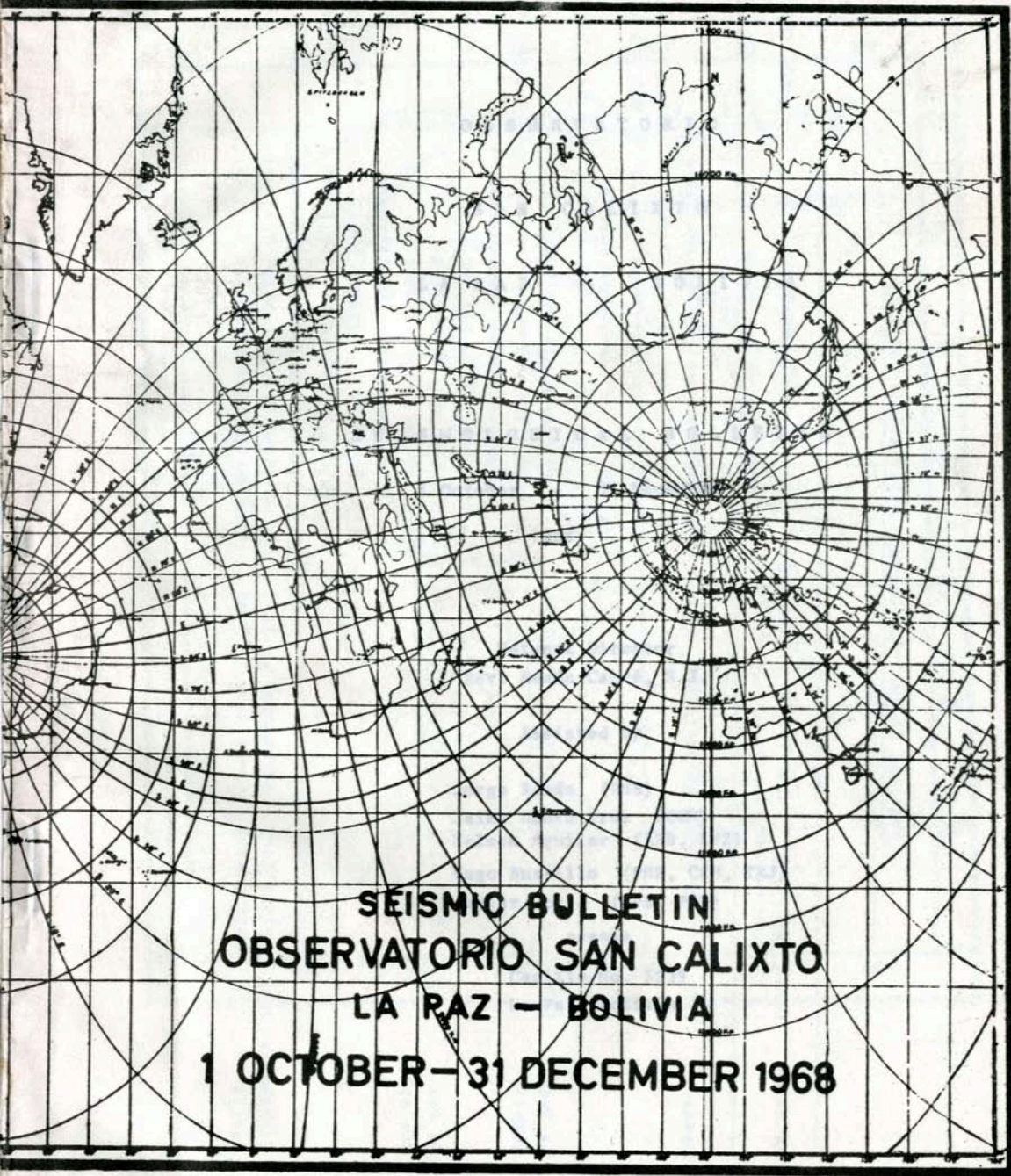
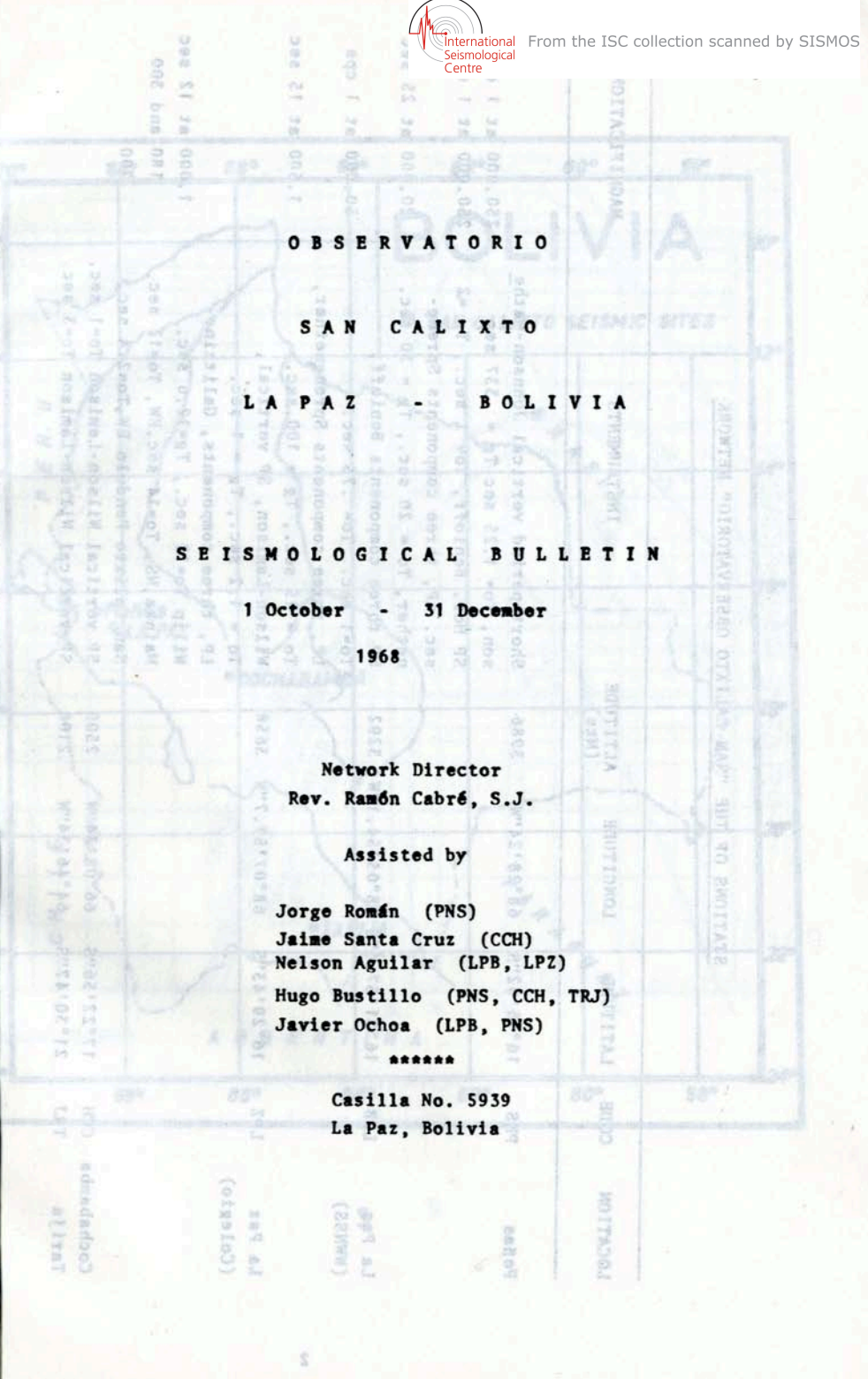


— PARA LA PAZ





**OBSERVATORIO**  
**SAN CALIXTO**  
**LA PAZ - BOLIVIA**  
**SEISMOLOGICAL BULLETIN**

1 October - 31 December

1968

**Network Director**  
**Rev. Ramón Cabré, S.J.**

**Assisted by**

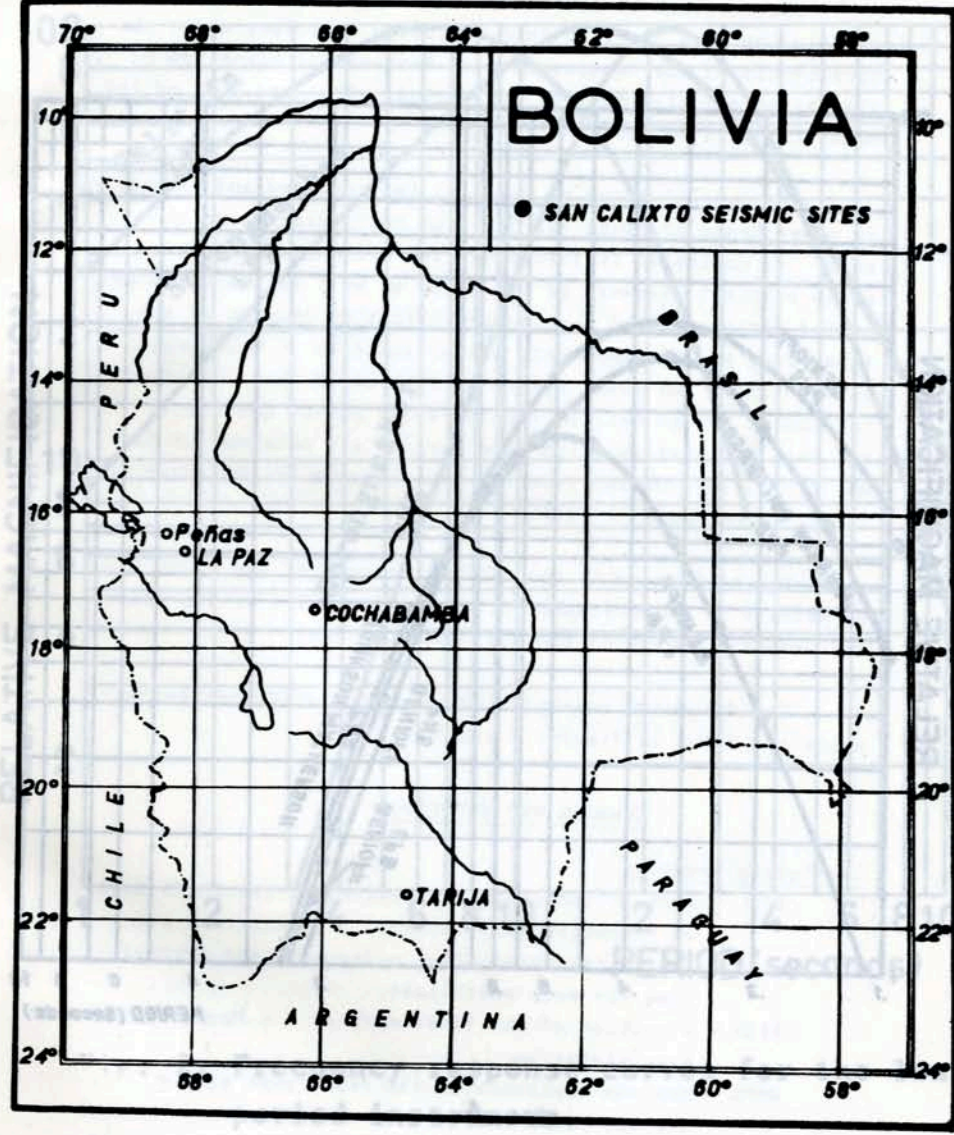
**Jorge Román (PNS)**  
**Jaime Santa Cruz (CCH)**  
**Nelson Aguilar (LPB, LPZ)**  
**Hugo Bustillo (PNS, CCH, TRJ)**  
**Javier Ochoa (LPB, PNS)**

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**Casilla No. 5939**  
**La Paz, Bolivia**

STATIONS OF THE "SAN CALIXTO OBSERVATORIO" NETWORK

LOCATION	CODE	LATITUDE	LONGITUDE	ALTITUDE (Mts)	INSTRUMENTS	MAGNIFICATION
Peñas	PNS	16°16'02"S	68°28'24"W	3986	Short-period vertical Johnson-Matheson, To= 1.25 sec Tg = .337 sec SP Hor. Renioff, To= 1 sec., Tg =2 sec. LP, three components Sprengnether, To = 20 sec., Tg = 30 sec. SP three components Renioff, To=1 sec., To= .75 sec.	250,000 at 1 cps 250,000 at 1 cps 20,000 at 25 sec
La Paz (WNSS)	LPB	16°31'57.6"S	68°05'54.1"W	3292	To=1 sec., To= .75 sec. LP, three components Sprengnether, To = 15 sec., Tg = 100 sec. Wilson-Lamison, Sp vertical, To = 1.2 sec., Tg = 1 sec. LP, three components, Galitzing- Willip To=12 sec., Tg=12.6 sec. Mainka,NS, To=14 sec.EW, To=12 sec.	50,000 at 1 cps 1,500 at 15 sec
La Paz (Colegio)	LPZ	16°29'43"S	68°07'57.7"W	3658	San Calixto Pendulo EW, To=2.4 sec. SP vertical Wilson-Lamison To=1 sec. SP vertical Wilson-Lamison To=3 sec.	1,000 at 12 sec 180 and 300 700
Cochabamba	CCH	17°22'56"S	66°08'34"W	2500		
Tarija	TRJ	21°30'47"S	64°46'34"W	2100		



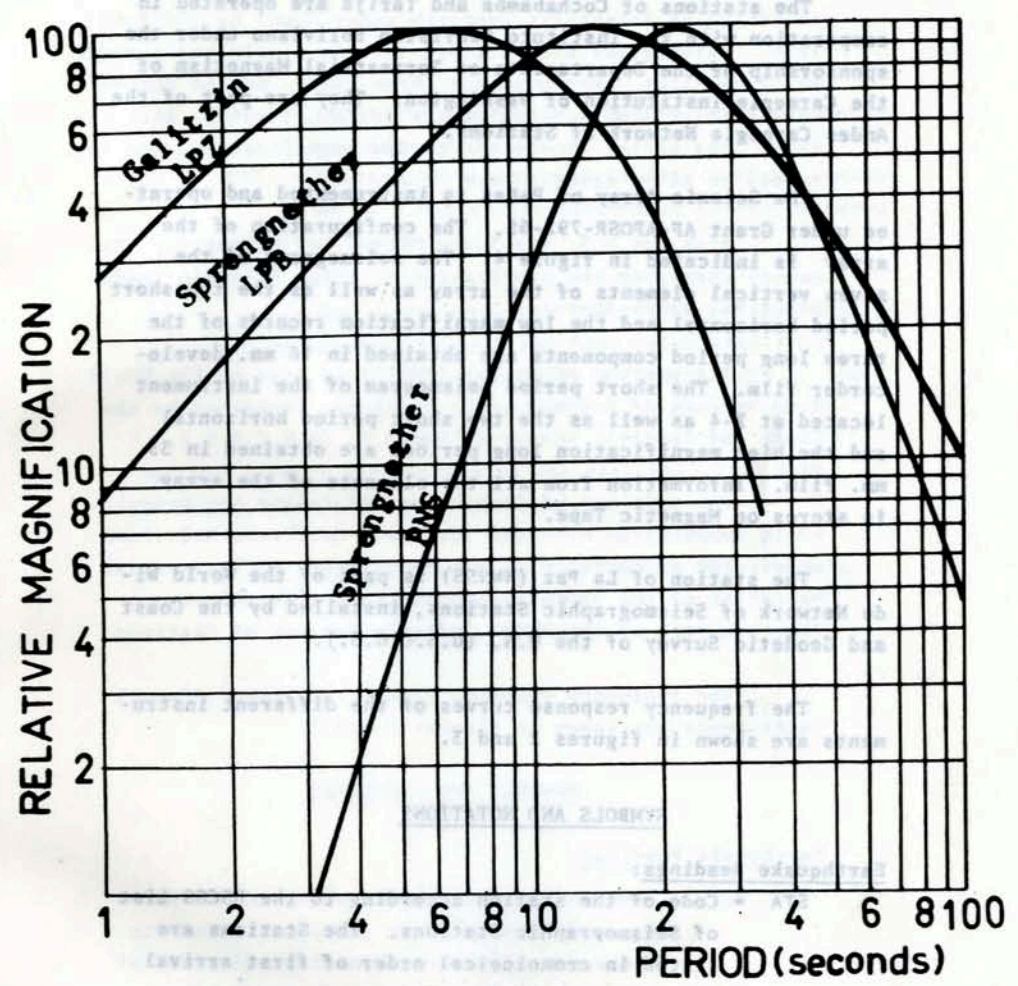
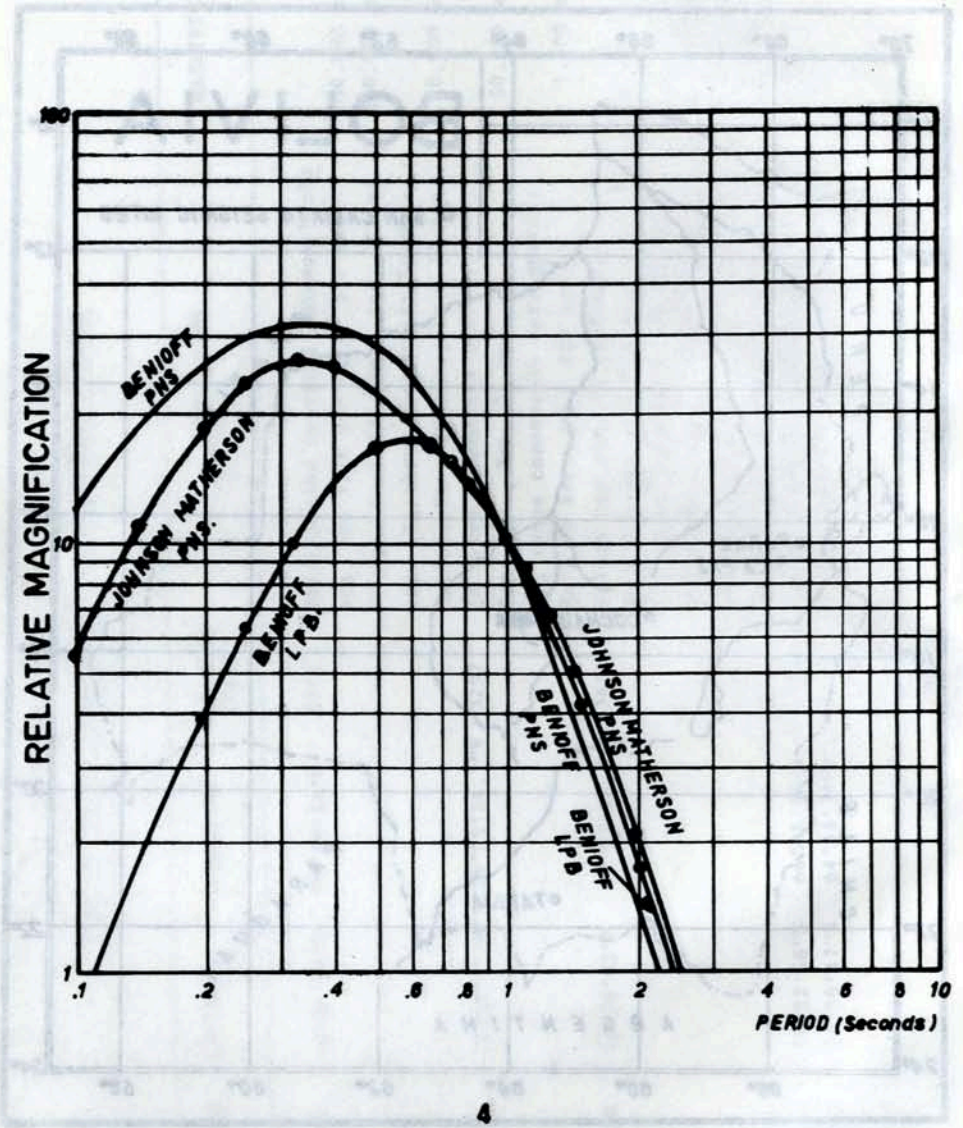


Fig. 2. Frequency response curves for the long period instruments.

The station of Pefas is operated under U.S. Air Force Office of Scientific Research under Grant No. AFOSR-68-1614. Seismograms are obtained for the single instruments on 35 mm films. Moreover the three short period components both at high and low magnification, together with the three long period components at low magnification, are recorded on 16 mm develocorder film.

Also the U.S. Air Force Office of Scientific Research sponsored the publication of this Bulletin under Grant No. AFOSP-68-1614.

The station of La Paz (WWSS) is part of the World Wide Network of Seismographic Stations, installed by the Coast and Geodetic Survey of the U.S. (U.S.C.G.S.).

The stations of Cochabamba and Tarija are operated in cooperation with the Instituto Geofísico Boliviano under the sponsorship of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. They are part of the Andes Carnegie Network of Stations.

The frequency response curves of the different instruments are shown in figures 2 and 3.

#### SYMBOLS AND NOTATIONS

##### Earthquake Readings:

- STA = Code of the station according to the USCGS List of Seismographic Stations. The stations are listed in chronological order of first arrival time for each earthquake.
- SIGN = Direction of the first motion. C = Compression, D = Dilatation.
- AMPL = Maximum amplitude of the first part of the initial phase measured in millimicrons of ground motion. Readings refer to half peak-to-peak amplitudes.

OCTOBER

MONTH DAY STA PHASE TIME SIGN PER AMPL DIST

OCT 01 PER 02 23 00.4  
01 01 03 25 18  
PER = Period in seconds of the wave whose amplitude was measured.  
DIST = Epicentral distance to La Paz, Bolivia, measured in a map of Isodiastematic Curves centered at La Paz. 0 10.2 0.8 15 145

For earthquakes not identified by the USCGS the epicentral distance has been calculated from the S-P travel times assuming a normal depth of the focus.

For any further information on the data issued on this Bulletin, please direct your inquiries to:

Director of San Calixto Observatorio  
Casilla No. 5939  
La Paz, Bolivia

The stations of Cochabamba and Tarija are operated in cooperation with the Instituto Geofísico Boliviano under the sponsorship of the Departamento of Terrestrial Magnetism of the Carnegie Institution of Washington. They are part of the Andes Carnegie Network of Stations.

The Seismic Array of Peñas is instrumented and operated under Grant AF-AFOSR-792-65. The configuration of the array is indicated in figure 4. The seismograms of the seven vertical elements of the array as well as the two short period horizontal and the low magnification records of the three long period components are obtained in 16 mm. developer film. The short period seismogram of the instrument located at Z-4 as well as the two short period horizontal and the high magnification long periods are obtained in 35 mm. film. Information from all the elements of the array is stored on Magnetic Tape.

The station of La Paz (WWNSS) is part of the World Wide Network of Seismographic Stations, installed by the Coast and Geodetic Survey of the U.S. (U.S.C.G.S.).

The frequency response curves of the different instruments are shown in figures 2 and 3.

SYMBOLS AND NOTATIONS

Earthquake Readings:

STA = Code of the station according to the USCGS List of Seismographic Stations. The Stations are listed in chronological order of first arrival time for each earthquake.

SIGN = Direction of the first motion. C = Compression, D = Dilatation.

AMPL = Maximum amplitude of the first part of the initial phase measured in millimicrons of ground motion. Readings refer to half peak-to-peak amplitudes.

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	01	PNS LPB	P eP	02 23 06.6 02 23 10		1.0	6	
	01	USCGS SOUTH	02 10 30.1, 30.5N, 141.4E, h = 36 km., m = 4.7					
		PNS	ePKP	02 30 14.4		0.8	2	
		LPB	PKP	02 30 18.2 02 30 19.2		0.9	15	145
	01	LPB	eP	04 30 21.7				
	01	PNS	P	05 18 55.9				
	01	LPB PNS	eP P	05 22 48 05 22 57.8		1.1	5	
	01	LPB PNS	P P	05 32 10 05 32 12.2	C	0.9	8	
			S	33 20		0.9	5	
	01	PNS	P	05 37 56.7	D	0.6	5	
			S	38 17.2				
	01	USCGS	12 27 21.2, 3.6S, 143.4E, h = 37 km., m = 5.2					
			NEAR N COAST OF NEW GUINEA					
		PNS	ePKP	12 46 47.6				
		LPB	ePKP	12 46 50				142.2
	01	LPB	eP	05 38 49		0.8	6	
			i	39 03.6				
		PNS	eP	05 38 49.3		0.7	3	
			i	39 04.0				
	01	LPB	eP	05 50 02				
		PNS	eP	05 50 04				
	01	LPB	P	07 09 54.2		1.0	6	
		PNS	P	07 09 57.7		0.8	3	
	01	LPB	eP	08 22 38.5				
		PNS	P	08 22 42.3				
	01	PNS	eP	10 29 03				
		LPB	eP	10 29 06				
	01	LPB	eP	10 41 57				
		PNS	P	10 41 58.5		0.7	2	
	01	PNS	P	10 54 04.6		0.5	7	
		LPB	eP	10 54 00.5		0.8	10	

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	01	PNS LPB	P eP	11 07 17.7		0.7	2	
				11 07 19				
01	LPB PNS	P S	P S	12 06 10.6		1.0 0.6	20 12	
				12 06 10.6 33.7				
01	LPB PNS	eP P	eP eS	12 41 05				
				12 41 05 39				
01	LPB PNS	P eP	P eP	14 04 15.2		0.8	12	
				14 04 17				
01	PNS LPB	P eP	P eP	14 38 14.1		0.6	2	
				14 38 17				
01	LPB PNS	P eS	P S	14 49 16		0.9 0.8	36 11	
				58 14 49 18.5 50 02				
01	PNS LPB	P eP	P eP	16 39 20		0.6	5	
				56.4 16 39 23				
01	LPB PNS	eP P	eP P	17 57 22.5		0.7	3	
				17 57 31.2				
01	LPB PNS	eP P	eP S	18 12 22		0.4	7	
				18 12 26.6 13 02				
01	PNS LPB	P eP	P eS	19 01 27.6		0.6	3	
				32.9 02 24.6 19 01 31.6 02 35.5				
01	PNS LPB	eP eP	eP eP	19 32 31.7				
				19 40 06.5 19 40 07.7				
01	PNS LPB	iP eP	S eP	21 00 11	D	0.3	5	
				33.3 21 00 12				
01	PNS LPB	eP eP	eP eP	23 08 38				
				23 08 40.5				
02	PNS LPB	eP eS	eP eS	00 26 28.6		1.0	12	
				27 00 00 26 29.4 27 03				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	02	LPB PNS	iP S	00 49 00		1.2	46	
				41.6				
02	LPB PNS	eP P	eP P	00 49 01.4		0.9	6	
				45				
02	LPB PNS	eP P	eP P	01 14 36.5		0.7	3	
				01 14 40				
02	USCGS 02 45 GUATEMALA	PNS LPB	P eP	02 53 06.5		0.8	3	37.9
				02 53 12				
02	PNS LPB	eP eP	eP eP	04 53 04		0.8	9	
				04 53 06				
02	PNS LPB	P eP	S eP	05 28 11.4		0.8	11	
				34 05 28 13.5				
02	LPB PNS	eP eP	eP eP	07 02 42.5		0.6	5	
				07 02 47.8				
02	LPB PNS	eP eP	eP eP	07 26 20.2		0.4	7	
				07 26 22.8				
02	USCGS 07 19 SOUTH SANDWICH IS REG	LPB PNS	P eS	07 28 33		1.2	35	63.8
				36 13 45				
02	PNS LPB	P eP	P eL	07 28 36		1.2	22	
				36 12 44.9				
02	PNS LPB	eP eP	eP eP	07 49 46		0.6	7	
				07 49 50				
02	LPB PNS	eP P	eP P	07 51 07.5		0.6	7	
				07 51 12.6				
02	USCGS 09 09 BONIN IS REG	LPB PNS	PKP i	09 28 50.6		1.1	17	151.1
				57.6				
02	PNS LPB	PKP i	PKP e	09 28 50.9		1.2	17	
				57 30 83.2				



OCTOBER

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT	02	PNS	eP	10 52 55.4					
		LPB	eP	10 52 55.5					
02	02	PNS	P	11 22 45					
		LPB	eP	11 22 51.5					
02	02	PNS	eP	11 33 57.5		0.7	4		
		LPB	eP	11 33 55					
02	02	PNS	P	12 19 40		0.5	3		
		LPB	eP	12 19 44.5					
02	02	PNS	eS	20 10					
		LPB	eP	15 36 17.5					
02	02	PNS	P	15 36 20.5		1.0	17		
		LPB	eP	16 06 51.8					
02	02	PNS	P	16 06 58.8		0.9	5		
		LPB	eP	17 03 52					
02	02	PNS	eP	17 03 59					
		USCGS 17 34 17.3, 62.4S, 158.3W, h = 33 km., m = 4.9 SOUTH PACIFIC CORDILLERA							
02	02	LPB	eP	17 46 00		0.7	10	75.6	
		PNS	eP	17 46 01.5		1.2	15		
02	02	PNS	P	19 15 50.6		0.5	2		
		LPB	eS	17 17					
02	02	USCGS 19 50 34.5, 16.9N, 147.3E, h = 45 km., m = 4.9 MARIANA IS REG							
		PNS	ePKP	20 10 12.2		1.6	44		
02	02	LPB	ePKP	20 10 14.3		1.8	103	145.9	
		PNS	P	20 29 46.4		0.8	5		
02	02	LPB	eS	30 42					
		PNS	P	20 29 55.7		0.9	7		
02	02	LPB	eS	20 20 44.8					
		LPB	eP	21 47 43					
02	02	PNS	eP	21 47 46					
		LPB	eP	22 20 30.5					
02	02	PNS	P	22 20 38.8		0.6	3		
		LPB	eP	22 23 11					
02	02	PNS	eP	22 23 14.6		1.2	6		

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT	03	LPB	P	00 05 28.3	C		0.9	36	
		PNS	iP	06 28					
03	03	PNS	S	00 05 32.4	C		0.6	14	
		LPB	eP	06 30					
03	03	LPB	eP	02 56 27					
		PNS	P	02 56 29		1.0	7		
03	03	LPB	eP	06 00 04.5					
		PNS	P	06 00 04.5	D		0.6	3	
03	03	LPB	eP	06 25 16.2					
		PNS	eP	06 25 15					
03	03	LPB	eS	44					
		PNS	eP	07 57 34					
03	03	LPB	eP	07 57 35.7			0.9	7	
		PNS	eP	08 20 58.6			0.8	3	
03	03	LPB	P	21 10					
		PNS	eS	08 20 59			0.8	13	
03	03	USCGS 08 04 55.6, 3.8S, 128.5E, h = 97 km., m = 5.6 CERAM							
		PNS	PKP	08 24 39.8			1.4	20	
03	03	LPB	i	47.3					
		PNS	e	25 22.7					
03	03	LPB	PKP	08 24 40			1.0	14	
		PNS	i	47.5				153.9	
03	03	LPB	e	25 30.5					
		PNS	P	11 07 30.5			0.4	4	
03	03	LPB	S	08 12.6					
		PNS	P	11 07 26.7			0.7	28	
03	03	USCGS 12 25 14.2, 19.6S, 122.0E, h = 40 km., m = 4.8 PHILIPPINE IS REG							
		LPB	ePKP	12 45 09					169.6
03	03	PNS	ePKP	12 45 10.2					
		LPB	e	33					
03	03	PNS	P	16 55 09.7			0.6	4	
		LPB	S	35.6					
03	03	LPB	P	17 36 13					
		PNS	P	17 36 15			0.8	3	
03	03	USCGS 18 11 01.6, 16.0N, 123.2E, h = 35 km., m = 5.1 PHILIPPINE IS REG							

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT		LPB	ePKP	18 31 11				168.7	
		PNS	ePKP	18 31 11.4					
	03	LPB	eP	18 37 24					
		PNS	eP	18 37 28					
			eS	38 05					
	03	PNS	P	18 40 21.2					
		LPB	eP	18 40 34					
	03	PNS	eP	19 08 54.3		0.8	3		
		LPB	eP	19 08 55.0					
	03	LPB	P	19 09 16.2		0.8	15		
		PNS	P	19 09 20		0.6	6		
			eS	10 45.6					
	03	PNS	iP	19 14 40.7	C				
			eS	15 36					
		LPB	P	19 14 46	C	0.5	45		
	03	LPB	P	21 21 46.7		0.9	14		
			S	22 24.2					
	03	LPB	eP	21 37 39.5					
		PNS	eP	21 37 41					
	03	LPB	P	22 12 35.6		0.5	11		
	03	LPB	P	22 28 25.2		1.0	18		
			S	29 04.5					
		PNS	P	22 28 26.8		0.8	4		
			S	29 04.8					
	03	PNS	P	22 36 15.8		0.6	4		
			S	45.9					
	03	PNS	P	22 49 02.6					
			S	31					
	03	USCGS 23 23 29, 3.8S, 143.3E, h = 49 km., m = 5.0 NEAR N COAST OF NEW GUINEA							
		LPB	ePKP	23 42 51					
		PNS	ePKP	23 42 53					
	04	LPB	eP	00 02 15.5		1.0	7		
		PNS	eP	00 02 16.6					
	04	USCGS 00 40 02.2, 41.7N, 142.8E, h = 54 km., m = 5.0 HOKKAIDO, JAPAN REG							
		LPB	ePKP	00 59 32.5				143.8	
			eL	01 43					
		PNS	ePKP	00 59 32.3		1.5	16		
			eL	01 46					

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT	04	LPB	P	01 40 05.4			1.0	16	
			eS	41 04.2					
		PNS	P	01 40 09.4			0.6	5	
			S	41 12					
	04	PNS	iP	02 29 29.2	C		0.5	9	
			S	56.8					
		LPB	P	02 29 31.7			0.9	20	
			S	30 02					
	04	LPB	eP	03 32 09.5			0.7	8	
	04	PNS	P	03 57 09.8			0.5	9	
			S	33.8					
		LPB	eP	03 57 10.5					
			e	14.8					
			S	42					
	04	LPB	eP	04 01 07					
		PNS	P	04 01 11.5			0.6	3	
			S	36.5					
	04	PNS	eP	04 03 08.1			1.0	5	
		LPB	P	04 03 11.3			0.9	11	
	04	PNS	eP	04 05 00.2					
		LPB	eP	04 05 08					
	04	LPB	eP	04 12 51					
		PNS	P	04 12 57.4			0.9	6	
	04	PNS	iP	04 23 09.4	D				
			S	32					
		LPB	P	04 23 11.2					
			eS	35					
	04	USCGS 04 24 09.8, 40.3N, 143.3E, h = 31 km., m = 4.5 OFF E. COAST OF HONSHU, JAPAN							
		PNS	ePKP	04 43 44.7					
		LPB	ePKP	04 43 47.7			0.7	5	
								144	
	04	PNS	iP	05 57 57.3	D				
			S	58 20					
		LPB	P	05 57 58	D		0.8	9	
	04	USCGS 05 45 35.2, 24.9N, 122.6E, h = 27 km., m = 5.2 TAIWAN REG							
		PNS	ePKP	06 05 40					
			e	06 20					
			ePKP2	45.4					
		LPB	ePKP	06 05 42				167	

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	04	LPB	eP	06 10 31				
		PNS	eP	06 10 31.8				
04		USCGS SOUTH SANDWICH IS	06 04 31.9, 56.2S, 27.0W, h = 63 km., m = 5.9					
		LPB	P	06 13 24		1.0	430	50.1
			PcP	14 43				
			iS	20 27.2				
			ScS	43 02				
			eL	28.2				
		PNS	P	06 13 27.1				
			PcP	14 41.2				
			iS	20 33				
			ScS	23 06.8				
			(L)	28.3				
04		LPB	eP	06 18 24		1.8	309	
		PNS	P	06 18 26.6				
04		PNS	eP	06 42 25.3				
		LPB	eP	06 43 26.5				
04		USCGS BANDA SEA	06 50 50.9, 7.3S, 129.7E, h = 52 km., m = 5.3					
		PNS	PKP	07 10 35.9		1.6	42	
			i	41				
		LPB	PKP	07 10 36		1.0	20	150.3
			i	40.7				
04		LPB	e(P)	07 13 24.5				
04		USCGS TONGA IS REG	07 28 27.1, 17.4S, 172.8W, h = 33 km., m = 5.0					
		LPB	eP	07 42 04				98.1
		PNS	eP	07 42 06.6		1.4	11	
04		USCGS BANDA SEA	07 27 16.3, 7.6S, 126.3E, h = 32 km., m = 5.8					
		LPB	ePKP	08 47 10		1.3	11	152
		PNS	PKP	07 47 11		1.4	11	
04		LPB	eP	08 07 11				
		PNS	eP	08 07 11.9				
04		LPB	eP	08 08 46		0.8	15	
			iS	09 20				
		PNS	eP	08 08 50.1				
			S	09 27.6				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	04	LPB	eP	08 40 28.5				
			eS	41 04.5				
		PNS	P	08 40 30				
			S	41 11.6				
04		LPB	eP	09 48 35.5				
		PNS	eP	09 48 40				
04		LPB	P	10 17 47.6		1.0	6	
		PNS	P	10 17 50.6		0.9	6	
04		LPB	eP	11 14 33				
		PNS	eP	11 14 36.2		0.8	2	
04		LPB	eP	13 09 29				
		PNS	eP	13 09 31.2		0.6	2	
04		LPB	iP	13 57 43.4	C	0.9	119	
			S	58 08				
		PNS	P	13 57 48.7		0.9	15	
			iS	58 21.9				
04		LPB	eP	14 06 32				
		PNS	eP	14 06 40				
			S	07 13.7				
04		PNS	P	16 42 53.4		0.6	6	
			eS	43 31				
04		PNS	P	18 00 17.4		0.6	2	
		LPB	eP	18 00 19				
04		PNS	eP	18 07 18.2				
			S	46.5				
04		PNS	P	18 32 38.1		0.4	6	
			S	33 00.4				
04		PNS	P	18 42 29.4	D			
			S	54				
		LPB	P	18 42 34.5		0.7	56	
			S	43 02.5				
04		USCGS SALOMON IS	18 37 33.5, 9.2S, 157.9E, h = 33 km., m = 5.3					
		LPB	ePKP	18 56 40.5				
		PNS	ePKP	18 56 40.8				
04		LPB	eP	18 58 46				
		PNS	P	18 58 48.1		0.7	3	
			S	19 00 12				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	04	LPB	eP	19 26 27,				
	04	USCGS 19 11 18.6, 19.5N, 147.1E, h = 41 km., m = 5.0 MARIANA IS RFG						
		PNS	PKP	19 30 57.8		1.6	55	
		LPB	ePKP	19 30 59		1.3	68	146.5
	04	LPB	eP	19 46 38				
		PNS	P	19 46 40		0.9	8	
	04	PNS	P	20 24 39.1		0.5	3	
			S	25 02.2				
	04	LPB	eP	22 25 36				
		PNS	eP	22 25 36.8				
	04	PNS	iP	23 03 01.0	D	0.4	10	
			S	04 05				
		LPB	eP	23 02 57		0.8	13	
	04	PNS	eP	23 30 00.4				
			S	26				
		LPB	eP	23 30 08.5				
	06	PNS	eP	00 50 11.9				
			S	36.5				
		LPB	eP	00 50 17		1.0	10	
	05	PNS	eP	00 52 55.1		1.0	10	
			i	53 00.9				
			eS	40				
			i	54 09.1				
		LPB	P	00 52 55.7	D	1.1	77	
			i	53 04.5				
			eS	44				
	05	LPB	eP	01 58 31.5		0.6	2	
		PNS	eP	01 58 33.7				
	05	PNS	P	02 03 09.4		0.5	7	
			eS	53				
		LPB	iP	02 03 11.8	C	0.8	15	
			eS	43				
	05	LPB	eP	02 39 45.5				
		PNS	eP	02 39 47.6				
	05	PNS	P	02 51 56.5		0.4	4	
			S	21				
		LPB	eP	02 52 03		0.6	7	
			S	31				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	05	USCGS 04 08 57.0, 39.0S, 91.7W, h = 33 km., m = 4.6 WEST CHILE RISE						
		LPB	P	04 15 08			2.2	54
			L	23.7				30.6
		PNS	P	04 15 09.4			1.6	75
			eL	23.4				
	05	LPB	eP	04 18 03.5				
		PNS	P	04 18 03.7		0.9	10	
	05	PNS	P	04 48 50.8		0.8	6	
		LPB	eP	04 48 53.5				
	05	PNS	P	04 57 21.5				
			eS	46.7				
		LPB	P	04 57 27	D	1.0	14	
			S	55				
	05	PNS	P	05 55 46.9		0.9	20	
			S	56 18.7				
		LPB	P	05 55 52.3		0.8	18	
			S	56 25.8				
	05	LPB	eP	07 37 07				
	05	PNS	eP	07 44 58.2		0.5	2	
			eS	45 39				
		LPB	P	07 45 03		1.0	8	
	05	LPB	e(P)	08 45 25.7				
	05	PNS	eP	09 39 38.7				
		LPB	eP	09 39 44				
	05	USCGS 09 23 59.1, 1.5N, 126.3E, h = 33 km., m = 5.2 MOLUCCA PASSAGE						
		LPB	P	09 43 44				150.3
		PNS	ePKP	09 43 47				
	05	PNS	eP	10 45 07				
		LPB	eP	10 45 09.7				
	05	PNS	P	11 01 07.3				
			eS	02 06				
		LPB	eP	11 01 14		1.0	10	
	05	PNS	eP	11 13 41				
		LPB	eP	11 13 47.5				
	05	USCGS 12 26 21.9, 11.0N, 62.5W, h = 98 km., m = 4.5 NEAR COAST OF VENEZUELA						

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT		LPB	eP	12 32 01.8				28
			eL	39				
		PNS	eP	12 32 02.4				
			i	26.9				
05		LPB	eP	12 37 38				
		PNS	eP	12 37 38.8				
05		USCGS 15 12 51.0, 41.7N, 49.5E, h = 56 km., m = 5.1 CASPIAN SEA						
		LPB	ePKP	15 31 42.5				121.5
		PNS	ePKP	15 31 45				
05		LPB	eP	16 37 11				
		PNS	P	16 37 16.4		0.6	4	
			eS	52				
05		LPB	eP	18 15 55.5				
		PNS	eP	18 15 58.2		0.7	3	
05		LPB	P	19 40 26		0.7	16	
		PNS	P	19 40 33.7	C	0.6	10	
			S	41 07.2				
05		PNS	eP	19 54 11				
		LPB	eP	19 54 13.5				
05		PNS	P	20 03 01.5				
			eS	28				
05		LPB	P	21 58 40		0.6	8	
05		PNS	eP	22 22 32.7		1.3	22	
		LPB	eP	22 22 35				
05		PNS	eP	22 54 56				
			eS	55 36.4				
05		LPB	eP	23 49 04.5				
		PNS	P	23 49 04.8				
			S	29				
06		LPB	P	00 45 17.5				
		PNS	P	00 45 18.9		0.9	9	
			eS	46 12				
06		LPB	eP	02 10 27.2				
06		LPB	eP	02 46 43				
		PNS	eP	02 46 46				
			eS	47 41.6				

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	06	LPB	eP	02 10 27.2				
	06	USCGS 02 51 46.1, 15.6S, 173.2W, h = 106 km., m = 5.0 TONGA						
		LPB	eL	03 38				99
		PNS	eL	03 40				
	06	PNS	eP	03 20 05.2				
		LPB	eP	03 20 13			1.0	8
	06	PNS	eP	03 34 43.8			0.7	4
			S	35 19.4				
		LPB	eP	03 34 45				
	06	LPB	eP	04 11 51.7			0.9	5
			S	12 35.2				
		PNS	eP	04 11 54.3				
			i	12 01.6				
			S	41				
	06	PNS	eP	05 20 40				
			e	21 03				
		LPB	eP	05 20 47.2				
	06	USCGS 05 15 11.5, 15.0S, 175.5W, h = 33 km., m = 5.3 TONGA						
		LPB	eP	05 29 04				101.7
			eL	58.2				
		PNS	eP	05 29 05				
			ePP	33 18.8				
			eL	06 02.2				
	06	PNS	P	07 13 37.8				
			S	14 03				
		LPB	eP	07 13 41				
	06	USCGS 07 42 25.2, 10.0N, 93.7E, h = 111 km., m = 5.1 NICOBAR IS REG						
		LPB	PKP	08 02 16.5			1.0	26
			i	58.7				161.1
		PNS	PKP	08 02 16.4			1.5	16
			i	03 00.8				
	06	PNS	P	08 12 08.3				
			S	33				
		LPB	eP	08 12 13				
	06	PNS	eP	08 17 11.6				
			S	36.5				
		LPB	eP	08 17 17.5				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	06	USCGS SAMOA IS REG	08 47	02.0, 14.7S, 175.6W, h = 35 km., m = 5.4				
		PNS	eP	09 00 51				
			PP	04 51				
			SKS	11 46				
			SS	19 44				
			eG	28.1				
			eL	34.1				100.7
		LPB	eP	09 00 54.5				
			e	12 00				
			SS	10 45				
			eL	35				
	06	LPB	eP	09 13 09		1.0	8	
		PNS	eP	09 13 10.8				
	06	USCGS SAMOA IS REG	09 15	01.1, 14.8S, 175.1W, h = 33 km., m = 5.0				
		PNS	eP	09 28 49				100.8
		LPB	eP	09 28 51				
	06	USCGS MARIANA IS REG	09 32	10.4, 17.0N, 147.3E, h = 39 km., m = 4.5				
		PNS	ePKP	09 51 50				146.2
		LPB	ePKP	09 51 51				
	06	PNS	eP	10 22 00				
			S	24.2				
	06	PNS	eP	12 05 22		1.2	12	
		LPB	eP	12 05 34				
	06	PNS	P	13 28 24				
			eS	46.9				
	06	LPB	eP	14 10 24.5				
	06	LPB	eP	14 40 07.5				
		PNS	eP	14 41 09		1.2	7	
	06	LPB	eP	14 45 33.5				
			S	46 18				
	06	LPB	eP	16 09 38				
		PNS	eP	16 09 44				
			S	10 08.6				
	06	PNS	eP	16 46 12.2				
			eS	36				
		LPB	eP	16 46 17.7		0.9	10	
	06	PNS	eP	18 15 08				
		LPB	eP	18 15 12				
	06	LPB	eP	19 45 27.7				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	06	USCGS SOUTH OF HONSHU, JAPAN	19 40	26.2, 31.7N, 140.2E, h = 109 km., m = 5.2				
		PNS	PKP	20 00 07		1.4	64	
			I	32.0				
	06	PNS	P	23 56 49.8		0.5	8	
			L	00 14.9				
		LPB	P	23 56 51.2		0.9	20	
	06	USCGS BISMARCK SEA	00 24	13.0, 3.2S, 146.1E, h = 19 km., m = 5.0				
		PNS	ePKP	00 43 46		0.8	4	
			eL	01 30.7				
		LPB	ePKP	00 43 49				140.5
			eL	01 30				
	07	PNS	eP	03 34 04.4				
	07	PNS	P	04 50 10.9		1.0	5	
	07	PNS	IP	05 31 36.8	D	0.4	7	
			IS	59.6				
	07	PNS	eP	07 17 44.4				
	07	PNS	P	09 15 47.7		1.3	11	
	07	PNS	P	09 20 40.6		1.3	11	
	07	USCGS CHILE-BOLIVIA BOR REG	09 59	22.7, 21.9S, 67.3W, h = 187 km., m = 4.1				
		PNS	IP	10 00 49	C			
			S	01 54				
	07	PNS	P	10 56 04.8				
			S	27.8				
	07	USCGS NR COAST OF CHIAPAS, MEXICO	13 44	10.4, 14.7N, 93.8W, h = 33 km., m = 4.4				
		PNS	P	13 51 43.2		1.2	9	
	07	PNS	eP	14 02 37		1.0	5	
	07	PNS	P	15 00 41.7		0.8	9	
			eS	01 25.8				
	07	PNS	eP	16 38 05.4		0.6	4	
	07	PNS	P	17 24 48		0.8	4	
			eS	25 19.8				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT	07	PNS	eP eS	18 59 49.4 19 00 13.2					
	07	USCGS 19 20 20.3, 26.3N, 140.6E, h = 516 km., m = 6.1 BONIN IS REG							
		PNS	PKP	19 39 11.4	D				
			iPP	48 20					
			SKS	49 12					
			eL	20 02.2					
		LPB	P	19 39 12.4	D	1.3	110	151.1	
			iPP	41 21					
			SKS	49 09					
			L	20 02					
	07	USCGS 19 47 02.7, 26.3N, 140.8E, h = 496 km., m = 4.7 BONIN IS REG							
		LPB	ePKP	20 06 02				151.1	
		PNS	PKP	20 06 02.8					
	07	PNS	P	20 15 54.8		1.5	22		
		LPB	eP	20 15 55					
	07	LPB	eP	20 17 50					
		PNS	eP	20 17 51.6					
	07	USCGS 20 49 01.3, 42.0Nn 142.4E, h = 32 km., m = 5.7 HOKKAIDO, JAPAN REG							
		PNS	ePKP	21 08 31.8					
		LPB	PKP	21 08 35.2				144	
	07	LPB	eP	22 02 02					
		PNS	eP	22 02 02.6					
	07	USCGS 22 32 32.2, 31.0N, 141.2E, h = 33 km., m = 4.5 SOUTH OF HONSHU, JAPAN							
		PNS	PKP	22 52 22.4		0.8	2		
			i	42.4					
		LPB	ePKP	22 52 23.5					
			i	38					
			eL	23 10					
	07	PNS	eP	23 03 17.7					
			eS	42.6					
		LPB	eP	23 03 20.5					
	08	USCGS 23 47 49.6, 15.5N, 146.8E, h = 33 km., m = 5.0 MARIANA IS							
		PNS	PKP	00 07 29.8		1.3	56		
		LPB	PKP	00 07 31.5		1.5	90	146.4	

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT	08	LPB	eP	00 25 06					
		PNS	eP	00 25 07.7		1.0	5		
	08	USCGS 00 50 41.8, 35.6N, 139.8E, h = 76 km., m = 5.3 NR S CST OF HONSHU, JAPAN							
		PNS	PKP	01 10 19.6		1.0	8		
			eL	02 01.3					
		LPB	ePKP	01 10 20.6		0.9	13	165	
	08	LPB	eP	04 24 56.7					
		PNS	eP	04 24 58					
			eS	28 22					
	08	LPB	P	05 41 04.2		0.5	14		
	08	LPB	eP	06 14 16.2					
		PNS	eP	06 14 20					
	08	USCGS 07 43 23.1, 39.9S, 87.7E, h = 33 km., m = 6.0 SOUTHEAST IN RISE							
		LPB	ePKP	08 02 10				119.2	
			i	13 20					
			SS	20 03					
			eL	42					
		PNS	ePKP	08 02 14		1.2	10		
			i	03 38					
			eSKS	09 20					
			SS	20 09					
			eG	36.3					
			L	42.2					
	08	LPB	eP	09 34 52					
			P	09 34 54					
	08	USCGS 10 22 15.8, 7.0N, 72.8W, h = 141 km., m = 3.8 NORTHERN COLOMBIA							
		PNS	eP	10 33 14.8					
		LPB	eP	10 33 15				23.4	
	08	PNS	eP	10 49 58					
		LPB	P	11 01 55		0.7	21		
			eS	33					
		PNS	P	11 02 04.8					
			S	38.4					
	08	LPB	eP	11 29 02					
		PNS	eP	11 29 07.3		1.0	2		



OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	08	PNS	eP	12 08 36.2				
	08	PNS	eP	12 43 56		0.7	3	
		LPB	eP	12 44 04				
	08	LPB	eP	13 07 40				
		PNS	eP	13 07 42				
	08	PNS	eP	13 59 32.7				
	08	LPB	P	14 22 50.7				
			eS	24 03				
		PNS	P	14 22 52.6		0.8	5	
			S	24 06.4				
08		USCGS	14 53 38.5, 23.3S, 66.5W, h = 221 km., m = 5.6					
		JUJUY	PROV., ARGENTINA					
		LPB	iP	14 55 19.3	D	0.5	280	6.6
			S	56 09				
			eL	57.6				
			ScS	15 08 34				
		PNS	iP	14 55 22.6	D			
			S	56 08				
			L	57.5				
			eScS	15 08 34				
08		PNS	eP	16 33 14.6				
			S	38.3				
		LPB	P	16 33 22		1.0	14	
08		PNS	P	16 33 58		0.5	4	
			eS	34 35				
08		LPB	eP	17 03 34				
		PNS	eP	17 03 34.4				
08		PNS	P	17 51 44.7		0.6	6	
			eS	53 00				
		LPB	P	17 51 49.4		0.8	10	
			eS	53 01				
08		LPB	eP	18 12 06				
		PNS	P	18 12 09.2		0.8	7	
08		LPB	eP	18 48 35		1.0	12	
		PNS	P	18 48 37		0.7	8	
08		PNS	P	18 53 46		0.5	5	

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	08	LPB	eP	18 59 22				
		PNS	P	18 59 25.2		0.6	2	
08		PNS	P	19 01 26				
08		LPB	eP	19 03 10				
		PNS	eP	19 03 15.4				
08		PNS	eP	19 31 01.7				
08		PNS	eP	19 36 54				
08		PNS	P	20 51 41.5		0.6	4	
08		PNS	P	22 03 19.7				
		LPB	eP	22 03 20				
08		PNS	P	22 29 20				
			eS	47.8				
08		PNS	iP	23 36 08.5	D			
			S	31.8				
		LPB	iP	23 36 11.2		1.0	44	
			S	37.7				
09		PNS	P	00 46 35.8		1.0	9	
			S	47 16				
		LPB	eP	00 46 36		0.8	6	
			S	47 10				
09		PNS	eP	00 56 34.9		0.6	7	
			S	57 01				
		LPB	eP	00 56 37				
			S	57 02.5				
09		USCGS	00 38 39.2, 12.4N, 143.7E, h = 33 km., m = 5.1					
		SOUTH	OF MARIANA IS					
		PNS	ePKP	00 58 28				
		LPB	ePKP	00 58 28				148.5
09		USCGS	03 38 39.9, 14.7S, 175.5W, h = 11 km., m = 5.2					
		SAMOA	IS RFG					
		LPB	eP	03 52 30				101.7
			eL	04 26.6				
09		LPB	eP	05 48 41				
09		LPB	eP	08 45 57.2				
09		LPB	eP	10 27 38				





OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT	09	USCGS 11 45 51.6, 14.8N, 98.7W, h = 9 km., m = 5.1 OFF COAST OF OAXACA, MEXICO							
		LPB	eP	11 53 48				42.1	
			eL	12 08					
		PNS	eL	12 08.5					
	09	LPB	eP	13 39 00					
		PNS	eP	13 38 58					
	09	PNS	eP	13 44 42.7					
			S	45 21.6					
	09	PNS	eP	14 21 21					
	09	PNS	eP	14 32 54.3		1.0	7		
		LPB	eP	14 32 56					
	09	LPB	eP	14 35 09.5					
		PNS	P	14 35 14.6		1.2	11		
	09	PNS	eP	15 59 24					
	09	LPB	eP	16 18 10.3					
		PNS	eP	16 18 12					
	09	USCGS 17 10 37.2, 15.0S, 175.5W, h = 33 km., m = 5.0 TONGA IS							
		LPB	eL	17 58				101.7	
		PNS	eL	17 58.3					
	09	USCGS 18 13 12.8, 35.0S, 70.3W, h = 103 km., m = 4.2 CHILE-ARGENTINA BORDER REG							
		PNS	eP	18 17 27.3		0.9	4		
		LPB	eP	18 17 30		1.0	12	18.4	
	09	LPB	eP	08 29 52					
			S	30 17.8					
		PNS	eP	18 29 51.2					
			eS	30 13.1					
	09	PNS	P	18 49 46.6		0.6	4		
	09	PNS	eP	19 25 20					
			e(S)	26 05					
	09	LPB	eP	19 54 38					
		PNS	eP	19 54 43					

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT	09	PNS	P	22 39 20		0.6	5		
			S	42					
	09	PNS	P	23 24 59.3		0.6	5		
			S	25 35.7					
		LPB	eP	23 25 05.2					
	09	LPB	eP	23 34 45.7		0.8	9		
	10	LPB	eP	00 29 57					
		PNS	P	00 29 57.4		1.2	12		
	10	LPB	eP	01 25 44.5					
		PNS	eP	01 25 50.6					
	10	USCGS 01 41 01.0, 10.7N, 63.2W, h = 26 km., m = 4.8 NEAR COAST OF VENEZUELA							
		PNS	P	01 46 45.9		1.0	12		
			L	55.4					
		LPB	P	01 46 47.2	D	0.8	19	27.8	
			e	52 46					
			eL	55					
	10	LPB	eP	03 40 37.5					
		PNS	eP	03 40 42.6					
	10	PNS	eP	04 01 08.5					
			S	02 18					
		LPB	eP	04 01 10					
	10	PNS	P	04 30 09.5		0.8	4		
		LPB	eP	04 30 11					
	10	LPB	P	04 37 38.8		1.0	10		
		PNS	P	04 37 44.6	D	0.9	6		
			S	39 00.4					
	10	USCGS 08 51 49.4, 28.0S, 71.6W, h = 33 km., m = 4.4 NEAR COAST OF CENTRAL CHILE							
		LPB	eP	08 54 40		0.8	5	11.7	
		PNS	eP	08 54 40.5		0.8	4		
	10	LPB	e(P)	13 41 43.8					
	10	PNS	P	14 36 00.6		0.4	7		
			eS	26					
	10	USCGS 15 24 46.1, 6.0S, 148.6E, h = 72 km., m = 5.0 NEW BRITAIN REG							

## OCTOBER



MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT		LPB	ePKP	15 24 41				127.8
		i		25 10				
		PKS		28 32				
		L		16 10.7				
		PNS	ePKP	15 24 41.3				
		PPKP		51				
		i		25 11.4				
		PKS		28 31.6				
		L		16 10.4				
10		USCGS 16 14 38.2, 6.2S, 148.6E, h = 74 km., m = 5.0 NEW BRITAIN REG						
		PNS	PKP	16 33 45		0.9	7	
		PPKP		57.5				
		eL		17 10				
		LPB	PKP	16 33 47.7				127.8
		PPKP		57				
		eL		17 11.3				
10		PNS	P	16 36 08.4		0.6	9	
		eS		44 08				
		LPB	eP	16 36 09				
10		LPB	eP	16 37 27				
		PNS	eP	16 37 27.4		0.8	10	
10		LPB	eP	17 27 08				
		PNS	eP	17 27 11.3				
10		LPB	eP	19 18 59				
		PNS	P	19 19 00.0		1.0	7	
10		LPB	eP	19 49 35				
		PNS	P	19 49 38		0.8	5	
10		PNS	P	19 53 08.9		0.7	3	
		LPB	eP	19 53 10				
10		PNS	eP	20 05 06				
10		LPB	P	20 17 23.5		0.8	6	
10		LPB	eP	20 54 45				
		PNS	eP	20 54 47				
10		PNS	eP	21 29 43				
11		USCGS 23 54 56.4, 24.2N, 122.2E, h = 78 km., m = 5.1 TAIWAN REGION						
		PNS	ePKP	00 16 58		1.0	7	
		LPR	ePKP	00 16 59.5		1.0	10	167.4

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	11	LPB	eP	02 26 25			0.6 5	
	11	LPB	P	02 29 56.7			1.0 10	
	11	PNS	eP	02 29 56.9			1.1 10	
	11	USCGS 02 38 21.9, 19.9N, 75.9W, h = 33 km., m = 4.2 CUBA REGION						
		PNS	eP	02 45 25.2				
		eL		03 00.2				
		LPB	P	02 45 30.8			1.1 17	76.9
		eL		03 00.5				
11		PNS	P	02 49 09.1			0.5 3	
		eS		50 15				
		LPB	eP	02 49 13				
11		LPB	P	04 08 54.4				
		PNS	P	04 08 58.4			0.5 2	
11		LPB	eP	07 11 57.5			0.6 3	
		PNS	P	07 12 02.3			0.8 4	
	11	USCGS 07 50 30.7, 22.2S, 69.8W, h = 55 km., m = 4.8 NORTHERN CHILE						
		LPB	P	07 52 01			0.8 150	5.6
		S		53 10				
		eL		55				
		PNS	iP	07 52 02.5	C			
		S		53 13				
		eL		55.5				
11		LPB	eP	08 07 29.2			0.9 10	
11		LPB	eP	08 19 28.4	D		0.9 34	
		PNS	P	08 19 30.2	C		0.9 17	
11		LPB	P	09 22 51.6				
		eL		35				
		PNS	P	09 22 53			0.8 6	
		i		59.9				
		L		34.3				
11		PNS	P	09 31 24.6			0.8 4	
		LPB	P	09 31 25			0.8 7	
11		PNS	eP	09 48 04				
		LPB	eP	09 47 07				
11		LPB	P	09 59 11				
		PNS	P	09 59 11.2				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	11	PNS LPB	eP eP	10 10 27.7 10 10 29				
	11	PNS S	eP S	11 34 03 44.4				
	11	LPB PNS	eP P	13 06 18 13 06 19		0.6	3	
	11	PNS LPB	eP eP	13 55 40.8 13 55 42		0.6	14	
	11	PNS LPB	eP eP	14 19 29 14 19 32				
	11	USCGS 14 18 00.2, 25.9S, 68.9W, h = 114 km., m = 4.6 CHILE-ARGENTINA BOR REG						
		LPR PNS	P P	14 20 12 14 20 15.3		0.8 0.6	10 12	9.1
			i	21 05.6				
	11	PNS S	P S	15 14 57.8 19.9		0.4	1	
	11	PNS LPB	eP eL eP	15 19 46.6 56.5 15 19 49.5 56				
	11	LPB PNS	eP S iP iS	15 20 09 29.5 15 21 13.9 26.2	D	0.4	9	
	11	LPB PNS	eP P	16 42 22 16 42 18		0.6	5	
	11	PNS LPB	eP eL eP eL	18 33 35 39.4 18 33 39 39				
	11	PNS	P S	18 50 59.5 51 21.5		0.7	12	
	11	USCGS 19 19 29.3, 10.7N, 62.6W, h = 97 km., m = 4.8 NEAR COAST OF VENEZUELA						
		LPR PNS	eP eP	19 25 08 19 25 10				27.9

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	11	USCGS 19 17 39.9, 20.9S, 178.8W, h = 607 km., m = 5.7 WEST OF TONGA IS						
		PNS LPB	eP eP	19 30 31 19 30 33				102.6
	11	LPB	eP i S	19 44 54.6 45 00.2 39		0.6	9	
	11	LPB PNS	eP S P S	21 12 24 13 42 21 12 25.6 13 44.6		0.6	12	
	11	LPB	eP	22 34 33		0.5	14	
	11	LPB PNS	e(P) eL eL	23 48 41 24 21 24 21.1				
	12	PNS LPB	eP eP	00 29 05 00 28 05.5		0.7	3	
	12	LPB	eP	01 05 15.2		0.7	6	
	12	USCGS 02 11 57.9, 6.9N, 72.8W, h = 190 km., m = 4.6 NORTHERN COLOMBIA						
		PNS	P i eS	02 24 51.5 25 24.9 28 52.8		0.7	21	
		LPB	P e S eL	02 24 54.5 25 28 28 56.7 32		0.9	13	23.4
	12	PNS LPB	eP S eP	03 17 04.7 18 19 03 17 05		0.6	5	
	12	LPB PNS	eP P e	03 58 57 03 58 58.4 59 05.3		1.0	6	
	12	LPB PNS	P S P S	04 45 05.0 46 30.3 04 45 09.0 46 36.3		0.7 0.6	11 11	
	12	PNS LPB	eP S eP	05 06 43.2 07 00.6 05 06 44.5		0.5	3	

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	12	USCGS SOUTH SANDWICH IS REG	05 01 00.6, 58.7S, 25.3W, h = 33km., m = 4.1					
		LPB	eP	05 10 10				52.4
		PNS	eP	05 10 14.6				
	12	LPB	eP	05 57 01.8		1.0	8	
			e	14.5				
			eL	06 39				
		PNS	eP	05 57 06.4				
			eL	06 40				
	12	LPB	eP	06 56 48				
		PNS	eP	06 56 48.2				
	12	USCGS ECUADOR	07 54 37.8, 1.6S, 77.6W, h = 185 km., m = 4.4					
		PNS	P	07 58 29.1				
			S	08 01 42				
		LPB	P	07 58 33.8	D	1.0	78	16.9
	12	USCGS LUZON, PHILIPPINE IS	08 00 05.1, 18.9N, 207.E, h = 26 km., m = 4.9					
		PNS	PKP	08 20 16		1.2	14	
		LPB	PKP	08 20 16.2		1.0	8	171
	12	PNS	eP	09 42 13				
			e	43 30				
		LPB	eP	09 42 16				
	12	PNS	eP	09 44 50				
	12	PNS	eP	10 01 48.4				
		LPB	eP	10 01 51				
	12	PNS	P	10 24 34.6		0.4	5	
	12	LPB	eP	11 28 54.2		0.5	11	
	12	LPB	eP	12 09 56				
		PNS	P	12 09 57.5		0.8	8	
	12	LPB	eP	12 19 45.5		0.9	17	
		PNS	P	12 19 47.9		0.6	6	
	12	USCGS KYUKYU ISLAND	12 14 34.0, 29.6N, 129.2E, h = 27 km., m = 5.0					
		PNS	PKP	12 34 35.5		1.0	8	
			i	35 09.8				
			eL	13 32.6				
		LPB	ePKP	12 34 35.7				159.3
			e	35 10				
			eL	13 30				

## OCTOBER



From the ISC collection scanned by SISMOS

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	12	PNS	P	13 44 47.9			0.6	5
			S	45 10				
		LPB	eP	13 44 50				
	12	LPB	P	13 54 26	C		0.9	106
			S	55 25.3				
		PNS	iP	13 54 29.6	C			
			eS	55 28				
	12	PNS	eP	15 00 37.6				
		LPB	eP	15 00 40				
	12	PNS	eP	15 17 02.3				
			eS	18 00.7				
		LPB	eP	15 17 10				
	12	PNS	eP	15 58 46.6				
	12	PNS	P	16 35 39.2			0.8	16
			eS	36 16.4				
		LPB	eP	16 35 44.5			0.9	20
	12	LPB	eP	16 49 04				
		PNS	eP	16 49 04.6				
	12	PNS	eP	17 17 13				
	12	PNS	eP	18 09 06.1			0.6	7
			eL	44.2				
		LPB	P	18 09 07	C		0.8	15
			eL	44				
	12	LPB	eP	19 30 31.5				
			S	40 14				
		PNS	eP	19 30 33.6			0.8	4
			S	40 16.6				
			eL	55.1				
	12	PNS	P	19 46 33			1.0	10
			e	57.6				
		LPB	eP	19 46 33.2				
	12	PNS	eP	20 31 27.7				
		LPB	eP	20 31 31				
	12	LPB	eP	21 04 20.7				
		PNS	P	21 04 22.4			0.6	3
	12	PNS	eP	22 12 06				
		LPB	eP	22 12 07				
	12	LPB	P	22 43 10			0.7	16
			i	18.7				
		PNS	P	22 43 11			0.7	8
			i	21.3				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	12	PNS	P eS	23 09 47 10 10.8	D	0.7	14	
	12	USCGS 23 21 32.3, 10.8N, 62.6W, h = 80 km., m = 4.9 NEAR COAST OF VENEZUELA						
		PNS	P eL	23 27 14.9 36.5		1.0	10	
		LPB	P i eL	23 27 16.3 36 30 50		1.2	27	27.9
	12	PNS	P	23 42 37.4		0.9	10	
		LPB	eP	23 42 37.8				
	13	PNS	eP eS	00 44 30 46 49				
		LPB	eP S	00 44 32.8 46 56				
	13	PNS	eP	00 52 25		1.0	10	
		LPB	eP S	00 52 26.6 41				
	13	PNS	P S	01 56 49.6 57 12		0.5	15	
		LPB	eP	01 56 50				
	13	PNS	eP	02 54 50				
		LPB	eP	02 54 55.5				
	13	PNS	P	03 02 17.6		0.8	10	
		LPB	P (S)	03 02 23.3 03 10.2		0.8	4	
	13	USCGS 04 02 14.2, 16.5N, 97.9W, h = 64 km., m = 4.8 OAXACA, MEXICO						
		PNS	eP i eL	04 10 15.4 21 25.5		1.1	9	
		LPB	eP eL	04 10 18 25.6		1.5	27	43.8
	13	LPB	P eS	04 39 21.7 50		0.8	9	
		PNS	P S	04 39 30 40 01.6	C	0.7	15	
	13	LPB	P	05 25 33.2		1.0	24	
		PNS	P	05 25 33.2		0.9	24	
	13	LPB	P	05 40 01.8		0.6	5	

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	13	PNS	iP S	05 58 54.7 59 18	D			
		LPB	iP S	05 58 55.3 59 17	D	0.9	115	
	13	LPB	eP	07 48 25				
		PNS	P	07 48 28.4		0.8	5	
	13	USCGS 08 05 09.3, 30.6S, 178.2W, h = 60 km., m = 4.8 KERMADEC IS						
		LPB	eP	08 18 37				97.7
		PNS	eP	08 18 43				
	13	LPB	eP	08 37 18				
		PNS	eP	08 36 38				
	13	PNS	P S	08 40 15 46.9		0.4	9	
		LPB	eP	08 40 22				
	13	PNS	iP S	10 29 46.2 30 16.9	C			
		LPB	iP S	10 29 50.5 30 24.5		0.8	40	
	13	USCGS 10 23 48.8, 41.6N, 142.6E, h = 40 km., m = 4.6 HOKKAIDO, JAPAN REGION						
		PNS	PKP eL	10 43 13 11 29		0.9	8	
		LPB	ePKP eL	10 43 15.5 11 29		0.9	5	144
	13	USCGS 12 04 38.8, 32.1S, 69.2W, h = 121 km., m = 4.9 MENDOZA PROVINCE, ARGENTINA						
		LPB	P i	12 08 13.7 16.2		1.0	98	15.3
		PNS	P	12 08 16		1.0	40	
	13	PNS	P S	13 18 05 32.5		0.4	3	
	13	PNS	eP eS	13 23 41 24 31.2				
		LPB	eP S	13 23 47 24 34.5		0.8	26	
	13	PNS	eP	14 21 20.3		1.0	6	
	13	PNS	eP	16 56 02.7				
		LPB	eP	16 56 03				

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	13	PNS	eP	20 22 30.9				
		LPB	P	20 22 35.3		0.9	8	
13	PNS	eP	17 16 06					
		S	43					
		LPB	eP	17 16 20.8				
		eS	47					
13	PNS	P	18 19 02.4		0.4	7		
		S	23					
	LPB	eP	18 19 03.5					
13	LPB	eP	19 05 29		0.8	12		
		S	06 11.3					
		PNS	eP	19 05 33				
		S	06 13					
13	PNS	iP	19 53 09.3	D	0.7	14		
		S	32.6					
		LPB	eP	19 23 09.3		0.8	15	
		S	33.6					
13	LPB	eP	20 27 35					
		PNS	P	20 27 39.8		0.8	4	
			S	28 01.8				
13	USCGS PERII	21 34 24.6, 10.0S, 74.8W, h = 33 km., m = 4.5						
13	PNS	P	21 36 32.5		0.8	17		
		PP	50					
		S	38 03					
		eL	38.9					
13	LPB	P	21 36 37		0.8	27	9.0	
		ePP	52.4					
		eL	40					
13	PNS	P	22 05 39		0.9	5		
13	PNS	P	23 27 56.3		0.4	2		
		S	28 28.8					
		LPB	eP	23 27 59				
14	PNS	eP	00 02 27					
	LPB	eP	00 02 28					
14	LPB	eP	02 15 44.5					
14	LPB	eP	02 23 36.5					
		PNS	eP	02 23 36.7				
14	PNS	P	02 28 30.8		0.9	5		
		e(S)	29 24					
		LPB	P	02 28 32.7		0.8	7	

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	14	USCGS 02 58 47.8, 31.5S, 117.0E, h = km., m = 6.0 WESTERN AUSTRALIA						
	PNS	ePKP	03 17 53.0					
		i	18 09.0					
		pP	20 30					
		PKS	21 38.9					
		SKS	25 16.6					
		PS	30 30					
		SS	38 10					
		eL	04 02.2					
		LPB	ePKP	03 17 56.5				131.4
			i	18 08.3				
	PKS	20 31						
	PS	30 36						
	SS	38 12						
	eL	04 02						
14	USCGS 05 22 44.3, 12.6N, 95.2E, h = 33 km., m = 5.5 ANDAMAN IS REG							
	PNS	ePKP	05 42 52.8			1.8	38	
		PKP2	43 39.2					
	LPB	PKP	05 42 54.2			1.5	38	163.3
		PKP2	43 41					
14	USCGS 05 51 42.3, 11.1S, 163.1E, h = 33 km., m = 5.2 SALOMON IS							
	PNS	ePKP	06 10 32.8					
		LPB	ePKP	06 10 36.7		0.8	4	121.9
14	PNS	e(P)	06 45 23					
14	LPB	eP	07 13 10.7					
		PNS	eP	07 13 13				
14	LPB	P	07 32 45.3			1.0	13	
		e	49.6					
		S	33 40					
14	USCGS 07 27 32.5, 22.5N, 144.3E, h = 31 km., m = 4.9 VOLCANO IS REG							
	PNS	ePKP	07 47 16.5					
		LPB	PKP	07 47 17.2		0.9	18	149.1
14	PNS	eP	08 27 13.2					
		LPB	eP	08 27 17.4		1.0	6	
14	LPB	P	08 46 49					
		PNS	eP	08 46 50.9				

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	14	USCGS 09 11 27.5, 38.2N, 142.1E, h = 69 km., m = 5.0 NR CST OF HONSHU, JAPAN						
		PNS	PKP	09 31 01		1.3	53	
			eL	10 16.9				
		LPB	PKP	09 31 02		1.2	59	145.9
			eL	10 17				
	14	PNS	eP	10 13 28		0.9	5	
		LPB	eP	10 13 33.5				
	14	LPB	P	10 42 51.3	D	1.1	29	
		PNS	eP	10 42 52				
	14	PNS	P	12 00 02.5	D	0.7	8	
		LPB	eP	12 00 04				
	14	LPB	P	15 07 47.7	D	0.7	14	
		PNS	P	15 07 48.5		0.6	8	
			i	08 06.0				
	14	USCGS 17 32 37.7, 24.1N, 121.6E, h = 43 km., m = 4.9 TAIWAN						
		LPB	eP	17 52 37				168.3
		PNS	eP	17 52 42				
	14	PNS	P	17 53 48		1.1	16	
			i	54.3				
		LPB	eP	17 53 48.5				
	14	LPB	eP	18 10 51				
		PNS	eP	18 10 58				
			S	11 37.6				
	14	PNS	eP	18 18 57.7		0.8	7	
	14	PNS	P	18 21 40.8		0.6	2	
			S	22 01				
	14	PNS	iP	18 44 30.2	C	0.4	67	
		LPB	P	18 44 35.2		0.5	38	
	14	LPB	eP	19 25 20				
		PNS	eP	19 25 23.2				
	14	LPB	eP	20 29 08				
		PNS	eP	20 29 09.6				
	14	PNS	P	21 16 51.8		0.7	6	
			eS	17 18				
	14	USCGS 21 12 23.6, 13.9N, 89.7W, h = 90 km., m = 4.2						
		PNS	eP	21 19 26.6				

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OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	14	LPB	eP	21 51 19				
		PNS	P	21 51 21.4		0.7	12	
	14	LPB	eP	22 13 41.5				
		PNS	P	22 13 47.5		0.4	2	
			S	14 10.4				
	14	PNS	eP	22 29 26				
		LPB	eP	22 29 28.7		0.7	11	
	14	LPB	eP	22 41 10.5		0.5	11	
		PNS	eP	22 41 16				
	14	PNS	P	23 48 28.6		0.6	6	
			S	52				
	14	PNS	eP	00 13 46				
		LPB	P	00 13 50.2				
	15	PNS	eP	00 30 21				
			e	42.8				
	15	LPB	eP	00 34 07.5				
		PNS	P	00 34 09.7		1.4	24	
	15	PNS	eP	00 52 14				
			eS	46.8				
	15	LPB	eP	00 53 37.5				
			S	54 13				
		PNS	P	00 53 42.9		0.6	6	
			S	54 17.6				
	15	LPB	eP	01 17 40.5		0.8	4	
	15	PNS	eP	02 03 05.4				
	15	USCGS 01 55 16.3, 0.9N, 119.9E, h = 34 km., m = 5.0 NORTHERN CELEBES						
		LPB	PKP	02 15 19.2		1.0	20	162.6
			e	16 08.5				
		PNS	PKP	02 15 19.6		1.4	35	
			e	16 07				
			eL	03 12.3				
	15	USCGS 02 10 34.4, 0.5S, 100.6E, h = 98 km., m = 5.6 SOUTHERN SUMATRA						
		LPB	P	02 30 25.3		1.0	24	
		PNS	PKP	02 30 25.6		1.2	42	
			i	31 08.0				
			e	36.6				
			eL	03 25.4				

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## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	15	PNS LPB	e(P) eP	02 42 08 02 42 11.5				
	15	USCGS 02 53 33.5, 0.8N, 119.9E, h = 13 km., m = 5.3 NORTHERN CELEBES						
		LPB PNS	ePKP ePKP	03 13 38 03 13 38.6		1.6	33	162.6
	15	LPB PNS	eP eP	05 45 18 05 45 20.8				
	15	PNS	eP	06 39 11				
	15	LPB PNS	eP eP	06 45 09 06 45 11				
	15	PNS	eP	07 35 30.6		0.8	4	
	15	PNS LPB	eP P	08 26 32 08 26 36.7		1.2 1.2	11 9	
	15	LPB PNS	eP eP	08 38 45.7 08 38 46.7		0.9 0.8	8 6	
	15	LPB PNS	eP eP	09 33 07 09 33 08				
	15	PNS	eP	09 37 08.2				
	15	LPB PNS	eP eP	09 59 05.5 09 59 06				
	15	LPB PNS	eP eP	10 29 47 10 29 54.2				
	15	PNS	P S	13 28 14 38.5		0.4	3	
	15	PNS	eP	13 38 29.7				
	15	PNS LPB	eP eP	13 42 11 13 42 16				
	15	PNS LPB	P eP	16 03 03.2 16 03 04				
	15	PNS	eP e	16 06 00 12.7		1.0	3	
	15	LPB PNS	eP P	16 25 16.8 16 25 17.8	C	0.7	6	
	15	PNS	P S	16 35 50.1 36 31.8		0.5	3	
		LPB	eP	16 35 55.2				

## OCTOBER



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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	15	LPB	eP	17 44 55.5		0.7	8	
	15	PNS LPB	eP eP	18 07 38 18 07 38.6				
	15	LPB PNS	P P	18 08 20.7 18 08 22.5		1.0 1.2	8 14	
	15	LPB	eP	19 25 34				
	15	PNS	eP eL	19 32 30.8 20 01.7		0.6	4	
		LPB	eP	19 32 34				
	15	PNS LPB	P eP	19 57 23 19 57 26		0.9	3	
	15	LPB	eP i	20 12 03.3 10		0.8	9	
		PNS	eP eS	20 13 01.4 50.8		0.7	4	
	15	USCGS 20 09 08.7, 9.0N, 126.3E, h = 63 km., m = 5.2 MINDANAO, PHILIPPINE IS						
		LPB	PKP eL	20 29 08.2 21 26		1.4	67	164.2
		PNS	PKP i eL	20 29 08.8 30 02.1 21 25.3		1.4	27	
	15	PNS	eP i eL	21 42 10.4 39.8 47.5		1.1	5	
		LPB	eP	21 42 12		1.1	15	
	15	LPB S PNS	P S iP S	23 24 05.7 26 23 24 00.6 23.6	D	0.5	7	
	16	USCGS 00 24 11.1, 40.3S, 73.4W, h = 33 km., m = 4.5 NEAR COAST OF CENTRAL CHILE						
		PNS	P eL	00 29 29 39.6		1.3	14	
		LPB	P eL	00 29 30 39		1.0	14	23.6
	16	PNS LPB	P eL P eL	01 20 38.5 36.7 01 20 38.8 36		1.1 1.0	24 10	



OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	16	USCGS 01 55 32.7, 19.2N, 69.8W, h = 36 km., m = 5.2 DOMINICAN REP. REG						
		PNS	P	02 02 25.2		1.5	20	
			S	08 02.6				
			L	14.1				
		LPB	P	02 02 28		1.0	40	35.7
			S	08 05				
			eL	14.3				
	16	LPB	P	02 48 13.7		0.7	4	
	16	LPB	P	03 25 48.6		1.0	6	
		PNS	eP	03 25 50				
	16	PNS	P	05 43 36.7		0.5	1	
	16	PNS	P	06 09 14.6		0.9	5	
		LPB	P	06 09 18.5		0.7	16	
	16	USCGS 06 08 45.5, 13.9N, 88.3W, h = 16 km., m = 4.3 EL SALVADOR						
		PNS	P	06 15 47		1.0	9	
		LPB	P	06 15 50.5		0.8c	7	36.1
	16	USCGS 07 45 46.8, 29.3N, 129.4E, h = 13 km., m = 5.6 RYUKYU IS						
		PNS	ePKP	08 05 47.6		2.0	37	
			PKP2	06 23.5				
			eSS	30 16				
			eL	09 03.3				
		LPB	ePKP	08 05 48.7				159.5
			PKP2	06 25.2				
			eL	09 03.5				
	16	USCGS 09 58 34.7, 7.7N, 126.8E, h = 97 km., m = 4.8 MINDANAO, PHILIPPINE IS						
		LPB	eP	10 18 30				163
		PNS	ePKP	10 18 31				
	16	LPB	P	11 36 14.7		1.0	14	
		PNS	eP	11 36 15		0.8	6	
			eS	55				
	16	LPB	P	13 31 36.7	C	0.7	23	
			S	32 03				
		PNS	P	13 31 37.2	C	0.5	3	
			S	32 03.2				

OCTOBER



From the ISC collection scanned by SISMOS

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	16	PNS	eP	16 28 58.2				
			eS	29 54.8				
		LPB	eP	16 29 07.7		0.8	5	
			S	45.5				
	16	LPB	eP	16 47 04.5				
		PNS	eP	16 47 08		0.7	2	
	16	PNS	eP	17 06 25				
		LPB	eP	17 06 27.5				
	16	USCGS 17 20 44, 27.2S, 71.4W, h = 9 km., m = 4.5 NR COAST OF NORTHERN CHILE						
		PNS	eP	17 23 24.2				
		LPB	eP	17 23 26				10.8
	16	PNS	P	18 49 59.4		0.5	2	
	16	PNS	eP	19 18 56.8				
			eS	19 40.6				
		LPB	eP	19 19 02				
	16	LPB	eP	19 57 11.7				
		PNS	eP	19 57 14				
	16	LPB	P	20 15 03.8		0.8	28	
			S	16 32.4				
		PNS	P	20 15 04.9	D	0.8	18	
			S	34				
	16	PNS	P	20 22 51.9		0.6	3	
			eS	23 28				
		LPB	eP	20 22 57.5				
	16	LPB	(P)	21 45 21.7		0.4	11	
	16	PNS	eP	23 01 00				
		LPB	eP	23 01 05.6				
	16	LPB	eP	23 03 36.5				
		PNS	P	23 03 40.8	D	0.4	3	
			S	04 02.7				
	16	LPB	eP	23 14 42.5				
		PNS	P	23 14 47.6		0.8	4	
	16	LPB	eP	23 28 17				
		PNS	eP	23 28 21.6		0.6	2	
			e	58				
	16	PNS	eP	23 48 13				
	16	PNS	eP	23 53 50.6				
	17	PNS	eP	00 00 55				
		LPB	eP	00 00 59				
	17	LPB	e(P)	00 13 44.5		1.0	10	

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	17	PNS LPB	eP eP	02 14 02 02 14 06				
	17	LPB PNS	eP eP	02 26 56 02 26 56.4				
	17	LPB PNS	P eP	05 14 30.2 05 14 25		0.6	5	
	17	USCGS 05 09 06.2, 3.8S, 162.2E, h = 22 km., m = 5.3 NEW IRELAND REG						
		PNS	ePKP ePKS PS eSS L	05 28 22.7 32 00 41 15 49 06 06 13.2				
		LPB	PKP PKS eL	05 28 23 31 59 06 14		1.0	6	135
	17	LPB PNS	eP P S	06 53 51 06 53 53 54 15.3		0.5	5	
	17	USCGS 06 53 16.7, 18.7N, 146.4E, h = 70 km., m = 4.9 MARIANA IS						
		PNS	ePKP eL	07 12 53.3 08 02.2		1.2	12	
		LPB	PKP eL	07 12 53.7 08 02		1.0	18	146.7
	17	LPB PNS	eP P	08 01 23 08 01 23.3				
	17	PNS LPB	eP e P S	08 42 40 54.4 08 42 51.4 43 23.7		0.8	7	
	17	LPB PNS	eP eP	10 59 58 11 00 01				
	17	PNS LPB	P eL P	11 51 49.6 12 08.9 11 51 52.7		1.0 0.9	19 30	
	17	LPB PNS	eP eP	12 58 16.7 12 58 18				
	17	LPB PNS	eP P	13 15 41 13 15 43.2		0.8 1.0	13 6	

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	17	PNS LPB	P eP	13 47 57 13 47 58		1.6	17	
	17	PNS LPB	eP eP	15 14 53.3 15 14 55				
	17	LPB PNS	eP P S	15 21 33 15 21 36.9 22 14.2		0.5	7	
	17	LPB PNS	eP P	15 27 20 15 27 23.4		0.8	7	
	17	USCGS 15 40 16, 5.8S, 146.6E, h = 73 km., m = 4.9 EAST NEW GUINEA REG						
		PNS LPB	PKP ePKP	15 59 28.8 15 59 29.8		1.4 1.1	15 15	138.6
	17	LPB PNS	eP eP	16 03 08 16 03 11		1.2	9	
	17	PNS LPB	P eP	16 34 38 16 34 41		0.6	5	
	17	LPB PNS	eL eL	17 17 17 17				
	17	PNS	eP	17 25 06				
	17	USCGS 17 34 51.1, 11.7N, 61.6W, h = 124 km., m = 4.9 WINDWARD IS						
		PNS LPB	P eL P eL	17 40 38.9 55.6 17 40 40.5 55		1.5 1.0	30 26	28.7
	17	LPB PNS	eP eP	17 46 59 17 47 00.4				
	17	PNS	eP	20 53 46				
	17	PNS LPB	eP e(PKP) eL	21 17 03 21 17 21.5 22 10				
	17	PNS LPB	P eP	22 33 04.6 22 33 05.7		0.6	4	
	17	PNS	eP eS	23 39 50 40 32				



## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	17	PNS	eP	23 48 00.6				
			eL	58.9				
		LPB	P	23 48 06		0.9	6	
			eL	58				
18	PNS	eP	00 03 12.2			1.0	5	
		eL	21.8					
	LPB	eP	00 03 15					
		eL	00 02 22					
18	LPB	eP	02 03 08					
	PNS	eP	02 03 09					
			eS	54.5				
18	LPB	eP	02 44 46.3			1.0	6	
	PNS	P	02 44 48.3			1.0	5	
18		USCGS 02 43 49.4, 35.3S, 71.0W, h = 93 km., m = 5.0 CENTRAL CHILE						
		PNS	P	02 48 06.7		0.9	23	
			eS	51 49				
			eL	53.8				
		LPB	P	02 48 07		1.1	50	18.9
			eS	51 44				
			eL	54.3				
18	LPB	P	02 55 53.7			1.0	10	
	PNS	P	02 55 54.5			1.5	15	
18		USCGS 02 47 25.5, 18.9N, 145.3E, h = 225 km., m = 4.8 MARIANA IS						
		LPB	PKP	03 06 43.6		1.1	50	148
			eL	46				
		PNS	PKP	03 06 43.9		1.4	50	
			eL	46.7				
18	LPB	eP	03 31 17					
	PNS	eP	03 31 21					
18	LPB	eP	03 36 21.2					
	PNS	eP	03 36 24.2					
18		USCGS 03 26 20.3, 63.3S, 165.8W, h = 33 km., m = 4.7 SOUTH PACIFIC CORDILLERA						
		PNS	eP	03 38 21.3				
			eL	59.9				
		LPB	eP	03 38 23		1.0	8	78.6
			eL	56.2				
18		USCGS 03 57 50.6, 63.2S, 165.6W, h = 33 km., m = 4.9 SOUTH PACIFIC CORDILLERA						
		LPB	eP	04 09 53		1.0	10	78.6
		PNS	eP	04 09 53.2		1.4	15	
			eL	30.6				
18		LPB	P	06 07 49		1.0	8	

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT		PNS	P	06 07 53.4		0.7	6	
18		USCGS 05 54 05.7, 24.9N, 122.3E, h = 44 km., m = 5.1 TAIWAN REGION						
		PNS	PKP	06 14 10.3		1.3	20	
			i	15 11.2				
		LPB	PKP	06 14 10.8		0.8	13	167.4
18		USCGS 06 15 19.7, 2.6S, 139.1E, h = 15 km., m = 5.3 NR N COAST OF W NEW GUINEA						
		PNS	PKP	06 35 03.8		0.8	11	
		LPB	PKP	06 35 04.3				146.7
18	LPB	eP	06 58 34					
	PNS	P	06 58 36.9					
			e	59 28.6				
18	LPB	eP	07 10 55					
	PNS	eP	07 10 59.4					
18	PNS	eP	07 36 24.8					
		S	54.1					
18	PNS	eP	07 57 14					
	LPB	eP	07 57 15					
18	LPB	eP	08 46 50					
	PNS	P	08 46 52.5			0.6	2	
18	PNS	P	08 53 31.3			0.5	3	
		eS	53.8					
18	LPB	eP	09 12 31.8					
	PNS	eP	09 12 38.6			1.0	6	
			eL	32				
18	PNS	eP	09 55 52					
	LPB	P	09 55 59					
18	LPB	eP	10 00 35.3			0.9	11	
18		USCGS 09 57 05.8, 62.0N, 142.3E, h = 75 km., m = 4.7 HOKKAIDO, JAPAN REG						
		PNS	ePKP	10 16 28				
		LPB	ePKP	10 16 32				144
18	LPB	eP	11 26 09					
	PNS	eP	11 26 13.7					
18		USCGS 11 20 55.0, 1.2N, 126.6E, h = 11 km., m = 5.3 MOLUCCA PASSAGE						

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT		LPB PNS	ePKP ePKP e	11 40 38.5 11 40 40 41 33				147.6
18		LPB PNS	eP P S	12 06 09 12 06 11 48.2				
18		LPB PNS	eP eL eP eL	12 46 40 13 06 12 46 41 13 06.5				
18		PNS	P	13 47 12.8				
18		LPB	e(P)	15 59 30				
18		USCGS	15 50 19.9, 47.0S, 10.4W, h = -33 km., m = 4.5 SOUTH ATLANTIC RIDGE					
		LPB	P PS eL	16 00 03 08 13 17		0.9	8	
		PNS	P PS G eL	16 00 03.4 08 08 14.3 17.6				
18		PNS LPB	P eP	17 03 07.9 17 03 08				
18		PNS	eP	19 14 06.7		1.1	6	
18		LPB PNS	eP P	19 29 24.6 19 29 30.9		0.8 0.5	10 9	
18		USCGS	19 59 21.3, 4.1S, 80.8W, h = 61 km., m = 4.7 PERU-ECUADOR BORDER REG					
		PNS	P eS eL	20 03 17.9 07 07 09.9		1.0	21	
		LPB	P eS eL	20 03 24.7 07 10.7 10		0.9	12	17.8
18		LPB PNS	eP eP eS	22 03 26 22 03 28 04 10				
18		PNS LPB	P eP	22 30 40 22 30 40.2		0.9 0.7	3 11	

## OCTOBER



MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	19	USCGS 00 20 02.5, 1.5N, 126.1E, h = 20 km., m = 5.3 MOLUCCA PASSAGE						
		PNS LPB	ePKP ePKP	00 40 02.8 00 40 03.2		1.0	5	159
19		USCGS 00 54 58.7, 17.6S, 69.3W, h = 159 km., m = 4.2 PERU-BOLIVIA BORDER REG						
		LPB PNS	iP iS iP iS	00 55 30.7 55 00 55 30.8 54		0.5	448	
19		USCGS 01 16 09.5, 32.7S, 72.0W, h = 35 km., m = 3.9 OFF COAST OF CENTRAL CHILE						
		PNS LPB	eP eP	01 20 00.9 01 20 01.2		0.8 1.0	2 12	16
19		PNS LPB	eP eP	02 08 53 02 08 58				
19		LPB PNS	eP eP	02 30 24 02 30 28				
19		USCGS 02 33 30.9, 37.3N, 73.1E, h = 76 km., m = 4.9 TADZHIC SSR						
		LPB PNS	ePKP eL ePKP eL	02 52 23 46 02 52 25.2 45.2				140
19		LPB	eP	03 04 11				
19		LPB PNS	eP P	05 31 16 05 31 16.8		0.4	2	
19		PNS LPB	iP iP S	06 54 26.6 49 06 54 28.3 52.8	D D	0.9	187	
19		USCGS 07 01 33.4, 37.3N, 73.2E, h = 51 km., m = 5.2 TADZHIC SSR						
		LPB PNS	eP ePKP eL	07 20 58 07 20 59 08 13.4		1.2	8	140
19		LPB PNS	eP eP	07 58 45 07 58 46.4		0.9	3	



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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	19	LPB	eP	09 11 14.8		0.7	7	
OCT	19	LPB	eP	09 44 22				
		PNS	P	09 44 26.4				
OCT	19	LPB	eP	10 01 27				
		PNS	P	10 01 30.3				
			eS	02 05				
19		USCGS	09 52	03.4, 37.5N, 73.3E, h = 33 km., m = 5.4				
		TADZHIK SSR						
		PNS	ePKP	10 11 29.4		1.5	11	
			eL	59.5				
		LPB	PKP	10 11 31.7		1.0	16	139.9
			eL	11 59.7				
19		LPB	eP	10 28 34				
		PNS	eP	10 28 39				
19		PNS	eP	11 53 55				
			eS	54 49.2				
		LPB	eP	11 53 56				
19		LPB	eP	14 38 33				
			S	39 05.5				
		PNS	eP	14 38 39				
			S	39 15.8				
19		LPB	P	14 52 39.2				
		PNS	P	14 52 41.2	C	0.6	6	
			S	54 08				
19		PNS	eP	15 13 58				
		LPB	eP	15 14 00				
19		USCGS	17 28	43.6, 15.2S, 173.3W, h = 33 km., m = 5.2				
		TONGA IS						
		PNS	eP	17 42 26				
		LPB	eP	17 42 29.5				99
19		LPB	P	19 02 51				
			i	03 12				
		PNS	P	19 02 52.4		0.7	6	
19		LPB	eP	19 15 23.5		0.4	8	
		PNS	P	19 15 27.2		0.9	7	
			S	16 51				
19		LPB	eP	20 52 24		0.9	5	
		PNS	eP	20 52 24.8				

OCTUBRE

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	19	USCGS	21 31	43.0, 59.4S, 25.3W, h = 33 km., m = 4.7				
		SOUTH SANDWICH IS	REG					
		PNS	P	21 41 00.9		0.9	6	
			eL	22 01.6				
		LPB	P	21 41 01				53
			eL	22 01				
19		PNS	eP	23 28 34				
		LPB	eP	23 38 34.5				
20		PNS	eP	00 20 56		1.0	6	
		LPB	eP	00 20 57.5		1.1	7	
20		LPB	P	01 31 20		0.9	23	
			S	58				
		PNS	P	01 31 21.7		0.7	7	
20		USCGS	01 27	01.0, 59.4S, 25.2W, h = 33 km., m = 4.6				
		SOUTH SANDWICH IS	REG					
		LPB	eP	01 36 16.5		0.8	6	53
			eL	56				
		PNS	P	01 36 19.3		0.8	5	
			eL	56.2				
20		PNS	P	02 43 31.7		1.3	16	
		LPB	P	02 43 34.5		1.0	12	
			e	47 31				
20		LPB	eP	03 03 15				
		PNS	eP	03 03 15.2				
20		LPB	eP	03 26 05				
			eL	04 00				
		PNS	eP	03 26 09				
			eL	04 00.2				
20		PNS	iP	03 54 55.9	D			
			iS	55 21.3				
		LPB	P	04 54 59.4	D	0.9	54	
			S	55 27.6				
20		PNS	eP	04 52 01.9				
			i	28.5				
			eS	53 54.2				
		LPB	eP	04 52 00				
20		PNS	eP	05 07 46.9				
		LPB	P	05 07 47.4		1.0	6	
20		PNS	eP	05 56 22.7				
		LPB	eP	05 56 25		1.1	7	

OCTOBRE

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	20	LPB PNS	eP eP	07 14 48.4 07 14 52.3		0.6	2	
	20	USCGS 07 08 17.1, 25.0N, 122.5E, h = 15 km., m = 5.4 TAIWAN REG						
		PNS	PKP i L	07 28 24.2 29 33 08 25.1		1.6	32	
		LPB	PKP eL	07 28 25.4 08 29		1.2	31	167
	20	LPB	eP	07 38 10.7				
	20	PNS LPB	eP P	07 54 55.3 07 54 57.5		1.4 0.9	7 6	
	20	PNS LPB	eP eP	08 26 03.4 08 26 10				
	20	PNS LPB	P S P	08 33 40 34 26 08 33 49				
	20	LPB PNS	eP e(P)	10 46 21 10 46 22				
	20	LPB PNS	P P S	11 26 23.6 11 21 26.8 22 21	C C	0.7 0.7	28 24	
	20	PNS LPB	P eP	11 29 20.5 11 29 23.8		1.0	5	
	20	USCGS 12 21 47.2, 40.3N, 144.2E, h = 15 km., m = 4.9 OFF E CST OF HONSHU, JAPAN						
		PNS	ePKP eL	12 41 14.6 13 33.5				
		LPB	ePKP eL	12 41 16 13 37.7		1.3	38	
	20	USCGS 13 37 36.4, 55.8S, 25.8W, h = 33 km., m = 4.7 SOUTH SANDWICH IS REG						
		PNS LPB	P eP	13 46 37.6 13 46 34.5		1.5	28	50
	20	PNS LPB	P S eP	15 14 37.6 15 24.8 15 14 41		0.9	3	
	20	USCGS 17 03 58.7, 35.4S, 15.9W, h = 33 km., m = 5.0 TRISTAN DA CUNHA REGION						

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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT		LPB PNS	P eS eL P S eL	17 12 51.2 20 04 26.8 17 12 53.7 20 10 26.9		0.9 1.3	25 22	50
	20	PNS LPB	eP eP	17 47 54 17 47 55				
	20	LPB PNS	eP P S	18 28 57 18 28 59.7 29 25.4		0.6	7	
	20	LPB PNS	eP eL eP L	18 56 44 19 01.5 18 56 47.6 19 01.6		1.0	4	
	20	PNS	P	20 43 18.1	C	0.8	5	
	20	USCGS 21 54 31.6, 9.9N, 61.8W, h = 48 km., m = 4.2 NEAR COAST OF VENEZUELA						
		PNS LPB	eP eP	22 00 10.8 22 00 11				27
	20	PNS LPB	P eP	22 37 01.5 22 37 04.8		0.7	2	
	20	LPB PNS	eP P	23 28 17.5 23 28 21.4		0.6	3	
	20	PNS LPB	P S eP	23 52 52.9 53 15.2 23 52 54	D	0.4	7	
	21	LPB PNS	eP P	00 28 46.4 00 28 47.3		0.8 0.5	7 2	
	21	PNS LPB	eP P	01 33 41.4 01 33 43.6		1.0 0.8	7 5	
	21	LPB PNS	eP eP	05 51 54 05 52 00.9				
	21	USCGS 07 54 38.4, 59.4S, 25.3W, h = 33 km., m = 4.6 SOUTH SANDWICH IS REG						
		LPB PNS	P eL P eL	08 03 52.7 24 08 03 56.5 23.8		0.8 0.7	9 6	53

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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	21	LPB	eP	10 48 31.7		0.7	4	
	21	LPB	eP	11 36 00.5		0.8	10	
		PNS	P	11 36 02		0.7	5	
			eS	47				
	21	USCGS 14 03 37.3, 6.5N, 76.5W, h = 24 km., m = 4.7 NORTHERN COLOMBIA						
		PNS	P	14 08 50.5		0.7	3	
		LPB	P	14 08 56		0.9	13	24
			eL	14 14				
	21	LPB	P	15 08 19.5		1.0	10	
		PNS	P	15 08 23.5		1.0	5	
	21	LPR	eP	15 11 07				
		PNS	eP	15 11 04.9				
	21	LPB	eP	16 21 13.5				
		PNS	P	16 21 17.3		0.4	6	
	21	LPR	eP	16 37 24.5				
		PNS	P	16 37 33.6		1.0	4	
	21	PNS	P	16 39 09.3		0.5	4	
		LPB	eP	16 39 12				
	21	PNS	eP	16 56 26				
	21	PNS	P	17 20 19.3		1.0	5	
		LPB	eP	17 20 19.4				
	21	LPB	eP	18 00 52.5				
		PNS	P	18 00 52.8		0.6	2	
			i	01 15.0				
	21	LPB	eP	18 35 49		0.9	10	
	21	PNS	P	19 56 56.8		0.8	3	
		LPB	eP	19 57 00				
	21	LPR	eP	20 58 16.2				
		PNS	eP	20 58 17.9		0.9	3	
	21	LPR	eP	21 59 45				
		S		22 00 10				
		PNS	eP	21 59 52				
			eS	22 00 30				
	21	PNS	P	22 28 10.6		0.6	9	
		S		29 18				
		LPB	eP	22 28 17		0.9	13	
			eS	29 24				

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	21	PNS	P	23 31 51		0.7	2	
	21	LPB	P	23 33 53.2		1.0	12	
		PNS	P	23 33 54.3		1.0	4	
			eL	54				
	22	LPB	eP	01 38 41				
		PNS	eP	01 38 48.4				
	22	PNS	eP	01 55 37.5				
		S		56 01.2				
		LPB	eP	01 55 39.5				
	22	PNS	e(P)	01 58 54				
	22	USCGS 05 30 20, 32.9S, 72.0W, h = 85 km., m = 3.8 NEAR COAST OF CENTRAL CHILE						
		LPB	eP	05 34 10.5		0.8	4	17
		PNS	eP	05 34 13.2				
	22	USCGS 05 49 12.8, 6.8N, 72.9W, h = 161 km., m = 4.1 NORTHERN COLOMBIA						
		PNS	eP	05 54 08.6				
		i		41.8				
		LPB	eP	05 54 12				23
		e		45.2				
	22	USCGS 06 42 01.5, 13.2N, 88.2W, h = 64 km., m = 4.7 EL SALVADOR						
		PNS	P	06 48 52.6		1.2	18	
			eL	07 01.2				
		LPB	P	06 48 55.5		0.9	15	36
			eL	07 01				
	22	USCGS 07 45 56.1, 4.4S, 104.9W, h = 33 km., m = 4.7 N EASTER IS CORDILLERA						
		PNS	P	07 53 10.4		1.5	14	
		ePP		54 39.8				
		S		59 07				
		SS		08 01 43				
		L		04.4				
		LPB	eP	07 53 13				38
		PP		54 42				
		S		59 12				
		L		04.4				
	22	PNS	eP	08 13 30				
		S		55				
	22	LPB	eP	09 52 45				
			eS	55 02.5				

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	22	PNS	eP	10 09 04.4				
			eS	56				
		LPB	eP	10 09 12				
	22	PNS	eL	10 51.7				
	22	LPB	e(P)	12 51 50.5				
	22	LPB	eP	14 55 53				
		PNS	eP	14 55 57.8				
	22	PNS	eP	15 25 05				
			eL	35.8				
		LPB	eP	15 25 05.5				
	22	USCGS 16 31 29.0, 6.8N, 73.0W, h = 157 km., m = 4.5 NORTHERN COLOMBIA						
		PNS	P	16 36 25.4		0.6	8	
			i	38				
			eS	40 25				
		LPB	P	16 36 29.6		1.0	18	23
			S	40 30.7				
	22	PNS	P	21 51 38.8		0.6	3	
			S	46.9				
	22	PNS	P	23 26 42.5				
			eS	27 09				
		LPB	eP	23 26 46				
	22	LPB	eP	23 37 55		0.6	5	
	23	LPB	eP	01 32 51				
			eL	02 21				
		PNS	P	01 32 52		0.6	3	
			eL	02 21.2				
	23	LPB	eP	01 40 04.5		1.0	10	
		PNS	eP	01 40 06		0.8	4	
	23	PNS	P	01 51 29				
	23	PNS	eP	02 46 55				
		LPB	eP	02 45 56.5				
	23	PNS	P	02 54 09.0		1.0	4	
		LPB	eP	02 54 10				
	23	LPB	P	04 00 25.4		1.1	62	
			S	01 06.7				
		PNS	P	04 00 26.4		0.6	12	
			S	01 10				
	23	PNS	eP	04 39 39.6				
		LPB	eP	04 39 44		0.7	4	
	23	PNS	e(P)	04 54 43				
		LPB	P	04 54 43.3		0.8	6	

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	23	LPB	eP	05 39 05.6		0.8	4	
			eL	06 12.8				
		PNS	e(P)	05 39 06				
			eL	06 12.7				
	23	LPB	P	06 09 43		0.8	7	
			(PP)	53.7				
			eS	11 40.4				
		PNS	P	05 09 44.7		0.6	2	
			i	57.4				
			S	11 44.7				
	23	PNS	e(P)	07 24 21				
			eL	53.4				
		LPB	eP	07 24 23.2				
			eL	53				
	23	LPB	eP	08 20 06.7				
		PNS	P	08 20 01.6		0.6	7	
	23	LPB	P	08 46 34.8		0.9	10	
	23	PNS	P	09 04 35				
			e	05 04				
		LPB	eP	09 04 37				
	23	PNS	P	09 13 11.6				
			S	34				
	23	LPB	eP	09 16 01		0.8	6	
	23	LPB	eP	10 24 31				
		PNS	eP	10 24 33.6		1.3	8	
	23	PNS	eP	11 05 50.4		0.8	5	
			eS	06 31.2				
	23	LPB	P	11 50 21.6		0.8	16	
	23	PNS	P	12 03 04.9		0.7	5	
			eS	37				
		LPB	eP	12 03 07				
	23	LPB	eP	13 35 11.2		0.8	13	
	23	USCGS 13 25 58.9, 9.1S, 112.0E, h = 46 km., m = 5.4 SOUTH OF JAVA						
		PNS	PKP	13 45 51.2		1.0	7	
			eL	14 45				
		LPB	PKP	13 45 51.6		1.1	14	154
			e	58.6				
			eL	14 44				



OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	23	PNS	eP	14 17 25.9				
			S	18 18				
		LPB	eP	13 18 31.5				
			S	18 15.5				
23		PNS	P	17 34 52.2		0.7	4	
			LPB	P	17 34 53			
23		PNS	iP	17 58 59.1	D			
			S	59 22.6				
		LPB	P	17 59 02.2		1.0	20	
			S	28				
23		LPB	eP	19 11 11				
			eL	25				
		PNS	eP	19 11 16.8				
			eL	25				
23		PNS	P	19 28 11.2		0.5	4	
			S	35.3				
23		LPB	eP	20 41 51				
			PNS	eP	20 41 52.6			
			e(S)	45 43				
23		USCGS 21 04 41.3, 3.3S, 143.3E, h = 12km., m = 6.1 NEAR N COAST OF NEW GUINEA						
		PNS	ePKP	21 24 15.7		0.9	20	
			PP	27 26.2				
			SKS	31 03				
			SS	46 16				
			L	22 12				
		LPB	PKP	21 24 17.3		1.0	24	143
			PP	27 26				
			SKS	31 04				
			SS	46 14				
			G	22 02				
			L	125				
23		LPB	eP	21 43 42				
			PNS	eP	21 43 44			
23		PNS	eP	21 49 56.4				
23		PNS	P	21 55 02.3		0.8	4	
			LPB	eP	21 55 06			
23		PNS	eP	22 00 40.4				
			LPB	eP	22 00 42.7			
23		PNS	eP	22 39 14				
23		PNS	eP	22 48 41.4		0.7	2	
			LPB	eP	22 48 46			

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	24	PNS	P	00 58 16.2				
			S	58				
24		USCGS 00 42 21.9, 7.2N, 126.6E, h = 77 km., m = 5.4 MINDANAO, PHILIPPINE IS						
		LPB	PKP	01 02 14		1.7	02	163
			eL	49				
		PNS	PKP	01 02 19.4		1.6	60	
			L	02 01.8				
24		USCGS 01 29 42.6, 19.6S, 68.9W, h = 107 km., m = 5.3 CHILE-BOLIVIA BOR REG						
		LPB	iP	01 30 37.7				
			S	31 08				
		PNS	iP	01 30 39.5	C			
			S	31 13				
			SeS	44 58.2				
24		USCGS 02 02 26.9, 3.5S, 143.6E, h = 40 km., m = 5.3 NEAR N COAST OF NEW GUINEA						
		PNS	PKP	02 21 56.2		0.9	14	
			LPB	PKP	02 21 57.2		0.8	12
24		PNS	eP	02 36 37				
			LPB	eP	02 36 37.7			
24		PNS	eP	03 26 31.8				
			LPB	eP	03 26 33.5		0.9	10
24		LPB	eP	04 44 52.8		0.6	4	
			PNS	eP	04 44 55.6		0.8	3
24		PNS	eP	05 17 23.6				
			LPB	P	05 17 27			
			eS	20 19.3				
24		USCGS 05 07 53.9, 45.6S, 34.1E, h = 33 km., m = 5.3 PRINCE EDWARD IS REG						
		PNS	eP	05 20 33.2				
			S	30 05				
			SeS	30 06				
			eL	49.6				
		LPB	eP	05 20 33				86
			e	31 22				
			L	49.5				
24		LPB	eP	05 32 14.4				
24		PNS	eP	05 44 30				
			LPB	eP	05 44 34			

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	24	PNS	eP	06 51 40.4				
		LPB	eP	06 51 48.8				
24	PNS	eP	07 21 06					
		LPB	eP	07 21 08.5				
24	PNS	P	07 28 42.7	D	0.7	6		
		eS	29 05					
24	LPB	eP	09 52 32		1.0	12		
		PNS	P	09 52 32.8		1.1	13	
24	LPB	eP	10 03 23.6					
		PNS	eP	10 49 52				
24	USCGS 13 58 35.1, 1.5N, 126.4E, h = 47 km., m = 5.4	MOLUCCA PASSAGE						
		LPB	PKP	14 18 33.2		0.8	12	159
		i	19 11					
		eL	15 14					
	PNS	PKP	14 18 33.4					
		i	19 10					
		eL	15 14					
		LPB	eP	16 42 53.5		0.7	6	
24	PNS	P	16 42 58.1					
		S	43 54.4					
24	USCGS 15 51 18.5, 5.9N, 127.0E, h = 70 km., m = 5.4	MINDANAO PHILIPPINE IS						
		LPR	PKP	16 11 14.3		1.4	40	162
		PKP2	12 06.8					
		L	17 10					
	PNS	ePKP	16 11 15.7		2.0	60		
		PKP2	12 09.0					
		eSS	36 56					
		eL	17 09.9					
24	USCGS 17 34 31.3, 30.3S, 68.2W, h = 35 km., m = 5.0	SAN JUAN, PROV ARGENTINA						
		LPB	P	17 37 46.7		0.6	20	13
		i	50.7					
		eL	42					
	PNS	P	17 37 48		1.5	28		
		i	53					
		eS	40 30					
		eL	42.2					
24	LPB	P	20 31 30.6					
		PNS	iP	20 31 34.6	C			
		eS	33 03					

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	24	PNS	eP	20 47 51				
		LPB	eP	20 47 51				
24	PNS	P	21 46 48.4					
		S	47 11					
24	USCGS 20 55 19.3, 6.0N, 127.1E, h = 85 km., m = 5.0	PHILIPPINE IS REG						
		LPB	ePKP	21 15 18.5				162
		eL	22 13					
		PNS	ePKP	21 15 20.4				
		eL	22 14					
		24	USCGS 21 44 46.2, 33.1N, 142.1E, h = 28 km., m = 5.0	OFF E CST OF HONSHU, JAPAN				
		LPB	PKP	22 04 27.2		1.1	30	148
		PNS	PKP	22 04 29.7		1.2	20	
		eL	56					
		24	USCGS 22 35 50.9, 49.7N, 185.8E, h = 35 km., m = 5.5	KURILE ISLANDS				
	PNS	PKP	22 55 01.5					
		i	17.2					
		eL	23 39.6					
		LPB	ePKP	22 55 03.5		1.0	34	131
		i	17.5					
		eL	40					
24	PNS	eP	23 26 15					
		LPB	eP	23 26 17.4				
24	PNS	e(P)	23 31 10					
		LPB	eP	23 31 11				
25	LPB	eP	01 57 48.7		0.8	4		
		25	USCGS 02 22 34.3, 59.8S, 25.6W, h = 33 km., m = 4.5	SOUTH SANDWICH IS REG				
		LPB	eP	02 31 36.6		0.8	9	55
		eL	48					
	PNS	P	02 31 39.8		0.6	3		
		eL	48					
25	LPB	eP	03 29 47					
		25	PNS	P	04 04 16.8		0.5	2
		S	44.6					
		25	PNS	P	04 45 33		0.7	4
		S	56.7					

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	25	LPB	eP	05 24 27.5		0.5	3	
		PNS	P eS	05 24 31.6 54.4				
	25	LPB	P	05 54 30.4		0.7	6	
		PNS	P S	05 54 38 55 00				
	25	LPB	P	06 01 20		1.0	10	
		PNS	P S	06 01 22 02 36.6				
	25	PNS	P	06 06 29.1				
	25	LPB	eP	06 12 06				
		PNS	eP	06 12 07.2				
	25	PNS	P	07 31 05.2		0.6	4	
		LPB	eP eS	07 31 05.5 31.6				
	25	LPB	eP	07 45 35				
		PNS	eL eP eL	08 05.5 07 45 41 08 05.7				
	25	PNS	eP	10 18 01				
		LPB	eP	10 18 03				
	25	USCGS 10 29 24.1, 4.3N, 95.5E, h = 33 km., m = 5.5 NORTHERN SUMATRA						
		LPB	PKP pPKP PKP2	10 49 22.2 40.4 50 02		0.9	10	159
		PNS	eL ePKP PKP PKP2 eL	11 45 10 49 23 41.2 50 04.2 11 45				
	25	PNS	eP	11 02 50.2				
	25	PNS	eP	11 15 34.6				
		LPB	eP	11 15 37				
	25	USCGS 11 38 14.7, 50.5N, 177.4E, h = 23 km., m = 5.1 RAT IS. ALEUTIAN IS						
		PNS	ePKP	11 57 02				118
		LPB	ePKP	11 57 03				

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	25	LPB	eP	12 55 31				
		PNS	P	12 55 32				
	25	PNS	eP	13 01 07		0.7	3	
		LPB	S eP	03 00.8 13 01 08				
			eS	03 03.7				
	25	PNS	P	14 21 38		0.7	7	
			S	59.5				
	25	LPB	eP	15 05 03				
		PNS	P	15 05 03.8				
	25	PNS	eP	15 34 52.8		0.8	3	
	25	USCGS 15 55 11.9, 3.5N, 126.0E, h = 80 km., m = 5.2 TALAUD ISLANDS						
		PNS	PKP	16 15 07.0			1.4	16
		LPB	PKP2 PKP PKP2	50 16 15 08 50.2				
	25	LPB	eP	16 36 42				
		PNS	P S	16 36 43.2 37 09.4				
	25	PNS	eP	17 16 32.4				
		LPB	eP	17 16 34				
	25	LPB	eP	19 10 16.5				
	25	PNS	iP	19 54 38.6		0.5	9.4	
		I B	eP	19 54 43				
	25	PNS	P	20 12 38.2			1.0	5.3
		LPB	eP	20 12 4				
	25	PNS	P	20 21 29		0.6	6	
			S	22 05				
	25	PNS	P	23 28 35.2			1.0	5
		LPB	P	23 28 40				
	26	LPB	eP	00 44 20				
		PNS	eP	00 44 23				
	26	PNS	P	03 30 24.7		0.5	3	
			S	54.2				
	26	LPB	e(P)	04 19 10.6				
		PNS	eP	04 19 19.6				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	26	LPB PNS	P P	04 40 37 04 40 37.8		1.0	5	
	26	PNS LPB	P eP S	08 10 18 13 04 08 10 20 13 03.8				
	26	LPB	P	09 14 37.3		0.5	7	
	26	PNS LPB	P eP	10 05 29 10 05 32				
	26	PNS LPB	eP eP	10 16 05.6 10 16 09.7				
	26	USCGS JAVA	09 58 24.6, 8.9S, 110.9E, h = 52 km., m = 5.0					
		LPB PNS	PKP eL PKP eL	10 18 14.5 11 14.4 10 18 17.6 11 14.9		1.1 1.4	12 16	155
	26	LPB	eP	10 24 07.3				
	26	LPB PNS	eP eP	10 29 12.8 10 29 13.6				
	26	LPB PNS	eP iP	10 33 26.5 10 33 29.8	C C	0.8 0.9	36 29	
	26	LPB PNS	eP P	12 31 20 12 31 25.4				
	26	PNS	P	14 38 14		0.6	3	
	26	PNS	P	14 50 16.3		0.5	2	
	26	PNS LPB	eP eS eP	16 12 15.6 13 31.8 16 12 19		0.8	2	
	26	USCGS HOKKAIDO, JAPAN REG	15 56 27.1, 42.9N, 149.2E, h = 41 km., m = 5.1					
		PNS LPB	ePKP ePKP	16 15 56.7 16 15 57.2		0.8	3	141
	26	PNS LPB	eP eS eP eS	18 32 01.2 59 18 32 07 54		0.6	2	
	26	LPB	iP iS	18 36 38.3 37 10	C	0.8	195	

## OCTOBER



From the ISC collection scanned by SISMOS

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT		PNS	iP S	18 36 38.9 37 11.6				
	26	LPB PNS	P S iP S	19 20 36.7 21 10.2 19 20 38.1 21 10		0.7	24	
	26	LPB PNS	eP eP	19 26 47 19 26 48.6				
	26	PNS LPB	P eP	21 40 01.4 21 40 06		0.7	3	
	26	PNS LPB	P i eL P eL	22 13 14.1 17.8 22 39.4 22 13 14.5 39				
	26	LPB PNS	eP eP S	23 48 24.3 23 48 25 49 14				
	27	USCGS NR NORTH COAST OF COLOMBIA	00 19 28.3, 11.4N, 72.7W, h = 53 km., m = 4.5					
		PNS	P e eL	00 25 15.3 49.6 34.5		0.3	4	
		LPB	P eL	00 25 18.2 35.7		0.8	12	28
	27	LPB	eP	02 29 28.8				
	27	PNS LPB	iP S iP S	04 25 46.2 26 45.8 04 25 47.4 26 39.6	D D	0.9	68	
	27	PNS	P S	08 35 52.8 36 15.2		0.4	1	
	27	LPB PNS	P S P S	08 48 24 49 04 08 48 28 49 10		0.6	3	
	27	LPB PNS	eP P eS	11 05 09.8 11 05 13.6 06 37		0.4	4	
	27	PNS LPB	P eS eP	12 53 16 44 12 53 19	D	0.4	3	

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	27	USCGS 13 11 15.4, 15.1S, 72.4W, h = 133 km., SOUTHERN PERU						
		PNS	iP	13 12 16.3	C			
			S	13 04.7				
		LPB	iP	13 12 22.3	C	0.9	132	4
			S	13 03				
	27	PNS	eP	13 22 52.2				
			S	23 31.9				
	27	PNS	P	13 28 53.5		0.3	2	
			S	29 16				
		LPB	eP	13 28 55.5				
	27	USCGS 13 42 26.1, 5.9N, 125.6E, h = 193 km., 5.5 MINDANAO, PHILIPPINE						
		PNS	PKP	14 02 10.1		1.8	10	
			PKP2	03 01.1				
		LPB	PKP	14 02 10.7		1.4	45	164
			PKP2	03 22				
			eL	15 00.3				
	27	USCGS 14 02 54.1, 16.9S, 70.2W, h = 159 km., m = 4.5 SOUTHERN PERU						
		PNS	iP	14 03 28.9	C			
			S	54				
		LPB	iP	14 03 31.4	C	0.7	236	1.8
			iS	50				
	27	PNS	P	17 52 32		0.6	2	
			eS	53 30				
	27	LPB	eP	17 58 06.5		0.8	15	
		PNS	P	17 58 09.9		1.0	135	
	27	PNS	P	19 09 24.1	C	0.4	3	
			S	45.8				
	27	PNS	P	19 30 29				
			S	32 15				
	27	LPB	P	19 57 45.7		0.8	9	
	27	LPB	P	20 18 50.7		0.8	15	
			i	19 08				
		PNS	P	20 18 55.6		0.9	8	
			i	19 00.9				
	28	LPB	eP	00 28 51				
		PNS	e(P)	00 28 53				

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	28	LPB	P	00 57 37.7		0.7	14	
			S	58 44.7				
		PNS	P	00 57 40.9		0.6	9	
			S	58 50				
	28	USCGS 02 19 54.2, 46.4N, 151.8E, h = 71 km., m = 4.8 KURILE IS						
		PNS	ePKP	02 39 08.6				
		LPB	ePKP	02 39 10				135
	28	PNS	P	02 40 26.7		0.9	24	
		LPB	eP	02 40 30				
	28	PNS	P	02 47 14.6		1.0	14	
		LPB	P	02 47 14.7		0.9	13	
	28	USCGS 02 53 26.8, 24.4S, 66.9W, h = 163 km., m = 5.1 SALTA PROVINCE, ARGENTINA						
		LPB	iP	02 55 22	C	0.9	85	8
			S	56 49				
			eL	58				
		PNS	iP	02 55 25.9	C	1.0	27	
			S	56 54				
			eL	58.8				
	28	LPB	eP	05 40 04.3				
	28	BNS	iP	06 07 02.9	D			
			iS	25.2				
		LPB	P	06 07 05.2				
			S	29.8				
	28	LPB	P	06 34 30.7		0.7	9	
		PNS	P	06 34 34.9	D	0.8	7	
	28	LPB	P	09 09 05.5				
		PNS	P	09 09 07.2		1.0	6	
	28	LPB	P	09 26 06.7				
		PNS	P	09 26 11.3		0.7	5	
	28	PNS	eP	11 57 59				
			S	53 51.8				
		LPB	eP	11 58 03				
	28	LPB	P	13 05 43.4		0.9	23	
		PNS	P	13 05 45.3		0.8	7	
			S	06 30				
	28	LPB	eP	13 54 14				
		PNS	P	13 54 14.8	C	0.4	3	

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	28	USCGS SOUTH OF HONSHU, JAPAN	14 40	41.4, 33.4N, 140.8E, h = 61 km., m = 5.5				
		PNS	PKP	15 00 21.5		1.1	22	
			eL	51.6				
		LPB	PKP	15 00 22.7		0.9	25	149
			i	26.4				
			eL	52				
	28	LPB	eP	15 29 17				
			eS	30 14.5				
		PNS	eP	15 29 17.4				
			eS	30 14				
	28	PNS	eP	15 37 07				
	28	LPB	eP	16 12 31				
		PNS	P	16 12 36.6		0.4	4	
			S	14 04.2				
	28	LPB	eP	16 25 47				
		PNS	eP	16 25 52.6				
	28	PNS	eP	16 28 58.3		1.0	8	
		LPB	eP	16 29 00				
	28	PNS	P	16 38 32.4		0.5	3	
			eS	39 08.2				
	28	LPB	eP	17 15 24				
		PNS	P	17 15 27.5		1.0	10	
	28	PNS	eP	20 17 02.2		0.9	3	
	28	PNS	P	20 21 35.9		0.5	6	
			S	22 10.4				
		LPB	eP	20 21 40.5				
	28	PNS	P	20 23 28.1		0.8	3	
		LPB	eP	20 23 32				
	28	LPB	eP	21 06 05				
		PNS	P	21 06 10.1		0.7	2	
	28	LPB	eP	21 58 22				
			eL	22 12.7				
		PNS	P	21 58 30.7		1.6	17	
			L	22 12.6				
	28	USCGS SANTA CRUZ IS	23 23	28.7, 12.5S, 166.5E, h = 60 kms., m = 5.9				
		LPB	P	23 47 35				119
			ePKP	51 11.5				
			i	14.2				
			PP	52 29				
			PKS	54 42				
			eSKS	58 04				
			PS	24 02 19				

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT			eSS	24 08 42				
			cT	21.2				
			L	29				
		PNS	P	23 47 39				
			ePKP	51 12.2				
			iPP	52 31				
			PKS	54 45				
			eSKS	58 10				
			PS	00 02 16				
			G	31.2				
			L	29				
	29	LPB	P	00 01 29.6		1.1	50	
		PNS	eP	00 01 30.9		1.2	41	
	29	LPB	P	02 27 05		0.7	7	
		PNS	P	02 27 09.4		0.4	3	
	29	PNS	P	02 33 23.5		0.9	16	
		LPB	P	02 33 29.2		0.9	5	
	29	USCGS SOUTH OF HONSHU, JAPAN	04 06	24.1, 31.2N, 141.6E, h = 17 km., m = 5.7				
		PNS	PKP	04 25 51.4		1.6	11	
			i	55				
			eL	05 17.4				
		LPB	PKP	04 25 51.5		1.0	70	149
			i	55.8				
			eL	05 17				
	29	LPB	eP	04 36 55				
		PNS	e(P)	04 36 58				
	29	PNS	P	05 22 11.4		0.5	2	
			eS	35				
		LPB	eP	05 22 13				
	29	USCGS SOUTH OF HONSHU, JAPAN	06 26	52.2, 31.2N, 141.7E, h = 40 km., m = 5.1				
		PNS	PKP	06 46 36.4		1.2	16	
			i	40				
		LPB	PKP	06 46 36.5		1.0	20	149.2
			i	40.6				
	29	USCGS SOUTH OF HONSHU, JAPAN	06 45	15.4, 31.2N, 141.7E, h = 33 km., m = 5.1				
		LPB	PKP	07 05 00.2		1.0	22	149
			i	04.4				
			eL	57.3				

OCTOBER

OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT		PNS	PKP i eL	07 05 00.4 03.9 08 58.2		0.9	10.9		
	29	PNS	eP e	09 02 00 33.6					
	29	PNS LPB	eP e(P)	09 37 00 09 37 01					
	29	PNS LPB	eP eP	09 50 03.4 09 50 02.5		0.9	11		
	29	PNS LPB	P eP	09 54 07.2 09 54 10		0.5	2		
	29	USCGS 09 59 34.8, 24.2S, 66.9W, h = 182 km., m = 4.4 SALTA PROV. ARGENTINA							
		LPB	F S	10 01 26.7 02 57	C	0.7	20	7.9	
		PNS	P eS	10 01 30.1 02 52	C	0.6	25		
	29	PNS LPB	P eP eL	10 13 58.8 10 14 00 11 08		0.8	6		
	20	USCGS 09 59 59.9, 17.3N, 73.9E, h = 1 km., m = 5.4 INDIA							
		PNS	PKP eL	10 19 35.6 11 07.6					
		LPB	eP eL	10 19 37 11 08				143	
	29	USCGS 11 26 51.8, 22.5S, 175.2W, h = 33 km., m = 5.1 TONGA IS REG							
		PNS	eP	11 40 23					
	29	USCGS 11 39 20.2, 22.6S, 174.9W, h = 33 km., m = 5.2 TONGA IS REG							
		PNS	eP	11 52 56.6					
	29	LPB	P	13 02 07.4		0.8	15		
	29	PNS LPB	eP eP	13 04 42.6 13 04 45		1.3	8		
	29	LPB PNS	eP eP	16 45 43.8 16 45 50					
	29	USCGS 17 00 40.4, 1.8N, 126.4E, h = 33 km., m = 5.5 MOLUCCA PASSAGE							
		PNS	ePKP PKP2 ePP	17 20 35.5 21 18.4 24 53					

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	BIST	
OCT			eG L	18 07.2 17.9					
		LPB	PKP PKP2 ePP eL	17 20 39.2 21 19 24 56.5 18 17.8		1.1	25	159	
	29	LPB	iP S	18 23 12 20	C	0.9	221		
		PNS	iP S	18 23 16.2 24 26.4	C				
	29	PNS	P eS	20 43 26.8 53.7		0.6	5		
		LPB	eP	20 43 29					
	29	LPB PNS	eP eP	21 29 55 21 29 58					
	29	PNS	P S	22 23 31.8 54	D	0.5	7		
	29	USCGS 22 16 15.6, 65.4N, 150.1W, h = 7 km., m = 6.0 ALASKA							
		LPB	eP ePP SKS L	22 29 54 34 11 40 51 23 06.5				102	
		PNS	eP ePP SKS PS SS L	22 29 56.4 34 14.6 40 50 43 32 47 52 23 06.6					
	29	PNS	P i	22 52 55.4 53 28.2		0.8	5		
		LPB	eP e	22 53 01.5 32					
	29	LPB PNS	P iP	23 46 54 23 46 58.1		0.7 0.5	15 6		
	30	PNS	eP eS	00 24 11.2 25 37		0.7	4		
	30	USCGS 00 07 16.2, 1.8N, 126.4E, h = 33 km., m = 5.2 MOLUCCA PASSAGE							
		PNS LPB	ePKP ePKP	00 27 16 00 27 18				159	

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT	30	USCGS 00 42 35.5, 6.3S, 103.9E, h = 60 km., m = 5.0 SOUTHWEST OF SUMATRA							
		LPB	ePKP	01 02 42.5				157	
		PNS	ePKP	01 02 43.4					
	30	USCGS 04 07 20.7, 37.4N, 73.2E, h = 12 km., m = 5.5 TADZHIK SSR							
		LPB	ePKP	04 26 50		1.0	6	40	
		PNS	ePKP	04 26 51.7		1.0	5		
	30	PNS	eP	05 12 00.9		1.7	19		
		LPB	eP	05 12 01					
	30	USCGS 05 26 11.5, 59.0S, 25.6W, h = 39 km., m = 4.7 SOUTH SANDWICH IS REG							
		PNS	eP	05 35 25.8		1.3	10		
		LPB	P	05 35 28.4		0.7	5	53	
	30	LPB	eP	06 07 44					
		PNS	eP	06 07 49.8					
	30	PNS	P	06 09 02.3	C				
			S	25.6					
		LPB	e(P)	06 09 09					
			S	31					
	30	LPB	P	06 22 08		0.9	11		
			S	12.8					
		PNS	e(P)	06 22 31		1.0	8		
	30	PNS	eP	09 09 20.6					
		LPB	eP	09 09 28					
	30	PNS	eP	10 08 26.8					
	30	LPB	eP	11 45 12					
		PNS	P	11 45 15		0.8	3		
	30	PNS	eP	12 44 01					
	30	LPB	eP	14 11 49.5					
		PNS	eP	14 11 52.5					
	30	PNS	eP	15 07 51					
			S	08 11					
	30	LPB	eP	15 25 19					
		PNS	eP	15 25 21					

## OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
OCT	30	LPB	eP	15 41 00					
			eL	56.5					
		PNS	P	15 41 01.5		1.0	6		
			e	20					
			eL	56.4					
	30	USCGS 15 56 23.1, 1.4S, 77.3W, h = 163 km., m = 3.9 ECUADOR							
		PNS	P	16 00 16.2	D	0.9	4		
		LPB	eP	16 00 19.5		0.8	12	17	
	30	USCGS 17 00 00.0, 47.9N, 106.6W, h = 0 km., m = 5.0 MONTANA							
		LPB	eL	17 34.8				73	
		PNS	eL	17 38.1					
	30	LPB	iP	19 14 39.7	D	0.6	182		
		PNS	iP	19 14 37.2	D				
			S	59					
	30	LPB	eP	22 01 56.5					
		PNS	eP	22 01 58.8					
	30	PNS	P	22 39 38.2		0.7	4		
			S	40 03.3					
		LPB	eP	22 39 44					
	30	LPB	iP	22 46 52.8	C	0.6	28		
		PNS	iP	22 46 56.8	C	0.5	13		
			S	47 20.8					
	30	PNS	eP	23 05 16		1.0	5		
			eS	07 01					
	30	PNS	e(P)	23 44 02					
		LPB	eP	23 44 10					
	31	LPB	iP	01 22 51.2		0.7	21		
			S	24 14.5					
		PNS	iP	01 22 54.7	C	0.6	16		
			S	24 18.9					
	31	LPB	eP	03 27 39					
		PNS	eP	03 27 41					
	31	USCGS 03 22 15.0, 36.6N, 27.1E, h = 11 km., m = 5.1 DODECANESE IS							
		LPB	eP	03 36 18.5				104	
			eL	04 14					
		PNS	eL	04 16.9					



OCTOBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	31	LBB	eP	03 47 48.5		0.7	5	
			S	48 16.2				
		PNS	P	03 47 55.8		0.6	3	
			S	48 27.8				
	31	LPB	eP	07 59 53				
		PNS	eP	07 59 53				
	31	LPB	eP	07 53 52.5				
	31	LPB	eP	08 57 41				
		PNS	eP	08 57 44				
	31	USCGS 09 15 46.9, 16.3S, 73.3W, h = 67 km., m = 5.7 NEAR COAST OF PERU						
		PNS	P	09 16 59.8	D			
			L	18.9				
		LPB	P	09 17 06.6				5
	31	PNS	P	09 41 37		0.4	3	
			eS	42 40				
		LPB	eP	09 41 39				
	31	LPB	eP	09 55 09.5				
		PNS	e(P)	09 55 11.6				
	31	PNS	P	10 02 51.6				
		LPB	eP	10 02 59				
	31	PNS	eP	10 12 53.5				
		LPB	eP	10 12 54				
	31	LPB	eP	10 15 27				
		PNS	P	10 15 34		0.5	3	
	31	PNS	P	10 47 32.9		0.4	2	
	31	PNS	eP	10 58 43				
		LPB	eP	10 58 46				
	31	PNS	eP	11 13 31.9				
	31	PNS	P	11 18 58.6		0.4	3	
		LPB	eP	11 18 59				
	31	LPB	eP	12 02 58				
		PNS	eP	12 03 03.6				
	31	PNS	P	12 19 46.2				
	31	USCGS 14 30 59.3, 17.9N, 67.6W, h = 46 km., m = 4.7 MONA PASSAGE						

OCTOBER



MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
OCT	31	PNS	P	14 37 42			1.4	6
			eL	52				
		LPB	P	14 37 44			1.2	52
			eL	51.7				34
	31	PNS	P	16 35 48			0.7	5
		LPB	eP	16 40 57				
	31	LPB	P	19 56 15			1.0	30
		PNS	eP	17 17 19				
	31	PNS	P	19 52 16.6				
		LPB	eP	19 52 16.8				
	31	PNS	1P	19 56 14.6	D			
			S	39.5				
		LPB	P	19 56 15			1.0	32
	31	PNS	P	20 58 45			0.3	6
		LPB	eP	20 58 46.5				
	31	PNS	P	21 05 11.4				
		LPB	P	21 05 16.8			0.8	10
	31	LPB	eP	21 31 25.2				
	31	LPB	e(P)	22 23 05.5				
	31	LPB	eP	23 00 49				
		PNS	P	23 00 54.5			0.6	4
	31	PNS	P	23 04 00.5			0.8	7
	31	PNS	P	23 19 46.7			0.8	7
		LPB	eP	23 19 52				
	31	PNS	P	23 24 09.9			1.0	3
			L	32.7				
		LPB	P	23 24 10.7				29
			eS	29 06				
			L	37.7				
	31	PNS	1P	02 55 55.2	D			
			S	55.2				
	31	PNS	P	07 45 50.3				
		LPB	P	07 45 50.3				
	31	USCGS 08 28 59.3, 10.9N, 43.5W, h = 33 km., m = 4.8 NORTH ATLANTIC RIDGE						
		LPB	1P	08 36 55.3	C		1.1	92
			eS	41 50				
			L	48.1				

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV	01	USCGS 00 21 42.8, 0.9S, 13.4W, h = 33 km., m = 5.1 NORTH OF ASCENSION ISLANDS							
		PNS	eP	00 31 20.2					
			eL	52					
		LPB	eP	00 31 26				59	
			eL	51.6					
	01	LPB	P	01 04 40.7		0.9	6		
	01	USCGS 01 32 23.3, 41.6S, 175.0E, h = 29 km., m = 5.5 COOK STRAIT, NEW ZEALAND							
		PNS	eP	01 46 01					
	01	USCGS 03 12 55.4, 1.6N, 126.2E, h = 33 km., m = 5.2 MOLUCCA PASSAGE							
		LPB	ePKP	03 32 48				159	
		PNS	ePKP	03 32 55.6					
	01	PNS	P	03 59 04		0.4	4		
		LPB	eP	03 59 06					
	01	USCGS 03 55 50.3, 18.2N, 105.7W, h = 33 km., m = 4.7 OFF CST OF JALISCO, MEXICO							
		PNS	P	04 04 42.7		1.5	19		
			S	12 05					
			eL	22					
		LPB	P	04 04 48.6		1.1	60	50	
			S	12 06					
			L	22.6					
	01	PNS	eP	04 33 50		0.5	3		
	01	PNS	eP	07 56 37					
		LPB	eP	07 56 43					
	01	LPB	P	08 20 19.5					
		PNS	eP	08 20 20.3					
	01	LPB	eP	09 19 28.5		1.1	7		
		PNS	eP	09 19 30					
	01	PNS	iP	10 25 21.1	C				
			S	49					
		LPB	iP	10 25 24	C	0.8	49		
			S	53.3					
	01	USCGS 10 24 59, 51.0N, 124.2W, h = 33 km., m = 4.5 BRITISH COLUMBIA							

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV		PNS	eP	10 37 25.4					
		LPB	eP	10 37 22				83	
	01	PNS	P	10 39 39.2	C	0.7	12		
			S	40 06.6					
		LPB	P	10 39 40.4					
			S	40 08					
	01	PNS	eP	11 24 41.4					
	01	LPB	eP	12 28 35					
	01	PNS	eP	12 47 00					
		LPB	eP	12 47 07					
	01	LPB	P	13 12 25		0.8	12		
			S	13 15.2					
		PNS	iP	13 12 29	C	0.8	5		
			S	13 23					
	01	USCGS 13 18 47.1, 5.5S, 124.8E, h = 53 km., m = 5.6 BANDA SEA							
		LPB	PKP	13 38 38.6		1.4	45	154	
		PNS	PKP	13 38 39		1.4	22		
			PKP2	39 00.8					
	01	PNS	eP	13 52 06		0.5	3		
	01	USCGS 13 58 12.3, 37.4N, 142.1E, h = 29 km., m = 4.7 OFF E CST OF HONSHU, JAPAN							
		PNS	PKP	14 17 51.5		1.0	7		
		LPB	PKP	14 17 52.7		1.0	8	146	
			eL	07.7					
	01	LPB	eP	18 45 37		0.8	7		
	01	LPB	eP	23 22 06.5					
	02	PNS	eP	00 19 23.2		0.7	6		
		LPB	eP	00 19 26					
	02	LPB	eP	02 12 38					
		PNS	iP	02 12 39.2	D				
			S	13 01.5					
	02	PNS	eP	02 37 02.8		1.5	17		
		LPB	eP	02 37 13					
	02	LPB	P	03 57 02.5					
	02	LPB	eP	07 45 04					
		PNS	P	07 45 08.3		0.6	4		
	02	USCGS 08 28 59.2, 10.9N, 43.5W, h = 33 km., m = 4.8 NORTH ATLANTIC RIDGE							
		LPB	iP	08 36 05.0	C	1.1	92		
			eS	41 50					
			I	46.1					

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV		PNS	iP eL	08 36 05.7 08 46	C	1.0	60		
	02	PNS	iP iS	11 29 04.4 41.4	C				
		LPB	iP iS	11 29 17 46	C				
	02	PNS	eP	13 15 40.5					
	02	USCGS	13 14 57.8, 21.2S, 68.3W, h = 132 km., m = 4.4						
		CHILE	BOLIVIA BOR REG						
		LPB	iP eS	13 16 10.7 17 04	D			5	
		PNS	iP	13 16 12.3	D				
	02	PNS	iP S	14 51 40 52 05.3	D				
		LPB	eP S	14 51 42.5 52 10.5					
	02	LPB	P	18 37 16.6		0.9	62		
		PNS	P	18 37 19.4		0.8	19		
	02	USCGS	22 32 21.7, 1.5N, 126.2E, h = 37 km., m = 5.4						
			MOLUCCA PASSAGE						
		PNS	ePKP	22 52 18.2					
		LPB	ePKP	22 52 22	D	1.0	15	159	
	02	USCGS	23 05 10.6, 5.4S, 124.9E, h = 56 km., m = 5.2						
			BANDA SEA						
		PNS	ePKP	23 24 55					
		LPB	PKP	23 24 58.8	C	1.0	15	154	
	03	USCGS	03 11 09.8, 7.0S, 155.6E, h = 87 km., m = 5.2						
			SALOMON IS						
		PNS	ePKP	03 30 15.8					
		LPB	PKP	03 30 15.6		1.0	10	130	
	03	PNS	eP	04 42 15.9					
		LPB	eP	04 42 18					
	03	USCGS	04 49 31.8, 42.1N, 19.4E, h = 17 km., m = 5.0						
			YUGOSLAVIA						
		LPB	P	05 03 23				99	
		PNS	eP	05 03 23.5					

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV	03	LPB	P L	08 29 43.8 09 05	D	1.2	21		
		PNS	P eL	08 29 44.3 09 05		1.2	14		
	03	LPB	eP P	10 16 27 10 16 33		0.7	8		
	03	LPB	P	11 07 46					
	03	LPB	eP PNS	13 59 09 13 59 14.8		0.5	4		
	03	PNS	eP LPB	15 57 46 15 57 53					
			e(L)	16 15.9					
	03	PNS	P	16 21 20.2		0.5	4		
		LPB	P	16 21 23.5	D	0.9	34		
	03	PNS	eP S	17 35 03 40.8					
	03	PNS	P S	18 19 11.6 39.6	D		13		
	03	USCGS	19 53 22.9, 7.9N, 85.9W, h = 75 km., m = 4.7						
			OFF COAST OF COSTA RICA						
		PNS	P	19 59 28.4	C	0.9	52		
		LPB	eL P	20 10.3 19 59 31.8	C	0.9	54	29	
	03	BBB	P S	23 58 33.2 35					
	04	LPB	eP PNS	04 09 30 04 09 33.8					
	04	PNS	eP LPB	06 52 01.3 06 52 08					
	04	PNS	eP LPB	08 57 31.6 08 57 39.5					
	04	USCGS	09 02 31.8, 12.2N, 56.0E, h = 33 km., m = 5.1						
			ARABIAN SEA						
		PNS	ePKP	09 21 32					
		LPB	ePKP	09 21 33				128	

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	04	USCGS 09 07 38.5, 14.2S, 172.0E, h = 585 km., m = 5.8 NEW HEBRIDES IS REG						
		PNS	PKP	09 25 12.5	D	1.1	72	
			PP	26 12.8				
			SS	41 35				
		LPB	PKP	09 25 13	D	1.0	134	113
			PP	26 14				
			SS	41 35				
			eL	10 30				
	04	PNS	P	09 35 01.9	C	0.9	11	
		LPB	eP	09 35 58				
	04	PNS	eP	09 44 31		1.3	14	
		LPB	e(P)	09 41 31.2				
	04	PNS	eP	10 54 53.9		0.9	4	
		LPB	eP	10 54 55				
	04	USCGS 10 58 28.3, 16.3S, 73.8W, h = 33 km., m = 4.5 NEAR COAST OF PERU						
		PNS	P	10 59 45.7				
			i	47.1				
			eS	11 00 50				
			eL	11 01.5				
		LPB	P	10 59 51.5	C	1.0	250	
			S	11 00 57				
	04	LPB	eP	11 25 58				
		PNS	eP	11 26 01				
	04	PNS	P	11 57 59.2				
		LPB	eP	11 58 02				
	04	LPB	eP	12 10 07.8				
		PNS	P	12 10 08.3		0.6	5	
	04	USCGS 13 10 19.3, 60.3A, 26.1W, h = 33 km., m = 5.0 SOUTH SANDWICH IS REG						
		LPB	P	13 19 36	C	1.2	62	53
			eL	37				
		PNS	P	13 19 38.8	C	0.9	16	
			i	51.3				
			eL	37.5				
	04	PNS	eP	13 51 20.4				
	04	PNS	P	14 56 20.7		0.5	3	
			S	38				

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	04	PNS	eP	15 20 10				
		LPB	eP	15 20 115				
	04	LPB	P	15 26 14.5	D	0.8	30	
	04	PNS	P	17 37 07.6				
	04	PNS	P	18 13 51.4	D	0.9	37	
			S	14 57.6				
		LPB	P	18 13 56.5	D	1.0	170	
			S	15 02				
	04	PNS	P	18 23 30.7		0.4	9	
			S	24 11.4				
		LPB	P	18 23 36.2	D	1.1	42	
			eS	24 22				
	04	LPB	P	20 18 04	D	1.2	46	
		PNS	P	20 18 05.1		0.8	12	
	04	LPB	P	20 28 52.8		1.0	40	
		PNS	P	20 28 54.4		0.8	5	
	04	PNS	eP	22 13 38.8				
	05	USCGS 00 10 05.1, 10.2S, 161.5E, h = 80 km., m = 5.0 SALOMON IS						
		LPB	ePKP	00 28 56				123
		PNS	ePKP	00 28 57.4				
	05	LPB	eP	01 23 47				
		PNS	eP	01 23 51.2				
	05	LPB	eP	02 00 02				
			eS	30				
		PNS	P	02 00 03.4				
			S	31.6				
	05	USCGS 02 02 44.2, 32.4N, 76.4E, h = 33 km., m = 4.9 KASHMIR-INDIA BOR REG						
		LPB	ePKP	02 22 18				144
		PNS	ePKP	02 22 20.8				
	05	USCGS 03 11 12.5, 5.2S, 153.4E, h = 39 km., m = 4.9 NEW IRELAND REG						
		LPB	ePKP	03 30 30				138
		PNS	ePKP	03 30 31.4				

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	05	PNS	eP	03 33 55.2		1.4	19	
		LPB	eP	03 33 58				
05	05	LPB	P	04 02 17.5	C	0.8	15	
		PNS	P	04 02 18		0.9	6	
05	05	PNS	P	04 31 35.4				
05	05	LPB	eP	04 57 42				
		PNS	eP	04 57 44				
05	05	PNS	P	05 20 06.0				
		LPB	eP	05 20 07.5				
05	05	PNS	P	07 01 18.8				
		LPB	eP	07 01 15.5				
05	05	PNS	P	07 19 06.8	C	1.3	44	
			eS	24 14				
		LPB	P	07 19 07.5	C	1.3	57	
			eS	24 15				
05	05	LPB	iP	08 07 49.7	C	0.6	80	
S		09 06						
05	05	PNS	iP	08 07 53.5	C			
			S	09 13.2				
05	05	PNS	iP	09 21 36.6				
			S	22 00.4				
05	05	PNS	P	10 27 39.1				
			P	12 23 20.5		0.9	16	
05	05	LPB	P	12 23 26.5				
			e(S)	24 52				
05	USCGS 15 19 37.4, 20.8S, 68.7W, h = 103 km., m = 4.7 CHILE-MLIVIA BOR REG							
05	05	LPB	iP	15 20 47.6	C	0.7	224	
			eS	21 40				
05	05	PNS	P	15 20 50.3	C			
			eS	21 47.2				
05	05	PNS	iP	15 29 37.8	D			
			LPB	P	15 29 40	D	0.8	112
05	05	PNS	eP	16 35 04.4				
05	05	PNS	eP	18 10 25.2				
			LPB	eP	18 10 27			

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	05	LPB	iP	18 15 35.8	D	0.8	30	
		S	16 39					
05	05	PNS	iP	18 15 38.9		0.5	600	
			eS	16 42.3				
05	05	PNS	P	18 38 28.2		0.8	4	
			LPB	eP	18 38 32			
05	05	LPB	eP	18 50 10				
			PNS	P	18 50 13.2	D		
05	05	LPB	P	20 47 06.5		0.8	30	
			S	43				
05	05	PNS	P	20 47 10.5				
			S	48.2				
05	05	PNS	eP	22 11 14.6				
05	05	LPB	eP	22 14 31				
			PNS	P	22 14 31.4		0.9	4
05	05	PNS	P	22 44 42.5				
			S	45 04.2				
06	USCGS 00 43 12.2, 4.0N, 126.3E, h = 58 km., m = 5.1 TALAUD IS							
06	06	LPB	ePKP	01 03 09		1.1	25	161
			PNS	PKP	01 03 10		1.6	25
06	06	LPB	i	53.9				
			eP	01 48 21				
06	06	PNS	eP	01 48 21.8				
			eP	01 59 49.5				
06	06	LPB	eP	01 59 55				
			P	05 07 02.5				
06	06	PNS	S	56				
			P	05 07 05.5				
06	06	LPB	i	11.5				
			P	05 48 05.8		0.9	20	
06	06	PNS	P	05 48 06.2		1.0	90	
			P	07 00 18.9	D	0.7	14	
06	06	PNS	S	43.6				
			ePKP	10 40 26.0	D			
06	USCGS 10 21 56.3, 46.6S, 96.2E, h = 33 km., m = 4.9 SOUTHEAST INDIAN RISE							
06	06	PNS	eP	11 17 12				
			LPB	eP	11 17 14			
06	06	LPB	i	50.5				

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	06	PNS	eP	11 25 57				
	06	PNS	P	12 48 40.7		0.6	3	
	06	PNS	P	16 36 35.8				
		LPB	eP	16 36 42				
	06	PNS	P	18 12 15.8				
	06	LPB	(P)	18 34 48				
	06	LPB	P	19 01 51.5				
		PNS	iP	19 02 01.9	C			
			S	03 06				
	06	PNS	P	19 06 49.8				
			S	07 13				
	06	PNS	iP	19 59 01.4				
			iS	25				
		LPB	eP	19 59 04				
	06	PNS	eP	20 09 41				
			S	10 04.8				
	06	USCGS 20 16 06.1, 6.1S, 107.1W, h = 33 km., m = 4.9 N EASTER IS CORDILLERA						
		PNS	P	20 23 33		1.3	36	
			eS	29 42				
			eSS	32 40				
			L	35.3				
		LPB	iP	20 23 36.7		1.2	43	39
			S	24 44				
			SS	32 46				
			L	35.5				
	06	PNS	P	20 33 29.4				
		LPB	eP	20 33 32				
	06	PNS	P	20 59 03.2				
			S	40.8				
	06	LPB	eP	21 17 34				
		PNS	eP	21 17 39				
	06	USCGS 21 18 56.5, 23.9S, 67.7W, h = 122 km., m = 4.3 CHILE-ARGENTINA BORDER REG						
		LPB	P	21 20 44.5				7
		PNS	P	21 20 47.4	D			
	06	PNS	eP	22 22 19.2				

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	07	PNS	eP	09 14 41.4				
	07	PNS	P	09 33 30				
		LPB	eP	09 33 32				
	07	USCGS 09 19 17.3, 40.2N, 142.3E, h = 61 km., m = 4.9 NR E COAST OF HONSHU, JAPAN						
		PNS	PKP	09 38 34		1.0	5	
			eL	10 28.2				
		LPB	PKP	09 38 39.2				143
			eL	28				
	07	USCGS 10 13 39.8, 16.4S, 73.5W, h = 50 km., m = 5.0 NEAR COAST OF PERU						
		LPB	iP	10 15 00.5				5
			iS	16 03				
			eL	16.8				
		PNS	P	10 14 55.5	C			
			S	15 55				
			L	16.6				
	07	LPB	P	10 15 33.6				
			S	25				
	07	LPB	P	10 33 33.6		0.7	15	
			i	27				
		PNS	P	10 30 36		0.9	10	
			i	31 27.7				
	07	LPB	P	10 49 02.5				
		PNS	eP	10 48 58.6				
	07	PNS	eP	11 52 02.4				
	07	LPB	eP	12 27 57				
		PNS	P	12 28 01.3	C	0.5	4	
	07	PNS	eP	12 45 42.8				
		LPB	eP	12 45 45				
	07	USCGS 13 03 17.2, 60.3S, 27.0W, h = 33 km., m = 4.2 SOUTH SANDWICH IS REG						
		LPB	P	13 12 32.2				
			eL	29				
		PNS	eP	13 12 33				
			eL	29.2				
	07	LPB	P	13 59 15				
		PNS	P	13 59 17		0.6	5	

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	06	USCGS 22 21 19.9, 13.5N, 120.4E, h = 68 km., m = 5.2 MINDANAO, PHILIPPINE IS						
		LPB	ePKP	22 41 24.5				171
		PNS	ePKP	22 41 26				
	06	LPB	eP	23 15 52				
		PNS	P	23 15 54.6	0.4	4		
	06	USCGS 23 55 38.5, 29.1S, 66.7W, h = 27 km., m = 4.6 LA RIOJA, PROV. ARGENTINA						
		LPB	eP	23 58 37.8				13
			eL	03.8				
		PNS	P	23 58 42.4	0.5	2		
			eL	00 03.7				
	07	PNS	P	00 51 43.6	D	0.5	9	
			S	52 09.6				
	07	PNS	eP	02 00 58.8				
		LPB	eP	02 01 01				
	07	USCGS 02 44 30.1, 5.9S, 77.2W, h = 42 km., m = 4.3 NORTHERN PERU						
		LPB	eP	02 47 39				13
		PNS	eP	02 47 40				
	07	LPB	eP	03 01 23				
		PNS	eP	03 01 26				
	07	PNS	e(P)	03 05 35				
		LPB	eP	03 05 35.7				
	07	USCGS 03 32 50.8, 16.6S, 172.7W, h = 33 km., m = 5.1 SAMOA IS REG						
		LPB	eP	03 46 20				98
			eL	04 19				
		PNS	eP	03 46 23				
			eL	04 19				
	07	LPB	eP	04 18 03				
		PNS	eP	04 18 06				
	07	LPB	eP	07 34 17				
	07	LPB	eP	08 19 53.3				
	07	LPB	eP	08 44 05				
			S	37.6				
		PNS	P	08 44 05.3	0.7	3		
			S	42				

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	07	PNS	P	14 16 11.1	D			
			S	35.6				
	07	USCGS 14 15 21.3, 3.2S, 127.8E, h = 39 km., m = 5.2 CERAM						
		LPB	ePKP	14 35 13				154
		PNS	PKP	14 35 15.2		1.2	6	
			e	23				
	07	PNS	P	16 33 58.4				
	07	PNS	P	16 34 46				
	07	PNS	P	17 22 49.6				
	07	LPB	iP	17 30 01.7				
		PNS	P	17 30 03.8		1.1	17	
	07	USCGS 17 43 12.6, 59.1S, 24.9W, h = 146 km., m = 4.8 SOUTH SANDWICH IS REG						
		LPB	eP	17 52 10				53
		PNS	eP	17 52 14				
	07	PNS	P	18 09 50				
	07	USCGS 18 17 16.2, 4.1S, 80.5W, h = 65 km., m = 4.8 PERU-ECUADOR BOR REG						
		PNS	P	18 21 10.4		0.9	10	
			S	24 33.9				
		LPB	eP	18 21 15.6				17
			S	24 38				
	07	PNS	eP	22 47 34.4				
	07	USCGS 22 32 32.3, 12.1N, 142.2E, h = 43 km., m = 5.1 SOUTH OF MARIANA						
		PNS	ePKP	22 52 16.8				150
		LPB	ePKP	22 52 17.5				
	07	PNS	P	23 08 17.5	C	0.6	6	
	08	LPB	e(P)	00 44 15.6				
	08	USCGS 02 53 07.2, 6.9S, 129.2E, h = 150 km., m = 5.2 BANDA SEA						
		PNS	PKP	03 12 46.4				
	08	LPB	eP	05 14 12.7				

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	08	PNS	iP	06 17 45	D			
			S	18 07				
		LPB	P	06 17 46.5				
			S	18 09.4				
08		USCGS 07 42 57.3, 13.3S, 167.2E, h = 192 km., m = 5.1 NEW HEBRIDES						
		PNS	ePKP	08 01 20.8				
		LPB	PKP	08 01 23.5	0.8	12	117.9	
08		LPB	P	08 13 36.4				
08		USCGS 12 43 37.4, 6.3S, 130.0E, h = 108 km., m = 4.9 BANDA SEA						
		PNS	PKP	13 03 21.3	1.0	19		
		LPB	ePKP	13 03 22.2				150
08		PNS	iP	13 48 52.6	D			
			iS	49 15.4				
		LPB	P	13 48 53				
			S	49 18				
08		LPB	eP	14 19 45				
		PNS	P	14 19 46				
08		LPB	eP	16 44 25				
		PNS	P	16 44 27.4	0.6	4		
08		PNS	P	17 48 57.1				
08		USCGS 18 27 26.7, 19.5S, 179.2W, h = 670 km., m = 5.2 WEST OF TONGA IS						
		PNS	eP	18 40 21				
08		PNS	eP	19 44 01.5	0.5	2		
			S	45 05				
		LPB	P	19 44 03				
09		LPB	P	00 51 16	0.6	8		
		PNS	eP	00 51 20				
09		PNS	P	01 21 03.8				
09		PNS	P	02 21 01.6	0.9	10		
		LPB	P	02 21 02	1.1	22		
09		PNS	P	02 30 48.7	0.7	3		
09		USCGS 02 18 23, 1.4N, 126.1E, h = 40 km., m = 5.2 MOLIUCA PASSAGE						

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV		LPB	ePKP	02 38 22				159
		PNS	ePKP	02 38 22				
09		LPB	P	03 44 15.2		1.0	10	
			S	55				
		PNS	eP	03 44 16.2				
09		LPB	eP	04 11 33.2				
		PNS	eP	04 11 33.5				
09		PNS	eP	04 47 11.4				
		LPB	eP	04 47 12.7				
09		PNS	eP	04 51 43				
		LPB	eP	04 51 45	1.3	11		
09		USCGS 06 17 24.0, 22.4S, 67.3W, h = 185 km., m = 4.6 CHILE-BOLIVIA BOR REG						
		LPB	iP	06 18 51.5	C	0.8	210	6
			S	19 57.2				
		PNS	iP	06 18 55.3	C			
			S	20 01.6				
09		PNS	P	06 31 37.7	C	0.5	9	
		LPB	P	06 31 43.2		0.8	6	
09		LPB	P	07 07 37		1.0	10	
		PNS	P	07 07 40.2		1.0	6	
09		PNS	eP	10 15 48.5				
		LPB	eP	10 15 55				
09		LPB	eP	10 56 06				
		PNS	eP	10 56 07				
09		PNS	P	11 15 28.8				
09		PNS	P	11 50 03.4		0.4	4	
09		PNS	eP	12 57 54				
09		USCGS 13 43 38.4, 23.8N, 64.7E, h = 33 km., m = 5.2 NEAR COAST OF WEST PAKISTAN						
		PNS	ePKP	14 02 57.8				
		LPB	PKP	14 02 58.5				135
			eL	47.9				
09		LPB	P	14 46 36.2				
			S	47 14.2				
09		PNS	P	16 17 48.6		0.8	7	
		LPB	eP	16 17 50				



NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	09	USCGS 17 01 41.1, SOUTHERN ILLINOIS			38.0N, 88.5W, h = 19 km., m = 5.3			
		PNS	iP	17 11 23.5				
			eS	19 15				
			eL	32.2				
		LPB	iP	17 11 26.2	C	0.9	110	58
			S	19 17.7				
			eL	32				
	09	USCGS 20 30 41.9, MOLUCCA PASSAGE			2.4N, 126.8E, h = 33 km., m = 5.5			
		PNS	PKP	20 50 42.7		1.7	61	
			eSS	21 15 15				
			L	21 47.5				
		LPB	PKP	20 50 43.4		1.2	43	159
			L	21 47.7				
	09	PNS	eP	20 55 46.9				
		LPB	eP	20 55 48				
	09	PNS	P	23 11 19.3		0.6	4	
		LPB	eP	23 11 24		1.0	20	
	09	USCGS 23 23 36.2, ECUADOR			1.2S, 77.5W, h = 216 km., m = 4.5			
		PNS	P	23 27 28.2		0.9	12	
		LPB	P	23 27 32.5		1.0	43	18
	09	USCGS 23 26 25.6, SOUTH SANDWICH IS REG			56.4S, 26.3W, h = 33 km., m = 5.3			
		PNS	eP	23 55 20				
	10	USCGS 03 32 01.9, CHILE-BOLIVIA BOR REG			21.7S, 68.1W, h = 146 km., m = 3.8			
		LPB	eP	03 33 17.6		0.7	7	5
		PNS	P	03 33 23		0.7	3	
	10	LPB	eP	05 13 04		0.8	6	
		PNS	P	05 13 06.3				
	10	LPB	P	06 02 50.7		0.8	19	
		PNS	P	06 02 53.7		1.0	19	
	10	LPB	eP	08 27 11				
		PNS	P	08 27 14.2				
	10	PNS	eP	08 38 10				
		LPB	e(P)	08 38 14.3				

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	10	PNS	eP	08 47 06.5				
		LPB	eP	08 47 07.2				
	10	LPB	P	10 14 25.5				
		PNS	P	10 14 29.6				
	10	PNS	iP	10 46 36.7	D			
			eS	58.8				
		LPB	P	10 46 43.2		0.7	9	
			S	47 09.5				
	10	PNS	P	12 48 33.5				
	10	USCGS 12 50 42.9, CRETE			34.8N, 24.3E, h = 33 km., m = 5.0			
		PNS	eP	13 04 32				
	10	PNS	eP	13 42 02.6				
	10	USCGS 13 37 37.3, NORTHERN COLOMBIA			6.9N, 72.8W, h = 187 km., m = 4.4			
		PNS	P	13 42 30.8				
			PP	43 03.4				
		LPB	eP	13 42 35.5		0.9	29	23
			PP	43 08.2				
	10	PNS	iP	14 25 23.3	D	0.5	5	
	10	PNS	P	15 19 38.4				
	10	PNS	eP	15 51 04				
		LPB	eP	15 51 06				
	10	LPB	e(P)	16 17 41.2				
		PNS	P	16 17 45		0.8	8	
	10	USCGS 17 01 59.2, PHILIPPINE IS REG			20.0N, 121.4E, h = 33 km., m = 5.2			
		PNS	PKP	17 22 08	C	1.5	91	
			PP	27 09.5				
			eL	18 22.6				
		LPB	PKP	17 22 08.4	C	1.4	148	170
			ePP	27 04.2				
			eL	18 22				
	10	LPB	eP	17 55 51				
		PNS	eP	17 55 56.2				

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV		LPB	P	03 18 33.4		0.9	17	39
			L	31.2				
	11	LPB	eP	04 13 03.3		0.8	6	
		PNS	eP	04 13 03.7		0.6	4	
	11	LPB	P	05 58 39				
		PNS	eP	05 58 42.2				
	11	LPB	P	06 06 00.7	D	0.8	24	
		PNS	iP	06 06 04.9	D	0.6	12	
	11	LPB	P	06 51 31.3		0.8	10	
		PNS	P	06 51 33.6		0.8	5	
	11	USCGS 06 49 13.9, 24.6N, 142.7E, h = 22 km., m = 5.2 VOLCANO IS REG						
		PNS	PKP	07 09 03.5		1.1	32	
		LPB	PKP	07 09 00.9				150
	11	PNS	eP	08 03 11				
	11	USCGS 09 33 30.1, 6.7S, 130.4E, h = 75 km., m = 5.2 BANDA SEA						
		PNS	eP	09 53 12		0.9	35	
			i	17.3				
		LPB	eP	09 53 12.2		0.8	69	151
			i	17.4				
	11	PNS	eP	10 07 25				
		LPB	eP	10 07 28				
	11	PNS	P	13 28 45.7	C	1.1	10	
			eL	38				
		LPB	P	13 28 49.5		1.5	93	
			eL	37				
	11	PNS	eP	13 38 52		0.9	5	
		LPB	eP	13 38 53				
	11	PNS	eP	14 23 50.6				
	11	USCGS 14 41 15.9, 40.1N, 143.0E, h = 35 km., m = 5.5 OFF E CST OF HONSHU, JAPAN						
		PNS	ePKP	15 00 48.7		1.5	30	
			SS	22 54				
			eL	50				
		LPB	ePKP	15 00 49.2		1.1	37	144
			eSS	22 58				
			eL	50				

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	10	PNS	P	18 39 12.3		0.7	4	
		LPB	P	18 39 15		0.5	8	
	10	PNS	P	18 45 52.9		0.5	3	
			S	46 16.8				
	10	PNS	eP	20 26 54				
		LPR	eP	20 26 54.5				
	10	USCGS 21 24 51.7, 3.6S, 102.0E, h = 33 km., m = 5.3 SOUTHERN SUMATRA						
		PNS	ePKP	21 44 49				
		LPB	ePKP	21 44 51.5				157
			eL	22 40.5				
	10	USCGS 22 16 11.2, 15.1S, 66.0W, h = 222 km., m = 3.8 BOLIVIA						
		LPB	eP	22 16 56.4		0.8	27	3
			i	17 33				
		PNS	P	22 16 58.7		0.8	28	
			e	17 35				
	10	PNS	P	23 18 05.3				
		LPB	eP	23 18 00				
	10	LPB	eP	23 47 52				
		PNS	P	23 47 51.7				
	10	LPB	eP	23 18 00				
		PNS	P	23 18 05.3				
	11	LPB	eP	00 43 17.2		0.8	3	
	11	LPB	P	01 37 47.6		0.8	10	
		PNS	iP	01 37 51.4	C	0.5	8	
	11	USCGS 01 58 41.0, 19.6S, 179.1W, h = 674 km., m = 49 WEST OF TONGA ISLANDS						
		PNS	eP	02 11 31.2				
		LPB	eP	02 11 36				103
	11	PNS	P	03 12 37.7		0.5	3	
			S	55				
		LPB	eP	03 12 41.5				
			eS	13 01.9				
	11	USCGS 03 11 06.8, 15.0N, 92.8W, h = 80 km., m = 5.1 MEXICO GUATEMALA BOR REG						
		PNS	P	03 18 29.9		1.0	15	
			PP	48				
			eL	31.8				

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	11	LPB PNS	eP P S	16 33 04 16 33 05.4 27.5		0.5	4	
	11	PNS LPB	P eP	16 40 57.2 16 41 01		0.5	9	
	11	USCGS 17 04 35.8, 25.3N, 140.9E, h = 159 km., m = 5.2 VOLCANO IS REG						
		PNS	PKP i ePKP	17 24 07.5 13.5 56		1.0	8	
		LPB	PKP i ePKP	17 24 08 14 56.6				151
	11	PNS	P	19 51 13				
	11	PNS LPB	P S eP	20 43 24.9 44 00.8 20 43 26	D	0.5	4	
	11	USCGS 20 55 03.7, 17.8S, 69.6W, h = 165 km., m = 3.8 PERU-BOLIVIA						
		PNS	iP S	20 55 39.1 56 03.3	D			
		LPB	iP S	20 55 39.5 56 04	D	0.8	360	2
	11	LPB	P eL	21 17 21.3 44	C	0.9	30	
		PNS	P	21 17 24	D	0.9	10	
	11	LPB	eP i	22 36 40.2 44.5				
		PNS	P S	22 36 48.4 37 52.5	C	0.5	6	
	12	USCGS 00 44 12.8, 27.5N, 128.4E, h = 48 km., m = 5.8 RYUKYU IS						
		PNS	PKP pPKP ePKP2 ePP eL	01 04 12 25.7 05 01 08 42 02 00.5		1.0	23	
		LPB	PKP pPKP ePP eL	01 04 12.3 26.5 08 41 02 01	C	0.9	59	161
	12	LPB	iP S	04 05 26.5 10.5				
		PNS	eP S	04 05 29.4 06 11.5				
	12	LPB	eP	05 02 17.5		0.8	3	
	12	PNS	eP	05 38 16.4 38.4				

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	12	LPB PNS	eP eP	06 26 48.2 06 26 55.5				
	12	PNS LPB	eP eP	08 59 50.6 08 59 56.5				
	12	USCGS 08 57 27.1, 41.2N, 143.9E, h = 17 km., m = 5.3 HOKKAIDO, JAPAN REGION						
		PNS	ePKP i	09 16 57.9 17 02.5				
		LPB	eL ePKP eL	10 06 09 17 01.5 10 06				143
	12	PNS	P S	09 53 14 30.2				
	12	USCGS 08 53 42.2, 29.2N, 129.4E, h = 22 km., m = 5.4 RYUKYU IS						
		PNS	ePKP PKP2 eL	10 13 42.5 14 17.3 11 09.8		2.0	4	
		LPB	ePKP PKP2 eSS eL	10 13 42.5 14 19.3 37 30 11 10				159
	12	PNS LPB	eP eP	10 42 01 10 42 06.5		0.9	4	
	12	LPB	eP P	13 02 47.5 13 02 52.6				
	12	LPB PNS	eP P	13 46 27 13 46 32.2				
	12	USCGS 14 04 34.7, 40.0N, 142.6E, h = 53 km., m = 5.0 NR E CST OF HONSHU, JAPAN						
		PNS	ePKP eL	14 24 04.8 15 14.6				
		LPB	ePKP eL	14 24 05 15 14				145
	12	PNS LPB	P eP	16 19 59 16 20 01		0.6	2	
	12	PNS LPB	P eP	16 50 05.4 16 50 07.8		0.5	4	
	12	PNS LPB	P eP	20 27 07.8 20 27 05				

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	12	LPB	eP	21 09 16				
		PNS	eP	21 09 18		0.4	2	
12	12	LPB	PKP	21 53 21.7		0.9	15	
		PNS	P	21 53 19				
12	12	USCGS 22 00 39.1, 15.6S, 172.8W, h = 47 km., m = 5.2 SAMOA IS REG						
		LPB	eP	22 14 18				99
			eL	46.5				
		PNS	eP	22 14 20				
			eL	46.6				
12	12	USCGS 23 13 04.8, 9.2S, 110.0W, h = 33 km., m = 5.0 N EASTER IS CORDILLERA						
		PNS	P	23 20 48		1.2	36	
			eS	27 08				
			eL	32.5				
		LPB	P	23 20 51.3		1.0	34	41
			S	27 12				
			L	32.6				
13	13	LPB	eP	01 08 54				
		PNS	eP	01 08 54				
13	13	PNS	eP	02 02 15				
		LPB	P	02 02 15.6				
13	13	PNS	iP	02 20 57.7	D			
			iS	21 19.5				
		LPB	iP	02 20 58.1	D	0.9	39	
			iS	21 20.8				
13	13	USCGS 03 22 38.8, 0.2S, 123.0E, h = 81 km., m = 5.1 NORTHERN CELEBES						
		PNS	PKP	03 42 31.5		0.8	5	
			PKP2	43 13.8				
		LPB	PKP	03 42 32.2		0.8	7	160
13	13	PNS	P	03 46 20.4		0.5	5	
			S	47				
		LPB	eP	03 46 24				
			eS	53.2				
13	13	PNS	P	05 37 43.6				
		LPB	eP	05 37 49				
13	13	PNS	eP	06 33 46.5				
		LPB	eP	06 33 48.5				
13	13	PNS	eP	09 13 48				
		LPB	eP	09 13 48				
			eS	14 38.2				
13	13	PNS	P	11 47 24		0.6	4	
			S	48 26.2				
		LPB	eP	11 47 25				

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	13	PNS	P	12 59 37		0.8	2	
			S	13 00 01.2				
		LPB	P	12 59 38		0.7	11	
13	13	PNS	eP	15 12 46				
		LPB	eP	15 12 56				
13	13	LPB	eP	15 59 38.5				
		PNS	P	15 59 40.8				
13	13	LPB	P	15 55 40.5				
		PNS	P	16 09 08				
13	13	PNS	P	16 35 50.8		0.6	5	
		USCGS 18 41 47.9, 40.2N, 142.5E, h = 49 km., m = 5.5 NR E CST OF HONSHU, JAPAN						
		PNS	PKP	19 01 18.9		1.8	95	
			SS	23 27				
			L	50.8				
		LPB	PKP	19 01 20.5		2.0	151	145
			eSS	23 28				
			L	50.6				
13	13	PNS	P	20 25 03.6		0.6	5	
		LPB	eP	20 25 07				
14	14	PNS	eP	03 08 27.6				
14	14	PNS	iP	05 02 22.9	D			
			iS	52.9				
		LPB	iP	05 02 27.2	D	1.0	36	
			S	03 00.6				
14	14	PNS	iP	05 18 19.5	D			
			S	46.2				
		LPB	iP	05 18 21.0	D	1.0	58	
			eS	48.3				
14	14	PNS	P	05 46 51		0.6	5	
14	14	PNS	P	06 08 10		1.0	10	
		LPB	P	06 08 10.2		1.2	24	
14	14	PNS	eP	06 35 11.2				
		LPB	P	06 35 16.2				
			S	38				
14	14	LPB	P	06 46 52				
14	14	PNS	P	08 18 46.8	D	1.0	33	
		LPB	P	08 18 48.2		1.0	174	

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV	14	PNS	P	09 36 13.3	D	3.0	11		
	14	USCGS 09 23 42.5, 5.0S, 143.1E, h = 52 km., m = 5.5 NEW GUINEA							
		LPB	ePKP	09 43 06		1.0	6	142	
		PNS	PKP	09 43 09.3		0.8	4		
	14	LPB	eP	09 53 51.7					
		PNS	eP	09 53 52.5					
	14	LPB	eP	10 12 31.5					
		PNS	eP	10 12 36.4					
	14	LPB	eP	10 37 52					
		PNS	eP	10 37 52					
	14	PNS	P	11 07 45.6		0.6	3		
	14	PNS	eP	11 16 07		0.6	2		
	14	USCGS 11 35 12.0, 20.0S, 176.0W, h = 220 km., m = 5.1 WEST OF TONGA IS							
		LPB	eP	11 48 34				100	
		PNS	eP	11 48 37.3		1.5	14		
			PP	52 44					
	14	PNS	eP	12 13 29.8		0.7	4		
		LPB	eP	12 13 30					
	14	USCGS 12 11 50.1, 31.6N, 131.5E, h = 6 km., m = 5.0 KYUSHU, JAPAN							
		PNS	ePKP	12 31 51					
			eL	13 28					
		LPB	ePKP	12 31 51.5				157	
			eL	13 28.2					
	14	LPB	P	13 10 20.2	D	1.4	157	160	
		PNS	iP	13 10 21.5	D	1.7	154		
	14	LPB	eP	13 27 11					
		PNS	eP	13 27 13		0.9	4		
	14	LPB	eP	13 46 44					
		PNS	P	13 46 44.6					
	14	PNS	eP	14 31 19.8					

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV	14	LPB	eP	14 58 18					
		PNS	eP	14 58 21.6		0.4	1.3		
	14	LPB	P	15 45 01		0.9	20		
		PNS	P	15 45 02.3		0.8	9		
	14	USCGS 16 56 13.8, 16.4S, 72.0W, h = 95 km., m = 4.1 SOUTHERN PERU							
		PNS	iP	16 57 06	C				
			S	55.2					
		LPB	iP	16 57 15.3	C	0.7	266	4	
			S	58 02					
	14	PNS	eP	17 53 05.2		0.5	2		
	14	PNS	P	18 27 56.1		1.0	13		
		LPB	P	18 27 59.2		0.9	23		
	14	USCGS 19 26 31.5, 8.3N, 77.2W, h = 76 km., m = 4.2 PANAMA - COLOMBIA BOR REG							
		LPB	eP	19 31 53.5				25	
		PNS	eP	19 31 56.5					
	14	PNS	eP	20 04 36					
		LPB	eP	20 04 40					
	14	LPB	P	22 00 08.4	C	0.9	155		
		PNS	P	22 00 10.7					
			eS	57					
	14	PNS	P	22 13 08					
	14	LPB	eP	22 17 13					
		PNS	eP	22 17 20		0.8	7		
	14	LPB	eP	23 05 38		0.9	8		
	14	USCGS 23 01 21 3.3S, 143.3E, h = 15 km., m = 4.9 NR NORTH CST OF NEW GUINEA							
		PNS	ePKP	23 20 52.4					
	14	LPB	eP	23 38 24.2					
		PNS	eP	23 38 24.6		1.4	14		
	15	USCGS 00 07 09.7, 57.3N, 150.4W, h = 26 km., m = 5.1 GULF OF ALASKA							
		PNS	eL	00 57					
		LPB	eL	00 58.2				100	

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	15	LPB	eP	02 06 28.2				
		PNS	eP	02 06 34				
15	15	LPB	eP	03 57 08.7				
		PNS	eP	03 57 09				
15	15	PNS	eP	04 29 08		0.5	2	
		S	S	39.4				
15	15	LPB	eP	04 29 14				
		LPB	P	04 48 06.5				
15	15	PNS	P	04 48 08.3				
		PNS	P	06 05 49.8		0.8	3	
15	15	LPB	eP	05 05 51.3				
		PNS	P	06 44 52.8		2.0	48	
15	15	LPB	eP	06 44 53				
		PNS	P	07 03 41		0.7	4	
15	15	S	S	04 05.3				
		LPB	P	09 05 19.3		0.6	8	
15	15	USCGS 09 28 26.8, 6.7N, 72.9W, h = 174 km., m = 4.0 NORTHERN COLOMBIA						
15	15	LPB	P	09 33 21.8		0.6	5	23.4
		i	i	33 59.9				
15	15	PNS	eP	09 33 22				
		e	e	33 54.5				
15	15	LPB	eP	10 07 26.5				
		PNS	eP	10 07 28.8				
15	15	LPB	P	10 31 39.7		0.9	11	
		PNS	P	10 31 42.8		0.7	6	
15	15	PNS	P	12 49 42.5				
15	15	PNS	P	13 04 32.4	D	0.4	5	
		S	S	55				
15	15	PNS	P	15 10 39.8				
		S	S	11 20.8				
15	15	LPB	eP	15 10 40				
		PNS	P	16 33 24				
15	15	LPB	eP	16 33 25				
		LPB	P	18 10 21.3		0.8	9	
15	15	PNS	iP	18 10 25	C	0.8	8	
		S	S	11 24.5				

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	15	LPB	eP	23 16 18				
		PNS	eP	23 16 20.8				
16	16	PNS	eP	01 31 54				
16	16	USCGS 03 27 39.6, 35.8S, 102.2W, h = 33 km., m = 4.8 SOUTHERN PACIFIC OCEAN						
16	16	PNS	eP	03 34 37.5			1.2	40
		i	i	40.3				
16	16	S	S	40 28				
		L	L	44.7				
16	16	LPB	P	03 34 41.4	D		1.2	49
		iS	iS	40 23				
16	16	e(SS)	e(SS)	42 51				
		L	L	44.7				
16	16	PNS	eP	04 59 40.6				
		LPB	eP	04 59 41				
16	16	LPB	P	05 50 06.6			0.9	8
		PNS	P	05 50 09.6			7.0	3
16	16	PNS	eP	08 03 06.8				
		e	e	04 35.7				
16	16	eL	eL	37				
		LPB	eP	08 03 10.4				
16	16	eL	eL	37				
		LPB	P	05 57 12.2			0.8	10
16	16	PNS	P	05 57 15	C		0.8	4
		LPB	eP	06 42 50.5				
16	16	PNS	eP	06 42 54.6				
		LPB	eP	08 14 37.4				
16	16	PNS	eP	08 14 38.5				
		LPB	e(P)	08 57 05				
16	16	LPB	eP	09 01 45				
		PNS	e(P)	09 01 46.2				
16	16	LPB	eP	09 04 25.2				
		PNS	P	09 04 28.2			0.7	3
16	16	LPB	eP	09 12 54				
		PNS	P	11 31 10.1			0.9	10
16	16	LPB	eP	11 31 10.2			0.8	6
		LPB	eP	11 34 27				
16	16	PNS	eP	11 34 28				
		LPB	eP	11 45 46.3				
16	16	PNS	eP	11 45 50				
		e	e	58.8				

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV	16	PNS	eP	12 14 48.5					
		LPB	eP	12 14 50					
	16	LPB	eP	14 50 17					
	16	PNS	P S	15 05 20.8 52.5	D	0.6	5		
	16	PNS	P	18 05 26.7	D	0.5	4		
	16	PNS	eP	18 29 00.8					
		LPB	eP	18 28 59					
	16	LPB	ePKP	21 34 38				140	
		PNS	ePKP	21 34 43					
	16	USCGS 21 15 32.3, 5.8S, 145.7E, h = 118 km., m = 5.0 EAST NEW GUINEA REG							
	17	USCGS 00 16 08.6, 9.5N, 72.6W, h = 172 km., m = 5.7 VENEZUELA							
		PNS	P	00 21 21.5	C				
			S	25 43					
		LPB	iP	00 21 29.7	D	1.0	540	26	
	17	LPB	P	01 14 43		0.4	5		
		PNS	P	01 14 46.2		0.7	4		
	17	LPB	eP	01 35 35.5					
			S	36 04.5					
		PNS	iP	01 35 41.4	D	0.6	6		
			S	36 02.6					
	17	LPB	eP	02 10 13					
	17	LPB	eP	05 01 59.2					
	17	LPB	eP	05 13 07					
		PNS	P	05 13 07.2		0.6	3		
			i	46					
	17	USCGS 05 18 59.4, 3.3S, 128.7E, h = 69 km., m = 5.2 CERAM							
		LPB	PKP	05 38 41.7				154	
			e	56.5					
			eL	06 35					
		PNS	ePKP	05 38 46.6					
			e	56.6					
			eL	06 34.5					
	17	USCGS 07 41 16.1, 1.3S, 13.6W, h = 33 km., m = 5.3 NORTH OF ASCENSION IS							
		LPB	P	07 50 52.4	D	1.6	263	56	
			PP	53 00					
			S	58 38					

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV		PNS	P	07 50 54			1.7	80	
			PP	53 02					
			eS	58 40					
	17	PNS	eP	08 42 28.6					
	17	LPB	eP	09 21 51.5					
	17	LPB	eP	09 58 00					
	17	LPB	eP	10 20 00					
	17	PNS	P	11 40 57.7		0.9	10		
			i	41 15.8					
		LPB	P	11 41 04					
	17	PNS	iP	12 14 32.7	D				
			S	52.8					
		LPB	iP	12 14 33	D	0.7	58		
			S	55.6					
	17	USCGS 12 59 09.4, 39.7N, 143.2E, h = 33 km., m = 4.9 OFF E CST OF HONSHU, JAPAN							
		PNS	ePKP	13 18 30					
		LPB	ePKP	13 18 34				144	
	17	USCGS 13 06 16.5, 1.2N, 125.3E, h = 33 km., m = 5.4 MOLUCCA PASSAGE							
		LPB	ePKP	13 26 16.5				160	
		PNS	PKP	13 26 17		1.3	12		
	17	LPB	P	13 38 42.8					
		PNS	P	13 38 45.5					
	17	LPB	eP	16 00 25.5					
	17	LPB	eP	22 04 14.2					
	17	LPB	eP	23 18 46.5					
			e	20 21.2					
		PNS	eP	23 18 52		1.6	19		
			e	20 21.6					
	17	PNS	eP	23 35 42.3		1.5	16		
	18	PNS	P	00 02 00.9					
			S	33					
		LPB	eP	00 02 07.5					
			S	02 38.2					

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	18	PNS	P	00 51 49.6		0.9	17	
		LPB	P	00 51 53.4		0.9	18	
	18	USCGS 01 39		22.4, 8.1S, 128.9E, h = 28 km., m = 5.2				
		TIMOR SEA						
		LPB	P	01 59 14.4	D	0.8	25	144
		PNS	P	01 59 14.8	D	1.0	24	
	18	PNS	eP	02 18 00.2				
		LPB	P	02 18 04.8		1.0	16	
	18	USCGS 02 42		02.1, 7.0S, 155.8E, h = 88 km., m = 5.1				
		SALOMON IS						
		LPB	ePKP	03 01 02		1.0	10	131
			ePKS	04 25.5				
			eL	44				
		PNS	ePKP	03 01 06		1.0	6	
			ePKS	04 25				
			eL	44				
	18	PNS	P	06 22 10	D	1.8	39	
			e	22.2				
		LPB	eP	06 22 10.4		2.0	75	
			e	23.7				
	18	LPB	eP	06 42 20				
			S	45				
		PNS	P	06 42 21.3	D	0.6	5	
			S	43.6				
	18	LPB	eP	07 02 25.5		0.7	5	
		PNS	eP	07 02 27		0.7	3	
	18	LPB	eP	08 50 09.3		0.8	3	
			S	36.7				
		PNS	eP	08 50 11.5				
	18	LPB	eP	08 53 40				
	18	LPB	P	09 59 10.5		0.8	6	
	18	LPB	eP	12 11 10				
		PNS	eP	12 11 13				
	18	PNS	eP	12 31 04				
	18	PNS	eP	13 52 35.7				
			S	53 02.5				
	18	LPB	eP	14 08 22.8				
			eL	34				
		PNS	eP	14 08 24.5		0.7	3	
			eL	34				

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	18	USCGS 15 09		05.5, 6.8N, 72.9W, h = 165 km., m = 5.2				
		NORTHERN COLOMBIA						
		PNS	P	15 14 00.6		0.8	7	
			i	32.2				
		LPB	P	15 14 05				23
	18	PNS	iP	16 33 46.5		0.6	13	
			S	34 22.5				
		LPB	P	16 33 51.5				
	18	PNS	P	17 36 56.7		0.8	5	
	18	PNS	P	20 14 14.9		0.7	4	
			S	37.1				
	18	PNS	P	22 01 03.6		0.9	8	
			e	04 26.5				
		LPB	P	22 01 04.8		0.9	16	
	18	PNS	P	22 30 55.2				
			S	31 21.8				
		LPB	eP	22 30 57				
	18	LPB	eP	22 37 33.4				
	18	LPB	eP	22 44 04				
		PNS	P	22 44 07.7	D	0.8	7	
	19	PNS	eP	00 16 02.4		1.2	7	
			eL	28				
		LPB	eP	00 16 04.5				
			eL	28.9				
	19	LPB	eP	02 29 25.2		0.9	11	
			S	30 29.7				
		PNS	P	02 29 26		0.7	6	
	19	PNS	P	02 58 01	D	0.5	11	
	19	LPB	eP	03 34 08				
	19	PNS	P	03 37 37.5	D	0.3	2	
	19	LPB	eP	06 29 54.2		0.8	6	
		PNS	eP	06 29 56		0.5	2	
	19	USCGS 07 18		56.2, 5.4S, 77.3W, h = 20 km., m = 4.7				
		NORTHERN PERU						
		PNS	eP	07 22 15				
			eL	27.8				
		LPB	eP	07 22 20		1.0	12	14
			eL	28				



NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV	19	LPB	eP	10 05 20		1.0	16		
			eL	30					
		PNS	P	10 05 25.4		0.9	8		
			e	34					
	19	LPB	iP	10 20 01.8	D	0.8	27		
			S	24					
		PNS	iP	10 20 03.6	D				
			S	21.8					
	19	PNS	eP	13 22 51					
	19	PNS	eP	13 40 28					
	19	PNS	P	13 49 54.4	C	0.8	9		
		LPB	eP	13 49 57					
	19	PNS	eP	14 12 50.2					
	19	LPB	eP	14 30 37.5					
		PNS	eP	14 30 39		0.5	2		
	19	LPB	P	16 20 11.5		0.6	16		
		PNS	P	16 20 12.5		0.6	8		
	19	PNS	P	16 32 18.2		0.5	6		
			S	54.7					
		LPB	eP	16 32 22					
	19	PNS	eP	20 28 57					
			S	29 00.2					
	19	PNS	eP	20 33 44.3					
			S	34 07.4					
		LPB	eP	20 33 46					
	19	PNS	P	21 12 06.8		0.6	2		
	19	LPB	eP	21 23 04.5					
		PNS	eP	21 33 06.6					
	19	USCGS 22 48 03.9, 8.7N, 94.1E, h = 33 km., m = 4.9 NICOBAR IS REG							
		LPB	ePKP	23 08 05		1.0	10	161	
		PNS	ePKP	23 08 06					
	19	LPB	P	23 32 34.7		1.0	29		
			S	38.4					
	20	PNS	P	00 03 18.6	C				
			S	47.8					
		LPB	P	00 03 21.5	C	0.9	104		
			S	55.5					



NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	20	LPB	eP	00 29 31				
		PNS	eP	00 29 32				
	20	PNS	P	02 38 20.9		0.6	2	
		LPB	P	02 38 23.6		0.8	21	
	20	PNS	P	03 29 51.3		0.7	9	
			S	30 12.5				
		LPB	eP	03 29 55				
	20	PNS	eP	04 21 03.2				
		LPB	eP	04 20 55				
	20	PNS	eP	04 28 42.5				
			e	46.5				
			eL	54				
		LPB	eP	04 28 44.5				
	20	PNS	P	04 44 39.7		0.5	5	
		LPB	eP	04 44 42				
	20	PNS	P	05 22 23.1	D	0.4	5	
			S	45.1				
		LPB	eP	05 22 24		0.4	5	
	20	PNS	eP	06 08 11.5				
		LPB	eP	06 08 15				
	20	LPB	eP	06 51 17.5				
		PNS	eP	06 51 17.7				
	20	PNS	P	07 10 58		1.8	53	
			i	11 16.9				
			e	34.4				
			L	19.8				
		LPB	eP	07 10 58.5				
			L	19.8				
	20	PNS	e(P)	08 36 11				
	20	LPB	P	09 42 10.2		0.8	6	
		PNS	eP	09 42 10.6				
	20	PNS	P	10 45 10		0.5	2	
	20	PNS	eP	10 50 02.8				
	20	PNS	eP	13 14 59				
	20	PNS	P	13 21 35		1.0	14	
		LPB	P	13 21 36		1.2	31	
	20	LPB	eP	16 16 19				

NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	20	PNS	eP	17 02 48.2				
		LPB	eP	17 02 52				
	20	LPB	eP	18 11 14.4				
	20	LPB	P	19 46 27.5		1.1	27	
		PNS	P	19 46 30		1.0	12	
			eS	47 12.5				
	20	LPB	P	19 51 55.7		0.9	68	
	20	PNS	P	21 46 41.2		0.9	4	
		LPB	P	21 46 43.5	D	0.9	4	
			eS	47 05.5				
	20	LPB	P	23 04 29		1.0	28	
		PNS	P	23 04 29.5				
			i	44.5				
			S	05 28				
			eP	46.4				
			i	05 42.6				
			eS					
	20	LPB	eP	23 17 56.3		0.9	22	
		LPB	P	23 17 56.8	C	0.9	15	
	20	LPB	P	23 47 50.4		0.8	12	
	20	PNS	eP	23 56 44.5				
		LPB	eP	23 56 40				
			S	57 31.4				
	21	PNS	P	02 17 43.8	D	0.5	5	
		LPB	eP	02 17 45				
	21	LPB	eP	02 31 18				
		PNS	P	02 31 25				
	21	LPB	P	03 17 41.7		0.8	6	
	21	PNS	P	05 40 38.7		0.6	4	
		LPB	P	05 40 45.5		0.9	13	
	21	PNS	P	06 58 50.5				
		LPB	P	06 58 55				
	21	PNS	eP	07 26 08.3				
		LPB	eP	07 26 12				
	21	LPB	eP	08 59 27.3				
	21	PNS	eP	09 31 00.5				
		LPB	eP	09 31 02				

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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	21	LPB	P	10 50 26.8				
		PNS	P	10 50 31				
	21	USCGS 14 32 MARIANA IS			13.0, 18.8N, 145.0E			h = 299 km., m = 5.2
PNS		PKP	14 51 23.9		1.0	12		
			i	27.1				
		LPB	PKP	14 51 23.4		1.0	26	148
			i	27.2				
	21	PNS	P	16 00 40.7		0.3	3	
	21	PNS	P	16 35 60		0.7	20	
		LPB	P	16 35 54		0.8	12	
			(S)	36 34.6				
	21	PNS	P	16 55 46.3		0.5	20	
		LPB	P	16 55 49				
	21	LPB	P	19 27 07		1.0	10	
		PNS	P	19 27 10				
	21	LPB	eP	22 01 12				
	21	PNS	P	22 04 57.8		0.5	4	
		LPB	P	22 04 59.3		1.0	30	
			S	05 40				
	22	LPB	eP	03 18 17.7		0.7	3	
	22	PNS	eP	05 14 13		1.0	6	
		LPB	eP	05 14 19.3				
			e	16 47.6				
	22	LPB	eP	05 34 25				
		PNS	eP	05 34 27				
	22	PNS	iP	06 35 24.3		0.6	28	
		S	S	56.3				
		LPB	P	06 35 28.5		1.0	10	
			S	52.3				
	22	USCGS 06 17 JAVA			39.3, 7.1S, 106.6E			h = 33 km., m = 5.2
		PNS	ePKP	06 37 04.3		0.8	5	
		LPB	ePKP	06 37 07				156
	22	PNS	iP	07 14 40.4		0.7	22	
		LPB	P	07 14 42.7				
			S	15 08.5				

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	22	USCGS 08 47		30.8, 15.8S, 73.0W, h = 89 km., m = 4.3				
				NEAP COAST OF PERU				
		LPB	eP	08 49 00			6	
	22	USCGS 08 59		23.1, 16.3N, 122.3E, h = 26 km., m = 5.3				
				LUZON, PHILIPPINE IS				
		LPB	PKP	09 19 33		1.3	26	170
			PKS	23 16.6				
			SS	45 30				
			L	10 18.7				
		PNS	PKP	09 19 33.6		2	3	
			PKP2	20 50				
			PKS	23 16.6				
	22	USCGS 09 41		16.5, 16.3N, 122.3E, h = 45 km., m = 5.1				
				LUZON, PHILIPPINE IS				
		LPB	ePKP	10 01 24.5				170
	22	USCGS 10 31		45.1, 1.5N, 125.6E, h = 7 km., m = 5.7				
				MOLUCCA PASSAGE				
		LPB	PKP	10 51 49	C	0.9	34	153
		PNS	PKP	10 51 49.7				
	22	PNS	iP	11 20 49.9	D			
		LPB	iP	11 20 50		0.8	125	
			S	21 13				
	22	PNS	P	11 30 01.1		1.0	12	
			i	20				
			i	33.2				
		LPB	P	11 30 04.7		0.9	13	
			i	16				
			i	30.8				
	22	USCGS 11 38		17.3, 13.1N, 122.6E, h = 17 km., m = 5.5				
				LUZON, PHILIPPINE IS				
		LPB	ePKP	11 58 27.5		1.6	117	169
			ePKP2	59 40.7				
			e(PP)	12 03 19				
			eL	12 57				
		PNS	PKP	11 58 28		2.0	120	
			PKP2	59 40				
	22	LPB	eP	12 07 56.7		2.0	108	
		PNS	P	12 07 58		2.0	108	
	22	LPB	eP	13 29 23				

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	22	LPB	eP	13 37 42.7				
			eS	38 21.5				
		PNS	eP	13 37 43				
	22	LPB	eP	14 41 49.2		0.8	15	
	22	PNS	P	16 32 07.5				
			S	33 02.5				
		LPB	eP	16 32 11				
	22	PNS	P	17 00 26.4		0.9	22	
	22	LPB	eP	18 00 30				
		PNS	eP	18 00 30.4		0.9	22	
	22	PNS	P	18 14 07		0.6	4	
		LPB	P	18 14 15.7		0.6	11	
			S	15 19.5				
	22	LPB	eP	20 34 11.2		0.7	7	
	23	LPB	eP	01 11 05.7		1.0	12	
		PNS	P	01 11 05.7		0.9	6	
	23	LPB	iP	02 03 52.6	C	1.0	74	
	23	USCGS 04 20		27.5, 15.1N, 105.5W, h = 33 km., m = 4.3				
				OFF CST OF MICHUACAN, MEXICO				
		PNS	eP	04 29 06.8		1.4	16	
		LPB	P	04 29 09.6		1.0	12	49
			eL	45.2				
	23	LPB	P	05 18 04.5		0.8	5	
	23	USCGS 05 22		12.3, 40.1N, 142.4E, h = 51 km., m = 4.4				
				NR F CST OF HONSHU, JAPAN				
		PNS	ePKP	05 41 54.4				
		LPB	PKP	05 41 58.5		0.8	4	145
	23	USCGS 11 20		25.1, 55.9S, 27.5W, h = 33 km., m = 4.5				
				SOUTH SANDWICH IS REG				
		LPB	eP	11 29 18				50
		PNS	P	11 29 23.4		1.0	6	
	23	USCGS 14 18		59.2, 24.0S, 67.1W, h = 208 km., m = 4.1				
				CHILE-ARGENTINA BOR REG				
		PNS	P	14 20 40.5		0.9	12	
		LPB	eP	14 20 47		1.0	24	7
			S	22 10.5				

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MONTH	DAY	STA	PHASE	TIME	SIGN	PLR	AMPL	DIST
NOV	23	USCGS 15 13 27.5, 1.6N, 126.3E, h = 33 km., m = 4.9 MOLIICCA PASSAGE						
		PNS	ePKP	15 33 31.3				
		LPB	ePKP	15 33 28.5				159
	23	LPB	P	16 20 02		0.9	32	
			S	21 11.7				
		PNS	iP	16 20 06.3	C	0.7	10	
	23	LPB	P	16 21 16				
			(S)	34.5				
	23	USCGS 16 41 47.5, 59.9S, 18.4W, h = 33 km., m = 5.6 SOUTH WESTERN ATLANTIC OCEAN						
		LPB	eP	16 51 26.5				56
		PNS	P	16 51 29.6		0.8	18	
	23	LPB	P	16 46 43.6		0.8	12	
		PNS	eP	16 45 46.4				
	23	PNS	eP	18 04 05				
		LPB	eP	18 04 05.4				
	23	PNS	iP	19 20 25.8	C			
		LPB	iP	19 20 31.2	C	0.8	54	
	23	LPB	eP	19 46 57		1.2	27	
	23	PNS	eP	20 25 13				
		LPB	P	20 25 14.2		1.0	18	
	23	PNS	eP	21 59 55.8				
		i		22 00 04.2				
		LPB	eP	22 00 03		1.0	16	
	24	LPB	eP	02 22 35				
		PNS	eP	02 22 37.8				
	24	PNS	eP	04 24 32.8		0.7	2	
		LPB	eP	04 24 34.5				
	24	LPB	eP	04 57 03.5		0.8	10	
			eS	58 16.5				
		PNS	eP	04 57 08.8		0.6	2	
	24	USCGS 05 28 43.8, 35.8S, 71.2W, h = 103 km., m = 4.6 CENTRAL CHILE						
		LPB	eP	05 33 05		1.0	32	19
			eL	38				
		PNS	eP	05 33 07.7		1.5	25	

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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	24	LPB	eP	06 34 42		1.0	6	
		PNS	eP	06 34 43				
	24	LPB	eP	06 45 06.8				
	24	USCGS 06 57 16.3, 46.6S, 10.7W, h = 33 km., m = 4.9 SOUTH ATLANTIC RIDGE						
		LPB	eP	07 06 53				56
		PNS	P	07 06 56.2		0.9	12	
	24	LPB	eP	09 43 31				
		PNS	eP	09 43 40				
	24	LPB	eP	13 18 56.5				
		PNS	P	13 19 01.3		0.5	15	
	24	LPB	P	18 02 01.2		1.0	34	
	24	LPB	eP	19 29 01.8		1.0	32	
		PNS	P	19 29 02.3	D	0.4	7	
			S	28.5				
	24	LPB	iP	20 57 48	C	1.0	52	
		PNS	P	20 57 57		0.9	8	
			S	58 07.7				
	24	USCGS 21 20 59.9, 40.3N, 142.3E, h = 51 km., m = 5.9 NR E CST OF HONSHU JAPAN						
		PNS	PKP	21 40 30.8		1.8	81	
		LPB	PKP	21 40 32.3	D	2.0	436	144
			G	52.9				
			eL	30				
	24	PNS	eP	22 27 01.5				
		LPB	eP	22 27 03.5				
	24	PNS	P	23 21 22.8				
			S	47				
		LPB	P	23 21 23.2		0.9	25	
	24	PNS	P	23 47 36.2				
			S	58.6				
		LPB	eP	23 47 38.3				
	25	USCGS 00 53 01.3, 20.3N, 109.3N, h = 33 km., m = 5.0 REVILLA GIGEDO IS REG						
		LPB	iP	01 02 28.6	C	1.5	165	54
			1	21.8				
		PNS	P	01 02 25.6	C	1.5	55	

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	25	USCGS PERU	02 13	05, 10.9S, 76.2W, h = 156 km., m = 4.7				
		PNS	e(P)	02 15 06.8				
		LPB	eP	02 15 20.8		1.0	12	9
	25	PNS	eP	06 22 55.5				
		LPB	eP	06 23 55.5		0.9	17	
	25	LPB	eP	06 29 09				
		PNS	P	06 29 16.7		0.4	3	
	25	PNS	P	07 16 45.5		0.4	2	
		LPB	eP	07 16 49				
	25	LPB	P	09 58 52		0.9	6	
	25	PNS	eP	10 05 50				
	25	LPB	eP	11 21 44				
		PNS	P	11 21 46.4	C	0.8	7	
	25	PNS	P	11 34 41		1.0	6	
		LPB	eP	11 34 44.2				
	25	PNS	iP	13 35 05.1	C	0.4	1	
		S		28.2				
	25	LPB	eP	15 39 47		0.7	14	
		PNS	eP	15 39 48.3				
		eS		40 31.5				
	25	PNS	eP	16 08 13.4	C	0.5	1	
		eS		09 02				
	25	PNS	eP	18 00 17.8		0.3	2	
		eS		56				
	25	PNS	iP	18 27 54.7	C			
		S		28 29				
		LPB	P	18 27 54.9		0.8	19	
		S		28 38				
	25	PNS	eP	18 45 23		0.5	3	
		LPB	eP	18 45 24				
	25	USCGS TALAUD IS	18 36	53.0, 5.0N, 126.9E, h = 31 km., m = 5.4				
		PNS	PKP	18 56 55.7	D	1.1	8	
		LPB	PKP	18 56 55.4		1.0	20	161

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	25	LPB PNS	eP P	18 56 53.5 18 56 55.2				
	25	PNS	eP	20 38 40				
	25	LPB	eP	22 51 04.5				
		PNS	e(S) iP	44 22 51 05.7 45	D	0.5	13	
	26	USCGS SOUTH ATLANTIC RIDGE	00 03	14.3, 57.5S, 6.8W, h = 33 km., m = 5.6				
		PNS	P	00 13 28.8	C	1.4	78	
		eS		21 50				
		eL		31.4				
		LPB	P	00 13 26.8	D	1.2	186	60.3
		S		21 44				
		eL		32				
	26	LPB	eP	00 42 43				
		PNS	eP	00 42 46.5	C	2.3	55	
	26	LPB	ePKP	01 29 21.5				135
		PKP		32 55.5				
		eL		02 13.4				
		PNS	ePKP	01 29 25		1.6	65	
		pPKP		42				
		PKS		32 54.8				
		eL		02 14				
	26	LPB	eP	03 50 07				
	26	PNS	iP	04 05 39.5	D	0.8	15	
		S		06 22				
		LPB	eP	04 05 35				
		S		06 15.7				
	26	LPB	P	06 26 37.6		1.0	20	
		PNS	iP	06 26 41.0	C	0.8	10	
	26	LPB	P	07 04 48.2		0.8	16	
		PNS	iP	07 04 52.1	C	0.5	10	
	26	PNS	P	07 50 26.6	C	0.4	1	
		S		49				
		LPB	eP	07 50 28				
		S		49.3				
	26	PNS	P	08 56 54.8	C			
		S		57 16.4				
		LPB	eP	08 56 55				
		S		57 20.5				

NOVEMBER									
MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV	26	LPB	eP	09 11 24.3					
		PNS	eP	09 11 27.3		0.7	3		
	26	PNS	P	10 03 00.3		0.6	2		
		LPB	eP	10 03 06.4					
	26	PNS	iP	10 42 11.8	D	0.5	16		
		LPB	eP	10 42 11.6					
	26	LPB	eP	17 27 16.5					
		PNS	iP	17 27 17.1	C	0.3	1		
	26	PNS	L	18 24.1					
	26	PNS	P	18 48 30.6	C	0.8	3		
		LPB	P	18 49 00	D	0.6	70		
	26		eS	50 24					
		PNS	iP	18 49 04.2	D	0.5	51		
	26		(S)	50 29					
			(L)	19 09.0					
	26	PNS	iP	19 24 07.8	C	0.5	3		
		LPB	eP	19 24 10.3					
27 USCGS 01 05 55.2, 28.9N, 129.9E, h = 33 km., m = 5.0 RYUKYU IS									
	27	LPB	ePKP	01 25 54					158.7
			eL	02 21.2					
	27	LPB	eP	02 07 03.5					
	27	LPB	P	05 18 40					
	27	LPB	P	04 19 29.8	D	0.6	23		
	27	LPB	e(P)	04 55 58.5					
	27	LPB	P	04 46 15.3		1.0	40		
		PNS	iP	04 46 18	C	0.7	12		
27 USCGS 05 46 06.3, 30.9N, 138.3E, h = 416 km., m = 4.7 SOUTH OF HONSHU, JAPAN									
	27	PNS	PKP	06 05 15.4	C	1.0	17		
		LPB	PKP	06 05 16.6		1.0	14		152

NOVEMBER									
MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
NOV	27	LPB	P	06 13 07.5					
		PNS	P	06 13 11.5	C	0.4	2		
	27	LPB	P	07 20 03		0.8	7		
		PNS	P	07 20 04.6	C	0.5	6		
	27	PNS	iP	08 16 14.8	D	0.4	9		
		LPB	eP	08 16 17.2					
	27		eS	42					
		PNS	e(P)	08 30 42					
	27	LPB	P	08 30 45.6		0.8	9		
		PNS	iP	08 55 50.4	C	0.6	3		
	27		S	36 21					
		LPB	eP	08 35 52.4					
	27	LPB	P	08 40 17.5		0.5	8		
	27	PNS	n	09 02 26.8	C	0.3	1		
		LPB	e(P)	09 02 28					
	27	LPB	eP	08 13 50					
	27	LPB	eP	10 56 20.4		0.8	6		
		PNS	P	11 39 14.5					
	27		S	43	D	0.6	11		
		PNS	P	11 54 12.6	C	0.6	4		
	27		S	51					
		PNS	P	17 23 16.3					
	27		S	34.3					
		LPB	P	17 23 18					
	27		eS	40					
		27 USCGS 21 59 46.2, 35.7S, 104.2W, h = 33 km., m = 4.7 SOUTHERN PACIFIC OCEAN							
	27	PNS	P	22 06 56.5		1.0	18		
			i	07 02					
	27		PP	08 27.8					
			L	17.7					
	27	LPB	eP	22 07 00.5		0.8	22		37
			ePP	08 30					
	27		S	12 50					
			SS	15 38					
	27		L	17.8					
		28	LPB	eP	00 08 04		1.0	5	
PNS	P		00 08 06.5		0.5	3			

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	28	LPB	eP	00 26 14				
		PNS	eP	00 26 16				
28	LPB	P	i	01 20 18.8		0.9	42	
			eS	40.8				
				22 18.5				
28	LPB	eP		02 19 03.5				
	PNS	eP		02 19 05.4				
28	USCGS 02 23 22.1, 18.1S, 69.5W, h = 140 km., m = 4.5 NORTHERN CHILE							
	PNS	iP		02 23 58.9	D			
		S		24 25				
	LPB	iP		02 23 59	D			2
		iS		24 26				
28	LPB	P		03 04 03.5		0.8	9	
	PNS	P		03 04 08.3		0.5	9	
28	LPB	eP		06 06 39				
	PNS	P		06 06 41.8		0.5	3	
28	LPB	P		06 11 53.2		1.0	6	
	PNS	P		06 11 54		0.9	10	
28	LPB	eP		06 46 40.2				
	PNS	eP		06 46 51.8				
28	USCGS 07 00 08.1, 40.1N, 142.3E, h = 47 km., m = 5.0 NR E CST OF HONSHU, JAPAN							
	PNS	PKP		07 19 40		0.9	10	
	LPB	ePKP		07 19 40.8		0.9	6	145
		eL		09.7				
28	USCGS 08 03 18.8, 16.4N, 122.1E, h = 67 km., m = 5.0 LUZON, PHILIPPINE IS							
	PNS	ePKP		08 23 23.4				
	LPB	ePKP		08 23 24.8				171
28	USCGS 10 36 07.7, 15.4N, 94.6W, h = 33 km., m = 5.2 NR COAST OF OAXACA, MEXICO							
	PNS	P		10 43 46.9		1.4	55	
	LPB	P		10 43 50.6		1.8	94	41
		ePP		45 35				
		iS		50 00				
		iSS		53 06				
		eL		56.3				
28	LPB	eP		10 48 12				
	PNS	P		10 48 15.7				

## NOVEMBER



From the ISC collection scanned by SISMOS

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	28	PNS	iP	11 39 57.5	D			
		LPB	iP	11 39 58.7	D	0.9	153	
			(S)	40 20.7				
28	PNS	eP		13 13 01.8				
		S		29				
	LPB	P		13 13 05.8		0.3	31	
28	PNS	P		13 45 02.9		0.5	3	
		eS		45.5				
	LPB	eP		13 45 10.2				
28	USCGS 13 44 33.7, 12.5N, 88.0W, h = 49 km., m = 4.9 OFF CST OF CENTRAL AMERICA							
	PNS	eP		13 51 20				
		e		23.7				
	LPB	P		13 51 24				35
28	LPB	eP		14 21 18.5				
	PNS	eP		14 21 19				
28	LPB	eP		15 10 17.5		0.7	25	
	PNS	P		15 10 22	C	0.8	18	
28	PNS	eP		15 17 50		0.9	4	
	LPB	eP		15 17 50				
28	PNS	P		15 35 13	D	0.9	7	
28	LPB	eP		16 29 03.5				
	PNS	eP		16 29 06.8				
28	LPB	P		16 46 18.2		1.0	16	
	PNS	eP		16 46 20.6		1.0	7	
28	USCGS 16 30 32.1, 6.8S, 156.2E, h = 169 km., m = 5.7 SOLOMON IS.							
	LPB	iPKP		16 49 25.6	D	0.9	59	130
		pPKP		50 10				
		PKS		52 33.8				
		eL		32.7				
	PNS	PKP		16 49 25.7	D	1.2	47	
		pPKS		50 10				
		PKS		52 33.9				
28	PNS	iP		16 58 06	D			
	LPB	iP		16 58 56.4	D	0.8	120	
		S		59 21.7				
28	LPB	eP		17 22 06.5				
	PNS	eP		17 22 07.3				

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	28	PNS	P	17 37 49.9		0.6	2	
	28	LPB	eP	19 01 51.2				
	28	LPB	eP	20 18 43				
			eS	19 33.5				
		PNS	P	20 18 50.4		0.5	8	
			S	19 26.8				
	28	PNS	eP	21 26 20				
	28	LPB	eP	21 38 40				
		PNS	eP	21 38 42				
	28	PNS	P	22 14 14.3		0.7	5	
		LPB	eP	22 14 15.5		0.9	10	
	29	PNS	P	00 12 22.2				
		LPB	eP	00 12 22.5				
	29	PNS	P	00 31 46.3	D	0.4	3	
			S	32 19.7				
		LPB	P	00 31 53.3	D	0.9	38	
			S	32 21.4				
	29	LPB	eP	00 46 10				
		PNS	eP	00 46 13.8		1.3	6	
	29	PNS	P	03 00 03.5				
		LPB	eP	03 00 05				
	29	LPB	P	03 58 40.4		1.0	8	
			L	04 12.9				
		PNS	eP	03 58 43				
			eL	04 12.8				
	29	USCGS 04 09 09.6, 57.4S, 71.W, h = 33 km., m = 5.2 SOUTHWESTERN ATLANTIC OCEAN						
		LPB	P	04 19 20.8				60
			i	28.4				
			eL	38				
		PNS	P	04 19 24.5		2.0	27	
			i	31.5				
			eL	38.5				
	29	USCGS 04 28 50.7, 2.5N, 127.3E, h = 33 km., m = 5.4 MOLUCCA PASSAGE						
		LPB	PKP	04 48 49.7		1.2	9	159
		PNS	ePKP	04 48 50		1.5	12	

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## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	29	LPB	eP	06 07 21				
		PNS	P	06 07 24				
	29	PNS	eP	06 10 19				
		LPB	eP	06 10 22				
	29	PNS	iP	06 16 24		0.5	10	
			S	46				
		LPB	eP	06 16 25.7				
	29	LPB	eP	06 36 42.7		1.0	6	
		PNS	eP	06 36 46.6		0.9	4	
	29	LPB	eP	07 22 54				
		PNS	eP	07 22 57.6				
	29	LPB	eP	07 29 02		0.8	18	
			i	25.3				
		PNS	P	07 29 05.7		1.4	40	
			i	26.3				
	29	LPB	eP	08 10 24.4				
	29	USCGS 09 31 05.1, 5.7S, 76.9W, h = 110 km., m = 4.1 NORTHERN PERU						
		LPB	eP	09 34 18				13
		PNS	P	09 34 23.4		0.9	5	
	29	PNS	eP	10 47 08.7				
			i	13.6				
		LPB	eP	10 47 11		1.0	26	
	29	LPB	eP	13 34 24		1.0	26	
		PNS	P	13 34 27		0.9	12	
			S	35 22				
	29	LPB	P	15 23 48		0.9	19	
		PNS	eP	15 23 49.2		0.6	7	
	29	LPB	eP	18 53 19				
	30	LPB	eP	01 32 46				
	30	USCGS 02 41 42.1, 6.9N, 124.9E, h = 27 km., m = 5.0 MINDANAO, PHILIPPINE IS						
		PNS	ePKP	03 01 24				
			eL	59.6				
		LPB	ePKP	03 01 26.7				164
			eL	59.8				

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## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	30	LPB	eP	09 17 32.4				
		PNS	eP	09 17 36		1.4	11	
30		USCGS 09 47 59.8, 2.7S, 76.7W, h = 126 km., m = 4.6 PERU-ECUADOR BOR REG						
		PNS	eP	09 51 34.4				
			i	41				
			S	54 43.3				
		LPB	eP	09 51 40				16
			i	45.2				
			S	54 52.5				
50		PNS	eP	11 01 01				
		LPB	eP	11 01 03.5		1.0	18	
50		PNS	iP	11 08 05.9	D	0.5	4	
		LPB	eP	11 08 08.2				
50		USCGS 12 00 26.6, 23.9S, 66.7W, h = 211 km., m = 4.3 JUJUY PROV. ARGENTINA						
		LPB	P	12 02 13.6		0.7	53	7
			S	03 40.6				
		PNS	iP	12 02 17.8	C			
			eS	03 46.8				
30		LPB	P	15 45 01.5		1.1	42	
		PNS	P	15 45 04.5	C	0.9	35	
			e	46 20				
30		PNS	P	16 33 09.3		0.6	13	
		LPB	P	16 33 12				
30		PNS	eP	17 43 30				
		LPB	eP	17 43 38				
30		LPB	eP	18 14 51				
30		LPB	P	18 24 22.7				
30		LPB	eP	19 11 55.4				
			eS	12 30.2				
		PNS	eP	19 12 01.5				
30		LPB	eP	19 33 46				
		PNS	eP	19 33 48				
30		USCGS 19 59 35.3, 8.3S, 79.9W, h = 33 km., m = 4.7						
		PNS	eP	20 02 53		1.0	10	
			eL	08.1				
		LPB	eP	20 02 55		1.1	27	14

## NOVEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
NOV	30	PNS	eP	03 58 35.9		1.0	17	
			i	39.1				
		LPB	P	03 58 40.7		1.2	12	
			i	45.3				
			i	56				
			(S)	59 36.2				
30		LPB	P	04 26 44		1.0	6	
			eL	57				
		PNS	P	04 26 47		1.1	8	
			eL	57.3				
30		LPB	eP	04 38 28.5		1.3	11	
		PNS	eP	04 38 30		1.1	15	
30		LPB	P	04 48 45.5		0.8	52	
			S	49 20				
		PNS	iP	04 48 46.6	C	0.5	13	
			S	49 23.8				
30		LPB	eP	06 20 45.3		1.0	8	
			eL	51				
		PNS	P	06 20 46.3		1.1	10	
30		LPB	eP	06 48 10.5		1.0	6	
			S	43.7				
		PNS	iP	06 48 12.7	D	0.5	3	
			S	45.3				
30		LPB	eP	07 42 53.3				
30		LPB	eP	07 44 34		0.9	8	
30		LPB	eP	08 03 42				
			S	04 08.3				
		PNS	iP	08 03 49.5	D	0.5	8	
			S	04 10.7				
30		USCGS 07 51 11.3, 0.1N, 132.7E, h = 15 km., m = 5.3 WEST NEW GUINEA REG						
		LPB	ePKP	08 11 13.4		1.3	15	153
		PNS	PKP	08 11 13.5				
			i	27.1				
30		PNS	eP	08 32 07.7		0.8	4	
		LPB	eP	08 32 15				
30		PNS	e(P)	08 35 02				
		LPB	eP	08 35 07.5		0.8	7	
30		PNS	iP	08 50 06.6				
			S	28.8				
		LPB	P	08 50 08.3		0.9	39	
			S	32.5				

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	01	PNS	eP	00 01 57.4					
			eS	44.8					
		LPB	eP	00 01 59					
	01	PNS	P	00 37 28.2					
	01	LPB	P	01 24 10.5					
		PNS	iP	01 24 10.8	D				
			S	36.3					
	01	PNS	P	02 07 28.2					
		LPB	eP	02 07 32					
	01	USCGS 02 19 29.5, 14.0S, 75.9W, h = 92 km., m = 4.5 NEAR COAST OF PERU							
		PNS	P	02 21 18.3	C	0.9	14		
		LPB	P	02 21 23.2		0.9	17	8	
	01	PNS	iP	02 56 36.9	D	0.7	12		
			S	57 05.2					
		LPB	eP	02 56 43					
			S	12					
	01	LPB	eP	03 44 10					
		PNS	eP	03 44 15.3		1.0	10		
	01	PNS	P	03 46 05.3					
	01	USCGS 03 44 18.0, 2.9N, 79.3W, h = 35 km., m = 4.1 SOUTH OF PANAMA							
		PNS	eP	03 49 10.3		0.7	3		
		LPB	eP	03 49 12.2		0.9	10	22	
			eL	56					
	01	LPB	eP	04 01 01					
		PNS	eP	04 00 57.4					
	01	USCGS 04 08 21.4, 3.4S, 79.4W, h = 112 km., m = 4.3 NEAR COAST OF ECUADOR							
		PNS	P	04 12 01.8		0.9	10		
			i	40					
		LPB	P	04 12 16.7		0.8	27	17	
	01	USCGS 05 27 09.3, 65.4S, 179.7E, h = 33 km., m = 5.2 BALLENY IS REG							
		LPB	P	05 39 37.2		1.0	12	84	
			eL	06 06.7					
		PNS	P	05 39 38.2		1.6	40		
			eL	06 06.6					



MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	01	PNS	eP	05 23 56.6					
	01	LPB	eP	05 39 37					
		PNS	P	05 39 37.4					
	01	LPB	eP	10 10 00.4					
		PNS	eP	10 11 58.2					
	01	LPB	P	10 43 50.5		0.8	12		
	01	PNS	P	12 26 14.8					
			eS	27 02.6					
		LPB	P	12 26 17.3		0.7	16		
			S	27 01.6					
	01	LPB	eP	12 47 32.7					
			e(S)	48 02.8					
		PNS	iP	12 47 33.2	D				
			S	56.7					
	01	LPB	eP	12 49 22.5					
		PNS	P	12 49 23.4		0.4	3		
			S	56					
	01	USCGS 13 14 50.6, 10.6S, 74.9W, h = 5 km., m = 5.4 PERU							
		PNS	P	13 16 56		1.2	54		
			L	19.6					
		LPB	P	13 17 02.2				9	
			S	46					
			eL	18.8					
		TRJ	P	13 18 16.2					
	01	PNS	P	13 49 24.7					
	01	PNS	eP	14 39 03					
	01	PNS	P	14 43 33.8	D	0.6	13		
			S	58					
	01	PNS	eP	14 46 17.3		0.7	3		
		LPB	eP	14 46 25					
	01	USCGS 15 16 38.5, 6.9N, 72.9W, h = 164 km., m = 5.1 NORTHERN COLOMBIA							
		PNS	P	15 21 34.5		0.9	10		
		LPB	P	15 21 38		0.9	19	23	
			S	25 40					
			eSS	26 48					
	01	PNS	eP	16 02 30.6		0.6	3		
		LPB	eP	16 02 31					
	01	LPB	eP	16 26 15					
		PNS	eP	16 26 17					
	01	LPB	P	17 45 31		0.9	11		
		PNS	eP	17 45 31.8					
	01	PNS	P	19 04 37.4					

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	01	PNS	P	19 42 01					
	01	LPB	eP	22 55 49.5					
		PNS	P	22 55 55.2		0.6	5		
		TRJ	P	22 56 21.2					
	01	LPB	P	22 58 18.6					
			i	37					
		PNS	eP	22 58 19.5					
			k	40.2					
		TRJ	P	22 58 52.8					
			i	59 35.1					
	01	LPB	P	23 58 37.7		1.0	12		
		PNS	eP	23 58 40		0.6	4		
	02	PNS	eP	00 51 12.4					
		LPB	eP	00 51 14					
			i	29.7					
	02	LPB	P	01 13 53.6		0.9	8		
		PNS	eP	01 13 55.9		0.9	7		
	02	PNS	eP	02 05 13.4					
		LPB	eP	02 05 16					
	02	USCGS 02 33 41.6, 13.9S, 23.8E, h = 7 km., m = 6.0 NORTHERN RODESIA							
		LPB	P	02 46 33.4	D	1.0	62	87	
			S	57 00					
			e(G)	03 10.3					
			eL	15.5					
		PNS	P	02 46 36.1	D	0.9	34		
			S	57 10					
			eL	03 14.9					
		TRJ	P	02 47 12.9					
	02	LPB	P	03 14 14.5		0.8	25		
			eS	59.8					
		PNS	P	03 14 17		0.7	6		
			S	15 04.5					
		TRJ	P	03 15 20.8					
	02	USCGS 05 48 40, 10.9N, 62.6W, h = 115 km., m = 4.5 NEAR COAST OF VENEZUELA							
		PNS	eP	05 54 19.5					
		LPB	eP	05 54 21		0.8	4	28	
	02	PNS	eP	05 59 37					
		LPB	eP	05 59 41					

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	02	LPB	eP	06 21 44					
		PNS	P	06 21 46.5		0.4	3		
	02	LPB	eP	07 34 36.6		0.8	6		
		PNS	P	07 34 36.7		0.9	4		
	02	LPB	P	07 39 23					
			(S)	40 25.6					
		PNS	P	07 39 27.7		0.6	5		
			S	40 10.4					
	02	LPB	P	08 05 22.7		0.8	12		
		PNS	P	08 05 27.1		0.4	8		
	02	PNS	eP	08 44 51.6					
		LPB	eP	08 44 56					
	02	LPB	eP	09 28 45.7					
		PNS	eP	09 28 53					
	02	LPB	eP	09 54 24.2					
		PNS	eP	09 54 35.5					
	02	USCGS 12 11 29.7, 6.9N, 73.0W, h = 153 km., m = 4.1 NORTHERN COLOMBIA							
		PNS	eP	12 16 24.6					
			i	59					
		LPB	P	12 17 31		0.9	18	23	
			i	03					
	02	PNS	eP	13 00 44.7		0.7	3		
	02	LPB	eP	13 07 43					
		PNS	eP	13 07 44.5					
	02	USCGS 13 24 45.3, 6.7N, 104.5W, h = 33 km., m = 4.9 EAST CENTRAL PACIFIC OCEAN							
		PNS	P	13 32 40.8		1.8	73		
			eL	45.9					
		LPB	eP	13 32 44.5		1.2	44	42	
			eL	46.2					
	02	LPB	P	13 46 47.3		0.6	28		
		PNS	eP	13 46 50.2					
	02	USCGS 13 47 13.9, 6.9N, 104.2W, h = 33 km., m = 4.6 EAST CENTRAL PACIFIC OCEAN							
		PNS	eP	13 55 06.9		1.0	7		
		LPB	eP	13 55 11		1.0	22	42	

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	02	LPB	eP eL	14 06 28 36				
	02	PNS	P	14 49 14.8				
	02	PNS	eP	15 21 22				
	02	LPB	eP S	15 50 09 42.3		0.8	120	
	02	PNS	eP e	16 44 24.7 45 33.6				
		LPB	eP	16 44 25				
	02	PNS	P S	19 15 56.3 16 23		0.5	4	
	02	PNS	P S	19 35 13 36.6		0.4	3	
	02	PNS	eP	19 38 23.5		0.4	2	
	02	PNS	eP	20 02 25.5				
	02	PNS LPB	eP eP	20 13 19.7 20 13 20		1.0	5	
	02	PNS LPB	eP eP	20 16 53.4 20 16 58				
	02	PNS	eP	20 31 35.7				
	02	PNS	eP	20 51 10.4				
	02	PNS	P	21 51 07.9	C	0.6	4	
	02	PNS	P	21 53 07.8				
	02	PNS LPB	eP eP	22 07 32.3 22 07 33				
	02	PNS	eP	23 01 13.9				
	03	PNS LPB	P eP	00 56 39.7 57 01.8 00 56 40	D	0.5	11	
	03	PNS	P S	02 13 02.5 24.3				
	03	PNS	P	04 52 25.7				
	03	LPB PNS	eP P	07 25 04 07 25 07.4		0.6	2	
	03	LPB PNS	eP P	08 03 35.4 08 03 39.6		0.8 0.5	7 5	



DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	03	LPB	P i S	09 05 48.1 06 04.4 29.5	D	0.9	40	
		PNS	P i S	09 05 49.4 51 06 06.8 35		0.8	14	
	03	LPB PNS	eP eP	09 58 40.5 09 58 42.7				
	03	PNS LPB	eP eP	13 28 14.4 13 28 15		1.0 0.9	9 17	
	03	LPB PNS	eP P eS	15 01 25 15 01 29.4 56		0.4	1	
	03	PNS LPB	eP eP	15 17 42.2 15 17 47.2		0.9	15	
	03	LPB PNS	iP S iP eS	15 22 14.7 23 40.5 15 22 19 23 42.8	C	0.4	5	
	03	PNS	P S	15 30 43 31 07.4	D	0.6	6	
	03	PNS LPB	P eP	16 40 48 16 40 49		0.6	7	
	03	LPB	P S	17 08 14.4 43.2		0.7	28	
		PNS	iP	17 08 14.6	D	0.5	8	
	03	PNS	eP	17 44 35.6		0.4	2	
	03	LPB	eP	19 11 51				
	03	PNS	eP	19 37 50.8		0.4	6	
	03	PNS LPB	eP eP	20 04 04 20 04 08				
	03	USCGS	19 26 39.1, 8.4S, 105.7E, h = 25 km., m = 5.2 SOUTH OF JAVA					
		LPB	ePKP eL	19 46 41 20 40				154
		PNS	ePKP	19 46 43				
	03	PNS	eP	23 38 37.6				

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	03	PNS	eP	23 38 37.6				
	04	LPB	eL	02 42				
		PNS	eL	02 48.2				
	04	LPB	P	02 57 24.2		0.7	28	
			S	59				
		PNS	eP	02 57 31				
	04	LPB	eP	03 08 15.4				
	04	LPB	eP	03 20 25.5				
	04	LPB	eP	04 12 22				
		PNS	eP	04 12 23				
	04	USCGS 04 32 48.7, 27.0N, 44.1W, h = 33 km., m = 4.7 NORTH ATLANTIC REG						
		PNS	P	04 41 36.2		1.0	9	
		LPB	P	04 41 36.7		1.0	16	50
	04	USCGS 05 03 41.1, 2.7S, 139.0E, h = 62 km., m = 5.3 NR N CST OF W NEW GUINEA						
		LPB	ePKP	05 23 18		0.9	6	147
		PNS	PKP	05 23 19.2		0.8	8	
	04	PNS	eP	05 37 52.2				
		LPB	eP	05 37 57.5				
	04	PNS	eP	06 02 48				
		LPB	eP	06 02 50				
	04	LPB	eP	06 36 43.2				
		PNS	eP	06 36 43.8				
	04	PNS	eP	07 07 02.8				
		LPB	eP	07 07 30.3		0.8	15	
	04	PNS	eP	10 28 35.2				
		LPB	eP	10 28 35.6				
	04	PNS	iP	11 15 18.6	D			
		LPB	iP	11 15 19.5	D	0.8	37	
			i	24				
			S	44.4				
	04	USCGS 11 33 22.0, 7.3S, 74.5W, h = 112 km., m = 4.2 PERU-BRAZIL BOR REG						



DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC		PNS	eP	11 35 58				
		LPB	P	11 35 58.4		0.9	8	11
	04	USCGS 11 44 01.9, 11.0S, 74.8W, h = 25 km., m = 4.8 PERU						
		PNS	P	11 46 01.2	D	0.6	2	
			eL	49				
		LPB	P	11 46 06.3		0.9	13	8
			i	20.5				
			(S)	48 28				
			L	49.6				
	04	LPB	P	12 40 04				
		PNS	eP	12 40 05.8				
	04	LPB	eP	12 46 05.4		0.9	15	
		PNS	eP	12 46 06.2		1.4	12	
	04	USCGS 13 23 07.4, 3.7N, 76.1W, h = 75 km., m = 4.1 COLOMBIA						
		PNS	eP	13 27 50				
		LPB	eP	13 27 55				21
	04	PNS	eP	14 13 04.4				
		LPB	eP	14 13 13.6				
			e	19.5				
	04	LPB	eP	15 01 40				
		PNS	eP	15 01 42.2				
	04	USCGS 15 41 37.6, 1.3S, 78.4W, h = 31 km., m = 4.3 ECUADOR						
		PNS	eP	15 45 44.4		1.0	12	
			eL	50.3				
		LPB	eP	15 45 48				18
			eS	49 08				
			eL	52.7				
	04	PNSS	P	16 50 24.4		0.6	8	
		LPB	eP	16 50 30		0.6	14	
	04	USCGS 18 04 12.3, 15.5S, 70.5W, h = 203 km., m = 4.3 SOUTHERN PERU						
		PNS	iP	18 04 53.6	D			
			eS	05 31				
		LPB	iP	18 04 57.8	D	0.7	420	3
			iS	05 32.4				
	04	PNS	eP	20 24 20				
		LPB	eP	20 24 25.6		1.0	18	

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	04	LPB	eP	21 03 44.3				
			e	55				
		PNS	P	21 03 50				
			i	55.4				
	04	LPB	eP	21 53 46				
		PNS	eP	21 53 47.4				
	04	USCGS 21 41 32.6, 8.4N, 58.4E, h = 33 km., m = 5.1 CARLSBERG RIDGE						
		LPB	ePKP	22 00 37.7				127
			eL	49.6				
		PNS	ePKP	22 00 38.4				
			eL	47.6				
	04	PNS	iP	22 10 36.6	D			
		LPB	P	22 10 27.6		0.9	23	
	04	LPB	eP	22 31 40		0.7	9	
		PNS	eP	22 31 45		0.2	2	
	05	PNS	eP	00 45 31.8				
		LPB	eP	00 45 33				
	05	LPB	eP	01 14 15.5		0.8	9	
		PNS	P	01 14 18.4				
	05	LPB	eP	02 05 41				
		PNS	eP	02 05 48				
	05	PNS	eP	02 33 05.4				
		LPB	e(P)	02 33 11				
	05	PNS	P	04 18 24.4		1.2	10	
		LPB	P	04 18 26.7		1.2	12	
	05	LPB	e(P)	05 16 36				
		PNS	P	05 16 38.2		0.4	3	
	05	LPB	eP	06 01 15.5				
			eL	20				
		PNS	e(P)	06 01 20				
	05	PNS	P	06 10 49.6		0.4	3	
	05	PNS	iP	07 01 24.2	C	0.8	15	
		LPB	eP	07 01 26				
	05	LPB	P	08 05 02.8		0.7	8	
	05	LPB	P	08 10 06.7				
			eL	44.2				
		PNS	eP	08 10 15.8				

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	05	LPB	P	08 10 06.7				
			eL	44.2				
		PNS	eP	08 10 15.8				
	05	PNS	P	08 32 45.4				
	05	USCGS 09 01 26.4, 5.1N, 95.8E, h = 33 km., m = 4.8 NORTHERN SUMATRA						
		PNS	ePKP	09 21 26			1.0	6
			PKP2	22 10				
	05	USCGS 09 61 26.4, 5.1N, 95.8E, h = 33 km., m = 4.8 NORTHERN SUMATRA						
		PNS	ePKP	09 21 26			1.0	6
			PKP2	09 22 10.0				160
		LPB	ePKP	09 21				
			PKP2	22 08.2				
	05	LPB	eP	10 21 01				
	05	USCGS 09 44 11.0, 63.9N, 21.7W, h = 5 km., m = 5.5 ICELAND REGION						
		LPB	eP	09 57 02			1.8	43
			S	10 07 36				
			eSS	13 36				
			eL	25.3				
		PNS	P	09 57 02.2			1.0	18
			eL	27.6				
	05	PNS	eP	11 06 01				
		LPB	eP	11 06 12.6				
			i	18				
	05	LPB	eP	11 13 50		0.9	13	
		PNS	eP	11 13 51.2				
	05	LPB	eP	12 56 18				
		PNS	eP	12 56 21.8				
	05	LPB	iP	13 28 04.8	C	0.7	206	
			S	42.5				
		PNS	iP	13 28 06.8	C			
	05	PNS	eP	16 33 41		0.5	4	
	05	PNS	P	16 38 39		0.6	6	
		LPB	e(P)	16 38 39.2				
	05	LPB	eP	17 23 52		1.0	20	

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	05	PNS	P	19 18 37.4	D	0.8	8	
		LPB	P	19 18 41.7		1.2	46	
			S	23 06				
			eL	26.9				
05	PNS	P	20 19 56.6		0.8	14		
		LPB	P	20 20 02.5		0.9	13	
05	LPB	eP	20 46 06					
		PNS	P	20 46 10.6		0.6	5	
05	LPB	eP	22 03 34					
		PNS	P	22 03 35		0.6	3	
05	LPB	eP	22 22 39.5		0.9	34		
			e	57.7				
		PNS	eP	22 22 41.4		0.8	15	
05	LPB	eP	22 48 15					
		PNS	P	22 48 18.2		0.5	3	
06	LPB	eP	02 30 55.5		1.3	26		
06	LPB	P	03 00 17.3		0.9	8		
		PNS	P	05 00 21.4		0.5	4	
06	LPB	P	04 33 39.5		1.0	6		
		PNS	P	04 33 42.4		0.4	1	
06	PNS	e(P)	05 50 59.2					
		LPB	eP	05 50 59.8		0.9	8	
06	LPB	eP	07 00 52.3					
		PNS	eP	07 00 53.6				
06	LPB	eP	07 15 54		0.8	6		
06	LPB	eP	08 10 40					
		PNS	P	08 10 44.6		0.8	4	
06	LPB	eP	08 49 51					
		PNS	eP	08 50 00				
06	LPB	eP	08 56 10					
		PNS	eP	08 56 11.8				
06	LPB	eP	09 14 38.4		0.7	5		
		PNS	eP	09 14 43.2				
06	PNS	P	10 04 29.8		0.4	5		
			eS	56.2				
06	PNS	P	11 34 00		0.5	4		
			S	22.6				
06	PNS	eP	15 32 47.2					
		LPB	eP	15 32 46				
06	LPB	P	16 50 08.7		0.8	7		
			S	42.3				

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	06	PNS	P	17 58 43.2		0.6	4	
		LPB	eP	17 58 47.5				
06	PNS	eP	18 54 25.8					
06	LPB	eP	19 22 32					
		PNS	e(P)	19 22 32.8				
06	PNS	P	21 18 28.4					
		P	23 53 13.6					
07	PNS	eP	01 37 35.6					
07	LPB	eP	01 57 10.4					
		PNS	P	01 57 14		0.6	3	
07	LPB	P	02 10 43					
		PNS	eP	02 10 46.8		0.6	2	
07	PNS	eP	02 30 10.6					
07	PNS	P	04 05 35.2		0.4	2		
07	PNS	P	04 16 42.4		0.7	6		
		S	17 05.8					
		LPB	P	04 16 42.8		0.7	6	
			eS	17 07				
07	LPB	eP	04 27 16.5		0.6	6		
			i	28.8				
		PNS	P	04 27 17.2		0.4	2	
07	PNS	P	04 55 28.6					
		S	14 03 50.8					
07	LPB	P	05 12 19.2	D	0.9	34		
		S	48.2					
07	PNS	P	05 12 21	D	0.6	12		
		S	50					
07	USCGS 04 57 49.0, 3.4S, 145.9E, h = 15 km., m = 5.3 NR NORTH CST OF NEW GUINEA							
07	LPB	ePKP	05 17 19.8		1.2	31	141	
		ePKS	20 38					
		SS	39 42					
		G	58.6					
		eL	06 06					
PNS	ePKP	05 17 20		1.2	9			
	PKS	20 37						
	SS	39 45						
	G	58.2						
		eL	06 05					



DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	07	LPB	eP	06 14 09.7					
		PNS	eP	06 14 11.8					
	07	USCGS 07 08 25.5, 26.9N, 109.9W, h = 33 km., m = 4.1 GULF OF CALIFORNIA							
		PNS	eP	07 18 23.8					
	07	LPB	eP	07 52 41.5		0.5	2		
		PNS	eP	07 52 46.2					
	07	LPB	eP	08 49 14		0.6	1		
		PNS	P	08 49 18					
	07	LPB	P	09 59 30.4		0.7	42		
			S	59.3					
		PNS	P	09 59 37.2		0.4	10		
			eS	10 10					
	07	USCGS 11 43 19.9, 16.3N, 99.0W, h=33 km., m = 4.5 NR CST OF GUERRERO, MEXICO							
		LPB	eP	11 51 29				45	
		PNS	eP	11 51 31.2					
	07	LPB	eP	12 16 33.2		1.0	10		
	07	USCGS 12 14 19.0, 16.2N, 99.1W, h = 33 km., m = 4.2 NR CST OF GUERRERO, MEXICO							
		PNS	eP	12 22 33					
	07	PNS	P	13 58 48.8		1.4	19		
			eL	14 18					
		LPB	eP	13 58 51					
	07	PNS	eP	14 03 50					
		LPB	eP	14 03 52.4					
	07	LPB	P	14 09 39.5		1.0	14		
	07	PNS	P	14 55 17.8		0.5	1		
			eS	41.2					
	07	LPB	eP	16 07 04.5					
			e(SS)	26 16					
			eL	41.3					
		PNS	eP	16 07 05.6					
	07	LPB	eP	17 34 08					

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	07	LPB	eP	06 14 09.7					
		PNS	eP	06 14 11.8					
	07	USCGS 07 08 25.5, 26.9N, 109.9W, h = 33 km., m = 4.1 GULF OF CALIFORNIA							
		PNS	eP	07 18 23.8					
	07	LPB	eP	07 52 41.5		0.5	2		
		PNS	eP	07 52 46.2					
	07	LPB	eP	08 49 14		0.6	1		
		PNS	P	08 49 18					
	07	LPB	P	09 59 30.4		0.7	42		
			S	59.3					
		PNS	P	09 59 37.2		0.4	10		
			eS	10 10					
	07	USCGS 11 43 19.9, 16.3N, 99.0W, h=33 km., m = 4.5 NR CST OF GUERRERO, MEXICO							
		LPB	eP	11 51 29				45	
		PNS	eP	11 51 31.2					
	07	LPB	eP	12 16 33.2		1.0	10		
	07	USCGS 12 14 19.0, 16.2N, 99.1W, h = 33 km., m = 4.2 NR CST OF GUERRERO, MEXICO							
		PNS	eP	12 22 33					
	07	PNS	P	13 58 48.8		1.4	19		
			eL	14 18					
		LPB	eP	13 58 51					
	07	PNS	eP	14 03 50					
		LPB	eP	14 03 52.4					
	07	LPB	P	14 09 39.5		1.0	14		
	07	PNS	P	14 55 17.8		0.5	1		
			eS	41.2					
	07	LPB	eP	16 07 04.5					
			e(SS)	26 16					
			eL	41.3					
		PNS	eP	16 07 05.6					
	07	LPB	eP	17 34 08					



DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	07	LPB	iP	18 29 17.6	C	1.0	218		
			i	34.4					
			S	55.7					
		PNS	iP	18 29 19.8	C				
			eS	30 00					
	07	PNS	P	19 22 33.2		0.6	11		
			eS	23 22					
	07	LPB	P	19 49 47.3					
	07	USCGS 20 12	06.9, 17.2S, 69.8W, h = 184 km., m = 3.8 PERU-BOLIVIA BOR REG						
		PNS	iP	20 12 40.2	D				
			eS	13 02.8					
		LPB	iP	20 12 42.7	D	0.8	80	2	
			S	13 07.5					
	07	USCGS 20 35	21.2, 45.0S, 80.3W, h = 33 km., m = 5.6 OFF COAST OF SOUTHERN CHILE						
		LPB	P	20 41 31.4	D	2.2	324	30	
			PP	42 25					
			PCP	44 31.4					
			S	46 34					
			L	50					
		PNS	P	20 41 33	D				
			PCP	44 32.6					
			S	46 37.8					
			L	50.1					
	07	LPB	eP	21 05 07.2					
		PNS	eP	21 05 10					
	07	USCGS 21 35	44.8, 20.7S, 169.4E, h = 61 km., m = 5.6 NEW HEBRIDES IS.						
		PNS	ePKP	21 54 15					
		LPB	ePKP	21 54 19				112	
	07	LPB	eP	23 24 47.3		0.8	6		
		PNS	eP	23 24 51					
	08	USCGS 01 04	18.1, 6.1N, 72.2W, h = 64 km., m = 4.4 NORTHERN COLOMBIA						
		PNS	P	01 09 14.4	D	1.0	45		
			eL	14					
		LPB	P	01 09 17.2		0.8	12	23	
			eL	18.5					
	08	PNS	iP	02 04 43.4	D				
			S	05 07.2					
		LPB	P	02 04 49		0.8	15		
			eS	05 08.5					
	08	USCGS 05 08	27.2, 32.3S, 71.4W, h = 65 km., m = 3.7 NEAR COAST OF CENTRAL CHILE						
		LPB	eP	05 12 10				16	

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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC			i	15.4					
			eL	17.6					
		PNS	eP	05 12 13.2		0.8	9		
			i	17.8					
			eL	16.2					
	08	USCGS 06 17	45.2, 58.0S, 26.2W, h = 33 km., m = 4.3 SOUTH SANDWICH IS REG						
		LPB	eP	06 26 50				52	
		PNS	eP	06 26 56.2		0.6	2		
	08	LPB	eP	06 41 30.2					
	08	LPB	P	07 46 44.4		0.7	11		
			S	47 18.5					
		PNS	P	07 46 52.4		0.6	6		
			e(S)	47 32.4					
	08	PNS	P	08 13 10		0.4	4		
			eL	16.2					
		LPB	P	08 13 14.4		1.0	8		
			eL	17.2					
	08	PNS	eP	08 35 22.2		0.4	2		
	08	LPB	P	09 11 58.6					
			e	12 49					
			eL	30.8					
		PNS	eP	09 12 08					
			e	48.2					
			eS	21 20					
	08	USCGS 09 08	34.5, 27.4N, 128.3E, h = 54 km., m = 5.1 RYUKYU IS						
		LPB	PKP	09 28 32.7		0.9	10	161	
		PNS	PKP	09 28 33		1.2	14		
	08	PNS	P	09 51 12.6	D	0.4	7		
	08	LPB	P	10 11 15		0.8	7		
			S	51					
		PNS	P	10 11 24		0.7	11		
			S	12 04					
	08	LPB	eP	10 31 06					
		PNS	P	10 31 07		1.0	5		
	08	USCGS 10 42	12.3, 15.4N, 94.6W, h = 55 km., m = 4.3 NR COAST OF OAXACA, MEXICO						
		PNS	P	10 49 49.2		0.8	4		
		LPB	eP	10 49 52				41	
	08	LPB	eP	10 55 32					
		PNS	eP	10 55 37					
	08	USCGS 11 46	39.7, 28.6S, 71.4W, h = 36 km., m = 4.3 NEAR COAST OF CENTRAL CHILE						

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC		PNS	eP	11 49 40				
		LPB	eP	11 49 43				12
			eL	53.8				
08		USCGS	13 11	51.3, 5.4S, 129.0E, h = 253 km., m = 5.5				
		BANDA SEA						
		LPB	PKP	13 31 14				152
			i	20.4				
		PNS	PKP	13 31 14.6		1.4	18	
			i	21.2				
08		PNS	P	13 49 46.4		1.0	6	
		LPB	eP	13 49 49				
08		LPB	eP	14 14 06.2				
		PNS	P	14 14 07.6		0.5	2	
08		LPB	eP	14 43 30				
		PNS	eP	14 43 33.6				
08		LPB	eP	15 24 18.7				
08		PNS	eP	16 11 14.6				
		LPB	P	16 11 17.3		0.8	7	
08		LPB	eP	16 58 46.7		1.0	10	
		PNS	P	16 58 48		1.0	7	
08		LPB	eP	17 03 02				
		PNS	eP	17 03 03				
08		PNS	eP	19 05 44				
		LPB	eP	19 05 47				
08		LPB	eP	19 09 20.7				
08		LPB	eL	20 29				
		PNS	eL	20 30.2				
08		PNS	eP	19 40 49.8				
09		LPB	eP	03 05 40.4		0.6	4	
09		PNS	eP	05 46 09				
		LPB	e(P)	05 46 14				
09		USCGS	05 53	48.5, 59.4S, 25.7W, h = 33 km., m = 4.5				
		SOUTH SANDWICH IS REG						
		LPB	P	06 03 01.8		0.8	7	53
		PNS	P	06 03 05.4		0.8	5	
09		PNS	P	09 13 50.4		0.3	1	
		S		14 15				
		LPB	P	09 13 50.2		0.8	7	
		S		14 14.5				



MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	09	LPB	P	09 52 52.2			0.8	31
			eS	54 12.3				
		PNS	P	09 52 55.8	C		0.8	15
09		USCGS	09 45	26.2, 5.5S, 151.6E, h = 54 km., m = 5.1				
		NEW BRITAIN REG.						
		LPB	ePKP	10 04 43				135
		PNS	ePKP	10 04 43.6				
09		PNS	e(P)	14 42 18.8				
09		USCGS	15 04	13.3, 7.1S, 130.1E, h = 131 km., m = 5.4				
		TANINBAR IS REG						
		PNS	PKP	15 23 18			0.9	8
			e	38.6				
		LPB	ePKP	15 23 19.5				150
			e	36.6				
09		LPB	eP	15 42 55				
		PNS	eP	15 42 59.2			0.5	2
09		PNS	P	16 35 21.8			0.6	6
		LPB	P	16 35 26				
09		LPB	eP	18 10 14				
		PNS	eP	18 10 17.8			0.7	3
09		PNS	P	19 07 15.8				
09		PNS	iP	20 57 58.2	C			
			Sr	23.4				
		LPB	P	20 58 00.5	C		0.8	120
09		LPB	P	21 41 25.2			0.8	47
09		LPB	eP	23 52 00				
		PNS	eP	23 52 04				
10		LPB	eP	00 05 09.7				
		S		31.7				
		PNS	P	00 05 14.2				
		S		41.4				
10		USCGS	00 58	59.4, 5.8S, 77.4W, h=85 km., m = 4.4				
		NORTHERN PERU						
		PNS	eP	01 02 10				
			PP	20				
		LPB	eP	01 02 14.7				14
			PP	24.5				
			eL	08.2				
10		PNS	P	03 21 32.2			1.0	8
		LPB	P	03 21 35.8			1.0	6
10		LPB	P	04 40 50.7			0.6	18
		PNS	P	04 40 54.4				
10		USCGS	04 25	25.5, 6.3S, 130.4E, h = 107 km., m = 5.5				

## DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC		PNS	PKP	04 45 05.4		0.8	13	
		LPB	PKP	04 45 09.2		0.7	17	150
10		USCGS 04 49 27.6, 40.7N, 145.4E, h = 33 km., m = 4.7 OFF E CST OF HONSHU, JAPAN						
		PNS	ePKP	05 08 53.2		0.9	5	
		LPB	PKP	05 08 56.5		0.8	6	142
10		USCGS 06 06 56.7, 2.7N, 83.3W, h = 24 km., m = 4.9 OFF CST OF CENTRAL AMERICA						
		PNS	P	06 12 11	D	1.4	65	
			eL	19.4				
		LPB	eP	06 12 14		1.4	55	24
			eL	21.8				
10		LPB	eP	06 32 26.8				
10		USCGS 06 36 40.0, 6.8N, 72.9W, h = 164 km., m = 4.2 NORTHERN COLOMBIA						
		PNS	P	06 41 55.6		0.6	3	
			e	42 10				
		LPB	eP	06 41 41.3				23
			e	42 12.3				
10		LPB	eP	06 53 32				
		PNS	P	06 53 34		0.9	5	
10		PNS	eP	07 52 05.4				
10		LPB	P	10 32 25		0.9	16	
		PNS	P	10 32 27.2		0.5	7	
10		LPB	eP	11 13 14.5		0.8	10	
			eS	36				
		PNS	P	11 13 14.8	D	0.6	11	
			iS	37.4				
10		LPB	P	12 14 07.2		0.7	15	
10		LPB	P	15 25 30.5		0.9	17	
		PNS	P	15 25 33.6		1.2	9	
10		LPB	e(P)	17 43 46				
		PNS	eP	17 43 50				
10		LPB	e(P)	18 57 44				
10		LPB	P	19 06 59.5				
		PNS	P	19 07 00.4		0.5	3	

## DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	10	LPB	eP	23 58 30				
	11	LPB	eP	00 52 38		0.8	6	
			S	53 06.7				
	11	LPB	P	02 08 50.4		0.8	9	
	11	LPB	P	02 26 33.4		0.9	8	
	11	USCGS 03 40 48.0, 25.2S, 70.4W, h = 50 km., m = 5.0 NR COAST OF NORTHERN CHILE						
		LPB	P	03 42 57.6		0.9	29	9
			iPP	43 13.6				
			eL	45.8				
	11	LPB	P	04 18 48.5		0.9	6	
	11	LPB	eP	05 44 45.7				
	11	LPB	eP	07 05 35.7		1.1	12	
	11	LPB	P	08 00 28.5		0.9	6	
	11	LPB	e(P)	08 11 24.6				
	11	LPB	eP	10 30 12		0.7	9	
	11	LPB	eP	10 54 06.4				
	11	LPB	eP	11 16 52				
	11	USCGS 11 45 30.8, 33.6N, 134.0E, h = 32 km., m = 5.4 SHIKOKU, JAPAN						
		LPB	eP	12 05 20		0.9	32	154
	11	USCGS 12 56 15.9, 21.6S, 68.4W, h = 120 km., m = 4.7 CHILE - BOLIVIA BOR REG						
		LPB	iP	12 57 33.5	D	0.7	280	5
			eS	58 28				
	11	LPB	eP	14 04 36.2		0.7	49	
	11	LPB	eP	17 16 31				
	11	LPB	eP	19 27 28				
	11	LPB	eP	20 36 20.2				
		PNS	eP	20 36 22.5				
	11	LPB	eL	21 41				

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	11	USCGS SOUTH OF FIJI IS		21 34 07.5, 23.9S, 176.1W, h = 95 km., m = 5.4				
		LPB	eP eL	21 47 38 22 20				99
	12	PNS LPB	P P	04 54 08.7 04 54 16.5	D	1.0	10	
	12	USCGS MINDANAO, PHILIPPINE IS		05 25 37.2, 9.7N, 125.7E, h = 113 km., m = 5.6				
		LPB	PKP eL	05 45 31.6 06 41		1.2	155	165
	12	PNS LPB	eP eP	06 30 31.6 06 30 37		0.9	5	
	12	LPB	eP	07 05 12.5				
	12	LPB	e(P)	07 31 04.3				
	12	LPB	eP	07 45 16				
	12	LPB	eP i S SS G eL	07 37 08.2 26.2 43 05 46 10 46.8 49.7				
	12	LPB	P (S)	08 24 07.6 32.7		1.0	28	
	12	LPB	eP	09 12 20.7		0.8	5	
	12	LPB	eP	09 44 44.2		1.0	10	
	12	LPB	eP i	12 01 15 41.7				
	12	PNS LPB	eP eP	19 28 26 19 28 28		1.0	4	
	12	USCGS PERU		23 41 36.5, 15.0S, 75.6W, h = 163 km., m = 5.0				
		LPB	P e S	23 43 00.2 27.4 44 03	C	0.5	115	5
	13	LPB	eP eL	00 42 49.3 54.6		1.2	15	

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	13	LPB	eP	01 24 21.6		1.0	8	
			i	40.3				
		PNS	eP	01 23 22.6		0.6	11	
	13	EPB PNS	eP P	01 35 59 01 36 01.2		0.9 0.4	8 3	
	13	LPB PNS	eP eP	03 01 26.3 03 01 30				
	13	USCGS BANDA SEA		02 46 58.2, 5.3S, 126.6E, h = 17 km., m = 4.7				
		LPB PNS	ePKP PKP	03 07 03.2 03 07 04.6		1.2 1.0	12 6	162
	13	LPB PNS	eP eP	07 47 11.7 07 47 20				
	13	LPB PNS	P P	08 22 15.2 23 06.6 08 22 17.6		0.8 0.7	22 8	
	13	LPB	eP	09 32 44.5				
	13	LPB PNS	P S P	10 38 48.6 39 22.5 10 38 54		0.6	30	
	13	USCGS SOUTHERN PACIFIC OCEAN		12 59 03.4, 35.8S, 100.4W, h = 33 km., m = 4.7				
		PNS LPB	P eP L	13 05 52.2 13 05 52.7 15.6		1.4	20	35
	13	LPB	eP	13 45 12.6				
	13	LPB PNS	eP eL P	16 22 06 38 16 22 08		1.1 1.2	12 17	
	13	LPB PNS	eP eP	18 28 06.7 18 28 13				
	13	PNS LPB	P eP eL	21 28 12 21 28 20 22 02.5		0.5	2	
	13	PNS LPB	P eP eS	22 15 11.4 22 15 18 39.2	D	0.3	23	

## DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	14	LPB	eP	03 47 20					
	14	LPB	eP	04 11 09					
		PNS	eP	04 11 14					
	14	LPB	eP	05 18 00.4					
		PNS	eP	05 18 01.4					
	14	LPB	P	05 36 46.2		1.0	8		
		PNS	e(P)	05 36 46.4					
	14	PNS	P	06 50 10.6		0.6	8		
		LPB	P	06 50 16.4	D	0.9	13		
	14	PNS	P	08 00 36.6		0.6	4		
		LPB	P	08 00 40.2	0.	0.6	18		
	14	PNS	eP	08 11 54					
		LPB	eP	08 11 58					
			e	12 09.3					
	14	LPB	eP	10 26 19.7					
			eL	59.8					
		PNS	eP	10 26 26		0.7	4		
	14	USCGS 11n43 14.2, 3.1S, 85.5E, h = 33 km., m = 5.1 SOUTH INDIAN OCEAN							
		LPB	P	12 02 55.6		0.7	23	147	
			eL	52.2					
		PNS	P	12 02 56.2					
			i	03 00					
	14	PNS	iP	12 35 23.6	D	0.4	13		
	14	LPB	eP	15 40 50		0.9	8		
	14	PNS	eP	15 58 05.4					
		LPB	eP	15 58 06.5					
	14	LPB	P	16 25 53		0.7	7		
		PNS	P	16 25 55.4		0.7	4		
			i	26 22.8					
	14	PNS	P	16 31 03.8		0.6	9		
		LPB	eP	16 31 06					
	14	LPB	eP	18 49 28.2		0.9	16		
			eS	58.7					
		PNS		18 49 28.6	C	0.8	9		
	14	LPB	eP	19 24 42					
		PNS	P	19 24 46.8	C	0.3	5		

## DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	14	LPB	eP	22 29 55					
		PNS	eP	22 29 57					
	14	LPB	eP	23 43 06.2					
		PNS	e(P)	23 43 10					
	15	PNS	eP	00 11 30					
		LPB	eP	00 11 32					
	15	PNS	P	00 45 47.8		0.5	15		
		LPB	eP	00 45 53.2		0.9	16		
			S	46 30.5					
	15	PNS	eP	01 17 23.6					
		LPB	eP	01 17 25					
	15	LPB	P	01 39 29.5		0.8	10		
	15	USCGS 02 14 17.5, 5110N, 175.8E, h = 33 km., m = 5.7 RAT IS ALEUTIAN IS							
		PNS	e(PKP)	02 32 52					
		LPB	ePKP	02 32 52.5				113	
			e(L)	03 14					
	15	LPB	P	03 56 30.7		0.8	8		
	15	PNS	eP	04 14 44		1.0	6		
		LPB	eP	04 14 46					
			eS	17 26.2					
	15	LPB	eP	05 36 54		0.9	8		
	15	LPB	P	06 35 56.7		0.7	7		
		PNS	eP	06 35 53					
	15	LPB	eP	08 48 27.5		0.7	5		
		PNS	eP	08 48 33		0.8	6		
	15	LPB	P	09 48 46.7		1.0	30		
		PNS	eP	09 48 50					
	15	LPB	eP	11 08 41					
			S	16 19					
			eL	24.8					
		PNS	P	11 08 45		1.2	14		
	15	LPB	eP	11 19 52.5					
		PNS	eP	11 19 57.6		1.0	6		
	15	LPB	eP	12 08 39.3		0.9	6		
		PNS	P	12 08 42.6		0.6	4		

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	15	PNS LPB	P P	13 11 40 13 11 40				
15		USCGS 14 01 43.5, 49.6N, 155.7E, h = 50 km., m = 5.4 KURILE IS						
		LPB PNS	ePKP PKP	14 20 52.7 14 20 53.6		1.3 1.6	49 23	131
15		LPB	eP	14 57 40		0.6	8	
15		LPB	eP	15 26 24.5				
15		LPB	eP	16 04 03				
15		LPB	eP	19 34 39		0.6	14	
15		USCGS 20 41 40.0, 4.7N, 82.6W, h = 33 km., m = 4.4 SOUTH OF PANAMA						
		PNS LPB	eP P eL	20 47 03.4 20 47 07.2 55.5		1.2 0.9	47 20	25
15		LPB	eP e	21 53 13 55 03		1.0	12	
15		LPB S PNS	P S P	23 59 14.3 24 00 10 23 59 19.4	C C	0.9 0.1	34 8	
16		PNS	P	01 38 01.4	D	0.4	6	
16		USCGS 03 07 24.1, 7.1N, 82.2W, h = 16 km., m = 5.3 SOUTH OF PANAMA						
		PNS	P S eL	03 13 06.8 17 55 21.5		0.8	13	
		LPB	P S eL	03 13 09.5 17 58 21.4		1.2	64	27
16		LPB PNS	eP e eP	03 43 46.2 44 01.3 03 43 48.2				
16		PNS LPB	P iS P S	04 20 27.4 53.8 04 20 29.6 21 00.2		0.4 0.9	7 28	
16		LPB	eL	07 17.8				



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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	16	USCGS 06 54 57.0, 52.1S, 16.0E, h = 33 km., m = 5.2 SOUTHWEST OF AFRICA						
		LPB PNS	P P	07 06 28.2 07 06 32		1.2 1.0	91 35	73
16		LPB	eP	07 21 03.7				
16		LPB PNS	eP P	07 23 35.6 07 23 38.4		0.8	4	
16		PNS LPB	eP eP	07 25 43.6 07 25 45		1.5	27	
16		LPB	P	07 48 40.5		0.7	5	
16		PNS LPB	eP eP	09 03 11 09 03 12				
16		USCGS 09 01 01.4, 3.2N, 84.2W, h = 38 km., m = 4.8 OFF CST OF CENTRAL AMERICA						
		PNS LPB	P eL P eL	09 06 24 13.8 09 06 26.2 16.3		1.0 0.9	39 11	25
16		LPB	eP	09 20 13		0.6	8	
16		LPB	eP	09 43 22.5		0.8	9	
16		PNS LPB	iP i P	09 58 42.2 59 06.4 09 58 42.5	C	0.3 0.5	11 11	
16		USCGS 10 46 46.6, 18.0S, 168.1E, h = 49 km., m = 5.1 NEW HEBRIDES IS						
		LPB PNS	ePKP eL ePKP	11 05 13 40.8 11 05 14				113
16		PNS LPB	P eP	14 36 47.8 14 36 52.7		0.7	8	
16		LPB PNS	P iP	15 03 56.2 15 03 56	D	0.8	22	
16		USCGS 16 04 15.0, 17.9S, 67.0W, h = 283 km., m = 4.1 BOLIVIA						
		LPB PNS	iP iS iP	16 04 58.8 05 33 16 05 03.4	D D	0.6	280	2

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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	16	PNS LPB	P P	19 31 30 19 31 32					
	16	PNS LPB	P i P i	20 14 54.2 15 15 20 14 56.6 15 13.7		1.6	70		
	16	LPB PNS	eP P	20 19 18 20 19 22		0.6	10		
	16	LPB PNS	eP e eP e	20 24 19 25 32 20 24 26 25 36.4					
	16	LPB PNS	P P	20 37 03.7 20 37 05.8		0.8	10		
	16	USCGS 21 22 57.1, 39.8N, 143.6E, h = 26 km., m = 4.7 OFF E CST OF HONSHU, JAPAN							
		PNS LPB	ePKP ePKP eL	21 42 31 21 42 31.5 22 32.6				144	
	16	LPB PNS	eP P	22 06 51.7 22 06 53.4		0.8 0.6	9 3		
	16	LPB	P	23 46 11		0.9	16		
	17	PNS LPB	P P	07 47 08.2 07 47 12		0.8 0.8	5 7		
	17	USCGS 08 02 31.9, 22.9S, 112.3W, h = 33 km., m = 4.9 EASTER IS REGION							
		PNS LPB	P P L	08 10 20 08 10 23 22.5		1.4 1.3	63 38	42	
	17	LPB PNS	P P	09 10 11.2 09 10 15.8		0.8			
	17	LPB PNS	P S eP	10 15 57.5 17 08.8 10 16 00.1		0.8			
	17	LPB PNS	eP P	12 04 34 12 04 38.8					
	17	PNS	eP	12 07 16					
	17	USCGS 12 02 15.0, 60.2N, 152.8W, h = 86 km., m = 5.9 SOUTHERN ALASKA							

DECEMBER



MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC		PNS	P	12 15 56.2		1.0	8		
			PP eS PS eSS eL	20 45 27 12 29 45 34 40 51.4					
		LPB	P	12 15 58.6		1.0	16	102	
			ePP eS PS eSS eL	20 42 29 47 29 47 34 40 51					
	17	LPB PNS	eP P	14 18 46 14 18 52.2		0.8	13		
	17	PNS LPB	P eP	14 23 32.6 14 23 35.2		1.0 0.9	24 17		
	17	PNS LPB	eP eP	14 31 05 14 31 07					
	17	PNS LPB	P eP	16 30 37.2 16 30 40		0.5	3		
	17	USCGS 17 05 43.2, 54.0S, 134.5W, h = 33 km., m = 5.1 SOUTH PACIFIC CORDILLERA							
		PNS LPB	P P	17 16 07.8 17 16 09.3		1.8 1.5	31 55	62	
	17	PNS LPB	P eP	20 17 30 20 17 35		0.7	6		
	17	PNS LPB	P eP	23 14 10 23 14 10		0.4	3		
	18	PNS LPB	eP P	00 43 51 00 43 45.6		0.8	7		
	18	PNS LPB	P P	01 22 22.2 01 22 20.7		0.8 0.8	4 30		
	18	USCGS 01 30 30.3, 21.4S, 67.3W, h = 187 km., m = 4.2 CHILE-BOLIVIA BOR REG							
		LPB	iP iS	01 31 45.8 32 42.4	D	0.8	90	5	
		PNS	iP S	01 31 50 32 47.8	D				
	18	PNS LPB	P i eP	05 26 51.4 27 23.4 05 26 53	D	0.3	20		

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	18	PNS	eP	06 28 08.6		0.5	3	
		LPB	P	06 28 09		0.9	8	
			e(L)	49				
	18	LPB	eP	08 19 20		0.8	6	
		PNS	eP	08 19 22.8				
	18	PNS	eP	12 51 20				
		LPB	eP	12 51 21				
	18	LPB	e(P)	14 31 06				
		PNS	P	14 31 14.4				
	18	PNS	eP	16 38 10				
	18	PNS	P	17 23 57				
	18	USCGS TONGA	IS	17 28 10.2, 19.5S, 173.4W, h = 33 km., m = 4.9				
		LPB	eP	17 41 46				98
			eL	18 14				
		PNS	eP	17 41 47				
	18	LPB	P	20 33 10.7				
			e	34 13.2				
			eL	50				
		PNS	eP	20 33 11.8				
			e	34 13.2				
	19	LPB	eP	00 33 18				
		PNS	P	00 33 22.4		0.4	3	
	19	USCGS		00 26 37.9, 0.2S, 134.3E, h = 46 km., m = 5				
		MOLUCCA SEA						
		LPB	PKP	00 46 36.2				159
			PKP2	47 13.6				
		PNS	PKP	00 46 36.6				110
			PKP2	47 14.6				
	19	LPB	P	01 12 52.5		0.8	55	
			S	13 35.8				
		PNS	P	01 12 55.8				
			S	13 39.8				
	19	LPB	eP	02 59 56		0.8	9	
			S	03 00 20.7				
		PNS	P	02 59 57.6				
			S	03 00 20.2				
	19	PNS	P	04 08 01.6				
			eS	25.8				
		LPB	eP	04 08 03.5				
	19	LPB	P	04 17 07.2		0.9	51	
			eS	59.8				
		PNS	P	04 17 11.4		0.4	13	
			eS	18 05.4				

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	19	LPB	eP	04 56 57.7		0.8	7	
		PNS	eP	04 57 02.8				
	19	USCGS		05 17 51.6, 36.1N, 70.1E, h = 151 km., m = 5.4				
		HINDU KUSH REGION						
		PNS	ePKP	05 37 01.6		1.2	29	
			PP	40 21				
		LPB	ePKP	05 37 02		1.0	24	145
			PP	20.5				
	19	LPB	eP	06 31 10.7		0.8	4	
		PNS	eP	06 31 11.4				
	19	LPB	P	11 03 12.2		0.8	16	
	19	PNS	eP	11 23 27.8				
		LPB	eP	11 23 33				
	19	USCGS		11 25 17.3, 5.0N, 126.9E, h = 65 km., m = 5.0				
		TALAUD IS						
		LPB	ePKP	11 45 16				160
			e	24.3				
			eL	12 45				
		PNS	ePKP	11 45 16				
	19	LPB	P	14 00 09.8		0.8	105	
			S	45.7				
		PNS	iP	14 00 12				
			eS	50				
	10	PNS	eP	15 03 01				
			eS	51.2				
		LPB	eP	15 03 05.2				
			S	51.8				
	19	USCGS		15 15 55.7, 53.3N, 160.1E, h = 33 km., m = 5.4				
		NR/EAST COAST OF KAMCHATKA						
		PNS	PKP	15 34 59.6		1.2	24	
			eL	16-18.2				
		LPB	PKP	15 34 59.7		1.2	52	128
			SS	54 17				
			eL	16 18.5				
	19	PNS	P	16 37 47		0.4	1	
	19	PNS	iP	16 41 13.2				
		LPB	iP	16 41 15.4		0.9	306	
			eL	17 04.9				
	19	LPB	eP	17 09 12				
		PNS	P	17 09 14		0.9	26	





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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	19	LPB	eP	17 34 10.7		0.8	10		
		PNS	eP	17 34 12.4					
	19	PNS	P	17 38 18.6		0.3	5		
		LPB	eP	17 38 21.2					
	19	PNS	P	18 05 28.2		0.8	3		
		LPB	eP	18 05 29.8					
	19	LPB	eP	18 13 19.3		0.5	12		
	19	USCGS 23 24 01.2, 2.1N, 84.5W, h = 33 km., m = 4.8 OFF CST OF CENTRAL AMERICA							
		PNS	P	23 29 22.2		0.5	14		
		LPR	P	23 29 24.7				24	
			L	36					
	20	LPB	eP	00 15 45.2					
		PNS	P	00 15 58		0.4	5		
			S	20.8					
	20	LPB	eP	02 47 55					
		PNS	eP	02 47 56					
	20	LPB	eP	03 29 01.8		0.7	7		
			S	30 24.5					
		PNS	P	03 29 06		0.6	4		
			S	30 32					
	20	LPB	eP	04 38 08.6		0.9	40		
			S	39 41.5					
		PNS	P	04 38 12.2		0.7	31		
			S	39.8					
	20	LPR	P	04 45 50.2		0.8	13		
			S	46 50					
		PNS	P	04 45 54		0.5	5		
			S	46 41.2					
	20	PNS	P	05 59 04.4		0.5	8		
			S	31					
	20	USCGS 07 25 49.6, 24.2N, 122.5E, h = 50 km., m = 50 TAIWAN REGION							
		LPB	PKP	07 45 50.2		0.9	8	167	
		PNS	ePKP	08 45 54		1.4	10		
	20	PNS	eP	09 48 47.6					
			eS	49 00.2					
	20	PNS	P	10 18 25.6		0.4	2		
	20	PNS	P	11 53 10.8					
	20	PNS	P	11 56 35.4		0.6	9		
			S	57 07.2					
		LPB	eP	11 56 40					
			S	57 16.7					

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	19	LPB	eP	04 28 25.8		0.8	7	
		PNS	eP	04 27 02.8				
	19	LPB	eP	02 27 01.8				
		PNS	eP	02 27 01.8				
	19	LPB	eP	02 27 01.8				
		PNS	eP	02 27 01.8				
	19	LPB	eP	08 27 10.7				
		PNS	eP	08 27 14.4				
	19	LPB	eP	11 03 13.7				
		PNS	eP	11 03 13.7				
	19	LPB	eP	11 22 22				
		PNS	eP	11 22 22				
	19	LPB	eP	11 22 22				
		PNS	eP	11 22 22				
	19	LPB	eP	11 42 30				
		PNS	eP	11 42 30				
	19	LPB	eP	11 42 30				
		PNS	eP	11 42 30				
	19	LPB	eP	14 00 08.8				
		PNS	eP	14 00 08.8				
	19	LPB	eP	14 00 08.8				
		PNS	eP	14 00 08.8				
	19	LPB	eP	12 02 07				
		PNS	eP	12 02 07				
	19	LPB	eP	12 02 07				
		PNS	eP	12 02 07				
	19	LPB	eP	12 24 20.8				
		PNS	eP	12 24 20.8				
	19	LPB	eP	12 24 20.8				
		PNS	eP	12 24 20.8				
	19	LPB	eP	10 18 25.6				
		PNS	eP	10 18 25.6				
	19	LPB	eP	10 18 25.6				
		PNS	eP	10 18 25.6				
	19	LPB	eP	10 41 12.3				
		PNS	eP	10 41 12.3				
	19	LPB	eP	10 41 12.3				
		PNS	eP	10 41 12.3				
	19	LPB	eP	17 00 13				
		PNS	eP	17 00 13				
	19	LPB	eP	17 00 13				
		PNS	eP	17 00 13				
	19	LPB	eP	17 11 11.8				
		PNS	eP	17 11 11.8				
	19	LPB	eP	17 11 11.8				
		PNS	eP	17 11 11.8				

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	20	LPR PNS	eP e	13 21 51 13 21 56.8 22 30.6					
	20	LPR PNS	eP eP	13 48 42 13 48 42.4		0.6	2		
	20	PNS LPR	eP P	15 47 12.2 15 47 16.2		1.0	20		
	20	LPR PNS	P P	17 41 05.4 17 41 06.6		0.9 0.8	20 7		
	20	PNS	eP	19 47 52.8		0.6	3		
	20	LPR PNS	eP eP	20 19 37 20 19 42					
	20	USCGS 21 41 59.5, 9.2N, 125.4E, h = 93 km., m = 5.2 MINDANAO, PHILIPPINE IS							
		PNS	ePKP	22 01 56					
	20	PNS	P	23 35 08				D	
		LPR	eP	23 35 10.2					
	20	LPR	P	23 38 06.5					
			S	38.5					
	20	LPR PNS	eP P	00 10 38.7 00 10 40		1.0	6		
	21	PNS	P	00 46 38.4		0.4	5		
			S	52.4					
	21	PNS	P	03 36 35.8		0.6	7		
	21	USCGS 03 40 19.7, 17.1S, 73.8W, h = 33 km., m = 4.3 OFF COAST OF PERU							
		PNS LPR	P P	03 41 41 03 41 42.2				5	
	21	PNS	eP	05 52 56.2					
	21	LPR PNS	eP eP	07 32 34.2 07 32 37					
	21	LPR PNS	eP eP	09 01 58 09 02 04					
	21	USCGS 12 58 14.4, 40.6N, 143.8E, h = 33 km., m = 4.5 OFF E CST OF HONSHU, JAPAN							
		PNS	ePKP	13 18 02					

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	21	PNS	eP	13 53 50.4					
	21	USCGS 15 28 33.5, 17.6S, 69.5W, h = 95 km., m = 4.6 PERU-BOLIVIA BOR REG							
		PNS	iP	15 29 14				C	
	21	PNS	eP S	16 35 20.8 36 04.4					
	21	PNS	eP	17 48 00.2		0.5	3		
	21	USCGS 17 32 30.2, 31.1N, 141.9E, h = 55 km., m = 4.2 SOUTH OF HONSHU, JAPAN							
		PNS	ePKP	17 52 18.4					
	21	PNS	eP eS	18 15 06 16 04					
	21	PNS	eP S	19 02 54.2 03 35.6					
	21	PNS	iP	19 32 04.6					
	21	PNS	P	19 55 18.4		0.6	2		
	21	PNS	P S	20 12 05.4 33.4		0.6	4		
	21	PNS	P	20 16 23.8		0.6	3		
	21	LPR PNS	eP S eP S	23 36 06.4 38.3 23 36 12 40		0.5	4		
	22	PNS	eP eL eP eL	02 05 04 19.5 02 05 04.5 19.3					
	22	LPR	eP	02 58 44.2					
	22	LPR PNS	eP eP	04 15 34.7 04 15 35.6					
	22	PNS	iP S	04 43 32.8 54.6				D	
		LPR	iP S	04 43 34.4 58.5		0.7	36		
	22	LPR PNS	P P	05 37 07.6 05 37 10					

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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	22	LPR	P	08 32 59		0.7	6		
		PNS	P	08 33 02.9		0.6	6		
	22	LPR	P	08 52 15.3					
			eS	35					
		PNS	P	08 52 16.6					
			S	35					
	22	LPR	P	09 07 47.2		0.9	34		
	22	USCGS 09 06 36.3, 36.2N, 101.9E, h = 33 km., m = 5.5 TSTINGHAT PROVINCE, CHINA							
		LPR	PKP	09 06 34		1.2	31	158	
			eL	10 34					
		PNS	PKP	09 26 34		1.4	26		
			eL	10 36					
	22	LPR	eP	09 36 06.3					
		PNS	eP	09 36 10					
	22	PNS	P	10 09 08.4		0.5	5		
		LPR	P	10 09 14.6		1.0	10		
			S	10 09.3					
	22	LPR	P	10 13 19					
	22	PNS	P	10 46 51					
	22	LPR	eP	11 43 36					
	22	LPR	eP	14 03 09					
		PNS	eP	14 03 10					
	22	PNS	P	15 16 03.2		1.0	19		
			eL	39.4					
		LPR	P	15 16 07		0.9	19		
			eL	39					
	22	USCGS 15 27 18.9, 3.4S, 148.8E, h = 33 km., m = 5.1 BESMARCK SEA							
		PNS	ePKP	15 46 38					
			eL	33					
		LPR	ePKP	15 46 39.7		138			
			eL	32.7					
	22	PNS	e(P)	17 03 15.4					
		LPR	eP	17 03 20					
	22	PNS	P	17 15 00		1.0	13		
		LPR	eP	17 15 01					
	22	USCGS 17 39 18.2, 1.8S, 134.4E, h = 25 km., m = 5.2 WEST NEW GUINEA REG							

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC		PNS	PKP	17 59 14.8		0.8	17		
			eL	18 53					
		LPR	ePKP	17 59 15.6		1.4	72	151	
			eL	51					
	22	LPR	eP	18 11 39					
		PNS	P	18 11 38.2					
	22	LPR	P	18 30 55.3		0.8	13		
	22	PNS	eP	19 57 36					
	22	PNS	eP	20 54 27					
	22	PNS	P	22 01 45.6					
	23	LPR	eP	00 22 50.5					
			S	23-27.4					
		PNS	P	00 22 53.8	D	0.4	9		
			S	23 32.8					
	23	PNS	P	02 37 26		0.8	14		
			IS	38 06.6					
	23	PNS	eP	04 12 31					
	23	PNS	eP	05 10 14.6					
	23	PNS	P	05 38 42.6		0.6	12		
	23	USCGS 05 52 51.1, 1.7N, 126.6E, h = 36 km., m = 5.6 MOLUCCA PASSAGE							
		PNS	PKP	06 12 50.6		2.4	180		
			eL	07 10					
	23	PNS	P	07 38 46.6		0.5	4		
	23	USCGS 08 03 50.5, 45.0S, 76.0W, h = 33 km., m = 4.7 OFF COAST OF SOUTHERN CHILE							
		PNS	eP	08 09 52		1.4	12		
	23	PNS	eP	08 50 29.2					
			i	37.8					
	23	USCGS 13 00 34.7, 0.1N, 78.2W, h = 55 km., m = 4.3 COLOMBIA-ECUADOR BORDER REG							
		PNS	eP	13 04 55					
	23	PNS	P	13 47 16.2		0.5	6		
			S	47.6					
	23	USCGS 15 46 07.0, 11.3S, 119.8E, h = 50 km., m = 5.1 SMITH OF SIMATRA IS							
		PNS	PKP	16 05 59.6		1.2	31		

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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	23	PNS	P	16 11 15.4		0.7	8	
	23	PNS	eP	20 06 08.6				
	23	PNS	eP	22 53 55.4		1.0	6	
	24	LPB	eP	00 09 58		0.9	13	
			eL	47				
		PNS	P	00 10 04.6				
	24	LPB	eP	03 55 46				
		PNS	eP	03 55 47		0.7	3	
	24	LPB	eP	04 14 10		0.8	6	
			e(S)	15 22				
	24	LPB	P	04 40 08.8				
			eS	41 19				
		PNS	eP	04 40 10.4				
			S	41 21.6				
	24	LPB	eP	05 19 43.7		1.0	30	
			i	20 07.2				
		PNS	P	05 19 44.6		0.6	9	
	24	PNS	P	05 34 01	D			
		LPB	eP	05 34 01.8				
	24	LPB	eP	08 02 04				
		PNS	P	08 02 07		0.6	4	
	24	LPB	P	08 11 02		0.9	11	
		PNS	P	08 11 04.8				
	24	BNS	P	12 46 34.2		0.8	26	
			eS	52 44				
			?L	55.8				
		LPB	P	12 46 37.2		1.0	40	
			S	52 48				
			(G)	55.7				
			eL	58.4				
	24	USCGS		12 59 30.0, 18.1N, 120.1E, h = 55 km., m = 5.1				
				LUZON, PHILIPPINE IS				
		LPB	PKP	13 19 46.7		1.1	42	172
		PNS	PKP	13 19 46.8		1.2	40	
	24	PNS	eP	13 24 55				
		LPB	eP	13 24 57.7				
	24	LPB	eP	13 50 47				
		PNS	P	13 50 54				
			S	52 12				

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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	24	PNS	eP	15 16 56.8		0.8	3	
	24	USCGS		15 42 43.5, 7.6S, 123.0E, h=218 km., m = 5.2				
				BANDA SEA				
		PNS	ePKP	16 02 33.4				
			eL	55				
		LPB	PKP	16 02 33.6				154
			i	03 09.3				
	24	LPB	eP	16 17 18.5		0.8	7	
	24	PNS	P	16 26 53.8		0.8	14	
		LPB	P	16 26 57.2		0.9	17	
	24	PNS	eP	16 35 51.8				
		LPB	eP	16 35 54				
	24	LPB	eP	16 43 11.5				
		PNS	P	16 43 11.6		0.5	4	
	24	PNS	eP	18 35 24.2				
		LPB	eP	18 35 25				
	24	PNS	iP	19 43 44.2	D			
		LPB	P	19 43 44.6		0.8	18	
	24	PNS	P	20 15 54.4	D	0.6	6	
			eS	16 20				
		LPB	eP	20 15 54.5				
	24	PNS	iP	22 12 10	C			
			eS	44				
		LPB	iP	22 12 14.8		0.7	62	
	24	PNS	iP	22 47 21.2	D			
			S	46				
		LPB	iP	22 47 23.7	D	0.9	130	
			S	45				
	24	LPB	eP	23 35 44.2				
	25	LPB	eP	00 13 23.5				
		PNS	eP	00 13 32.2				
	25	PNS	P	02 44 27.6		0.4	2	
			i	35.2				
			S	45 20.8				
		LPB	P	02 44 34.0				
			i	40				
			S	45 52.7				



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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	25	USCGS 02 56 39.2, 41.7N, 142.8E, h = 36 km., m = 5.3 HONKAIPO, JAPAN REGION						
		LPB	ePKP eL	04 16 11 05 05.5		1.1	25	143
		PNS	ePKP eL	04 16 12.6 05 01		1.4	26	
	25	PNS	P	05 55 23	D	0.3	7	
		LPB	iS eP eS	48.2 28.5 58.5		0.7	7	
	25	LPB	eP	06 58 50				
	25	PNS	eP	09 18 26.8				
	25	LPB	eP	10 43 55.3				
	25	PNS	eP	12 25 21.6				
		LPB	eP	12 25 23				
	25	LPB	eP	13 36 08.8				
		PNS	P	13 36 12.2		0.8	3	
	25	LPB	eP	14 05 08				
		PNS	eP	14 05 14.2				
	25	PNS	P	14 51 04.4				
	25	LPB	P	15 45 01.8		1.0	20	
	25	PNS	eP	17 55 02				
		LPB	eP	17 55 09				
	25	PNS	eP	21 12 03.2				
	25	USCGS 21 19 23.6, 5.2S, 134.1E, h = 33 km., m = 5.3 AROE ISLANDS REG						
		PNS	PKP	21 39 14		0.8	13	
	25	PNS	eP	22 16 42				
	26	PNS	P	00 33 15		1.2	28	
	26	USCGS 02 51 29.0, 16.6S, 69.5W, h = 177 km., m = 3.9 PERU-BOLIVIA REG						
		PNS	iP	02 52 01.0	D			
	26	PNS	eP	04 36 43.6				

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MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	26	PNS	P S	08 02 32.8 47.4	D			
	26	PNS	iP iS	09 32 37.2 33 04.4	C			
	26	PNS	eP	10 22 12.6				
	26	PNS	eP	12 23 06		0.6	4	
	26	PNS	eP	15 27 03.8				
	26	PNS	eP	15 56 32.8				
	26	PNS	P	16 35 56.8		0.5	5	
	26	PNS	eP	17 24 01.6		0.9	6	
	26	PNS	P	17 43 18.4				
	26	PNS	eP	18 40 51				
	26	PNS	P	20 57 44.8				
	26	USCGS 21 05 48.3, 1.7N, 126.3E, h = 33 km., m = 5.2 MOLUCCA PASSAGE						
		PNS	ePKP i	21 25 40 26 36.8				
		LPB	eP	21 25 49.6				159
	26	PNS	eP S	23 56 28 52.6		0.6	4	
	27	LPB	eP eS	00 50 08 51 04.5				
		PNS	P eS	00 50 10 50				
	26	USCGS 02 04 51.4, 17.3S, 69.4W, h = 173 km., m = 4.9 PERU-BOLIVIA						
		PNS	iP eS	02 05 23.6 53	D			
		LPB	iP iS	02 05 24.4 50	D			2
	26	USCGS 03 23 38.6, 37.3N, 116.4W, h = 4 km., m = 4.1 SOUTHERN NEVADA						
		PNS	eP	03 33 31.8				
	27	PNS	P	04 02 01		0.8	4	
		LPB	eP	04 02 15				
	27	PNS	eP	04 36 25.2				
		LPB	eP S	04 36 35 37 23				
	27	PNS	P	07 06 16.8		0.8	9	
		LPB	P	07 06 17.6				

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	27	LPB	P	09 25 47		0.6	22		
		PNS	P	09 25 55.2		0.5	7		
			iS	26 26.6					
	27	USCGS 11 45 21.7, 8.5N, 82.9W, h = 32 km., m = 4.8 PANAMA-COSTA RICA BOR REG							
		PNS	eP	11 51 15					
	27	PNS	P	13 40 21					
			S	44.2					
	27	PNS	eP	13 49 11.4					
	27	USCGS 13 59 23.1, 32.4S, 71.6W, h = 66 km., m = 4.0 NEAR COAST OF CENTRAL CHILE							
		LPB	eP	14 03 06.5		1.0	12	16	
			i	08 00					
		PNS	P	14 03 07.4		1.6	32		
	27	PNS	P	15 22 06					
		LPB	eP	15 22 09					
	27	PNS	P	16 34 40		0.5	5		
		LPB	eP	16 34 49.2					
	27	USCGS 17 34 43.7, 21.0S, 69.1W, h = 95 km., m = 4.2 NORTHERN CHILE							
		LPB	P	17 35 52		0.9	119	5	
			S	36 40					
		PNS	P	17 35 53.6		0.6	12		
	27	PNS	P	18 28 27.2					
		LPB	P	18 28 29.5		0.9	80		
	27	LPB	eP	19 01 53					
	27	USCGS 21 29 25.4, 18.7S, 70.3W, h = 81 km., m = 4.1 NR COAST OF NORTHERN CHILE							
		PNS	iP	21 30 10.6	D				
			S	42.2					
		LPB	iP	21 30 12	C	0.7	392	3	
			iS	43					
	27	PNS	P	23 59 58					
	28	PNS	eP	00 32 40					
		LPB	eP	00 32 44.5					
			S	33 25.7					
	28	PNS	eP	04 28 45.8					
		LPB	P	04 28 49.5		1.0	14		
			S	29 21					
	28	LPB	eP	05 33 01					
			e	34 04					
		PNS	P	05 33 04		0.5	4		

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST	
DEC	28	LPB	eP	05 33 01					
			e	34 04					
		PNS	P	05 33 04		0.5	4		
	28	USCGS 06 27 23.1, 3.7S, 140.0E, h = 41 km., m = 5.5 WEST NEW GUINEA							
		PNS	PKP	06 47 02.2		1.6	111		
		LPB	PKP	06 47 02.7		1.4	188	146	
	28	USCGS 09 47 47.9, 18.2S, 69.3W, h = 150 km., m = 4.4 NORTHERN CHILE							
		PNS	iP	09 48 24	D				
		LPB	iP	09 48 24.4	D			2	
	28	LPB	S	11 04 24.5					
	28	LPB	eP	12 05 19.6					
	28	USCGS 12 41 39.8, 9.0S, 81.4W, h = 33 km., m = 5.1 OFF COAST OF NORTHERN PERU							
		PNS	eP	12 45 08.2					
		LPB	eP	12 45 14.8		0.9	13	15	
			i	21.4					
	28	USCGS 16 29 05.0, 12.4S, 73.5W, h = 50 km., m = 4.6 PERU							
		PNS	P	16 30 41.2		1.2	20		
		LPB	P	16 30 47.5		1.0	18	7	
			S	33 00					
	28	LPB	P	23 05 47		0.7	9		
			S	06 37					
		PNS	P	23 05 48		0.6	5		
	29	PNS	iP	02 54 32.8	D				
		LPB	P	02 54 34.5		0.8	22		
	29	LPB	eP	03 34 20.5					
	29	PNS	eP	06 02 00.4					
		LPB	eP	06 02 02					
	29	PNS	P	07 13 46.4					
		LPB	P	07 13 47		1.2	21		
	29	PNS	eP	07 25 24.6		0.4	3		
	20	USCGS 07 15 50.5, 13.6N, 120.5E, h = 33 km., m = 5.4 MINDORO, PHILIPPINE IS							

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	29	PNS	ePKP	07 35 58				
			eL	08 38				
		LPB	ePKP	07 36 02				171
			eL	08 35				
29		PNS	eP	07 41 56				
29		USCGS 08 38 41.3, 5.2S, 151.8E, h = 65 km., m = 5.2 NEW BRITAIN REG						
		PNS	PKP	08 57 56.6				
		LPB	ePKP	08 57 58.5				135
			e(PP)	09 01 43				
29		LPB	eP	09 07 39.5				
			iS	08 08.8				
		PNS	P	09 07 44.4		0.4	4	
			S	08 08.2				
29		PNS	P	13 31 41.8				
			S	50				
		LPB	eP	13 31 43.2				
			e	32 10.5				
29		PNS	P	15 28 31.8	D			
			S	57.6				
29		USCGS 16 29 31.1, 24.0S, 66.7W, h = 205 km., m = 5.2 JUJUY PROVINCE, ARGENTINA						
		LPB	iP	16 31 20	C	0.8	495	7
			iS	32 46				
		PNS	iP	16 31 23.4	C			
29		LPB	L	17 30.5				
29		USCGS 17 36 29.9, 14.5N, 92.4W, h = 60 km., m = 5.4 NR COAST OF CHIAPAS, MEXICO						
		PNS	eP	17 43 45.6				
		LPB	P	17 43 54.5				40
			e(G)	55.7				
			L	58				
30		PNS	eP	00 30 54.8				
30		LPB	eP	00 35 15				
			S	36 41.4				
		PNS	P	00 34 19		0.6	2	
			eS	46.6				
30		LPB	eP	05 33 11.5				
		PNS	eP	05 33 13.2				

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	30	PNS	P	05 52 41.8				
			S	53 20				
		LPB	P	05 52 45				
			S	53 12				
30		USCGS 07 03 11.7, 57.6N, 151.4W, h = 34 km., m = 5.4 KODIAK IS REG						
		PNS	P	07 16 52		0.8	3	
			eL	55				
		LPB	P	07 16 54				100
			e	21 02				
			eL	57.4				
30		LPB	eP	07 33 23				
30		LPB	eP	09 00 05				
30		USCGS 09 12 14.8, 55.2S, 129.0W, h = 33 km., m = 4.8 SOUTH PACIFIC CORDILLERA						
		LPB	P	09 22 22	C	1.2	52	59
			eL	39				
		PNS	P	09 22 22	C	1.8	65	
30		PNS	eP	09 31 14.8		0.8	4	
		LPB	P	09 31 15		1.1	17	
30		USCGS 09 44 10.9, 6.9N, 72.9W, h = 166 km., m = 3.8 NORTHERN COLOMBIA						
		PNS	eP	09 49 07.0				
			S	40				
		LPB	P	09 49 09.5		0.8	9	23
			S	44.2				
30		USCGS 09 47 14.3, 1.6N, 126.4E, h = 27 km., m = 5.0 MOLUCCA PASSAGE						
		PNS	ePKP	10 07 12.6				
		LPB	ePKP	10 07 15				158
30		LPB	P	10 39 46.5	C	1.0	20	
		PNS	eP	10 39 48		0.8	6	
30		USCGS 14 39 22.0, 15.8S, 70.8W, h = 63 km., m = 5.2 SOUTHERN PERU						
		PNS	P	14 39 58.8				
		LPB	iP	14 40 05.8	D	1.2	120	3
			iS	45				

DECEMBER

MONTH	DAY	STA	PHASE	TIME	SIGN	PER	AMPL	DIST
DEC	30	LPB	eP	14 58 48				
		PNS	P	14 58 51				
			e(S)	15 00 08.4				
	30	PNS	eP	15 42 06				
		LPB	eP	15 42 07				
	30	PNS	P	16 15 33.6		0.8	8	
		LPB	P	16 15 41.2		0.9	15	
	30	LPB	P	16 21 56		1.0	22	
		PNS	P	16 21 57.6		0.8	13	
	30	LPB	eP	20 49 01				
		PNS	e(P)	20 49 03.0				
	30	PNS	eP	21 58 40				
		LPB	eP	21 58 45				
	30	LPB	eP	22 31 42				
		PNS	P	22 31 46.4		1.2	10	
	31	LPB	eP	02 12 46				
		PNS	eP	02 12 48.6				
	31	LPB	eP	02 16 42				
	31	LPB	P	03 53 14.3		1.0	54	
		PNS	P	03 53 16.8				
	31	PNS	P	05 30 10.4		1.0	11	
		LPB	eP	05 30 16.8		1.0	28	
	31	PNS	eP	09 03 41.4				
		LPB	eP	09 03 45				
	31	LPB	eP	09 31 33.5				
		PNS	eP	09 31 37.7				
	31	LPB	eP	10 38 15				
		PNS	eP	10 38 24.2				
	31	LPB	P	12 26 38		0.9	25	
		i		27 16.5				
		PNS	P	12 26 40				
	31	PNS	iP	12 52 41.8				
		eS		53 05.2				
		LPB	P	12 52 43.5		0.8	30	
	31	PNS	P	21 15 36.4		0.4	4	
		S		16 01.6				
		LPB	P	21 15 36.5		0.8	16	
	31	PNS	eP	21 25 05.2				
		LPB	eP	21 25 09				
	31	PNS	P	21 40 00.6		0.9	13	
		LPB	P	21 40 05.6				

