	e(P)	12 46 34.3		
	April 16	BKS	iP	13 31 52.6	d	USCGS: 30.6°N, 140.6°E, 0 = 13 20 15.1. South of Honshu, Japan. h about 176 km.
	eS	41.5				
	eGNE	52.0	SW			
	eR	54.6				
		R from NW				
	MHC	iP	13 31 56.7	d		
	MIN	iP	48.2	d		
	CLS	eP	49.3	d		
	PRI	eP	32 04.1	d		
	REN	iP	31 58.1	d		
April 17	MIN	eP	08 00 20.1	c	USCGS: 54.8°N, 160.7°E, 0 = 07 51 09.4. South of Honshu, Japan. h about 23 km.	
April 17	MIN	eP	10 16 44.7	d	USCGS: 42.3°N, 17.3°E, 0 = 10 03 46.9. Adriatic Sea. h about 25 km.	
April 17	BKS	iP	21 05 37.2	c	USCGS: 38.1°N, 142.5°E, 0 = 20 54 08.3. Near east coast of Honshu, Japan. h about 43 km.	
	REN	eP	37.1			
April 17	MHC	e	22 53 18.0		USCGS: 1.5°S, 14.9°W, 0 = 22 34 56.7. Mid Atlantic Ocean. h about 25 km.	
	REN	e	04.0			
April 18	BKS	iP	19 24 54.9	d	USCGS: 9.9°S, 78.9°W, 0 = 19 14 35.6. Near coast of Peru. 9 killed. h about 23 km.	
		iSNZ	33 22			
		mu	sec			
		PZ	10 6.5			
		SH	24 7.6			
		MaxZ	24 7.9			
		MaxH	23 19.5			
	MHC	iP	19 24 55.3	c		
	MIN	eP	25 06.7	c		
	CLS	eP	04.4	d		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
April 18 (Cont.)	PRI	eP	24 45.8	d		
	REN	eP	58.7			
		eS	34 28.2			
April 18	MHC	iP	23 48 24.8	d		
	CLS	eP	32.3	d		
	PRI	eP	16.5	c		
April 19	BKS	i	02 29 36.2		USCGS: 9.8°S, 78.9°W, 0 = 02 18 55.9.	
	MHC	iP	17.2	c	Near coast of Peru. Minor damage.	
	MIN	eP	25		h about 23 km.	
	CLS	eP	26	c		
	PRI	eP	07.5	c		
	REN	e(P)	19.8			
	BKS	iP	22 27 34.8	c	USCGS: 15.8°S, 168.0°E, 0 = 22 15 20.9.	
April 19	MHC	eP	33		New Hebrides Islands. Felt.	
					h about 213 km.	
April 19	BKS	eP	37 28	c		
April 19		eLNZ	50.1			
	BKS	eP	23 25 29.8	c	USCGS: 69.8°N, 138.8°E, 0 = 23 16 07.0.	
	MHC	iP	26 06.3	c	Siberia, U.S.S.R.	
	MIN	eP	25 45.5	c	h about 17 km.	
	CLS	iP	55.5	c		
	PRI	eP	16.6	c		
	REN	eP	55.0			
	April 20	BKS	iP	05 56 23.5	c	USCGS: 20.6°N, 72.2°W, 0 = 05 47 55.3.
			iPcP	57 57.5	c	Near north coast of Haiti.
			iPP	58 14		Two injured. Minor damage at Port
		iSNEZ	06 03 10	SWd	au Prince. h about 25 km.	
		eSSNE	06 44		Magnitude 6 1/2 to 6 3/4.	
BKS		iQN	06 08.1			
		eRZ	10		Magnitude 6 3/4 - 7.	
			mu sec			
		PZ	10 11.2			
		PH	10 7.6			
	PPZ	10 6.5				
	SH	20 14				
	MaxH	26 105				
April 20	MHC	iP	05 56 18.8	c		
		iPP	57 56.4	c		
	MIN	iP	56 20.9	c		
	CLS	eP	25.7	c		
	PRI	eP	10.8	c		
	REN	iP	08.8	c		
	April 21	BKS	eP	07 57 46.0	c	USCGS: 23.7°S, 180.0° , 0 = 07 46 18.5.
		MHC	iP	45.8	c	Fiji Islands region.
		MIN	eP	55.3	d	h about 559 km.
	April 22	BKS	iP	02 22 19.5	d	USCGS: 18.7°S, 169.4°E, 0 = 02 10 11.3.
MHC		iP	23.7	c	New Hebrides Islands.	
MIN		eP	29.5	c	h about 259 km.	
CLS		eP	22.6	c		
PRI		eP	24.9	c		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
April 22 (Cont.)	REN	iP	33.9	c		
April 22	BKS	eP	04 52 02.1	d	USCGS: 15.5°N, 93.1°W, 0 = 04 45 20.3.	
		iSNE	57 28	NE	Near coast of Chiapas, Mexico.	
		eGNE	59.9		h about 69 km.	
	MHC	iP	51 55.9	c	Magnitude 5 1/4 to 5 1/2.	
	MIN	iP	52 10.7	c		
	CLS	eP	08.0	c	Magnitude 5.6.	
	PRI	eP	51 45.1	c		
	REN	iP	57.8	c		
	April 22	BKS	eP	19 27 38.0	c	USCGS: 32.7°N, 130.6°E, 0 = 19 15 34.1.
		MHC	iP	41.5	d	Kyushu, Japan. h about 181 km.
MIN		iP	31.3	c		
CLS		eP	34	c		
PRI		eP	48.1	c		
April 23	REN	eP	40.7			
	MIN	eP	04 06 05.0	c	USCGS: 36.6°N, 139.5°E, 0 = 03 54 41.1.	
April 23					Honshu, Japan. Felt.	
					h about 80 km.	
	MIN	eP	05 21 27.9	d		
	BKS	iP	06 09 07.3	c	USCGS: 42.9°N, 143.4°E, 0 = 05 58 04.9.	
	MHC	iP	11.9	c	Hokkaido, Japan. Felt.	
	MIN	iP	00.2	c	h about 25 km. Magnitude 7 - 7 1/4.	
	CLS	eP	03.3	c		
	PRI	eP	20.8	c	Magnitude 7 1/2 - 7 3/4.	
	REN	eP	00.7	c		
	April 24	BKS	eP	16 16 02.6	d	USCGS: 2.2°S, 76.1°W, 0 = 16 06 23.7.
MHC		iP	15 58.2	d	Ecuador-Peru border.	
MIN		i(P)	54.0	c	h about 175 km.	
CLS		eP	16 06.8	d		
PRI		eP	15 48.9	c		
REN		eP	58	d		
April 25		BKS	eP	15 58 45.6	c	USCGS: 38.4°N, 142.5°E, 0 = 15 47 29.4.
			eS	16 07 28		Honshu, Japan. h about 56 km.
		MHC	iP	15 58 52.3	d	
		MIN	iP	39.5	c	
	CLS	eP	50	c		
April 25	REN	e(P)	49			
		e(S)	16 08 11			
	REN	eP	18 27 45.7			
April 26	BKS	iP	07 37 21.6	d	USCGS: 17.3°S, 179.1°W, 0 = 07 26 31.3.	
		iPcP	33.7	c	Fiji Islands. h about 657 km.	
		ipP	39 21.7	d		
		eSNZ	46 28			
	MHC	iP	37 22.5	d		
	MIN	eP	30.8	d		
	CLS	eP	22.6	d		
	PRI	eP	22.4	c		
	REN	eP	35.0	c		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
April 27	BKS	eP	06 51 24		
		i(PPP)	07 00 38	d	
		e(SS)NE	11.6	NWc	
April 27	BKS	eRNZ	30.6		
		iP	18 01 27.1	c	USCGS: 37°07'06"N, 116°02'16"W, 0 = 18 00 00.158.
		eS	02 46.6	c	Nevada Test Site. BLACK. Shot elevation 1068.0 meters. (AEC)
April 27	MHC	eP	01 10.5	c	
	MIN	i(S)	02 06.8	c	
April 27	CLS	i(P)	01 25.1	c	
		i(S)	16.1	d	
April 27	PRI	eP	02 55.2	c	
		e(S)	01 02.7	c	
April 27	REN	iP	02 06.9	c	
		i(S)	01 11.7	c	
April 28	BKS	i(P)	02 11.5	c	
April 28	BKS	i(P)	11 45 47	c	
April 29	MIN	iP	07 17 19.3	c	USCGS: 18.1°S, 173.9°W, 0 = 07 05 26.3. Tonga Islands. h about 79 km.
April 29	MIN	eP	15 22 53.3	c	USCGS: 12.4°S, 166.5°E, 0 = 15 10 24.9. Santa Cruz Islands. h about 72 km.
April 30	BKS	iP	02 37 48.8	c	USCGS: 38.8°N, 140.9°E, 0 = 02 26 30.0. Honshu, Japan. One killed, many injured. h about 104 km.
April 30	MHC	eSEZ	47 12	dE	Magnitude 6 1/2 to 6 3/4.
		eGNE	56.1		
April 30	MHC	MaxH	mu sec 5.65 20		Magnitude 5 3/4.
		iP	02 37 53.3	c	
April 30	MIN	iP	42.4	c	
		iP	45.0	c	
April 30	PRI	eP	38 01.4	c	
		iP	37 52.5	c	
April 30	REN	eS	47 18.8	c	
		iP	07 57 56.6	d	USCGS: 6.9°N, 73.0°W, 0 = 07 48 46.2. Colombia. h about 130 km.
April 30	MIN	iP	58 03.2	d	
		eP	04.5	d	
April 30	REN	eP	57 53.6	d	
		iP	09 56 20.8	c	USCGS: 17.0°N, 147.3°E, 0 = 09 44 17.4. Mariana Islands. h about 109 km.
April 30	MHC	iP	24.2	c	
		iP	19.6	c	
April 30	CLS	eP	18.5	c	
		eP	29.1	c	
April 30	BKS	eP	16 28 34	c	USCGS: 18.1°S, 176.1°W, 0 = 16 16 51.2. Tonga Islands region.
		e(PcP)	49	d	h about 33 km. Magnitude 6 1/2.
April 30	BKS	e(pP)	57.5	d	
		eSNE	38 16	SE	Magnitude 6.0.
April 30	BKS	i(ScS)N	45	dS	
		eGNE	47 44	SE	
April 30	BKS	eRNEZ	52.1	dNE	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
April 30 (Cont.)			R from SW			
			mu sec			
April 30		SH	4.6 20			
		MaxH	18.5 28			
April 30		MaxZ	7.5 20			
		MHC	iP	28 33.2	d	
April 30		MIN	eP	41.5		
		CLS	eP	37	d	
April 30		PRI	eP	32.5	d	
		BKS	eP	18 42 41.3	d	USCGS: 18.1°S, 176.2°W, 0 = 18 31 05.9. Fiji Islands region. h about 92 km.
April 30		MHC	eP	42		
		MIN	eP	52.4	c	
April 30		CLS	eP	43.3	c	
		PRI	eP	42	d	
April 30		REN	eP	55		
		MIN	eP	00 00 40.2	c	USCGS: 72.0°N, 7.2°E, 0 = 23 50 33.5. Svalbard region. h about 25 km.
April 30		CLS	eP	55.3	d	
		PRI	eP	07.4	c	
April 30		BRK	eP	02 49 26	d	USCGS: 55.9°N, 156.1°W, OT = 02 43 26. Kodiak Island. h about 25 km.
		MHC	e	49 30		
April 30		MIN	eP	49 19	d	
		REN	eP	49 25	c	
April 30		CLS	eP	49 17	c	
		PRI	e	49 44	c	
April 30	MIN	eP	06 25 18	c	USCGS: Near Sakhalin.	
April 30	BRK	iP	09 08 26.4	d	USCGS: 23.7°N, 66.4°W, OT = 08 56 31.6. Argentina.	
April 30	MHC	iP	09 08 22.9	d		
		i	37.4			
April 30	MIN	iP	31.3	d		
		i	41.3			
April 30	REN	iP	24.7	d		
		iP	24.7	d		
April 30	CLS	eP	29.6	d		
		eP	15.6	d		
April 30	PRI	eP	15.6	d		
		eP	12 45 03.2	d	USCGS: 23.8°S, 66.6°W, 0 = 12 33 08.3. Jujuy Province, Argentina. h about 177 km.	
April 30	BRK	eP	12 45 03.2	d		
		eP	00.3	d		
April 30	MHC	iP	44.4			
		i	44.4			
April 30	MIN	eP	08.3	d		
		eP	01.5	d		
April 30	REN	eP	01.5	d		
		eP	05.8	c		
April 30	PRI	eP	44 52.5	d		
		eP	02 48 46.2	c	USCGS: 42.6°N, 144.6°E, 0 = 02 37 56.6. Off southeast coast of Hokkaido, Japan. h about 49 km.	
April 30	MIN	eP	02 48 46.2	c		
		eP	02 48 46.2	c	USCGS: 60.0°S, 32.9°W, 0 = 03 34 49.0. Sandwich Islands region. h about 20 km. Magnitude 5 3/4 - 6.	
April 30	MIN	eP	03 53 47.6	c		
		REN	e(P)	53.8		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
May 3	BRK MHC	e(P)	13 50.6		USCGS: 29.1°N, 115.5°W, 0 = 13 48 23.9. Near west coast of Baja California. Felt. h about 25 km. Magnitude 5.0.	
		iP	50 47.6	c		
	i	51 48.4				
	MIN	eP	51 24.6	c		
	REN	eP	07.1	d		
May 4	CLS PRI	e(S)	54 01.1		USCGS: 42.8°N, 143.7°E, 0 = 05 48 29.3. Hokkaido, Japan. h about 37 km. USCGS: 0.9°S, 80.8°W, 0 = 23 08 05.3. Near coast of Ecuador. h about 74 km.	
		e(P)	51 02.5	d		
	eP	50 24.3	c			
May 4	MIN	eP	05 59 22.1	c		
May 4	REN	eP	23 17 20.8			
May 5	BRK	iP	11 23 31.8	c	USCGS: 34.1°N, 139.3°E, 0 = 11 11 49.3. Near south coast of Honshu, Japan. h about 57 km. USCGS: 31.6°S, 176.7°W, 0 = 23 05 56.9. Kermadec Islands region. h about 41 km.	
		i	38.8			
		i	57.1			
	MHC	iP	37.2	c		
	MIN	iP	27.2	d		
	REN	eP	36.4			
	CLS	eP	22.3	c		
	PRI	eP	55	d		
	BRK	iP	23 18 35.1	c		
	MHC	iP	36.7	d		
May 5	MIN	eP	46.2	c		
		eP	49.0	c		
	CLS	eP	38.6	c		
	PRI	eP	36.0	c		
	MHC	iP	12 19 56.7	d		
	MIN	eP	20 04.9			
	BRK	eP	19 15 34	d		
May 6	BRK	iPKP	19 04.1	d	USCGS: 60.2°S, 33.5°W, 0 = 19 00 13.5. Sandwich Islands region. h about 33 km. Magnitude 7. Magnitude 6 3/4 - 7.	
		iPPNEZ	20 36	SEd		
		iPKKP	29 08			
		ePSEZ	30 29			
		iPPS	31 57			
		eSSNE	37.3			
		iGNE	51.2			
		iRNZ	58.2			
		R from SSE				
		mu sec				
		PZ	1.1 8			
		PPZ	5.5 12			
		PPH	1.8 8 1/2			
		MHC	iPKP	19 19 02.9		c
		MIN	iPKKP	29 15.6		
REN	eP	19 06.5				
	i	29 00.5				
	ePKP	19 19 05.5	d			
	e(PP)	20 38.5				

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
May 6 (Cont.)	CLS	eR	59.2			
		ePKP	19 05.0	c		
		ePP	20 41.5	c		
		ePKKP	29 05			
		PRI	ePKP	19 00.6		d
May 7	MIN	ePP	20 17.5	c	USCGS: 4.1°S, 143.7°E, 0 = 08 07 55.8. Mariana Islands. h about 116 km. USCGS: 45.2°N, 146.9°E, 0 = 17 39 50.3. Kurile Islands. h about 20 km. Magnitude 6 3/4.	
		ePKKP	20 15	(c)		
		eP	08 19 54.5	d		
May 7	REN	e(P)	20 03.4			
		BRK	iP	17 50 30.0	c	
May 7	BRK	i	37.8	d	USCGS: 4.1°S, 143.7°E, 0 = 08 07 55.8. Mariana Islands. h about 116 km. USCGS: 45.2°N, 146.9°E, 0 = 17 39 50.3. Kurile Islands. h about 20 km. Magnitude 6 3/4. Magnitude 7.0.	
		ipP	52.3	d		
		i	58.4	c		
		iSP	51 07.3	d		
		i	23.3	c		
		isPP	52 04	d		
		i	54 04	d		
		eSEZ	59 11	dW		
		iEZ	28	dW		
		isSEZ	18 03 50	cE		
		eGN	07 34	S		
		mu sec				
		PZ	9.6 12			
		PH	6.7 8			
		SH	7.2 11			
MaxZ	7 20					
MaxH	13.5 11					
MHC	iP	17 50 36.0	c			
MIN	iP	22.7	c			
REN	iP	34.4	c			
May 7	BRK	eS	59 25.7		USCGS: 37°02'48"N, 116°01'30"W. Nevada Test Site. PACA. Shot elevation 967.1 meters. (AEC)	
		e(R)	20.5			
		CLS	eP	50 26.6		c
		PRI	eP	44.8		c
		BRK	iP	19 34 35.2		c
		PRI	eP	02.5		d
		CLS	eP	24.3		d
		MHC	iP	12.4		d
		MIN	i	36.4		
		REN	iP	13.7		d
May 8	MHC	iP	08 01 50.9	d	USCGS: 14.4°N, 145.1°E, 0 = 07 49 27.9 Mariana Islands. Felt. h about 70 km.	
		MIN	eP	46.7		d
		CLS	eP	47		c
May 9	MHC	i	11 41 07.2	d	USCGS: 46.2°N, 153.0°E, 0 = 11 19 02.1. Kurile Islands. h about 40 km.	
		MIN	e	29 03.5		
		e	41 17.9			
	REN	e	29 28.1			
May 10	PRI	e(P)	26.5	c	USCGS: 62.0°N, 150.1°W, 0 = 00 03 40.2. Alaska. Felt. h about 72 km.	
		BRK	iP	00 09 41.5		d
			i	49.2		d

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
May 10 (Cont.)		i	56.4	d	Magnitude 6.	
		iPP	10 02.7	d		
		iSP	13.7	c		
		iPP	33.7	c		
		iPcP	12 44.4	c		
		eSNZ	14 36	dW		
		eRNZ	17 52	cN		
			R from N			
			mu sec			
		SH	3.5 28			
	MaxH	4.3 28				
	MaxZ	2.0 20				
MHC		iP	00 09 47.8	d		
		ipP	10 09.2	d		
		iPcP	12 46.5			
	MIN		iP	09 23.7	d	
			i	41.5	c	
	REN		i	12 39.1		
			iP	10 36.5	d	
		i	51.1	d		
	CLS		eP	09 34.3	d	
	PRI		eP	10 00.9	d	
May 10 BRK		eNEZ	00 39 34	dNE	USCGS: 41.8°S, 171.6°E, 0 = 00 27 17.5. South Island, New Zealand. h about 54 km.	
		eR	01 13 24	cS		
May 10 BRK		iP	05 19 22.7	c	USCGS: 52.4°N, 170.9°W, 0 = 05 12 15.9. Fox Islands, Aleutian Islands. h about 43 km.	
		i	28.2	d		
		ipP	39.4	d		
		iScP	27	c		
		eSP	20 04	d		
		ePP	46	d		
		eSNE	25 08	NE		
		eRZ	28 56			
			mu sec			
		PPZ	1.7 16			
	SH	4.7 22				
	MaxZ	16.4 22				
	MaxH	20.7 20				
MHC		iP	05 19 28.4	d		
		iScP	25 30.3	c		
	MIN		iP	19 13.4	c	
			eScP	25 21.8	c	
	REN		eP	19 26.8		
			iScP	25 29.3		
	CLS		eP	19 17.3	c	
	PRI		eP	40.8	d	
	May 11 BRK		e(P)	13 47 51.0	c	USCGS: 28.5°S, 177.6°W, 0 = 13 35 31.3. Kermadec Islands. h about 115 km.
		MHC		iP	50.4	
MIN		e	48 13	d		
CLS		e(P)	47 51	d		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
May 11 (Cont.)	PRI	e(P)	49.5	c		
	May 11 BRK	eP	14 17 49.6	c	USCGS: 17.0°N, 99.6°W, 0 = 14 11 54.1. Near coast of Mexico. Felt. h about 40 km. Magnitude 7 - 7 1/4.	
	eSENZ	22 45	cNE			
	iNEZ	24 12				
	iGE	25 13				
	eRZ	26 46	c			
	MHC	iP	17 43.7	c		
	REN	eP	47.8	c		
		i	53.3	d		
	CLS	eP	54.9	c		
May 12 BRK		eP	19 01 18.5	c		USCGS: 37°03'55"N, 116°01'49"W. Nevada Test Site. AARDVARK. Shot elevation 804.1 meters (AEC) USCGS: 17.7°S, 178.2°W, 0 = 20 35 45.1. Fiji Islands. h about 600 km.
		PRI	eP	01.5	c	
	CLS	eP	22.9	c		
	MHC	iP	10.7	c		
May 12 BRK		eP	20 47 06.1	c	USCGS: 18.0°S, 178.0°W, 0 = 22 03 40.7. Fiji Islands. h about 603 km.	
		i	30.8	c		
	i	49.6	d			
	i	48 22.1	d			
	MHC	iP	46 50.2	d		
	i	47 55.8	d			
	REN	eP	46 32.1			
	i	47 51.4				
	i	48 28.1	d			
	CLS	eP	47 10.4	c		
May 12 BRK		eP	46 31.9	c	USCGS: 18.0°S, 178.0°W, 0 = 22 03 40.7. Fiji Islands. h about 603 km.	
		iP	22 41 16.9	c		
	iPPP	44 04				
	eSE	48 12				
	iNE	23				
	eLEN	54.9				
	eR	56.5				
	MHC	iP	41 06.8	c		
	MIN	eP	20.9	d		
	REN	eP	11.2			
May 13 BRK		eP	09 21 45.8	c	USCGS: 6.9°N, 73.0°W, 0 = 09 12 34.3. Colombia. Felt. h about 183 km.	
		MHC	iP	41.3		c
	i	22 35.4	c			
	REN	eP	21 37.6	c		
	i	22 04.4	d			
	CLS	eP	21 49.1	c		
	PRI	eP	32.2	d		
May 15 BRK		ePEZ	05 38 14.1	cE		USCGS: 7.3°S, 128.3°E, 0 = 05 23 46.4. Banda Sea. h about 34 km. Magnitude 7 1/2.
		i	39 12	d		
	i	48	c			
	ePP	42 23.5	c			
	eSKS	48.9				
	iSW	50.6				
	iPS	05 52 16	cS			

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
May 10 (Cont.)		i	56.4	d	Magnitude 6.	
		iPP	10 02.7	d		
		iSP	13.7	c		
		iPP	33.7	c		
		iPcP	12 44.4	c		
		eSNZ	14 36	dW		
		eRNZ	17 52	cN		
			R from N			
			mu sec			
		SH	3.5 28			
		MaxH	4.3 28			
		MaxZ	2.0 20			
	MHC	iP	00 09 47.8	d		
		ipP	10 09.2	d		
	iPcP	12 46.5				
MIN	iP	09 23.7	d			
	i	41.5	c			
	i	12 39.1				
REN	iP	10 36.5	d			
	i	51.1	d			
CLS	eP	09 34.3	d			
PRI	eP	10 00.9	d			
May 10	BRK	eNEZ	00 39 34	dNE	USCGS: 41.8°S, 171.6°E, 0 = 00 27 17.5. South Island, New Zealand. h about 54 km.	
		eR	01 13 24	cS		
May 10	BRK	iP	05 19 22.7	c	USCGS: 52.4°N, 170.9°W, 0 = 05 12 15.9. Fox Islands, Aleutian Islands. h about 43 km.	
		i	28.2	d		
		ipP	39.4	d		
		iScP	27	c		
		eSP	20 04	d		
		ePP	46	d		
		eSNE	25 08	NE		
		eRZ	28 56			
			mu sec			
			PPZ	1.7 16		
			SH	4.7 22		
			MaxZ	16.4 22		
			MaxH	20.7 20		
		MHC	iP	05 19 28.4		d
	iScP	25 30.3	c			
MIN	iP	19 13.4	c			
	eScP	25 21.8	c			
REN	eP	19 26.8				
	iScP	25 29.3				
CLS	eP	19 17.3	c			
PRI	eP	40.8	d			
May 11	BRK	e(P)	13 47 51.0	c	USCGS: 28.5°S, 177.6°W, 0 = 13 35 31.3. Kermadec Islands. h about 115 km.	
	MHC	iP	50.4	c		
	MIN	e	48 13	d		
	CLS	e(P)	47 51	d		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
May 11 (Cont.)	PRI	e(P)	49.5	c		
	May 11	BRK	eP	14 17 49.6	c	USCGS: 17.0°N, 99.6°W, 0 = 14 11 54.1. Near coast of Mexico. Felt. h about 40 km. Magnitude 7 - 7 1/4.
		eSENZ	22 45	cNE		
		iNEZ	24 12			
		iGE	25 13			
		eRZ	26 46	c		
	MHC	iP	17 43.7	c		
	REN	eP	47.8	c		
		i	53.3	d		
	CLS	eP	54.9	c		
May 12	BRK	eP	19 01 18.5	c	USCGS: 37°03'55"N, 116°01'49"W. Nevada Test Site. AARDVARK. Shot elevation 804.1 meters (AEC)	
	PRI	eP	01.5	c		
	CLS	eP	22.9	c		
May 12	MHC	iP	10.7	c	USCGS: 17.7°S, 178.2°W, 0 = 20 35 45.1. Fiji Islands. h about 600 km.	
		BRK	eP	20 47 06.1		c
		i	30.8	c		
		i	49.6	d		
		i	48 22.1	d		
		iP	46 50.2	d		
		i	47 55.8	d		
		REN	eP	46 32.1		
		i	47 51.4			
		i	48 28.1	d		
	CLS	eP	47 10.4	c		
May 12	PRI	eP	46 31.9	c	USCGS: 18.0°S, 178.0°W, 0 = 22 03 40.7. Fiji Islands. h about 603 km.	
		BRK	iP	22 41 16.9		c
		iPPP	44 04			
		eSE	48 12			
		iNE	23			
		eLEN	54.9			
		eR	56.5			
		MHC	iP	41 06.8		c
		MIN	eP	20.9		d
		REN	eP	11.2		
May 13	BRK	eP	09 21 45.8	c	USCGS: 6.9°N, 73.0°W, 0 = 09 12 34.3. Colombia. Felt. h about 183 km.	
	MHC	iP	41.3	c		
		i	22 35.4	c		
	REN	eP	21 37.6	c		
		i	22 04.4	d		
	CLS	eP	21 49.1	c		
	PRI	eP	32.2	d		
May 15	BRK	ePEZ	05 38 14.1	cE	USCGS: 7.3°S, 128.3°E, 0 = 05 23 46.4. Banda Sea. h about 34 km. Magnitude 7 1/2.	
		i	39 12	d		
		i	48	c		
		ePP	42 23.5	c		
		eSKS	48.9			
		iSW	50.6			
		IPS	05 52 16	cS		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
May 15 (Cont.)		iSSNE	58 24	dNW	
		eGN	06 09.6		
		iREZ	13.8		
			mu sec		
		PZ	2.8 18		
		PH	1.9 16		
		PPZ	9.0 16		
		PPH	20.5 27		
		SH	19.7 28		
		MaxZ	50 22		
		MaxH	44.5 18		
		MHC	i	04 42 12	
	May 15	MIN	i	42 22.2	d
REN		e	38.5		
CLS		eP	38 25	c	
PRI		eP	30.5	d	
MHC		iP	19 41 52.6	d	USCGS: 53.4°N, 159.6°E, 0 = 19 32 22.5. Near east coast of Kamchatka. h about 30 km.
MIN		eP	32		
REN		eP	49.0		
BRK		eP	05 29 08.4	c	USCGS: 13.6°S, 167.3°E, 0 = 05 16 46.0. New Hebrides Islands. h about 52 km
MHC		iP	11.1	d	
		i	34.5	d	
May 16	MIN	iP	16.2	d	
	REN	eP	21.7		
	CLS	eP	09.2	d	
	PRI	eP	12.8	d	
	BRK	iP	17 45 33.7	c	USCGS: 13.4°S, 167.3°E, 0 = 17 33 05.5. New Hebrides Islands. h about 52 km.
		i	49.6	c	
		i	46 08.7	c	
	MHC	iP	45 33.7	c	
	REN	eP	43.4		
	CLS	eP	31.5	d	
May 17	PRI	eP	35.6	c	
	BRK	eP	12 20 16.5	d	USCGS: 7.1°S, 68.0°E, 0 = 12 00 28.6. Chagos Archipelago region. h about 25 km.
	MHC	iP	30.9	c	
	MIN	iP	16.3	d	
	CLS	eP	13.0	d	
	MIN	iP	03 01 11.9	d	USCGS: 21.2°S, 178.8°W, 0 = 02 49 50.4. Fiji Islands region. h about 549 km
May 18	BRK	iP	07 25 14.1	d	USCGS: 29.3°S, 178.6°W, 0 = 07 13 00.6. Kermadec Islands. h about 192 km.
	MHC	iP	14.3	c	
	MIN	eP	23.8	d	
	CLS	eP	15	c	
	PRI	eP	12	c	
May 18	BRK	iP	18 57 02.4	c	USCGS: 46.1°N, 148.5°E, 0 = 18 46 40.1. Kurile Islands. h about 60 km.
		i	18.1	c	
	MHC	iP	13.9	c	
		i	39.2	d	
	MIN	eP	56 59.5	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
May 18 (Cont.)		i	09.0	c	
	REN	eP	12.4	c	
	CLS	eP	04.7	c	
May 18	PRI	eP	23	c	
	BRK	eP	23 30 21	c	USCGS: 16.0°S, 173.0°W, 0 = 23 18 46.9. Tonga Islands region. h about 25 km.
	MHC	iP	07.0	c	
	REN	eP	26.1	c	
	CLS	eP	13	c	
	PRI	eP	12	c	
May 19	BRK	eP	15 04 12	c	USCGS: 17.2°N, 99.5°W, 0 = 14 58 15.0. Near coast of Mexico. Felt. h about 20 km.
		iPP	05 28.4	d	
		iSPP	58.7	d	
		iPcP	06 49.8	d	
		i	07 26.5	d	
		iSNEZ	09 09	dSW	
		iSSNZ	48	dS	
		iGNE	11 21	SW	
		iR	13 23		
			mu sec		
		PZ	12.5 5		
		PH	5.4 7		
		SH	58 9		
	MaxZ	165 10			
May 19	MHC	iP	15 04 05.8	c	
	MIN	iP	19		
	REN	iP	10.9	c	
		iS	09 27.7		
		i	11 21.1	c	
	CLS	eP	04 14.7	d	
	PRI	eP	03 53.4	c	
	BRK	iP	00 07 18.6	d	USCGS: 13.4°S, 76.7°W, 0 = 23 56 32.4. Near coast of Peru. h about 70 km.
		i	34.8	c	
		iP	14.1	d	
May 21	MIN	iP	24.4	d	
	REN	eP	16.6	d	
	CLS	eP	22.8	d	
	PRI	eP	04.9	d	
	BRK	eP	12 16 27.7	d	USCGS: 37.3°N, 96.0°E, 0 = 12 02 50.6. Chinghai Province, China. h about 25 km.
		i	36.8	d	
		ePP	20 28.7	c	
		ePPP	31	dN	
		ePPPP	22 19	(c)	
		eSNEZ	27 09	dSW	
	iSS	32 39.9	d		
	erNEZ	53.3			
		R from NW			
		mu sec			
	PZ	4 10			
	PH	1.7 10			

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
May 21 (Cont.)		PPZ	4 10		
		PPH	2.5 10		
		SH	4.8 8		
		MaxZ	11.6 16		
		MaxH	27 16		
	MHC	iP	12 16 35.2	d	
		i	20 42.3		
	MIN	eP	16 17.3	c	
		i	19 27.9		
	REN	eP	16 25.5		
		e(PP)	20 29.2		
		e(SS)	32 34.7		
	CLS	eP	12 16 24.8	d	
	PRI	eP	41.5	c	
May 21	MIN	eP	13 29 07.5	c	USCGS: 37.0°N, 95.7°E, 0 = 13 15 39.4. Chinghai Province, China. h about 25 km.
May 21	MIN	iP	14 20 31.4	c	
May 21	BRK	eP	21 26 50	d	USCGS: 19.1°S, 177.5°W, 0 = 21 15 30.0. Fiji Islands region. h about 342 km.
		ipP	28 20.7	d	
		iSP	55.4	d	
		i	29 22.7	d	
		iPP	57.2	c	
		iPPP	31 52.0	d	
		iSNEZ	36 12	cSE	
		eSSEZ	38 35		
		eSPS	39 23		
		eGNE	46 43		
		eRNZ	51.4		
		R from SW	mu sec		
		PZ	13.8 10		
		PPZ	7.5 9		
		PPH	7.2 8		
		SH	37.2 12		
MHC	iP	21 26 50.8	c		
MIN	iP	27 00.0	c		
	i	28 40.0	d		
REN	iP	27 03.6			
	iS	36 40			
CLS	iP	26 51.2	c		
PRI	eP	50.3	d		
May 22	BRK	iP	08 18 51.2	c	USCGS: 12.3°S, 166.6°E, 0 = 08 06 38.8. Santa Cruz Islands. h about 135 km. Magnitude 6 1/2.
		iSP	19 22.3		
		iPP	22 04.1		
		i	32.1	d	
		eSNEZ	29 03		Magnitude 6.8.
		iScS	47		
		eLNEZ	40.8	cNW	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
May 22 (Cont.)		eRNEZ	44.2	cNE	
	BRK		mu sec		
		PZ	13.5 10		
		PH	4 12		
		PPZ	3.7 10		
		SH	5.8 24		
		MaxZ	15.3 20		
		MaxH	16.4 20		
	MHC	iP	08 18 52.5	c	
		i	19 23.6	d	
	MIN	eP	18 57.3	c	
		i	19 28.3		
	REN	iP	03.0	c	
		iSP	34.4	d	
	e(PP)	22 22.0	c		
	eRZ	45 09.3			
	CLS	eP	18 50.8	c	
	PRI	eP	54.5	c	
May 22	MHC	iP	09 33 15.9	d	
	MIN	eP	23.3	c	
May 22	BRK	iP	22 16 32.0	c	USCGS: 5.4°S, 151.9°E, 0 = 22 03 32.1. New Britain. Felt. h about 54 km.
		i	17 48.7	c	
		eR	45.2		
		R from WSW	mu sec		
		MaxH	14.7 20		
		MaxZ	21.4 20		
MHC	eP	22 16 33.0	c		
	i	17 55.0	d		
REN	eP	16 39.9			
	eR	53.0			
	CLS	eP	16 33.5	c	
	PRI	eP	35	(c)	
May 23	MIN	eP	06 47 01.4	c	USCGS: 5.4°S, 152.0°E, 0 = 06 34 00. New Britain. Felt. h about 70 km.
May 23	MIN	eP	08 30 56.6	c	USCGS: 25.4°S, 179.3°W, 0 = 08 19 00.7. Kermadec Islands region. h about 363 km.
May 24	BRK	iP	04 27 47	d	USCGS: 49.1°N, 129.4°W, 0 = 04 24 49.8. Vancouver Island region. h about 25 km.
		i	28 02	d	
		eSNEZ	30 18	cSW	
		e(PcP)	33 03		
MHC	iP	27 57.0	c	Magnitude 5.3.	
	i	28 08.3	d		
MIN	iP	27 21.1	d		
	i	50.4	d		
REN	eP	40.8	d		
	i	28 18.8	d		
	eSE	30 26.8			

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
May 24 (Cont.)	CLS	eP	27 33.3	d	
May 24	PRI	eP	28 15.7	d	
May 24	BRK	iP	14 13 54.2	d	
	MHC	i	32.5	c	
	MIN	eP	12 57.8	c	
	REN	e(P)	13 18.8	c	
	CLS	eP	54	c	
	PRI	e	51	c	
May 25	BRK	eP	04 31 14.4	d	USCGS: 20.7°S, 174.3°W, 0 = 04 19 57.0. Tonga Islands. h about 281 km.
		i	37.4	c	
		i	32 35	c	
		eSNEZ	40 57	dNW	
		eGNE	50.7	SE	
			R from SW		
			mu sec		
		MaxZ	2.25 20		
	MHC	iP	04 31 17.3	d	
	MIN	eP	24.2	c	
	REN	e(P)	29.2	c	
	PRI	eP	14	d	
May 25	MHC	eP	07 18 07.3	c	USCGS: 18.1°S, 168.2°E, 0 = 07 05 27.4. New Hebrides Islands. h about 33 km.
		i	21.9	c	
May 25	MIN	eP	13.7	c	
	MHC	eP	21 40 39.4	d	USCGS: 24.3°S, 65.2°W, 0 = 21 28 28.1. Argentina. h about 69 km.
	MIN	iP	48.8	c	
	REN	iP	42.1	c	
	CLS	eP	46.6	d	
	PRI	eP	32.0	d	
May 26	MIN	eP	02 24 12.4	c	USCGS: 19.7°S, 177.8°W, 0 = 02 13 01.5. Fiji Islands. h about 561 km.
May 26	MIN	eP	07 37 59.7	c	
	REN	e(P)	46.8	c	
May 26	MIN	eP	10 04 23	c	
May 26	REN	e(P)	13 04 08.7	c	USCGS: 43.2°S, 75.6°W, 0 = 12 51 01.4. Off coast of southern Chile.
	CLS	eP	32.5	d	
	PRI	eP	03 57.5	c	
May 26	MIN	eP	20 03 08.5	c	USCGS: 6.7°S, 94.6°E, 0 = 19 44 15.7. Nicobar Islands. h about 30 km.
	REN	eP	12.9	c	
May 28	BRK	iP	00 01 29.0	c	USCGS: 31.3°S, 68.3°W, 0 = 23 49 01.0. San Juan Province, Argentina. h about 94 km.
		i	58.2	c	
	MHC	iP	25.4	d	
		i	54.4	d	
	REN	eP	28.2	d	
	CLS	eP	31.8	d	
	PRI	eP	18.0	d	
May 29	MHC	iP	21 07 59.3	d	USCGS: 51.8°N, 177.1°W, 0 = 21 00 16.4. Andreanof Islands, Aleutian Islands. h about 25 km.
	CLS	e	49.7	d	
	PRI	e	08 10.8	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
May 30	BRK	e	10 22 15		USCGS: 29.9°N, 42.7°W, 0 = 10 02 53.0. North Atlantic Ocean. h about 25 km. Magnitude 5.
		eGNE	31 23	SE	
		eRNEZ	34.8		
			R from NE		
	MHC	iP	10 31 32.9	c	
May 31	BRK	eP	06 40 11.6	c	USCGS: 22.0°N, 142.7°E, 0 = 06 28 26.1. Volcano Islands region. h about 258 km.
		i	24.9	d	
		isP	41 09.8	d	
		i	55.6	d	
		ePPP	44 39	d	
		eSNEZ	49 55	dSE	
		eLNEZ	07 01.1	cNE	
		eRNEZ	04.7	dSE	
			R from NW		
			mu sec		
		PZ	1.0 14		
		SH	9.2 14		
		MaxZ	2.5 20		
		MaxH	1.8 20		
	MHC	iP	06 40 15.1	c	
		i	41 12.5	c	
	REN	eP	17.8	c	
		i	34.5	c	
		eS	52 08	c	
	CLS	eP	09.0	c	
	PRI	eP	21.7	c	
June 1	MIN	eP	13 19 23.6	c	USCGS: 21.6°S, 63.7°W, 0 = 13 07 20.1. Southern Bolivia. h about 128 km.
June 2	MIN	eP	12 08 38.9	d	
June 2	MIN	iP	21 13.8	c	
June 2	MIN	eP	24 33.1	c	
June 2	BRK	eP	29 20.9	d	USCGS: 49.9°N, 129.8°W, 0 = 12 26 09.6. Vancouver Island region. h about 25 km.
		i	30.9	d	
		i	53.8	d	
		eSNEZ	31 54	SEd	
		eRNZ	33 12	dN	Magnitude 5 3/4.
		i	38 55.6	d	
			R from NW		
			mu sec		
		PZ	1.25 8		
		SH	11.9 24		
		MaxZ	8.5 10		
		MaxH	18 10		
	MHC	iP	12 29 28.6	c	
	MIN	eP	28 51.3	d	
		i	29 01.4	d	
	REN	eP	11.6	d	
		e(S)	32 09.7	d	
		eRZ	33.3	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
June 2	CLS	e(P)	29 05.9	d	USCGS: 49.8°N, 129.8°W, 0 = 12 35 48. Vancouver Islands. h about 23 km.	
(Cont.)	PRI	eP	42	c		
June 2	MIN	eP	37 54.9	c		
June 2	BRK	iP	38 55	d		
		i	39 08	d		
		i	21	d		
MHC	iP	04.5	c			
	MIN	iP	38 28.8	c		
CLS	i	44.5	d			
	eP	45	d			
PRI	e(P)	39 24	d			
June 2	MIN	iP	41 56.6	c		
June 2	MIN	eP	43 05.4	d		
June 2	MIN	eP	17 27 21		USCGS: 29.8°N, 130.6°E, 0 = 17 15 08.7. Kyushu, Japan. h about 15 km.	
REN	e	47.0				
June 3	BRK	eP	15 13 17	d	USCGS: 22.4°N, 45.2°W, 0 = 15 02 25.5. North Atlantic Ocean. h about 25 km.	
		e(PcP)	14 25	d		
		ePP	16 19	c		
		eSNEZ	22 15	cSE		
		eLcNE	30 11	SE		
		eLrEZ	34.1	cW		
		R from NE				
		mu sec				
		PZ	12	.83		
		MaxZ	20	11		
MaxH	20	14.1				
MHC	iP	15 13 11.7	d			
MIN	iP	11.1	d			
REN	eP	06.6	d			
		e(PP)	16 58.5			
		eS	21 57.7			
		eP	13 19.8	c		
CLS	eP	19.5	c			
June 5	BRK	e(P)	10 33 51	c		
June 5	MIN	eP	48 19.8		USCGS: 38.0°N, 112.1°W, 0 = 22 29 45. Southern Utah. h about 25 km.	
June 5	MIN	eP	22 31 38.6	d		
		i	32 13.0	c		
		eP	31 42.8			
		i(S)	32 59.9			
June 6	PRI	eP	17 01 02.2	d	Nevada Nuclear Test. 0 = 17 00 00.	
		iS	02 05.5			
		eP	01 09.1	d		
		iP	15.2	c		
		i(S)	02 38.6			
REN	iP	01 14.0	c			
MHC	iP	12.0	c			
MIN	eP	24.4	c			

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
June 6	CLS	iP	50 19.9	d	USCGS: 39°05', 123°04', 0 = 17 50 07. SE of Ukiah. Felt. Magnitude 5.2.	
	PRC	iP	26.4	d		
	BRK	iP	31.2	d		
		iSNE	50.3			
	CNC	iP	17 50 31.6	d		
	SCC	iP	43.5	d		
	VIT	iP	50.0	d		
	LLA	iP	54.0	d		
	PRS	i(P)	54.7	d		
	PRI	iP	51 01.9	d		
	REN	iP	50.5	c		
		i	52.7	d		
		iS	51 33.4			
		i	53 46.4	d		
	June 7	MHC	iP	50 41.3		
i			52.6			
i(S)			51 03.7			
USF			iP	50 31.2	d	
MIN			eP	36.4	d	
FER			iP	46.4		
PAC			iP	37.6	d	
			iSN	51 11.7		
SHS			iP	50 36.5	d	
FRE			iP	51 01.7		
COR			iP	32		
BRK			e	00 25 13		USCGS: 30.0°N, 113.1°W, 0 = 00 22 39.4 Gulf of California. h about 25 km.
MHC			e	15		
MIN			e	42		
PRI			eP	24 54.5	d	
CLS	e(P)	40.9	c			
June 7	BRK	iP	05 43 57.2	d	USCGS: 51.9°N, 175.9°E, 0 = 05 35 47 Rat Islands, Aleutian Islands. h about 50 km.	
		MHC	iP	44 02.6		d
		i	45 40.8	d		
MIN	eP	44 48.2	c			
CLS	eP	43 51.9	c			
PRI	eP	44 14.1	d			
June 8	BRK	eP	01 42 51.4	c	USCGS: 18.1°S, 178.4°W, 0 = 01 31 59.9 Fiji Islands. h about 603 km.	
		i	43 02.1	d		
		MHC	iP	42 51.7		c
		MIN	iP	43 01.4		d
		REN	eP	05.1		
CLS	eP	01 42 52.2	c			
PRI	eP	52.4				
June 9	BRK	iP	20 04 34.2	c	USCGS: 13.6°N, 91.2°W, 0 = 19 57 35.5. Off coast of Guatemala. h about 104 km.	
		i	44.9	c		
		MHC	iP	28.7		c
		i	37.3	d		
		MIN	iP	22.8		c
		CLS	eP	39.5		d
		PRI	eP	17.0		c

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
June 11	BRK	eSEZZ	00 58 19	dES	USCGS: 49.7°N, 129.3°W, 0 = 00 52 47.3. Vancouver Island region.	
	MHC	iP	55 56.6	d		
	MIN	iP	24.1	d		
	REN	iP	44.9	c		
	CLS	eP	41.6	d		
June 11	PRI	eP	56 18.7	d	USCGS: 19.6°S, 177.7°W, 0 = 04 35 00.6. Fiji Islands. h about 370 km.	
	MHC	iP	04 46 18.9	c		
	MIN	iP	27.6	c		
	REN	eP	31.2	c		
	CLS	eP	18.9	c		
June 11	PRI	eP	16.4	c	USCGS: 43.5°N, 18.3°E, 0 = 07 15 37.6. Yugoslavia. Felt. h about 21 km.	
	MIN	eP	07 28 31.0	d		
June 14	BRK	eP	08 00 29.0	c		
		epP	55	d		
		i	01 07	d		
		iPcP	26	d		
		eSNEZ	07 33	cNE		
		eScSNEZ	10 21	cNW		
		eSSNEZ	11 13	cSE		
		R from NW				
		mu	sec			
		PZ	1.0	16		
PH	1.1	16				
SH	14	24				
MaxZ	15	20				
MaxH	19.6	24				
June 14	BKS	eP	08 04 41	d	USCGS: 54.2°N, 169.3°E, 0 = 07 55 48.9. Near Islands, Aleutian Islands. h about 56 km. Magnitude 6.0	
	MIN	iP	18.9	c		
	i	26.3	c			
	REN	eP	30.6	c		
	CLS	e	23.5	c		
June 14	PRI	e	45.5	c	USCGS: 19.4°N, 65.0°W, 0 = 18 30 53.2. Puerto Rico Region. h about 64 km.	
	MHC	iP	40 05.5	d		
June 14	BKS	iP	22 27 15.9	d	USCGS: 26.4°N, 126.5°E, 0 = 22 14 10.9. Ryukyu Islands. h about 22 km.	
	MHC	iP	18.9	c		
	REN	e(P)	12.8	c		
	CLS	eP	15	c		
	PRI	eP	26.5	c		
June 15	BKS	eP	06 42 19	c	USCGS: 20.4°S, 70.9°W, 0 = 06 30 37. Near coast of northern Chile. Magnitude 5.0.	
		epP	32.4	d		
		eSNZ	52 04	Nd		
		eSSNE	57.1	SW		
		eLR	07 07.6			
		R from SW				
		MHC	iP	06 42 03.2		c
		i	18.4	c		
		MIN	eP	29		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1964			h. m. s.		
June 15 (Cont.)	CLS	eP	26	c	
	PRI	eP	09.5	d	
June 16	MIN	eP	05 34 06.1	d	USCGS: 26.6°N, 126.4°E, 0 = 05 21 12.7. Ryukyu Islands. h about 38 km.
	MIN	eP	04 47 59		
June 17	MHC	iP	13 34 38.8	d	USCGS: 40.1°S, 45.7°E, 0 = 04 27 38.2. Indian Ocean north of Crozet Islands h about 15 km.
	MIN	eP	42.1	d	
June 17	BKS	e(S)EZ	20 21 22		USCGS: 10.7°S, 165.3°E, 0 = 13 22 21.4. Santa Cruz Islands region. h about 106 km.
	MHC	iP	17 04.5	d	
	MIN	eP	26.8	c	
	REN	eP	13		
	MHC	eP	22 36 21.1	d	
June 17	MIN	i	42.8	c	USCGS: 51.7°N, 177.0°E, 0 = 22 28 04.1. Andreanof Islands, Aleutian Islands. h about 22 km.
		iP	06.1	d	
		e(P)	32		
		e(P)	33		
		iP	06 27 07.2	c	
		eP	26 44.8	c	
		i	27 24.0	d	
		iP	26 58.2		
		iP	33 25.2	d	
		iP	16.8	c	
June 18	BKS	eP	23 55 27	c	USCGS: 4.8°S, 151.8°E, 0 = 23 42 31.3. New Britain region. h about 47 km.
	eSE	00 05 49			
	eR	23.3			
	iP	23 55 36.1	c		
	iP	30.0	c		
June 18	REN	iP	37.1		
	MIN	iP	00 06 03.6		
	MIN	iP	02 00 38.6	c	
June 20	MIN	eP	13 46 37.0	c	
	REN	eP	57.8		
June 20	REN	e(P)	19 34 08.9		
	MHC	iP	23 05 45.8	c	
June 20	MIN	i	06 03.4	c	
		eP	00		
		eP	05 46.1		
		iP	04 52 25	c	
		ePPZ	54 22		
		iSENZ	59 29		
		eSSEN	05 03 08		
		eLEN	06		
		eREZN	07.2		
		R from SE			
mu	sec				
PZ	2.2	9			
June 21	BKS	iP	04 52 25	c	USCGS: 5.7°N, 82.6°W, 0 = 04 43 43.3. South of Panama. h about 23 km. Magnitude 6 1/4.
		ePPZ	54 22		
June 21	BKS	iSENZ	59 29		Magnitude 6 1/4.
		eSSEN	05 03 08		
		eLEN	06		
		eREZN	07.2		
		PZ	2.2	9	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
June 21 (Cont.)		PH	1.3 8		
		PPZ	6.5 10		
		SH	12.7 24		
June 21	MHC	iP	04 52 19.8	c	
		i	42.4	d	
	MIN	eP	31.2	c	
	REN	eP	19.7	c	
	CLS	eP	29.3	c	
	PRI	eP	9.1	c	
June 21	BKS	iP	08 50 16.2	d	USCGS: 20.8°S, 175.6°W, 0 = 08 38 28.4. Tonga Islands region.
	MHC	iP	17.0	d	
		i	31.0	c	
		i	50.6	d	
	MIN	eP	27.0	c	
	REN	eP	30.1		
	PRI	eP	16.3		
June 21	BKS	e(P)	17 01 26.9	c	Nevada Test Site. 0 = 17 00 00.
		eS	02 39.1		
	MHC	iP	01 12.2	d	
		iN	02 09.8		
	MIN	eP	01 24.5	d	
		i	02 44.8		
	REN	iP	01 03.0	c	
		i	02 05.4		
	PRI	eP	01 01.7	d	
June 21	MHC	iP	10 36.7	d	
		i	11 43.1		
	MIN	eP	10 53		
		i	11 06.8		
	REN	iP	10 33.1	d	
		i	11 40.5		
	PRI	eP	10 22.2	c	
June 22	BKS	iP	12 00 36.2	d	USCGS: 32.2°N, 142.4°E, 0 = 11 48 55.3. Off coast of Honshu, Japan.
	MHC	iP	40.3	d	
		i	52.7	c	
	MIN	eP	31.7	d	
	REN	iP	41.4		
	CLS	eP	33.3		
	PRI	eP	48.3	d	
June 23	BKS	iP	09 57 32.5	d	USCGS: 25.7°N, 128.5°E, 0 = 09 44 37.7. Ryukyu Islands. h about 36 km.
		iSNE	10 08 00		
		iPPSEN	09 29		
		eSSZN	14 21		
		iLNE	21 12		
		iRNEZ	25 32		
		mu sec			
		PZ	1.4 8		
		SH	5 26		
	MHC	iP	09 57 35.9	d	Magnitude 5 3/4.

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
June 23 (Cont.)	MIN	iP	27.9		
	CLS	eP	29.5	d	
	PRI	eP	41.8	c	
June 23	MHC	iP	10 12 02.9	d	USCGS: 19.1°N, 121.4°E, 0 = 09 58 26.0. Near coast of Luzon, Philippine Islands. h about 40 km.
	MIN	eP	11 54.7	d	
June 25	BKS	iP	01 42 45.4	d	USCGS: 20.8°S, 179.2°W, 0 = 01 31 41.9. Fiji Islands region.
	MHC	iP	44.8	d	
	MIN	eP	54.4	d	
	REN	eP	57.8		
June 25	BKS	eP	06 39 40.5		USCGS: 37.3°S, 73.5°W, 0 = 06 26 49.6. Near coast of Chile. h about 40 km
	MHC	iP	39.3	c	
	MIN	eP	41.6	d	
	REN	eP	36.7		
June 25	BKS	iP	11 23 40	c	USCGS: 24.3°N, 122.6°E, 0 = 11 10 23.3 Off coast of Formosa.
		eSEN	34 24		
		e(PPS)	35 40		
		eLEN	47.5		
		eRZE	53.4		
		R from W			
		mu sec			
		PZ	1.1 14		
		SH	6.5 26		
	MHC	iP	11 23 45.5	c	
		i	24 24.3		
	MIN	eP	23 35.3	c	
		i	24 00.2		
	REN	eP	23 43.6		
June 25	MHC	iP	19 06 24.5	c	USCGS: 14.5°N, 82.4°W, 0 = 18 58 35.6. Off east coast of Venezuela.
	MIN	iP	34.3	d	
	REN	iP	21.5		
June 27	MHC	iP	05 13 27.9	d	h about 25 km. Magnitude 4 1/2.
	MIN	eP	07.1	c	
		i	51.9		
	REN	eP	50.7		
June 27	BKS	i(P)	18 01 20.8	c	USCGS: 37°02'30"N, 116°02'07"W. 0 = 18 00 00.123.
		e(S)	02 33.9		
	MHC	iP	01 07.3	c	Nevada Test Site.
		i	02 23.9		
	MIN	iP	01 24.3	d	Haymaker. Elevation 4013. Burial 1351'.
		i	44.8		
	REN	eP	01.7	c	
		i	12.9	c	
		i	31.2		
	PRI	eP	01.2	c	
June 28	BKS	i(P)Z	04 34 05.7	d	USCGS: 20.0°N, 155.6°W, 0 = 04 27 18.4 Hawaii Island, Hawaii. Felt. h about 25 km. Magnitude 5 1/4.
		eSZEN	39 32		
		T Phase	05 08 55		
		mu sec			
		SH	5 10		
		MaxH	19 18		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
June 28 (Cont.)	MHC	iP	04 34 06.0	c	
		iT	05 08 54.9		
	MIN	eP	04 34 14.7	c	
	REN	eP	14.7		
	CLS	eP	05.7	c	
June 28	PRI	eP	09.1	c	
	BKS	e(P)	17 01 24.7	c	USCGS: Nevada Test Site. 0 = 17 00 00.
		iSNEZ	02 34.6		
	MHC	iP	01 12.7	d	
		i	02 22.0		
	MIN	iP	01 22.7	c	
		i	44.3	c	
	REN	eP	05.1	c	
	PRI	eP	00 59.3	c	
	CLS	e(P)	01 32.1	c	
June 28	MIN	eP	20 59 56.2	c	
June 29	MIN	eP	04 49 16.6	c	
June 29	MHC	eP	10 40 22.4	c	USCGS: 35.2°S, 106.0°W, 0 = 10 28 46.6. South of Easter Island region. h about 25 km.
	MIN	eP	39.9	c	
June 29	BKS	eP	16 34 18.0	c	USCGS: 62.3°N, 152.4°W, 0 = 16 28 04.4. Alaska. h about 39 km. Magnitude 4 3/4 - 5.
		i	35	d	
		eSNEZ	39 10	SEc	
		iNE	24	SW	
		eLqNE	41 14	NE	Magnitude 4 3/4.
		eREZ	43.1		
			mu sec		
		MaxZ	3 20		
		MaxH	3.5 20		
	MHC	iP	16 34 24.6	c	
	i	38.5	d		
MIN	iP	01.3	c		
REN	iP	8.5			
CLS	eP	11.3	c		
PRI	eP	38.0	c		
June 29	BKS	e(L)qZ	22 48.2		USCGS: 15.3°N, 105.4°W, 0 = 22 35 20.3. Off coast of Mexico. h about 25 km.
		e(L)rZ	50.7		
June 30	PRI	e(P)	40 49.5	d	
	BKS	ePNE	19 54 10	NW	
		eSNE	20 01 06	NW	
		eEZ	02 14	Ed	
		eLrEZ	15.7	Wd	
		R from W			
		mu sec			
	MaxZ	2 32			
	MaxH	1.1 28			
June 30	BKS	iP	21 31 20.0	c	USCGS: 0 = 21 30 00. Nevada Test Site.
		e(S)	32 40.9		
	MHC	iP	31 08.8	d	
	i	21.5	c		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
June 30 (Cont.)		i	32 21.3		
	MIN	iP	31 23.7	d	
	REN	eP	08.3	c	
		i	30.4	d	
	CLS	eP	23.6	d	
	PRI	eP	02.2	c	
		iS	32 13.3		

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ARCATA--BERKELEY--CALISTOGA--CONCORD
FERNDALE--FRESNO--LLANADA--MANZANITA LAKE
MINERAL--MOUNT HAMILTON--PALO ALTO--PARAISO
POINT REYES--PRIEST--RENO--SAN FRANCISCO
SANTA CRUZ--SHASTA--VINEYARD

Earthquakes and the Registration of Earthquakes

From July 1, 1962 to September 30, 1962

By

Cinna Lomnitz,

Michio Otsuka

and

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University of California

Berkeley

1965

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INTRODUCTION

Each number in this series includes determinations of epicenters, origin times, and magnitudes, as well as other information available at the time of writing, for earthquakes in northern California and adjoining areas (Part I), and tabulates recorded arrival times of seismic waves and other information for teleseisms and for the larger earthquakes in the local area (Part II).

Information regarding the seismographic stations which comprise the Berkeley network, instruments operated regularly at each station, and any changes in instrumentation during the period covered by this issue will be found on the following pages of the Introduction.

Information of a general nature such as the Modified Mercalli Intensity Scale will be found only in the first number of each volume.

PERSONNEL (FEBRUARY 1965)

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WORLD-WIDE STANDARD STATION (BKS)

Standardized equipment began operating in a newly constructed tunnel east of the main campus on June 8, 1962. The closest buildings, part of the Lawrence Radiation 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. 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.

The short-period world-wide standard instruments are operated with an approximate magnification of 25,000 at 1 sec and the long-period standard instruments with 3,000 at 30 sec.

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 twenty in 1962. In 1950, Professor Perry Byerly was appointed Director by the Regents; he had been in charge of instruction and research since 1925. In 1960, the University entered into a contract with the Air Force Office of Scientific Research of the Research Projects Agency of the Department of Defense. Funds were made available under the Vela Uniform program to design and operate a telemetered network of eight new stations in central California and to construct a new seismic vault near the Berkeley campus.

STATIONS IN OPERATION: APRIL - JUNE 1962

Station	North Latitude	West Longitude	Elev. Meters	Symbol	Present Auspices and Date Established
Berkeley (Haviland)	37° 52.4'	122° 15.6'	81	BRK, BRX	Univ. of California, 1887
Berkeley (Strawberry)	37° 52.6'	122° 14.1'	276	BKS	Univ. of California, 1962
Mt. Hamilton	37° 20.5'	121° 38.5'	1282	MHC	Lick Observatory, 1887
Palo Alto	37° 25.0'	122° 10.9'	83	PAC	Stanford University, 1927
San Francisco	37° 46.6'	122° 27.1'	100	SFB	Univ. of San Francisco, 1931
Ferndale	40° 34.6'	124° 15.7'	15	FER	City of Ferndale, 1933
Fresno	36° 46.0'	119° 47.8'	88	FRE	Fresno City College, 1935
Mineral	40° 20.7'	121° 36.3'	1495	MIN	National Park Service, 1938
Arcata	40° 52.6'	124° 04.5'	59	ARC	Humboldt State College, 1948
Reno	39° 32.3'	119° 48.8'	1386	REN	Univ. of Nevada, 1948
Shasta	40° 41.7'	122° 23.3'	312	SHS	Bureau of Reclamation, 1942
Manzanita Lake	40° 32.2'	121° 33.7'	1800	MLC	National Park Service, 1956
Vineyard (local)	36° 45.0'	121° 23.1'	330	VIN	W. A. Taylor and Co., 1959
Vineyard (telemeter)	36° 45.0'	121° 23.3'	380	VIT	
Concord	37° 58.1'	122° 04.3'	36	CNC	Diablo Valley College, 1960
Santa Cruz	37° 00.4'	121° 59.8'	128	SCC	City of Santa Cruz, 1961
Paraiso	36° 19.9'	121° 22.2'	363	PRS	Paraiso Hot Springs, 1961
Llanada	36° 37.0'	120° 56.6'	475	LLA	Charles McCullough Ranch, 1961
Calistoga	38° 38.2'	122° 35.1'	457	CLS	Terrance Kirk Ranch, 1961
Point Reyes	38° 04.8'	122° 52.0'	404	PRC	Federal Aviation Agency, 1961
Priest	36° 08.5'	120° 39.9'	1187	PRI	Federal Aviation Agency, 1961

STATION INSTRUMENTATION

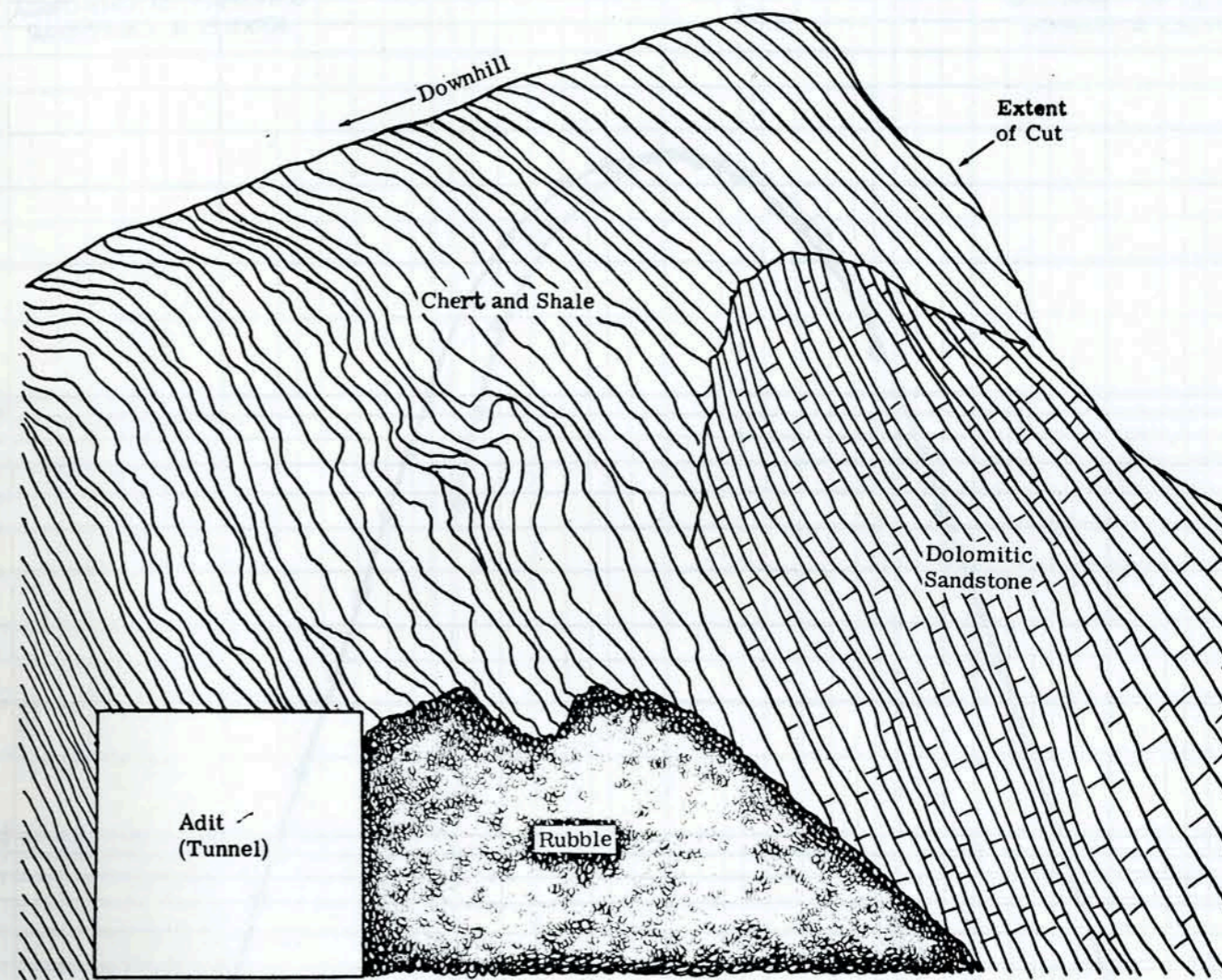
April - June 1962

Station	Type of Instrument	T _o sec	T _g sec	Component
BRK	Benioff 100 kg (Z)	1.0	0.4	Z
	Benioff 100 kg (Z)	1.0	8.0	Z
	Wood-Anderson torsion	0.8	-	S,W
	100X torsion	0.8	-	N,W
BKS	Benioff 100 kg Sprengnether	1.0	0.75	N,E,Z
		30	100	N,E,Z
BRX	Galitzin-Wilip moving coil	12	12	N,E,Z
	Press-Ewing moving coil	30	90	N,E,Z
MHC	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	S,E
PAC	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	N,E
SFB	Lehner-Griffith moving coil	1.2	0.3	Z
	Wood-Anderson torsion	0.8	-	S,W
FER	Bosch-Omori 25 kg	12	-	S,W
FRE	Sprengnether moving coil	2.0	2.0	N,E,Z
MIN	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	S,E
ARC	Marion-Slichter moving coil	1.1	0.2	Z
	Wood-Anderson torsion	0.8	-	N,E
REN	Sprengnether moving coil	2.0	2.0	N,E,Z
SHS	Benioff 50 kg moving coil	1.5	0.45	N,E,Z
MLC	Loucks-Omori	3½	-	S,E
VIN	Benioff 100 kg (Z)	1.0	0.2	Z
	Wood-Anderson torsion	0.8	-	S,W
VIT [△]	Benioff 14 kg (Z)	1.0	2.0	Z
CNC [△]	Benioff 100 kg (Z)	1.0	0.2	Z
SCC [△]	Benioff 14 kg (Z)	1.0	0.2	Z
PRS [△]	Benioff 14 kg (Z)	1.0	0.2	Z
LLA [△]	Benioff 14 kg (Z)	1.0	0.2	Z
CLS [△]	Benioff 14 kg (Z)	1.0	0.2	Z
PRC [△]	Benioff 14 kg (Z)	1.0	0.2	Z
PRI [△]	Benioff 14 kg (Z)	1.0	0.2	Z

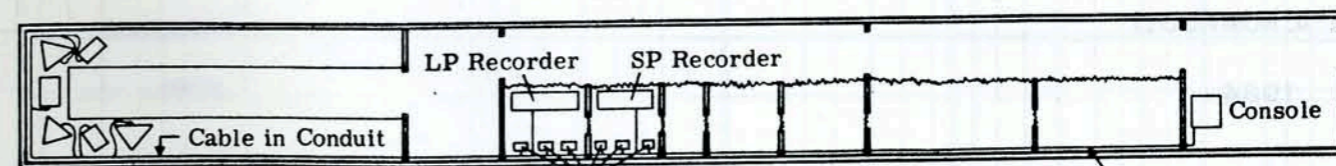
△ Signals from these eight stations are transmitted via leased telephone lines to recorders at Berkeley.

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 through the tele-meter system are listed on the following pages. Absolute magnification may be obtained by use of calibration pulses recorded daily from each telemetered station.

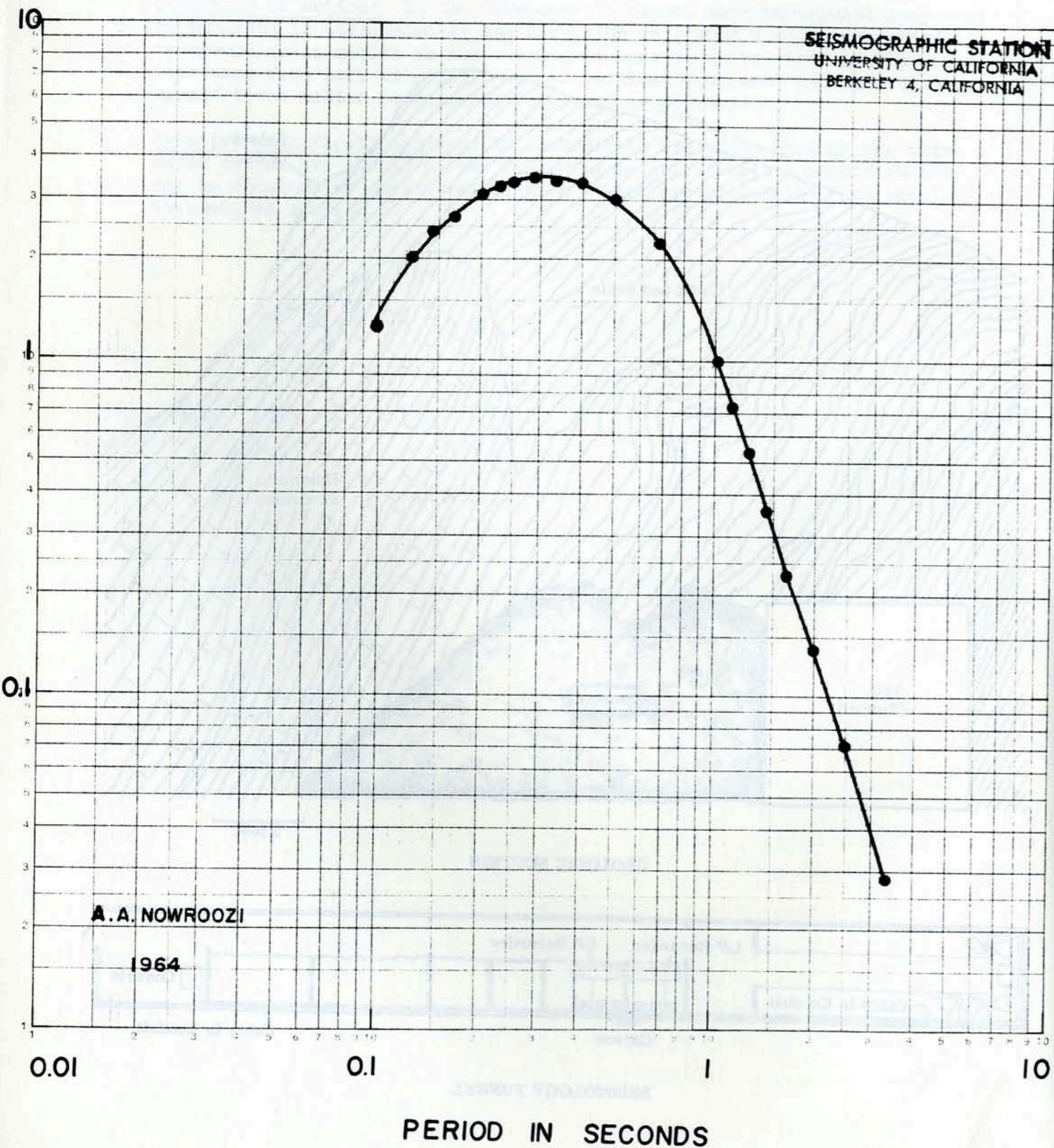


GEOLOGIC SECTION

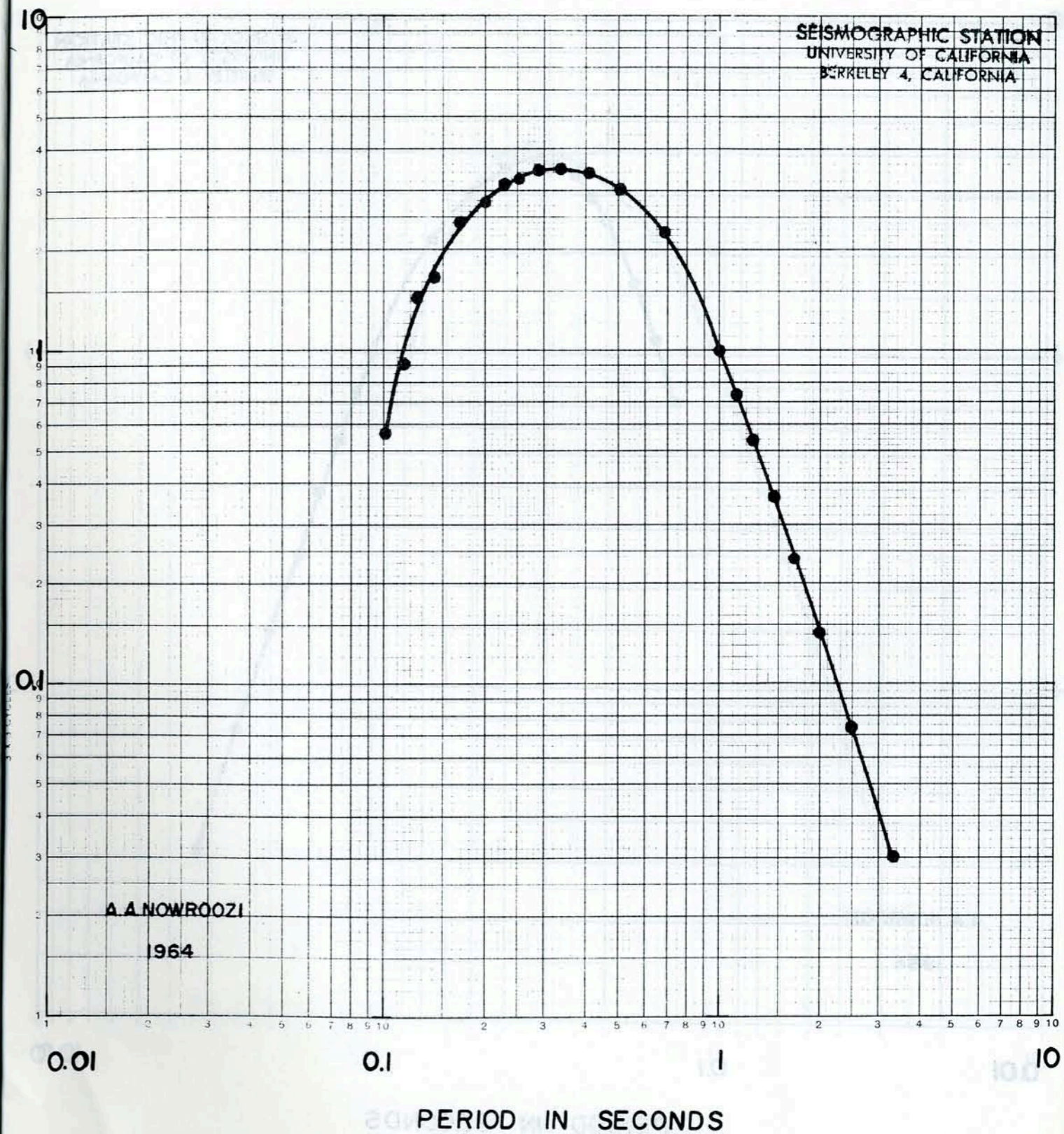


SEISMOLOGY TUNNEL

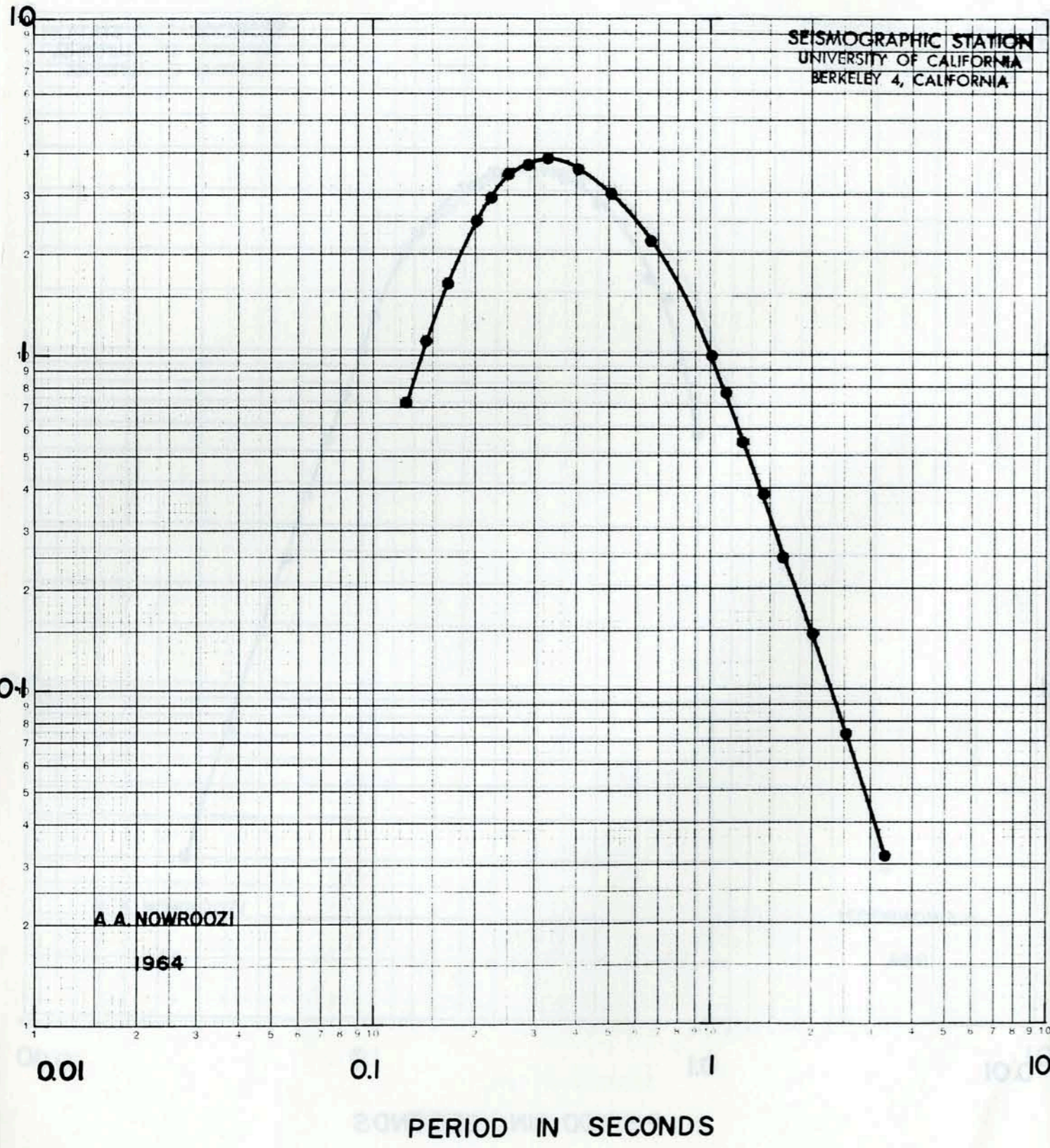
RESPONSE OF SEISMOMETER-DEVELOCORDER SYSTEM. 100KG. Z. S.P



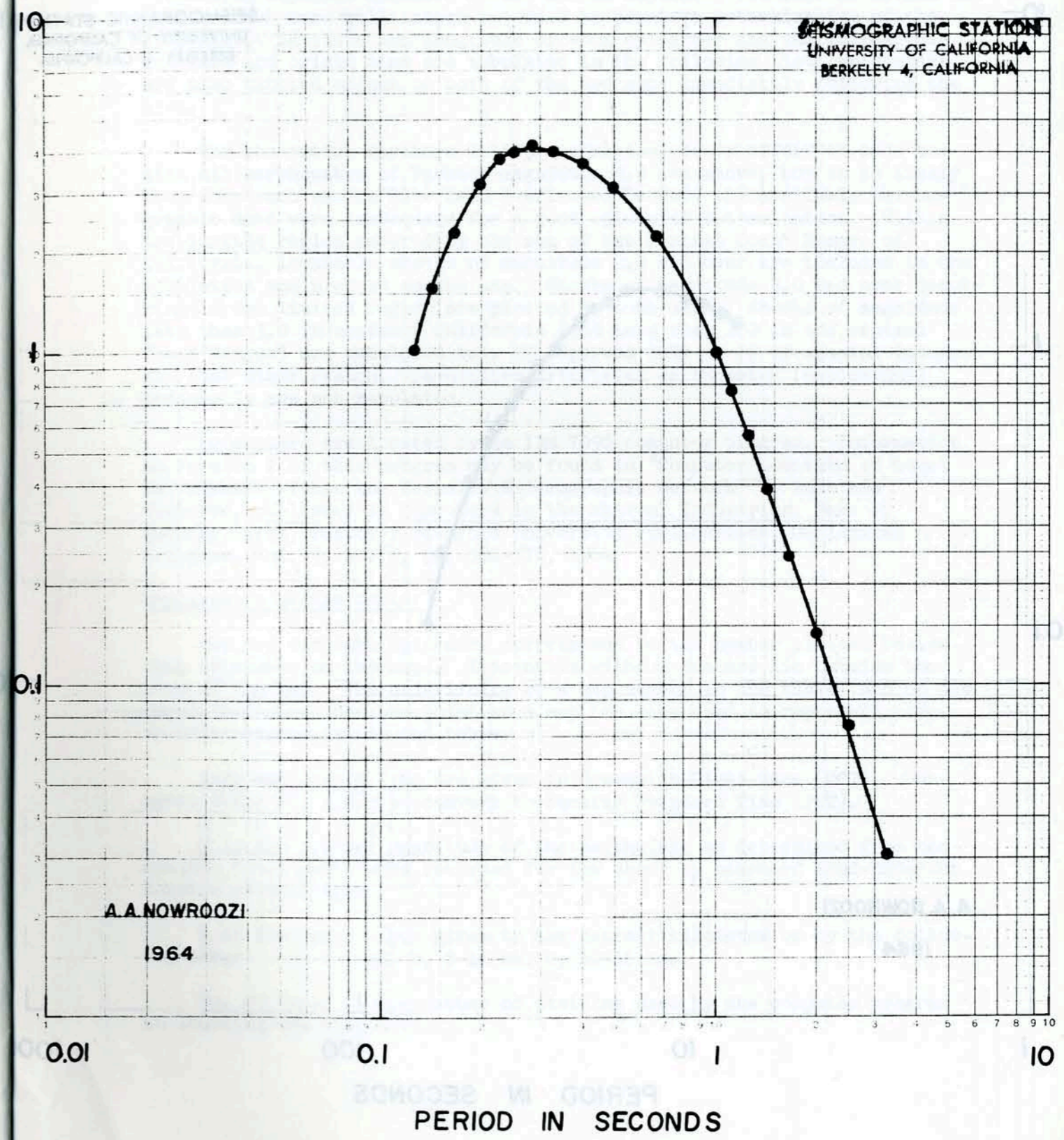
RESPONSE OF SEISMOMETER-HELICORDER SYSTEM. 100KG. Z. S.P



RESPONSE OF SEISMOMETER—HELICORDER SYSTEM. 14.7 KG. Z. S.P



RESPONSE OF SEISMOMETER—DEVELOCORDER SYSTEM. 14.7 KG. Z. S.P

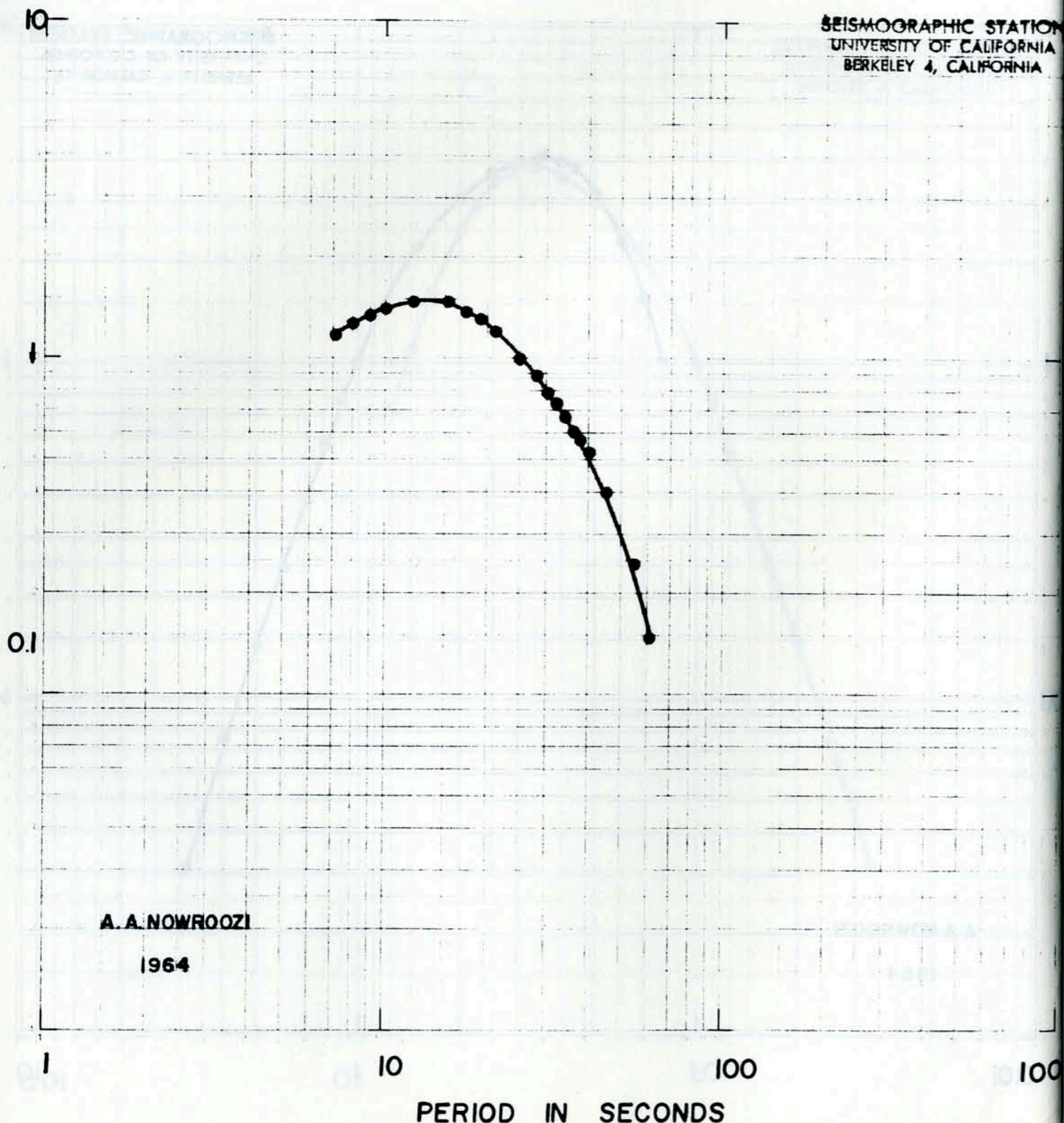


RESPONSE OF SEISMOMETER - HELICORDER

SYSTEM. PRESS-EWING.

Z. T.G=30S., T.S=15S.

SEISMOGRAPHIC STATION
UNIVERSITY OF CALIFORNIA
BERKELEY 4, CALIFORNIA



PART I. LOCAL EARTHQUAKES IN NORTHERN CALIFORNIA, NEVADA, AND OREGON

This section includes information on earthquakes in northern California (including adjacent offshore areas) and in adjoining sections of Nevada and Oregon which were well enough recorded to permit a determination of the epicenter. Latitude and longitude of each epicenter and the corresponding date and origin time are tabulated in the following list; epicenters are also plotted on one or both of the two maps immediately following the list.

For the entire northern California region, every effort is made to list all earthquakes of Richter magnitude 3.0 and above, but it is likely that some such shocks have been overlooked because the available seismographic data were inadequate for a good epicenter determination. Within the limited region covered by the map of the central Coast Ranges of California, locatable shocks of magnitude 2.0 and over are included in the tabulation and plotted on the map. Shocks of magnitude 3.0 and over occurring in the limited region are plotted on both maps. Shocks of magnitude less than 3.0 in northern California (and less than 2.0 in the central Coast Ranges) are tabulated only if reported felt or if of special interest for some other reason. Identified artificial earthquakes (explosions) ordinarily are not tabulated.

Epicenters are located by an IBM 7090 computer program. Information on Version I of this program may be found in "Computer Location of Local Earthquakes within the Berkeley Seismographic Network" by Bolt and Turcotte, published in *Computers in the Mineral Industries*, Part 2, (George Parks, Editor); Stanford University Publications, Geological Sciences, Vol. 9, No. 2, pp. 561-576, 1964.

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 (and on the maps) 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 Greenwich Civil Time (GCT). Subtract eight (8) hours to convert to Pacific Standard Time (PST).

M is the Richter magnitude of the earthquake as determined from the maximum trace amplitudes recorded for the shock by standard Wood-Anderson torsion seismographs.

h is the focal depth given to the nearest kilometer or by the following ranges: a, 0-5 km; b, 5-10 km; c, 10-15 km.

No. of Stas. is the number of stations used by the computer program in locating the epicenter.

The quality of the solution is partially reflected by the listed number of stations. Excellent locations are given to the nearest minute of arc in latitude and longitude and to the tenth of a second origin time. Focal depths are listed in kilometers. Poorer quality locations are given to the tenth of a degree in latitude and longitude and to the nearest second in origin time.

Under Remarks will be found a short descriptive location of the epicenter, usually relative to a point named on the map. Information on small foreshocks and aftershocks is sometimes included under Remarks, but when numerous foreshocks or aftershocks accompany a large earthquake, a separate tabulation may be included following the main list of local shocks.

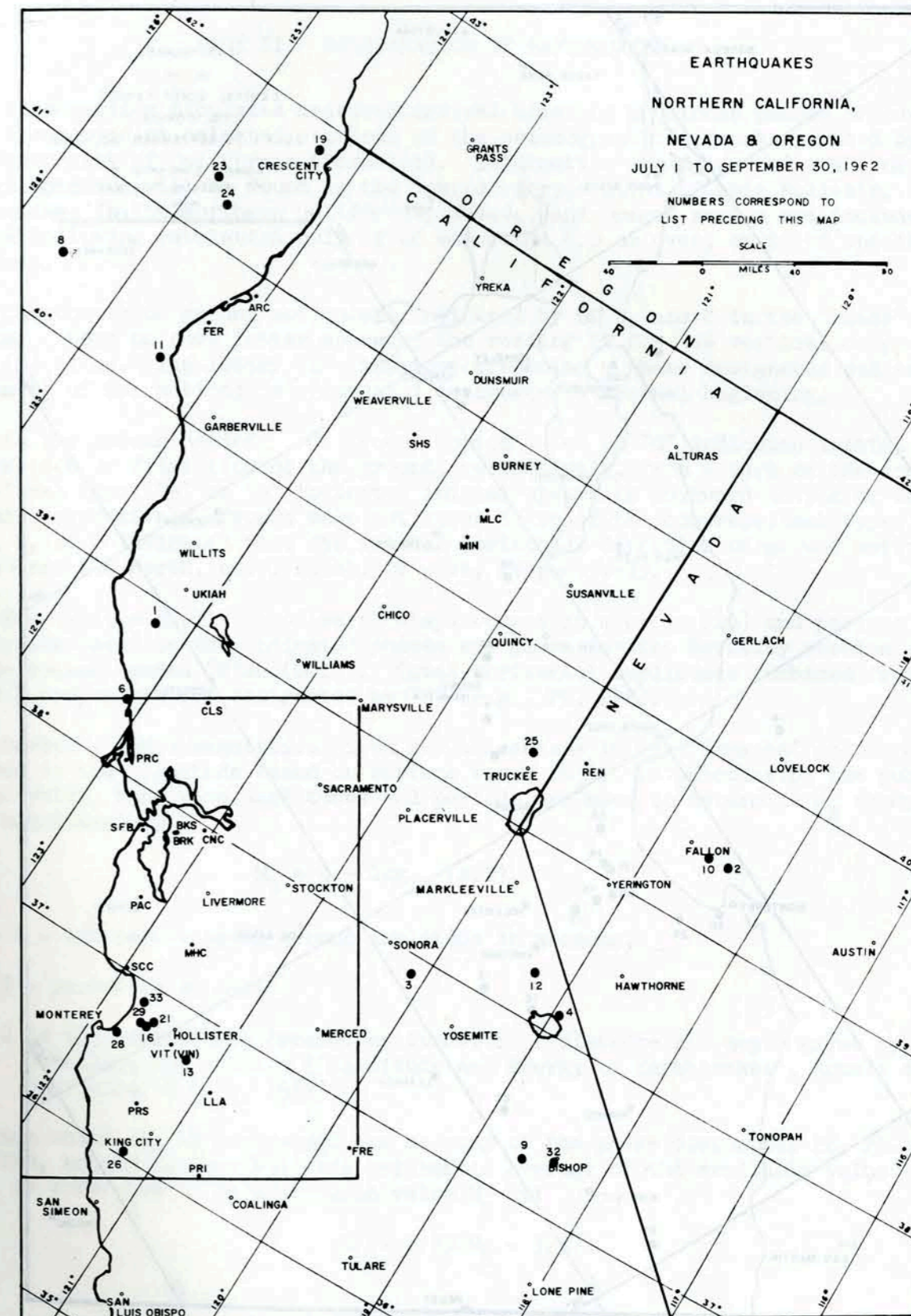
Information on maximum intensities of shocks reported felt is also included under Remarks. Reports on felt earthquakes may be obtained from the Seismological Field Survey of the U.S. Coast and Geodetic Survey, which publishes a more complete summary in "Abstracts of Earthquake Reports for the Pacific Coast and Western Mountain Region." This regular quarterly publication may be obtained from the District Officer, San Francisco District, Coast and Geodetic Survey, 121 Customhouse, San Francisco 26, California, or from the Director, U.S. Coast and Geodetic Survey, Washington 25, D.C. Intensities given in Roman numerals are assigned by the Coast and Geodetic Survey and based on the Modified Mercalli Intensity Scale of 1931.

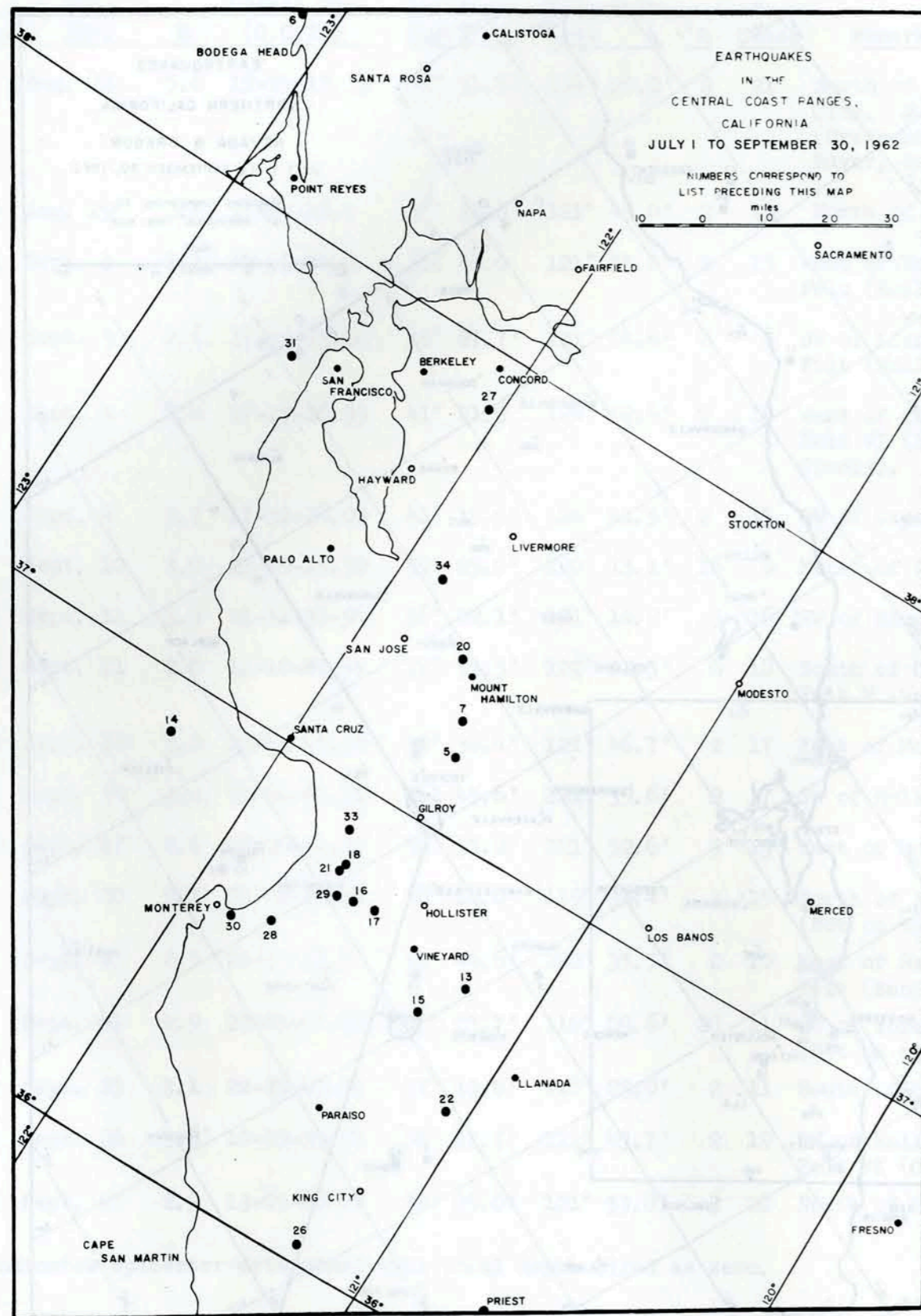
EARTHQUAKES IN NORTHERN CALIFORNIA, NEVADA, AND OREGON

Map No.	Date 1962	M	Origin Time (G.C.T.)	Latitude North	Longitude West	h	No. of Stas.	Remarks
1	July 1	3.4	01-06-51.15	38° 53.9'	123° 14.7'	30	9	South of Ukiah.
*2	July 2	3.6	01-03-40.57	39° 25.9'	118° 25.0'	0	12	East of Fallon.
3	July 4	3.5	08-26-38.20	37° 52.6'	120° 06.2'	1	10	SE of Sonora.
4	July 5	3.3	18-34-19.11	38° 07.1'	118° 56.0'	5	13	SW of Hawthorne.
5	July 5	2.7	19-50-02.12	37° 09.2'	121° 35.6'	7	12	North of Gilroy.
6	July 7	3.0	08-18-07.00	38° 24.0'	123° 06.0'	2	7	West of Santa Rosa.
6	July 7	3.1	08-19-00.00	38° 24.0'	123° 06.0'	2	6	West of Santa Rosa.
7	July 11	2.6	20-32-47.25	37° 14.4'	121° 38.4'	1	13	South of Mt. Hamilton.
8	July 14	5.1	19-43-46.24	40° 25.6'	125° 30.7'	30	18	Off Cape Mendocino. Felt V (Humboldt County).
	July 16	2.9	02-33-34.00	38° 45.0'	123° 02.0'	2	16	NW of Calistoga (not on the map).
*9	July 17	3.8	07-53-30.94	37° 13.1'	118° 38.7'	0	15	SW of Bishop. Felt IV (Laws).
10	July 20	4.7	09-02-13.93	39° 26.3'	118° 35.8'	15	18	East of Fallon. Felt V (Austin, Fallon).
11	July 20	4.1	17-15-24.00	40° 15.0'	124° 25.0'	2	19	SW of Ferndale.
12	July 26	3.9	00-37-26.43	38° 16.7'	119° 18.5'	10	18	NE of Yosemite.
13	Aug. 2	3.1	11-14-57.06	36° 42.1'	121° 12.2'	9	15	East of Vineyard.
*14	Aug. 5	2.7	10-58-26.3	36° 52.7'	122° 17.5'	0	13	SW of Santa Cruz.
15	Aug. 7	2.5	10-43-59.49	36° 37.4'	121° 17.3'	5	14	SE of Vineyard.
15	Aug. 8	2.6	14-13-44.22	36° 37.4'	121° 17.9'	5	11	Aftershock of 10-43.
16	Aug. 22	3.2	21-38-40.73	36° 45.7'	121° 37.1'	1	17	SW of Hollister.
*17	Aug. 22	2.7	21-42-57.56	36° 46.9'	121° 33.6'	0	10	SW of Hollister.
18	Aug. 23	2.6	01-42-04-81	36° 49.3'	121° 40.3'	2	14	West of Hollister.

Map No.	Date 1962	M	Origin Time (G.C.T.)	Latitude North	Longitude West	h	No. of Stas.	Remarks
19	Aug. 23	5.6	19-29-13.13	41° 51.0'	124° 20.0'	2	21	North of Crescent City. Felt VI (Crescent City, Smith River, Brookings).
20	Aug. 29	2.4	17-23-18.0	37° 21.0'	121° 43.0'	2	13	North of Mt. Hamilton
21	Sept. 3	3.1	10-55-44.0	36° 48.0	121° 35.0'	2	13	West of Hollister. Felt (Hollister).
*22	Sept. 3	2.6	17-53-33.14	36° 27.7'	121° 04.4'	0	8	SW of Llanada. Felt (Hollister).
*23	Sept. 4	5.0	17-17-16.99	41° 21.9	124° 52.4'	0	19	West of Crescent City. Felt VI (Humboldt County).
24	Sept. 4	3.7	17-32-38.00	41° 15.5'	124° 41.5'	2	15	SW of Crescent City.
25	Sept. 10	3.0	23-39-19.39	39° 25.0'	120° 13.1'	16	9	North of Truckee.
26	Sept. 11	3.3	01-34-30-96	36° 02.1'	121° 14.2'	3	16	SW of King City.
27	Sept. 11	2.8	11-12-32.45	37° 53.3'	122° 02.5'	6	18	South of Concord. Felt V (Walnut Creek).
28	Sept. 14	3.0	00-49-49.92	36° 38.4'	121° 46.7'	2	17	East of Monterey.
29	Sept. 14	3.0	02-56-48.06	36° 45.6'	121° 39.6'	2	17	SW of Hollister.
30	Sept. 17	2.6	07-16-34.32	36° 35.2'	121° 52.6'	9	13	East of Monterey.
	Sept. 20	2.7	03-08-22.42	38° 14.0'	119° 31.4'	3	15	North of Yosemite. (Not on the map)
31	Sept. 21	2.5	05-37-13.5	37° 44.6'	122° 35.5'	2	10	West of San Francisco. Felt (San Francisco).
	Sept. 21	2.9	23-45-00.76	37° 03.7'	119° 09.6'	28	11	SE of Yosemite. (Not on the map)
32	Sept. 23	3.1	22-25-43.00	37° 19.0'	118° 23.0'	2	11	South of Bishop.
33	Sept. 26	3.6	10-19-30.57	36° 53.7'	121° 43.7'	2	19	NW of Hollister. Felt VI (Gilroy).
34	Sept. 27	2.9	13-05-08.09	37° 29.0'	121° 53.8'	3	20	North of San Jose.

*Indicates epicenter determined with focal depth fixed as zero.





PART II. REGISTRATION OF EARTHQUAKES

This section tabulates measured arrival times of prominent phases of earthquakes recorded at selected stations of the seismographic network operated by the University of California (Berkeley). Information regarding the stations and instrumentation will be found in the introductory section of this Bulletin. Earthquakes in the northern California, Nevada, and Oregon region are included in the following tabulation only if of magnitude 4.0 or over, or if of special interest.

Components of ground motion are indicated by N, E, and Z in the "Phase" column. Where no such letter appears, the reading is for the vertical component (Z) alone. The letter "i" (impetus) preceding a phase designates sudden beginning of the motion; "e" (emersio) designates a gradual beginning.

In the column headed "Ground motion", "c" or "d" indicates initial compression or dilatation of the ground, respectively, from a wave of the compressional type; "+" or "-" indicates initial upward or downward motion of the ground, respectively, from a wave not known to be of the compressional type. N, E, S, or W indicates that the initial horizontal direction of ground motion was toward the north, east, south, or west, respectively.

The maximum amplitude of earth displacement in microns (μ) and periods in seconds (sec) in the indicated phases are given for the Berkeley station in the column headed "Time (GCT)". Total horizontal amplitudes combined from N and E components are designated by "H" (e.g., PH, PPH).

Berkeley (BKS) magnitudes given for teleseisms in the "Remarks" column correspond to the magnitude based on surface waves (M_s). In calculating the published value, body wave amplitudes and periods are used to determine M_B (body wave magnitude) by:

$$M_B = Q + \log_{10} (A/T),$$

where $A = 1/2$ peak-to-peak ground amplitude in microns,

$T =$ period in seconds

Q is the empirically determined function of distance and depth given by Gutenberg and Richter ("Magnitude and Energy of Earthquakes", *Annali di Geofisica*, 9:1-15, 1956).

For each shock, M_B is determined for as many of the phase components PZ, PH, PPZ, PPH, and SH as possible; the arithmetic average of the available values of M_B is converted to an equivalent value M_s by:

$$M_s = 1.59 M_B - 3.97.$$

This value is compared with the value of M_s determined directly from surface waves of period near 20 sec; the published value of magnitude then represents a weighted average of all the available values of M_s based on body and surface waves.

Frequently quoted sources of information regarding epicenters, origin times, or shock magnitudes are as follows:

USCGS - U.S. Coast and Geodetic Survey, Washington Science Center, Rockville, Maryland

BCIS - Bureau Central International de Seismologie, Strasbourg, France

PAL - Lamont Geological Observatory, Palisades, New York

PAS - Seismological Laboratory, Pasadena, California

BKS - Berkeley Seismographic Station

BRK indicates the average magnitude determined by the network.

All measurement 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. Readings from the remaining stations in the network other than the six listed (BRK, CLS, MHC, MIN, PRI, REN) are available on request. Requests for additional data or for copies of seismograms should be addressed to the Director.

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
July 2	BRK	iP epP eSN eRNEZ	08 44 55.4 45 12 55 08 09 09.9	c	USCGS: 10.6°S; 166.0°E, 0 = 08 32 43.1. Santa Cruz Islands. h about 50 km. Magnitude 6 1/4 (BRK).
			mu sec		
		PZ	2 9		
		MaxH	8 20		
	MHC	iP	08 44 55.8	c	
	MIN	i(P)	45 01.0	c	
	REN	iP	06.9		
	PRI	eP	44 59.0	c	
July 2	MIN	eP	09 03 17.3	d	
July 3	BKS	eP	18 35 20	d	USCGS: 54.6°S, 132.3°W, 0 = 18 22 06.3. South Pacific Ocean. h about 25 km.
		eSE eR	19 04.7 R from SW		
	MHC	eP	18 35 22		
	CLS	eP	20.3	d	
	PRI	eP	10.5	d	
July 3	MHC	iP	21 29 48.7	d	USCGS: 3.8°N, 31.7°W 0 = 21 17 00.2. Mid-Atlantic Ocean. h about 23 km.
	REN	iP	41		
	PRI	eP	46	c	
July 4	MHC	iP	08 08 18.7	c	
	MIN	eP	08 07 21.2	c	
July 5	MIN	eP	05 47 21		
July 5	MIN	eP	07 45 05.2	d	USCGS: 11.3°S, 166.5°E, 0 = 07 32 33.2. Santa Cruz Islands. h about 33 km. Felt.
July 5	MIN	e	17 52 38		USCGS: 30.9°N, 141.4°E, 0 = 17 40 55.3. South of Honshu, Japan. h about 23 km.
July 6	BKS	eP eSNEZ eG eR	02 33 36 46 44 03 06.3 15.4	d	USCGS: 11.6°N, 57.5°E, 0 = 02 12 12.0. Arabian Sea. h about 30 km.
			R from SE mu sec		
		MaxH	1.4 40		
	MHC	iP	02 31 03.1		
		e	33 38		
	MIN	e	31 21		
July 6	BKS	eSNE eQE eR	09 41 12 58.3 10 04.8		USCGS: 38.0°N, 20.2°E, 0 = 09 16 15.0. Ionian Sea. h about 30 km.
			R from NW mu sec		
		MaxH	20 20		
	MHC	iP	09 29 49.1	d	
		iZ	59.7		
	MIN	eP	35.0	d	
	REN	eP	39.5		
	CLS	eP	53	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
July 6 (Cont.)	PRI	eP	47.3	c	
July 6	MHC	iP	12 23 29.4	c	USCGS: 16.6°S, 173.6°W, 0 = 12 12 03.1. Tonga Islands region. h about 27 km.
	MIN	iP	39.7	c	
July 6	MIN	e	18 30 40.5	c	
July 6	BKS	eP	17 01 27.4	c	USCGS: 37°10'37"N, 116°02'43"W, 0 = 17 00 00.147. Nevada Test Site. SEDAN. Shot elevation = 1114.6 meters (AEC).
		iS	02 42.5		
	MHC	iP	01 08.5	d	
		i	02 20.0		
	MIN	iP	01 24.0	d	
	REN	eP	00 59.7	c	
		i	02 13.0		
	CLS	eP	01 23.3	d	
	PRI	eP	01.9	(c)	
July 6	BKS	eP	23 19 18.0	c	USCGS: 36.6°N, 70.4°E, 0 = 23 05 32.2. Hindu Kush. h about 203 km. Felt. Magnitude 7.5 (BKS)
		eZ	22 46.2		
		iPPNEZ	23 42		
		eSKS	29 40		
			mu sec		
		PZ	30 12		
		PPH	47 12		
	MHC	iP	23 19 23.1	d	
		iZ	22 34.8		
	MIN	eP	19 07.4	c	
	REN	iP	12.4		
	CLS	eP	38.7	c	
	PRI	eP	28.2	c	
July 7	BKS	eP	06 20 40.5	c	USCGS: 51.3°N, 178.6°E, 0 = 06 12 48.9. Rat Islands. h about 60 km. Magnitude 5 1/2 - 6 (BKS)
		e(S)Z	27 05.0		
		eRZ	33 36.0		
			mu sec		
		SH	8 8		
		MaxH	7 20		
	MHC	iP	06 20 50.1	c	
		iZ	21 00.0		
	MIN	eP	36.2	c	
	REN	eP	48.6	c	
	CLS	eP	39.2	c	
July 7	MHC	iP	06 26 25.9	c	
	MIN	ez	18.0	c	
	REN	eP	25 55.1		
July 7	BKS	eP	07 22 29	c	USCGS: 51.3°N, 178.8°E, 0 = 07 14 34.6. Rat Islands. h about 60 km.
	MIN	eP	25.6	c	
July 7	MIN	eP	10 27 26.2	c	
	REN	eP	10 26 37		
July 8	BKS	eP	03 29 58.9	d	USCGS: 51.3°N, 178.6°E, 0 = 03 22 07.3. Rat Islands. h about 60 km. Magnitude 4 3/4 (BKS)
		eZ	30 10.6		
		eSNEZ	36 31		
		eQNEZ	42.7		
		eRNEZ	46.5		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
July 8 (Cont.)			mu sec		
		MaxH	1.3 20		
	MHC	iP	03 30 04.9	d	
	MIN	iP	29 51.1	d	
	REN	eP	30 04.3		
	CLS	eP	29 54.1	d	
	PRI	eP	30 16.3	d	
July 8	MHC	iP	04 22 47.7	d	USCGS: 55.5°S, 30.1°W, 0 = 04 03 56.8. Sandwich Islands. h about 25 km.
	MIN	eP	51.5	d	
July 8	MHC	iP	07 43 00.9	c	USCGS: 8.1°N, 38.0°W, 0 = 07 30 49.7. Mid-Atlantic Ocean, h about 25 km.
	MIN	eP	42 58.6	d	
July 8	MHC	iP	12 13 46.5	c	USCGS: 22.0°S, 179.8°W, 0 = 12 02 33.2. Fiji Islands. h about 600 km.
	MIN	eP	55.4	c	
July 8	MIN	eZ	23 07 15		USCGS: 28.1°S, 176.5°W, 0 = 22 54 44.7. Kermadec Islands region. h about 25 km.
July 9	MIN	eP	07 04 52.6		
July 9	MIN	eP	09 56 57.0	d	
July 10	BKS	iP	05 23 12.4	c	USCGS: 20.8°S, 178.7°W, 0 = 05 12 06.4. Fiji Islands. h about 584 km.
	MHC	iP	12.5	c	
	CLS	eP	13.1	d	
	PRI	eP	18.9	c	
July 11	MHC	iP	07 26 57.3	c	USCGS: 53.2°N, 159.6°E, 0 = 07 17 27.4. Kamchatka. h about 69 km.
	MIN	eP	37.2	c	
July 11	MIN	eZ	12 54 23		
July 12	BKS	iP	09 44 18.6	c	USCGS: 17.9°S, 178.7°W, 0 = 09 33 21.8. Fiji Islands. h about 545 km.
	MHC	iP	19.6	d	
	MIN	eP	28.2	d	
	CLS	eP	19.6	d	
	PRI	eP	19.4	c	
July 12	BKS	e(P)	22 58 21.1		USCGS: 3.9°S, 104.1°W, 0 = 22 50 58.8. South Pacific Ocean. h about 25 km.
		e(S)	23 05 58.1		
		eR	12 26.1		
			mu sec		
		MaxH	14 25		
	MHC	iP	22 59 11.6	d	
	CLS	eP	58 53	d	
	PRI	eP	56	c	
July 13	BKS	eS	05 04.5		
		eR	19.5		
			mu sec		
		MaxH	3 26		
	PRI	eP	04 56 22	c	
July 13	BKS	eP	16 01 33	c	USCGS: 37°03'18"N, 116°02'00"W. Nevada Test Site. MERRIMAC Shot elevation = 814.1 meters (AEC)
		iSNZ	02 43.9		
	MHC	eP	01 10.9	c	
		i	22.7	d	
	MIN	iP	01 24.4	d	
	REN	e(P)	00.3	d	
		i(S)	02 06.6		
	CLS	eP	01 24.8	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
July 13 (Cont.)	PRI	eP	01.5	d	
July 13	MHC	iP	22 28 29.8	d	USCGS: 56.2°N, 164.0°E, 0 = 22 19 23.3 Komandorskiye Islands region. h about 59 km.
July 13	CLS	eP	16.1	c	
	PRI	eP	53.8	c	
	BKS	iP	23 06 29.8	c	USCGS: 11.9°S, 75.1°W, 0 = 22 55 48.4. Peru. h about 91 km.
	MHC	iP	25.8	c	
	CLS	eP	33.7	c	
	PRI	eP	16.6	c	
July 14	BKS	iP	01 10 49.0	d	USCGS: 51.5°N, 179.1°E, 0 = 01 02 57.5. Rat Islands. h about 72 km.
	MHC	iP	53.8	c	
	REN	iP	09 28.4		
	CLS	eP	10 43.8	d	
	PRI	eP	11 05.6		
July 14	CLS	iP	19 44 28.7	d	USCGS: 40.3°N, 124.4°W, 0 = 19 43 52.6 Off coast of northern California. Felt. h about 25 km. Magnitude 5.1 (BRK).
	PRC	eP	32.6	d	
	iS		59.2		
	BRK	iP	38.7	d	
	CNC	iP	39.9	d	
	VIT	iP	57.3	d	
	LLA	eP	45 01.2	d	
	PRS	eP	00.7	(d)	
	PRI	i(P)	09.4	(c)	
	MHC	iP	44 48.7	d	
	i		45 30.9		
	PAC	iP	44 43.7	d	
	SHS	iP	21.2	c	
	FRE	eP	45 10.3	d	
	USF	eP	44 37.7	c	
	ARC	iP	05.3	c	
	FER	eP	02		
July 14	MHC	eP	20 47 51		USCGS: 50.2°N, 155.8°E, 0 = 20 38 01.3. Kurile Islands. h about 60 km.
	CLS	eP	41.3	c	
	PRI	eP	48 00.1	c	
July 15	BKS	iP	06 58 58.7	c	USCGS: 39.8°N, 140.9°E, 0 = 06 47 22.5. Honshu, Japan. h about 103 km. Magnitude 5 (BKS).
	eSNE		07 07 47		
	eQ E		15.7		
	eRZ		17.2		
			mu sec		
	SH		84 16		
	MHC	iP	06 58 41.5	c	
	iZ		59 02.9	c	
	REN	iP	58 38.4		
	CLS	eP	54.8	c	
	PRI	eP	47.1	d	
	e		59 11.5		
July 15	BKS	iP	09 45 59.3	d	USCGS: 14.6°N, 146.5°E, 0 = 09 33 42.9. Mariana Islands. h about 57 km.
	MHC	iP	46 01.8	c	
	PRI	e	46 05.7		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
July 15	MHC	iP	19 46 51.7	d	0=19 34 09.4. USCGS: 20.3°S, 169.2°E, h about 24 km.
July 16	BKS	eP	04 59 42	d	USCGS: 11.2°S, 79.8°W, 0 = 04 49 21.5. Near coast of Peru. h about 75 km.
	eS		05 08 15		
	MHC	iP	04 59 38.5	c	
	REN	iP	40.6	c	
	CLS	eP	47.5	c	
	PRI	eP	28.5	c	
July 16	BKS	iP	09 38 49.5	c	USCGS: 13.2°S, 167.1°E, 0 = 09 25 58.7. New Hebrides Islands. h about 208 km. Felt.
	MHC	i(P)	06.2	c	
	iZ		52.5		
	REN	eP	39 02.4		
	CLS	eP	38 52.7	c	
	PRI	eP	54.3	c	
July 16	BKS	iP	13 00 48.5	d	USCGS: 62.3°N, 153.1°W, 0 = 12 54 40.6 Alaska. h about 39 km. Magnitude 4 3/4 - 5 (BKS)
	iZ		55.0		
	eSNZ		05 55		
	eQNE		08.2		
	eR		09.6		
			mu sec		
	MaxH		4.1 20		
	MHC	iP	13 01 01.0	c	
	REN	iP	00 59.4		
	CLS	eP	47.5	c	
	PRI	eP	14.3	c	
July 16	MHC	iP	16 28 05.6	c	USCGS: 34.8°S, 108.6°W, 0 = 16 16 40.9. 551 miles south of Easter Island. h about 25 km.
	REN	iZ	21.3		
	CLS	eP	18	c	
	PRI	eP	02.2	d	
July 17	BKS	iP	05 45 14	d	USCGS: 43.0°S, 74.9°W, 0 = 05 32 08.8. Near coast of southern Chile. h about 26 km. Magnitude 6 3/4 (BKS).
	iPP		50 18		
	eSNEZ		56 22		
	iPSNEZ		57 30		
	eQNE		06 09 18		
	eRNEZ		15.0		
			mu sec		
	PZ		1.8 8		
	SH		1.5 28		
	MHC	iP	05 45 10.5	d	
	REN	eP	14		
	CLS	eP	18	c	
	PRI	eP	04.3	d	
July 17	BKS	e	08 02 57		
	eQNE		06 20		
	eRNEZ		08.5		
July 17	MHC	iP	09 47 36.4	c	USCGS: 14.5°N, 93.0°W, 0 = 09 40 51.0. Near coast of Chiapas, Mexico. h about 33 km.
July 17	BKS	iP	17 31 18	c	USCGS: 43.1°N, 144.5°E, 0 = 17 20 22.9. Hokkaido, Japan. h about 30 km. Magnitude 4 3/4 - 5 (PAS)
	eSNEZ		40 06	SWd	
	eQNE		47.50	SW	
	eRNEZ		51.0		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
July 17 (Cont.)		MaxH	mu sec		
	MHC	iP	2.2 30	d	
	REN	iP	17 31 21.8	d	
	CLS	eP	32.7	d	
	PRI	eP	13.2	d	
July 18	BKS	iP	31	c	
	MHC	iP	10 22 27.0	c	USCGS: 15.3°N, 148.1°E, 0 = 10 12 17. Mariana Islands. h about 16 km.
July 18	BKS	eRNZ	10 40.5	c	
	MHC	iP	25 24.9	c	
	CLS	eP	32.8	c	
	PRI	eP	16	c	
July 18	MHC	iP	14 53 21.7	d	USCGS: 21.5°S, 175.8°W, 0 = 14 41 45.0. Tonga Islands region. h about 218 km.
July 20	MIN	eP	04 44 06	c	USCGS: 51.5°N, 173.6°W, 0 = 04 36 41.0. Fox Islands, Aleutian Islands. h about 25 km.
July 20	BKS	iP	16 39 12.7	d	USCGS: 21.0°S, 174.8°W, 0 = 16 27 20.9. Tonga Islands. h about 28 km.
	MHC	iP	12.6	d	
July 22	BKS	eZ	00 45 33	c	USCGS: 5.9°S, 151.7°E, 0 = 00 21 30.9. New Britain region. h about 81 km.
		e(S)Z	51 23	c	
		eREZ	01 05 47	c	
		MaxH	mu sec		
	MHC	eP	2.3 20	c	
	MIN	eZ	00 34 36.3	c	
July 22	MHC	eP	30 19	c	
	MIN	eZ	10 11 49.0	c	
	MHC	iP	50	c	
July 22	MHC	iP	13 49 27.9	c	USCGS: 8.5°S, 158.9°E, 0 = 13 36 56.6. Solomon Islands. h about 144 km.
		eZ	50 02.4	c	
	MIN	eP	33	c	
		eZ	50 07	c	
	REN	eP	49 37.2	c	
	CLS	eP	25.5	c	
	PRI	eP	30.7	c	
July 23	BKS	iP	01 20 45.8	d	USCGS: 10.7°N, 86.5°W, 0 = 01 12 52.6. Off coast of Costa Rica. h about 44 km.
		eSNE	27 16	d	
	MHC	iP	01 20 40.3	d	
	REN	eP	39.3	c	
	CLS	eP	49.5	c	
	PRI	eP	28.5	c	
July 23	MHC	iZ	22 21 21	c	USCGS: 19.0°N, 65.1°W, 0 = 22 11 54.6. Virgin Islands. h about 25 km. Felt.
	CLS	eP	21 08.3	c	
	PRI	eP	07.7	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s		
July 23	BKS	e	23 47.5		
		eRZ	48 23		
July 24	MHC	iP	04 07 08.0		USCGS: 11.2° N, 85.7° W, 0 = 03 59 35. Costa Rica. h about 173 km.
	MIN	eZ	19		
July 24	BKS	eP	21 15 01.1	d	USCGS: 15.4°N, 92.5°W, 0 = 2 08 22.5 Mexico-Guatemala border region. h about 131 km. Magnitude 5 1/2 (BRK).
		ipP	24	d	
		isP	34.2		
		ePcP	17 33	c	
		i	58	c	
		esPP	02	dSE	
		eSNE	20 28	NE	
		eG	23.1		
	MHC	iP	14 55.0	d	
	REN	iP	55.7	c	
	CLS	eP	15 05.7	c	
	PRI	eP	14 43.7	c	
July 25	BRK	iP	00 22 49.7	d	USCGS: 14.4°S, 76.1°W, 0 = 00 11 52.2 Southern Peru. h about 46 km.
	MHC	iP	45.1	d	
	CLS	eP	53.8	d	
July 25	BKS	eP	04 45 26	c	USCGS: 19.0°N, 81.2°W, 0 = 04 37 46.5 West of Jamaica. h about 33 km. Magnitude 5 3/4 - 6 (BKS).
		iPPNEZ	47		
		iSNEZ	51 36		
		eQNEZ	54.5		
		iR	57.4		
		mu sec			
		PZ	3.6 14		
		PPZ	4.3 20		
	MHC	iP	04 45 15.6	d	
	REN	eP	10.8		
	CLS	eP	24	d	
	PRI	eP	09.2	d	
July 26	MIN	eZ	04 33 33		USCGS: 47.1°N, 153.9°E, 0 = 04 23 11.9. Kurile Islands. h about 35 km.
July 26	BKS	iP	08 23 14.7	cNW	USCGS: 7.5°N, 82.7°W, 0 = 08 14 44.8. South of Panama. h about 21 km. Magnitude 7 (BKS).
		iZ	25 02		
		eS	30 13		
		eGZ	38.8		
		mu sec			
		SH	165 16		
		MaxH	310 21		
	MHC	iP	08 23 09.2	d	
	MIN	eP	19.4	c	
	REN	iP	09.1	c	
	CLS	eP	19.7	d	
	PRI	eP	22 59.7	d	
July 27	BKS	iP	12 45 55.7	(c)	USCGS: 51.6°N, 174.1°W, 0 = 12 38 35.1 Aleutian Islands. h about 60 km.
		e(S)NEZ	51 55		
		eQNE	54 47		
	MHC	iP	46 01.9	c	
	MIN	eP	45 46.9	c	
	CLS	eP	50.8	c	
	PRI	eP	13.5	c	
July 27	BKS	iP	21 01 28.0	c	USCGS: 37°07'47"N, 116°03'23"W Nevada Test Site. WICHITA. Shot elevation = 1063.4 meters (AEC).
		iSEZ	02 37.4		
	MHC	eP	01 10.2	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
July 27 (Cont.)	MIN	eN	02 23.4		
	REN	iP	01 29.2		
		eP	01 07.6	c	
		iSE	44.0		
	CLS	eP	24.0	c	
		e(S)	02 50		
	PRI	eP	01 02.5	c	
July 28	BKS	iP	00 16 35.1	c	USCGS: 16.2°S, 173.2°W, 0 = 00 05 10.8. Samoa Islands. h about 40 km. Felt. Magnitude 5 3/4 (BKS)
		ipP	49.3	d	
		iPcP	17 16.3	d	
		ePPNEZ	19 28	SWd	
		eSNEZ	26 00	NEd	
		eQNE	34.6	SW	
		eRNEZ	37.9	NEd	
			mu sec		
		PZ	1.6 8		
		MaxH	5.7 20		
	MHC	iP	00 16 35.2	c	
	MIN	eP	45.1	c	
	REN	iP	51.1		
	CLS	eP	35.8	c	
	PRI	eP	34.8	c	
July 28	MHC	iP	02 42 08.7	d	USCGS: 4.1°S, 79.7°W, 0 = 02 32 26.0. Ecuador. h about 110 km.
		iZ	20.5		
	MIN	eP	18.7	c	
July 28	MHC	eP	06 14 34.7	c	USCGS: 31.6°S, 71.4°W, 0 = 06 02 12.6. San Juan province, Argentina. h about 53 km.
	MIN	eZ	46		
	CLS	eP	42	d	
	PRI	eP	28.0	c	
July 28	BKS	eP	14 05 28.9	d	USCGS: 14.3°N, 93.0°W, 0 = 13 58 39.3. Near coast of Chiapas, Mexico. h about 63 km. Magnitude 4 1/2 (PAL).
		eSNE	11 06	NE	
		eQNE	14.6	SW	
		eRZ	18.9		
			mu sec		
		MaxH	2 22		
	MHC	iP	14 05 22.1	c	
	CLS	eP	33.5	c	
	PRI	eP	10.2	c	
July 28	BKS	eP	19 54 24.0	d	USCGS: 36.9°N, 141.9°E, 0 = 19 43 00.3. Off coast of Honshu, Japan. h about 39 km.
	MHC	eP	23.1	d	
	MIN	eP	18.5	c	
	CLS	eP	20.6	d	
	PRI	eP	36.6	d	
July 28	MHC	eP	20 57 15		USCGS: 44.6°N, 148.6°E, 0 = 20 46 26.0. Kurile Islands. h about 32 km.
	MIN	eP	56 57.1	c	
	CLS	eP	57 14	c	
	PRI	eP	26.7	d	
July 30	BKS	eP	17 30 10.4	d	USCGS: 3.4°S, 143.7°E, 0 = 17 16 44.4. New Guinea. h about 25 km. Felt. Magnitude 7 (BKS)
		ipPZ	21.6	d	
		ePPZ	34 10.4		
		iSKSE	40 50	S	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
July 30 (Cont.)		eSSZ	49 13		
		eRNEZ	59.9		
			mu sec		
		PZ	3.3 5		
		PPZ	6 6		
		SH	6 16		
		MaxH	72 20		
	MHC	iP	17 30 10.6	c	
	MIN	eP	12		
	REN	eP	18.3		
	CLS	eP	07.8	c	
	PRI	eP	15.7	d	
July 30	BKS	iP	20 28 04.5	d	USCGS: 5.2°N, 76.4°W, 0 = 20 18 49.3. Western Colombia. h about 45 km. 47 killed. Magnitude 6 3/4 (BKS)
		iPPZ	30 45		
		iSNEZ	35 28		
		iP'P'Z	58 53.3		
			mu sec		
		PZ	5 4		
		PPZ	6.5 6		
		SH	11 9		
	MHC	iP	20 27 57.5		
	MIN	eP	28 07		
	REN	eP	27 56.3	d	
	CLS	eP	06.9		
	PRI	iP	49.0	c	
July 31	BKS	eP	11 36 27.4	d	USCGS: 19.4°S, 66.7°W, 0 = 11 25 03.8. So. Bolivia. h about 67 km.
	MHC	iP	25.9	d	
	MIN	eP	35.3	c	
	CLS	eP	32.8	d	
	PRI	eP	18.5	c	
August 1	MHC	iP	04 01 33.4	c	USCGS: 27.0°S, 176.4°W, 0 = 03 49 11.9. Kermadec Islands region. h about 33 km.
	MIN	eP	42.9	d	
August 1	BKS	eP	04 50 21.8	d	USCGS: 3.2°S, 143.7°E, 0 = 04 36 57.6. New Guinea. Felt. h about 33 km. Magnitude 7 (BKS)
		iP'	54 16	d	
		eSKSZ	05 00 54		
		eGNE	02 46	NE	
		iRNEZ	19.6	NEd	
			mu sec		
		PZ	1.7 12		
		SH	12.7 32		
		MaxH	45 33		
	MHC	eP	04 50 22		
	MIN	eP	23.5	d	
	REN	eP	30.2	d	
	CLS	eP	23.1	d	
	PRI	eP	12.5	c	
August 1	MIN	eP	05 33 56.5	c	USCGS: 27.1°S, 176.3°W, 0 = 05 21 25.5. Kermadec Islands. h about 34 km.
August 1	MIN	eP	13 00 18.1	d	USCGS: 27.1°S, 176.3°W, 0 = 12 47 46.6. Kermadec Islands. h about 33 km.

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
August 1	MIN	eP	16 00 58.3	c	USCGS: 39.1°N, 98.6°E, 0 = 15 47 45.5. Kansu Province, China. h about 25 km.
August 2	MIN	eP	04 49 25.5	c	USCGS: 19.3°N, 81.0°W, 0 = 04 41 46.7.
August 3	MHC	iP	08 08 25.3	c	USCGS: 51.2°N, 176.4°E, 0 = 08 00 09.8.
	MIN	iP	10.5	d	Rat Islands, Aleutian Islands. h about 40 km.
August 3	BKS	iP	09 08 13.2	d	USCGS: 23.3°S, 68.1°W, 0 = 08 56 17.1. Northern Chile -Argentina border. Felt. h about 71 km. Magnitude 6.8 (BKS).
		iPPNEZ	11 16		
		iSZ	18 02		
		iSSNE	23 22		
		eGNE	29.5		
			mu sec		
		PZ	14.3 14		
		PPZ	6.9 12		
		SH	16.5 20		
		MaxH	41 48		
	MHC	iP	09 08 08.2	d	
		iP'P'Z	35 07.1		
	MIN	iP	18.5	d	
	REN	eP	12	d	
	CLS	iP	16.3	d	
	PRI	iP	08 01.9	d	
		eP'P'	35 10		
August 3	BKS	iP	10 17 18	d	USCGS: 10.1°S, 161.2°E, 0 = 10 04 44.6. Solomon Islands. h about 40 km. Felt.
		iZ	33		
	MHC	iP	22.8	c	
	MIN	eP	27.9	c	
	CLS	eP	21.6	d	
	PRI	eP	26.0	c	
August 3	MHC	eP	10 29 23.5		USCGS: 23.3°S, 171.1°E, 0 = 10 16 26.3. Loyalty Islands. h about 39 km.
	MIN	eP	19.3	d	
August 4	BKS	iP	02 56 37.7	d	USCGS: 14.1°N, 93.0°W, 0 = 02 49 44.7. Near coast of Guatemala. h about 30 km. Magnitude 4 1/2 (BKS).
		eSNE	03 02 20	SW	
		eQNE	05.6		
		eRZ	07.3		
			mu sec		
		PZ	0.7 5		
		SH	0.5 20		
		MaxH	1.9 24		
	MHC	e	02 56 31		
	MIN	eP	46.4	d	
	CLS	eP	42.9	d	
	PRI	eP	20.0	d	
August 5	MIN	eP	18 40 18		
August 6	BKS	iP	01 46 10.5	d	USCGS: 32.0°N, 40.8°W, 0 = 01 35 30.5. North Atlantic Ocean. h about 48 km. Magnitude 5 3/4 - 6 (BKS).
		iPPZ	48 20		
		iSNEZ	54 58	NW	
		eQNE	02 03.3		
		eRZ	05.7		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
August 6			mu sec		
(Cont.)		PZ	3.9 9		
		SH	1.4 20		
	MIN	iP	59.9	d	
	REN	eP	53.8	d	
	CLS	eP	09.7	d	
	PRI	eP	06.2	d	
August 6	BKS	eP	09 00 13.2	c	USCGS: 58.2°S, 25.3°W, 0 = 08 41 16.2. Sandwich Islands. h about 42 km.
	MIN	eP	15.7	d	
	CLS	eP	14.7	d	
	PRI	eP	09.8	c	
August 6	MIN	eP	09 34 31.8	d	USCGS: 39.7°N, 140.6°E, 0 = 09 23 30.9. Northern Honshu, Japan. h about 60 km.
August 6	BKS	eP	21 04 16.4	c	USCGS: 26.9°S, 177.1°W, 0 = 20 51 56.8. Kermadec Islands region. h about 50 km. Magnitude 6 (BKS).
		ipPZ	31.7	d	
		iPcPZ	05 23		
		iSNEZ	14 33		
		eQNE	25.7	SWc	
		eGLZ	26.7		
		eRNEZ	29.0		
			R from SW		
			mu sec		
		PZ	3.7 8		
		PPZ	0.7 10		
		SH	4.0 20		
		MaxH	1.4 48		
	REN	eP	21 04 29.0	c	
	CLS	eP	17	d	
	PRI	eP	15.0	d	
August 8	MHC	iP	09 30 21.9	d	USCGS: 16.4°S, 179.5°W, 0 = 09 19 22.4.
August 8	MIN	eZ	11 01 46.2		USCGS: 52.1°N, 170.5°W, 0 = 10 54 56.3. Fox Islands. h about 40 km.
	PRI	eP	26.5	c	
August 8	BKS	e	13 47 21		USCGS: 18.0°S, 168.1°E, 0 = 13 35 11.2. New Hebrides Islands. Felt. h about 33 km.
	PRI	e	51.3		
August 9	BKS	iP	04 31 05.0	c	USCGS: 6.7°N, 73.1°W, 0 = 04 21 55.4 Colombia. Felt. h about 128 km.
		i	21.8	d	
		i	32 08.3	d	
	MHC	iP	31 00.8	c	
	MIN	iP	07.2	c	
	REN	iP	30 57.0		
	CLS	eP	31 08.5	c	
	PRI	eP	51.8	d	
August 9	BKS	eP	06 31 53.7	c	USCGS: 24.1°S, 66.5°W, 0 = 06 19 51.4. Salta Province, Argentina. h about 128 km.
	MHC	iP	49.8	d	
	MIN	eP	58.9	c	
	REN	eP	49.5		
	CLS	eP	56.5	d	
	PRI	eP	42.3	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
August 10	BKS	iP	21 14 39.5	c	USCGS: 49.4°N, 27.9°W, 0 = 21 03 59.2. North Atlantic Ocean. h about 33 km.
		eNEZ	23.5		
	MHC	eP	14 34		
	MIN	e(P)	24.9		
	REN	eP	20.3	c	
	CLS	eP	34.9	c	
	PRI	eP	40.2	c	
August 11	BKS	iP	01 58 38	d	USCGS: 20.0°S, 178.8°W, 0 = 01 47 39.6. Fiji Islands. h about 638 km. Magnitude 5 - 5 1/4 (BKS).
		epPZ	02 00 11.2		
		esPZ	48		
		iPP	02 01 48	c	
		iSNE	07 48	SE	
		iScSNE	08 08	SE	
			mu sec		
		PZ	0.7 6		
		PPZ	0.8 12		
		SH	3 12		
	MHC	iP	01 58 37.6	c	
	MIN	eP	42.2	c	
	REN	iP	51.3	d	
	CLS	eP	39.2	d	
	PRI	iP	38.6	d	
August 11	BKS	iZ	06 48 56	c	USCGS: 15.7°S, 172.9°W, 0 = 06 47 41.7. Tonga Islands region. h about 157 km.
		iZ	07 00 16		
		e(S)NEZ	08 08		
	CLS	eP	06 58 45.9	c	
	PRI	eP	46.7	c	
August 11	BKS	eP	08 28 39.8	d	USCGS: 25.2°N, 123.3°E, 0 = 08 15 43.7. Off Formosa. h about 140 km. Magnitude 6 (BKS).
		ipPZ	29 08	c	
		iSNE	39 00		
		i(PS)NE	40 33		
			mu sec		
		PZ	0.14 1.3		
		SH	6.2 12		
		MaxH	6.2 40		
	MHC	iP	08 28 42.6	c	
	MIN	iP	34.6	d	
	REN	iP	43.4	d	
	CLS	eP	36.7	d	
	PRI	eP	49.5	c	
August 13	BKS	eP	06 44 51.5	d	USCGS: 2.1°N, 83.5°W, 0 = 06 35 56. 300 miles NW of Ecuador. h about 33 km. Magnitude 5 1/2 (BKS).
		iPPNEZ	46 52	SE	
		eSNEZ	52 00		
		eSSNEZ	55 44		
		eQNE	58.3		
		eRNEZ	07 00.8		
			mu sec		
		PZ	2.1 12		
		PPZ	1.9 12		
		SH	12.6 36		
		MaxH	23 38		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
August 13	MHC	eP	06 44 47	c	(Cont.)
	MIN	eP	58.2	d	
	REN	eP	48.5	d	
	CLS	eP	55.9	d	
	PRI	eP	34.5	c	
August 14	BKS	e(P')	01 29 51	c	USCGS: 49.9°S, 163.0°E, 0 = 01 10 56.5. About 300 miles north of Macquarie Islands. h about 43 km.
		e(PS)NEZ	39 22	NEd	
		eSSNE	45.0	NW	
		eQNEZ	55.0	NWd	
		eRNEZ	02 00.5	SWd	
			R from SW		
			mu sec		
		MaxH	2.0 20		
August 15	BKS	eNE	08 42.6	SW	
		eRNZ	44 40	Sd	
	MHC	iP	28 53.8	c	
	MIN	iP	37.5	c	
	CLS	eP	43.2	c	
	PRI	eP	29 04.6	c	
August 15	BKS	iP	11 28 16.6		USCGS: 51.8°N, 177.0°W, 0 = 11 20 44.5. Andreanof Islands, Aleutian Islands. h about 53 km.
	MHC	eP	23.6		
	MIN	eP	08.6		
	CLS	eP	12.7	d	
	PRI	eP	34.6	d	
August 17	BKS	e(S)ENZ	00 53 10	NEd	USCGS: 15.8°S, 172.9°W, 0 = 00 32 26.9. Fiji Islands. h about 600 km.
		eQNE	01 01.9	NW	
		eRNZ	04.7	Sd	
	MHC	iP	00 43 47.6	d	
		i(pP)	58.8		
August 17	MIN	eP	58.3		USCGS: 31.3°S, 67.9°W, 0 = 03 23 31.6. San Juan Province, Argentina. h about 33 km.
	BKS	eP	03 36 10.9	c	
	MHC	iP	07.7	c	
	MIN	eP	16.7	d	
	REN	iP	11.0	c	
	CLS	eP	14.1	c	
	PRI	eP	00.3	d	
August 17	BKS	e(PP)	05 22 06	c	
		ePS	31 38		
		e(SS)NE	37 26	SW	
		eQNE	46.6	SW	
		eRNEZ	52.2	SWU	
			R from NW		
			mu sec		
		MaxH	4.5 20		
August 17	REN	e(P)	05 22 39.5	c	USCGS: 10.6°N, 121.6°E, 0 = 05 04 31.5. Panay region, Philippine Islands. h about 33 km.
	BKS	eP	07 36 19.9	c	
		i	37 24.4	c	
	MHC	iP	36 14.4	c	
	MIN	eP	26.2		
	REN	iP	17.0	c	
	CLS	eP	23.5	d	
	PRI	eP	05.2	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
August 17	MHC MIN CLS PRI	iP e(P) eP eP	16 30 47.4 56.5 47.7 47.3	d d d d	USCGS: 19.3°S, 177.5°W, 0 = 16 19 47.3. Fiji Islands. h about 528 km.
August 18	BKS	iP i eSNEZ eQNE eR EZ	16 50 08.3 23.3 55 10 56.7 59.3	d d NWd SW EW	USCGS: 62.3°N, 152.5°W, 0 = 16 43 54.3. Central Alaska. h about 32 km.
			R from NW mu sec		
		PZ SH MaxH MaxZ	0.8 8 1.2 10 2.2 20 2.9 20		
August 18	MHC MIN REN CLS PRI BKS	iP iP iP eP eP iP	16 50 14.5 49 50.9 50 05.3 49 56.5 50 27.3 17 52 29.0	c d c c c c	USCGS: 62.3°N, 152.5°W, 0 = 17 46 14.9. Central Alaska. h about 32 km. Magnitude 6 - 6 1/4 (PAS)
			eSNE iNEZ iRNEZ	NW SWd SWd	
			R from NW		
	MHC MIN REN CLS PRI	iP iP iP eP eP	17 52 34.2 11.1 23.8 21.3 48.0	c c c c c	
August 19	MHC MIN REN CLS PRI	iP eP iP eP eP	00 34 32.8 40.8 34.1 39.0 24.6	d c c d c	USCGS: 19.9°S, 66.9°W, 0 = 00 23 03.9. Bolivia. h about 240 km.
August 19	MIN	eP	06 31 25.2	d	USCGS: 50.6°N, 129.5°W, 0 = 06 28 39.1. Vancouver Island. h about 33 km.
August 19	MHC MIN	iP ipP iP	18 40 03.5 14.3 39 49.7	d c d	USCGS: 44.6°N, 81.7°E, 0 = 18 26 38.6. Northwest Sinkiang Province. h about 33 km.
		epP	59.9	d	
	REN CLS PRI	iP eP eP	55.9 57.3 10.8	d c d	
August 19	MHC MIN REN CLS PRI	iP eP iP eP eP	23 24 56.8 25 06.8 0.3 04.0 24 49.5	d c d d d	USCGS: 26.7°S, 70.3°W, 0 = 23 12 53.4. Near coast of Northern Chile. h about 51 km.
August 20	MHC MIN	eP eP	11 33 44 53.5	(d) c	USCGS: 20.9°S, 178.8°W, 0 = 11 22 39.8. Tonga Islands. h about 605 km.

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
August 20	BKS MHC MIN CLS PRI	eREZ eP iP eP eP	23 57.0 31 09.8 19.5 09.3 11.5	NW d c d	USCGS: 14.7°S, 166.6°E, 0 = 23 18 39.8. New Hebrides Islands h about 52 km.
August 21	MIN	eP i	02 58 33.6 59 26.5	c c	USCGS: 42.3°N, 126.6°W, 0 = 02 57 38.6. Off coast of Northern California. h about 40 km.
August 21	MIN	eP	09 44 49.7	c	
August 21	MIN	eP	17 36 17.6	c	USCGS: 62.4°N, 152.6°W, 0 = 17 30 14.0. Central Alaska. h about 421 km.
August 21	REN	e(P)	18 22 07.4	c	USCGS: 41.5°N, 15.4°E, 0 = 18 09 06.8. Italy. h about 36 km.
August 21	BKS	iP ePP eSNE ePPSNE eGNEZ eRNZ	18 32 46.8 36 22 43 45 45 14 57 08 19 05.1	d d SW SWd NU	USCGS: 41.4°N, 15.5°E, 0 = 18 19 33.3. Italy. Felt. h about 34 km. Magnitude 6.1 (BKS).
			R from NE mu sec		
		PZ PPZ MaxZ MaxH	1.4 8 1.5 10 6.5 20 12.5 20		
	MIN REN CLS PRI	eP iP eP eP	18 32 28.2 30.7 44.9 46.3	d d d d	
August 21	BKS	ePZ eSE i(PS)NEZ eSSNZ eSSSNEZ eGE eRNZ	21 18 24 28 50 29 56 33 50 37.7 38.8 41.2	c c SEd Sd NEd	USCGS: 28.7°S, 176.8°W, 0 = 21 06 00.1. Kermadec Islands region. h about 55 km.
			R from SW mu sec		
		MaxH	60 15		
	MHC MIN REN CLS PRI	e(P) iP eP eP eP	21 18 26 35.9 38.3 27.5 22.7	c c c c	
August 23	MHC CLS PRI	iP eP eP	12 44 02.4 43 51.6 44 14.0	(d) c d	USCGS: 51.7°N, 173.8°E, 0 = 12 35 34.2. Near Islands, Aleutian Islands. h about 33 km.
August 23	MHC MIN CLS PRI	iP iP eP eP	12 52 44.1 20.9 30.3 55.8	c c c d	USCGS: 62.2°N, 152.8°W, 0 = 12 46 22.7. Central Alaska. h about 25 km.

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
August 23	CLS	iP	19 30 07.4	d	USCGS: 41.8°N, 124.1°W, 0 = 19 29 16.0. Del Norte County, California. h about 33 Magnitude 5.5 (BRK).
	PRC	eP	13.7	d	
	BKS	iP	18.7	d	
		e(S)NE	31 10.2		
	CNC	eP	30 18.9	d	
	SCC	iP	31.1	d	
	VIT	iP	37.7	d	
	LLA	iP	41.4	d	
	PRS	eP	41.9	d	
	PRI	eP	49.0	d	
	MHC	iP	28.3	d	
		MIN	iP	54.9	
		i	30 03.1		
	FRE	iP	48.2	d	
	PAC	eP	25.6	d	
	SHS	iP	29 45.5	d	
	REN	iP	30 18.5	d	
	USF	iP	19.2	d	
	LIV	iP	24.7	d	
August 23	BKS	iP	21 11 47.1	d	
	MHC	iP	46.7	d	
	MIN	eP	48		
	CLS	eP	48.4	d	
	PRI	eP	43.7	d	
August 24	MHC	eP	02 58 34.6	d	
	MIN	iP	32.6	d	
August 24	BKS	eP	06 58 39.3	c	USCGS: 24.5°S, 178.8°E, 0 = 06 47 08.1. Fiji Islands. h about 526 km.
	MHC	iP	40.9	c	
	MIN	eP	48.9	d	
	CLS	eP	41.0	d	
	PRI	eP	40.2	c	
August 24	BKS	eP	09 15 41.9	d	USCGS: 14.4°S, 173.5°W, 0 = 09 04 22.5. Samoa Islands. Felt. h about 33 km. Magnitude 5 1/2 - 5 3/4 (BKS).
		ePcP	16 44.9	c	
		eSNE	24 58	NW	
		iSSNEZ	29 24	SEU	
		eQNE	33 46	NW	
		eRNEZ	36.5	SWd	
			R from SW		
			mu sec		
		PZ	0.6 12		
		SH	4.9 24		
	MaxZ	3.9 32			
	MaxH	8 26			
	MHC	eP	09 15 42	(c)	
	MIN	eP	56		
	CLS	eP	45.7	c	
	PRI	eP	42.5	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
August 24	BRK	eP	15 01 26.3	d	Nevada Test Site, 0 = 15 00 00.	
	MHC	iP	11.4	c		
	MIN	iP	24.8	d		
	REN	eP	05.7	c		
	CLS	eP	23.3	c		
	PRI	eP	02.3	d		
		e(S)	02 00			
		REN	iSN	41.2		
		MHC	eP	15 14 27.0		(d)
		MIN	eP	14 46		
August 24	REN	eP	20.4	c	Nevada Test Site, 0 = 15 13 10.	
	CLS	e(P)	15 14 40	c		
	PRI	eP	14 11.2	d		
		e(S)	15 13.7			
		MHC	e(S)	15 31.0		
		LIV	iP	31.9		d
		BRK	eP	17 01 35.8		c
		MHC	iP	11.2		c
		REN	eP	14.2		c
		CLS	eP	11.2		d
August 24		eS	47.5		Nevada Test Site, 0 = 17 00 00.	
		PRI	eP	17 01 02.0		c
		i(S)	48.0	c		
		BKS	iP	08 42 54.2		c
		ipP	44 53.9	d		
		eSPNZ	45 42			
		eSNEZ	52 10	SEU		
		eSPNEZ	53 02	NEU		
		eSSNEZ	55 42	NWU		
		eGNE	09 03.5	SE		
August 25			mu sec		USCGS: 20.5°S, 178.5°W, 0 = 08 31 48.7. Fiji Islands. h about 561 km. Magnitude 4.8 (BKS).	
		PZ	0.5 1.2			
		SH	6.0 18			
		MaxH	3.8 44			
		MHC	iP	08 42 55.1		c
		ipP	44 58.0	d		
		MIN	iP	43 03.9		c
		REN	iP	8.0		c
		CLS	eP	42 55.5		c
		PRI	eP	54.7		c
August 26	BKS	iP	07 00 41.8	d	USCGS: 34.0°N, 139.2°E, 0 = 06 48 57.1. Near east coast of Honshu, Japan. Felt. h about 38 km. Magnitude 5.3 (BKS).	
		iPcP	01 22.2	c		
		eSNEZ	10 24	NWU		
		eQNE	20 20	NE		
		eRNEZ	23.7	NWd		
			mu sec			
		PZ	0.1 1.3			
		SH	0.9 15			
		MaxZ	4.8 36			
		MaxH	4.4 38			
	MHC	iP	07 00 46.2	d		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
August 26 (Cont.)	MIN	iP	26.9	d	
	REN	iP	46.8	d	
	CLS	eP	38.7	d	
	PRI	eP	54.0	d	
August 26	BKS	e(P)	23 44.4	d	
August 27	BKS	eP	02 30 01.4	c	USCGS: 40.2°N, 137.8°E, 0 = 02 18 58.8. Sea of Japan. h about 274 km.
	MHC	iP	05.6	c	
	MIN	iP	29 54.7	c	
	REN	iP	30 03.7	c	
	CLS	eP	29 57.5	c	
	PRI	eP	30 14.0	c	
August 27	BKS	eP	22 25 30.9	d	USCGS: 12.3°S, 167.1°E, 0 = 22 13 29.6. Santa Cruz Islands. h about 220 km.
	MHC	iP	30.2	d	
	CLS	eP	31.5	c	
	PRI	eP	29.9	c	
August 27	BKS	eP	23 42 44.9	d	USCGS: 21.6°S, 171.5°E, 0 = 23 30 10.4. Loyalty Islands region. h about 69 km.
		e(S)E	54.0	W	
		eQNE	00 06.4	NW	
		eRNEZ	10.0	NEd	
			R from SW		
	MHC	iP	23 42 45.9	d	
	MIN	eP	52.6	d	
	REN	e(P)	56.5	c	
	CLS	eP	45.3	c	
	PRI	eP	46.2	c	
August 28	BKS	iP	08 24 54.3	c	USCGS: 34.2°N, 139.3°E, 0 = 08 13 12.4. Near east coast of Honshu, Japan. h about 38 km.
	MHC	iP	25 05.2	c	
	MIN	eP	24 49.6	c	
	CLS	eP	56.9	d	
August 28	BKS	ePNEZ	08 25 42	SEd	USCGS: 18.4°N, 105.8°W, 0 = 08 20 30.2. Off coast of Mexico. h about 33 km.
		eRZ	32.4		
			R from SE		
	MHC	i	08 25 37.1	c	
	REN	eP	06.0	c	
	PRI	e	24 54.5	d	
August 28	BKS	eP	11 13 23.3	c	USCGS: 37.8°N, 22.9°E, 0 = 10 59 56.3. Greece. Felt. h about 120 km. Magnitude 6.2 (BKS).
		epP	42.4	c	
		ePPNEZ	17 24	NEc	
		eSKSNE	23 52	NE	
		iSNE	24 42	NW	
		iPSNE	25 30	SE	
		iSSNZ	31 24	Sd	
		eP'P'NZ	38.4	Sd	
			R from NE		
			mu sec		
		PZ	1.05 16		
		PH	1.08 12		
		PPZ	0.77 12		
		PPH	0.92 12		
		SH	5.0 10		
		MaxH	19.9 32		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
August 28 (Cont.)	MHC	eP	11 13 24.7	c	
		i	14 22.1		
	MIN	eP	13 12.1	c	
	REN	iP	13.2	c	
	CLS	eP	21.3	c	
	PRI	eP	28.4	c	
August 28	BKS	iP	11 29 54.9	d	
	MHC	iP	54.2	c	
		i	30 24.0	c	
	MIN	eP	01.0	d	
	CLS	eP	29 55.4	c	
	PRI	eP	53.1	d	
August 28	CLS	e	23 05 40.5	c	
August 29	MHC	iP	08 55 54.2	d	USCGS: 18.0°N, 103.3°W, 0 = 08 50 32.0. Near coast of Mexico. h about 33 km.
	MIN	e	56 17		
	CLS	e	55 42.7		
	PRI	e	43		
August 29	CLS	e(P)	09 31 31.7	d	USCGS: 01.9°S, 67.9°E, 0 = 09 12 00.4. Northwest of Chagos Islands region. h about 33 km.
	PRI	eP	38.2	c	
August 29	BKS	iP	22 48 40.1	c	USCGS: 34.1°N, 139.1°E, 0 = 22 36 53.9. Near east coast of Honshu, Japan. h about 33 km. Magnitude 4.9 (BKS).
		iPcP	49 16	d	
		eSEZ	58 20	WU	
		eScSNE	59.0	SE	
		eQNE	23 08.4	NE	
		eRNEZ	11.0	NWU	
			R from W		
			mu sec		
		PZ	0.4 6		
		MaxH	4.5 32		
	MHC	iP	22 48 43.9	d	
		i	49 10.1	c	
	MIN	eP	48 34.2	d	
	REN	eP	44.9	d	
	CLS	eP	35.5	c	
	PRI	eP	51.6	d	
August 30	CLS	eP	13 37 39.9	c	USCGS: 41.8°N, 111.8°W, 0 = 13 13 28.7. Utah-Idaho border. h about 37 km. Felt. Magnitude: 6.0 (BRK)
	PRI	eP	42.1	c	
	BRK	eP	42.8	c	
	LLA	eP	40.9	d	
	PRS	eP	46	c	
	CNC	eP	40.5	c	
	VIT	eP	42.8	c	
	PRC	eP	46.5	c	
	MHC	iP	13 37 39.4	c	
	MIN	eP	21.1	c	
	SHS	eP	30	d	
	FRE	iP	29	d	
	USF	eP	44.7		
	PAC	iP	44.1	c	
	REN	iP	6.5	d	
	LIV	iP	35.1	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
August 30	BKS	eP i eSNEZ iNE eQNE eR	17 29 41.2 53.2 39 32 40 12 49.3 52.5	c c NWd SW NW d	USCGS: 21.2°S, 174.4°W, 0 = 17 17 51.9. Tonga Islands. h about 33 km. Magnitude: 5.5 (BKS)
			R from SW mu sec		
		PZ SH MaxH	0.67 6 2.3 12 3.1 20		
	MHC	iP	17 29 41.7	c	
		i	54.9		
	MIN	iP	52.0	d	
		i	30 05.4	d	
	REN	iP	29 55.7	d	
	CLS	eP	43.1	d	
	PRI	eP	41.7	d	
August 31	BKS	iP eSNE iScSNEZ eQNE eRNEZ	10 45 06 54 36 55 12 11 04.5 06.8	c SE SWd NW SWd	USCGS: 15.4°S, 177.3°W, 0 = 10 33 30.2. Fiji Islands region. h about 60 km.
			R from SW mu sec		
		PZ SH MaxZ MaxH	1.0 5.0 0.68 24 3.7 32 3.6 32		
	MHC	iP	10 45 06.9	d	
	MIN	iP	14.9	c	
	REN	eP	17.7	c	
	CLS	eP	09	c	
	PRI	eP	07	d	
August 31	BKS	iPNEZ iSNEZ	17 10 34 16 54	SEc NEd	USCGS: 51.3°N, 179.7°W, 0 = 17 02 44.4. Rat Islands, Aleutian Islands. h about 26 km.
	MHC	iP	10 41.6	c	
		i	12 31.4	d	
	MIN	iP	10 26.9	c	Magnitude 6 3/4 (PAS)
		i	11 39.3	d	
	REN	iP	10 40.3	c	
	CLS	eP	30.4	c	
	PRI	eP	51.8	c	
August 31	BKS	iP	18 03 58.5	c	USCGS: 51.2°N, 179.9°W, 0 = 17 56 08.9. Rat Islands, Aleutian Islands. h about 43 km.
	MHC	iP	04 04.4	c	
	MIN	i(P)	03 55.7	c	
	REN	eP	04 04.0	c	
	CLS	eP	03 52.2	c	
	PRI	eP	04 15.7	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Sept. 1	BKS	ePNEZ iSNEZ	03 53 26 04 00 16		USCGS: 51.3°N, 179.7°E, 0 = 03 46 05.0. Andreanof Islands, Aleutian Islands. h about 25 km. Magnitude 6 1/2. (PAS).
	MHC	iPZ	03 54 03.2	c	
		iZ	54 22.5	d	
	MIN	iPZ	53 48.0	c	
		iZ	54 06.5	c	
	REN	iPZ	54 00.4	d	
	CLS	eP	53 21.7	c	
	PRI	eP	14.0	c	
Sept. 1	MIN	iPZ	04 06 05.0	c	USCGS: 51.1°N, 180.0°E, 0 = 03 58 21.5. Andreanof Islands, Aleutian Islands. h about 33 km.
		iZ	20.8	d	
Sept. 1	MHC	iPZ	04 49 37.6	c	USCGS: 51.3°N, 179.9°W, 0 = 04 41 41.5. Andreanof Islands, Aleutian Islands. h about 37 km.
		iZ	51.3		
	MIN	ePZ	23.8	c	
			33.6	c	
	REN	eP	36.5	c	
	CLS	eP	26.5	c	
	PRI	eP	47.0	c	
Sept. 1	MHC	iPZ	05 04 22.2	c	USCGS: 15.9°N, 168.2°E, 0 = 04 52 14.5. New Hebrides Islands. Felt. h about 244 km.
		iZ	05 20.2	d	
	MIN	iPZ	04 27.5	c	
		iZ	05 27.3	c	
	REN	iPZ	04 32.5	c	
	CLS	eP	20.5	c	
	PRI	eP	23.8	c	
Sept. 1	BKS	ePEZ eSNEZ	07 59 04 08 05 20	Wd NEd	USCGS: 51.3°N, 179.9°W, 0 = 07 51 08.2. Andreanof Islands, Aleutian Islands. h about 42 km. Magnitude 6 1/2. (PAS).
	MHC	iPZ	07 59 04.8	c	
	MIN	ePZ	58 49.7	c	
		iZ	58.1	d	
	REN	iPZ	59 02	c	
	CLS	eP	58 52.9	c	
	PRI	eP	59 16.0	d	
Sept. 1	MIN	eZ	08 54 49		USCGS: 51.4°N, 179.8°W, 0 = 08 47 06.9. Rat Islands, Aleutian Islands. h about 29 km.
		eZ	59 50.0	c	
Sept. 1	BKS	iPNZ iPPNZ iSKSNE iSN i(PS)NE eZ e(PS)NE eRZ	19 34 56 39 14 45 49 46 36 48 38 49 38 54.6 20 18	Sd Nd NE	USCGS: 35.6°N, 49.9°E, 0 = 19 20 38.7. Northwest Iran. h about 20 km. Magnitude 7.5 (BKS).
			mu sec		
		PZ PH PPZ PPH	3.6 15 5.2 14 5.2 13 6.8 12		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Sept. 1 (Cont.)	MHC	MaxZ MaxH ePZ iZ	39.8 17 138 18 19 34 54 38 20.5		
	MIN	ePZ	34 42.7	c	
	REN	ePZ	36.4	c	
	CLS	eP	47.3	c	
		e	39 31	d	
	PRI	eP	34 53.0	c	
		e	31.0	d	
Sept. 2	BRK	eEZ eNEZ	03 16.6 20.1	Wd SWd	USCGS: 51.3°N, 179.8°W, 0 = 03 02 29.3. Andreanof Islands, Aleutian Islands. h about 26 km.
	MHC	iPZ	03 10 26.2	c	R from W
	MIN	ePZ	06.4	c	
	REN	ePZ	25	d	
	CLS	eP	15.0	c	
	PRI	eP	25	(c)	
Sept. 4	MIN	eZ	08 39 06		USCGS: 32.5°S, 112.3°W, 0 = 08 27 48.1. South of Easter Island. h about 33 km.
	REN	eZ	11.2	c	
Sept. 4	BKS	ePZ	15 24 20	d	USCGS: 15.3°N, 92.0°W, 0 = 15 17 40.1. Mexico-Guatemala border. h about 172 km.
		eNE	30.9	NE	
	MHC	iPZ	24 14.5	d	
		iZ	51.0	c	
	CLS	eP	25.8	c	
	PRI	eP	03.5	c	
Sept. 5	MIN	ePZ	04 38 06.0	d	
		iZ	16.2	c	
Sept. 5	MHC	iPZ	08 45 21.9	c	USCGS: 52.7°N, 159.1°E, 0 = 08 35 56.3. Near east coast of Kamchatka. h about 101 km.
	MIN	iPZ	06.7	c	
	REN	iPZ	18.9	c	
	CLS	eP	11.7	d	
	PRI	eP	31.8	c	
Sept. 5	MHC	iZ	11 30 35.9	d	USCGS: 3.3°S, 139.9°E, 0 = 11 17 06.7. Near north coast of western New Guinea. h about 110 km.
	MIN	ePZ	35.0	d	
Sept. 6	MHC	iPZ	11 00 42.1	d	USCGS: 21.2°S, 174.5°W, 0 = 10 49 00.7. Tonga Island region. h about 110 km.
		iZ	50.5	d	
	MIN	ePZ	52.0	d	
	REN	ePZ	54.8	c	
Sept. 6	MIN	ePZ	13 46 11.5	c	USCGS: 14.0°N, 90.6°W, 0 = 13 39 00.4. Near south coast of Guatemala. h about 72 km.
Sept. 6	MHC	iPZ	15 15 25.3	c	USCGS: 8.4°S, 158.8°E, 0 = 15 03 01.9. Solomon Islands. h about 95 km.
	CLS	eP	36.3	d	
	PRI	eP	41.2	c	
Sept. 6	BKS	ePZ	17 01 29.2	d	Nevada Test Site, 0 = 17 00 00.
		eSZ	02 45.0	u	
	MHC	iPZ	01 23.1	c	RARITAN
		e	02 24		
		iZ	55.3	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Sept. 6 (Cont.)	MIN	ePZ	01 23.6	c	
		iZ	30.9	c	
	REN	iPZ	16.4	c	
		iZ	25.4	d	
		iSN	58.6		
		iE	02 10.0		
	CLS	ePZ	01 30.5	c	
	PRI	ePZ	02.5	c	
		eSZ	02 06.9	u	
Sept. 7	MHC	iPZ	23 40 43.0		USCGS: 41.3°N, 116.7°W, 0 = 23 39 12.8. Northern Nevada. h about 33 km.
		iZ	41 13.6		
		iZ	44.0		
	MIN	ePZ	40 08.4		
		iZ	20.8		
		iSZ	41 07.6		
		iZ	12.7		
	REN	ePZ	40 09.6	d	
		eSN	40.1		
	CLS	ePZ	36.5		
	PRI	ePZ	41 01.4	d	
		eSZ	42 19.1	d	
Sept. 7	MHC	iPZ	23 49 43.5	c	
		iZ	48.0	c	
	MIN	ePZ	56.5	c	
	CLS	eP	48.5	(d)	
	PRI	eP	46.7	d	
Sept. 8	MHC	iPZ	07 39 43.1	d	USCGS: 22.4°S, 171.5°E, 0 = 07 27 06.7. Loyalty Islands. h about 76 km.
	MIN	ePZ	50.4	c	
	CLS	eP	55.7	d	
	PRI	eP	44.0	c	
Sept. 8	MHC	iPZ	13 13 18.2	c	USCGS: 15.8°N, 60.6°W, 0 = 13 03 27.5. Leeward Islands. h about 28 km.
		iZ	29.9	d	
	REN	e(P)Z	03 32.9	d	
Sept. 9	MHC	ePZ	03 06 55.2	c	USCGS: 17.9°S, 178.6°W, 0 = 02 56 04.5. Fiji Islands region. h about 622 km.
	MIN	iPZ	07 04.6	d	
Sept. 9	MHC	iPZ	03 32 56.9	d	USCGS: 15.7°S, 73.3°W, 0 = 03 21 55.2. Near coast of southern Peru. h about 93 km.
	MIN	ePZ	33 07.4	c	
	CLS	eP	05.0	d	
	PRI	eP	32 48.4	d	
Sept. 9	MHC	iPZ	19 18 54.8	c	USCGS: 62.4°N, 152.4°W, 0 = 19 12 37.1. Alaska. h about 57 km.
	MIN	ePZ	30.9	c	
	CLS	eP	41.2	c	Magnitude 4 1/2 (PAL).
	PRI	eP	19 07.8	c	
Sept. 10	BKS	iPNEZ	15 55 04	SWd	USCGS: 21.2°S, 179.1°W, 0 = 15 43 57.4. Fiji Islands region. h about 612 km.
		iPPZ	58 20	c	
		iPKPZ	16 01 04	d	Magnitude 6 1/2. (PAS).
		iSNEZ	04 18	SEc	
		iNE	08 58	SW	
		ePKKPNEZ	13 06	NWU	
		eGNE	16 12	NW	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Sept. 10 (Cont.)			mu sec		
		PZ	4.1 8		
		PH	1.6 8		
		PPZ	2.9 16		
		PPH	1.4 14		
		SH	8.4 14		
	MHC	iPZ	15 55 03.6	d	
		iZ	53.9		
	MIN	iPZ	12.3	d	
		iZ	16.0	d	
		iZ	57 29.2	c	
	REN	iPZ	55 16.5		
		iSZ	16 04 37.6		
	CLS	iPZ	15 55 04.3	d	
		eS	16 04 21		
		e	16 24 19	d	
	PRI	iPZ	15 55 03.5	d	
		eS	16 04 21		
		e	21 52.5	c	
		e	24 26.6	d	
Sept. 10	MIN	eZ	16 20 44.9	d	
		eZ	23 13.4	c	
	REN	eZ	16 21 08.2	c	
Sept. 10	BKS	e(S)NE	18 10 16	NE	USCGS: 17.5°S, 173.6°W, 0 = 17 49 16.1. Tonga Islands region. h about 33 km.
		eNEZ	15 08	NEU	
		eNE	19.3	NW	
		eZ	24.7		
	MHC	iPZ	18 00 47		
	MIN	ePZ	56		
	CLS	e(P)	53.3	c	
	PRI	e(P)	46.5	c	
Sept. 10	BKS	eQNEZ	20 32.0	Nd	USCGS: 13.6°S, 111.7°W, 0 = 20 07 57.1. Pacific Ocean, 1250 miles southwest of Galapagos Islands. h about 33 km.
	MHC	ePZ	17 01.3	d	
		iZ	07.8	d	
	CLS	eP	18.5	c	
	PRI	eP	16 56.5	c	
Sept. 10	MHC	iPZ	21 59 36.5	d	USCGS: 12.3°N, 86.7°W, 0 = 21 52 26.3. Near west coast of Nicaragua. h about 176 km.
	CLS	e(P)	56.2	d	
	PRI	e(P)	35.8	d	
Sept. 10	MHC	ePZ	04 16 37.9	c	
Sept. 11	MHC	iPZ	18 03 10.3	d	
		iZ	29.1		
	MIN	ePZ	02.5	d	
		eZ	19.8	c	
	CLS	eP	01.3	d	
	PRI	eP	17.0	d	
Sept. 12	MHC	iPZ	12 40 00.8	d	USCGS: 22.8°S, 68.3°W, 0 = 12 28 02.5. Chile-Bolivia border. h about 33 km.
	MIN	iPZ	10.0	c	
		iZ	19.2	c	
	CLS	eP	07.4	d	
	PRI	eP	52.2	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Sept. 12	MHC	iPZ	14 28 32.1	c	
	MIN	ePZ	25		
Sept. 12	CLS	eP	18 32 04.7	d	USCGS: 4.4°S, 145.4°E, 0 = 18 18 42.9. Near north coast of New Guinea. Felt at Bogia and on Moran Island. h about 32 km.
	PRI	eP	06.6	c	
Sept. 12	BKS	ePZ	21 11 08	c	USCGS: 36.3°N, 69.0°E, 0 = 20 57 00.5. Tazhik S.S.R.-Afghanistan border. h about 56 km.
		ePPZ	15 30	d	
		eSKSNE	21 46	NW	
		eSE	22 56	W	
		ePSNZ	24 32	Nd	
		eSSE	30.5	E	
		eQNE	45.4	NW	
		eRNEZ	50.3	NEU	Magnitude 6 1/2 - 6 3/4. (PAS).
			R from N		
	MHC	eZ	21 14 55		
	CLS	e	15.8	c	
	PRI	e	16.0	c	
Sept. 13	MHC	e(P)Z	05 14 14.1	c	USCGS: 21.3°S, 174.7°W, 0 = 05 02 22.8. Tonga Island region. h about 33 km.
	MIN	ePZ	22.3	c	
Sept. 13	MIN	ePZ	08 17 30.4	d	USCGS: 47.8°N, 157.0°E, 0 = 08 07 50.3. Kurile Islands region. h about 33 km.
Sept. 13	BKS	eQNE	14 05.8	SW	USCGS: 25.8°N, 109.6°W, 0 = 13 59 09.5. Gulf of California. h about 33 km.
		eRNEZ	07.2	SWU	
	MHC	iPZ	02 45.5	d	
	MIN	iPZ	03 14.7	d	
	REN	iPZ	02 57	d	
	CLS	e	03 05	(c)	
	PRI	e	02 28.5	c	
Sept. 13	BKS	eQNE	15 02.0	NE	USCGS: 11.7°N, 61.3°W, 0 = 14 35 03.2. Windward Islands. Felt.
		eREZ	15 04.5	EU	
	MHC	iPZ	14 45 00.0	d	h about 78 km.
	MIN	e(P)Z	04		
	PRI	e	03	c	
Sept. 13	MHC	iPZ	19 28 32.7	c	
	MIN	ePZ	42.4	d	
Sept. 14	MIN	e(P)Z	13 20 00		USCGS: 41.8°N, 111.7°W, 0 = 13 17 00.8. Northern Utah. h about 40 km.
Sept. 14	MHC	iPZ	14 03 43.3	d	
	MIN	ePZ	54.2	d	
Sept. 14	BKS	ePZ	17 11 26.0	c	USCGS: 37°02'38"N, 116°01'16"W. Nevada Test Site, 0 = 17 10 00.122. HYRAX. Shot elevation = 1005.2 meters (AEC).
	MHC	iPZ	11.2	d	
		iZ	20.8		
		iZ	21.2		
	MIN	iPZ	24.5		
		iZ	36.9		
		iZ	12 52.8		
	REN	ePZ	11 10.5	c	
		iZ	20.7	d	
		i(S)N	12 12.5		
	CLS	ePZ	11 25.0	c	
	PRI	ePZ	04.3	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
Sept. 14	BKS	i(P)Z	17 19 37.0	d	USCGS: 0 = 17 18.0. HYRAX collapse.	
		i(S)Z	20 40.0			
	MHC	iZ	19 20.0			
		iZ	20 16.4			
	REN	ePZ	18 48.8	c		
		iE	19 29.5			
Sept. 14	PRI	e(P)Z	09	c	USCGS: 26.6°S, 178.5°W, 0 = 17 23 13.4. South of Fiji Islands. h about 449 km.	
	MIN	ePZ	17 35 01.9	c		
Sept. 14	BKS	ePZ	18 29 11.9	d	USCGS: 19.9°S, 177.6°W, 0 = 18 17 52.1. Tonga Islands region. h about 350 km.	
	MHC	iPZ	12.2	d		
	MIN	ePZ	20.7	d		
		iZ	30 46.0	c		
	REN	iPZ	29 25.4	d		
	CLS	eP	12.6	d		
	PRI	eP	12.0	d		
	MIN	ePZ	02 14 04.4	d		
		iZ	16 09.6	c		
		e(P)Z	14 07.8	c		
Sept. 15	REN	e(P)Z	14 07.8	c	USCGS: 48.5°N, 156.9°E, 0 = 22 50 47.2. Kurile Islands region. h about 33 km. Magnitude 6.5 (PAS) Magnitude 6.0 (BKS)	
	BKS	iPNEZ	23 00 32	SWd		
		iZ	01 17	c		
		iZ	04 46			
		eSZ	08 28	U		
		eSNE	32	NW		
		eSSNZ	12 18	NW		
		eQNE	14.5			
		eRZ	16.5			
			mu sec			
	PZ	3.1 12				
	PH	1.6 12				
	SH	3.3 14				
	MaxZ	5.7 18				
	MaxH	8.7 40				
	MHC	iPZ	23 00 38.4	d		
		iZ	43.4	c		
		iZ	01 31.2	c		
	MIN	iPZ	00 24.5	d		
		iZ	31.2	d		
	REN	iPZ	37.4	d		
	CLS	eP	27.7	d		
	PRI	eP	48.5	d		
	Sept. 16	BKS	iPZ	03 10 48	c	USCGS: 19.4°N, 103.2°W, 0 = 03 05 34.4. Jalisco, Mexico. h about 111 km. Magnitude 4 3/4 - 5 (PAL)
			e(S)NEZ	15 10	NEU	
		e(Q)NE	15 52			
		e(R)NEZ	17.5	NEd		
	MHC	iPZ	10 41.7	c		
		iZ	11 02.7	c		
	MIN	ePZ	01.2	d		
		iZ	22.8	d		
	REN	iPZ	10 48.5	d		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
Sept. 16	CLS	e(P)	11 15.5	d		
	(Cont.)	PRI	eP	10 29.5		c
		e	47.3			
Sept. 16	MHC	iPZ	13 07 31.4	c	USCGS: 51.2°N, 177.0°E, 0 = 12 59 17.7. Rat Islands, Aleutian Islands. h about 33 km.	
	MIN	ePZ	16.1	c		
Sept. 17	BKS	iPZ	01 16 33	c	USCGS: 64.3°N, 149.3°W, 0 = 01 10 18.7. Alaska. h about 63 km.	
	MHC	iPZ	38.9	c		
	MIN	iPZ	15.0	c		
	CLS	eP	25	d		
	PRI	eP	47	c		
Sept. 17	MHC	ePZ	03 27 50.1	c		
	MIN	eZ	17.7	d		
Sept. 17	MHC	iPZ	05 10 45.9	c	USCGS: 17.7°S, 178.6°W, 0 = 04 59 51.5. Fiji Islands. h about 576 km.	
	MIN	ePZ	54.8	d		
Sept. 17	BKS	iPZ	18 06 51.4	d	USCGS: 21.1°S, 179.1°W, 0 = 17 55 47.0. Fiji Island region. h about 626 km.	
		e(PP)z	10 05			
		eSNE	16 06	SE		
		e(SS)Z	20.6	NE		
		MHC	iPZ	06 52.4		d
		iZ	07 11.1	d		
		MIN	iPZ	00.4		d
		iZ	13.7	d		
		REN	iPZ	04.4		d
		CLS	eP	06 52.4		d
Sept. 18	PRI	eP	52.5	d	USCGS: 7.4°N, 82.3°W, 0 = 00 29 05.5. Near coast of Panama. h about 33 km. Magnitude 7 (BRK).	
	BKS	ePNEZ	00 37 37	NWc		
		iZ	41 03	c		
		eSNEZ	44 39	SWd		
		eNE	47.7			
		eQN	50.1			
		eRZ	54.6			
			R from SE			
			mu sec			
			PZ	18.4 10		
		PH	8.2 10			
		PZ	19.6 16			
		PH	9.3 16			
		SH	31.5 12			
		MaxZ	72.5 18			
		MaxH	154 20			
	MHC	iPZ	00 37 31.8	c		
		iZ	38 10.2	d		
	MIN	ePZ	37 42.5	c		
		iZ	38 20.5	d		
	REN	iPZ	37 31.4	c		
		iN	38 35.7	c		
	CLS	ePZ	37 41.4	c		
	PRI	eP	21.0	c		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Sept. 18	MHC	iPZ	02 48 07.0	c	
	MIN	e(P)Z	19		
Sept. 18	MHC	iPZ	03 25 22.3	d	
	MIN	ePZ	42.6	d	
Sept. 18	MHC	iPZ	03 30 52.5	c	
		iZ	14.2	d	
	MIN	ePZ	31 08.7	c	
	REN	ePZ	30 42.7	c	
Sept. 18	MHC	ePZ	05 03 44.5	c	
		iZ	51.6	c	
	MIN	e(P)Z	52		
	REN	eP	48.6	c	
Sept. 18	BKS	eZ	05 22 22	d	USCGS: 7.4°N, 82.2°W, 0 = 05 13 35.9. Near south coast of Panama. h about 23 km.
		e(S)NE	29 08	NE	
		eQNE	35.0	SW	
		eRZ	37	d	
	MHC	iPZ	05 22 05.8	d	
		iZ	15.8	c	
	MIN	ePZ	16.0	d	
	REN	iPZ	05.1	d	
	CLS	eP	14.9	d	
	PRI	eP	21 55.7	c	
Sept. 18	MHC	eP	06 24 43.1	d	USCGS: 2.3°N, 126.9°E, 0 = 06 10 26.3. Molucca Passage. h about 33 km.
Sept. 18	BKS	ePZ	20 24 20	c	USCGS: 20.9°S, 169.8°E, 0 = 20 11 49.5. Loyalty Islands region. h about 101 km.
		eRZ	51.4		
	MHC	iPZ	24 24.3		
	MIN	ePZ	41.1	c	
	CLS	eP	23.6	d	
	PRI	eP	25.0	d	
Sept. 18	MHC	iPZ	21 58 11.2	d	USCGS: 15.3°S, 176.5°W, 0 = 21 46 41.6. Tonga Islands region. h about 33 km.
	MIN	ePZ	22.1	c	
Sept. 19	BKS	i(P)Z	00 17 56.7	d	USCGS: 42.0°N, 132.9°E, 0 = 00 06 58.7. Sea of Japan. h about 436 km.
	MHC	iPZ	00 18 00.1	d	
		iZ	10.9		
	MIN	ePZ	17 49.0	c	
	CLS	eP	52.0	c	
	PRI	e(P)	18 08.4	c	
Sept. 19	BKS	e(P)NEZ	01 35 44	NEd	USCGS: 52.3°N, 173.4°W, 0 = 01 22 35.5. Andreanof Islands, Aleutian Islands. h about 33 km.
		eNEZ	38.7	SWU	
	MHC	iPZ	29 59.7	d	
		iZ	30 13.2	c	
	MIN	iPZ	29 44.4	d	
		iZ	57.5	c	
	REN	ePZ	57.9	d	
	CLS	eP	47.8	c	
		e	32 05.2	d	
	PRI	eP	30 09.8	c	
		e	32 14.2	c	
Sept. 19	MHC	iPZ	01 32 09.8	d	
		iZ	13.7	c	
		iZ	25.4	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Sept. 19	MIN	e(P)Z	11		
(Cont.)					
Sept. 19	BKS	iPZ	01 50 56.0	c	USCGS: 7.9°N, 81.6°W, 0 = 01 42 15.3. Near south coast of Panama. h about 33 km.
		eQNE	02 03.7	SW	
		eRZ	06.5		
	MHC	iPZ	01 50 43.0		
		iZ	50.8		
	MIN	ePZ	43.5	c	
	REN	iPZ	43.1		
	CLS	eP	52.5	c	
	PRI	eP	34.4	c	
Sept. 19	MIN	ePZ	05 17 42.4	d	USCGS: 48.1°N, 145.1°E, 0 = 05 07 39.1. Near east coast of Sakhalin. h about 466 km.
Sept. 19	BKS	iPZ	08 01 22.6	d	USCGS: 11.5°N, 141.0°E, 0 = 07 48 35.2. Mariana Islands region. h about 61 km.
		eZ	31.6		
	MHC	iPZ	01 25.0	c	
		iZ	34.4	d	
	MIN	ePZ	21.2	c	
		iZ	32.8	c	
	REN	iPZ	29.7	c	
	CLS	eP	14	d	
	PRI	eP	30.8	d	
Sept. 21	MIN	ePZ	08 55 28.1	c	USCGS: 21.2°S, 179.0°W, 0 = 08 44 11.0. Fiji Islands region. h about 624 km.
	REN	ePZ	28.7	c	
Sept. 22	MIN	iPZ	03 46 14.1	d	USCGS: 51.1°N, 177.9°E, 0 = 03 38 29.9. Rat Islands, Aleutian Islands. h about 33 km.
		i	15.6	d	
		iSZ	42.5		
Sept. 22	BKS	ePPZ	07 10 18	d	USCGS; 26.5°N, 97.0°E, 0 = 06 51 32.3. India-Burma border region. h about 33 km. Magnitude 6 (PAL).
		eSKSNE	16 22	SE	
		ePSNZ	19 14	Sd	
		eSSEZ	25.1	Wd	
		eSSSNE	29.0	SW	
		eQNE	35.0	SE	
		eRZ	43.3	d	
	MHC	eZ	12 00		
	MIN	e(P)Z	08 24		
	CLS	e(P)Z	10 05.4	c	
		e	39.6	d	
	PRI	e(B)	10 07.4	c	
		e	42.2	d	
Sept. 23	MIN	ePZ	12 01 06.3	d	USCGS: 14.7°N, 45.1°W, 0 = 11 49 53.5. North Atlantic Ocean. h about 33 km.
Sept. 23	MIN	ePZ	12 13 48.1	c	USCGS: 14.7°N, 45.7°W, 0 = 12 02 34.7. North Atlantic. h about 33 km.
Sept. 23	BKS	ePZ	15 56 38.3	d	USCGS: 60.1°N, 151.2°W, 0 = 15 50 46.4. Kenai Peninsula, Alaska. Felt. h about 86 km.
	MHC	iZ	44.5	d	
	MIN	iPZ	21.8	d	
		iZ	27.4	c	
	REN	iPZ	36.3	d	
	CLS	eP	31.6	c	
	PRI	eP	58.6	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks		
1962			h. m. s.				
Sept. 24	MHC	iPZ	14 31 07.6	c	USCGS: 7.7°N, 82.4°W, 0 = 14 22 42.4. Near south coast of Panama. h about 36 km.		
	REN	iPZ	07.4	c			
Sept. 24	BKS	ePZ	14 49 18.0	c	USCGS: 42.8°N, 145.5°E, 0 = 14 38 22.4. Near east coast of Hokkaido, Japan. h about 33 km.		
		eSNE	58 09	NE			
		eQNE	15 05.5	SW			
	MHC	ePZ	14 49 18.2	c			
		iZ	32.8	d			
		iPZ	18.0	d			
Sept. 25	REN	e(P)	18	c	USCGS: 55.6°S, 124.3°W, 0 = 00 21 14.6. South Pacific Ocean. h about 67 km.		
	CLS	e(P)	39	d			
	PRI	e(S)NE	00 45.5	SW			
	BKS	eN	46.8	N			
		eE	59.0	W			
	eRZ	01 03.5					
	MHC	ePZ	R from S 00 34 34.4				
Sept. 25	CLS	e(P)	30.6	c	USCGS: 24.0°S, 176.6°W, 0 = 07 30 09.3. Tonga Islands region. h about 33 km.		
	PRI	eP	20.4	c			
	BKS	i(P)Z	07 42 18	d			
	MHC	ePZ	17.6	c			
	MIN	ePZ	27.2	c			
	CLS	e(P)	19	d			
Sept. 25	PRI	e(P)	17.3	d	USCGS: 32.9°N, 137.8°E, 0 = 10 22 45.1. South of Honshu, Japan. h about 325 km.		
	MIN	ePZ	10 33 02.6	d			
	REN	ePZ	54.6	d			
Sept. 25	MHC	iPZ	15 02 50.2	c	USCGS: 11.7°N, 138.6°E, 0 = 14 49 46.9. Mariana Islands. h about 33 km.		
	MIN	ePZ	46.1	c			
Sept. 26	BKS	ePZ	12 57 11.3	d	USCGS: 27.5°S, 176.4°W, 0 = 12 44 48.9. Kermadec Islands region. h about 33 km.		
		e(S)NE	13 07.5	(NW)			
		eZ	22.2	d			
	MHC	iPZ	12 57 11.5	d			
	REN	ePZ	36.4	c			
	CLS	eP	12.4	d			
	PRI	eP	10.2	d			
	Sept. 27	MHC	iPZ	07 01 13.6		c	USCGS: 31.3°S, 68.6°W, 0 = 06 48 52.8. San Juan Province, Argentina. h about 123 km.
		MIN	eZ	22.6		c	
	Sept. 27	CLS	e(P)	18.2		c	USCGS: 17.9°S, 64.9°W, 0 = 07 50 28.3. Central Bolivia. h about 120 km.
PRI		eP	06.4	c			
BKS		eZ	08 14 16	c			
	eREN	33.3					
Sept. 27	MHC	iPZ	02 05.7	d	USCGS: 42.0°N, 142.4°E, 0 = 09 18 29.7. Near south coast of Hokkaido, Japan. h about 99 km.		
	MIN	ePZ	15.0	c			
	CLS	eP	12.8	d			
	PRI	eP	01 57.6	d			
	MIN	ePZ	09 29 31.7	c			

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Sept. 27	BKS	iPZ	13 15 07.2	d	USCGS: 17.6°S, 178.9°W, 0 = 13 25 05.6. Fiji Islands. h about 507 km.
	MHC	ePZ	07.2	d	
	MIN	ePZ	05.0	d	
		eZ	18 27.0	d	
		eP	15 06	d	
Sept. 27	PRI	eP	11.4	d	USCGS: 3.9°S, 151.3°E, 0 = 18 26 50.5. New Britain region. Felt. h about 33 km.
	BKS	ePZ	13 36 05.0	c	
	MHC	iPZ	05.9	c	
	MIN	iPZ	14.7	d	
	REN	iPZ	37 17.8	c	
	CLS	eP	36 05.8	c	
Sept. 27	PRI	eP	06.2	c	USCGS: 5.2°N, 76.2°W, 0 = 18 56 06.4. Western Columbia. Felt. h about 106 km.
	MIN	ePZ	18 37 40.8	d	
Sept. 28	BKS	ePZ	19 05 16		S(W)
		eSNE	13 12		
		eQNE	18.8		
		eRNZ	21.5		
	MHC	iPZ	05 10.6	d	
Sept. 29	MIN	iZ	37.3	d	USCGS: 20.0°S, 68.0°W, 0 = 05 21 49.6. Southern Bolivia. h about 26 km.
	MIN	ePZ	05 13.3	c	
		iZ	42.9	c	
	REN	iZ	06 09.0	c	
Sept. 29	CLS	eP	05 18.4	c	USCGS: 27.1°S, 63.5°W, 0 = 15 17 47.6. Santiago del Estero Province, Argentina. h about 577 km. Magnitude 6 1/2. (PAS)
		e	44.2	c	
	PRI	eP	01 01.0	c	
	CLS	e(P)	01 34 32.8	c	
	PRI	eP	27.7	d	
Sept. 29	MHC	iPZ	05 33 58.2	c	USCGS: 37°07'00"N, 116°01'58"W. Nevada Test Site. ALLEGHENY
		iZ	34 06.6	c	
	MIN	ePZ	36.0	d	
	CLS	e(P)	33 45.6	c	
	PRI	eP	30.0	d	
	BKS	ePZ	15 29 24.1	d	
		iZ	31 28.7	d	
	MHC	iPZ	29 20.9	d	
		iZ	31 24.6	c	
	MIN	iPZ	29 29.1	c	
Sept. 29	REN	iZ	31 33.7	d	
		iPZ	29 17.9	d	
		iZ	31 27.9	d	
	CLS	eP	29 26.9	d	
		e	31 32.0	d	
		e	39 15.9	c	
	PRI	eP	29 13.7	d	
		e	31 17.5	c	
		e	38 46.5	c	
	BKS	ePZ	17 01 28.6	d	
	e(S)Z	02 42.7			

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Sept. 29 (Cont.)	MHC	ePZ	17 01 11.9	c	Shot elevation = 1084.2 meters (AEC).
		iZ	23.2	c	
		iSZ	02 24.4		
	MIN	ePZ	01 25.7	d	
		iZ	49.5	c	
REN	ePZ	12.5	d		
	i(S)E	02 09.3			
CLS	ePZ	01 41.5	d		
PRI	ePZ	02.5	d		
Sept. 30	MHC	iPZ	06 56 39.2	d	USCGS: 13.5°N, 146.2°E, 0 = 06 44 00.4. Mariana Islands region. h about 94 km.
		e(P)Z	11		
Sept. 30	MIN	ePZ	11 01 10.7		USCGS: 5.2°S, 152.7°E, 0 = 10 48 10.3. New Britain. Felt. h about 33 km.



Bulletin of the Seismographic Stations

Volume 32, No. 4, pp. 141 - 189

ARCATA--BERKELEY--CALISTOGA--CONCORD
FERNDALE--FRESNO--LLANADA--MANZANITA LAKE
MINERAL--MOUNT HAMILTON--PALO ALTO--PARAISO
POINT REYES--PRIEST--RENO--SAN FRANCISCO
SANTA CRUZ--SHASTA--VINEYARD

Earthquakes and the Registration of Earthquakes
From October 1, 1962 to December 31, 1962.

By

Cinna Lomnitz

Michio Otsuka

and

John S. Derr

University of California

Berkeley

1965

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INTRODUCTION

Each number in this series includes determinations of epicenters, origin times, and magnitudes, as well as other information available at the time of writing, for earthquakes in northern California and adjoining areas (Part I), and tabulates recorded arrival times of seismic waves and other information for teleseisms and for the larger earthquakes in the local area (Part II).

Information regarding the seismographic stations which comprise the Berkeley network, instruments operated regularly at each station, and any changes in instrumentation during the period covered by this issue will be found on the following pages of the Introduction.

Information of a general nature such as the Modified Mercalli Intensity Scale will be found only in the first number of each volume.

PERSONNEL (FEBRUARY 1965)

Station Director	Bruce A. Bolt
Director Emeritus	Perry Byerly
Associate Research Seismologist	Cinna Lomnitz
Assistant Research Seismologist	Helen Freedman
Postgraduate Research Seismologist	Michio Otsuka
Associate	Don Tocher (U.S. Coast and Geodetic Survey, San Francisco)
Associate Engineer	Walter Marion
Full-time Technical Staff	G. Mitchell, R. Sell, M. Hilger, J. Firby
Research Assistants	A. Nowroozi, H. Acharya, P. Rodgers, John S. Derr
Secretary	Loretta Martin

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THE BYERLY SEISMOGRAPHIC STATION (BKS)

Standardized equipment began operating in a newly constructed tunnel east of the main campus on June 8, 1962. The closest buildings, part of the Lawrence Radiation 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. 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.

The short-period world-wide standard instruments are operated with an approximate magnification of 25,000 at 1 sec and the long-period standard instruments with 3,000 at 30 sec.

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.

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 twenty in 1962. In 1950, Professor Perry Byerly was appointed Director by the Regents; he had been in charge of instruction and research since 1925. In 1960, the University entered into a contract with the Air Force Office of Scientific Research of the Research Projects Agency of the Department of Defense. Funds were made available under the Vela Uniform program to design and operate a telemetered network of eight new stations in central California and to construct a new seismic vault near the Berkeley campus.

STATIONS IN OPERATION: OCTOBER - DECEMBER 1962

Station	North Latitude	West Longitude	Elev. Meters	Symbol	Present Auspices and Date Established
Berkeley (Haviland)	37° 52.4'	122° 15.6'	81	BRK, BRX	Univ. of California, 1887
Berkeley (Strawberry)	37° 52.6'	122° 14.1'	276	BKS	Univ. of California, 1962
Mt. Hamilton	37° 20.5'	121° 38.5'	1282	MHC	Lick Observatory, 1887
Palo Alto	37° 25.0'	122° 10.9'	83	PAC	Stanford University, 1927
San Francisco	37° 46.6'	122° 27.1'	100	SFB	Univ. of San Francisco, 1931
Ferndale	40° 34.6'	124° 15.7'	15	FER	City of Ferndale, 1933
Fresno	36° 46.0'	119° 47.8'	88	FRE	Fresno City College, 1935
Mineral	40° 20.7'	121° 36.3'	1495	MIN	National Park Service, 1938
Arcata	40° 52.6'	124° 04.5'	59	ARC	Humboldt State College, 1948
Reno	39° 32.3'	119° 48.8'	1386	REN	Univ. of Nevada, 1948
Shasta	40° 41.7'	122° 23.3'	312	SHS	Bureau of Reclamation, 1942
Manzanita Lake	40° 32.2'	121° 33.7'	1800	MLC	National Park Service, 1956
Vineyard (local)	36° 45.0'	121° 23.1'	330	VIN	W. A. Taylor and Co., 1959
(telemeter)	36° 45.0'	121° 23.3'	380	VIT	
Concord	37° 58.1'	122° 04.3'	36	CNC	Diablo Valley College, 1960
Santa Cruz	37° 00.4'	121° 59.8'	128	SCC	City of Santa Cruz, 1961
Paraiso	36° 19.9'	121° 22.2'	363	PRS	Paraiso Hot Springs, 1961
Llanada	36° 37.0'	120° 56.6'	475	LLA	Charles McCullough Ranch, 1961
Calistoga	38° 38.2'	122° 35.1'	457	CLS	Terrance Kirk Ranch, 1961
Point Reyes	38° 04.8'	122° 52.0'	404	PRC	Federal Aviation Agency, 1961
Priest	36° 08.5'	120° 39.9'	1187	PRI	Federal Aviation Agency, 1961

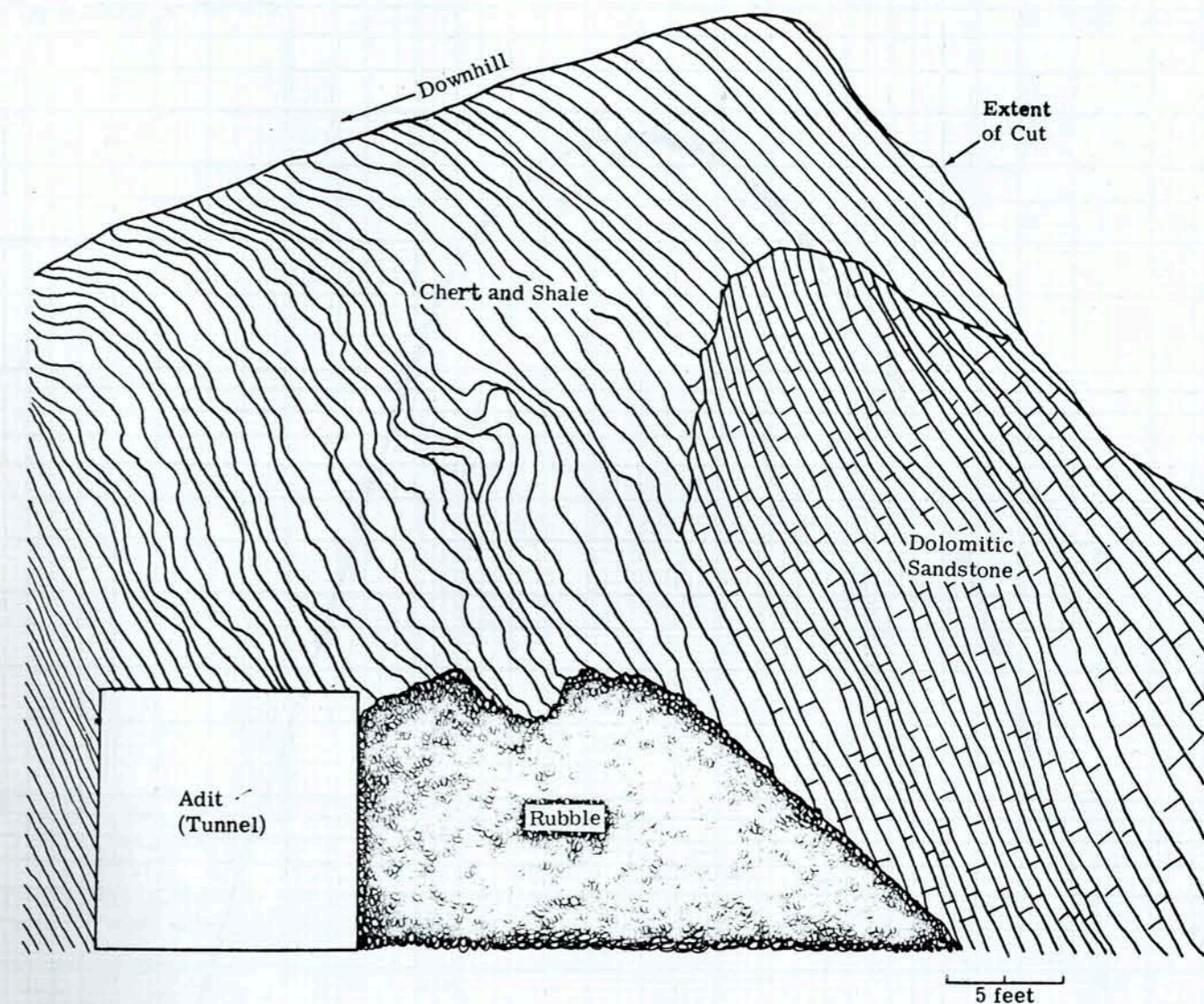
STATION INSTRUMENTATION

		October - December 1962		
Station	Type of Instrument	T _o sec	T _g sec	Component
BRK	Benioff 100 kg (Z)	1.0	0.4	Z
	Benioff 100 kg (Z)	1.0	8.0	Z
	Wood-Anderson torsion	0.8	-	S,W
	100X torsion	0.8	-	N,W
BKS	Benioff 100 kg Sprengnether	1.0 30	0.75 100	N,E,Z N,E,Z
	BRX	Galitzin-Wilip moving coil	12	12
Press-Ewing moving coil		30	90	N,E,Z
MHC	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	S,E
PAC	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	N,E
SFB	Lehner-Griffith moving coil	1.2	0.3	Z
	Wood-Anderson torsion	0.8	-	S,W
FER	Bosch-Omori 25 kg	12	-	S,W
FRE	Sprengnether moving coil	2.0	2.0	N,E,Z
MIN	Benioff 100 kg (Z)	1.0	0.4	Z
	Wood-Anderson torsion	0.8	-	S,E
ARC	Marion-Slichter moving coil	1.1	0.2	Z
	Wood-Anderson torsion	0.8	-	N,E
REN	Sprengnether moving coil	2.0	2.0	N,E,Z
SHS	Benioff 50 kg moving coil	1.5	0.45	N,E,Z
MLC	Loucks-Omori	3½	-	S,E
VIN	Benioff 100 kg (Z)	1.0	0.2	Z
	Wood-Anderson torsion	0.8	-	S,W
VIT ^Δ	Benioff 14 kg (Z)	1.0	2.0	Z
CNC ^Δ	Benioff 100 kg (Z)	1.0	0.2	Z
SCC ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
PRS ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
LLA ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
CLS ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
PRC ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z
PRI ^Δ	Benioff 14 kg (Z)	1.0	0.2	Z

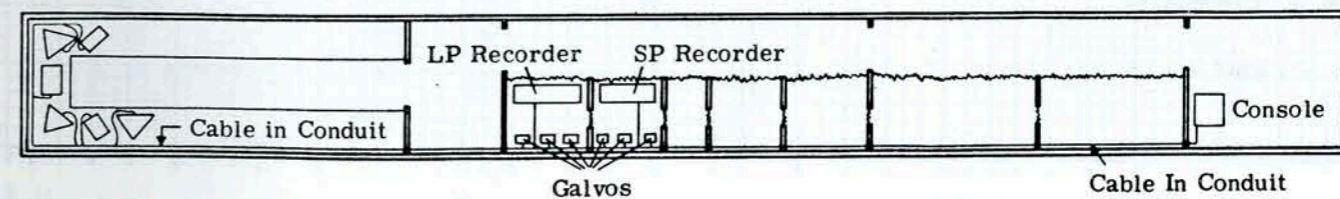
△ Signals from these eight stations are transmitted via leased telephone lines to recorders at Berkeley.

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 through the tele-meter system are listed on the following pages. Absolute magnification may be obtained by use of calibration pulses recorded daily from each telemetered station.

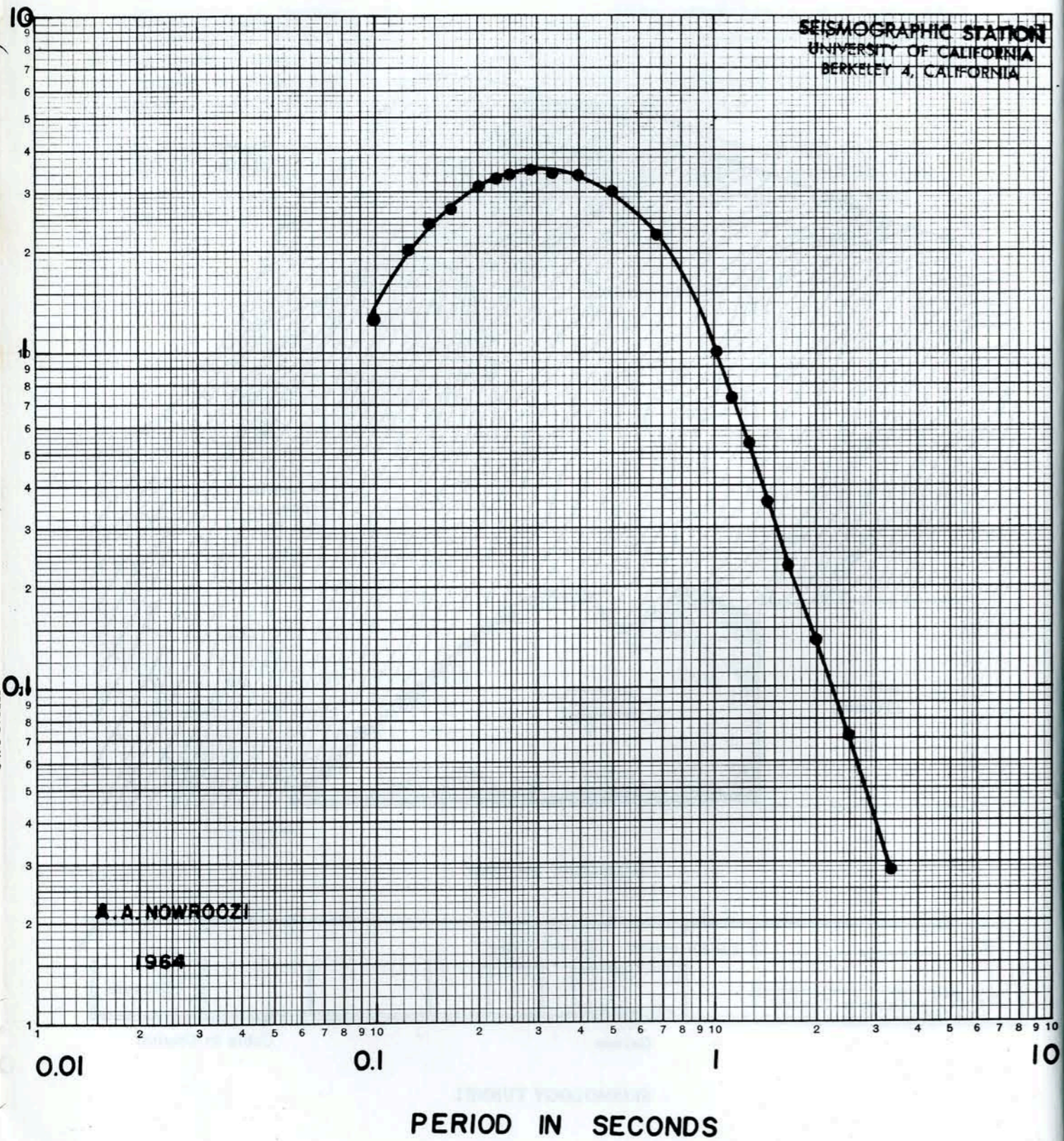


GEOLOGIC SECTION

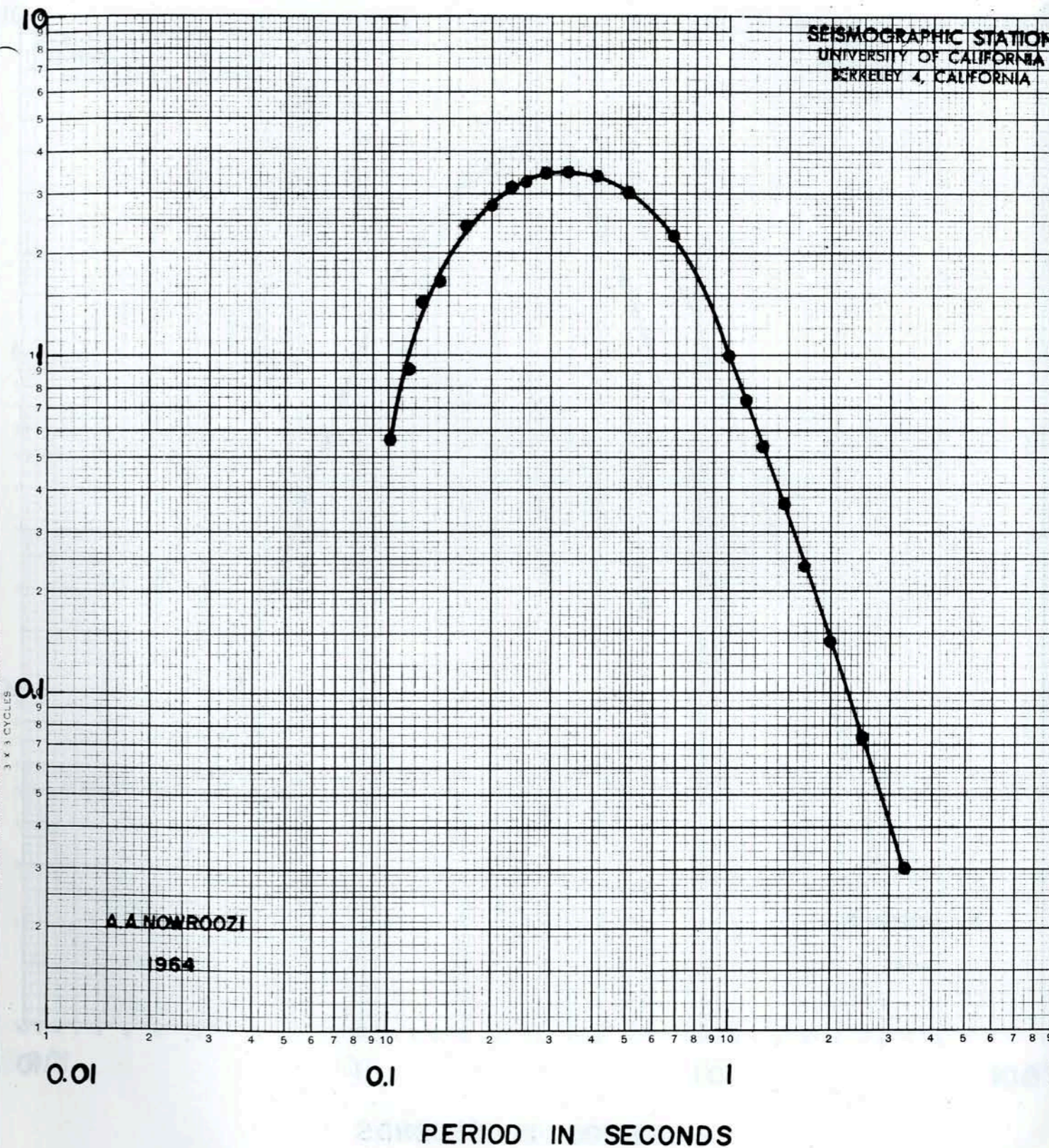


SEISMOLOGY TUNNEL

RESPONSE OF SEISMOMETER-DEVELORECORDER SYSTEM. 100KG. Z. S.P

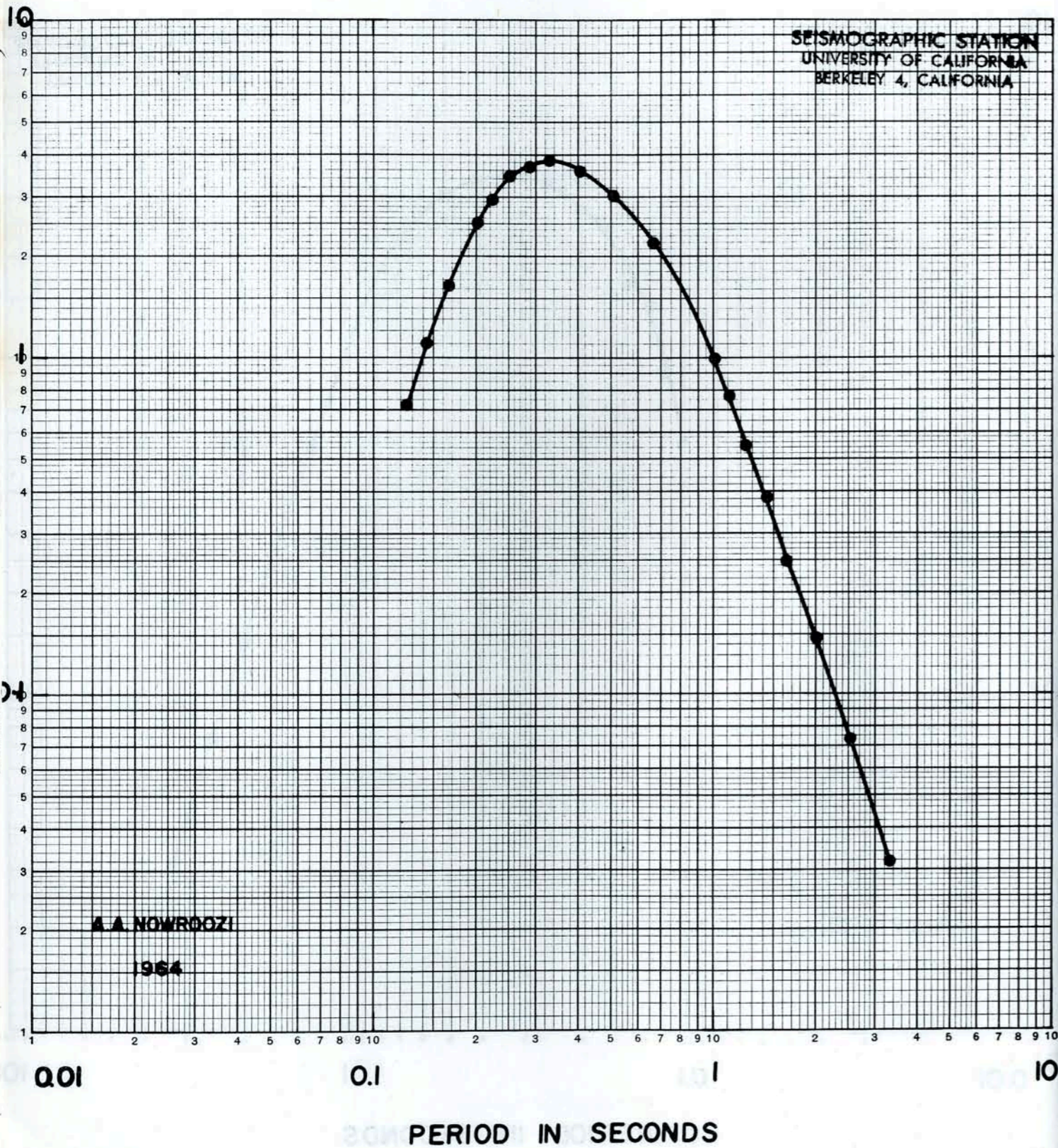


RESPONSE OF SEISMOMETER-HELICORDER SYSTEM. 100KG. Z. S.P



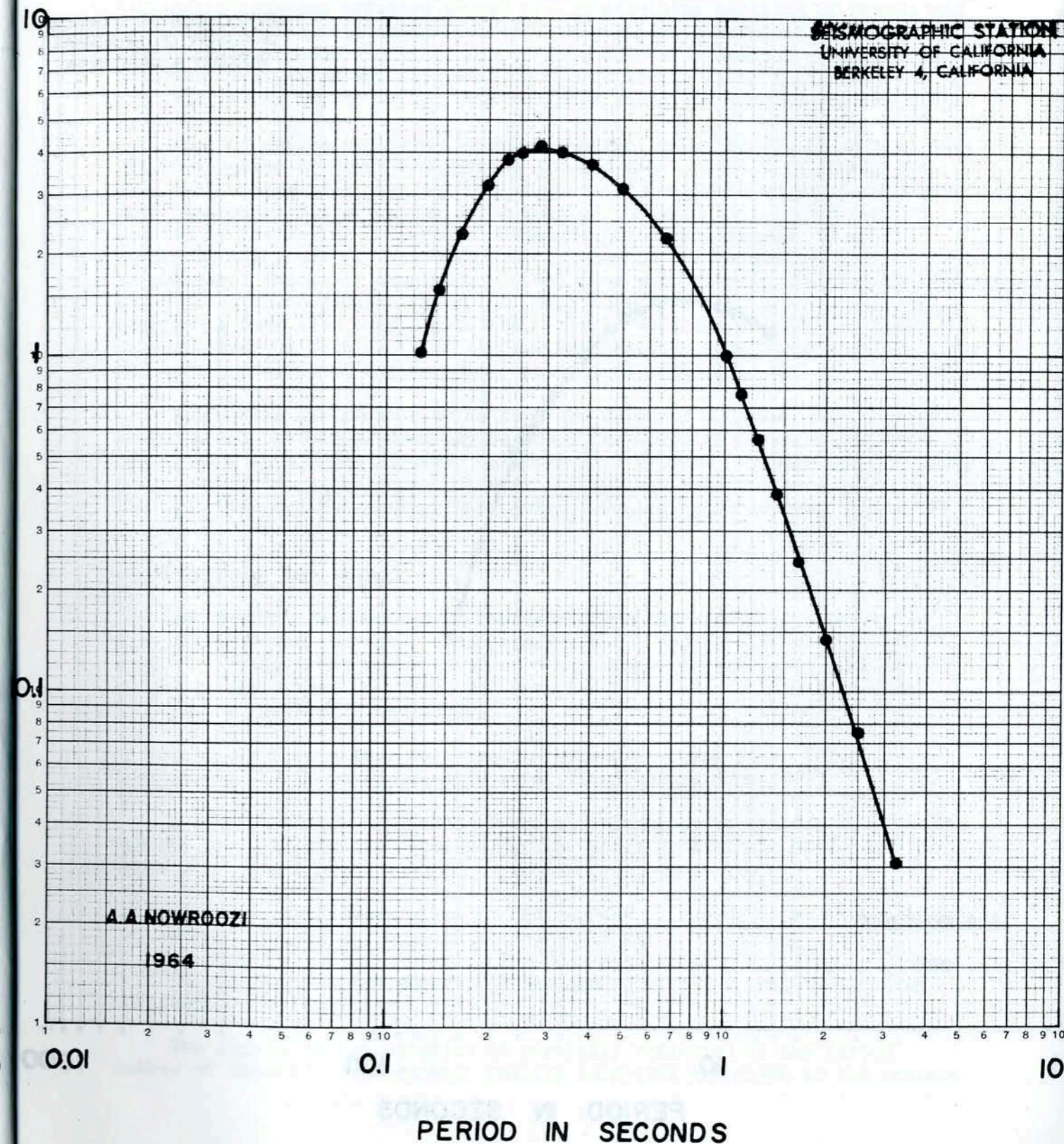
RESPONSE OF SEISMOMETER—HELICORDER

SYSTEM. 14.7 KG. Z. S. P



RESPONSE OF SEISMOMETER—DEVELOCORDER

SYSTEM. 14.7 KG. Z. S. P

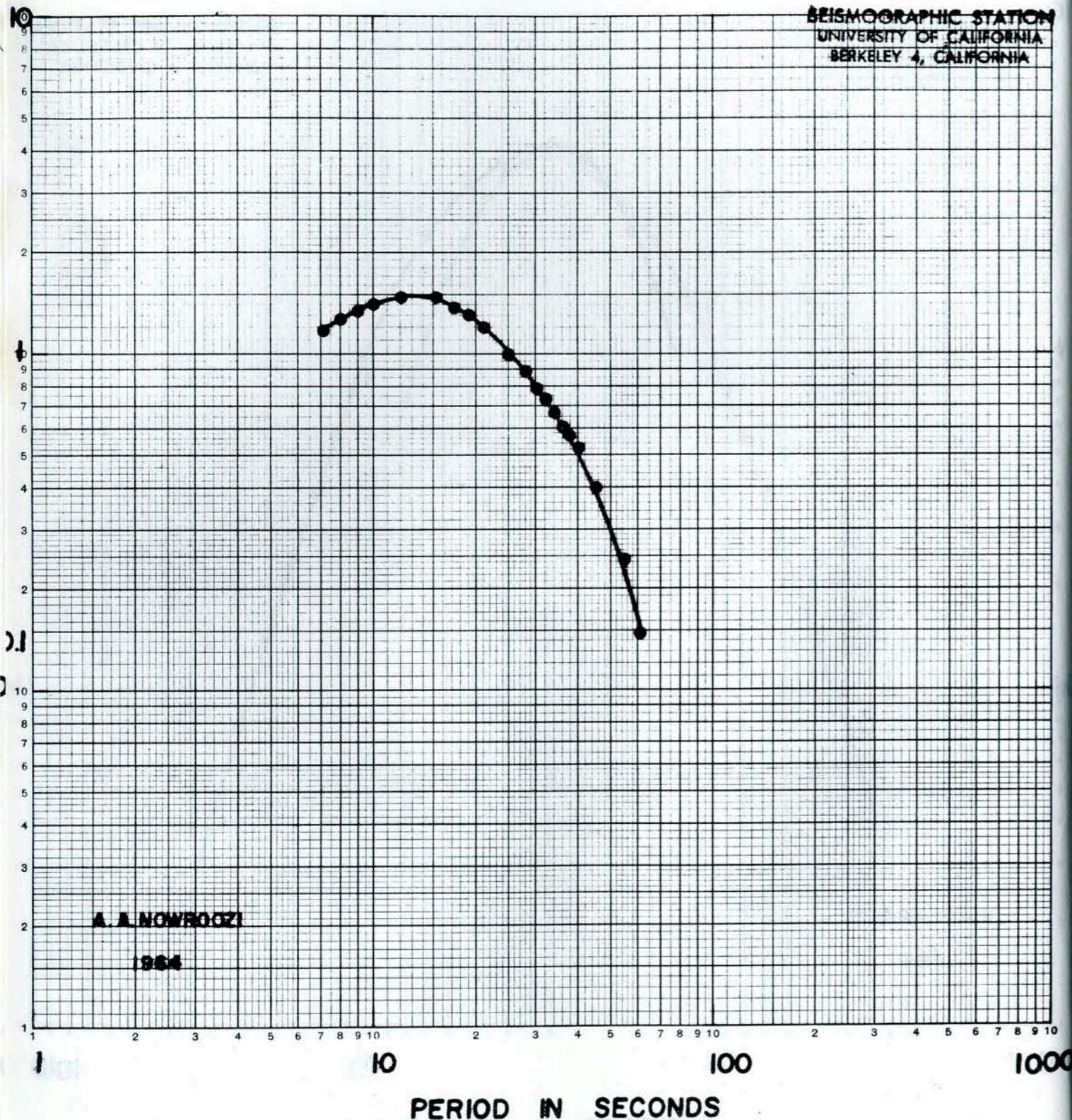


RESPONSE OF SEISMOMETER — HELICORDER

SYSTEM. PRESS-EWING.

Z. T.G=30S., T.S=15S.

SEISMOGRAPHIC STATION
UNIVERSITY OF CALIFORNIA
BERKELEY 4, CALIFORNIA



PART I. LOCAL EARTHQUAKES IN NORTHERN CALIFORNIA, NEVADA, AND OREGON

This section includes information on earthquakes in northern California (including adjacent offshore areas) and in adjoining sections of Nevada and Oregon which were well enough recorded to permit a determination of the epicenter. Latitude and longitude of each epicenter and the corresponding date and origin time are tabulated in the following list; epicenters are also plotted on one or both of the two maps immediately following the list.

For the entire northern California region, every effort is made to list all earthquakes of Richter magnitude 3.0 and above, but it is likely that some such shocks have been omitted because the available seismographic data were inadequate for epicenter determination. Within the limited region covered by the map of the central Coast Ranges of California, locatable shocks of magnitude 2.5 and over are included in the tabulation and plotted on the map. Shocks of magnitude 3.0 and over occurring in the limited 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 artificial earthquakes (explosions) ordinarily are not tabulated.

Epicenters are located by an IBM 7090 computer program. Information on Version I of this program may be found in "Computer Location of Local Earthquakes within the Berkeley Seismographic Network" by Bolt and Turcotte, published in Computers in the Mineral Industries, Part 2, (George Parks, Editor); Stanford University Publications, Geological Sciences, Vol. 9, No. 2, pp. 561-576, 1964.

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 (and on the maps) 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 Greenwich Civil Time (GCT). Subtract eight (8) hours to convert to Pacific Standard Time (PST).

M is the Richter magnitude of the earthquake as determined from the maximum trace amplitudes recorded for the shock by standard Wood-Anderson torsion seismographs.

h is the focal depth given to the nearest kilometer or by the following ranges: a, 0-5 km; b, 5-10 km; c, 10-15 km; d, 15-30 km.

No. of Stas. is the number of stations used by the computer program in locating the epicenter.

The quality of the solution is partially reflected by the listed number of stations. The highest quality locations are given to the nearest

minute of arc in latitude and longitude and to the tenth of a second origin time. Focal depths are listed in kilometers. Poorer quality locations are given to the nearest minute in latitude and longitude, to the nearest second in origin time, and are denoted by an asterisk.

Under Remarks will be found a short descriptive location of the epicenter, usually relative to a point named on the map. Information on small foreshocks and aftershocks is sometimes included under Remarks, but when numerous foreshocks or aftershocks accompany a large earthquake, a separate tabulation may be included following the main list of local shocks.

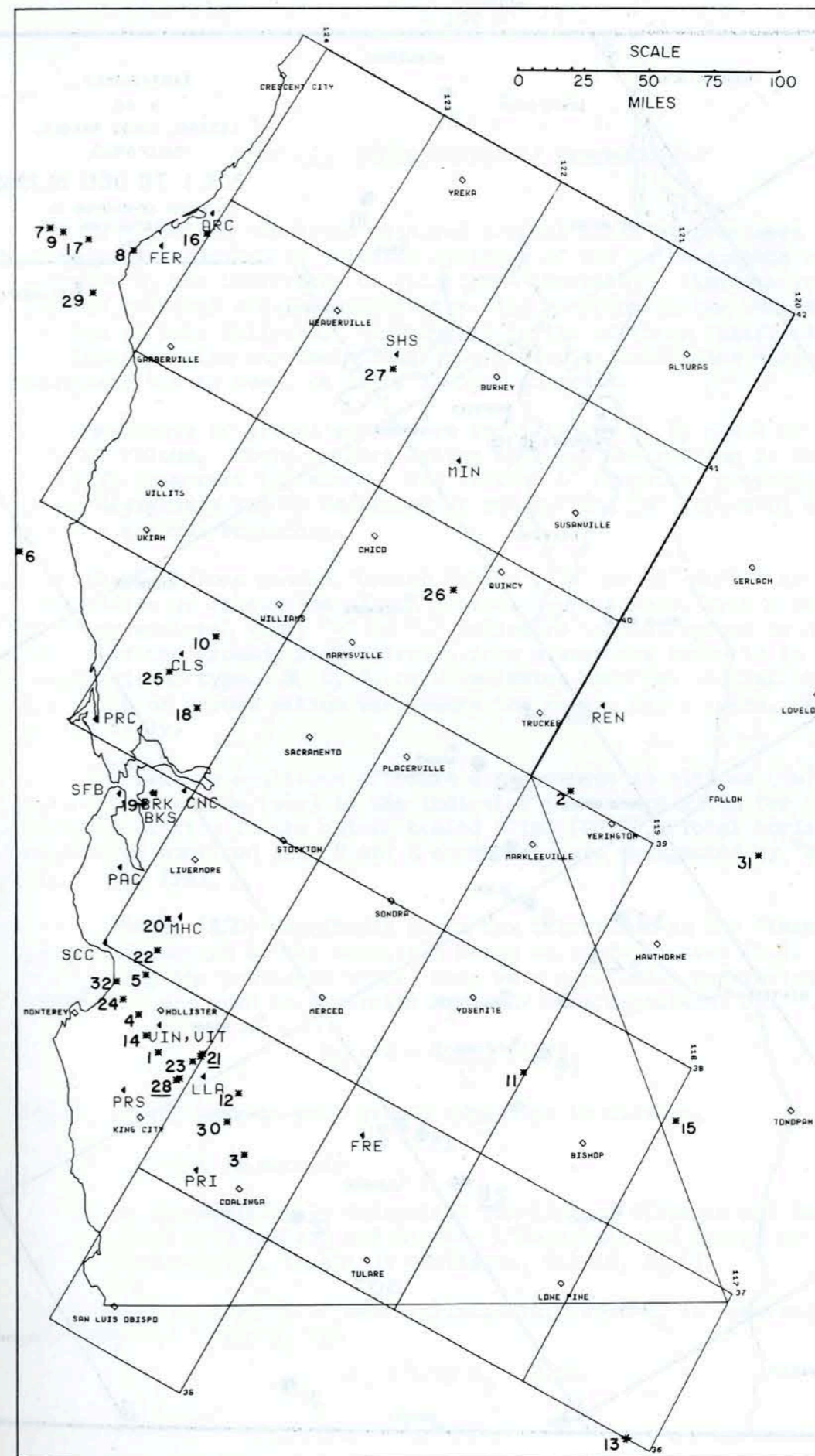
Information on maximum intensities of shocks reported felt is also included under Remarks. Reports on felt earthquakes may be obtained from the Seismological Field Survey of the U.S. Coast and Geodetic Survey, which publishes a more complete summary in "Abstracts of Earthquake Reports for the Pacific Coast and Western Mountain Region." This regular quarterly publication may be obtained from the District Officer, San Francisco District, Coast and Geodetic Survey, 121 Customhouse, San Francisco 26, California, or from the Director, U.S. Coast and Geodetic Survey, Washington Science Center, Rockville, Maryland 20852. Intensities given in Roman numerals are assigned by the Coast and Geodetic Survey and based on the Modified Mercalli Intensity Scale of 1931.

EARTHQUAKES IN NORTHERN CALIFORNIA, NEVADA, AND OREGON

Map No.	Date 1962	M	Origin Time (G.C.T.)	Latitude North	Longitude West	h	No. of Stas.	Remarks
1	Oct. 1	3.2	14-04-05.63	36° 36.8'	121° 17.3'	7	16	SE of Vineyard near Waterman Ranch.
2	Oct. 2	4.3	03-50-58.44	39° 01.7'	119° 41.6'	a	21	SE of Carson City. Felt over an area of 2500 sq. mi. of western Nevada and northeastern California. Maximum intensity V. No damage reported. V at Dayton, Minden, and Virginia City, Nevada. IV at Carson City, Gardnerville, Genoa, Glenbrook, Silver City, and Zephyr Cove area, Nevada; and at Bijou, Floriston, Stateline, and Tiger Creek Powerhouse, California.
3	Oct. 13	3.7	17-49-39.48	36° 20.7'	120° 24.9'	a	17	NE of Priest.
	Oct. 14	4.1	09-41-00.57	38° 41.8'	124° 05.0'	a	20	Off coast, SW of Point Arena. Foreshock of Oct. 14, 10-14.
	Oct. 14	4.6	10-14-28.11	38° 40.8'	124° 01.7'	0	20	Off coast, SW of Point Arena. Main shock. Felt. IV at Albion, also felt at Elk.
	Oct. 14	3.6	11-10-15.56	38° 44.5'	124° 03.3'	a	19	Off coast, SW of Point Arena. Aftershock of Oct. 14, 10-14.
	Oct. 14	3.4	11-48-17.47	38° 44.2'	124° 35.1'	a	17	Off coast, SW of Point Arena. Aftershock of Oct. 14, 10-14.
4	Oct. 18	3.4	18-50-07.09	36° 45.2'	121° 31.9'	2	20	W of Vineyard. Felt. III at Harris Ranch. Also felt at Vineyard and Hollister.
5	Oct. 23	2.5	01-21-39.18	36° 58.0'	121° 37.5'	a	18	SW of Gilroy.
6	Oct. 24	2.8	08-03-27.35	38° 42.4'	123° 55.6'	a	12	Off coast, SW of Point Arena. Aftershock of Oct. 14, 10-14.
7	Nov. 1	3.3	22-51-00.74	40° 21.7'	124° 59.7'	8	9	Off Cape Mendocino.
8	Nov. 5	3.3	05-23-05.71	40° 29.2'	124° 23.5'	28	7	Off Cape Mendocino.
*9	Nov. 5	3.4	06-31-41	40° 23'	124° 54'	0	5	Off Cape Mendocino.
10	Nov. 5	2.8	17-08-30.23	38° 48.5'	122° 26.2'	a	13	NE of Calistoga.
11	Nov. 6	4.0	11-57-20.36	37° 30.8'	119° 01.1'	a	20	SW of Mammoth Lakes. Felt over an area of 3000 sq. mi. of east-central California. Maximum intensity V at Big Creek, Bishop, Laws, and Long Valley Dam.
12	Nov. 10	3.0	12-50-20.46	36° 38.1'	120° 40.0'	a	18	E of Llanada.
*13	Nov. 12	3.7	07-53-52	36° 00'	117° 10'	0	11	Telescope Peak area, Death Valley.

Map No.	Date 1962	M	Origin Time (G.C.T.)	Latitude North	Longitude West	h	No. of Stas.	Remarks
14	Nov. 13	2.6	03-32-32.99	36° 40.3'	121° 25.3'	a	13	S of Vineyard. Foreshock at 03-04. Aftershock at 03-46.
15	Nov. 13	3.7	06-35.30.43	37° 41.7'	117° 55.4'	6	16	Nevada, NE of Bishop.
16	Nov. 16	3.0	03-01-00.34	40° 46.1'	124° 01.1'	11	3	E of Eureka.
17	Nov. 21	3.8	10-04-00.15	40° 25.0'	124° 43.2'	26	16	Off Cape Mendocino.
18	Nov. 25	2.7	00-43-35.08	38° 25.2'	122° 16.5'	5	12	N of Napa.
19	Nov. 26	2.5	16-58-18.36	37° 48.3'	122° 15.7'	6	13	Oakland Hills. Felt in Oakland, Berkeley, and Piedmont. Light shock.
20	Nov. 26	2.6	18-46-24.88	37° 17.8'	121° 42.4'	6	14	SW of Mt. Hamilton.
21	Nov. 28	3.6	03-03-41.79	36° 43.5'	121° 01.2'	9	19	NW of Llanada.
21	Nov. 28	2.5	03-20-56.19	36° 42.8'	121° 01.3'	7	10	NW of Llanada. Aftershock of 03-03.
21	Nov. 28	3.6	03-23-07.88	36° 42.8'	121° 01.1'	9	20	NW of Llanada. Twin of 03-03.
22	Nov. 29	2.7	22-43-59.00	37° 06.5'	121° 38.6'	15	13	NW of Gilroy.
23	Dec. 1	2.7	03-31-56.23	36° 40.3'	121° 02.7'	5	15	NW of Llanada. Aftershock of Nov. 28, 03-23.
24	Dec. 5	2.8	05-02-26.63	36° 47.3'	121° 41.4'	0	19	N of Salinas.
25	Dec. 6	2.6	01-41-06.10	38° 31.3'	122° 35.4'	0	11	S of Calistoga.
26	Dec. 6	2.9	12-36-39.28	39° 42.3'	121° 09.1'	d	10	NW of Oroville.
27	Dec. 6	3.1	17-43-36.26	40° 36.8'	122° 20.7'	7	3	E of Redding. Felt.
28	Dec. 12	2.7	01-48-25.88	36° 33.4'	121° 04.1'	8	12	SW of Llanada.
29	Dec. 13	4.0	08-10-29.74	40° 09.8'	124° 28.8'	d	16	Off Cape Mendocino.
30	Dec. 15	2.9	00-40-20.90	36° 27.9'	120° 38.2'	2	13	N of Priest.
	Dec. 15	4.9	06-34-53.72	41° 02.0'	117° 15.4'	4	15	NE of Golconda.
*31	Dec. 16	3.7	11-06-46	39° 14'	118° 18'	0	12	SE of Fallon.
28	Dec. 19	2.9	16-47-18.36	36° 32.4'	121° 05.2'	7	17	SW of Llanada.
32	Dec. 24	3.7	00-16-23.37	36° 50.9'	121° 47.4'	10	17	SW of Watsonville. Felt. IV at Aromas and Watsonville. Also felt at Tres Pinos.

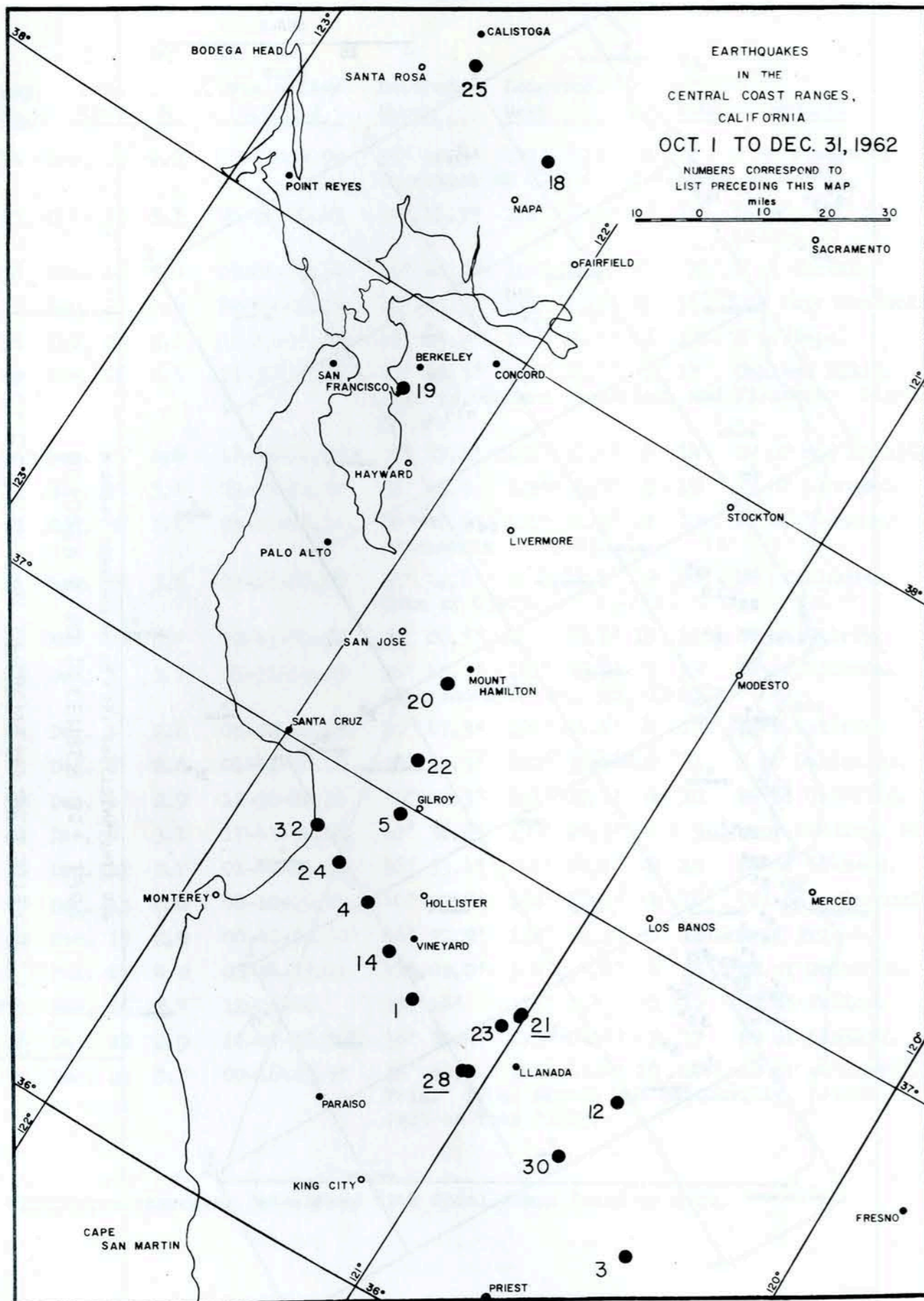
*Indicates epicenter determined with focal depth fixed as zero.



SELECTED CALIFORNIA SEISMICITY
 OCTOBER 1 TO DECEMBER 31, 1962
 NUMBERS CORRESPOND TO LIST PRECEDING THIS MAP

CALIFORNIA COMPUTER PRODUCTS, INC. ANAHEIM, CALIFORNIA CHART NO. 00

CALIFORNIA COMPUTER PRODUCTS



PART II. REGISTRATION OF EARTHQUAKES

This section tabulates measured arrival times of prominent phases of earthquakes recorded at selected stations of the seismographic network operated by the University of California (Berkeley). Information regarding the stations and instrumentation will be found in the introductory section of this Bulletin. Earthquakes in the northern California, Nevada, and Oregon region are included in the following tabulation only if of magnitude 4.0 or over, or if of special interest.

Components of ground motion are indicated by N, E, and Z in the "Phase" column. Where no such letter appears, the reading is for the vertical component (Z) alone. The letter "i" (impetus) preceding a phase designates sudden beginning of the motion; "e" (emersio) designates a gradual beginning.

In the column headed "Ground Motion", "c" or "d" indicates initial compression or dilatation of the ground, respectively, from a wave of the compressional type; "+" or "-" indicates initial upward or downward motion of the ground, respectively, from a wave not known to be of the compressional type. N, E, S, or W indicates that the initial horizontal direction of ground motion was toward the north, east, south, or west, respectively.

The maximum amplitude of earth displacement in microns (μ) and periods in seconds (sec) in the indicated phases are given for the Berkeley station in the column headed "Time (GCT)". Total horizontal amplitudes combined from N and E components are designated by "H" (e.g., PH, PPH).

Berkeley (BKS) magnitudes given for teleseisms in the "Remarks" column correspond to the magnitude based on surface waves (M_s). In calculating the published value, body wave amplitudes and periods of body waves are used to determine M_B (body wave magnitude) by:

$$M_B = Q + \log_{10} (A/T),$$

where A = 1/2 peak-to-peak ground amplitude in microns,

T = period in seconds

Q is the empirically determined function of distance and depth given by Gutenberg and Richter ("Magnitude and Energy of Earthquakes", *Annali di Geofisica*, 9:1-15, 1956).

The arithmetic average of the available values of M_B is converted to an equivalent value M_s by:

$$M_s = 1.59 M_B - 3.97.$$

This value is then compared with the value of M_s determined from surface waves of period near 20 seconds.

Frequently quoted sources of information regarding epicenters, origin times, or shock magnitudes are as follows:

USCGS - U.S. Coast and Geodetic Survey, Washington Science Center, Rockville, Maryland

BCIS - Bureau Central International de Seismologie, Strasbourg, France

PAL - Lamont Geological Observatory, Palisades, New York

PAS - Seismological Laboratory, Pasadena, California

WMSO - Wichita Mountains Observatory, Oklahoma

BKS - Byerly Seismographic Station, Berkeley

BRK - indicates the average magnitude determined by the Berkeley network.

All measurement 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. Readings from the remaining stations in the network other than the six listed (BRK, CLS, MHC, MIN, PRI, REN) are available on request. Requests for additional data or for copies of seismograms should be addressed to the Director.

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Oct. 1	MIN	eP	01 07 03		
Oct. 1	BKS	eP	04 07 48.4	c	USCGS: 17.5°S, 178.9°W, 0 = 03 56 52.0.
	MHC	iP	49.5	c	
	MIN	iP	57.9	d	Fiji Islands. h about 550 km.
	CLS	eP	49.2	c	
	PRI	eP	49.3	c	
Oct. 1	MHC	iP	10 03 40.9	d	USCGS: 47.3°N, 151.5°E, 0 = 09 53 32.9.
	MIN	eP	27.5	d	Kurile Islands. h about 127 km.
Oct. 1	BKS	eP	10 09 43.0	d	
		eQNE	32.5	SE	BCIS: 17.6°S, 167.2°E, 0 = 09 57 01.
		eEZ	36.5		New Hebrides. Felt at Port Vila (Noumea).
	MHC	eP	09 42.1	c	Magnitude 4 3/4 (Pt. Moresby).
	MIN	eP	49.2	d	
	REN	eP	50.5		
	CLS	eP	42	c	
	PRI	eP	43.4	d	
Oct. 1	MIN	e	12 27 14		
Oct. 1	MHC	iP	12 32 40.6	d	BCIS: 27.0°N, 54.75°E, 0 = 12 13 50.
	MIN	eP	31 56.5	c	SE of Lar, Iran.
	CLS	e(P)	32 34	d	Magnitude 5 1/2 (Kew).
	PRI	e(P)	43	d	
Oct. 1	MHC	e	12 43 19		
	MIN	eP	40.4	c	
	PRI	e	06.7	c	
Oct. 1	MIN	iP	12 59 24.5	c	USCGS: 49.0°N, 157.5°E, 0 = 12 49 55.1.
Oct. 1	MIN	eP	13 15 04.0	c	Off S. Kamchatka. h about 80 km.
Oct. 1	BKS	eP	20 54 05.7	d	
		eNEZ	21 16.3		
	MHC	iP	20 54 05.8	c	
	REN	iP	20.0	d	
	CLS	eP	07.0	d	
	PRI	eP	05.4	d	
Oct. 3	BKS	eEZ	01 49.5		USCGS: 40.7°N, 29.7°W, 0 = 01 19 22.5.
	MHC	eP	27 51.9	c	Azores; foreshock of Oct. 6, 1962.
		e	30 21.3		Magnitude 4 1/2 (Kew).
	MIN	eP	27 36.1	c	
		e	30 08.2		
	CLS	eP	21.4	c	
	PRI	eP	23.2	c	
Oct. 3	BKS	iP	17 26 10.7	NE	USCGS: 21.0°S, 168.4°E, 0 = 17 13 41.5.
	MHC	i	25		Loyalty Islands.
	MIN	eP	36.9	c	
	CLS	eP	29.6	c	
	PRI	eP	31.2	c	
Oct. 5	MIN	eP	04 25 29.6	c	USCGS: 40.2°N, 29.5°W, 0 = 04 14 39.1.
Oct. 5	MIN	eP	09 12 14.4	c	Azores; foreshock of Oct. 6, 1962.
Oct. 5	REN	eP	15 31 14.9	c	
Oct. 5	BKS	eP	18 08 44	(c)	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Oct. 5 (Cont.)	MHC	iP	32.9	c	
		i	09 41.0	d	
	MIN	eP	08 39.8	d	
		i	09 19.0	d	
		i	10 11.8	d	
	REN	eP	08 27.7	c	
		i	09 19.7	d	
	CLS	eP	08 49.4	d	
		e	09 41.8	c	
	PRI	eP	24.8	c	
		e	26.2	d	
Oct. 6	MHC	eP	03 28 08.0	c	BCIS: 40° 3/4 N, 29° 1/2 W, 0 = 03 17 00. Azores. Magnitude 5 (Kew)
	MIN	eP	27 55.4	d	
	REN	e(P)	44	d	
	CLS	eP	28 07.6	d	
	PRI	eP	08.3	c	
Oct. 6	MIN	eP	04 05 50.0	c	BCIS: Aftershock of preceding 0 = 03 54 52.
Oct. 6	BKS	eP	04 35 57	(c)	USCGS: 17.4°S, 167.7°E, 0 = 04 23 24.1. Vaté Islands, New Hebrides. Felt at Port Vila. Magnitude 6 1/2 (PAS).
		eEZ	46 32		
		eNEZ	47 37		
		eNE	50 27		
		eG	58.3		
		eR	05 00		
	MHC	eP	04 36 02.2	c	
		i	10.7	d	
		e	39 32		
	MIN	eP	36 05.2	c	
		i	26.9	c	
	REN	eP	10.4	d	
	CLS	e	04.6	c	
		e	39 29.4	d	
	PRI	e	36 05	c	
		e	39 34	d	
Oct. 6	MIN	eP	05 02 06.7	c	
Oct. 6	MIN	eP	05 39 17.0	d	
Oct. 6	BKS	e(P)	05 51 25	d	USCGS: 26.2°N, 126.9°E, 0 = 05 38 40.3. Ryukyu Islands. h about 122 km. Magnitude 5 (Peking).
	MHC	iP	28.3	d	
	MIN	eP	18.7	c	
	REN	eP	27.6	d	
	CLS	eP	21	c	
	PRI	eP	34.7	d	
Oct. 6	MIN	eP	07 16 32.2	c	
Oct. 6	MHC	eP	08 08 59		BCIS: New Hebrides aftershock, 0 = 07 56 1
	MIN	eP	09 04.1		Felt at Port Vila.
	REN	e(P)	10.2	d	
Oct. 6	MIN	eP	09 30 38.7		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Oct. 6	BKS	iP	11 13 00.0	c	USCGS: 13.3°S, 167.3°E, 0 = 11 00 52.8. Banks Islands, New Hebrides. h about 209 km.
	MHC	iP	11 13 01.2	d	
		i	49.1	d	
	MIN	eP	09.5	c	
		i	54.3	c	
	REN	iP	11.6	d	
	CLS	eP	12 58.4	c	
Oct. 6	MIN	iP	11 31 14.5	c	
Oct. 6	BKS	iP	13 43 15.2	d	BCIS: Ecuador.
	MHC	eP	10.6	c	
	MIN	eP	16.0	d	
	CLS	eP	18.1	d	
	PRI	eP	03.2	d	
Oct. 6	MHC	eP	18 13 52		
Oct. 6	BKS	eP	23 44 04		USCGS: 17.5°S, 167.6°E, 0 = 23 31 27.7 New Hebrides. h about 42 km. Felt at Port Vila.
		eZ	56.0		
		eR	24 10		
			R from NE		
	MHC	eP	23 44 05		
	MIN	eP	08.3	c	
	CLS	eP	00.8	c	
	PRI	eP	05.4	d	
Oct. 7	MHC	eP	01 01 42		
Oct. 7	MIN	eP	06 56 05.2	c	
Oct. 7	MIN	eP	16 19 19.7	d	
		e	42.1	d	
Oct. 8	MHC	eP	05 25 23.8	d	USCGS: Azores aftershock. 0 = 05 14 20.4
		e	41.3	d	
	CLS	eP	22.4	d	
	PRI	eP	15.6	d	
Oct. 8	BKS	i(P)	18 04 52.0	c	USCGS: 18.7°S, 176.8°W, 0 = 17 53 28.6. Fiji Islands. h about 243 km.
	MHC	iP	51.9	d	
	MIN	i	05 01.8	c	
	CLS	eP	04 52.4	d	
	PRI	eP	51.9	c	
Oct. 8	BKS	eP	22 09 40	c	USCGS: 24.3°N, 121.7°E, 0 = 21 56 22.2. Off east coast of Formosa. Magnitude 6 1/2 (BKS).
		iPP	13 36		
		eSKSNE	20 14		
		iSN	20 55	S	
		ePSNEZ	22 06		
		iSSN	27 41	S	
		eRZ	39.3		
			R from WSW		
			mu sec		
		PZ	2.5 10		
		PPZ	1.9 12		
		SH	5 14		
		MaxH	7.9 20		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Oct. 8 (Cont.)	MHC	iP	22 09 42.2	c	
		i	10 04.1	d	
	MIN	eP	09 33.6	c	
	REN	eP	42.4	d	
	CLS	eP	35.6	c	
Oct. 8	PRI	eP	48.2	c	
	BKS	e(P)	22 37 26	(c)	USCGS: Aftershock of preceding. O = 22 24 06.5.
	MHC	iP	37.4	c	
	MIN	eP	19.0	c	
	CLS	eP	22.2	c	
Oct. 9	PRI	eP	34.6	d	
		eP	20 27 47.5	d	USCGS: 3.2°S, 148.2°E, O = 20 14 38.3.
	BKS	eSN	38.8		
		eSSNEZ	45.0		Bismarck Sea. h about 33 km. Magnitude 6 1/4 (PAS).
		eGN	52.5		
		eRZ	55.8		
			R from W		
Oct. 10	MHC	eP	20 27 48.5	d	
	MIN	e(P)	47		
	REN	eP	56.2	d	
	CLS	eP	46.0	c	
	PRI	eP	50.4	c	
Oct. 10	CLS	e	05 01 17.4	d	USCGS: 1.6°S, 66.8°E, O = 04 41 46.9. Indian Ocean.
	PRI	e	22.0	d	
Oct. 10	MHC	iP	13 52 10.8	c	USCGS: 8.9°S, 110.4°E, O = 13 33 11.6. Off S. Java.
	PRI	e	13.4	c	
Oct. 10	BKS	iP	21 06 06.7	c	USCGS: 34.9°S, 70.1°W, O = 20 53 34.5. Mendoza Province, Argentina. h about 137 km.
	MHC	iP	03.1	d	
	MIN	eP	12.4	d	
	CLS	eP	09.7	d	
	PRI	eP	05 56.0	d	
Oct. 10	BKS	iP	22 03 56.1	d	
		eRZ	24.9		
			R from SW		
Oct. 16	MHC	iP	22 03 48.6	d	
	MIN	iP	04 06.5	c	
		i	11.6		
	CLS	eP	03 56.8	d	
	PRI	eP	55.8	d	
Oct. 16	BKS	eZ	18 20.6		USCGS: 51.6°N, 175.8°W, O = 18 02 32.9. Andreanov Islands, Aleutians. Magnitude 5.6 (Uppsala).
			R from NW		
Oct. 17	MHC	iP	18 10 07		
		i	24.8	c	
	REN	iP	23.7	c	
	CLS	e(P)	07.4	d	
	PRI	e(P)	29	d	
Oct. 18	MIN	e	08 35 52		
Oct. 18	MHC	iP	04 24 51.5	d	
		i	25 05.5	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Oct. 18 (Cont.)	CLS	e(P)	24 51	d	
	PRI	eP	54.0	c	
Oct. 18	BKS	iP	08 51 07.2	d	USCGS: 46.5°N, 149.6°E, O = 08 40 55.5. Kurile Islands. h about 140 km.
	MHC	iP	11.0	c	
		iZ	47.3	d	
	MIN	iP	50 58.8	c	
		iZ	51 37.9		
Oct. 18	REN	eP	09.7	c	
	CLS	eP	02.4	d	
	PRI	eP	20.5	c	
	BKS	iP	11 32 53.7	c	USCGS: Kurile Islands aftershock: O = 11 22 40.2. h about 128 km.
	MHC	iP	57.9	d	
Oct. 18	MIN	iP	45.4	d	
	REN	e(P)	56.8	c	
	CLS	eP	48.6	d	
	PRI	eP	33 07.5	d	
	MHC	iP	19 56 16.5	d	USCGS: 16.2°N, 93.5°W. Chiapas, Mexico. h about 179 km.
Oct. 19		iZ	42.5	c	
	MIN	eP	31.1	c	
	CLS	eP	19.8	c	
	PRI	eP	05.6	c	
	BRK	eP	04 25 25	d	USCGS: 31.0°S, 69.4°W, O = 04 13 03.6. Province of San Juan, Argentine.
Oct. 19	MHC	iP	21.2	c	
		i	52.8	c	
	MIN	iP	31.2	c	Magnitude 4.5 (Santiago).
	REN	iP	24.2	c	
	CLS		28.0	d	
Oct. 19		e	26 00.2	d	
	PRI	eP	25 14.2	d	
Oct. 19		e	47.2	d	
	MIN	iP	09 58 34.3	d	USCGS: 56.3°S, 26.2°W, O = 09 39 41.9. Sandwich Islands.
Oct. 19	BKS	eP	21 26 36	(d)	USCGS: 19.8°N, 108.3°W, O = 21 21 48.8. Off Jalisco, Mexico. h about 53 km.
		eSNE	30 46		
		eRZ	32.3		
			R from SE		
	MHC	iP	21 26 31.0	c	
Oct. 21		iZ	38.4	c	
	MIN	eP	53.6	c	
	REN	iP	39.8	c	
	CLS	eP	52.0	d	
	PRI	eP	12.2	d	
Oct. 21	BKS	eP	02 11 15.3	c	USCGS: 61.1°N, 149.7°W, O = 02 05 22.7. Near Anchorage, Alaska. Felt. h about 80 km.
		eR	17.8		
	MHC	iP	11 21.4	c	
		iZ	32.7	d	
	MIN	iP	10 57.9	c	
Oct. 21		iZ	11 14.9	c	
	REN	iP	24.3	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Oct. 21 (Cont.)	CLS PRI	eP eP	08.0 34.2	c c	USCGS: Samoa Islands. USCGS: 3.4°S, 145.3°E, 0 = 04 34 38.9. Bismarck Sea. h about 36 km. Magnitude 6 1/4 (Port Moresby).
Oct. 21	MIN	eP	13 18 56.2	c	
Oct. 22	BKS	eZ eZ eE eRNEZ	04 45 26 05 00 10 05 46 17.1		
			R from W		
Oct. 22	BKS	eZ eZ eRNZ	09 16 21 19 02 39.0		
			R from N		
Oct. 22	MIN	eP	11 15 22		BCIS: 74° 1/2 N, 52°E, 0 = 09 06 16.5. Novaya Zemlya; nuclear blast. About 15 MT (Strasbourg). Magnitude 5 - 5 1/4 (PAL)
Oct. 22	REN BKS	e(P) iP	14 50.5 15 33 22.4	c c	
		eSNEZ eSSZ iGN eREZ	41 19 45.1 47 54 50.3		USCGS: 49.8°N, 155.8°E, 0 = 15 23 32.9. Kurile Islands. Magnitude 5 1/2 (Moscow).
			R from WNW		
	MHC	iP	15 33 27.1	c	
		iZ	41.9		
	MIN	iP	13.7	c	
		iZ	36.4	c	
	REN	eP	26.3	d	
	CLS	eP	17.3	c	
	PRI	eP	37.5	d	
Oct. 23	MHC	iP	00 38 18.0	c	USCGS: Samoa Islands. USCGS: 9.5°N, 70.0°W, 0 = 09 02 02.2. North Central Venezuela. h about 33 km.
Oct. 23	MHC MIN	eP eP	09 11 25.7 30.6	c c	
		iZ	37.5	c	
	CLS	eP	33.8	c	
	PRI	e(P)	30.3	d	
Oct. 24	BKS	eP	06 29 09.6	d	USCGS: 19.4°N, 108.2°W, 0 = 06 24 16.3. Off coast of Jalisco, Mexico. h about 33 km.
	MHC	eP	02.2	c	
	MIN	eP	27.4	d	
	REN	eP	16.1	c	
	CLS	eP	17.8	c	
	PRI	eP	28 50.6	d	
Oct. 25	MIN	eP	03 51 35.9	c	USCGS: New Hebrides aftershock.
Oct. 25	MIN	eZ	07 48 14.3	c	
Oct. 25	BKS	e(P) ePPZ eSE e(PS)Z eSSE eQN eREZ	09 48 42 52 29 58 55 10 01 32 07 40 17.0 22.0		USCGS: 3.0°N, 126.7°E, 0 = 09 34 14.6. Molucca Passage. h about 33 km.
			R from W		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Oct. 25 (Cont.)	MHC	iP	09 48 22.7	d	USCGS: 15.4°S, 179.0°W, 0 = 12 36 54.4. Fiji Islands. h about 392 km.
		eZ	51 28		
	MIN	eP	48 18.6	c	
		eZ	52 34.5		
	REN	ePZ	08.4	c	
	CLS	e(P)	48 10	(c)	
	PRI	e(P)	25	d	
Oct. 25	MIN	eP	10 04 57.8	c	
Oct. 25	BKS	iP'	12 47 56.6	d	USCGS: 8.4°N, 82.6°W, 0 = 15 52 29.2. Panama - Costa Rica border. Felt: Balboa Heights.
	MHC	iP'	56.9	c	
		iZ	48 00.7	d	
	MIN	iP'	05.7	d	
	REN	iP'	11.2	d	
	CLS	eP'	47 57.0	c	
	PRI	eP'	57.7	d	
Oct. 25	BKS	eP	16 00 51	d	USCGS: 8.4°N, 82.6°W, 0 = 15 52 29.2. Panama - Costa Rica border. Felt: Balboa Heights. Magnitude 5 1/4 (BKS).
		eSNE eQN eRZ	07 40 11.0 15.0		
			R from ESE		
			mu sec		
		PZ	1.2 10		
		MaxH	4.3 22		
	MHC	iP	16 00 45.8	d	
		iZ	05 22.3		
	MIN	eP	00 59.1	d	
		e	05 32.4	d	
	REN	iP	00 44.8	c	
	CLS	eP	55.6	(c)	
	PRI	eP	39.2	(c)	
Oct. 25	BKS	eZ	20 29 08		USCGS: 61.4°S, 154.9°E, 0 = 20 06 10. Macquarie Islands. h about 33 km. Magnitude 6 1/4 (Kew).
		eZ	36 30		
		e(S)NE	42 59		
		eNE	47 17		
		eQNE	53.9		
		eGNE	55 30		
		eRZ	57.9		
			R from SSW		
	MIN	eP	20 25 27.5	c	
Oct. 26	BKS	eP	07 33 06	(c)	USCGS: 17.7°S, 167.5°E, 0 = 07 20 25.8. New Hebrides. Felt at Port Vila.
		eSN	43 41		
		ePSE	44 46		
		e(PPS)Z	45 17		
		eGN	55.8		
		eRZ	59.6		
			R from SW		
	MHC	eP	07 33 05.7	c	
		iZ	17.9		
	MIN	eP	07 33 11.0	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.	c	
Oct. 26 (Cont.)	REN	eP	17.7	d	
	PRI	e(P)	05.8	c	
Oct. 26	BKS	eP	16 17 30		USCGS: 55.5°S, 26.5°W, 0 = 15 58 34.8. Sandwich Islands. h about 33 km.
		eRNZ	57.7		
			R from S		
	MHC	iP	16 17 32.6	c	Magnitude 5 1/2 (Santiago).
	MIN	eP	35.8	c	
Oct. 26	MIN	eP	21 31 27.4	c	
Oct. 27	BKS	iP	08 17 25.2	(c)	USCGS: 14.0°N, 90.4°W, 0 = 08 10 24.5. Guatemala-El Salvador border. h about 107 km.
		iZ	19 45.8		
	MHC	iP	17 19.5	c	
		iZ	35.0	d	
		iZ	18 43.8	c	Felt: Occidente, San Salvador.
		iZ	58.8	c	
	MIN	eP	08 17 32.2	c	
		iZ	50.6	d	
		eZ	19 48.4		
	CLS	eP	17 30.4	c	
	PRI	eP	07.8	c	
Oct. 27	BKS	iP	14 00 32.7	c	USCGS: 11.5°N, 86.4°W, 0 = 13 52 51.2. Nicaragua. h about 80 km.
		iZ	02 29.7		
		eRZ	16.0		
			R from E		
	MHC	iP	14 00 27.5	c	
		iZ	02 27.0	c	
	MIN	eP	00 37.4	c	
		eZ	02 30.1	c	
	CLS	iP	00 37.8	d	
		e	02 31.6	d	
	PRI	eP	00 14.2	c	
		e	02 23.2	c	
Oct. 28	BKS	eZ	22 59 33	(d)	USCGS: 16.0°N, 93.6°W, 0 = 22 53 01.3. Chiapas, Mexico. h about 110 km.
		iZ	23 02 10.0	c	
		eRZ	09.9		
	MHC	iP	22 59 25	d	
	MIN	iP	39.3	d	
	REN	eP	22.9		
	CLS	eP	36.3	c	
	PRI	eP	12.6	d	
Oct. 28	MIN	iP	23 28 48.4	c	
Oct. 29	BKS	eP	00 28 13.6	c	USCGS: 7.1°N, 82.6°W, 0 = 00 19 39.7. Off coast of Panama. h about 21 km.
	MHC	iP	08.4	c	
		iZ	16.8	c	
	MIN	eP	19.3	c	
		iZ	31.9	c	
	REN	iP	18.7	c	
	CLS	eP	18.1	c	
	PRI	eP	27 58.0	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Oct. 29	MHC	eP	09 43 17		USCGS: 33.9°S, 70.7°W, 0 = 09 30 48.2. Central Chile. h about 33 km. Felt at Santiago.
	MIN	e	35		
	CLS	eP	31.2	c	
	PRI	eP	16	c	
Oct. 29	BKS	iZ	11 03 05.6	d	USCGS: 13.0°N, 88.4°W, 0 = 10 53 29.9. Off coast of El Salvador. h about 43 km.
	MHC	iP	00 49.4	d	
		iZ	01 07.4	c	
		eZ	03 16.9	d	
	MIN	eZ	02 07		Felt.
	CLS	eP	00 59.6	d	
	PRI	eP	53.4	(c)	
Oct. 29	MHC	iP	16 17 06.0	c	
	REN	iP	12.9	c	
Oct. 29	BKS	eZ	21 11 47	c	USCGS: 23.3°S, 111.5°W, 0 = 21 01 32. Easter Islands region. h about 33 km. Magnitude 5.4 (Santiago).
		eN	20.8		
		eE	27.6		
		eRZ	30.7		
	MHC	eZ	11 46		
	MIN	eP	12 06.1	d	
	REN	eP	11 54	d	
	CLS	eP	49.6	d	
	PRI	eP	29.3	c	
Oct. 30	BKS	eP	02 06 03		USCGS: 54.2°S, 9.1°E, 0 = 01 46 32.7. Bouvet Island region. h about 33 km.
	MHC	eP	05.9	d	
	MIN	eP	07.5	d	
	REN	eP	16.5	d	
	CLS	e(P)	05	d	
Oct. 30	MIN	eP	05 16 59.2	c	
Oct. 30	MIN	eP	05 49 38.9	c	
Oct. 30	BKS	eP	08 39 18	d	USCGS: 12.5°N, 88.0°W, 0 = 08 31 51.8. Off west coast of Nicaragua. h = 80 km.
		iZ	41 25.3	d	
		eQNE	48.6		
		eRZ	54.4		
	MHC	iPZ	39 12.8	d	Felt.
		iZ	32.5	d	
	MIN	iP	24.9	c	
		eZ	41 03.9	c	
	REN	iP	39 12.7	d	
	CLS	eP	22.7	d	
Oct. 30	MHC	eP	15 32 29.0	c	BCIS: 19°S, 177°W, 0 = 15 20.5. Tonga Islands.
	MIN	eP	28.0	c	
Oct. 30	BKS	e(P)	21 06 54.5	c	
	MHC	iP	54.7	c	
	CLS	eP	55.0	d	
	PRI	eP	54.4	d	
Oct. 31	BKS	iP	11 41 09.5	c	USCGS: 5.6°N, 82.6°W, 0 = 11 32 29. Southern Panama. h about 33 km. Magnitude 5 1/2 (PAL).
		iPPZ	43 09		
		iZ	48 16		
		eSNE	22		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Oct. 31 (Cont.)	MHC	eQNE eRZ iP iZ	54.2 55.5 41 04.2 15.8	c d	
	MIN	iP iZ	15.2 28.5	c	
	REN	iP	40 14.2	c	
	CLS	eP	41 13.4	c	
	PRI	eP	40 53.4	c	
Oct. 31	MHC	iP	13 36 29.1	d	USCGS: 51.6°N, 177.3°E, 0 = 13 27 25. Rat Islands, Aleutians.
	MIN	eP	35 12.7	d	h about 83 km.
Oct. 31	MIN	eP	13 48 19.3	c	
Oct. 31	BKS	iP	23 17 41.0	c	
	MHC	iP	41.2	d	
	MIN	iP	56.9	d	
	REN	eP	54.7	d	
	CLS	eP	42.2	c	
	PRI	eP	40.4	c	
Nov. 1	MHC	iP	09 58 42.5	d	USCGS: 23.7°S, 179.6°W, 0 = 09 47 15.6. Fiji Islands. h about 525 km.
	MIN	iP	51.9	c	
Nov. 1	MHC	iP	14 04 16.7	d	USCGS: 37.2°N, 70.0°E, 0 = 13 46 43.3. Hindu Kush. h about 132 km.
	MIN	eP	14 04 21.7	d	
Nov. 1	MIN	iP	23 31 29.9	c	USCGS: 43.9°N, 145.2°E, 0 = 23 20 59.6. Kurile Islands. h about 131 km.
	CLS	eP	32.9	c	
	PRI	eP	51.0	d	
Nov. 2	MIN	eP	02 52 23.0	c	
Nov. 2	BKS	iP	15 11 49.8	c	USCGS: 36.7°N, 141.1°E, 0 = 15 00 25.4. Off E. Honshu, Japan. h about 75 km.
	MHC	iP	43.9	d	
	MIN	iP	44.0	d	
	CLS	eP	46.2	d	
	PRI	eP	12 02.6	c	
Nov. 2	MIN	eP	19 13 42.9	c	USCGS: Fox Islands, Aleutians.
Nov. 3	BKS	iP	01 13 04.4	d	USCGS: 7.9°S, 158.3°E, 0 = 01 00 24.9. Solomon Islands. h about 86 km.
	MHC	iP	06.3	d	
	MIN	e	10.9	d	
	CLS	eP	03.4	d	
	PRI	eP	09.3	d	
Nov. 3	MIN	eP	06 52 33.9	c	
Nov. 3	MIN	eP	07 49 27.9	c	
Nov. 4	MIN	eP	06 21 08.3	c	USCGS: 44.2°N, 110.2°W, 0 = 06 18 31.1. Yellowstone National Park, Wyoming. h about 33 km.
	REN	eP	23 15	c	
Nov. 4	BKS	eP	23 06 41	c	USCGS: 43.2°S, 75.6°W, 0 = 22 53 34.2. Off S. Chile. h about 33 km. Magnitude 5 3/4 - 6 (PAS).
		iSN	17 46		
		iPSN	18 53		
		eN	23 07		
		iSSN	24 14		
		eQNE	31.0		
		eRZ	36.5		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Nov. 4 (Cont.)	MHC	eP	35.0	d	
	MIN	e(P)	43	c	
	REN	iP	40.5	c	
	CLS	eP	43.4	d	
	PRI	eP	28.0	c	
Nov. 6	MIN	eP'	00 29 00.4	c	USCGS: 28.0°N, 55.6°E, 0 = 00 09 47.2. Southern Iran. h about 33 km. Felt.
Nov. 7	BKS	iP	13 08 48.4	d	USCGS: 40.5°N, 29.4°W, 0 = 12 57 45.7. Azores Islands, h about 33 km.
	MHC	eP	48.3	c	
		iZ	55.3		
	CLS	eP	46.1	c	
	PRI	eP	47.2	c	
Nov. 7	CLS	e(P)	22 34 39.0	d	USCGS: 51.5°N, 176.1°E, 0 = 22 26 33.8. Rat Islands, Aleutians.
	PRI	e(P)	35 08.8	c	h about 43 km.
Nov. 8	BKS	i(P)	00 13 04.5	c	USCGS: 15.1°S, 75.6°W, 0 = 00 02 08.6. Southern Peru. h about 33 km.
	MHC	eZ	14		
	CLS	e(P)	06		
	PRI	eP	04	c	
Nov. 8	BKS	iP	00 41 28.2	c	USCGS: 4.4°S, 105.5°W, 0 = 00 33 13.8. Easter Island Rise. h about 33 km. Magnitude 5 1/2 (BKS).
		eSNZ	48 10		
		eQNE	51.4		
		eRNZ	53.5		
	MHC	eP	21.9	d	
	REN	eP	35.8	d	
	CLS	eP	33.7	d	
	PRI	eP	10.4	d	
Nov. 8	MHC	eP	08 01 22.7	c	BCIS: About 7°N, 73 1/2°W, 0 = 20 33.7. Colombia.
Nov. 8	MHC	iP	20 42 53.1	c	USCGS: 52.0°N, 174.9°E, 0 = 21 15 56.0. Near Islands, Aleutians.
	CLS	e(P)	43 00.8	c	h about 33 km.
Nov. 8	MHC	iP	21 24 28.2	d	USCGS: 35.8°N, 140.3°E, 0 = 09 21 30.8. Off E. Honshu, Japan. h about 33 km.
	CLS	e(P)	13.0	d	
	PRI	e(P)	29.3	d	
Nov. 9	BKS	iP	09 33 06.7	c	USCGS: 27.5°N, 140.1°E, 0 = 13 51 38.5. Bonin Islands. h about 452 km.
	MHC	iP	09.6	d	
	CLS	eP	02.9	c	
	PRI	eP	17.8	c	
Nov. 9	BKS	iP	14 02 57.8	c	
	MHC	eP	03 00.5	d	
	CLS	eP	02 54.0	d	
	PRI	eP	03 08.2	c	
Nov. 9	MHC	iP	18 19 51.5	d	BCIS: 40 1/4° N, 29 1/4°W, 0 = 18 08 41. Azores Islands. h about 33 km.
	CLS	eP	50.3	d	
	PRI	eP	53.4	c	
Nov. 10	BKS	iP	01 43 57.0	c	USCGS: 43.8°N, 147.2°E, 0 = 01 33 19.0. Kurile Islands. h about 60 km.
		eS	52 38		
		eLINEZ	02 00.0		
	MHC	iP	44 21.1	c	
	REN	iP	00.4	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Nov. 10 (Cont.)	CLS	eP	43 52.3	c	
		e	44 09.6	d	
Nov. 11	PRI	eP	10.4	c	
		e	27.8	d	
	MHC	e(P)	08 00 09		USCGS: 23.9°S, 69.5°E, 0 = 07 39 15.4. Mascarene Islands. h about 33 km.
	REN	eP	07 59 14.2	c	
Nov. 11	CLS	e	08 00 02.2	d	
	PRI	e	15.6	d	
	BKS	e(P)	11 43 27		USCGS: 55.8°N, 113.1°E, 0 = 11 31 44.5. Lake Baikal region, USSR. h about 33 km. Magnitude 6 1/4 (PAS)
	MHC	eP	30.7	c	
		iZ	56.7	c	
	REN	eP	24.8	c	
Nov. 11	CLS	eP	22.5	d	
	PRI	eP	39.6	d	
	BKS	eP	12 08 46.7	d	USCGS: 19.3°S, 177.6°W, 0 = 11 57 47.9. Fiji Islands. h about 547 km.
	MHC	iP	46.8	d	
	CLS	eP	47.2	d	
Nov. 11	PRI	eP	46.4	d	
	BKS	eP	16 22 19	c	USCGS: 12.9°S, 166.5°E, 0 = 16 09 57.6. Santa Cruz Islands. h about 77 km. Magnitude 6 1/4 (Port Moresby).
		eEZ	32 08		
		eSNE	40		
		e(ScS)NEZ	33 04		
		e(PPS)NEZ	34.0		
		eQN	44.0		
		eRZ	47.9		
			R from WSW		
	MHC	iP	20.5	c	
		iZ	43.9	d	
		eZ	33 48.5		
	REN	iP	22 31.8	c	
	eZ	56.3			
CLS	eP	18.4	c		
	e	42.2	d		
PRI	eP	22.4	c		
	e	45.3	c		
Nov. 11	BKS	eP	21 48 13	c	
	MHC	iP	17.1	c	
		iZ	26.2		
	REN	iP	05.6	d	
Nov. 11	CLS	eP	01.6	d	
	PRI	eP	40.0	d	
	BKS	iP	22 27 24.1	c	USCGS: 43.2°S, 76.0°W, 0 = 22 14 18.7. Off S. Chile. h about 33 km. Magnitude 6 1/2 - 6 3/4 (PAS).
		eSN	38 27		
		ePSNE	39 35		
		eN(E)	43.9		
	e(SS)NEZ	48 12			
	eQNE	51.4			
	eRZ	57.0			
MHC	iP	21.3	c		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Nov. 11 (Cont.)	REN	eP	25.3	c	
	CLS	eP	26.5	c	
	PRI	eP	12.2	d	
Nov. 12		e	14.5	c	
	BKS	iP	13 02 00.4	c	USCGS: 26.0°N, 128.4°E, 0 = 12 49 10.8. Ryukyu Islands. h about 40 km.
	MHC	eP	01.5	d	
		iZ	12.0	d	
	CLS	eP	01 56.7	d	
Nov. 12	PRI	eP	02 18.2	d	
	BKS	i(P)	19 40 31.5	d	USCGS: 51.5°N, 178.4°W, 0 = 19 32 38.0. Andreanov Islands, Aleutians. h about 57 km.
	MHC	iP	25.2	d	
	CLS	eP	14.0	d	
	PRI	e(P)	44.0	c	
Nov. 14	BKS	iP	07 59 36.1	c	USCGS: 35.7°N, 140.8°E, 0 = 07 48 05.5. Central Honshu, Japan. h about 61 km.
		eNE	08 10.0		
		eGN	18.5		
		eREZ	21.6		
			R from W		
	MHC	iP	39.4	d	
	MIN	iP	29.3	d	
	REN	iP	39.7	d	
	CLS	e(P)	32.6	(c)	
	PRI	eP	47.5	d	
		e	08 00 01.6	c	
Nov. 15	MHC	iP	14 56 52.3	d	
Nov. 15	BKS	iP	16 04 54.9	d	USCGS: 38.3°S, 73.2°W, 0 = 15 51 57.6. Central Chile. h about 33 km. Magnitude 5 1/2 (Santiago).
		eNE	15 46		
		eGE	29.8		
		eRNEZ	34.0		
	MHC	iP	43.4	c	
Nov. 15	MIN	e(P)	57		
	CLS	eP	52.0	d	
		e	57	c	
	PRI	e(P)	37.2	c	
		e	43.6	c	
Nov. 15	MHC	iP	16 22 30.0	c	USCGS: 0 = 16 09 26.9. Aftershock of preceding earthquake.
	CLS	e(P)	20.2	d	
	PRI	e(P)	06.2	c	
Nov. 15	MHC	iP	16 38 45.0	c	
	MIN	eP	36.2	d	
Nov. 15	BKS	iP	23 35 26.2	c	USCGS: 8.7°S, 79.8°W, 0 = 23 25 15.7. Off N. Peru. h about 45 km.
	MHC	iP	21.7	c	
	MIN	iP	23.6	c	
		iZ	52.2	c	
	REN	eP	24.8	c	
	CLS	iP	30.8	c	
		ePPZ	42.6		
	PRI	iP	11.8	c	
		ePPZ	22		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Nov. 16	MHC	eZ	00 04 54		
	MIN	iP	47.5	c	
	CLS	e(P)	49.8		
	PRI	e(P)	58.2	d	
Nov. 16	MHC	iP	05 49 07.3	d	
Nov. 16	MHC	iP	06 48 40.1	c	
	MIN	eP	50.7	c	
	CLS	e(P)	52.4	c	
	PRI	e(P)	31.0	d	
Nov. 16	BKS	iP	07 29 49.8	c	
		iSN(E)Z	39 13		
		eNZ	43 31		
		iGE	48 48		
		iRNZ	52.0		
		R from S			
	MHC	iP	46.6	c	
		iZ	52.5	d	
	MIN	eP	30 03.2	c	
	REN	iP	29 59.1	c	
	CLS	eP	54.2	c	
	PRI	iP	38.7	c	
Nov. 16	BKS	iP	10 04 15.8	d	USCGS: 19.0°N, 145.3°E, 0 = 09 52 25.1. Marianas Islands. h about 207 km.
	MHC	iP	18.9	c	
		iZ	23.6	c	
	MIN	iP	14.2	c	
	CLS	eP	07.0	d	
	PRI	eP	25.2	d	
Nov. 16	BKS	iP'	21 28 53.3	d	USCGS: 13.5°N, 93.2°E, 0 = 21 10 01.8. Andaman Islands. h about 33 km. Magnitude 6 - 6 1/2 (PAL).
		e(SS)EZ	46 40		
		e(Q)E	22 00.0		
		e(R)Z	07.5		
	MHC	iP'	55.9	d	
	MIN	(e)Z	48		
	CLS	eP'	50.3	d	
	PRI	eP'	56.4	c	
Nov. 17	BKS	eP	11 13 28.3	c	USCGS: 16.3°N, 98.2°W, 0 = 11 07 15.4. Oaxaca, Mexico. h about 12 km.
		eSE	18 40		
		eQE	21.0		
		e(R)Z	24.0		
	MHC	iP	12.4	c	
	MIN	iP	39.5	d	
		iZ	14 36.3	c	
	REN	iP	12 26.3	d	
	CLS	e(P)	13 28.2	(c)	
	PRI	eP	10.4	d	
Nov. 17	MHC	eP'	14 39 34		USCGS: 2.8°N, 121.7°E, 0 = 14 21 30.6. Celebes Sea. h about 620 km. Magnitude 5 1/2 (Quetta).
	MIN	eP'	38 45		
Nov. 17	MIN	eP	19 52 48.6	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Nov. 17	BKS	eP	21 40 39.5	d	
Nov. 18	MIN	iP	07 49 29.0	c	
Nov. 18	MIN	eP	12 11 53.6	c	USCGS: 16.4°S, 174.1°W, 0 = 12 00 26.7. Tonga Islands. h about 129 km.
Nov. 19	BKS	eNEZ	10 43.8		
		e(Q)E	50.5		
		eRZN	55.0		
Nov. 19	BKS	eP	14 39 43.8	c	USCGS: 6.7°N, 73.0°W, 0 = 14 30 29.1. Colombia. h about 135 km.
	MIN	iP	46.4	c	
	REN	eP	35.4	d	
	CLS	eP	47.2	d	
	PRI	eP	30.6	c	
Nov. 20	MHC	iP	07 03 33.1	c	USCGS: 55.6°N, 158.8°E, 0 = 06 54 04.1. Kamchatka. h about 33 km.
	MIN	eP	15.6	d	
	REN	e(P)	28.6	c	
	CLS	e(P)	21.4	c	
	PRI	e(P)	40	d	
Nov. 22	MHC	iP	07 50 06.7	c	USCGS: 18.2°S, 167.6°E, 0 = 07 37 25.8. New Hebrides, h about 33 km.
	MIN	eP	13.5	d	
Nov. 23	MHC	iP	00 06 56.8	d	USCGS: 24.1°S, 176.8°W, 0 = 23 55 28.3. Tonga Islands. h about 391 km.
	MIN	eP	07 07.7	c	
	REN	eP	11.3	d	
Nov. 23	BKS	eP	00 41 08	c	USCGS: 15.1°S, 75.3°W, 0 = 00 30 04.5. Off S. Peru. h about 33 km. Magnitude 5 3/4 (Kew). Foreshock of following earthquake.
		eZ	19.4	d	
		eZ	50.1	d	
		eSNEZ	50.3	NWd	
		eNE	54.7		
		e(Q)NE	59.5		
		eNEZ	01 03.7		
	MHC	iP	00 41 04.1	d	
		iZ	15.8	c	
	MIN	eP	40 14.7	d	
	REN	eP	41 06.1	c	
	CLS	eP	13.6	d	
	PRI	eP	40 54.6	c	
Nov. 23	MHC	iP	00 55 54.5	c	USCGS: 15.0°S, 75.7°W, 0 = 00 44 51.2. Off S. Peru. h about 40 km. Magnitude 6 - 6 1/4 (Matsushiro).
	MIN	e(P)	04		
	REN	eP	57.8	c	
Nov. 23	BKS	iP	23 16 55.6	d	
	MHC	iP	56.5	d	
		iZ	17 01.6	c	
	MIN	iP	05.7	c	
	CLS	eP	16 56.6	c	
	PRI	eP	55.8	c	
Nov. 24	MHC	iP	07 41 48.0	c	BCIS: 11.0°N, 62 1/2°W, 0 = 07 31 44. Off N. Venezuela. h about 19 km.
		iZ	54.8	d	
	MIN	eP	50.6	c	
Nov. 24	MHC	iP	10 45 41.2	d	USCGS: 24.8°S, 180.0°. 0 = 10 34 07.7. Fiji Islands. h about 500 km.
		iZ	44.0	c	
	MIN	iP	49.8	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Nov. 24	MHC	eP	14 30 57.4	d	USCGS: 58.8°N, 161.6°E, 0 = 14 21 39.7. Off E. Kamchatka. h about 33 km.
Nov. 24	MHC	iP	16 02 09.0	c	USCGS: 49.5°N, 155.8°E, 0 = 15 52 20.1. Kurile Islands. h about 85 km.
	MIN	eP	01 55.3	c	
	CLS	e(P)	59	d	
	PRI	e(P)	16	d	
Nov. 24	BKS	eP	16 31 39	c	BCIS: 9 3/4°N, 40 3/4 W, 0 = 16 19 42. Atlantic Ocean. h about 33 km. Magnitude 5.6 (Tulsa).
	MHC	iP	38.0	d	
		iZ	45.0	c	
	MIN	iP	35.7	d	
		iZ	43.3	d	
	REN	eP	29.6	d	
	CLS	eP	41.2	d	
	PRI	eP	33.1	d	
Nov. 24	MIN	eP	17 36 07.2	d	USCGS: 2.5°S, 148.9°E, 0 = 17 22 59.5. Bismarck Sea. h about 32 km.
Nov. 25	MHC	iP	17 41 07.5	d	USCGS: 16.3°N, 94.2°W, 0 = 17 34 43.4. Chiapas, Mexico. h about 100 km.
Nov. 26	BKS	eP	16 10 53.5	d	USCGS: 23.8°S, 175.8°W, 0 = 15 58 46.2. Tonga Islands. h about 19 km.
	MHC	iP	53.3	d	
	MIN	iP	11 04.0	c	
	REN	iP	07.2	c	
	CLS	eP	54.5	d	
	PRI	eP	52.8	d	
Nov. 27	BKS	eP	07 05 54.3	c	BCIS: 24 1/4°N, 122 3/4°E, 0 = 06 52 56. Ryukyu Islands. h about 150 km.
	MHC	iP	57.8	c	
	MIN	eP	48.4	c	
		iZ	56.6	d	
	REN	iP	57.8	c	
	CLS	eP	51.6	d	
	PRI	eP	06 04.0	c	
Nov. 27	BKS	eP	17 03 05.5	d	USCGS: 12.2°N, 143.8°E, 0 = 16 50 27.7. Marianas Islands. h about 33 km.
		iZ	41.6	d	
		eN	25.4		
	MHC	iP	03 08.7	d	
	MIN	eP	05.1	d	
	CLS	eP	03.5	d	
	PRI	eP	14	d	
Nov. 28	BKS	eP	02 48 28.0	d	USCGS: 12.1°N, 143.7°E, 0 = 02 35 48.8. Marianas Islands. h about 33 km.
		iZ	38.2	c	
		eSN	58.8	N	
		eGN	03 10.7		
		eREZ	13.8	E(U)	
			R from W		
	MHC	iP	02 48 31.1	d	
	MIN	eP	26.5	c	
	REN	iP	36.3	c	
	CLS	eP	25.2	d	
	PRI	eP	35.8	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Nov. 28	BKS	iP	06 05 16.4	d	USCGS: 24.3°N, 141.3°E, 0 = 05 53 13.0. Bonin Islands. h about 82 km.
	MHC	iP	24.6	c	
		iZ	30.3	c	
	MIN	eP	12.6	c	
	CLS	eP	12.8		
	PRI	eP	26.3		
Nov. 29	MIN	eP	07 43 27.8	c	USCGS: Kermadec Islands.
Nov. 29	BKS	iP	09 15 50.0	c	USCGS: 22.3°S, 175.9°W, 0 = 09 03 51.1 Tonga Islands. h about 33 km.
		e(R)Z	39.5		
	MHC	iP	15 49.7	d	
		iZ	16 02.9	d	
	MIN	eP	15 59.4	c	
	REN	iP	16 03.8	c	
	CLS	eP	15 50.6	d	
	PRI	e(P)	52.6	d	
Nov. 29	BKS	eP	19 19 16.2	c	BCIS: 17 1/4°S, 168 1/2°E, 0 = 19 06 34. New Hebrides. h about 33 km. Felt: Port Vila, Tonga. Magnitude 6 1/4 - 6 1/2 (BKS).
		iZ	40.2	d	
		eSNEZ	29 44	SWU	
		eNE	30 42	NE	
		eQNE	41.5	NW	
		eRNEZ	44.5		
			R from SW		
	MHC	iP	19 19 13.3	d	
		iZ	23.9	c	
	MIN	eP	20.1	c	
	REN	iP	28.5	c	
	CLS	eP	13.2	c	
	PRI	eP	16.0	c	
Nov. 30	BKS	i(P)	21 57 22.3	d	USCGS: 17.4°N, 99.6°W, 0 = 21 51 22.9. Mexico. h about 51 km. One dead and some damage at Acapulco. Magnitude 5 1/4 - 5 1/2 (PAL).
		iZ	30.2	c	
		iZ	58 12.0	d	
		eSNEZ	22 02 08	SWd	
		eGNE	03.9		
		e(R)Z	06.0		
	MHC	iP	21 57 08.8	c	
		iZ	26.9	c	
	MIN	eP	26.7	d	
	REN	iP	15.3	c	
	CLS	e(P)	13.5	d	
	PRI	e(P)	56 56.6	c	
Dec. 1	BKS	eP	01 57 20.3	d	USCGS: 52.4°N, 170.1°W, 0 = 01 50 20.4. Fox Islands, Aleutians. h about 38 km. Magnitude 5 1/4 - 5 1/2 (PAL).
		eZ	41.5	d	
		iZ	58 12.0	d	
		eSNEZ	02 03 00	SEd	
		eNEZ	05.6		
		eREZ	06.8		
	MHC	iP	01 57 27.4	c	
		iZ	48.3	d	
	MIN	eP	10.8	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Dec. 1 (Cont.)	REN CLS	eP eP	26.1 14.8	c d	
Dec. 1	PRI BKS	eP iP	36.4 41.0	d c	USCGS: 29.7°S, 177.7°W, 0 = 04 16 59.6. Kermadec Islands. h about 52 km.
		iZ	04 29 30.9	c	
		e(R)EZ	39.9	c	
	MHC	iP	55.5	WU	
		iZ	29 31.1	c	
		iZ	47.4	c	
	MIN	iP	40.6	d	
	REN	iP	41.3	d	
	CLS	eP	32.4	c	
	PRI	eP	30.0	c	
Dec. 1	MHC	iP	14 44 42.9	c	
		iZ	56.3	d	
Dec. 1	BKS	iP	21 13 42.2	c	USCGS: 17.7°S, 178.7°W, 0 = 21 02 51.8. Fiji Islands. h about 620 km.
		iZ	50.3	c	
	MHC	iP	42.8	c	
		iZ	52.7	c	
	MIN	iP	52.0	d	
		iZ	14 04.7	d	
	REN	iP	13 55.6	c	
	CLS	eP	42.8	c	
		eZ	52.8	d	
	PRI	eP	42.8	c	
		eZ	51.2	d	
Dec. 2	MHC	eP	10 02 12.6	c	USCGS: 13.5°N, 146.0°E, 0 = 09 49 48.4. Marianas Islands. h about 67 km.
Dec. 3	BKS	iP	13 01 52.8	c	USCGS: 12.9°S, 169.2°E, 0 = 12 50 36.9. Santa Cruz Islands. h about 632 km.
	MHC	eP	53.5	d	
	CLS	eP	52.0	d	
	PRI	eP	55.5	d	
Dec. 4	BKS	e(S)NE	03 41.5	Sd	USCGS: 10.1°N, 103.6°W, 0 = 03 29 40.8. Off Guerrero, Mexico. h about 33 km.
		e(G)NE	43.5		
		e(R)Z	45.0		
	MHC	iP	36 03.2	c	
	MIN	eP	24.7	c	
	CLS	e(P)	35 56.6	d	
	PRI	eP	49.7	d	
Dec. 4	BKS	iP	07 34 41.3	d	USCGS: 21.8°S, 65.6°W, 0 = 07 23 04.2. Southern Bolivia. h about 300 km.
		iZ	35 56.5	d	
	MHC	iP	34 38.0	d	
		iZ	57.6	c	
		iZ	35 53.0	d	
	MIN	eP	34 36.0	d	
		iZ	50.7	c	
	REN	iP	39.3		
	CLS	eP	44.6	d	
	PRI	eP	30.2	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Dec. 4	BKS	eP	16 51 29.3	c	USCGS: 16.5°S, 172.8°W, 0 = 16 40 06.0. Samoa. h about 33 km. Magnitude 5.5 (WMSO).
		eP	32	c	
		eZ	52 00	c	
		eZ	58 36	d	
		eSEZ	17 00 40	Ed	
		eNEZ	01 28	SWd	
		eGNE	09 46	NW	
		eRZ	12.6		
			R from SW		
	MHC	iP	16 51 30.0	d	
		iZ	49.4	c	
	MIN	iP	41.3	d	
		eZ	58.4	c	
	CLS	eP	27.0	c	
	PRI	eP	29.6	c	
Dec. 6	BKS	iP	03 57 15.0	c	USCGS: 20.7°S, 71.9°W, 0 = 03 45 37.4. N. Chile. h about 60 km. Magnitude 5.1 (WMSO).
	MHC	iP	43.1	c	
	MIN	eP	20.5	c	
	REN	eP	13.4	c	
	CLS	eP	17.8	d	
	PRI	eP	03.2	d	
Dec. 6	BKS	eP	04 13 59.5	c	USCGS: 49.0°N, 154.3°E, 0 = 04 04 09.8. Kurile Islands. h about 85 km. Magnitude 4.7 (WMSO)
	MHC	iP	14 04.5	c	
	MIN	iP	13 51.2	c	
		iZ	14 11.5	c	
	REN	eP	02.5	c	
	CLS	eP	13 54.7	c	
	PRI	eP	14.2	c	
Dec. 6	MIN	iP	07 19 58.5	c	
Dec. 7	MIN	iP	09 49 03.3	c	
Dec. 7	BKS	iP	14 14 54.9	d	USCGS: 29.2°N, 139.2°E, 0 = 14 03 37. Bonin Islands. h about 411 km. Magnitude 6 3/4 - 7 (BKS).
		iPcPZ	59.3	c	
		iPPZ	15 19.1	c	
		eZ	16 30.5	d	
		iPPZ	18.0	d	
		iSNEZ	24 19	NWU	
		iSSNE	29 44	SE	
		eNE	31.6		
		eGNEZ	35.3		
			R from NW		
			mu sec		
		PZ	1.4 1.0		
		PH	0.7 1.0		
		SH	16.0 17.5		
		PPZ	12.2 8.0		
	MHC	iP	14 15 00.0	c	
		iZ	16 34.1	d	
		iZ	18 07.9		
	MIN	eP	14 52.2	c	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Dec. 7 (Cont.)		iP	54.8	c	
	REN	iZ	15 03.1	d	
		eP	02.5		
	CLS	iSZ	24 28.3		
		eP	14 54.0	d	
		i	55.8	(c)	
		e	16 26.0	c	
	PRI	eP	15 07.2	c	
		i	10.0	(c)	
		e	42.0	c	
Dec. 8	MIN	eP	01 49 40.4	d	USCGS: 62.5°N, 151.6°W, 0 = 01 43 43.8. Central Alaska. h about 33 km.
		eZ	50 01.4	c	
Dec. 8	BKS	i(P)	18 12 36.2	c	USCGS: 23.6°N, 69.4°W, 0 = 18 00 41.1. N. Chile. h about 100 km.
		iZ	58.5	d	
		iZ	13 09.0	d	
	MHC	iP	12 32.3	c	
		iZ	56.0	d	
		iZ	13 06.1	d	
	MIN	iP	12 31.7	c	
	REN	iP	35.1	c	
	CLS	eP	39.2	d	
		eZ	13 00.4	d	
	PRI	eP	24.2	d	
		eZ	57.5	d	
Dec. 8	BKS	iP	18 29 48.7	d	USCGS: 15.2°S, 173.7°W, 0 = 18 18 29.1. Tonga. h about 50 km (BKS). Magnitude 6 (BKS).
		ipPZ	30 10.0	c	
		iZ	31 33.6	d	
		eSNEZ	39 08	NEd	
		ePKKINE	48.2		
		eRNE	50.4		
			R from SW		
			mu sec		
		PZ	1.1 2.0		
		PH	0.4 2.0		
		SH	5.0 20.0		
		MaxH	17.7 36.0		
		MaxZ	17.5 36.0		
	MHC	iP	18 29 48.8	d	
		iZ	30 00.7	c	
	MIN	eP	29 58.9	d	
	REN	iP	30 04.0	d	
	CLS	eP	29 49.5	d	
		e(pP)Z	30 10.5		
	PRI	eP	29 48.8	d	
Dec. 8	REN	eP	18 57 43.8	d	
Dec. 8	BKS	iP	21 38 51.3	c	USCGS: 25.8°S, 63.4°W, 0 = 21 27 22.2. NW Argentina. h about 620 km. Magnitude 6 3/4 (BKS)
		iPcPZ	57.5	(d)	
		ipPZ	40 54.0	c	
		iSNEZ	48 18		
		ePKKPZ	57 00.8		
		iN	40		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Dec. 8 (Cont.)		iN	22 00 46		
		eP'P'Z	04 54.8	c	
		eSKPP'Z	07 28	d	
			mu sec		
		PH	0.5 1.0		
		SH	58 24		
		PZ	9 5		
	MHC	iP	21 38 47.6	c	
		iZ	40 58.6	c	
		iZ	57 01.5		
	MIN	eP	38 55.9	c	
		iZ	39 17.3		
		iZ	56 57.3	c	
	REN	iP	38 50.1	c	
	CLS	eP	54.4	c	
		epPZ	40 56.4	c	
		eZ	31.3	d	
	PRI	ePZ	38 41.0	c	
		epPZ	40 46.7	c	
		eZ	48 09.7		
Dec. 8	MHC	iZ	22 05 04.5	c	
		iZ	07 31.6	c	
	MIN	eZ	05 03.0	c	
	REN	eZ	04 58.9	d	
Dec. 8	BKS	eP	23 02 27	c	USCGS: 50.5°N, 176.8°W, 0 = 22 55 01.2. Andreanov Islands, Aleutians. h about 33 km. Magnitude 5 3/4 (BKS)
		ipPZ	51.8	d	
		iZ	03 43.2	d	
		ePPZ	04 13	c	
		epPPZ	34	c	
		eSNEZ	08 36		
		eN	10.8		
		eGEZ	11.7		
			mu sec		
		PZ	4.2 8		
		PH	2.8 8		
		SH	3.1 12		
	MHC	eP	23 02 42.0	c	
		iZ	52.2	d	
	MIN	eP	27.9	c	
		iZ	34.1	d	
		iZ	04 37.6	c	
	REN	iP	02 42.7	d	
	CLS	eP	31.8	d	
		eZ	04 38.3	d	
	PRI	eP	02 47.2	d	
		eZ	04 45.1		
Dec. 9	BKS	eP	14 27 49.3	c	USCGS: 22.4°S, 177.0°W, 0 = 14 16 05.2. Tonga. h about 204 km.
		eZ	28 35.5	d	
	MHC	iP	27 49.0	d	
		eZ	28 35.7	d	

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Dec. 9 (Cont.)	MIN	eP	59.0		
	CLS	eP	27 49.7	d	
		eZ	28 11.8		
	PRI	e(P)	27 48.2	c	
Dec. 9	BKS	eP	21 05 41.7	d	USCGS: 17.7°S, 173.6°W, 0 = 20 54 13.7.
		eZ	54.6	c	Tonga. h about 60 km.
		eNEZ	27.5		
	MHC	eP	05 40.8	c	
		ipPZ	54.8	c	
	MIN	eP	51.5	d	
		ipPZ	06 05.5	d	
	REN	e(P)	05 54.9	c	
	CLS	eP	41.6	c	
		eZ	55.4	c	
	PRI	eP	40.8	d	
		eZ	54.4	c	
Dec. 10	BKS	iP'	05 17 39.0	c	USCGS: 28.3°S, 62.7°E, 0 = 04 56 19.4.
	MHC	eP'	16 26.7	c	Indian Ocean. h about 33 km.
		iZ	17 41.7	c	Magnitude 5 (Moscow).
		iZ	21 36.3	d	
	MIN	eP'	16 23.5	c	
		iZ	17 28.6	c	
		eZ	21 15.9		
	REN	eP'	16 20.6	c	
	CLS	eP'	17 35.0	d	
		eZ	21 26.0	d	
	PRI	e(P')	16 27	c	
		eZ	17 48.4	d	
		eZ	21 38	d	
Dec. 10	MHC	eP	06 24 47.2	d	USCGS: 8.4°S, 157.4°E, 0 = 06 11 56.2.
Dec. 10	MIN	iZ	16 20 10.9	c	Solomon Islands. h about 39 km.
Dec. 10	BKS	eP	17 08 19.0	c	USCGS: 27.0°S, 176.8°W, 0 = 16 56 04.5.
		iZ	38.5	c	Kermadec Islands. h about 88 km.
	MHC	iP	19.6	d	
		iZ	31.6		
	MIN	eP	28.5	c	
		iZ	43.1	c	
	REN	eP	02.4	d	
	CLS	eP	19.4	d	
	PRI	eP	18	c	
Dec. 11	MHC	eP	14 57 19.5	d	
	MIN	eZ	08		
Dec. 11	MIN	eZ	18 04 10.5	c	
Dec. 12	BKS	i(P)	10 21 41.4	d	USCGS: 4.8°S, 153.8°E, 0 = 10 08 48.5.
		iZ	50.2	d	New Britain. h about 94 km.
		iZ	58.6	d	Magnitude 6 (Kew).
		iZ	22 27	d	
		eSE	31 58		
		eSSE	37 12		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Dec. 12 (Cont.)		eGNE	45.1		
		eREZ	48.5		
		MaxH	23 40		
		MaxZ	25 40		
	MHC	iP	10 21 41.3	d	
		iZ	22 00.8	d	
		iZ	25 06.2	c	
	MIN	eP	21 28.6	c	
		iZ	22 02.0	d	
	REN	iP	11.5	c	
	CLS	e(P)	21 33	(c)	
		eZ	22 01	c	
	PRI	e(P)	21 50	(d)	
		eZ	22 04	c	
Dec. 12	BKS	iP'	23 15 30.8	d	USCGS: 4.6°N, 96.5°E, 0 = 22 56 45.8.
		eZ	49	c	Sumatra. h about 138 km.
	MHC	iP'	31.2	d	
	MIN	eP'	14 26.6	d	
	CLS	e(P')	15 28.6	c	
	PRI	eP'	36.2	c	
Dec. 13	BKS	iP	04 27 31.2	c	USCGS: 63.3°N, 149.7°W, 0 = 04 21 21.2.
		iZ	36.1	c	Central Alaska. h about 47 km.
		iZ	52.8	c	
	MHC	iP	21.5	c	
		iZ	46.6	d	
		iZ	42.0	c	
	MIN	iP	28 12.7	c	
		iZ	17.6	c	
	REN	eP	27 16.6	c	
	CLS	eP	23.4	d	
		eZ	28.4	d	
		eZ	28 06.4	d	
	PRI	eP	50.0	d	
		eZ	54.8	d	
Dec. 13	BKS	iP	15 03 16.5	c	USCGS: 61.4°N, 147.2°W, 0 = 14 57 27.9.
		iZ	32.0	d	Kenai Peninsula, Alaska.
		eZ	09.9		h about 69 km.
	MHC	iP	03 22.2	c	
	MIN	iP	58.7	c	
		iZ	09.6	c	
	REN	eP	11.3	c	
	CLS	eP	08.2	d	
	PRI	eP	35.6	d	
Dec. 17	MHC	iP'	11 18 00.9	d	USCGS: 2.1°N, 122.9°E, 0 = 11 00 16.
	MIN	eP'	17 59.4	c	Celebes Sea. h about 383 km.
		eZ	18 16.2	c	Magnitude 6.0 (Tulsa).
Dec. 18	BKS	eP	03 06 28.0	d	USCGS: 21.6°N, 143.1°E, 0 = 02 54 47.1.
	MHC	iP	40.8	d	Marianas Islands. h about 306 km.
		iZ	07 35.6	d	Magnitude 5.0 (USCGS)

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Dec. 18 (Cont.)	MIN	iP	06 25.1	d	USCGS: 28.3°S, 178.2°W, 0 = 10 33 58.4. Kermadec Islands. h about 214 km.
		iZ	07 28.4	c	
Dec. 18	REN	iP	06 34.0	c	
	CLS	eP	24.4	d	
	PRI	eP	37.2	d	
	BKS	iP	10 46 07.6	d	
		iZ	58.8	d	
	MHC	iP	07.0	c	
		iZ	59.6	d	
	MIN	eP	16.3	c	
		iZ	47 09.3	d	
	REN	iP	46 20.1	d	
Dec. 18	CLS	eP	08.4	c	
		eZ	47 00.3	c	
	PRI	eP	46 06.4	c	
		eZ	57.4	c	
	MHC	iP	22 55 37.6	d	
	MIN	eZ	51	d	
	Dec. 19	BKS	e(P)	13 09 22	c
			e(S)EZ	19.4	c
	Dec. 21	BKS	eE	25.7	c
			eGNE	32.0	SW
eREZ			36.0	SW	
			R from W		
			eP'	01 03 12.3	d
			eZ	32.7	c
			iZ	41.5	c
			eZ	04 52	c
			e(S)Z	14 44	c
			eZ	16 10	c
Dec. 21	MHC	eZ	22.0	c	
		eGN	34.8	c	
		eRZ	42.0	c	
		iP'	03 04.0	c	
		MIN	eP'	11.4	c
			iZ	04 03.9	d
		REN	eP'	03 11.1	d
		CLS	eP'	11.3	d
		PRI	eP'	16.0	d
		BKS	iP	06 34 42.6	d
Dec. 21	BKS	iZ	58.5	d	
		iZ	35 05.2	c	
		eSNEZ	40.4	c	
		e(G)NE	42.5	c	
		eRNEZ	44.0	c	
		MHC	iP	34 37.7	c
		MIN	eP	32.7	c
		REN	iP	35 38	d
		CLS	eP	34 36.3	c
		PRI	eP	35 00.4	c

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks			
1962			h. m. s.					
Dec. 21	BKS	eP	08 49 40.5	(c)	USCGS: 52.4°N, 168.5°W, 0 = 08 42 48.3. Fox Islands, Aleutians. h about 33 km. Magnitude 6 1/2 (PAS).			
		eP	39.7	d				
		iZ	50.4	c				
		iSNEZ	55 17	c				
		MIN	iP	49 31.1		c		
			iZ	54.3		d		
		REN	eP	48 44.5		d		
		CLS	iP	49 35.3		c		
		PRI	eP	58.5		(c)		
		Dec. 21	BKS	eP		09 07 33.2	(d)	USCGS: 0 = 09 00 41.1. Aftershock of preceding. Magnitude 6.2 (Uppsala).
	iP	33.4	d					
	iZ	44.6	d					
MIN	iP	24.2	c					
	iZ	29.6	d					
REN	eP	38.3	d					
CLS	iP	28.1	c					
PRI	eP	51.0	c					
Dec. 21	BKS	iP	09 16 54.6	c				
		iZ	17 04.0	c				
Dec. 21	MIN	iZ	11.0	d	USCGS: 52.5°N, 168.5°W, 0 = 09 10 01.6. Fox Islands, Aleutians. h about 33 km.			
		e(P)	16 43.1	c				
		iZ	46.5	c				
		REN	eP	57.5		d		
		CLS	iP	48.8		d		
		PRI	eP	17 12.3		d		
		Dec. 21	BKS	iP		09 44 21.7	d	
				iZ		44.6	c	
		Dec. 21	MIN	iP		14.2	d	USCGS: 42.4°N, 142.3°E, 0 = 09 33 15.5. S. Hokkaido, Japan. h about 27 km. Magnitude 6.2 (Matsushiro).
				REN		iP	24.4	
CLS	iP			17.5	d			
PRI	iP			34.8	d			
Dec. 21	BKS			iP	09 54 34.5	d		
				eP	39.4	d		
Dec. 21	MIN			REN	iP	32.5	d	
				CLS	iP	37.8	d	
				PRI	iP	23.7	d	
				eP	12 43 10.3	c		
		eP	15 34 58.9	d				
		eP	20 33 55.0	c				
		e(P)	21 37 21	(d)				
		eP	29.5	d				
		REN	eP	14.4	d			
		CLS	eP	26.5	c			
PRI	eP	06.8	c					
Dec. 22	BKS	eP	01 05 07.5	d	USCGS: 22.0°S, 170.1°E, 0 = 00 52 23.4. Loyalty Islands. h about 33 km. Magnitude 6 1/2 - 6 3/4 (PAS).			
		eZ	30.5	d				
		eZ	06 00.8	d				
		e(G)N	28.6	d				
		eNE	32.5	d				
		e(R)NEZ	39.2	d				

Date	Sta.	Phase	Time GCT)	Ground Motion	Remarks	
1962			h. m. s.			
Dec. 22 (Cont.)	CLS	eP	05 07.6	d	Aftershock of preceding. USCGS: 9.2°S, 112.4°E, 0 = 01 59 50.3. S. Java. h about 61 km.	
	PRI	e(P)	08.4	(d)		
Dec. 22	MIN	eP	01 41 41.1	d		
Dec. 22	BKS	eP'	02 18 44.5	c		
	MIN	eP'	42.6	d		
	REN	eP'	47.5	c		
	CLS	eP'	42.8	d		
	PRI	eP'	47.8	d		
Dec. 22	BKS	eP	15 27 21.6	d		USCGS: 52.5°N, 168.8°W, 0 = 15 20 31.0. Fox Islands, Aleutians. h about 47 km. Magnitude 6 - 6 1/4 (BKS).
		iZ	38.8	d		
		iPPZ	28 35.5	d		
		eSE	32 58	E		
		eZ	33 06			
		eN	34 30	N		
		eGN	35 44	S		
		eRN(Z)	37.0			
			mu sec			
		PZ	2.3 12			
		SH	15 14			
		MaxH	31 10			
		MaxZ	37 14			
	MIN	eZ	15 27 14.4	d		
		iZ	25.1			
	REN	eP	26 29.0	c		
	CLS	eP	27 16.2	d		
		eZ	19.2	c		
	PRI	e(P)	42.4	d		
Dec. 23	MIN	eP	10 54 58.7	c	Aleutian aftershock.	
Dec. 24	BKS	eZ	23 11.5			
Dec. 25	BKS	iPZ	12 21 34.3	c	USCGS: 36.2°S, 100.2°W, 0 = 12 09 45.6. Easter Island-Chile Ridge. h about 33 km.	
		iZ	47.8	d		
		iZ	22 08.0	c		
		e(S)NEZ	31 24	NEd		
		eGN	42.0			
		eRNZ	45.0			
			R from S			
	MIN	e(P)	12 21 44			
		iZ	22 11.9	d		
	REN	eP	20 38.9	d		
	CIS	eP	21 37.4	d		
	PRI		22.0	d		
Dec. 26	MIN	eP	09 10 13.1	d	BCIS: 39.3°N, 10.9°W, 0 = 08 58 12. Off Portugal. h about 19 km. Felt in Lisbon and coastal cities. Magnitude 5.4 (Uppsala, WMSO)	
		iZ	44.8	c		
	REN	eP	09.9	d		
	CLS	eP	24.8	c		
	PRI	eP	28.4	c		
Dec. 26	BKS	eP	22 33 57.9	d	USCGS: 53.9°N, 168.7°E, 0 = 22 25 15.5. Komandorski Islands. h about 33 km. Magnitude 6 1/4 - 6 1/2 (BKS).	
		ipPZ	34 06.5	d		
		iZ	30.6	d		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks	
1962			h. m. s.			
Dec. 26 (Cont.)		iZ	35 21.8	d	R from NW	
		iPPZ	50.6	d		
		iSNEZ	41 00	NEd		
		iScSE	43.7			
		iScSN	43 48	N		
		iRNZ	47.8			
	MHC	iP	22 34 03.5	d		
		iZ	23.6	d		
	MIN	iP	33 48.4	d		
		iZ	56.5	d		
	REN	iP	19 01.1	d		
	CLS	iP	33 53.0	d		
	PRI	iP	34 12.8	d		
Dec. 26	MIN	eP'	23 43 58.1	d	USCGS: 23.9°N, 65.4°E, 0 = 23 25 16.7. Arabian Sea. h about 34 km.	
Dec. 26	BKS	eP	23 54 57.3	d	USCGS: 54.0°N, 168.8°E, 0 = 23 46 14.7. Komandorski Islands aftershock. h about 33 km. Magnitude 6.0 (WMSO).	
		iZ	55 09.7	d		
		iZ	56 32.7	c		
	MHC	iP	55 02.5	c		
		iZ	56 34.9	c		
	MIN	iP	54 46.9	c		
		iZ	55 01.2	d		
	REN	eP	54 59.5	c		
	CLS	eP	51.4	c		
	PRI	eP	13.3	c		
Dec. 27	MHC	iP	04 25 09.2	d	USCGS: 14.8°S, 173.2°W, 0 = 04 13 54.7. Samoa. h about 54 km.	
	MIN	eP	19.8	c		
Dec. 27	BKS	iP	11 26 05.9	c	USCGS: 28.6°S, 67.4°W, 0 = 11 13 38.2. Central Chile. h about 33 km.	
	MHC	iP	01.6	d		
		iZ	30.7	d		
	MIN	eP	11.4	c		
	CLS	eP	08.4	d		
	PRI	eP	55.0	c		
Dec. 27	BKS	iP	14 15 24.0	d		USCGS: 4.9°S, 145.1°E, 0 = 14 02 02.1. New Guinea. h about 35 km. Felt at Bogia.
		eNZ	21 16	Sd		
	MHC	iP	15 25.3	c		
	MIN	eP	25.8	c		
	CLS	eP	22.6	d		
Dec. 27	BKS	iP	18 29 51.5	c	USCGS: 39.9°N, 142.0°E, 0 = 18 18 42. Honshu, Japan. h about 36 km. Magnitude 5.7 (Matsushiro).	
		ipPZ	30 09.3			
		eP	00	d		
		eSE	38 54			
		eSSZ	43 24			
		eQNE	47.2			
		eRZ	50.9			
	MHC	iP	29 57.1	d		
	MIN	iP	49.9	c		
		iZ	53.8	c		

Date	Sta.	Phase	Time (GCT)	Ground Motion	Remarks
1962			h. m. s.		
Dec. 27 (Cont.)	REN	eP	59.1	d	
	CLS	eP	54.2	(c)	
	PRI	eP	30 09.3	d	
Dec. 28	MIN	eP	05 35 20.8	d	
Dec. 28	MIN	eP	10 03 46.9	d	USCGS: 48.4°N, 113.9°W, 0 = 10 01 23.6. Montana. h about 33 km. Felt at Big Fork, Montana. Fox Islands aftershock.
Dec. 28	MIN	eP	14 53 26.1	c	USCGS: 42.9°N, 145.4°E, 0 = 19 50 10.7. Off Hokkaido. h about 41 km.
Dec. 28	MIN	iP	20 00 53.9		USCGS: 20.0°S, 69.9°W, 0 = 10 41 04.1. N. Chile. h about 46 km. Magnitude 6 1/2 (BKS).
Dec. 29	BKS	eP	10 52 47.6	c	
		iZ	53 05.5	d	
		eZ	54 04.3	d	
		iPPZ	55 30	d	
		eSNEZ	11 02 30	NWd	
		eSSNEZ	07 30	NWd	
		eGNE	13.3		
		eGNEZ	18.0		
		PZ	mu sec		
		PZ	0.5 2		
		SH	12 12		
		MaxZ	5.5 32		
		MaxH	6.4 56		
	MHC	eP	10 52 43.1	c	
		iZ	54.2	d	
	MIN	eP	52.9	c	
	CLS	eP	51.0	c	
	PRI	eP	35.6	c	
		eZ	53 14.4	d	
		e(s)Z	11 02 09		
Dec. 29	BKS	ePZ	15 00 19.8	d	USCGS: 31.2°S, 177.9°W, 0 = 14 47 41.4 Kermadec Islands. h about 43 km. Magnitude 6 - 6 1/4 (PAS).
		eZ	32.7	d	
		eSNEZ	10 50		
		eGNE	23.0		
		eR	27.7		
	MHC	iP	00 19.5	d	
		iZ	22.9	d	
	MIN	eP	18.4	d	
		iZ	33.1	c	
	CLS	eP	21.4	c	
		eZ	35.6	d	
	PRI	eP	18.6	d	
		eZ	34.0	c	
Dec. 29	BKS	eP	18 26 44.2	c	USCGS: 31.6°S, 177.8°W, 0 = 18 13 59.3. Kermadec aftershock. h about 33 km.
	MHC	eP	40		
	MIN	eP	30.8	c	
	PRI	eP	37	c	
Dec. 29	BKS	eP	18 32 22	d	USCGS: 31.5°S, 177.6°W, 0 = 18 19 40.7. Kermadec aftershock. h about 33 km.
	MHC	iP	11.8	c	
	CLS	eP	22	c	
	PRI	eP	19	(d)	