ROYAL OBSERVATORY
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EDINBURGH

CALIFORNIA INSTITUTE OF TECHNOLOGY

PASADENA, CALIFORNIA

SEISMOLOGICAL LABORATORY BULLETIN

1950

(Pasadena and Auxiliary Stations)

PERMANENT STATIONS, 1950

	Lat.N	Long.W	h	Symbol	Auspices and date established
Pasadena	34°08.9'	118°10.3'	295	P,PX	Calif. Inst. (central station)
Mt. Wilson	34 13.5	118 03.4	1742	MW	Mt. Wilson Observatory;1928
Riverside	33 59.6	117 22.5	250	R	City of Riverside,1926
Palomar	33 21.3	116 51.6	1700	Pr	Palomar Observatory;1939
La Jolla	32 51.8	117 15.2	8	LJ	Scripps Inst(Univ.of Calif.)1927
Sta. Barbara	34 26.5	119 42.9	100	SB	Santa Barbara Museum;1927
China Lake	35 49.0	117 35.8	766	CL	California Institute;1949
Haiwee	36 08.2	117 57.9	1100	H	City of Los Angeles;1929
Tinemaha	37 05.7	118 15.5	1180	T	City of Los Angeles;1929

TEMPORARY STATIONS, 1950

Perris	33°46.8'	117°14.0'	440	Pe	Perris Grammar School;1949
Pomona	34 05.9	117 42.6	350	Po	Pomona College;1949
Dalton	34 10.2	117 48.6	523	D	L.A.County Flood Control. Dist; 1950
Crestline	34 14.6	117 15.7	1400	Cr	Club San Moritz; 1949

Pomona installation dismantled May 30, 1950.
Instruments installed at Dalton, July 12, 1950.
Crestline installation destroyed by fire, August 31, 1950
China Lake temporary installation dismantled July 5, 1950, pending construction of permanent quarters.

All work of measurement and interpretation of seismograms is carried out at the central station, to which all communications should be addressed, as follows: Seismological Laboratory, 220 North San Rafael Avenue, Pasadena 2, California

In the columns headed "Sta." P denotes readings for short-period instruments, and PX for long-period instruments, all at Pasadena.
Henceforth times will not be reported for La Jolla, Santa Barbara, Haiwee or the temporary stations, unless of exceptional interest (as for local shocks) or when some of the other records are defective.
Times will normally be given either for Pasadena or for Mt. Wilson, but not for both. Occasionally some readings of later phases at Mt. Wilson may be inserted among those of the same shock at Pasadena, without special designation.
The three components are indicated by N, E, Z. When no such letter appears the pnase is read from the vertical-component seismogram only.
c = compression; d = dilatation All times are G. C. T.
When surface waves are not reported for Pasadena they are either not found or are very small.
Data under headings A and T refer to the maximum amplitude of computed earth displacement, and the period in seconds, of the indicated phase. H designates combined amplitude of N and E components.

All permanent stations except China Lake and Palomar are equipped with a pair of horizontal-component Wood-Anderson torsion seismometers and a short-period vertical-component Benioff seismometer. Pasadena also has long-period seismometers, and other instruments of several types. Palomar has a three-component short-period Benioff seismometer unit. The temporary stations have Benioff-vertical-component instruments. Permanent installation at China Lake will include long-and-short period vertical component seismometers, and a pair of short-period horizontal seismometers, all of Benioff type.

Earthquakes in the local Southern California region are regularly reported in this Bulletin only if of magnitude 5 at least. Smaller shocks are included when of special interest.

September 18, 1950

Date	Sta.	Phase	h	m	s	
		January				
1	Pr	iP	00	42	00	
		e(pP)		44	09	
	CL	iP		42	04	
		e(pP)		44	13	
1	P	iPNEZ	02	55	06	
	PX	eLNE		57.4		
	P	e		58	23	
		A T				
	MH	12 10				
	R	eP	02	54	58	
		e		58	30	
	Pr	iP		54	50	
		iNE		57	58	
	H	iP		55	27	
	CL	iP			21	
		e		59	15	
	USCGS: 26 N 110 W, 0 = 02:51:21					
1	Pr	e	03	48	11	
	CL	e			31	
1	CL	eP	05	37	17	
		i			29	
1	R	e	07	59	43	
	Pr	i			44	
1	P	iP	09	45	53	
	R	eP			55	
	Pr	iP			56	c
	CL	iP		46	00	
1	CL	e	10	11	48	
		e		14	33	
1	Pr	i	02	32	18	
	CL	i			21	
1	Pr	e	11	45	02	
	CL	e			01	
	USCGS: 0 = 11:33:05, Tonga Island region					
1	MW	e(S)	16	16	49	
	Pr	eP		14	46	
		iSNE		16	07	
	CL	e		17	19	
	Gulf of California? Distant shock in same hour not recorded.					
1	Pr	iP	18	51	03	
	CL	iP			07	
1	P	iP	19	47	34	
	Pr	iP			46	
	CL	eP			28	
	T	iP			19	
		i			49	
		January				
2	P	iPNEZ	00	50	59	c
		i		51	08	
	PX	eLE	01	17.9		
	R	iPNEZ		50	54	c
		i		51	04	
	Pr	iPNE		50	51	c
		i		51	03	
	H	iP		51	00	
	T	iPEZ			03	c
	USCGS: 19 N 67½ W, 0 = 00:42:26					
2	P	eP	01	27	45	
	R	iP			41	
	Pr	iP			53	
	T	e(P)			23	
	USCGS: 7 N 34 W, 0 = 01:15:29					
2	P	iPNEZ	15	27	16	d
		i			53	
	PX	eSE		37	40	
		i		38	43	
		eE		41	22	
		eLE		53.2		
		A T				
	PZ	1 2½				
	PH	¾ 2				
	MH	10 15				
	R	iP	15	27	20	d
		i		28	00	
		eSE		37	47	
	Pr	iPNEZ!		27	21	d
		i			41	
		i		29	53	
		eSE		37	51	
	T	iPNEZ		27	22	d
		i		28	01	
	Magnitude 7					
	USCGS: 11½ S 165 E 0 = 15:14:54					
2	P	iP	19	47	04	
	R	iP			07	
	Pr	iP			08	
	T	iP			11	
2	R	iP	19	55	16	
		iS		57	42	
	Pr	i		56	02	
	T	eP		54	58	
		i		55	17	
		iSNEZ		56	37	
	USCGS: 0 = 19:53:05, Near Utah-Idaho border.					
3	P	iP	03	05	56	
		iPP		10	06	
	PX	eN			24	
		iSKSE		16	34	
		iN			44	
		eLE		39.2		
		A T				
	PZ	½ 1½				
	MH	12 18				

(continued)

Date	Sta.	Phase	h m s	
		January (continued)		
3	R	eP	03 05 59	
		iPP	10 12	
	Pr	iPPNEZ	19	
	CL	iP	05 49	
		iPP	10 01	
	T	iP?	05 52	
		Magnitude 6½		
		USCGS: 18 N 121 E,		
		0 = 02:51:50		
3	P	iP	05 58 48	
	R	iP	50	
	CL	iP	52	d
		e	06 08 22	
		e(P'P')	23 20	
	T	iP	05 58 53	
		New Hebrides		
		USCGS: 0 = 05:46:10		
		BCIS: 0 = 05:46:20,		
		h = 150 km.		
3	P	e	11 19 21	
	PX	eLN	48.2	
	CL	e	19 19	
		BCIS: 47 S 74 W,		
		0 = 11:06.4		
4	P	iP	09 56 51	
		e	57 00	
	R	iP	56 53	
	CL	iP	45	
		e	57	
	T	iP	40	
		USCGS: Kurile Islands		
		0 = 09:45:40		
5	P	iP	03 34 53	
		e	35 02	
	Pr	iP	34 55	
	CL	iP	59	
		i	35 11	
	T	iP	04	
5	P	iP	04 37 21	
	PX	eLNE	43.8	
	R	iP	37 16	
	Pr	iP	10	
	CL	iP	31	
	T	iP	43	
5	P	eP	13 22 30	
	CL	eP	35	
5	MW	eP	16 08 18	
	R	iP	23	
	Pr	iP	29	
	CL	iP	11	
	T	iP	03	
		USCGS: Aleutian Is.		
		0 = 16:00:47		
6	P	eP	18 50 19	
	R	e(P)	24	
	CL	eP	07	
		e(pP)	23	
	T	e	25	
		South America		

Date	Sta.	Phase	h m s	
		January		
7	P	iPNZ	22 48 28	d
		isP	49 23	
	R	iPEZ	48 24	d
		ipP	49 03	
		isP	19	
	Pr	iPNEZ	48 22	d
		ipP	49 01	
		isP	17	
	CL	iP!	48 32	d
		ipP	49 11	
	T	iPNEZ	48 39	d
		Depth 150 km.		
		USCGS: 32 S 65 W,		
		0 = 22:36:00		
		BCIS: 31½ S 66 W,		
		0 = 22:36:04		
8	P	iP	20 54 40	
		ipP	59	
	R	iP	42	c
		ipP	55 06	
	Pr	iPNEZ	54 42	c
		ipP	55 05	
	CL	iP	54 47	
		ipP	55 10	
	T	iP	54 49	
		ipP	55 14	
		Depth 90± km.		
		IV at Nukualofa, USCGS		
		0 = 20:42:51		
		BCSF: 20 S 175 W,		
		0 = 20:42.9		
9	CL	e	01 33 29	
		USCGS: Aleutian Islands		
		0 = 01:25:30		
9	R	eP	10 36 35	
	CL	iP	54	
	T	eP	37 10	
		i	56	
9	MW	iP	23 09 45	
	CL	eP	56	
10	P	eP	03 11 24	
		ePcP	14 44	
	PX	iSN	16 09	
		eL	17.5	
		A T		
	PZ	0.4 1		
	PH	0.3 1		
	SH	7 13		
	MH	35 18		
	R	iP	03 11 19	
		ePcP	14 45	
	Pr	iP	11 14	
		i	38	
	CL	iP	36	
		i	45	
		i	12 03	
	T	eP	11 48	
		i	57	
		Magnitude 6¼		
		USCGS: 11 N 103 W,		
		0 = 03:05:42		

Date	Sta.	Phase	h m s	
		January		
10	CL	eP	08 32 36	
10	R	e	08 58 09	
	CL	e	10	
	T	e	14	
10	P	ipP	09 57 41	
	R	epP	47	
	Pr	ipP	53	
	CL	eP	24	
		ipP	38	
	T	eP	17	
		ipP	31	
		USCGS: Kurile Islands,		
		0 = 09:46:56		
10	MW	iP	12 06 36	
		ipP	57	
	Pr	iP	46	
		ipP	07 07	
	CL	eP	06 31	
		ipP	50	
		i	08 02	
	T	eP	06 21	
		ipP	43	
		e	07 59	
10	CL	e	16 41 48	
11	P	iP	02 14 41	
	R	eP	38	
	Pr	iP	35	
	CL	eP	45	
	T	iP	53	
11	CL	i	13 02 53	
11	P	iP	19 10 32	c
	R	iP	35	c
	CL	iP	28	c
	T	iPNEZ	21	c
		USCGS: 42 N 135 E,		
		0 = 18:56:26		
		P very sharp at all these stations. No surface waves, but no clear pP.		
11	P	iPNEZ!	21 41 39	d
		iSNE	41	
	MW	iPNEZ!	40	d
		iSNE	45	
	LJ	iP	58	
	SB	iP	59	
	Po	iP	43	
		Magnitude 4.1		
		33°57' N 118°12' W,		
		0 = 21:41:35, IV at		
		Pasadena; felt generally in		
		Los Angeles area.		
12	CL	e	04 48 49	
		e	49 02	
12	P	iP	08 44 03	
	CL	iP	09	
	T	iP	11	

Date	Sta.	Phase	h m s	
		January		
12	P	iPNEZ	12 17 09	c
		epP	19 05	
		isP	20 05	
		ePP	09	
	PX	iSNEZ	26 16	
		eSP	57	
		isS	29 26	
		e(L)	38.0	
		A T		
	PZ	2 1		
	PH	1½ 1		
	PPZ	2 1½		
	PPH	1 1½		
	SH	7 6		
	R	iPNEZ	12 17 11	c
		i	29	
		ipP	19 10	
		isPNEZ	20 13	
		iPP	21	
		iSNEZ	26 20	
		eSKPP'	47 01	
	Pr	iP	16 51	c
		ipP	18 50	
		iSKPP'	47 10	
	CL	iP!	17 15	c
		i	18 03	
		ipP!	19 14	
		iPP	20 01	
		isP	22	
		iS	26 27	
		iP'P'	44 19	
		iSKPP'	46 59	
	T	iPEZ	17 17	c
		ipP	19 15	
		isP	20 22	
		iSEZ	26 34	
		iP'P'	44 21	
		eSKPP'	47 01	
		Magnitude 7		
		USCGS: 17 S 178½ W,		
		0 = 12:06:06,		
		h = 500 km.		
		JSA: 17.4 S 178.8 W,		
		0 = 12:06:13,		
		h = 550 ± km.		
12	P	iP	17 21 24	c
		ipP	57	
	R	iP	27	c
		epP	22 00	
	Pr	iP	21 32	c
	CL	iP	20	c
		epP	52	
	T	iPNEZ	14	c
		epP	43	
		USCGS: 42 N 142 E,		
		0 = 17:09:49,		
		h = 100 km.		
		CMO: 42.1 N 142.6 E,		
		h = 20 km.		

Date	Sta.	Phase	h m s
		January	
13	P	iP	00 24 13
		i	38
	R	iP	16
	CL	iP	17
	T	iP	14
		USCGS: 5 S, 151 E,	
		0 = 00:10:57	
13	P	e	00 47 43
	CL	eP	26
		ipP	40
	T	eP	19
		ipP	33
		USCGS: 37½ N 141 E, 0 = 00:35:29	
13	P	iPNEZ	05 07 45
		iSNE	08 05
	R	iPEZ!	07 34 c
		iSE	44
	Pr	iPNEZ!	33 d
		Magnitude 4.1, 34° 01' N,	
		116° 29' W, 0 = 05:07:19	
		Near Desert Hot Springs.	
		felt there.	
13	P	eP	08 05 08
		i	23
	R	e	23
	Pr	iP	10
		i	23
	CL	eP	27
		e	10 39
	T	eP	05 27
		e	10 42
13	P	iPNZ	10 21 45 d
	R	iPEZ	41 d
	Pr	iP	38
	CL	iP	49 d
	T	iPNEZ	57
		USCGS: N. Chile, 0 = 10:10:21	
14	P	iP	00 05 40
		i	58
	PX	eLE	34.5
	R	iP	05 43
		i	06 07
	Pr	iP	05 43
		i	06 02
	CL	iP	05 42
		i	06 10
	T	eP	05 42
		e	06 07
		Magnitude 6½ (Wellington)	
		USCGS: 4½ S 152½ E,	
		0 = 23:52:29	
14	P	eP	06 18 51
		i	19 00
	R	e	03
	Pr	iP	00
		i	10
	CL	eP	18 45
		e	55
	T	i	51

Date	Sta.	Phase	h m s
		January	
14	P	eP	08 55 48
	R	eP	45
	Pr	iP	37
	CL	eP	56 02
14	P	iPNEZ	13 35 51 d
		i	36 05
	R	iPNZ	35 48 d
		ipP	36 02
	Pr	iPNEZ	35 43 d
		ipP	57
	CL	iP	57 d
		ipP	36 11
		i	42 39
	T	iP	36 04
		ipP	19
		BCIS: 17½ S 67½ W,	
		0 = 13:24.6	
14	P	iPNZ	19 54 27
		iSNE	55 55
	R	iP	54 33
	CL	e(P)	15
		i(S)	55 38
	T	iP	53 59
		i(S)	55 15
		Magnitude 4.8	
		USCGS: 40 N 123½ W,	
		0 = 19:52:37	
		Felt at Eureka, California,	
		(press).	
		VI at Punta Gorda light-	
		house (CGS)	
15	P	eP	15 15 54
		e	16 40
	R	eP	15 50
	CL	iP	16 05
	T	eP	17
15	CL	iP	21 15 13
	T	eP	15
16	P	iPNEZ	00 05 34
		i	48
	R	iP	36
	Pr	iP	37
	CL	iP	36
		i	24 12
	T	iP	05 35
		BCIS: 7 S 154 E,	
		0 = 23:52:20	
16	Pr	iP	02 10 55
	CL	eP	36
16	T	eP	07 26 56
17	MW	eP	10 03 22
	R	eP	24
	CL	iP	30
	T	iP	31
17	P	iP	11 11 28
	R	eP	24
	CL	eP	26
		USCGS: 1 N 25 W,	
		0 = 10:58:17	

Date	Sta.	Phase	h m s
		January	
17	CL	iP	18 05 33
	T	eP	34
17	MW	iP	20 41 26
	CL	iP	33
	T	iP	34
18	P	iPNEZ	01 58 00
		iSNEZ	02 00 22
		A T	
	PZ	0.1 0.5	
	MH	0.1 1	
	R	iP	01 57 56
	CL	iP	39
		i	58 06
	T	iPNEZ	57 35
		i	59
		i(S)NEZ	59 26
		Magnitude 5 - 5½. Felt in	
		Colorado	
		USCGS: 40 N 111 W,	
		0 = 01:55:57	
18	R	e	06 18 19
	CL	e	09
	T	e	05
18	CL	eP	11 14 22
	T	eP	33
18	P	iP	16 51 59
	CL	iP	52 00
	T	iP	51 58
		i	52 16
18	P	eP	21 27 35
	R	e	38
	CL	iP	35
	T	iP	33
19	MW	iP	03 41 16
	CL	iP	14
	T	eP	11
19	R	eP	10 01 35
	CL	iP	30
		i	50
	T	eP	29
19	P	i	13 45 11
	R	e	44 53
	Pr	i	48
	CL	i	45 08
	T	e	23
19	MW	e	17 47 13
	CL	e	13
		USCGS: 28 N 53 E,	
		0 = 17:27:20	
		BCIS: 27¾ N 53 E,	
		0 = 17:27:18	
19	MW	e	21 55 34
	R	e	42
	CL	e	28
		e	39
	T	e	17
		e	27
20	R	eP	02 34 09
	CL	eP	17
		e	33
	T	eP	19

Date	Sta.	Phase	h m s
		January	
20	R	eP	02 36 46
	CL	eP	48
		e	37 03
	T	eP	36 53
		e	37 07
		PcP of preceding?	
20	CL	e	07 31 08
	T	e	00
		USCGS: off Alaska	
		Peninsula, 0 = 07:24:52	
20	P	iPEZ	18 44 22
	R	eP	22
		i	30
		e	45 55
		iPcP	46 51
	Pr	iPNEZ	44 34
	CL	eP	09
		iPcP	46 47
		i	47 59
		iScP	50 32
	T	eP	43 58
		e	46 42
		iScP	50 27
		USCGS: 0 = 18:36:56	
		BCIS: 62 N 154 W,	
		0 = 18:37:18	
20	P	iP	23 26 55
		epP	28 56
	R	iP	26 52
		ipP	28 55
	Pr	iP	26 50
		ipP	28 50
	CL	iP	26 59
		epP	29 02
	T	iP	27 05
		ipP	29 08
		South America, h = 600 km.	
21	Pr	iP	02 14 15
	CL	iP	19
	T	eP	22
21	MW	iP	04 37 33
	R	eP	36
	CL	iP	18
		e(PcP)	39 51
		USCGS: Near West coast	
		of Alaska, 0 = 04:29:53	
21	R	e	08 52 57
	CL	e	53 00
21	R	eP	11 36 56
	CL	eP	37 19
	T	eP	22
		Mexico	
21	P	iPEZ	14 22 04 d
		i	13
		ipP	23
	PX	eSNE	32 12
		A T	
	PZ	¼ 1½	
	pPZ	¾ 1½	
	SH	1½ 3	
	R	iPNEZ	14 22 01 d
		ipP	20
		eSNE	32.5
		(continued)	

Date	Sta.	Phase	h m s	
		January (continued)		
21	Pr	iPNZ	14 21 59	d
		ipP	22 17	
		eSNE	32 03	
	CL	iP	22 08	d
		ipP	28	
	T	iPNEZ	16	d
		ipP	36	
	USCGS: 36 S 73 W,			
	0 = 14:09:54, h = 100 km.			
	Felt in Central Chile			
	BCIS: 35½ S 72½ W,			
	0 = 14:09:51, h = 100 km.			
21	P	iEZ	14 47 05	
	R	eP	45 31	
		iS	46 43	
	Pr	ePN	45 19	
		eS	46 17	
	LJ	eP	45 19	
		eSNE	46 15	
	Gulf of California?			
21	P	i	14 57 16	
	R	eP	55 44	
		iS	56 52	
	Pr	ePN	55 30	
	LJ	eP	29	
		eS	56 26	
	Gulf of California?			
21	R	iP	20 53 28	
	CL	iP	18	
	T	iP	11	
22	P	iP	01 16 27	
		ipP	17 39	
	R	eP	16 29	
		epP	17 44	
	Pr	iP	16 14	
		ipP	17 28	
	CL	eP	16 26	
		ipP	17 39	
	T	iP	16 19	
		ipP	17 33	
	h = 300± km. South of			
	Japan?			
22	P	eP	03 26 53	
	R	eP	53	
		ePcP	28 22	
	CL	iP	27 00	
		iPcP	28 27	
	T	iP	27 07	
		iPcP	28 31	
	USCGS: off Colombia,			
	0 = 03:18:17			
22	CL	eP	05 00 08	
22	R	eP	08 02 44	
	CL	iP	50	
	T	eP	52	
	USCGS: 22½ S 175 W,			
	0 = 07:50:41			
22	R	eP	10 12 33	
		e	15 01	
	CL	iP	12 18	
		i	14 56	
	T	iP	12 10	

Date	Sta.	Phase	h m s	
		January		
22	CL	eP	16 27 15	
22	R	iP	20 58 58	
	CL	iP	52	c
	H	eP	50	
23	P	i	10 18 26	
	R	e	25	
	CL	e(P)	14 03	
		i	18 22	
		ePKKP	29 43	
	T	i	18 23	
	USCGS: 10 N 125 E,			
	0 = 09:59:50			
24	P	iP	01 58 00	
	R	eP	02	
	CL	iP	06	
	T	iP?	23	
	Southwest Pacific			
23	R	iP	03 08 17	
	CL	iP	23	
24	CL	iP	05 48 46	
	USCGS: 05:36:43,			
	Fiji Is. region			
24	P	iPNEZ	16 59 41	c
		ipP	17 00 21	
		iPP	03 01	
	PX	iSE	09 50	
		eGN	22.2	
		A	T	
	PZ	1	2	
	pPZ	1	2	
	PP	½	2½	
	SH	1	4	
	MH	7	20	
	R	iPNEZ	16 59 42	
		iPP	17 00 24	
		i	44	
		iPP	03 06	
		eSE	09 55	
	CL	iP	16 59 44	c
		ipP	17 00 26	
		e	02 58	
		iPP	03 11	
		iP'P'	25 57	
	T	iPNEZ	16 59 46	c
		ePP	17 03 10	
		eSN	10 12	
		eP'P'	25 47	
	Magnitude 6½			
	USCGS: 14½ S 167 E,			
	0 = 16:47:18, h = 150 km.			
25	CL	iP	00 54 31	
	USCGS: New Britain region,			
	0 = 00:41:09			
25	P	eP	02 22 23	
	PX	eL	53	
	CL	eP	22 12	
	T	iP	09	
	USCGS: 27 S 177 W,			
	0 = 02:09:38			

Date	Sta.	Phase	h m s	
		January		
25	CL	iP	06 11 54	
26	P	iP	04 03 18	c
		ipP	05 15	
	R	iP	03 20	c
		ipP	05 18	
	Pr	iPNEZ	03 22	c
		ipPNEZ	05 19	
	CL	iP	03 26	c
		ipP	05 23	
	T	iP	03 28	
		ipP	05 23	
	USCGS: Fiji Island region,			
	0 = 03:52:14, h = 500 km.			
26	MW	iP	07 58 22	
	CL	iP	17	
	T	iP	09	
26	P	iPNEZ	11 18 49	d
	R	iPEZ	51	d
	Pr	iPNEZ	52	d
	CL	iP!	56	d
		e	20 55	
	T	iPNEZ	59	d
	USCGS: South of Fiji Is.,			
	0 = 11:06:22			
26	CL	i	21 40 31	
		i	42 56	
27	P	iP	08 37 28	
	R	eP	31	
	CL	iP	35	
	T	iP	38	
	Near Apia			
	USCGS: 0 = 08:25:50			
27	P	iPNEZ	10 49 40	c
	R	iP	50	
	CL	eP	29	
		eS	51 25	
	H	eP	49 26	
	T	iP	13	
		eS	50 51	
	USCGS: 42 N 125 W,			
	0 = 10:47:18			
27	P	i(P)	12 50 58	
	CL	i(P)	51 27	
	H	i(P)	31	
27	P	iP	16 29 49	
	Pr	iP	53	c
	CL	iP	57	
	T	iP	58	
27	P	iPNZ	19 29 39	
		i	51	
		i	59	
	PX	eSNE	39.0	
		eLNE	47.5	
	R	iP	29 42	
		i	54	
	Pr	iP	42	
		i	30 07	
		i	28	
	CL	iP	29 47	
		i	30 08	
		(continued)		

Date	Sta.	Phase	h m s	
		January (continued)		
27	T	iPEZ	19 29 49	
		i	30 12	
	III at Apia			
	USCGS: 17 S 173 W,			
	0 = 19:18:09			
28	CL	iP?	08 21 36	
28	P	iP	19 39 42	
	R	iP	44	c
	Pr	iPNEZ	45	c
		ipP	41 31	
	CL	iP	39 48	c
		ipP	41 35	
	T	iP	39 51	
	h = 500 km ±. Tonga			
	region.			
	USCGS: 0 = 19:28:06			
29	R	eP	03 08 58	
		e	09 07	
	Pr	eP	08 33	
		e	49	
	CL	iP	09 12	
	Mexico			
30	P	iPNZ	01 10 01	
		ePP	13 46	
	PX	iSKSNE	20 38	
		iSNE	21 25	
		eSPN	22 22	
		eSSNE	27.5	
		eLNE	37	
		A	T	
	PZ	1	4	
	PPZ	2	5	
	MH	30	40	
	MH	15	20	
	R	eP	01 09 59	
		ePP	13 49	
	CL	iP	10 07	
		i	32	
		iPP	14 02	
	T	iP	10 13	
		ePP	14.2	
	Magnitude 6¾			
	USCGS: 54 S 71 W,			
	0 = 00:56:23			
30	P	iP	02 56 34	
	R	iP	38	
	CL	iP	24	
	T	iP	14	
	USCGS: 51½ N 150 W,			
	0 = 02:49:49			
30	MW	iP	05 43 53	
	R	eP	54	
	Pr	iP	53	
		i	44 02	
	CL	iP	00	
	T	iP	02	
	Near Apia			
	USCGS: 0 = 05:31:53			

Date	Sta.	Phase	h m s
	January		
30	CL	e	13 48 31
		e	43
31	MW	e	06 01 48
	Pr	i	11
31	MW	e	07 39 49
	R	e	35
	CL	e?	55
		i(P)	40 00
31	P	eP	07 48 36
	PX	eLNE	08 47.5
	R	eP	07 48 31
	CL	eP	45
31	CL	eP	09 31 34
31	P	eP	11 44 24
		i	29
		e	47 34
	R	eP	44 23
		i	27
	Pr	iP	26
		i	43
	CL	eP	19
	T	eP	22
	Small late surface waves recorded at Pasadena		
	BCIS: 10½ S 33 E,		
	0 = 11:24:45		
31	P	iPNEZ	22 53 47 d
		ipP	54 04
	R	iP	53 41
		ipP	54 08
	Pr	iP	53 52
	CL	iP	32
		ipP	59
	T	iP	28
		ipP	52
	USCGS: 51 N 156 E,		
	0 = 22:43:24, h = 100 km.		
	February		
1	P	iPNEZ	11 52 54 d
		e	53 13
		i	23
	R	iPEZ	52 51
		i	53 21
	Pr	iPNEZ	52 46 d
		i	53 15
		i	54 42
	CL	iP	52 59 d
		i	53 29
	T	iP	07
		i	38
	BCIS: 21.7 S 68.7 W		
	USCGS: 0 = 11:41:32,		
	h = 100 km.		
2	P	iP	03 46 30
	R	eP	32
	Pr	iP	32 d
	CL	iP	38 d
		e	58
		e	47 39
	T	iP	46 35

Date	Sta.	Phase	h m s
	February		
2	P	eP	10 38 39
		eS	39 36
	R	eP	38 32
	Pr	iP	01
		i	22
	Magnitude 4.2		
	USCGS: 32 N 113 W,		
	0 = 10:37:24		
2	P	eP	22 38 48
	R	e	50
	Pr	eP	47
	CL	eP	49
		i	53
	T	eP	58
2	P	e(P")	23 52 56
		iPP	53 16
	PX	ePSNE	24 02 51
		eSSN	09 02
		eSSSE	13.9
		eGNE	20.7
		A T	
	PPZ	½ 2	
	MH	16 20	
	R	e	23 53 10
	Pr	e	52 48
		e	53 26
	CL	e?	51 39
		e	52 34
		i	53 08
	T	e	52 55
	Magnitude about 6¾		
	USCGS: 22 N 100½ E,		
	0 = 23:33:38		
3	P	e(P")	03 10 30
		ePP	11 21
	PX	eSKSE	27.8
		eLN	43
		A T	
	PPZ	¼ 2	
	MH	12 20	
	R	e	03 11 16
	Pr	e	10 37
	CL	e	28
		e	11 15
	T	e	10 48
		e	11 13
	Magnitude about 6½		
	USCGS: 22 N 100½ E,		
	0 = 02:51:46		
3	P	iP	06 07 27
		ipP	09 31
	R	iP	07 29
		ipP	09 32
	Pr	iP	07 30
		ipP	09 31
	CL	iP	07 33
		ipP	09 39
	T	iP	07 37
	h = 600 km.		
	USCGS: 23 S 179 E,		
	0 = 05:55:55		

Date	Sta.	Phase	h m s
	February		
3	P	eP	16 52 37
		e	49
	PX	eLNE	17 01.2
	R	eP	16 52 43
		i	58
	Pr	iP	50
	CL	iP	32
		i	39
	T	iP	23
		i	36
	Foreshock		
	USCGS: 54 N 162 W,		
	0 = 16:45:29		
3	R	e?	18 10 17
	CL	eP	30
3	P	eP	18 39 20
		ipP	35
		i(sP)	43
	R	eP	24
		ipP	38
		i	47
	Pr	iP	28
		ipP	42
	CL	iP	16
		ipP	31
		i	40
	T	iP	09
		i	30
	USCGS: 43 N 142½ E,		
	0 = 18:27:53, h = 100 km.		
3	Pr	iP	19 01 19
	CL	e	00 46
	T	i	46
		i	01 00
	USCGS: 54 N 162 W,		
	0 = 18:53:43		
4	CL	eP	00 41 41
	T	iP	38
4	P	e	02 15 09
	PX	eLE	25.0
	MW	eP	15 03
		e	09
	Pr	iP	14 d
		i	28
	CL	iP	14 55 d
		i	15 09
		e	17 19
	T	iP	14 48
		e	54
	USCGS: 54 N 162 W,		
	0 = 02:07:53		
5	P	e	01 41 57
		e(PP)	42 23
	PX	e(PS)NE	51 48
		e(PPS)NE	52 48
		e(SS)NE	57 33
		eGNE	02 08.2
		A T	
	(PP)Z	¼ 1½	
	MH	20 45	
	MH	40 20	

(continued)

Date	Sta.	Phase	h m s
	February (continued)		
5	R	e(PP)	01 42 25
	Pr	i(PP)	22
	Magnitude 6¾-7		
	USCGS: 50 S 164 E,		
	Q = 01:23:30		
	Wellington: 48½ S 164 E,		
	0 = 01:23.6		
5	MW	e	10 23 55
	R	e	30
	Pr	iPNZ	09
		ipP	31
		isP	42
	CL	e	24 00
		i	21
	T	e	08
5	P	iP	12 23 58
	PX	eLNE	32
	R	iP	23 53
	Pr	iPNEZ	47 d
	CL	iP	24 04 d
	T	iP	15
	USCGS: 0 = 12:17:58		
	BCSF: 16 N 94 W,		
	0 = 12:18:02		
5	P	iP	12 53 17
	R	iP	21
	Pr	iP	21 c
	CL	iP	24
	T	iP	25
	Southwest Pacific		
6	PX	eL	12 08.5
	R	eP	01 30
	Pr	eP	17
	CL	eP	39
		e	49
	T	eP	48
7	MW	e	00 20 49
	R	e	38
	Pr	i	36
		i	49
	CL	e	46
	T	i?	21 01
	South America		
7	P	iP	00 38 39
		i	50
	PX	eLE	01 06
	R	iP	00 38 44
		i	53
	Pr	iP	45
		i	53
		i	39 11
	CL	iP	38 44
		i	55
	T	iP	47
	USCGS: 14½ S 166½ E,		
	0 = 00:25:57		

Date	Sta.	Phase	h m s
	February		
7	P	iP	10 45 58
	R	iP	55
		e	46 09
	CL	iP	03
	T	iP	11
	USCGS: Near Peru. Chile border, 0 = 10:34:45		
7	P	iP	10 48 16
		i	49 03
	R	iP	48 19
		e	29
	CL	iP	08
		i	21
	T	iP	04
	USCGS: 46 N 152 E, 0 = 10:37:22		
7	MW	eP	11 47 09
	R	iP	13
	CL	eP	46 52
		i	47 07
7	P	iP	21 25 58
		e	26 24
		ipP	35
	R	iP	25 53
		ipP	26 30
	Pr	iP	25 51
		ipP	26 30
		i	41
	CL	iP	02
		i	57
	T	iP	10
	BCIS: 8 S 73.6 W, 0 = 21:16:10, h = 160 km.		
7	P	eP	23 08 59
	CL	iP	55
	T	iP	50
	USCGS: off Kyushu, 0 = 22:55:48		
8	R	eP	05 15 16
	CL	iP	31
	T	iP	46
8	P	iP	05 45 27
		e	43
	R	eP	25
	Pr	iP	28
	CL	iP	28
	T	iP	31
8	CL	iP	07 26 45
8	P	iP	15 15 33
		ipP	44
	R	iP	36
		ipP	47
	Pr	iPNEZ	40
		ipP	51
	CL	iP	37
		ipP	48
	T	iP	38
		ipP	49
	USCGS: 10 S 160 E, 0 = 15:02:39		
	BCIS: 0 = 15:02.8, h = 100 km.		

Date	Sta.	Phase	h m s
	February		
8	P	eP	18 30 37
		i	31 24
	PX	eLNE	51
	R	eP	30 36
	Pr	iP	39
	CL	iP	28
	T	iP	27
		i	41
	USCGS: 48 N 27½ W, 0 = 18:19:51		
9	MW	iP	06 30 02
		i	32
	R	iP	29 58
		e	30 36
	Pr	iP	29 56
	CL	eP	30 06
		e	43
	T	iP	14
9	P	iP	13 19 04
	PX	eLN	44
	R	iP	19 04
	Pr	iP	13
		i	39
	CL	iP	18 56
		i	19 01
	T	iP	18 50
	USCGS: South of Honshu, 0 = 13:06:45		
9	P	eP	19 03 32
	CL	e	21
	USCGS: 73 N 5 E, 0 = 18:52:40		
9	P	iP	20 30 16
		ipP	49
		i	31 07
	R	eP	30 12
		ipP	47
	Pr	iP	11
		ipP	47
	CL	eP	20
		ipP	55
		e	31 11
	T	iP	30 27
		ipP	31 03
	USCGS: 0 = 20:18:38, h = 100 km.		
	BCIS: 22.8 S 66 W		
9	MW	iP	23 56 46
	R	eP	49
	CL	iP	39
10	CL	eP	02 15 30
10	MW	e	16 11 57
	R	e	12 01
	CL	eP	11 48
		e	12 05
		e	10
	T	iP	11 55
		e	12 12

Date	Sta.	Phase	h m s
	February		
10	P	iP	17 42 18
	R	eP	11
	Pr	iP	11
	CL	eP	22
	T	eP	30
10	P	iP	18 57 44
	R	eP	44
	CL	iP	43
	USCGS: Philippine Island region, 0 = 18:44:00		
10	MW	e	23 45 52
	T	e	23 42 55
		e	44 11
	Felt at Eureka, Calif.		
11	P	eP'	01 42 06
		i	19
	PX	i	47 57
		eLNE	02 41
	R	eP'	01 42 11
		i	19
	Pr	iP'	18
		iPP	46 13
	CL	eP'	42 12
		i	20
		iP2'	43 48
		ePP	46 55
		e	51 56
	T	eP'	42 21
	BCIS: 43 S 42½ E, 0 = 01:22:09		
11	CL	e	09 14 55
	USCGS: Aleutians, 0 = 09:07:07		
11	P	iPNEZ	11 41 02 c
		i	40
		ipP	42 00
	PX	iSNE	50 14
		eL	12 03.9
		A T	
	PZ	1 1	
	PH	½ 1	
	SH	2 4	
	R	iPEZ	11 41 06 c
		epP	42 09
	Pr	iPNEZ	41 07 c
		i	32
		ipP	42 11
	CL	iP!	41 11 c
		i	44
		ipP	42 14
	T	iPNEZ	41 12 c
		i	31
		ipP	42 19
	Magnitude 6½		
	USCGS: 15½ S 175 W, 0 = 11:29:54, h = 250 km.		
11	CL	e	18 28 55
12	P	eP	22 27 10
		e	21
	PX	iPP	30 17
		eSNE	37.3
		eGNE	47.9
			(continued)

Date	Sta.	Phase	h m s
	February (continued)		
12		A T	
	PZ	½ 1½	
	PPZ	¼ 1½	
	MH	10 20	
	R	iPNEZ	22 27 13
	Pr	iPNEZ	15
	CL	iP	16 d
		i	29
	T	iP	20
	Magnitude 6½		
	USCGS: 19 S 178 E, 0 = 22:14:55		
	BCIS: 18.9 S 177 E, 0 = 22:14:54		
13	P	iP	06 06 26 d
		ipP	56
	R	iP	23 d
		ipP	52
	Pr	iP	18
	CL	iP	29
		ipP	07 00
	T	iP	06 38
		ipP	07 09
	USCGS: 0 = 05:55:00, h = 100 km.		
	BCIS: 22.1 S 68.7 W, 0 = 05:55.0, h = 100 km.		
13	P	iP	11 13 45
		i	53
	R	eP	49
	Pr	iP	55
	CL	iP	39
		i	48
	T	iP	31
		e	40
	USCGS: Aleutians, 0 = 11:05:20		
13	P	iP	11 40 14
	R	iP	17
	Pr	iP	21
	CL	iP	16
	T	iP	17
	USCGS: 0 = 11:27:01		
	BCIS: 5½ S 153 E, 0 = 11:27.0		
14	CL	eP	01 01 51
14	R	eP	07 57 23
	CL	eP	33
14	MW	i	11 52 50
	R	i	53
	CL	eP	35
		i	47
	T	i	40
	USCGS: Aleutians, 0 = 11:43:55		
14	MW	e	14 35 59
	CL	e	36 00
14	P	iP	23 25 22
	Pr	iP	25
	CL	iP	29
	T	iP	32

Date	Sta.	Phase	h m s
	February		
15	R	e	00 24 49
	Pr	e	49
	CL	e	51
	T	e	39
15	MW	eP	03 47 36
	R	eP	39
	CL	iP	31
	T	iP	24
	USCGS: 47 N 154 E,		
	0 = 03:36:54		
15	MW	eP	05 26 49
	R	eP	49
		e	27 03
	CL	eP	26 49
		e	27 01
15	P	iP"	14 55 49
		i	56 30
	R	iP"	55 49
		i	56 29
	Pr	iP"	55 52
	CL	iP"	47
		i	56 24
	Poona: 11 N 92 E,		
	0 = 14:37:00		
16	CL	eP	02 08 39
		e	09 08
	T	e	09
16	R	eP	06 03 24
	CL	eP	33
	T	iP	48
16	P	iPNZ	13 01 50
		i	55
	PX	iLE	19.7
		eLN	22.5
	R	iP	01 48
	Pr	iP	46
	CL.	eP	02 00
		i	04
	H	eP	06
	USCGS: Easter Island region,		
	0 = 12:50:53		
16	CL	iP	13 45 40
	T	e?	49
		i	54
16	P	iPNZ	14 32 20
	R	iP	19
	Pr	iP	15 c
	CL	iP	30 c
	T	iPEZ	39
	USCGS: Easter Island region,		
	0 = 14:21:23		
17	P	eP	03 53 45 c
		iPcP	56 34
	PX	eGN	04 02.2
		A T	
	PZ	½ 2	
	PH	1 4	
	MH	10 20	
	R	eP	03 53 40
		iPcP	56 32
		(continued)	

Date	Sta.	Phase	h m s
	February (continued)		
17	Pr	iPNEZ	03 53 35 c
	CL	iP	51 c
		iPcP	56 36
	T	iPNEZ	54 02
		iPcP	56 40
	Small surface waves recorded at Pasadena.		
	Magnitude 6¼-6½		
	USCGS: 13½ N 91 W,		
	0 = 03:47:21, h = 100 km.		
18	CL	e	04 47 54
	T	e	53
18	P	iPNZ	05 15 23
	PX	eLE	33.3
	R	iP	15 21
	Pr	eP	14
		i	20
	CL	iP	35
	T	iP	41
	USCGS: 33 S 112 W,		
	0 = 05:04:25		
18	MW	eP	06 28 12
	R	eP	17
	H	eP	07
	T	iP	08
	USCGS: 31½ N 42½ W,		
	0 = 06:17:50		
18	T	eP	07 42 41
	USCGS: 31½ N 42½ W,		
	0 = 07:32:23		
18	MW	iP	08 35 26
18	MW	e?	14 46 48
		e	53
	Pr	e	55
		i	47 13
	CL	eP	46 38
		i	55
	T	eP	27
		e	38
		i	49
	USCGS: 54 N 164 W,		
	0 = 14:39:30		
18	Pr	eP	17 50 12
		i	51 29
	CL	iP	50 08
	T	iP	03
	USCGS: Honshu, Japan		
	0 = 17:38:04		
18	R	eP	19 51 52
	Pr	iP	56
	CL	iP	57
		e	53 03
	T	iP	51 59
	USCGS: Tonga region,		
	0 = 19:40:50		
18	MW	eP	23 52 25
	R	e?	15
	T	eP	32
	USCGS: Easter Island region, 0 = 23:41:15		

Date	Sta.	Phase	h m s
	February		
19	P	eP	07 20 29
		i	42
	R	eP	27
		e	41
	T	eP	34
20	MW	iP	03 25 21
	CL	iP	14
	T	iP	07
	USCGS: Kamchatka region,		
	0 = 03:15:08		
20	P	iP	21 00 52
	R	iP	51
	CL	iP	56
	T	iP	01 02
21	MW	eP	02 08 56
		e	09 05
	R	eP	08 58
	CL	iP	09 04
		i	12
	H	e	16
21	R	e	08 54 52
	CL	e	59
21	P	eP	20 37 08
		ipP	38 32
	R	eP	37 11
		ipP	38 36
	CL	iP	37 05
		epP	38 25
		i	30
	BCIS: 47 N 150.2 E		
	USCGS: 0 = 20:26:35,		
	h = 400 km.		
	CMO: 46.3 N 146.5 E,		
	h = 250 km.		
21	P	i	20 45 46
	R	eP	34
		i	50
	CL	eP	29
		i	41
		iPcP	47 42
	USCGS: Aleutian Island region, 0 = 20:37:30		
21	P	iP	22 46 17
		ipP	32
		i	39
		eP'P'	23 16 03
	R	iP	22 46 21
		ipP	36
		eP'P'	23 16 05
	Pr	iPNEZ	22 46 27 c
	CL	iP	13 c
		ipP	28
		eP'P'	23 16 04
	USCGS: 55 N 160½ E,		
	0 = 22:36:31, h = 100 km.		
22	P	iP	03 41 54 d
		ipP	42 44
	R	iP	41 50 d
		ipP	42 41
	CL	iP	41 57 d
		ipP	42 47
	H	iP	02
		(continued)	

Date	Sta.	Phase	h m s
	February (continued)		
22	BCIS: 22.5 S 68.2 W,		
	0 = 03:30:34, h = 200 km.		
	USCGS: 0 = 03:30:39,		
	h = 200 km.		
22	P	eP	07 02 07
	R	eP	10
		e	24
	Pr	iP	20
		i	31
	CL	eP	01 59
		e	02 06
		e	03 33
	H	eP	01 57
	USCGS: Aleutians,		
	0 = 06:54:30		
22	CL	iP	11 08 28
22	P	eP	14 24 22
		ipP	37
	R	eP	27
		ipP	40
	Pr	e?	39
		ipP	47
	CL	eP	20
		ipP	33
	H	ipP	31
	BCIS: 0 = 14:13:34,		
	h = 100 km.		
	USCGS: 45 N 151 E,		
	0 = 14:13:26		
23	P	eP	00 10 07
		e	14
	R	eP	07
		i	13
	CL	e	15
23	R	e	02 39 02
	CL	e	38 54
	T	e	39 01
23	P	iP	03 20 15
	R	iP	17
	Pr	iP	18
	CL	iP	21
		i	28
		e	25 22
	T	iP	20 22
		i	30
	USCGS: Fiji Island region,		
	0 = 03:08:10		
23	MW	eP	04 59 16
		ipP	30
	R	eP	20
		ipP	33
	Pr	i	37
	CL	iP	12
		ipP	25
	T	ipP	18
		i	50
	BCIS: 45 N 141 E,		
	0 = 04:48:26, h = 100 km.		
23	MW	e	07 56 35
	R	e	37
	Pr	i	38
	CL	e	38
	T	e	37

Date	Sta.	Phase	h	m	s	
		February				
23	P	iP	08	41	31	c
		i(PcP)			50	
		ipP		43	20	
		e(pPcP)			50	
		ePP		44	10	
	PX	iSNE		49	47	
		e(ScS)E		50	37	
		eSSNE		54	.3	
		A T				
	PZ	0.4 2				
	pPZ	0.3 2				
	PPZ	0.4 4				
	SH	2 5				
	R	iP	08	41	34	c
		e		43	18	
		ipP			25	
	Pr	iP		41	38	c
		ipP		43	28	
		isP		44	11	
	CL	iP!		41	26	c
		ipP		43	17	
	T	iPNEZ		41	20	c
		ipP		43	09	
	Magnitude 6					
	USCGS: 50 N 148 E,					
	0 = 08:31:23. h = 500 km.					
	CMO: 49 N 148 E,					
	h = 500 km.					
23	Pr	iP	15	31	07	
	CL	iP			23	
23	P	i	17	10	14	
	R	i			15	
	Pr	e			11	
		i			22	
	CL	eP		09	56	
		i		10	10	
	USCGS: 0 = 16:59:01					
	BCIS: 45 N 141 E,					
	h = 100 km, 0 = 16:59:10					
23	Pr		21	38	29	
	CL	e			19	
23	P	iPNEZ	21	57	35	c
		ipP			47	
	PX	iSNE	22	07	08	
		A T				
	PZ	½ 1				
	SH	1 5				
	R	iPNEZ	21	57	37	c
		i			52	
	Pr	iPNEZ			39	c
		ipP			50	
	CL	iP			42	c
		ipP			55	
	T	iPNEZ			45	c
		i		58	04	
	Magnitude 6½					
	Wellington, h = 100 km.					
	USCGS: 0 = 21:45:43					
	BCIS: 20 S 177½ W.					
24	P	iPNEZ	06	10	16	
		i			24	
	R	iP			11	
	Pr	iPEZ			06	
		i			13	

(continued)

Date	Sta.	Phase	h	m	s	
		February (continued)				
24	CL	iP	06	10	08	
		i			16	
	USCGS: 6 N 77½ W,					
	0 = 06:01:42					
24	CL	e	12	59	14	
24	P	iP	16	18	14	
	R	iP			17	
	Pr	iP			16	
		epP		20	07	
	CL	iP		18	21	c
		ipP		20	11	
		e		21	41	
	T	iP		18	23	
	h = 500 km.±					
	Near Apia					
24	R	e	21	32	56	
	CL	e			42	
25	P	iP	06	00	30	c
		i			35	
	R	iP			32	
	Pr	iPNEZ			35	
	CL	iP			23	c
	T	iP			19	
		i			25	
	USCGS: 45½ N 99 E,					
	0 = 05:47:09					
25	P	iP	10	04	40	
	R	eP			42	
	Pr	eP			45	
	CL	eP			37	
	T	eP			34	
	USCGS: 28 N 131 E,					
	0 = 09:51:34					
25	P	iP	10	09	18	
	R	eP			20	
	Pr	iP			23	
	CL	eP			15	
	T	eP			14	
	USCGS: 28 N 131 E,					
	0 = 09:56:27					
25	MW	eP	10	52	23	
	R	eP			25	
	CL	eP			19	
	Aftershock					
	USCGS: 0 = 10:39:17					
25	MW	e(P)	13	39	31	
		e(S)		41	34	
	CL	iP		39	33	
		iS		40	52	
25	P	iP	14	14	50	
	R	iP			52	
	Pr	iP			54	c
	CL	iP			57	
	T	iP			57	
	USCGS: Fiji region,					
	0 = 14:02:57					
25	P	iP	21	27	17	
		ipP		28	11	
	R	iP		27	20	
		ipP		28	14	
	Pr	iP		27	21	
		ipP		28	15	

(continued)

Date	Sta.	Phase	h	m	s	
		February (continued)				
25	CL	iP	21	27	22	c
		ipP		28	16	
	T	iP		27	21	
		ipP		28	12	
	USCGS: 17 S 168 E,					
	0 = 21:14:52, h = 200 km.					
26	P	iPNEZ!	00	06	40	d
		iSNE			52	
	MW	iPNEZ			41	d
	SB	iPNEZ!			34	c
		iSNE			42	
	CL	iP!			57	
	H	iPNEZ			59	
	Minor damage at Ventura					
	and Santa Paula (cracked					
	plaster, etc.)					
	Magnitude 4.7					
	34°37' N 119°05' W,					
	0 = 00:06:22					
26	CL	eP	01	25	35	
		e			53	
26	Pr	i	02	36	49	
	CL	e		37	05	
26	MW	eP	09	16	46	
	Pr	iP			34	
	CL	iP			51	
	T	iP		17	02	
26	R	eP	21	13	12	
		e			27	
	Pr	eP			09	
	T	eP			27	
		e			42	
	CL	iP			21	
27	MW	eP	04	08	51	
	R	eP			47	
		ePcP		11	13	
	Pr	iP		08	39	
		iPcP		11	01	
	CL	eP		09	00	
		ePcP		11	16	
	T	eP		09	06	
		ePcP		11	22	
28	P	iP	01	56	49	
	R	eP			52	
	CL	iP			47	
	T	iP			44	
	USCGS: Bonin Is.,					
	0 = 01:44:20					
28	P	iPNEZ!	10	31	46	c
		iPcP		32	08	
		ipP		33	03	
		isP			32	
		iPP		34	32	
		ipPP		35	35	
		iPPP		36	24	
	PX	iSE		40	37	
		iSNEZ!			39	
		iScSE		41	17	
		i(sS)N		43	02	
		iSSN		45	22	
		iGN		50	.2	
		eP'P'?		59	09	
		iP'P'			23	

(continued)

Date	Sta.	Phase	h	m	s	
		February (continued)				
28	PX	e(SKPP')	11	02	23	
		i			44	
	P	eP'P'P'		19	12	
		e		21	51	
		A T				
	PZ	20 2				
	PH	20 3				
	pPZ	7 3				
	PPZ	8 3				
	PPH	12 3				
	SH	70 12				
	GH	200 60				
	R	iPNEZ	10	31	48	c
		iPcP		32	12	
		ipP		33	07	
		iSNEZ		40	44	
		eP'P'		59	10	
		e			19	
		i	11	02	42	
	Pr	iP!	10	31	53	
		iS		40	50	
		i		41	44	
		e		51	45	
		e		57	58	
		iP'P'		58	32	
		i	11	01	23	
		i			37	
		i		08	07	
		i		22	22	
	SB	iP	10	31	39	c
	CL	iP!			41	c
		iPP		34	42	
		iS		40	32	
		eP'P'		59	04	
		i			28	
		i	11	02	27	
		i		08	29	
		eP'P'P'		18	58	
	H	iP	10	31	38	c
	T	iPNEZ			33	c
		i			56	
		iSNE		40	18	
		iN		41	05	
		eP'P'		59	14	
		i			33	
		e	11	02	34	
		e		08	17	
	Magnitude 7¾					
	USCGS: 46 N 143½ E					
	0 = 10:20:58, h = 350 km.					
	BCIS: 46.2 N 143.5 E					
	0 = 10:20:58, h = 340 km.					
	CMO: h = 320 km.					
28	CL	iP	15	19	28	
28	CL	eP	16	05	43	
		e		06	02	
28	P	iP	17	11	41	c
		ipP		12	09	
	R	iP		11	44	
	CL	iP			35	c
		ipP		12	04	
	T	iP		11	33	
	Depth 110 km.					
	USCGS: 53 N 159 E,					
	0 = 17:01:35					

Date	Sta.	Phase	h	m	s
	February				
28	P	e	19	12	12
	R	eP		11	58
		e		12	13
	Pr	i			11
	CL	eP			03
		e			19
	Felt, North Island, New Zealand.				
	Wellington: 38.75 S. 176.8 E, 0 = 18:58.75, M = 5¾-6.				
	March				
1	MW	eP	03	15	38
	CL	eP			44
	T	eP			46
1	MW	eP	03	45	31
	R	eP			33
	CL	eP			39
	Near Apia				
	USCGS: 03:33:52				
1	P	eP'	08	43	43
	PX	eLN	09	34	
	R	eP'	08	43	44
	Pr	eP'			47
	CL	eP'			52
	T	eP'			53
	BCIS: 45 S 95 E, 0 = 08:23.7				
	Poona: 50 S 74 E, 0 = 08:23:40				
2	P	iP	06	31	04
		e			18
		e			28
	R	eP			07
	Pr	iP			08
		e			19
		i		31	47
		i		32	01
	CL	iP		31	13
		i			25
	T	iP			14
	USCGS: Tonga Is. 0 = 06:19:23				
2	MW	iP	11	20	13
		e			31
	R	iP			09
		i			28
	Pr	iP			07
	CL	iP			18
		e			36
	T	eP			22
		e			41
2	P	eP	12	43	07
	R	eP			11
	CL	eP			08
2	MW	eP	13	23	07
	Pr	iP			09
	CL	eP			14
		e(pP)			26
2	P	iP"	18	58	28
	PX	iPP		59	33
		ePSNE	19	09	19
		iSSNE		15.8	
		eSSSNE		19.0	
		eLN		35.7	

(continued)

Date	Sta.	Phase	h	m	s
	March (continued)				
2		A T			
	P"Z	0.3 1½			
	PPZ	1½ 6			
	MH	14 20			
	R	eP"	18	58	26
		ePKKP	19	09	15
	Pr	iP"	18	58	28
		i			52
		iPP		59	24
	T	iP"		58	34
	Magnitude 6¾-7				
	USCGS: 59½ S 34 W, 0 = 18:39:47				
3	PX	eLN	00	34	
	MW	eP		01	57
	R	eP		01	58
	Pr	eP		02	00
	T	eP			07
3	MW	eP	00	57	31
	R	eP			34
	CL	eP			26
	T	eP			19
3	MW	iP	04	24	18
	CL	iP			25
	T	iP			27
	USCGS: Tonga Is., 0 = 04:12:32				
3	CL	e(P")	06	27	08
3	P	iP	07	52	05
	R	iP			09
	Pr	iP			16
	CL	iP		51	58
	T	iP			49
	USCGS: Kamchatka region, 0 = 07:42:13				
3	MW	eP	10	20	39
	CL	eP			27
	T	eP			30
3	P	eP	10	55	57
		i(pP)		56	09
		i			17
		i			31
	PX	eLN	11	23	
		A T			
	PZ	1½ 4			
	MH	7 20			
	R	eP	10	55	58
		i		56	02
		i(pP)			13
	Pr	eP		55	58
		iNEZ		56	02
		i(pP)			13
		i			55
	CL	iP			03
		i(pP)			18
		i			39
	T	iP			06
		i(pP)			20
	USCGS: 23½ S 175½ W, 0 = 10:43:52				
	BCIS: 25 S 177½ W, 0 = 10:43.7				
3	MW	e	13	04	52
	Pr	i		05	03
	T	e?		04	37

Date	Sta.	Phase	h	m	s
	March				
3	P	i	16	00	01
	R	e	15	59	59
	Pr	e			58
		i	16	00	56
	CL	i	15	59	56
		i	16	00	02
		e		01	12
	T	e	15	59	59
		e	16	00	05
	USCGS: Sandwich Is., 0 = 15:41:09				
4	CL	e	02	22	09
		i			17
	T	e			13
4	P	iP	06	59	10
		e			18
	R	iP			12
		i			20
	Pr	iP			15
		i			22
	CL	iP			14
		i			21
	T	iP			14
		i			22
	USCGS: 9 S 158 E, 0 = 06:46:09				
4	MW	iP	13	10	04
	R	eP			01
		e			16
	CL	eP			09
		e			24
	T	eP			17
		e			31
4	P	eP	15	23	20
	Pr	iP			17
	CL	eP			28
	T	eP			37
	Southeast Pacific				
	USCGS: 0 = 15:33:20				
4	P	iP"	16	07	22
		iPP		08	20
	PX	iNZ			45
		iEZ		09	03
		e		18	16
	R	iP"		07	20
		ePP		08	17
	Pr	iP"		07	19
	CL	iP"			23
		i		08	48
		i		09	08
		iPKKP		17	35
		i		18	12
		e		20	53
	T	i		09	00
		i			18
		iPKKP		17	32
		e		18	10
	USCGS: 59½ S 34 W, 0 = 15:48:40				
	BCIS: 56½ S 27 W, 0 = 15:48:44				
5	P	iP	09	33	27
	R	iP			28
	Pr	iP			28
		i			43

(continued)

Date	Sta.	Phase	h	m	s
	March (continued)				
5	CL	iP	09	33	34
	T	iP			36
		i			57
	USCGS: 18 S 174 W, 0 = 09:21:45				
5	MW	eP	10	44	55
	R	eP			52
	Pr	eP			53
	CL	iP			58
	T	eP		45	01
	Wellington: mag. 5½, 33½ S 178 E, 0 = 10:32.1				
5	P	iP	14	28	36
	R	iP			39
	Pr	iP			41
	CL	iP			42
	T	iP			42
	USCGS: 14½ S 165 E, 0 = 14:15:48				
5	P	iPNEZ	18	12	38 d
		ipP		13	13
		i			27
	R	iPNEZ		12	34 d
		ipP		13	09
		i			24
	Pr	iPNEZ		12	31 d
		ipP		13	04
		i			20
	CL	iP		12	42 d
		i			57
		ipP		13	17
		i			32
		i			49
	T	iPNEZ		12	50 d
		ipP		13	25
		i			39
	USCGS: 0 = 18:01:10, h = 100 km.				
	BCIS: 22 S 68¼ W, 0 = 18:01:12, h = 100 km.				
6	P	i(pP)	22	34	37
	R	iP			07
		i(pP)			44
	Pr	iP			09
		i(pP)			45
	CL	iP			10
		i(pP)			46
	USCGS: New Hebrides, 0 = 22:21:26				
7	PX	ePP	02	26	33
		e(1)			56
		e(SP)		35	50
		e		37	46
		eSSE		41.7	
		eLN		52.3	
		A T			
	(1)Z	1 5			
	(SP)H	5 12			
	MH	25 20			

(continued)

Date	Sta.	Phase	h	m	s	
	March (continued)					
7	R	e(P")	02	25	49	
		e		27	07	
	Pr	iPP		26	48	
	CL	eP		22	08	
		e(P")		25	32	
		iPP		26	13	
		i			40	
	T	e		22	16	
		e		25	32	
		e		26	33	
	Magnitude about 6¾					
	USCGS: 10 N 124 E,					
	0 = 02:07:46					
	BCIS: 10½ N 122¼ E,					
	0 = 02:07:50,					
	h = 50 - 60 km.					
7	CL	eP	06	14	22	
8	CL	e	02	16	39	
		e			49	
		e		17	18	
	T	e		16	21	
8	MW	eP	03	18	15	
	R	eP			17	
	CL	eP			16	
	T	eP			20	
8	P	i	03	40	47	
	R	e			49	
	CL	eP			45	
		i			53	
	T	eP			45	
		i			53	
8	MW	eP	05	03	29	
	R	eP			30	
	CL	iP			32	
	T	iP			33	
8	P	iP	06	42	37	
	R	iP			40	
	CL	iP			34	
	T	iP			29	
	Japan (?)					
	USCGS: 0 = 06:30:30					
9	P	iP	05	12	52	
	R	iP			49	d
	Pr	iP			45	
		i		13	01	
	CL	iP		12	58	
	T	iP		13	04	
		i			13	
9	P	iP	07	03	29	
	R	iP			32	
	Pr	iP			33	c
	CL	iP			37	
	T	iP			37	
	USCGS: Fiji Islands,					
	0 = 06:51:39					
9	R	e	08	37	07	
		e			13	
	Pr	e			06	
		e			22	
	CL	eP		36	52	
		e		37	07	
	T	e			02	

Date	Sta.	Phase	h	m	s	
	March					
9	P	iPNEZ	10	13	10	c
		i			20	
	PX	eLN		34.5		
	R	iPNEZ		13	06	c
		i			15	
		i			21	
	Pr	iP!			02	c
		i			17	
		iSNE		20	30	
	CL	iP		13	09	c
		i			22	
		i			32	
	T	iPNEZ			13	c
		i			39	
	Surface waves small.					
	USCGS: 16 N 60 W,					
	0 = 10:03:39					
9	P	iPNEZ	17	44	39	d
		i		45	12	
	R	iPNZ		44	42	d
		ipP			59	
	Pr	iPNEZ			50	d
		i		45	13	
	CL	iP!		44	30	d
		ipP			46	
		i			55	
	T	iPNEZ			17	d
		ipP			33	
	USCGS: 61 N 151 W,					
	0 = 17:38:02, h = 150 km.					
10	MW	iP	03	46	53	
	R	eP			55	
	Pr	iP			59	
	CL	iP		47	09	
	T	eP?			00	
10	MW	eP	13	44	16	
	Pr	iP			05	
	CL	iP			23	
	T	iP			33	
	Mexico					
10	P	iPNEZ	20	27	14	d
		A	T			
	PZ	0.3	1.5			
		e(pP)	20	28	40	
	R	iP		27	15	d
		e(pP)		28	47	
	Pr	iPNEZ!		27	16	d
		i			36	
		i(pP)		28	47	
	CL	iP!		27	20	d
		i(pP)		28	50	
	T	iPNEZ		27	23	d
	USCGS: Fiji Island region,					
	0 = 20:15:23					
10	MW	iP	20	59	43	
	Pr	iP			36	
	CL	iP			47	
	T	iP			54	
	Possibly P'P'					

Date	Sta.	Phase	h	m	s	
	March					
11	P	iP	00	47	44	
	PX	eLNE		54.5		
	R	iPNEZ		47	40	c
	Pr	iPNZ			34	c
		i			39	
	CL	eP			54	
		iL		54	38	
	T	iPNZ		48	06	
		i			16	
		e		50	09	
		eLNEZ		54	21	
	USCGS: 20 N 99 W,					
	0 = 00:42:51					
	Tacubaya 20°17' N,					
	99°03' W.					
11	MW	e	06	17	01	
	R	e		16	56	
	CL	iP			53	
	T	eP			38	
12	PX	eLN	04	27.9		
12	PX	eLE	07	56		
12	T	eP	19	03	23	
	USCGS: 5 N 79 W,					
	0 = 18:54:35					
	BCIS: 2¾ N 78¾ W,					
	0 = 18:54:26					
14	P	iPNEZ!	03	19	52	d
		ipP		20	25	
		iPcP			38	
		e(sP)			46	
	PX	iPPE		22	12	
		ePPP		23	39	
		iSNE		27	52	
		esSNE		28	50	
		A	T			
	PZ	3	2			
	PH	3	3			
	PPZ	½	2			
	SH	1	2			
	R	iPNEZ	03	19	46	d
		ipP		20	19	
		iPcP			35	
	Pr	iPNEZ!		19	42	d
		i			57	
		iPcP!		20	34	
		i			45	
		eE		25	22	
		iSN		26	40	
	H	iPNEZ		19	59	d
	T	iPNEZ		20	04	d
		i			23	
		i			32	
		i			38	
	USCGS: 8 S 74 W,					
	0 = 03:10:02, h = 150 km.					
15	MW	eP	21	05	02	
	R	eP?			05	
	T	eP			02	
16	CL	iP	03	04	56	
16	CL	i	05	52	02	

Date	Sta.	Phase	h	m	s	
	March					
16	P	iPNEZ	19	35	53	
		ipP		37	54	
		esP		38	51	
	PX	iSNE		45	00	
		iSP			43	
		A	T			
	PZ	0.2	1			
	PH	0.1	1			
	SH	1½	5			
	R	iPNEZ	19	35	54	d
		epP		37	55	
	Pr	iPNEZ		35	56	d
		ipP		37	52	
		isP		38	55	
		iSN		45	07	
		iE			31	
	CL	iP		36	00	d
		e			23	
		ipP		38	03	
		eP'P'	20	05	39	
	T	iPNEZ	19	36	01	d
		i			27	
		ipP		38	04	
		eSNEZ		45	18	
	h = 570 km., mag. 6¼					
	USCGS: 17 S 178½ W,					
	0 = 19:24:56, h = 600 km.					
17	P	eP	03	05	28	
		i			37	
	R	eP			26	
	CL	iP			36	
		i			43	
	T	iP			53	
		i			58	
	USCGS: Gulf of Calif.,					
	0 = 03:02:20					
17	MW	eP	05	47	38	
	CL	eP			45	
	T	eP			42	
	USCGS: 14 S 173 W,					
	0 = 05:38:18					
18	P	iP"	04	58	29	
		ePP	05	00	07	
	Small surface waves					
	recorded					
	R	iP"	04	58	25	
		i			45	
	Pr	iP			25	
	CL	iP"			29	
		i			46	
		ePP	05	00	04	
		iPKKP		08	31	
	T	iPNEZ	04	58	33	
		i			47	
		ePKKP	05	08	26	
	BCIS: 57 S 24 W,					
	0 = 04:39.6					

Date	Sta.	Phase	h m s
	March		
18	P	iP	18 30 07
		ipP	51
	R	iP	02
		epP	46
	CL	iP	10
		ipP	54
	T	iP	18
		i	44
		ipP	31 03
	USCGS: 18½ S 67½ W,		
	0 = 18:18:04, h = 200 km.		
	BCIS: 18¼ S 68½ W,		
	0 = 18:19:07, h = 200 km.		
20	P	iP?	15 23 56
		i	58
		iEZ	24 09
		iSEZ	25 21
	R	iP	24 05
		i	27
		eNE	25 47
		iN	26 01
	Pr	iPEZ	24 18
	SB	iP	23 52
		iE	25 19
	H	ePNZ	23 35
		iSNZ	24 55
	T	iP	23 23
		i	29
		iSNE	24 41
	Magnitude 5.5. Near		
	Lassen Peak		
	USCGS: 40½ N 121½ W,		
	0 = 15:22:17		
	Felt in Central Calif.		
21	P	iP	21 04 53
	R	iP	54
	Pr	iP	57
	CL	iP	05 00
	T	iP	02
	USCGS: Fiji Islands,		
	0 = 20:52:53		
22	MW	eP	13 01 31
	R	eP	29
	CL	iP	16
		i	22
	T	eP	13
		e	20
	USCGS: 49 N 28 W,		
	0 = 12:50:42		
22	P	eP?	15 10 54
	P*	iP	11 01
	CL	iP	05
	T	iP	07
22	P	iP	15 56 02
		ipP	31
	R	iP	55 57
		ipP	56 27
	Pr	iP	55 54
		ipP	56 22
	CL	iP	05
		ipP	34
	T	ipP	43
		i	57
	March		
23	P	iP	04 18 52
		iSNEZ	20 18
	R	eS	33
	CL	e(P)	18 15
		i(S)	19 39
	H	iP	18 25
		iSNEZ	19 28
	T	eP	17 58
		i	18 08
		iSNZ	58
	Magnitude 4.6		
	Northern California		
23	P	i	08 04 37
	T	eP	02 26
		e(S)	03 17
23	P	eP	08 20 23
	R	iP	25
	CL	iP	32
	T	iP	33
	USCGS: Fiji Islands,		
	0 = 08:08:33		
23	R	eP	10 51 53
	CL	eP	42
	T	eP	36
	USCGS: Alaska Penin-		
	sula, 0 = 10:45:28		
23	R	e	18 33 01
		e	10
	CL	i	32 35
		i	33 12
	T	i	32 35
25	T	e	03 38 42
26	MW	iP	04 27 33
		i(S)	29 00
	R	e(P)	27 30
		iSNEZ	29 25
	CL	e(P)	26 52
		i	27 14
		i	28 06
		i(S)	23
	H	eP	26 33
		i	27 04
		i	28 09
		iNEZ	17
	T	e(P)	25 17
		iPNEZ	26 42
		i	50
		eSN	27 47
	Two shocks		
	USCGS: 40½ N 121½ W,		
	0 = 04:25:34		
26	CL	e	06 47 36
	T	e	11
	USCGS: 45 N 129½ W,		
	0 = 06:44:22		
27	P	iP	06 28 17
		ipP	26
		e	45
	R	iP	14
		ipP	24
	CL	iP	21
		ipP	31
	T	iP	29
		ipP	39

(continued)

Date	Sta.	Phase	h m s
	March (continued)		
27	USCGS: 0 = 06:16:05		
	BCIS: 29 S 67 W,		
	0 = 06:16:07		
27	MW	iP	09 37 40
		i	48
27	P	iPNEZ	13 13 11 c
		i	24
		iSE	20 36
	PX	iGNE	25.7
		A T	
	PZ	1 1½	
	PH	½ 1½	
	SH	22 25	
	MH	25 20	
	R	iPNEZ	13 13 14 c
		i	28
	Pr	iPNEZ!	22 c
	CL	iP!	05 c
	T	iPNEZ	12 57 c
		i	13 11
	Magnitude 6¾		
	USCGS: 53½ N 173 E,		
	0 = 13:04:04		
27	P	eP"	21 37 47
		e	38 35
		iPP	40 08
		iSKP	41 11
		iNEZ	57
		e(G)	22 40.8
		A T	
	P"Z	¼ 1	A T
	PPZ	¼ 1½	SKPH 2 5
	SKPZ	2 3	
	MH	10 20	
	R	eP"	21 37 49
		ePP	40 06
		i	49
		iSKP	41 18
		i	52
	Pr	iP"	37 49
		i	59
		i	40 48
		iSKP	41 29
	CL	eP"	37 36
		i	47
		iSKP	41 10
	T	eP"	37 39
		i	47
		iSKPNEZ	41 08
	Magnitude less than 7		
	Slightly deeper than		
	normal		
	USCGS: 5½ S 103 E,		
	0 = 21:18:32		
	BCIS: 6 S 102½ E,		
	0 = 21:18:32		
27	P	eSKP	22 29 01
	R	iP"	25 28
		iSKP	29 05
	CL	iP"	25 26
		iSKP	28 50
	T	iP"	25 24
		eSKP	28 46
		i	29 06
		i	25

(continued)

Date	Sta.	Phase	h m s
	March		
27	Aftershock		
	USCGS: 0 = 22:06:10		
28	P	eP	12 45 07
	R	eP	08
	CL	iP	44 44
	T	iP	39
		i(pP)	55
	USCGS: 0 = 13:32:48,		
	h = 100 km.		
	CMO: 36.5 N 140.9 E,		
	h = 50 km.		
28	P	iP	20 17 43
		ipP	18 34
	R	iP	17 44
		ipP	18 33
	Pr	iP	17 47
		ipP	18 36
	CL	iP	17 47
		ipP	18 38
	T	iP	17 47
		ipP	18 38
	USCGS: 14 S 166 E,		
	0 = 20:05:16, h = 200 km.		
29	P	iP	13 05 15
		i(pP)	32
	PX	eLE	33.3
	R	eP	13
		e	22
		i(pP)	32
	Pr	iP	16
		i	21
		i(pP)	32
	CL	iP	22
		i(pP)	37
	T	iPNEZ	25
		i(pP)	41
	USCGS: 27 S 177 W,		
	0 = 12:52:53		
	BCIS: 26½ S 176 ½ W,		
	0 = 12:52:55		
29	P	eP	17 55 08
		ePP	59 23
	PX	eLE	18 27.5
	R	iP	17 55 11
		iPP	59 28
	CL	iP	55 10
		i(pP)	32
		i	50
		iPP	59 23
	T	eP	55 08
		i(pP)	30
		i	44
	USCGS: 3 S 137½ E,		
	0 = 17:41:07		
	BCIS: 3 S 138½ E,		
	0 = 17:41:07, h = 100 km.		

Date	Sta.	Phase	h m s
	March		
30	CL	e	01 12 10
30	MW	iP	02 02 02
	CL	iP	07
	T	iP	10
30	R	iP	16 58 35
	Pr	iP	36
	CL	iP	31
	T	iP	28
	USCGS: 40½ N 30 W, 0 = 16:47:40		
30	P	iP	22 14 11
		ipP	20
	R	iP	15
		ipP	24
	CL	iP	18
		ipP	28
	T	iP	18
		ipP	27
	USCGS: 22 S 170 E, 0 = 22:01:19		
31	CL	eP	01 47 42
		e	48 02
	T	eP	47 34
		e	54
	USCGS: Aleutian Islands, 0 = 01:39:32		
31	MW	eP	12 57 45
		epP	58
	CL	iP	50
		epP	58 03
	T	iP	57 59
		e	58 19
	USCGS: Off coast of Central Peru 0 = 12:47:40		
31	MW	eP	15 47 41
	CL	eP	38
	T	eP	32
		e	46
	USCGS: 34 N 143 E, 0 = 15:35:39		
31	MW	e	22 49 18
	Pr	e	10
	CL	i	24
	T	e(P)	26
		i	39
	April		
1	CL	eP	11 30 17
	T	eP	14
	USCGS: Off Honshu; 0 = 11:18:22, h = 100 km.		
1	MW	e	13 33 56
	T	e	35
	CL	e	43
2	P	iP	01 10 51
	R	iP	54
	CL	iP	58
	T	iP	11 00 d
	USCGS: South of Fiji, 0 = 00:58:14		
	April		
2	MW	eP	02 10 54
		epP	11 09
	R	eP	10 56
		epP	11 11
	CL	eP	10 47
		epP	11 03
	T	eP	10 38
		epP	52
	USCGS: Aleutians, 0 = 02:02:43		
2	R	iP	08 35 09
	CL	eP	13
		e	39
	T	eP	16
2	P	eP	18 36 20
		i	36
	PX	eLN	57.3
	R	eP	35 16
		e	32
	CL	iP	27
		i	46
	T	eP	36
		e	55
	Southeast Pacific USCGS: 0 = 18:25:35		
2	P	eP	20 11 18
	R	eP	21
	CL	eP	22
	T	eP	20
	Bismarck Is. USCGS: 0 = 19:57:52		
2	P	eP	23 17 38
	MW	eP	38
		e	18 07
		iPcP	20 28
	R	eP	17 32
		iPcP	20 22
	CL	iP	17 42
		iPcP	20 29
	T	iP	17 53
		iPcP	20 33
	USCGS: Off Salvador 0 = 23:11:02, h = 100 km.		
3	CL	i	04 59 33
	T	e	58
3	R	e	05 02 53
	CL	i	24
3	MW	iP	06 44 57
	R	iP	45 00
		e(sP)	54
	CL	iP	03
		i(sP)	57
	T	iP	03
	USCGS: 18 S 169½ E, 0 = 06:32:14		

C. F. Richter
Marion Reid
Sept. 18, 1950

ROYAL OBSERVATORY
27 MAR 1951
EDINBURGH

Date	Sta.	Phase	h	m	s
	April				
3	R	eP	13	27	50
	CL	iP			59
	T	eP		28	09
4	MW	iP	02	29	10
	R	iP			15
	CL	iP			05
	T	iP		28	57
		i		29	23
	USCGS: 51½ N 173 W,				
	0 = 02:21:11				
4	P	iPNZ	02	32	47
		i			58
		i		33	28
	R	iP		32	52
		i		33	04
		e			16
		i			21
	CL	iP		32	43
		i			57
	T	iP			34 c
		i			46
		i		33	02
	USCGS: 51½ N 173 W,				
	0 = 02:24:47				
4	CL	iP	03	55	40
	T	iP			35
		e			55
	USCGS: 30 N 130½ E,				
	0 = 03:42:46				
4	CL	eP	11	31	26
		e			59
	T	eP			22
		e			53
	Near Apia				
	USCGS: 0 = 11:19:25				
4	P	eP	18	56	57
		i		57	03
		iEZ			08
		iZ			13
	PX	iSE	19	07	58
		eSSNE			13.5
		eLE			20.4
		A	T		
	PZ	½	1		
	SH	11	7		
	MH	25	20		
	R	eP	18	57	02
		i			08
	CL	eP		56	51
		i			55
		i		57	00
		i			07
	T	eP		56	45
		e			55
	Magnitude 6¾				
	USCGS: 52 N 101 E,				
	0 = 18:44:10				

Date	Sta.	Phase	h	m	s
	April				
5	*P	eP	01	25	37
		i			58
		ePcPE		26	57
		ePcSE		31	05
	PX	iSNE		32	28
		eLNEZ		36.0	
		A	T		
	PZ	1	2		
	R	eP	01	25	40
	CL	iP			29
		iPcP		27	12
		iPcS		31	05
		iS		32	16
	T	eP		25	21
		iNEZ			26
		iPcP		27	11
		eSNE		31	55
	USCGS: 52 N 177 W,				
	0 = 01:17:15				
5	MW	eP	05	56	47
	R	eP			43
	CL	iP		57	02
		i			18
	T	eP			18
5	P	e	09	45	22
	R	e			21
		e			28
	CL	e		40	43
		e		45	18
		e			25
	T	e			17
		e			23
	BCSF: 9 N 92 E,				
	0 = 09:26.0				
5	P	iP	10	25	32
		i			56
	R	iP			34
	CL	iP			39 c
		i		26	01
	T	eP		25	41
	USCGS: Kermadec Islands,				
	0 = 10:12:56				
5	P	eP	12	36	54
	R	iP			50
	CL	iP			58
	T	iP		37	05
6	R	iP	03	08	43
	CL	iP			30
	T	iP			20
	USCGS: Alaska Peninsula,				
	0 = 03:01:55				
6	MW	e	14	15	48
	CL	i			55
	T	e		16	07
7	MW	eP	02	01	40
	R	eP			44
	T	eP			29

Date	Sta.	Phase	h m s
	April		
7	R	eP	04 40 14
	T	eP	33
		e	41 07
7	T	eP	05 04 10
8	P	iP	11 40 31
	R	iP	34
	Pr	iP	38
	T	iP	24
	USCGS: Bonin Islands,		
	0 = 11:27:55		
8	MW	iP	12 22 31
		epP	23 00
	R	iP	22 33
		epP	23 02
	Pr	iP	22 34
		ipP	23 04
	T	iP	22 34
		ipP	23 04
	h = 115 km.		
	USCGS: Santa Cruz Is.,		
	0 = 12:09:50		
10	PX	eLNE	06 52.6
	BCIS: 60 S 160 W,		
	0 = 06:06.8		
10	P	iPNEZ	16 57 22 d
		i	52
		iPcP	58 44
		A T	
	PZ	¾ 2	
	R	iPNEZ	57 18 d
		e	53
		iPcP	58 44
	Pr	iPNEZ	57 11 d
		i	42
		iPcP	58 29
	H	iP	57 28 d
		iPcP	58 48
	T	iP	57 35 d
		i	42
		iPcP	58 51
	Deep? No surface waves		
	USCGS: 5 N 76½ W,		
	0 = 16:48:38		
	BCIS: 5 N 75½ W,		
	0 = 16:48:34		
12	T	eP	04 41 14
12	P	eP	08 24 04
		i	13
	R	eP	02
		i	11
	Pr	i	10
	H	e	17
	T	eP	11
		i	20
12	P	eP	14 09 28
	R	eP	31
	Pr	iP	33
	T	iP	32

Date	Sta.	Phase	h m s
	April		
13	P	eP	06 58 25
	R	eP	28
	Pr	iP	27
	H	eP	25
	T	iP	22
	USCGS: 13½ N 145½ E,		
	0 = 06:45:36		
13	R	iP	18 56 26
	Pr	iP	22
14	R	iP	11 07 24
	CL	iP	05
	USCGS: 48 N 122½ W,		
	0 = 11:03:48		
	Felt in the area surrounding Puget Sound		
14	P	iP	20 11 19
		i	55
	PX	eLE	33.6
	R	ePNZ	11 16
	CL	iP	27
	H	iP	29
	USCGS: 36 S 103 W,		
	0 = 19:59:58		
15	CL	iP	01 26 53
15	MW	eP	07 09 54
	H	eP	10 01
	USCGS: Tonga Islands region, 0 = 06:58:20,		
	h = 200 km.		
15	P	iPNEZ	11 57 08
		iSE	34
	R	iPNEZ	15
	Pr	iP	25
	SB	iPNZ	56 58
		iSNE	57 19
	CL	iP!	03
	H	iPNEZ	56 59
		iSNE	57 18
	T	iPNEZ!	02
		iSNE!	24
	Felt in the Sierra Nevada and San Joaquin Valley.		
	Magnitude 4.6		
	35°45' N 119°37' W,		
	0 = 11:56:32		
15	CL	iP	13 26 33
15	P	iPNEZ	14 57 45
		i	58 01
		iPcP	15 00 37
	PX	eLNE	06.5
	R	iP	14 57 39
		ePcP	15 00 34
	Pr	iP	14 57 35
	CL	iP	51
		i	58 04
		e	15 04 25
			(continued)

Date	Sta.	Phase	h m s
	April	(continued)	
15	T	iP	14 57 59
	USCGS: 14 N 91 W,		
	0 = 14:51:25, h = 100 km.		
15	CL	iP	22 00 44
16	P	eP	16 31 02
		e(pP)	20
	R	iP	07
	Pr	eP	11
	CL	iP	00
	USCGS: 36½ N 140 ½ E,		
	0 = 16:19:00		
	CMO: 35.7 N 140.7 E.		
16	P	iPNEZ	21 52 00
	R	iPNEZ	05
		i	40
	Pr	iPNEZ	15
		i	53 06
	CL	iP	51 44
		i	59
	T	iPNEZ	28
		i	40
	USCGS: 49 N 129 W,		
	0 = 21:48:02		
17	Pr	i?	03 51 12
		i	18
	CL	e	40
	T	e	58
18	MW	e	02 24 06
	R	e	24
	CL	e	31
	T	e	42
18	P	ePNEZ	14 39 24
	PX	iSNZ	45 39
		iGE	48.7
		A T	
	PZ	1 2	
	PH	1 3	
	SH	2 4	
	MH	20 20	
	R	iPNEZ	21
	Pr	iPNEZ	15
	CL	iP	36
	H	iPNEZ	39
	Magnitude 6½		
	USCGS: 4½ S 106 W,		
	0 = 14:31:46		
18	MW	eP	21 39 05
		e	28
		e	36
	R	eP	07
	Pr	iP	10
		i	31
	CL	i	38 56
		i(P)	39 11
19	P	iPEZ	16 19 22 d
		epP	21 19
	R	iPNEZ	19 25 d
		e	53
		e?	21 11
			(continued)

Date	Sta.	Phase	h m s
	April	(continued)	
19	Pr	iPNZ!	16 19 25 d
		i	46
	CL	iP!	29 d
		ipP	21 28
	T	iPNEZ	19 31 d
		i	57
	USCGS: 17½ S 179 W,		
	0 = 16:08:24, h = 600 km.		
20	P	eP	01 04 04
	R	eP	08
		e	20
	Pr	iP	11
		i	22
	T	iP	11
		e	17
		e	21
20	P	iP	10 01 47
		ipP	59
		i	02 10
	PX	iSE	10 41
		eLE	18.6
	P	eP'P'	30 07
		A T	
	PZ	½ 1	
	pPZ	½ 1½	
	SH	2½ 6	
	MH	5 20	
	R	iP	10 01 51
		ipP	02 03
		eP'P'	30 08
	Pr	iP	01 55
		ipP	02 09
		iP'P'	30 07
		i	27
	H	iPNEZ	01 40
		ipP	53
	T	ePNEZ	36
		ipP	48
		i	59
	Magnitude 6½		
	USCGS: 45 N 150 E,		
	0 = 09:50:44		
	CMO: 42.5 N 148.6 E		
20	P	iP	17 32 25
	R	eP	24
	Pr	eP	26
		e	51
	H	eP	20
	T	iP	18
	USCGS: 34 N 3 E,		
	0 = 17:19:14		
21	P	eP	02 55 22
	R	iP	18
	Pr	iP	14
	CL	iP	25
	T	eP	33

Date	Sta.	Phase	h m s
	April		
21	MW	eP	07 58 07
		e(pP)	19
	R	eP	01
		e(pP)	16
	T	eP	23
		e(pP)	37
22	P	eP	12 41 30
	R	eP	31
	Pr	iP	34
	T	iP	42
	Near Apia		
	USCGS: 0 = 12:30:05		
22	P	e	19 00 08
	R	e	18 59 59
	Pr	eP	53
		e	19 00 02
	CL	eP	18 59 57
	T	iP	19 00 00
22	MW	eP	21 55 27
	R	eP	29
	Pr	eP	31
	T	eP	56
	USCGS: 14 S 174 W,		
	0 = 21:44:02		
22	P	iP	21 57 52
	MW	iP	50
	R	eP	48
	Pr	eP	49
		i	57
	T	eP	59
	Same epicenter as		
	preceding; 0 = 21:46:20		
	Times reported from Apia		
	and Stuttgart show that		
	these phases are not pP		
	Compare 12h preceding		
23	P	iPNEZ	10 27 56
		epP	29 52
	R	iP	58 c
		epP	29 55
	Pr	iPNEZ!	28 00 c
		ipP	29 56
	T	iP	28 06 c
		epP	30 04
	Near Apia		
	USCGS: 0 = 10:17:00,		
	h = 600 km.		
24	R	eP	09 08 40
		e	49
	Pr	eP	35
		e	42
		e	58
24	P	iP	20 45 35
	R	iP	30
	Pr	iP	25
		i	33
	USCGS: 0 = 20:37:22		
	BCSF: 3 N 83.6 W,		
	0 = 20:37:21		

Date	Sta.	Phase	h m s
	April		
25	MW	iP	01 08 38
		e(pP)	09 05
	R	iP	08 38
		i(pP)	09 08
	T	i	10
	USCGS: 11½ S 167 E,		
	0 = 00:56:02		
25	P	eP	22 40 55
	R	eP	41 02
	Cr	eP	00
	T	eP	40 31
		A T	
	PZ	¼ 1½	
	USCGS: 49½ N 127 W,		
	0 = 22:38:07		
	Note reading for		
	Crestline (Cr)		
25	P	eP	22 55 55
	R	eP	49
	Cr	eP	53
	T	eP	56 11
26	P	iPNEZ	07 17 19
		ipP	33
		ePP	20 22
	PX	iSNE	27 31
		eGN	39.0
		A T	
	PZ	½ 2	
	pPZ	1½ 1½	
	PPZ	¼ 1½	
	SH	4 6	
	MH	10 20	
	R	iPNEZ	07 17 22
		ipP	37
	Cr	iP	24
		ipP	37
		i	45
	H	iPNEZ	15
		ipP	28
		eSN	27 27
	T	iPNEZ	17 12
		ipP	26
		eSN	27 21
	Magnitude 6¾		
	USCGS: 34 N 135 E,		
	0 = 07:04:48		
	CMO: 33.8 N 135.8 E,		
	h = 40 km.		
26	P	iP	12 26 08
		ipP	20
	PX	eLE	36.2
	R	iP	26 13
		ipP	27
	Cr	iP	13
		ipP	27
	H	iP	00
		ipP	17

(continued)

Date	Sta.	Phase	h m s
	April (continued)		
26	T	iPNEZ	12 25 55
		ipP	26 11
	USCGS: 53 N 170 W,		
	0 = 12:18:28, h = 60 km.		
26	P	e	19 07 50
		i	55
	R	e	54
	USCGS: 0 = 18:57:02,		
	h = 200 km.		
	BCIS: 45 N 150 E,		
	h = 200 km.		
27	P	eP	13 35 44
		ipP	36 24
	R	eP	35 47
		epP	36 27
	Cr	eP	35 49
		epP	36 31
	h = 160 km.		
	USCGS: Tonga Islands,		
	0 = 13:20:23, h = 200 km.		
27	P	iP	14 29 38
	R	iP	41
		e(pP)	30 43
	Cr	iP	29 41
		e(pP)	30 43
	H	iP	29 31
	T	iP	20
	USCGS: Kurile Islands,		
	0 = 14:18:30		
28	MW	eP	17 25 24
		i	33
	R	eP	25
		i	32
	Cr	i	34
28	MW	iP	17 39 00
	R	eP	02
29	P	e	15 26 00
	USCGS: 51½ N 176 W,		
	0 = 15:17:50		
29	MW	eP	20 34 35
		ipP	54
	R	eP	38
		ipP	56
	H	epP	59
	T	eP	42
		ipP	57
		i	35 05
	USCGS: New Hebrides,		
	0 = 20:21:58, h = 100 km.		
30	R	e	04 27 47
30	P	ePNZ	10 39 04
	PX	iSE	47 12
		eGE	53.8
		A T	
	PZ	3 2	
	SH	2 8	
	GE	40 40	
	ME	6 9	
	Surface waves abnormally		
	small and irregular		

(continued)

Date	Sta.	Phase	h m s
	April (continued)		
30	R	eP	10 39 01
	Cr	eP	03
	H	eP	20
	T	ePNEZ	25
	Magnitude 6½?		
	USCGS: 24½ S 112 W,		
	0 = 10:29:03		
	BCIS: 23½ S 112 W,		
	0 = 10:29.2		
30	P	iP	16 02 36 c
		e	04 59
	R	iP	02 34
		e	04 56
	Cr	iP	02 36
		e	04 58
	H	iP	02 44
	T	iP	02 49
		e	05 19
30	T	e	17 18 13
30	P	eP	18 31 50
	R	eP	45
	T	eP	30
	USCGS: 10½ S 75½ W,		
	0 = 18:21:36		
30	P	iP	23 57 25
	PX	eSNE	24 03 53
		eSSE	06 59
	R	eP	23 57 20
	T	eP	38
	USCGS: 4½ N 82½ W,		
	0 = 23:49:22		
	May		
1	MW	eP	09 58 02
	R	eP	14
	Cr	eP	04
	T	eP	40
	USCGS: 62 N 152 W,		
	0 = 09:51:06		
1	P	iP"NEZ	13 40 06
		iSKPNEZ	43 24
		i	59
		A T	
	P"Z	¼ 1½	
	SKPZ	½ 1½	
	R	iP"	13 40 08
		iSKP	43 25
	Cr	iP"	40 08
		iSKP	43 26
	H	iP"	40 06
		iSKP	43 21
	T	iP"	40 05
		iSKP	43 19
	USCGS: 0 = 13:20:41		
	BCIS: 6½ S 105 E,		
	0 = 13:20:53		
1	P	iP	20 17 08
		epP	19 06
	R	iP	17 10
		epP	19 03
	Cr	iP	17 10
		epP	19 03
	T	iP	17 17
	Near Apia		

Date	Sta.	Phase	h m s
	May		
2	P	iP	04 46 37
		i	48
		i	57
	R	iP	31
		e	46
		i	47 00
	Cr	iP	46 32
		e	47 18
	T	iP	46 59
		i	47 16
	USCGS: 18 N 102 W,		
	0 = 04:41:43		
2	P	eP	14 46 10
		i	20
	R	iP	12
		i	22
	Cr	iP	12
		i	24
	T	iP	45 58
		i	46 09
	USCGS: 0 = 14:35:08		
	BCIS: 45 N 150 E,		
	0 = 14:35.1		
3	MW	e	11 21 06
		e	15
	R	e	17
	T	i	25
4	CL	i	02 30 09
4	CL	e	10 54 50
	Near Apia		
	USCGS: 0 = 10:43:03		
5	PX	eLN	01 24.3
	MW	iP	12 41
	R	iP	39
	Cr	iP	40
	CL	iP	52
	T	iP	13 04
	BCIS: 5 S 105 W,		
	USCGS: 0 = 01:05:00		
6	T	e	03 12 33
6	CL	iP	11 29 08
6	MW	eP	20 42 55
	R	eP	42 54
	CL	eP	42 52
	T	eP	43 08
		e(pP)	26
7	PX	eLE	07 33.9
	USCGS: 0 = 06:36:05		
	BCIS: 57 S 148 E,		
	0 = 06:36:03		
7	P	iP	06 46 04
	R	iP	06
	Cr	iP	07
	CL	iP	12
	T	iP	13
8	CL	eP	13 17 22
	T	eP	22
	Near Apia		
	USCGS: 0 = 13:05:02		

Date	Sta.	Phase	h m s
	May		
8	R	eP	14 09 40
		i	56
	Cr	iP	45
		i	10 00
	CL	iP	09 34
	T	iPNEZ	24
	USCGS: Aleutian Islands,		
	0 = 14:01:37		
8	MW	iP	19 51 54
		ipP	52 22
	R	iP	51 52
		ipP	52 19
	CL	iP	51 59
		ipP	52 27
		i	43
	T	iP	08
		ipP	35
		i	51
	South America		
9	P	iP	02 42 23
	CL	iP	28
	T	iP	34
		e	56
		e	44 16
	USCGS: 11 N 89 W,		
	0 = 02:35:26		
9	Cr	e	06 29 49
	CL	e	45
	T	e	45
	Magnitude $5\frac{3}{4}$-6 (Praha)		
	USCGS: 0 = 06:10:30		
	BCIS: $12\frac{1}{2}$ N $48\frac{1}{2}$ E		
9	PX	eLE	12 04.8
	USCGS: 41 N 58 E,		
	0 = 11:17:10		
	BCIS: $38\frac{1}{2}$ N $58\frac{3}{4}$ E,		
	0 = 11:16:56		
9	P	iP	12 10 12
	R	iP	07
	Cr	eP	10
	CL	iP	22
	T	iP	34
10	P	eP	10 33 12
	R	eP	14
	Cr	eP	17
	CL	eP	14
	T	eP	12
	USCGS: 6 S 150 E,		
	0 = 10:19:49		
10	P	eP'	23 59 12
		i	28
		e	24 01 17
		e	59
	PX	eLE	47.4
		A T	
	P'	0.1 1	
	MH	10 20	
	Cr	eP'	23 59 18
	H	eP'	24

(continued)

Date	Sta.	Phase	h m s
	May	(continued)	
10	T	eP'	23 59 16
		iNEZ	22
	USCGS: 15 S 43 E,		
	0 = 23:39:25		
	BCIS: $16\frac{1}{2}$ S $41\frac{3}{4}$ E,		
	0 = 23:39:23		
11	MW	eP	13 33 19
		e	29
	R	eP	23
	Cr	eP	23
		e	34
	T	iP	03
	USCGS: Aleutians,		
	0 = 13:25:17		
12	P	iP	17 34 47
	R	iP	49
	Pr	iP	50
	T	iP	52
	USCGS: New Hebrides,		
	0 = 17:22:00		
12	P	eP	21 35 05
	R	eP	07
	Pr	eP	05
	CL	eP	07
	USCGS: 5 S 145 E,		
	0 = 21:21:25		
12	MW	iP	23 39 07
	R	eP	01
	Pr	iP	38 56
	CL	iP	39 11
	T	eP	20
13	P	iP	05 18 04
	R	iP	07
	Pr	iP	08
	CL	iP	12
	T	iP	14
	USCGS: $18\frac{1}{2}$ S 178 W,		
	0 = 05:06:46, h = 400 km.		
13	MW	iP	05 36 23
	R	iP	19
	Pr	iP	15
	CL	iP	27
	T	iP	36
	South America?		
13	MW	iP	08 48 34
		e	50 24
	R	eP	48 44
		e	50 32
	CL	iP	48 23
	H	iP	19
	T	iP	11
	USCGS: 41 N 125 W,		
	0 = 08:46:35		
13	P	iP	15 58 26
	R	iP	29
	Pr	iP	32
	CL	iP	29
	T	iP	26

Date	Sta.	Phase	h m s
14	MW	e	19 29 23
	CL	i	18
	T	eP?	00
		i	14
	BCIS: 38 N 142 E,		
	USCGS: 0 = 19:17:16		
15	P	eP	03 35 33
		i	56
	PX	eLE	38 3
	R	eP	35 26
		i	41
	Pr	iPNEZ	16
		i	32
	CL	iP	48
		i	58
	T	eP	36 05
	Peculiar		
	BCIS: 25 N 110 W,		
	USCGS: 0 = 03:32:41		
15	P	e	18 02 09
	R	e	05
	Pr	eP	01 49
		e	02 00
	CL	eP	02 13
		e	27
	T	e	31
16	R	e	06 54 55
	CL	e	36
	T	e	19
16	P	iPNEZ	15 43 20
		epP	45 28
	R	iP	43 22 d
		ipP	45 30
	Pr	iPNEZ	43 23 d
		ipP	45 31
	CL	iP!	43 26 d
		ipP	45 30
	T	iP	43 29
	USCGS: 25 S 178 E,		
	0 = 15:31:46, h = 600± km.		
16	P	iPEZ	17 35 05
	R	iP	06
	Pr	iP	08
	CL	iP	06
	T	iP	05
	USCGS: 6 S 151 E,		
	0 = 17:21:45		
	BCIS: 6 S $152\frac{1}{2}$ E,		
	0 = 17:21:50		
16	Pr	iP?	20 56 25
	CL	eP	56 00
	T	eP	55 59
17	P	iPNEZ	11 58 18 c
		i(PcP)	30
		ipP	12 00 24
		ePP	01 44
		i	02 40

(continued)

Date	Sta.	Phase	h m s
	May	(continued)	
17	PX	iSE	12 07 45
		iE	09 07
		isSE	11 41
	P	iSKPP'	27 04
		A T	
	PZ	1½ 1	
	PH	¾ 1½	
	pPZ	¾ 1	
	SH	¾ 1½	
	SH	3 5	
	R	iPNEZ	11 58 20 c
		ipP	12 00 25
		i	02 41
		iSNEZ	07 48
		iSKPP'	27 02
	Pr	iPNEZ!	11 58 25 c
		iE	39
		ipPEZ	12 00 31
		iPPEZ	01 49
		iEZ	02 43
		iSNEZ	07 56
		iE	08 04
		iSKPP'	27 00
	CL	iP!	11 58 14 c
		ipP!	12 00 20
		i	31
		iPP	01 37
		i	02 48
		iS	07 43
		i	58
		eSKPP'	26 51
	T	iPNEZ	11 58 08 c
		ipP	12 00 13
		ePP	01 28
		i	02 48
		iSNEZ	07 35
		eSKPP'	26 25
	Magnitude 6¾ - 7		
	USCGS: 39 N 130½ E,		
	0 = 11:46:46, h = 600 km.		
	CMO: 39.9 N 130.9 E,		
	h = 550 km.		
	BCIS: 39.4 N 129.9 E,		
	0 = 11:46:49, h = 600 km.		
17	P	i(pP)	13 34 50
	R	eP	34
		e(pP)	53
	CL	eP	28
		i(pP)	48
	T	i(pP)	41
	USCGS: 42 N 142 E,		
	0 = 13:22:50		
17	P	iPNEZ	18 26 03 c
		i	06
		i	19
		ePP	29 48
	PX	eSKSNE	36 46
		iSNE	37 04
		ePSNE	37.8
		iPPSE	38 04
		iGNE	49.5

(continued)

Date	Sta.	Phase	h m s
	May	(continued)	
17	P	eP'P'	18 52 00
		iRN	52.9
		A T	
	PZ	2 2½	
	PH	1 2½	
	PPZ	1 2	
	SH	12 16	
	MH	35 20	
	R	iPNEZ	18 26 06 c
		i	21
		ePP	29 38
		eSE	37 3
		eP'P'	52 02
	Pr	iPNEZ	26 07 c
		i	22
		iPP	29 30
		eSN	36 53
		eSE	37 12
		eP'P'	52 01
		i	17
	CL	iP	26 11 c
		i	23
		iPP	29 58
		iSKS	36 22
		eP'P'	51 57
	T	iPNEZ	26 11 c
		i!	14
		i	24
		iPP	29 52
		eSE	37 00
		eP'P'	51 55
	Magnitude 7		
	USCGS: 20 S 169 E,		
	0 = 18:13:13		
	CMO: 20 S 170 E;		
	impulses about 13 seconds		
	after P, may be pP or sP		
17	MW	iP	23 08 15
		e	27
	R	eP	15
		e	26
	Pr	iP	16
		i	29
	CL	iP	18
	T	iP	19
		e	29
18	MW	iP	17 17 32
	R	eP	36
	Pr	iP	44
	CL	iP	26
	T	iP	18
18	P	eP'	10 07 10
	R	eP'	10
	CL	eP'	10
	Indian Ocean		
18	R	iP	17 07 12
		epP	25
		i	31
	Pr	iP	18
		ipP	33
	CL	eP	06 59
		epP	07 13
		i	07 19

(continued)

Date	Sta.	Phase	h m s
	May	(continued)	
18	T	eP	17 06 48
		epP	07 03
	USCGS: Aleutian Islands,		
	0 = 17:00:17		
18	P	eP	19 50 23
	R	eP	19
	CL	iP	26
	T	iP	34
19	P	iPNEZ	02 51 03
		i(PcP)	07
		i	59
		i	52 40
	PX	eSKSNE	03 01.4
		iSNE	01 51
		iPSNE	02 41
		eSSNE	07.0
		eSSS	11.4
		eGNE	14.4
		A T	
	PZ	2 5	
	(PcP)Z	¼ ¾	
	PH	1 4	
	PPZ	1 6	
	GH	7 10	
	MH	20 17	
	R	iPEZ	02 51 05
	Pr	iP	06
	CL	iP	08
		i	52 16
		e	03 28 42
	T	eP	02 51 09
	Magnitude 6¾ - 7		
	USCGS: 20½ S 169 E,		
	0 = 02:38:10		
19	P	eP	07 18 24
		e	19 21
	PX	ePP	21.8
		iSKSNE	28 53
		iSNE	29 16
		ePSNE	30.2
		eLE	45.8
		A T	
	PZ	1 5	
	PPZ	¾ 6	
	SH	5 11	
	MH	12 17	
	R	iP	07 18 27
	Pr	iP	27
		i	39
	CL	iP	30
	T	eP	31
		i	40
	Magnitude about 6½		
	USCGS: 20½ S 169 E,		
	0 = 07:05:31		
19	MW	eP	08 29 39
	R	eP	42
	Pr	iP	42
	CL	iP	45
		e	30 28
	T	iP	29 45

Date	Sta.	Phase	h m s
	May		
19	P	iP	09 55 25
		ipP	56 16
	R	iP	55 28
		ipP	56 19
	Pr	eP	55 33
		ipP	56 23
	CL	iP	55 25
		ipP	56 16
	T	iP	55 21
		ipP	56 12
	USCGS: 19 N 147 E,		
	0 = 09:43:17, h = 200 km.±		
19	R	iP	21 27 35
	Pr	iP	36
	CL	eP	38
20	PX	eLE	03 15.2
	MW	eP	12 43
		i	49
	R	eP	32
	CL	eP	47
		i	13 00
	T	eP	09
		i	15
20	P	iP	09 47 52
		ipP	59
	PX	eLE	10 09.6
	R	iP	09 47 48
		ipP	54
	Pr	iP	47
		ipP	54
	CL	iP	47
		ipP	53
	T	iP	48
		ipP	54
	USCGS: 29 N 43½ W,		
	0 = 09:37:27		
	BCIS: 28.5 N 43.3 W,		
	0 = 09:37:25		
20	P	eP	11 08 23
		e	29
	R	eP	17
	Pr	iP	11
		i	16
	CL	e(P)	28
20	CL	eP	18 57 23
	T	eP	24
	Near Apia		
20	P	eP	22 05 07
	R	iP	09
	CL	iP	17
21	P	eP	03 28 20
	R	eP	21
	CL	iP	17
	T	iP	12
	USCGS: South of Honshu,		
	0 = 03:15:56		
21	CL	eP	06 12 27
	T	eP	30

Date	Sta.	Phase	h m s	
	May			
21	P	eP	18 48 23	
		A	T	
	PZ	0.1	1	
	R	eP	18 48 19	
	Pr	iP	14	
	CL	eP	23	
	T	eP	25	
	Magnitude 6 or less.			
	Damage at Cuzco, Peru.			
	USCGS: 14 S 72 W,			
	O = 18:37:41			
21	CL	eP	21 52 12	
21	R	eP	21 55 40	
	CL	iP	45	
	T	iP	45	
	USCGS: 20 S 169 E,			
	O = 21:42:46			
21	P	iP	23 27 29	
	R	iP	32	
	Pr	ePE	33	
	CL	iP	37	
	T	iP	36	
	USCGS: 19½ S 168 E,			
	O = 23:14:39			
22	P	iP	07 23 54	c
	R	iP	57	
	Pr	iPE	24 00	
	CL	iP	04	
	T	iP	03	c
	Near Apia, USCGS:			
	O = 07:12:04			
22	MW	e	11 26 49	
	CL	e	04	
	T	e	25 56	
22	P	eP	19 54 14	
	R	eP	20	
	CL	iP	00	
		i	06	
	T	eP	53 44	
		i	51	
	USCGS: off British			
	Columbia, O = 19:49:43			
23	P	e(P')	08 35 32	
	R	i(P')	31	
	CL	i(P')	35	
	T	i(P')	39	
23	MW	iP	12 09 02	
	CL	eP	08 56	
	T	eP	54	
23	MW	e	13 04 55	
		e	05 03	
	R	e	01	
	CL	e	04 59	
	T	e	56	
		i	05 00	
23	MW	iP	14 50 25	
	R	iP	27	
	CL	iP	31	
	T	iP	33	
23	MW	eP	19 44 03	
	R	eP	43 58	
			(continued)	

Date	Sta.	Phase	h m s	
	May	(continued)		
23	Pr	iP	19 44 51	
	CL	eP	44 10	
	T	e	32	
	Mexico. USCGS: 19:39:00			
24	P	iPNEZ	04 08 45	c
	PX	eLE	36 8	
	R	iP	08 49	c
	H	iP	52	c
	T	iPNEZ	52	c
	USCGS: 20 S 169 E,			
	O = 03:55:55			
24	MW	e	09 11 29	
	R	e	30	
	T	e	33	
24	P	eP	13 04 19	
		e	32	
	R	eP	14	
		e	28	
	H	eP	18	
	USCGS: 16½ N 58½ W,			
	O = 12:54:40			
	BCIS: 15½ N 60½ W,			
	O = 12:54:40			
25	P	iP	00 55 26	
		e	45	
	R	iP	30	
		e	49	
	USCGS: Alaska,			
	O = 00:48:49			
25	P	iPNZ	08 41 43	d
		i	50	
		i	42 01	
	PX	iSE	47 28	
		eLE	53.1	
		A	T	
	PZ	¼	1½	
	SH	½	3	
	MH	15	20	
	R	iP	08 41 47	d
		i	54	
		i	42 00	
	Pr	iP	41 53	d
		i	42 01	
	H	iP	30	
	T	iPNEZ	41 21	d
		i	30	
		i	38	
	Magnitude 6±.			
	USCGS: 65½ N 151½ W,			
	O = 08:34:32			
25	MW	eP	17 04 36	
	R	eP	29	
	T	iP	56	
	Mexico			
25	P	iPNEZ!	18 47 56	c
		epP	48 17	
		i	21	
		i	50 58	
			(continued)	

Date	Sta.	Phase	h m s	
	May	(continued)		
25	PX	ePPE	18 51 11	
		i	26	
		iSKSNEZ	58 14	
		iSNEZ	36	
		iSSN	59 14	
		eGN	19 10.9	
		A	T	
	PZ	1½	1	
	PH	1¼	1	
	PPZ	1	3	
	PPH	½	3	
	SKSH	4	6	
	SH	8	6	
	MH	12	20	
	R	iPNEZ	18 47 59	c
		i	48 07	
		i	25	
		i	32	
		eSKSE	58 18	
		eSE	43	
	Pr	iPNEZ	48 02	c
		ipPNZ	23	
		i	34	
		iPP	51 40	
		iSKSNE	58 25	
		iSNEZ	50	
	H	iPNEZ	47 54	c
		i	48 04	
		eSKSNE	58 14	
		eSE	32	
	T	iPNEZ!	47 52	c
		iPP	51 24	
		eSKSE	58 08	
		eSE	30	
	Magnitude 7¼±			
	USCGS: 13 N 142½ E,			
	O = 18:35:00, h = 100 km.			
	BCIS: 12.6 N 143.7 E,			
	O = 18:34:58			
25	P	iP	20 21 16	
	R	iP	19	
	T	eP	23	
26	P	iPNEZ	01 29 56	c
		i(pP)	30 09	
		A	T	
	PZ	1	2	
	R	iPEZ	01 30 00	c
		i(pP)	12	
	H	iPEZ	30 02	
	T	iPNEZ	04	
		i(pP)	16	
	First and smaller shock;			
	magnitude about 7.			
	Larger shock follows after			
	18 seconds. Interpretation			
	based on comparison with			
	seismograms of May 17, 18h			
	and May 19, 02h. O = 01:17:03±,			
	h = 40 km.±.			
	USCGS: 20 S 169 E,			
	O = 01:17:14, h = 100 km.±			

Date	Sta.	Phase	h m s	
	May			
26	P	iPNEZ	01 30 14	c
		i(PcP)	19	
		i	31 08	
	PX	iPPEZ	33 37	
		iNEZ	37 51	
		iSNE	40.4	
		i	42 11	
		eSSNE	46	
		eGNE	52 5±	
		iGNE	53 45	
	P	iP'P'	56 12	
		A	T	
	PZ	3	2	
	PZ	10	6	
	PH	3	4	
	PPZ	5	6	
	PPH	3	4	
	MH	100	20	
	R	iP	01 30 17	
		eP'P'	55 55	
		e	56 10	
	T	iP	30 22	
	Magnitude 7¼ - 7½			
	O = 01:17:21±			
	Same epicenter(and depth?)			
	as preceding.			
26	P	iP	02 08 26	
	R	iP	28	
	H	iP	31	
	T	iP	49	
	Aftershock			
	USCGS: O = 01:55:36			
26	MW	eP	02 17 16	
	R	iP	20	
	Aftershock			
	USCGS: O = 02:04:25			
26	MW	eP	05 02 53	
		e(pP)	03 03	
	R	eP	02 56	
	T	eP	03 00	
		e(pP)	10	
	Aftershock			
	USCGS: O = 04:50:00			
26	P	eP	10 06 01	
		e(pP)	11	
	R	eP	03	
		e(pP)	13	
	T	eP	08	
	Aftershock			
	USCGS: O = 09:53:08			
26	P	iPNEZ	14 45 41	d
		A	T	
	PZ	1	2	
	R	iPNEZ	14 45 44	
	H	iPNEZ	39	d
	T	iPNEZ	37	d
	USCGS: 18½ N 147 E,			
	O = 14:33:20, h = 100 km.±			
	BCIS: 19½ N 144½ E,			
	O = 14:33:15, h = 100 km.±			

Date	Sta.	Phase	h m s
	May		
26	P	iP	17 52 06
	R	eP	09
	T	iP	12
	USCGS: 20 S 169 E,		
	0 = 17:39:14		
26	MW	iP	22 03 30
	CL	iP	34
	Mexico		
26	CL	iP	23 14 49
	T	iP	52
27	MW	eP	07 46 57
	CL	iP	53
	T	iP	48
27	P	iP	10 59 22
	Pr	iP	25
	CL	eP	28
	T	eP	29
	USCGS: 20 S 169 E,		
	0 = 10:46:29		
27	P	iP	11 57 43
	Pr	iP	48
	CL	iP	50
	T	iP	49
	USCGS: 19 S 168 E,		
	0 = 11:44:52		
27	CL	iP	12 18 56
27	P	iP	12 52 14
		ipP	53 07
	Pr	iPNE	52 19
		ipPN	53 14
	CL	iP	52 19
		ipP	53 13
	T	iP	52 21
		i	53 13
	USCGS: 20 S 168 E,		
	0 = 12:39:43		
	h = 200 km.±		
27	MW	iP	13 32 06
		i(pP)	32
	CL	iP	13
		i(pP)	37
	T	iP	19
		i(pP)	45
	Andes?		
27	P	iPNEZ	14 38 08 c
		iPcP	18
		ipP	40 10
		isP	41 07
		iPP	12
	PX	iSNE	13
		iScSNE	25
		A T	
	PZ	2 1½	
	PH	¾ 1	
	PPZ	½ 1½	
	SH	2 5	
	R	iPNE	14 38 16
		eSE	47 18
		eScSE	31
		(continued)	

Date	Sta.	Phase	h m s
	May	(continued)	
27	Pr	iPNE	14 38 12
		iSNE	47 20
		eScSN	36
	CL	iP!	38 15 c
		ipP	40 17
		e	41 05
		iS	47 14
		eP'P'	15 07 43
	T	iPNEZ!	14 38 17 c
		i	41
		i	41 25
		eSE	47 30
	Magnitude 6¾±		
	USCGS: 17 S 179 W,		
	0 = 14:27:10, h = 600 km.		
27	MW	iP	20 51 43
		e(pP)	52 30
	CL	iP	51 49
		e(pP)	52 38
	T	iP	51 50
		e(pP)	52 41
	Near Apia		
28	P	ePNEZ	01 49 36
		i	47
	PX	ePP	53 44
		eSNE	02 00.1
		iNE	01 08
		eSSNE	05.9
		eLNE	17
		A T	
	PZ	¾ 4	
	PH	¼ 3	
	PPZ	¼ 2	
	SH	½ 5	
	MH	10 20	
	R	iPNEZ	01 49 41
	CL	iP	43
	T	iPNEZ	44
	Magnitude 6½±		
	USCGS: 20 S 169 E,		
	0 = 01:36:44		
28	P	eP	05 15 16
	R	eP	09
	CL	iP	21
	T	eP	30
	USCGS: ½ S 81 W,		
	0 = 05:06:26		
28	P	iP	16 24 11
	R	iP	14
	CL	iP	09
	T	iP	03
	USCGS: 0 = 16:11:40		
	CMO: 31.8 N 139.0 E,		
	h = 220 km.		

Date	Sta.	Phase	h m s
	May		
29	P	eP	09 53 19
	R	eP	20
	CL	eP	24
	T	eP	25
	USCGS: New Hebrides,		
	0 = 09:40:22		
30	P	iP	01 23 23 c
	PX	eLNE	32
		A T	
	PZ	¾ 2	
	PH	½ 2	
	MH	4 10	
	R	iP	01 23 27 c
	Pr	iPNE	30
	H	ePE	30
	T	iPNEZ	30 c
	Magnitude 6¼±. Hawaii		
	USCGS: 19½ N 156 W,		
	0 = 01:16:16		
30	P	iPNEZ	15 15 09 c
		i	31
		ipP	17 15
	PX	iSNE	24 25
	P	eP'P'	42 08
		A T	
	PZ	1 3	
	PH	¾ 3	
	PPZ	0.2 1	
	SH	3 6	
	R	iPNEZ	15 15 12 c
		e	17 18
		eSNE	24 31
		eP'P'	42 01
	Pr	iPNE	15 14
		iSNE	24 31
	H	iPNE	15 18
	T	iPNEZ	18 c
		eSNE	24 42
	Magnitude 6¼ - 6½		
	USCGS: 20 S 178½ W,		
	0 = 15:04:03, h = 600 km.		
31	P	iPEZ	09 31 34 d
		epPZ	32 12
	R	iP	31 29 d
		epP	32 08
	Pr	iPNE	31 26
	CL	iP	39 d
		ipP	32 16
	T	iPNEZ	31 47 d
		e	32 26
	USCGS: 8 S 74 W,		
	0 = 09:21:45, h = 150 km.		
31	P	eP	13 26 04
		e	14
	R	eP	08
	CL	eP	04
		i	17
	T	iP	25 57
	USCGS: 31 N 130 E,		
	0 = 13:13:09		

Date	Sta.	Phase	h m s
	June		
2	P	iP	03 12 49
	T	iP	57
2	MW	iP	03 52 32
3	P	eP	02 01 52
	R	eP	54
	Pr	ePNE	54
	T	e?	58
3	MW	e	02 49 14
	R	e	16
	T	i	24
3	P	iP	13 17 37
		ipP	18 40
	R	iP	17 35
		epP	18 38
	Cr	iP	17 35
		epP	18 35
	H	iP	17 46
	T	iP	50
		ipP	18 49
	Andes, h = 250 km.		
3	MW	eP	16 03 47
	R	eP	48
4	CL	eP	00 46 15
		e	26
	T	iP	16
4	R	eP	01 06 11
	CL	iP	15
	T	eP	16
	New Hebrides.		
	U SCGS: 0 = 00:53:19		
4	R	eP	06 50 09
		e	25
	CL	eP	15
		e	36
	Wellington: 39¼ S, 179½ W		
	0 = 06:37.2, mag. 5¾		
4	CL	ePP	07 48 19
	USCGS: 7 N 126 E,		
	0 = 07:29:44		
4	PX	eLNZ	08 26
	USCGS: 7 N 126 E,		
	0 = 07:58:02		
4	P	eP	15 31 00
		epP	21
		isP	26
	R	eP	02
		epP	21
		isP	32
	Pr	eNE	33
	CL	iP	06
		ipP	25
		isP	34
	T	iP	08
		ipP	26
		isP	34
	USCGS: 21 S 170½ E,		
	0 = 15:18:20, h = 100 km.		
	BCIS: 22 S 170¼ E,		
	0 = 15:18:21, h = 100 km.		

Date	Sta.	Phase	h m s
June			
5	T	iP	03 13 22
		i	28
5	P	iP	11 26 11
	PX	eLE	45.1
	R	iP	26 12
	Pr	iPN	19
	H	iP	25 59
	T	iP	53
	USCGS: 87 N 45± E.		
	0 = 11:16:12		
5	P	eP	13 15 26
	R	iP	31
	T	eP	34
	Hawaii		
	Aftershock of May 30, 01 h.		
	USCGS: 0 = 13:08:21		
5	MW	iP	22 41 26
	R	iP	27
	H	iP	24
	T	iP	20
	No pP at these stations.		
	USCGS: 22 N 144½ E,		
	0 = 22:29:23, h = 300 km.		
6	P	iP	19 29 47
	Pr	eNE	50
	H	iP	55
	T	iP	55
	Felt (II) Apia		
7	P	iPNEZ	17 01 55 d
		ipPEZ	02 23
		isP	31
		i	38
		eE	03 02
		i	28
	PX	iSNEZ	09 27
		isSNZ	10 19
		e(ScS)N	11.4
		eSSN	13.8
	P	eR	20.0
		eP'P'	32 17
	No clear surface waves		
		A	T
		PZ 2	1
		PZ 5	4
		PH 2	3
		SH 3	3
		SH 6	6
	R	iPNEZ	17 01 50 d
		i	08
		isP	25
		eSN	09 41
	Pr	iPNE	01 46 d
		isPN	02 22
		iSNE	09 42
	H	iPNEZ	02 03 d
		eSN	09 44

(continued)

Date	Sta.	Phase	h m s
June (continued)			
7	T	iPNEZ	17 02 08 d
		i	24
		ipP	38
		isP	43
		eSN	09 53
	Magnitude 7 - 7¼		
	USCGS: 4 S 76½ W,		
	0 = 16:52:34, h = 100 km.		
8	P	iP"	16 26 27
		iPPNEZ	28 03
		i(pPP)	20
		ePPP	30 35
	PX	eSKSNE	33 31
		eNE	34 32
		ePSNE	38 09
		ePPSNE	39 03
	P	iPKKP	40 10
	PX	eSSNE	44.6
		eSSSNE	49.3
		eGNE	59.0
		A	T
		P"Z ¼	1
		PPZ 3	3
		PPH 1	3
		MH 10	20
	R	iP"	16 26 28
		ePP	27 54
		ePKKP	40 00
	H	eP"	26 30
		ePP	28 08
	T	iP"	26 35
		ePP	28 12
	H = 60 km±?		
	Magnitude 7 - 7¼		
	USCGS: 45½ S 15 W,		
	0 = 16:07:33		
	BCIS: 47¾ S 14¾ W,		
	0 = 16:07:43, h = 150 km.±		
8	R	iP	18 24 46
8	P	iP	19 41 33
	R	iP	35
	Cr	iP	36
	Pr	iPNE	38
	H	eP	37
	T	iP	36
8	MW	e	22 10 16
	R	e	16
	T	e	42
9	MW	eP	08 32 47
	R	eP	58
	T	eP	52
	Very small records		
	USCGS: 14½ N 146½ E,		
	0 = 08:19:55		

Date	Sta.	Phase	h m s
June			
9	R	eP	09 27 45
		epP	28 22
	Cr	eP	27 39
		epP	28 16
	T	eP	27 59
		epP	28 35
	USCGS: 0 = 09:21:22,		
	h = 100 km.±		
	Tacubaya: 13° 55' N,		
	93° 05' W, 0 = 09:21:54,		
	h = 100 km.		
9	P	iP	11 54 04
	R	iP	00
	Cr	iP	01
	Pr	iP	53 56
	H	eP	54 10
	T	iP	17
	South America		
9	P	iP	13 09 59
		eSNEZ	11 42
	PX	eLN	12.4
	R	iP	10 07
	H	iP	09 45
	T	iP	34
		iS	11 03
	USCGS: 41 N 125½ W,		
	0 = 13:07:46		
10	MW	iP	04 35 12
	R	iP	12
	Cr	iP	15
	Pr	iP	17
	T	iP	14
	USCGS: 8 S 156 E,		
	0 = 04:22:06		
11	P	iPNZ	13 46 09 d
		iPcP	26
		ipP	39
		isP	50
		A	T
		PZ ¾	1½
	R	iPNEZ	05 d
		iPcP	22
		ipP	35
		isP	47
	Pr	iPNEZ	01 d
		iPcPNZ	16
		i	20
	H	iPNEZ	16 d
		iPcP	32
	T	iPNEZ	20 d
		iPcP	34
	h = 115 km.		
	USCGS: 22 S 69½ W,		
	0 = 13:34:45, h = 100 km.±		
11	P	iP	17 32 07
		i	15
	R	iP	09
		i	16

(continued)

Date	Sta.	Phase	h m s
June (continued)			
11	Pr	iP	17 32 14
		i	21
	T	iP	00
		i	08
	USCGS: 32 N 138½ E,		
	0 = 17:19:44		
11	P	iP	20 27 44
	PX	eLNE	55
	R	iP	27 40
		i	51
	Pr	iP	36
	H	iP	54
	T	iP	57
		i	28 18
	USCGS: 28½ S 73 W,		
	0 = 20:15:55		
	BCIS: 28½ S 72 W,		
	0 = 20:15:53		
11	PX	eLN	23 06.0
	USCGS: 0 = 22:11:12		
	BCIS: 58 S 148 E,		
	0 = 22:11:06		
12	MW	eP	05 44 59
	T	eP	45 15
	Tacubaya 13°48' N,		
	91°47' W, 0 = 05:39:05,		
	h = 100 km.		
12	P	e?	14 22 49
		i	23 06
	R	i	07
	USCGS: 10 S 153½ E,		
	0 = 14:09:44		
	BCIS: 10 S 155 E,		
	0 = 14:09:50		
12	MW	eP?	23 34 09
		i	16
	Pr	iP	05
	Tacubaya: 14°26' N,		
	94°29' W.		
13	MW	iP	04 15 01
	T	iP	08
13	P	iP	07 20 33
	R	iP	30
	Pr	iP	25
	H	iP	40
	T	iP	44
	USCGS: 0 = 07:08:40		
	BCIS: 24 S 66 W,		
	0 = 07:08:44		
13	Pr	iP	08 36 34
		i	46
14	P	i	03 55 59
	PX	eLNE	04 18.1
	MW	eP	03 55 53
	R	eP	54
	T	eP	56 00
	USCGS: 18½ S 174½ W,		
	0 = 03:44:10		

Date	Sta.	Phase	h	m	s
	June				
14	P	eP	04	54	42
		e			48
	PX	eLE	05	21	
	R	eP	04	54	45
		e			52
	H	e			53
	T	eP			49
	USCGS: 17 S 168 E,				
	0 = 04:41:59				
14	P	iP	05	54	52
	PX	eLE	06	07	
	R	iP	05	54	57
		e		55	04
	T	iP			01
		i			08
	USCGS: 19 N 155½ W,				
	0 = 05:47:47				
14	MW	e	06	54	56
	R	eP			39
		e			48
		e			57
	T	e			49
	USCGS: 20 S 168 E,				
	0 = 06:41:50				
14	T	i	07	39	18
	USCGS: 37 N 144½ E,				
	0 = 07:27:52				
14	P	iPNEZ!	08	09	45 c
		i		10	01
		iPcP			16
		ipP			48
	PX	iSE		18	16
		iE		19	14
			A		T
		PZ	1		1½
		PH	¾		1½
		SH	½		4
	R	iPNEZ	08	09	40 c
		epP		10	42
	H	iPNEZ			52 c
		i			58
		iPcP		10	17
	T	iPNEZ!		09	57 c
		iPcP		10	20
		ipP			59
	USCGS: 14 S 70 W,				
	0 = 07:59:22, h = 300 km.				
	BCIS: 14½ S 70 W,				
	0 = 07:59:23, h = 300 km.				
14	P	i(P)	08	23	39
		i			50
	MW	i?			26
		e(P)			40
		i			51
	R	i(P)			41
		i			52
	T	i(P)			46
		i			56
	USCGS: 17 S 163 E,				
	0 = 08:10:46				

Date	Sta.	Phase	h	m	s
	June				
14	MW	eP	08	37	12
		epP		38	02
	R	eP		37	13
		epP		38	03
	T	eP		37	16
		e		38	06
	USCGS: 11 S 166 E,				
	0 = 08:24:54, h = 200 km.±				
14	P	iPNZ	12	03	35 c
		i			53
		i		04	24
	R	iP		03	39
	T	iPNEZ			21 c
	USCGS: Aleutians,				
	0 = 11:55:00				
15	P	eP	07	32	29
	PX	eLE		58.4	
	R	eP		32	25
	Pr	eP			22
	H	eP			29
	T	eP			28
	USCGS: 12½ N 44½ W,				
	0 = 07:21:18				
15	P	iP	23	58	28
	PX	eSNE	24	07	41
	R	iP	23	58	31
		epP	24	00	39
	Pr	iP	23	58	32
		ipP	24	00	38
		iSNE		07	54
	H	iP	23	58	36
	T	iP			38
		eSE	24	08	04
	USCGS: South of Fiji Is.,				
	0 = 23:47:00, h = 600 km.±				
16	P	eP	05	49	12
	R	eP			08
	Pr	eP			05
	T	eP			25
	USCGS: 0 = 05:38:00				
	BCIS: 20½ S 71½ W,				
	0 = 05:37.9				
16	MW	eP	07	46	59
		e		47	10
	R	eP		46	59
		e		47	11
	Pr	iP			01
		i			12
	T	iP			06
		i			18
17	MW	iP	09	49	57
	R	iP		50	01
	H	iP		49	51
	T	iP			48
	USCGS: Hokkaido, Japan				
	0 = 09:38:37				

Date	Sta.	Phase	h	m	s
	June				
17	T	e	11	52	41
	USCGS: Off northern				
	California, 0 = 11:50:50				
17	T	e	11	57	45
	Similar to the preceding				
17	T	e	12	06	01
	USCGS: Off northern				
	California, 0 = 12:04:16				
17	P	ePP	16	13	25
			A		T
		PPZ	0.1		2
	R	ePP	16	13	29
	Felt widely in New				
	Zealand.				
	Wellington: 38.9 S 175.2 E,				
	0 = 15:56.6, h = 150 km.,				
	magnitude 6¼				
17	P	iPNEZ	22	27	38 d
		iPcP			55
		i(pP)		28	17
			A		T
		PZ	¾		1½
	R	iPNEZ	22	27	34 d
	Pr	iPNEZ			31 d
	H	iP			44 d
	T	iPNEZ			49 d
		iPcP			59
		i		28	18
	USCGS: 25 S 67 W,				
	0 = 22:16:06, h = 200 km.				
17	P	eP	22	49	27
		e			34
	PX	eSN		59	25
		eLNE	23	13	
			A		T
		MH	5		20
	R	e	22	49	36
	Pr	eP			35
		i			43
	T	eP			19
	USCGS: 36 N 140½ E,				
	0 = 22:37:24				
18	P	iPNZ	02	21	52
	R	iP			48
	Pr	iP			45
	H	iP			59
	T	iP		22	04
	South America, aftershock				
	of 22 h.				
	USCGS: 0 = 02:10:20,				
	h = 200 km.				
19	P	eP"	12	56	00
		i!			10
	PX	e		57	34
		iPP		58	04
		e	13	00	19
		eSKS		03	55
		eSN			06.4

(continued)

Date	Sta.	Phase	h	m	s
	June (continued)				
19	P	eSKKP	13	09	12
		e			26
	PX	iSSE		15.5	
		eLNE		32	
		iREZ		35.2	
			A		T
		P"Z	½		1½
		PPZ	½		4
		PPH	½		4
		MH	10		20
	R	eP"	12	56	00
		i			10
		eSKKP	13	09	32
	H	e	12	56	10
	T	eP"			02
		i			10
	Magnitude 6½				
	USCGS: 8 S 112 E,				
	0 = 12:36:58				
	BCIS: 6¼ S 112½ E,				
	0 = 12:36:54-55				
20	P	iPNEZ	18	33	05
	PX	eLEZ		36.3	
			A		T
		PZ	0.2		1
		MH	2		20
	R	iP	18	33	11
	H	iP			49
	T	ePNEZ			36
		i			58
	USCGS: 44 N 127 W,				
	0 = 18:30:15				
20	MW	eP?	05	07	33
	R	eP			47
	T	eP			12
20	MW	eP	07	51	17
	R	eP			12
	Mexico				
20	P	eP	14	22	34
	R	eP			34
	H	eP			22
	T	eP			17
	USCGS: 74½ N 8 E,				
	0 = 14:11:45				
21	P	iPNEZ	07	08	31 c
	PX	ePPN		12	24
		eSKSNE		18	44
		iSE		19	05
		iNE			28
		iPSE		20	22
		eSSN		25	34
		iGN		31	48
			A		T
		PZ	2		4
		PH	1		4
		PPH	2		6
		SH	2		5
		MH	20		20

(continued)

Date	Sta.	Phase	h	m	s	
	June					
21	R	iPNEZ	07	08	33	c
	H	iP			36	c
	T	iPNEZ			38	c
	Magnitude 6¾-7					
	USCGS: 21 S 169 E,					
	0 = 06:55:39					
21	P	iP	07	13	14	
	R	iP			15	
	T	iP			20	
	Aftershock					
21	P	eP	10	09	33	
		ePP		12	46	
	PX	ePSE		23	08	
		eSSE		27	09	
		eGEZ		39.9		
			A.		T	
		MH	1		20	
	R	eP	10	09	34	
	USCGS: 3½ S 147 E,					
	0 = 09:56:00					
	USA: 3.8 S 146.4 E,					
	0 = 09:56:03					
21	P	eP	10	24	03	
	R	eP			05	
22	MW	iP	05	45	16	
	T	eP			23	
22	P	iP	08	32	26	
	PX	eLE		37.0		
	R	iP			19	
	T	iP			48	
	USCGS: 0 = 08:27:30					
	Tacubaya: 18°17' N,					
	103°19' W, 0 = 08:27:51					
22	P	iP	20	51	58	
	R	iP			53	
	Pr	iP			48	
	T	iP		52	10	
	USCGS: 1 S 78 W,					
	0 = 20:43:00, h = 100 km.					
23	MW	eP	02	15	56	
		i		16	07	
	R	iP		15	58	
		i		16	09	
		e			35	
	Pr	iP		15	58	
		i		16	10	
23	P	iP	03	54	33	d
		iPcP		57	33	
		i			43	
	PX	eLE	04	07.4		
	R	iP	03	54	27	d
		iPcP		57	31	
		i			42	
	Pr	iP!		54	22	d
		i			33	
		iPcP		57	30	
		i			40	

(continued)

Date	Sta.	Phase	h	m	s	
23	June	(continued)				
23	H	iP	03	54	43	
	T	iP			50	d
		iPcP		57	38	
		i			48	
	USCGS: 13 N 93 W,					
	0 = 03:48:12					
	Possibly deeper than normal					
	USA: 13.0 N 92.7 W,					
	0 = 03:48:20, h = 100 km.±					
23	R	e	07	54	02	
	Pr	e		53	57	
	T	e		54	24	
24	P	iP	11	51	06	c
	R	iP			08	
	Pr	iP			18	c
	T	iP			14	
	USCGS: Fiji Islands region,					
	0 = 11:39:05					
24	P	iPNEZ	22	38	22	c
		ePP		41	49	
	PX	iSKSNE		48	59	
		iSNE		49	20	
		iPSNE		50	17	
		eSS		55.0		
		eSSS		58.6		
		eGN	23	01.7		
	P	eP'P'		04	19	
			A		T	
		PZ	4		5	
		PH	3		5	
		PPZ	2		5	
		PPH	2		5	
		SH	4		6	
		MH	35		20	
	R	iPNEZ	22	38	23	c
		eSKSE		48.8		
	Pr	iPNZ!		38	25	
		iP'P'	23	04	17	
	H	iP	22	38	27	
	T	iP			28	
	Magnitude 7					
	USCGS: 19½ S 168½ E,					
	0 = 22:25:31					
24	P	eP	22	59	31	
	R	iP			33	
	Pr	iP			34	
	T	iP			38	
	Aftershock					
25	P	eP	11	20	15	
		ePP		24	31	
	PX	iSKSNE!p		30	47	
		ePSE		33	35	
		iPPSE		35	00	
	P	iPKKP			51	
	PX	eSSNE		39.8		
		eLNE		53.5		

(continued)

Date	Sta.	Phase	h	m	s	
	June	(continued)				
			A		T	
		PZ	0.01		1	
		PPZ	0.03		1	
		SKSH	3		6	
		PKKPZ	0.2		1½	
		MH	10		20	
	R	eP	11	20	18	
		ePP		24	28	
		e		35	35	
		ePKKP			49	
	T	iPKKP			55	
	Magnitude 6½±					
	USCGS: 5 N 127 E					
	0 = 11:05:51					
25	P	iP	15	56	42	
	R	iP			45	
	Pr	iP			47	
	H	iP			46	
	T	iP			43	
	USCGS: Solomon Islands,					
	0 = 15:43:55					
25	P	iP	21	10	22	
	R	iP			25	
		e			35	
	Pr	iP			26	
	T	iP			29	
	USCGS: Loyalty Islands,					
	0 = 20:57:30					
26	P	iP'	02	31	41	c
		ipP'		32	01	
	R	iP'		31	42	
		ipP'		32	01	
	Pr	iP'		31	44	
		ipP'		32	03	
	H	iP'		31	41	
		ipP'		32	ol	
	T	iP'		31	40	
		ipP'			59	
	Interpretation uncertain					
	Indian Ocean?					
26	MW	eP?	03	15	11	
	R	iP			14	
	USCGS: Kurile Islands,					
	0 = 03:04:02					
26	P	iP	21	21	04	
	R	iP			06	
	Pr	iP			08	
	T	iP			09	
	USCGS: New Caledonia					
	Region, 0 = 21:07:58					
27	MW	iP	02	03	31	
	R	iP			35	
27	MW	eP	04	43	33	
		e(pP)		44	05	
	R	iP		43	36	
	T	iP			23	
	USCGS: 0 = 04:31:38,					
	h = about 100 km.					
	CMO: 37.5 N 141.5 E					

Date	Sta.	Phase	h	m	s	
	June					
27	P	eP	09	39	07	
	T	iP			15	
27	P	e	10	22	59	
		e		23	18	
	R	e			00	
		e			18	
	USCGS: Aleutian Islands,					
	0 = 10:15:03, h = 100 km.					
27	P	iPNEZ	15	53	30	
		i			43	
		i			54	
	PX	iSNE	16	03	09	
		eLNE		13.5		
	P	eP'P'		20	30	
			A		T	
		PZ	0.6		1	
		PH	0.4		1	
		SH	2		8	
		MH	7		20	
	R	iPNEZ	15	53	33	
		i			52	
		eP'P'	16	20	41	
	H	iPNEZ	15	53	25	
		i			37	
	T	iPNEZ			20	
	Magnitude 6½-6¾					
	USCGS: 45½ N 140 E,					
	0 = 15:41:54					
28	R	e	04	33	55	
	T	e			51	
	USCGS: 45 N 110½ W,					
	0 = 04:31:01					
28	R	e	13	34	18	
	Tacubaya: 15°53' N,					
	97°54' W, 0 = 13:28:51					
28	P	iP	13	56	25	
	R	iP			27	
28	P	iP'	16	42	50	
		i		46	09	
	R	iP'		42	50	
		e		46	10	
	Pr	iP'		42	53	
		e		44	54	
		i		46	15	
		i			28	
	H	iP'		42	49	
	T	iP'			47	
		i		46	03	
	Very distant					
	Two shocks?					
28	MW	eP	23	42	09	
		e			19	
	R	eP			10	
		e			20	
	H	e			11	
	T	eP		41	56	
		e		42	07	
	BCIS: 47 N 153 E,					
	USCGS: 0 = 23:31:26					

Date	Sta.	Phase	h	m	s	
	June					
29	P	iPNZ	00	27	07	c
		ipPNZ!			23	d
		isPNZ			30	
	R	iP			03	c
		ipP!			18	d
		isP			25	
	H	ipP			31	
		isP			38	
	T	iP			19	
		ipP			35	
		isP			42	
	pP, sP large and sharp,					
	h = 60 km.					
	USCGS: 0 = 00:15:24,					
	h = 100 km.±					
	BCIS: 25 S 70 W,					
	0 = 00:15:33, h = 100 km.±					
29	PX	eLE	03	24.6		
	MW	eP		17	33	
	R	eP			29	
	T	iP			56	
29	P	eP	03	47	57	
	R	iP			52	
	T	iP		48	08	
29	P	iP	04	40	41	
	R	eP			43	
	T	eP			40	
29	P	eP	08	07	59	
		e(pP)		08	29	
	R	eP		07	55	
		e(pP)		08	24	
	T	eP			11	
		e(pP)			40	
	South America?					
30	P	iP	00	31	15	
		e			26	
		e			44	
	R	iP			18	
		e			19	
	CL	iP			19	
	T	eP			17	
	USCGS: Solomon Islands,					
	0 = 00:18:04					
30	P	iPNEZ	11	03	50	
		epP		04	22	
		e			36	
	R	iP		03	44	
		epP		04	18	
	Pr	ipP			12	
	CL	iP		03	55	
		epP		04	28	
	T	ePNE			03	
	h = 140 km.					
	USCGS: 6 S 75 W,					
	0 = 10:54:20, h = 200 km.±					
	BCIS: 6½ S 75 W,					
	0 = 10:54:17, h = 200 km.±					

Date	Sta.	Phase	h	m	s
	June				
30	P	iP	18	45	49
	R	iP			51
	CL	iP			46
	T	iP			42
30	P	eP	21	24	40
	R	iP			36
	CL	iP			44
	T	iP			40
	Peru				
	July				
1	MW	eP	01	07	32
		e(pP)			43
	R	eP			33
		e(pP)			44
	Pr	iP			35
		i(pP)			46
	CL	iP			38
		i(pP)			48
	T	iP			37
1	R	eP	06	53	48
		e			59
	Pr	iP			46
		i			54
		i		54	05
	CL	eP		53	58
		e		54	07
1	MW	iP	14	44	57
	R	eP			58
	Pr	iP			59
	CL	iP		45	04
	T	eP			04
2	P	eP	22	58	29
		e			56
	R	eP			26
	CL	iP			31
		e			57
	T	eP			42
		e			59
	USCGS: 4 N 73½ W				
	0 = 22:49:24				
	Felt in Bogotá				
3	R	eP	02	12	25
	CL	eP			29
	Southwest Pacific				
3	CL	eP	03	58	05

C.F.Richter
Marion Reid
Jan. 25, 1951

ROYAL OBSERVATORY EDINBURGH 25 MAY 1951

Date	Sta.	Phase	h	m	s
July					
3	P	iP	10	16	57
		i		17	03
		e(pP)			11
		i			18
	PX	ePP		20	51
		eSN		28	10
	Surface waves recorded				
			A		T
		PZ	4		1½
		PPZ	4		4
		MH	12		20
	R	eP	10	17	00
		i(pP)			15
	CL	iP		16	57
		i(pP)		17	12
	T	eP		16	55
		i		17	01
		i(pP)			10
	USCGS: 8 N 141½ E,				
	0 = 10:03:36				
3	P	iP	12	41	23
		e			34
		i			38
			A		T
		PZ	0.1		1½
	CL	iP	12	41	31
		i			43
	T	eP			34
	USCGS: 0 = 12:29:33,				
	h = 200 km.				
	BCIS: 24½ S 176 W				
4	P	iP	16	34	26
	R	iP			28
	CL	iP			31
		e(pP)		35	02
	T	iP		34	32
	Southwest Pacific				
5	PX	eLEZ	04	14±	
	MW	iP	03	47	51
	R	iP			52
	Pr	iP			53
	CL	iP			56
	T	iP			56
	USCGS: 19 S 168 E,				
	0 = 03:34:59				
	BCIS: 20 S 168 E,				
	0 = 03:35.1, h = 100 km.				
5	MW	iP	03	50	36
	R	iP			37
	Pr	iP			39
	CL	iP			40
	T	iP			40
	Aftershock				
5	MW	eP	07	57	27
		e			41
		e		58	29
	R	eP		57	20
	Deep? Tacubaya: 15°09' N				
	95°44' W, 0 = 07:51:58				
5	CL	eP	08	18	09
		e			20
	CMO: 42.4 N 144.5 E,				
	h = 60 km.				
5	P	iP	11	10	12
	R	iP?			16
	CL	iP			14
5	P	iP	18	37	10
	R	iP			19
	Pr	iP			26
	CL	iP			05
	T	iP		36	54
	USCGS: 62 N 155 W,				
	0 = 18:30:08				
6	MW	eP	04	15	57
		e		16	40
	BCIS: 12 S 66 W, 0 = 04:05				
6	P	iP	11	16	52
	R	iP			54
	Pr	iP			55 c
		e(pP)		18	52
	T	iP		17	03
	h = 550 km.? Near Apia				
7	MW	eP	03	44	27
	R	iP			30
	Pr	iP			30
	T	iP			33
7	Pr	eP	05	16	52
		e			57
	T	eP			08
7	Pr	iP	05	24	06
		i			13
	T	eP		23	24
7	P	iP	16	59	39 c
	PX	e(S)NE	17	10.1	
		eLNE		25.4	
			A		T
		PZ	0.4		1
		MH	10		20
	R	iPEZ	16	59	42 c
	H	eP			44
	T	iP			44
	USCGS: 11 S 163½ E,				
	0 = 16:46:55				
7	P	iPNEZ	17	06	56
			A		T
		PZ	0.4		1
	R	iPNEZ	17	06	58
	H	iP		07	01
	T	iPNEZ			01
	USCGS: 11 S 163 E,				
	0 = 16:54:10				
7	MW	eP	17	26	18
	R	eP			20
	T	eP			25
8	P	iP	03	44	34 c
		e			53
	R	iP			36 c
		e			57
	Pr	iP			37 c
		i			58
	T	iP			41
	USCGS: 0 = 03:31:50				
	Wellington: 33.9 S 179.2 E,				
	0 = 03:31.9, mag. 5½ - 6				

Note: China Lake installation dismantled July 5 for reconstruction. Recording resumed November 8.

Date	Sta.	Phase	h m s
	July		
8	MW	eP	18 42 57
	R	iP	52
	Pr	eP	49
	T	iP	43 08
8	P	eP	20 00 38
	R	eP	45
	Pr	eP	42
9	P	iP	00 15 57
	PX	eL	45±
	R	iP	15 59
	Pr	iP	16 02
	H	iP	01
	T	iP	00
	USCGS: 10 S 161 E,		
	0 = 00:03:02		
9	P	iP	01 50 24 c
	PX	eSE	59 21
		eSSN	02 03.7
		eSSSE	08.2
		eLNE	11.4
			A T
		PZ	2 4
		PH	2 3
		SH	5 10
		MH	25 20
	R	iPNEZ	01 50 23 c
	Pr	iPNEZ	20
		e?	02 19 20
	H	iP	01 50 39
	T	iPNEZ	45 c
	Magnitude 6¾		
	USCGS: 33 S 112 W,		
	0 = 01:39:29		
9	P	iP	02 44 21
		i	52
		i	45 23
		e	46 17
		iScPNZ	49 41
			A T
		PZ	½ 2
	R	iP	02 44 16
		i	36
		i	46 14
		eScP	49 32
	Pr	iPNEZ	44 12 c
		e	46 04
		eScP	49 32
	H	iP	44 27
	T	iPNE	32
	USCGS: 8 N 73 W,		
	0 = 02:35:31		
	Damage in Venezuela		
9	R	eP	03 37 44
	Pr	eP	40
	Aftershock		
	USCGS: 0 = 03:28:59		

Date	Sta.	Phase	h m s
	July		
9	R	e	03 45 24
	Pr	e	26
9	P	eP	03 49 35
	R	eP	32
	Pr	eP	33
	T	eP	25
	USCGS: Azores,		
	0 = 03:38:35		
9	P	iPNEZ	04 49 24 d
		iPcP	54
		epP	51 35±
	PX	isPNEZ	52 35
		e(pPP)NE	53 39
		isPPNEZ	54 42
		iSNEZ!	56 58
		e(SP)E	57 27
		iE	41
		e(sS)NE	05 00.6
		iSSNE	02 21
		esSS	04.8
	P	eP'P'	17 41
		iP2'P2'	18 21
		eSKPP'	20 40
			A T
		PZ	10 2
		PH	10 4
		SH	12 5
	R	iPNEZ	04 49 19 d
		iPcP	46
		ipP	51 25
		i	53 42
		iSNEZ	56 54
		eP'P'	05 17 56
	Pr	iPNEZ	04 49 15 d
		i	34
		iNZ	54
		ipP	51 21
		eS	56 44
	H	iPNEZ	49 31
		epP	51 36
		eSNE	57 14
		iP'P'	05 17 50
		iP2'P2'	18 25
		eSKPP'	20 56
	T	iPNEZ!	04 49 36 d
		iPcP!	50 09
		ipP	51 45
		i	54 30
		eSNEZ	57 24
		eP'P'	05 17 46
		eP2'P2'	18 21
		h = 650 km.±	
		magnitude 7	
	USCGS: 8½ S 71 W,		
	0 = 04:39:57		
	h = about 600 km.		
	JSA: 8.3 S 70.2 W,		
	0 = 04:40:10, h = 650 km.		

Date	Sta.	Phase	h m s
	July		
9	P	iPNEZ	04 59 25 d
		ipP	05 01 28
	PX	iSE	06 48
	P	eP'P'	27 53
		eP2'P2'	28 24
		eSKPP'	30 49
			A T
		PZ	4 1
		PH	2 1
		SH	9 8
	R	iPNEZ	04 59 20
		eP'P'	05 28 35
		eSKPP'	30 53
	Pr	iPNEZ	04 59 16 d
	H	iP	31 d
		epP	05 01 36
		iP'P'	28 32
	T	iP	04 59 37 d
		i	05 02 09
		i	50
		i	20 51
		eP'P'	27 47
		e	28 24
		eSKPP'	30 47
	Magnitude 6¾-7		
	h = 650 km.±		
	USCGS: 8½ S 71 W,		
	0 = 04:49:58, h = 600 km.±		
9	P	e	08 06 30
		e	39
	R	e	34
		e	43
	T	i	02
9	P	iP	09 54 22
		ePcP	50
		ipP	56 24
		isP	57 17
		iScP	57
	PX	iSNEZ	10 01 54
		iScSE	03 07
		isSNE	05 39
	P	eP'P'	22 57
		iP2'P2'	23 36
			A T
		PZ	1 1
		PH	0.4 1½
		SH	4 7
	R	iPNEZ	09 54 16
		i	39
		iPcP	55
		i	55 06
		ipP	56 20
		isP	57 14
		iScP	56
		eSE	10 01 41
		eP'P'	23 28
	H	iPNEZ	09 54 29
		i	55 03
		i	57 22
		eSN	10 02 09

Date	Sta.	Phase	h m s
	July (continued)		
9	T	iPNEZ	09 54 32
		ipP	56 35
		isP	57 23
		iScP	58
		eSNZ	10 02 19
		eP'P'	23 32
	Magnitude 6¼-6½		
	h = 650 km.±		
	USCGS: 8½ S 71 W,		
	0 = 09:44:55, h = 600 km.±		
9	P	i	12 43 08
	R	eP	00
		i	04
		e	45 03
	Pr	iP	42 56
		i	43 00
		i	44 56
	T	iP	43 14
		i	19
	USCGS. 8 N 73 W,		
	0 = 12:34:15		
9	MW	e	14 37 06
	R	e	01
	Pr	eP	36 17
		i	41
		i	53
	Mexico		
9	P	e(PP)	16 28 54
		i PKKP	40 28
	R	e	28 44
		ePKKP	40 29
	Pr	e	28 54
		ePKKP	40 28
	T	e	28 30
		ePKKP	40 40
	Hindu Kush		
	Felt in Pakistan		
	JSA: 36.6 N 70.3 E		
	0 = 16:10:25,		
	h = about 220 km.		
9	P	iP	19 28 34
		i	29 10
	R	iP	28 31
		i	45
	T	iP	39
	USCGS: 36½ S 103 W,		
	0 = 19:17:12		
	BCIS: 36 S 103 W,		
	0 = 19:17.2		
10	P	e	05 53 56
	MW	e	04
		e	49
	R	e	15
	T	e	19
	BCIS: 18 S 64 E,		
	0 = 05:33.5		

Date	Sta.	Phase	h	m	s	
	July					
10	P	iP	14	02	31	
		epP		04	34	
	R	iP		02	34	
		ipP		04	39	
	Pr	iP		02	35	
	H	iP			39	
	USCGS: 21 S 178½ W,					
	0 = 13:51:20, h = 600 km.±					
10	MW	e?	19	44	42	
	R	eP			54	
	Pr	iP			55	
	T	iP		45	02	
11	MW	e	07	13	51	
11	P	iP	16	24	32	
		e			50	
	R	eP			27	
		i			39	
	Pr	iP			22	
		i			37	
	H	eP			47	
	T	eP			55	
12	P	iP	01	43	39	
	PX	eLNE		54		
	R	iP		43	35	
	Pr	iP			31	
		e		44	24	
	H	iP?		43	55	
	USCGS: 2 N 101 W					
	0 = 01:36:42					
12	P	iPNEZ	11	16	42	d
		i			48	
	PX	e			58	
		iSNE		22	43	
		eLNE		25.6		
			A		T	
		PZ	½		2	
		SH	1½		5	
		MH	20		20	
	R	iPNEZ	11	16	47	d
	Pr	iPNEZ			55	d
		i		17	01	
		i			07	
		eN		22	04	
		e(ScP)N			30	
		eSNE		23	06	
		iNE			21	
		eScSN		27	00	
		iN			15	
	H	iPNEZ		16	34	d
	T	iPNEZ			29	d
	Magnitude 6¼, depth 60 km.?					
	USCGS: 53 N 166 W, 0 = 11:09:15					
12	P	iPNEZ	11	59	44	
			A		T	
		PZ	½		1	
	MW	iP	11	59	45	
		i			56	
		i	12	00	11	
	R	iPNEZ	11	59	48	
		i	12	00	09	
		i			14	

(continued)

Date	Sta.	Phase	h	m	s	
	July (continued)					
12	Pr	iPNEZ!	11	59	48	
		i			53	
		i	12	00	10	
	H	iPNEZ	11	59	53	
	T	iPNEZ			56	
	USCGS: Tonga Islands,					
	0 = 11:48:12, h = 100 km.±					
12	P	iP	15	56	23	d
		i(pP)			35	
	R	eP			26	d
		i(pP)			37	
	Pr	iPNEZ			32	d
		i(pP)			45	
		i			49	
	H	eP			13	
	T	iP			08	
		e			16	
	USCGS: 0 = 15:46:51,					
	h = 100 km.±					
	BCIS: 57 N 156 E,					
	0 = 15:46.9, h = 100 km.±					
12	MW	eP	18	08	38	
		e			59	
		e		09	13	
	R	eP		08	31	
		e			55	
		e		09	06	
	Pr	iP		08	27	
		i			48	
		e		09	00	
	T	eP		08	53	
		e		09	14	
	Deep? Mexico					
	Tacubaya: 16°51' N,					
	93°47' W, 0 = 18:03:17					
12	MW	eP?	21	03	50	±
		e		04	07	
		e			22	
	R	eP			00	
		e			16	
		e			31	
	Pr	iP			09	
	T	i		03	45	
	USCGS: off Alaska peninsula, 0 = 20:57:10					
12	P	iP	21	36	55	c
	R	iP			59	
		e		37	15	
	Pr	iP			03	
	H	iP		36	49	
	T	iP			45	c
		ipP?		38	28	
	USCGS: Off Sakhalin,					
	0 = 21:26:25, h = 500 km.±					
13	MW	e	02	53	42	
	T	eP			35	

Date	Sta.	Phase	h	m	s	
	July					
13	P	iPNEZ!	04	15	35	c
		iNE			53	
		ipP		17	24	
		i!			31	
		e			52	
	PX	i(S)NEZ		25	06	
		eN		28	27	
	P	eSKPP'		44	22	
	PX	eL		45		
	(S) may actually be SKS					
			A		T	
		PZ	3		2	
		PH	2		2	
		pPZ	2		2	
		SH	5		8	
	R	iPNE	04	15	37	
		ipPN		17	34	
	Pr	iPEZ!		15	42	c
		ipPEZ		17	33	
		i			39	
		i		18	56	
		i!		19	07	
		eS		25	06	
		iSKPP'		44	23	
	H	iPNEZ		15	32	c
		i		17	27	
		eSE		25	02	
	T	iPNEZ!		15	27	c
		i			43	
		ipP		17	16	
		i			22	
		i		18	08	
		eSNE		24	59	
	Magnitude 6¾-7					
	USCGS: 27½ N 139½ E,					
	0 = 04:03:50, h = 500 km.					
14	P	iP	01	43	49	
	R	iP			50	
	Pr	iP			53	
	T	eP			58	
	Near Apia					
14	P	eP	12	14	36	
	PX	eLN		24.3		
	R	eP		14	40	
	Pr	iP			48	
	H	eP			26	
	T	iP			22	
	USCGS: 52 N 171 W,					
	0 = 12:06:45					
15	MW	eP	05	12	59	
		e		13	06	
	R	eP		12	55	
		e		13	02	
	Pr	iP		12	53	
		i		13	00	
15	P	iP	10	40	27	
		e			40	
	MW	iP			28	
		e			43	
		i			47	

(continued)

Date	Sta.	Phase	h	m	s	
	July (continued)					
15	R	eP	10	40	30	
	Pr	iP			32	
		i			49	
	H	eP			36	
	h = 60 km.? Near Apia.					
	USCGS: 0 = 10:28:56,					
	h = 100 km.					
15	MW	e	11	52	01	
	Pr	e			00	
		i		53	04	
	Cr	e		53	03	
15	P	iP	13	40	59	
		e		41	15	
	R	eP			03	
	Pr	iP			04	
		i			22	
	H	eP			08	
	h = 60 km.? Near Apia.					
	USCGS: 0 = 13:29:01					
15	P	iP	16	01	08	
	R	iP			10	
	Pr	iP			11	d
	T	eP			13	
16	P	eP	12	07	26	
	R	eP			22	
	Pr	iP			17	
	T	eP			51	
	South America?					
17	MW	eP	09	06	29	
	R	eP			24	
	T	eP			42	
	USCGS: 0 = 08:56:24					
	BCIS: 9 S 78 W,					
	0 = 08:56.5					
17	P	iP	11	56	30	
	Pr	iP			32	
	Near Apia					
17	MW	eP	15	40	12	
		iS		42	11	
	T	iP		40	03	
		iSNE		41	20	
17	P	iPNEZ	20	30	35	c
		i			44	
		epP		31	03	
		isP			11	
		i		32	26	
	PX	eSNE		41	08	
		eE			43	
		eSPE		42	52	
		eSSN		47.1		
		eGN		54.3		
			A		T	
		PZ	½		1	
	R	iP	20	30	37	c
		ipP		31	05	
		isP			15	
	Pr	iPNEZ		30	37	c
		i			54	
		e		31	08	
		i			47	

(continued)

Date	Sta.	Phase	h m s
		July (continued)	
17	Pr	eSN	20 41 15
	H	iP	30 39
	T	iPNEZ	41 c
		ipP	31 11
		isP	21
		h = 110 km.	
		USCGS: 20½ S 171 E,	
		0 = 20:17:50	
17	P	iPNEZ	21 20 51
	R	iPNEZ	46 d
	Pr	iPNEZ!	42 d
	T	iPNEZ	21 02 d
		Southeastern Peru, shallow?	
17	P	iP	21 33 03
		epP	20
	R	iP	32 59
		ipP	33 16
	Pr	iP	32 54
		ipP	33 09
	T	iP	15
		ipP	30
		Northern Chile,	
		h = 60 km.?	
18	P	eP	01 45 38
	R	e	42
	Pr	e	48
	T	e	33
18	P	iP	05 12 28
	R	eP	31
	Pr	iP	39
	T	iP	17
18	P	eP	12 44 24
	R	eP	26
	Pr	eP	28
	T	eP	30
		Near Apia	
18	MW	e	16 44 01
		e	59
	Pr	e	33
		BCIS: near Halmahera,	
		0 = 16:25.0	
19	P	iP	11 00 34
		epP	47
	PX	eLE	14.0
	R	eP	00 39
		epP	52
	H	iP	29
	T	ePNE	21
		USCGS: Aleutian Islands,	
		0 = 10:51:54	
19	MW	e?	12 58 35
		e	42
20	P	iP	03 15 25
	R	iP	22 d
		e	32
		i(pP)	42
		(continued)	

Date	Sta.	Phase	h m s
		July (continued)	
20	Pr	iP	03 15 16 d
		e	26
		e(pP)	32
	T	iP	36 d
		e(pP)	53
		e	57
		USCGS: Northern Chile,	
		0 = 03:03:45, h = 100 km.	
20	P	eP	09 43 11
		iNEZ	16
	PX	ePPE	46 32
		iSE	53 31
		iPSNEZ	54 27
		eGNE	10 04 6
			A T
		PZ	1½ 2
		SH	2 6
		MH	12 20
	R	eP	09 43 14
		i	20
		e	47 23
	Pr	ePNEZ	43 15
		i!	21
		i	45 07
		iPP	46 32
		i	47 24
	H	eP	43 17
		i	22
	T	eP	18
		Magnitude 6¾ (Praha)	
		USCGS: 17 S 174 E,	
		0 = 09:30:48	
20	P	iP	13 26 52
	R	eP	54
	Pr	iP	55
	H	eP	58
	T	eP	57
		BCIS: 20 S 167 E,	
		USCGS: 0 = 13:13:55	
21	MW	eP	06 18 27
		e	36
	R	eP	29
	Pr	iP	29
21	P	eP	07 31 33
		i	32 01
	PX	eE?	42 20
	R	eP	31 35
	Pr	iP	36
		e	55
	H	eP	42
	T	eP	43
		USCGS: 0 = 07:18:55	
		BCIS: 29.6 S 179.8 W,	
		0 = 07:18:46	

Date	Sta.	Phase	h m s
		July	
21	P	iPNEZ	08 25 48 d
		e(PcP)	26 20
		epP	27 53
	R	iP	25 43 d
		e(PcP)	26 18
		epP	27 47
		e	28 39
	Pr	iPNEZ	25 39
		epP	27 49
		i(sP)	28 46
	H	iP	25 54
	T	iP	59 d
		i	26 29
		epP	28 04
		e(sP)	29 09
		Aftershock of July 9,04h.	
		USCGS: 0 = 08:16:21,h = 600 km.	
		BCIS: 7.5 S 70 W, 0 = 18:16:22	
		h = 600 km.	
21	P	iPNEZ	20 44 41 c
		ePP	48 03
	PX	i(S)NE	55 12
		eEZ	56 17
		e(SS)E	21 00 39
		eGN	07.1
			A T
		PZ	3 3
		PH	2 3
		PPH	¾ 6
		SH	5 10
		MH	15 20
	R	iPNEZ	20 44 44
		eP'P'	21 10 53
	Pr	iPNZ!	20 44 45
		e(SKS)N	55 06
		eP'P'	21 10 54
		i	11 09
	H	iPNEZ	20 44 48
	T	iPNEZ	47
		eSN	55 35
		Magnitude 6¾ - 7	
		USCGS: 15½ S 168½ E,	
		0 = 20:32:01	
21	MW	eP	21 38 06
	R	eP	08
	Pr	iP	11
	T	iP	11
		USCGS: New Hebrides,	
		0 = 21:25:30	
22	MW	iP	01 09 04
	R	eP	08
	T	iP	10
		i	18
22	P	iP	12 45 33
	R	iP	29 d
	Pr	iP	28 d
		e(pP)	46 03
	H	eP	45 40
	T	iP	44
		i	55
		South America	
22	P	eP	23 20 37
		i	59
		i	21 41 (continued)

Date	Sta.	Phase	h m s
		July (continued)	
22	PX	e(S)E	23 32 23
		eLEZ	46
	R	iP	20 43
	Pr	eP	42
		i	57
		i	21 02
	T	iP	20 45
		USCGS: 0 = 23:07:45	
		BCIS: 14 S 167 E,	
		0 = 23:08.0	
23	P	eP	14 08 56
		epP	09 11
	R	eP	00
		epP	13
	Pr	iP	01
		ipP	14
	T	eP	05
		Near Apia?	
23	P	eP	16 03 02
		i(pP)	19
	PX	eLEZ	29.3
	R	eP	03 06
		i(pP)	23
		i	30
	Pr	iP	07
		i(pP)	24
		i	33
	T	iP	06
		USCGS: 16 S 165 E,	
		0 = 15:50:06	
23	R	eP'	17 10 51
	T	eP'	44
23	R	eP	21 44 48
	Pr	iP	49
	T	eP	51
23	T	iP	23 41 27
		USCGS: 21 N 64 W,	
		0 = 23:32:28	
24	PX	eLNEZ	01 01.0
	MW	e	00 33 17
	R	e	42
25	P	eP	08 56 13
		e(pP)	57 01
	R	eP	56 16
		e(pP)	57 01
	Pr	iP	56 17
		i(pP)	57 04
	T	iP	56 13
25	MW	e	11 01 04
		e	12
		e	24
	T	e	11
		e	19
		e	33
		e	43
25	PX	eLE	18 47.7
	MW	eP	25 34
	R	eP	27
	Pr	iP	26
	H	eP	26
	T	iP	25
		USCGS:31N 42W,0 = 18:15:00	

Date	Sta.	Phase	h m s
July			
26	MW	eP	08 12 43
		e	13 03
	T	eP	12 55
26	P	eP	08 40 03
	Pr	eP	39 56
	T	eP	40 07
	USCGS: 0 = 08:31:28		
	BCIS: 19.1 N 64.9 W		
26	MW	eP	10 45 43
	R	iP	29
	T	eP	52
27	P	iP	09 40 34
		eSE	41 07
	Pr	iP	40 11
		iSNE	26
	LJ	eP	17
		iSNEZ	35
	0 = 09:39:52±.		
	Magnitude 3.4		
	First of a long series of shocks in northern Imperial Valley, all with epicenters near 33°07'N 115°34'W. Except this first shock only those of magnitude 4.5 or over are reported here.		
27	P	e?	11 30 05
		iP!	10
		iN!	17
	PX	iSE	41
	Pr	iPNEZ!	29 46
		iN!!	49
		iSE!	30 02
	LJ	iP	29 51
		i	55
		iSNE!	30 09
	Pe	iP!	29 52
		i!	55
	First larger shock of series. Magnitude 4.8. 0 = 11:29:26. Felt in Imperial Valley, maximum reported intensity VI.		
27	P	iPNEZ	17 41 26 c
		epP	43 26
		i	44 31
	PX	eSE	50 27
			A T
		PZ	½ 1
	R	iPNZ	17 41 35
	Pr	iP	30 c
	H	iPNEZ	33
	T	iPNEZ	34 c
		i	52
		i	42 00
		epP	43 38
	USCGS: 17 S 179 W, 0 = 17:30:29, h = 600 km.±		
27	P	eP	20 09 56
		eLN	14
	R	iPNZ	09 58
	Pr	eP	39
	T	iP	10 27

Date	Sta.	Phase	h m s
July-			
27	P	eP	22 51 33
		iSNE	52 05
	Pr	iPNEZ	51 09
	LJ	iP	14
		iSNEZ	32
	Imperial Valley; near 33°07'N 115°34'W, 0 = 22:50:49		
	Magnitude 4.5		
28	P	iP	00 29 03
	R	iP	07
	Pr	iP	10
	T	iP	28 51
		e	29 18
	Japan?		
28	P	iP	03 26 08
		iSN	56
	Pr	iPNEZ!	25 50
	LJ	iP	55
		iSNE	26 14
	Near 33°07'N 115°34'W, 0 = 03:25:30		
	Magnitude 4.7		
	Numerous smaller shocks within the following hour.		
28	P	ePNEZ	05 07 49
	PX	e(S)E	18 23
		e(PS)EZ	19 15
		eLN	31.2
			A T
		PZ	½ 2
		MH	10 17
	Pr	iPNEZ	07 55
	T	iP	56
		e	08 09
	Rome: magnitude 6¼		
	USCGS: 13 S 167 E, 0 = 04:55:13		
28	P	iP	05 35 54
		i	36 06
	Pr	iPNEZ	02 c
	T	eP	03
		i	14
	USCGS: 13 S 167 E, 0 = 05:23:21		
28	PX	eLE	13 03
28	P	iP	17 27 31
		iSNE	28 03
	Pr	iPE	27 08
	LJ	iPEZ	13
		iSNE	33
	Near 33°07'N 115°34'W, 0 = 17:26:48		
	Magnitude 4.7		

Date	Sta.	Phase	h m s
July			
28	P	eP	17 51 26
		iNEZ!	32
		iSN	52 02
	R	ePNE	51 18
	Pr	iPNEZ!	08 c
	LJ	iPNEZ	13 c
	Same epicenter, 0 = 17:50:48		
	Magnitude 5.4		
	Intensity generally VI in northern Imperial Valley (Brawley, Calipatria, Niland, Westmorland), including minor damage to weak structures, broken glassware and dishes, cracked plaster, etc. Many small shocks in the following hour.		
28	P	iP	17 58 50
	R	iPN	40
	LJ	iPNEZ	34
	Aftershock of preceding. 0 = 17:58:12. Mag. 4.8		
29	P	eP	00 17 48
	R	ePN	37
	LJ	iPNEZ	32
		iSNE	50
	Aftershock. 0 = 00:17:10? Mag. 4.5		
29	P	iP	14 37 10
		i!	15
		iSNE	47
	MW	iP	10
	R	iPNE	01
		iSNE	28
	Pe	iP	36 58
	Pr	iP	51 c
	LJ	iP	56 c
		iSE	37 14
	SB	eP	29
	H	iP	28
	T	iP	41
	Largest shock of this series. 33°07 N. 115°44'W., 0 = 14:36:32, magnitude 5.5 From field investigation by U. S. Coast and Geodetic Survey, maximum intensity VIII, near Calipatria. Intensity VII at Calipatria, Niland, Westmorland. Damage to many old buildings. Felt to distances of about 150 km. Numerous aftershocks in the next few hours.		
29	P	iPEZ	15 09 40
		iSE	10 12
	Pr	iP	09 25
	LJ	iPEZ	21 c
		iSN	40
	Aftershock 0 = 15:09:01, mag. 4.5		

Date	Sta.	Phase	h m s
July			
29	P	iP	17 00 22
		i	41
		iPPNEZ	04 27
		i	53
		iSKSNE	10 57
		eNE	11 42
		i(PS)NEZ	14 08
		eSSNE	20 09
		eGN	30.5
		eRNEZ	35.4
			A T
		PZ	½ 1½
		PPZ	¾ 1
		PPE	¾ 1
		MH	5 20
	R	eP	17 00 24
		iPP	04 27
		i	57
	Pr	eP	00 27
		ePP	04 31
		i	52
	H	eP	00 21
		iPP	04 26
		i	49
	T	iP	00 18
		iPP	04 25
		e	46
		e	59
	Magnitude about 7 Depth probably 70 km. or more		
	USCGS: 2½ N 127½ E, 0 = 16:45:56		
29	P	iP	18 43 26
	R	iPNZ!	13 c
	Pr	iPNEZ!	04 c
	LJ	iPNEZ	09 c
		iSN	28
	Near 33°07'N 115°44'W 0 = 18:42:48, mag. 4.7		
	Aftershocks rapidly diminishing in magnitude and frequency		
30	P	iPNEZ!	00 02 06 c
		i	30
		iPP	05 40
	PX	eSKSNE	12 27
		ePSNE	14 01
		iPPS	31
		eSSNE	18.2
		eGNE	25.7
	P	eP'P'?	27 45
			A T
		PZ	2 2
		PH	¾ 1
		MH	30 20
	R	iPNEZ	00 02 07 c
		i	34
		i	04 09
		iPP	05 16
		iPKKP	19 28
		eP'P'	27 38

(continued)

Date	Sta.	Phase	h m s
		July (continued)	
30	Pr	iPNEZ!	00 02 12 c
		i	40
		iPP	05 46
		i	06 14
		eP'P'	27 44
	H	iPNEZ	02 08 c
	T	iPNEZ	07 c
		iPP	05 47
		eP'P'	27 36
		Magnitude 7	
		USCGS: 6 S 155 E,	
		0 = 23:48:58	
		JSA: 6.8 S 155.1 E,	
		0 = 23:49:08, h = 75 km.±	
30	P	iP	00 35 41
		i	56
	R	iP	43
		i	58
	Pr	i	36 01
	H	i?	35 44
	T	eP	41
		i	57
30	P	iP	14 46 29
		i	48 31
	R	eP	46 28
		e	48 21
	T	eP	46 36
		i	48 45
		August	
1	MW	i(pP)	02 16 19
	R	eP?	13
		i(pP)	22
	Pe	eP	14
		i(pP)	24
		USCGS: 0 = 02:04:43	
		Near coast of Hokkaido, Japan	
1	P	iP	03 01 10
		e	26
		i	38
	R	iP	12
		i	28
	H	iP	13
1	Pe	i	07 49 35
1	P	iP	08 37 58
		iSNE	38 35
	R	iPNZ!	37 49 c
	LJ	iPNEZ!	45 c
		iSZ	38 02
		Near 33°07' N 115°44' W,	
		0 = 08:37:20, mag. 4.8	
		Last considerable shock of Imperial Valley series. Intensity VI at Calipatria, with minor damage. Aftershocks very few and small.	

Date	Sta.	Phase	h m s
		August	
1	P	iP	09 23 09
		ipP	21
	PX	iSE	32 31
	R	eP	23 12
		ipP	23
	H	iP	04
		i(pP)	13
	T	i	09
		USCGS: 42½ N 145 E,	
		0 = 09:11:39	
		BCIS: 43 N 144.5 E,	
		0 = 09.11:44	
1	P	e	10 09 26
	Cr	e	25
1	MW	eP	10 54 18
		e(pP)	29
	R	eP	20
		i(pP)	31
	H	i	23
	T	e	19
		Aftershock of 09h	
2	MW	iP	06 15 04
	T	iP	14
		Near Apia	
2	P	iP	11 03 11 c
		i	21
		e	04 08
	PX	iSNEZ	14 02
		eLE	31
		A	T
		PZ	¾ 2
		SH	3 7
		MH	5 20
	R	iPNEZ	11 03 14 c
	H	iP	10
	T	iPNEZ	07
		Slightly deeper than normal.	
		Magnitude 6½ - 6¾	
		USCGS: 12 N 143 E,	
		0 = 10:50:07	
		BCSF: 12.5 N 143 E,	
		0 = 10:50.2	
2	P	iP"	14 09 03
	PX	eLE	15 03.1
	R	iP"	14 09 03
	H	eP"	01
	T	eP"	08 59
		USCGS: 0 = 13:49:40	
		BCIS: 14.5 N 40 E,	
		0 = 13:49:58	
3	P	iPNEZ	06 19 48 d
		i(pP)	20 09
		i	21
		i	38
		iPcP	23 39
	PX	eSNE	55
		iSN	24 06
		eGN	25.6
		i(SCS)E	31 12

(continued)

Date	Sta.	Phase	h m s
		August	
3			A T
		PZ	¾ 1½
		PH	1 3
		SH	1 5
		MH	3 20
	Cr	iP	06 19 44 d
		i	20 02
		iPcP	23 39
	R	iPNEZ	06 19 43 d
		i(pP)	21 01
		iPcP	23 39
		eS	48
	H	iPNEZ	20 00
		i(pP)	19
	T	iPNEZ	07 d
		iPcP	23 44
		Magnitude 6 - 6¼	
		USCGS: 18 N 100 W,	
		0 = 06:14:54, h = 150 km.	
3	R	eP	09 36 49
	T	iP	37 03
		USCGS: 0 = 09:28:04	
		Near border of Northern Colombia and Venezuela	
3	P	iP	15 39 52
	PX	eSNE	51 01
		eL?	16 14
		A	T
		PZ	0.3 2
		SH	0.7 6
	R	iP	15 39 56
	H	eP?	51
	T	eP?	57
		Magnitude about 6½	
		USCGS: 0 = 15:26:38	
		BCIS: 7 N 144 E,	
		0 = 15:26.6	
3	P	eP	15 56 32
		USCGS: 0 = 15:44:49	
		BCIS: 39 N 142 E,	
		0 = 15:44.7	
3	P	iPNEZ	22 27 19 c
		iNEZ	43
		i(PcP)	28 55
		i(PP)	29 08
	PX	i(ScP)	32 38
		iSNE	34 33
		eLN	40
		A	T
		PZ	1½ 2
		PH	2 3
		SH	3 6
		MH	40 20
	R	iPNEZ	22 27 13
		i	38
	H	iP	22
	T	iPNEZ	25 c
		i	31
		i	44
		iSN	34 50
		Magnitude about 6¾	
		h = 60 km.?	
		USCGS: 10 N 69½ W,	
		0 = 22:18:18	
		JSA: 10.0 N 70.0 W,	
		0 = 22:18:20	

Date	Sta.	Phase	h m s
		August	
5	P	ePP	09 35 42
		ePPP	38 21
	PX	iPSNE	45 09
		iNE	41
		iPPSNE	46 12
		eSSNE	50.8
		eGNE	10 01
		A	T
		PPZ	½ 2
		PPH	1 6
		PSH	2 7
		MH	30 20
	MW	ePP	09 35 42
		ePKKP	46 49
	Cr	ePP	35 48
		ePKKP	46 46
	R	ePP	35 48
	T	ePP	36 00
		Magnitude 6¾	
		USCGS and Wellington:	
		50 S 164 E,	
		0 = 09:16:48	
6	P	eP	12 56 37
	T	eP	47
		e	59
		Near Apia	
6	MW	iP	18 17 40
	T	iP	18 01
		South America	
6	P	eP	23 56 42
	T	iP	40
7	P	eP	02 59 08
		ePP	03 03 02
		iPPNEZ	16
	PX	eSKS	09 30
		iSKSNEZ	38
		iSNE	10 26
		iPSNEZ	12 44
		iPPSNE	13 36
	P	iPKKP	14 36
	PX	eSS	18.3
		eGNE	28.8
		A	T
		PZ	¼ 1½
		PPZ	½ 1½
		PPH	¼ 1½
		SKSH	8 8
		MH	10 20
	R	eP	02 59 12
		iPP	03 03 17
	T	eP	02 59 05
		e	03 02 44
		iPP	03 15
		eSKSNE	09 35
		Magnitude about 6¾	
		USCGS: 6 N 126 E,	
		0 = 02:44:44	
		BCIS: 7.5 N 124.3 E,	
		0 = 02:44:45, h = 100 km.	

Date	Sta.	Phase	h m s
		August	
7	R	eP	05 02 40
	Cr	eP	41
		e	50
	T	eP	26
		USCGS: 0 = 04:51:41	
		BCIS: 46 N 150.7 E	
7	P	iPP	16 06 00
		ePKKP	17 11
	PX	eLE	40.6
	MW	iP	01 59
	Cr	eP	57
		e	02 07
		iPP	06 01
		i	35
		iPKKP	17 09
	T	iP	01 55
		i	02 08
		iPP	06 25
		iPKKP	17 17
		Readings given as PKKP may refer to an independent shock	
		USCGS: 1 N 126 E, 0 = 15:47:23	
8	P	iP	03 10 23 c
		e(pP)	12 14
	R	iP	10 25 c
		epP	12 15
	T	iP	10 30 c
		i	43
		USCGS: Fiji Islands region, 0 = 02:59:16, h = 600 km.	
8	P	iP	05 17 13
		i	25
	PX	eLE	28.1
	R	eP	17 15
	Cr	eP	15
	T	eP	16 47
		USCGS: 55 N 134½ W, 0 = 05:12:00	
9	MW	iP	18 57 21
	T	iP	25
		USCGS: Santa Cruz Islands 0 = 18:45:06	
10	MW	eP	18 08 03
	R	iP	05
	T	iP	03
		USCGS: 20 S 168 E, 0 = 17:55:08	
10	P	iP	19 32 35
		i(pP)	48
	PX	eLE	20 01.1
	R	iP	19 32 38
		i(pP)	52
	T	eP	32
		e(pP)	47
		h = 50 km.?	
		USCGS: Solomon Islands region, 0 = 19:19:30	

Date	Sta.	Phase	h m s
		August	
11	P	iP	03 11 40
	R	eP	44
	T	iP	28
		e(pP)	12 02
		i	16
		USCGS: Kurile Is. region 0 = 03:01:10, h = 100 km.	
11	MW	iP	10 35 52
	R	iP	55
	T	iP	57
		USCGS: 17 S 169 E, 0 = 10:23:11	
11	MW	e	20 33 00
	T	e	09
		USCGS: Tonga Islands, 0 = 20:20:52	
12	MW	iP	06 42 40
	R	iP	35
	T	eP	52
		South America	
12	P	iP	10 57 06
	R	iP	07
	H	iP	13
	T	eP	15
		USCGS: Kermadec Islands, 0 = 10:44:18	
12	T	eP	16 23 07
		USCGS: New Hebrides, 0 = 16:10:16	
12	MW	iP	19 12 47
	H	eP	51
	T	iP	53
13	P	iP	16 51 38
		Surface waves recorded	
	H	iP	16 51 42
	T	iP	42
		USCGS: 19½ N 70½ W, 0 = 16:43:20	
13	P	eP	18 47 31
		i	43
	H	iP	22
	T	iP	18
		iPcP	49 05
		USCGS: 51½ N 177 W, 0 = 18:39:16, h = 100 km.±	
		Felt at Adak	
14	P	iP	06 42 39
	R	eP	45
	T	eP	51
		USCGS: 0 = 06:31:35 Off coast of Southern Peru	
14	P	e?	13 45 09
		e	58
	MW	e	48
		e	58
	T	e	43

Date	Sta.	Phase	h m s
		August	
14	P	iPNEZ!	23 02 37 c
		i	04 16
		ipPNZ	46
		isP	05 54
		e	07 23
		i	40
	PX	iSNEZ	11 55
	P	ePKKP	21 00
		eP'P'	29 07
		i(pP'P')	31 34
			A T
		PZ	9 3
		PH	5 3
		SH	16 4
	Pe	iP!	23 02 33 c
	R	iPNE	33
		ipPNE	04 48
		iSNE	11 50
	H	iPNEZ!	02 43 c
		ipP	04 53
		isP	05 57
		iSNEZ	12 07
		iPKKP	21 09
		eP'P'	29 13
		i(pP'P')	31 03
	T	iPNEZ!	02 47 c
		ipP	04 58
		iSNEZ	12 10
		iPKKP	21 07
		iP'P'	29 08
		i(pP'P')	31 29
		Magnitude 7¼-7½	
		USCGS: 27 S 62½ W, 0 = 22:51:28, h = 600 km.	
15	P	eP	04 58 03
		e	27
	R	eP	07
	T	eP	57 52
		USCGS: Kurile Islands region, 0 = 04:47:35, h = 150 km.	
15	MW	eP	05 37 44
	R	eP	43
	T	eP	59
15	PX	iPNEZ	14 24 01 c
		eP"	27 43
		iPPNE	28 33
		ePPP	31.0
		eSKSNEZ	34.4
		iSKS	34 43
		ePSN	37.7
	P	ePKKP	39.3
		i	40 12
		i	33
	PX	eSSN	44.4
	P	iP'P'	47 58
	PX	eGe	55
		eG2E	16 12
		eG3E	17 40
		eR3NZ	18 00
		(continued)	

Date	Sta.	Phase	h m s
		August	
15	PX	eG4N	18 57
		eR4	19 25
		eR5	21 05
		eR7	24 20
			A T
		PZ	10 10
		PH	9 15
		PPZ	30 7
		PPH	20 5
		SKSH	100 40
		PSH	300 40
		MH	1000 20
	MW	eP	14 24 07
		iPKKP	39 27
		i	40 08
		eP'P'	47 50
	Cr	eP	24 01
	T	e	27 56
		i	28 23
		i	40 10
		Tibet. Destructive in Assam. Using all available data, magnitude 8.6. (The only other shock thus far assigned a magnitude over 8.5 is that of January 31, 1906, in Colombia and Ecuador)	
		USCGS: 28½ N 97 E, 0 = 14:09:30	
		BCIS: 28.6 N 96.5 E, 0 = 14:09:30	
		Poona: 29.0 N 97.0 E, 0 = 14:09:23	
		Aftershocks numerous, because of unfavorable distance poorly recorded at these stations. Only a few readings are given for each. Further entries for August 15 and 16 refer to aftershocks when not otherwise noted.	
15	T	e(PP)	16 47 49
15	MW	e	17 35 29
		e	36 03
	T	e(PP)	35 43
15	T	e(PP)	18 57 25
15	P	e	22 00 54
16	P	e	05 52 01
	PX	eLE	06 31 5
	T	e(PP)	05 51 50
16	P	e	07 00 33
		e	01 02
		iPKKP	11 38
	PX	eLE	41 9
	T	e	00 30
		e	46
		ePKKP	11 45

Date	Sta.	Phase	h m s
	August		
16	MW	eP	09 26 36
	R	eP	38
	T	iP	32
	USCGS: 14 N 146 E		
	O = 09:13:50		
16	P	e	15 48 29
	T	e	11
16	T	eP	16 49 41
		i	47
	Not an aftershock?		
16	T	e	19 44 40
16	T	iP	20 35 45
		e	37 54
	Aftershock?		
17	MW	e	02 13 20
	T	e	05
	Tibet, aftershock		
17	T	e	09 14 26
17	P	iP	14 34 15
		e	43
		i(pP)	49
	R	eP	16
		e(pP)	51
	H	eP	22
		e(pP)	56
	T	eP	24
		e(pP)	59
	USCGS: 12½ S 172 W,		
	O = 14:23:16, h = 150 km.		
17	T	iP	15 04 05
		e	52
17	P	iPNEZ!	16 26 39 d
		ipPNEZ	28 46
		iNZ	54
	PX	isPNE	29 50
		iNEZ	35 12
		eS	49
		iSE	59
		eSP	36 40
	P	eP'P'	53 07
		e(SKPP')	55.7
		A	T
		PZ	¾ 1
		PH	0.3 ¾
		SH	7 4
		P'P'	0.1 1
	Reading at 16:35:12 may be P of another shock		
	R	iPNE	16 26 41
		iSNE	36 05
	H	iPNEZ	26 45 d
		ipP	28 54
		eSNEZ	36 12
		iP'P'	53 19
	T	iPNEZ	26 46
		ipP	28 56
		iSNEZ	36 11
		iP'P'	53 16
	Magnitude 6¾-7		
	USCGS: 21 S 180,		
	O = 16:15:22, h = 600 km.		

Date	Sta.	Phase	h m s
	August		
18	P	ePP	01 26 50
	PX	eSKSNE	32 58
		eLE	02 00.1
			A T
		PPZ	1½ 2
		PPH	¾ 3
		MH	15 20
	T	e	01 26 22
		e	35
		ePKKP	37 37
	Tibet aftershock of August 15, 14h.		
	Magnitude 7±		
	USCGS: O = 01:07:49		
18	P	e	17 17 43
	PX	eLNE	42.8
	T	e	17 09
		e	25
		ePKKP	28 41
	Tibet, aftershock		
18	P	eP	17 23 50
	T	eP	27
19	P	iP	22 02 45
	R	iP	42
	South America		
20	P	iP	00 53 01
		i	10
	PX	eLNZ	57.8
	R	e	52 48
20	P	eP	01 48 12
		i	19
		i	52 20
		e	33
	PX	eLNZ	53.1
	R	iP	48 20
		e	52 12
		i	25
	H	e	51 14
	T	eP	47 33
		i	51
		i	50 41
	USCGS: 47¼ N 113½ W,		
	O = 01:44:55		
20	T	iP	09 51 13
20	P	eP	15 07 28
	R	eP	27
	T	eP	38
20	P	iP	23 47 02
		ipP	11
	PX	eLN	24 16
	R	iP	23 47 05
		ipP	15
	Pr	ePNE	07
	T	eP	08
		epP	18
	USCGS: 15 S 167 E,		
	O = 23:34:19		

Date	Sta.	Phase	h m s
	August		
21	MW	iP	15 49 17
	R	iP	12
	T	iP	21
	USCGS: 20 N 70 W,		
	O = 15:40:59		
21	P	e	23 14 46
	R	e	50
	T	e	42
	Tibet, aftershock of August 14		
22	P	e	02 30 20
	R	e	20
22	MW	eP"	07 01 41
	T	eP"	34
	USCGS: 31 N 94 E,		
	O = 06:43:18		
22	P	iP	07 50 11
		ipP	30
	PX	iSE	58 18
		eLE	08 06.2
	R	eP	07 50 15
		epP	33
	Pr	ePNE	20
		ipP	40
		iSNE	58 37
	H	iP	50 03
	T	iP	49 58
		ipP	50 16
	USCGS: 53 N 160 E,		
	O = 07:40:09		
	JSA: 52.8 N 159.1 E,		
	O = 07:40:21, h = 75 km.		
22	MW	e	10 32 19
	T	e	09
23	P	e	03 27 57
		i	28 20
		iPKKP	38 58
	PX	eLE	04 07
	R	e	03 28 25
	H	e	15
	T	e	27 51
		i	28 06
		iPKKP	39 06
	USCGS: 29½ N 95 E,		
	O = 03:09:19		
23	P	e	19 06 01
		ePKKP	16 39
	PX	eLE	50
	T	e	05 27
		e	46
		ePKKP	16 50
	Aftershock of August 15, 14h.		
	USCGS: O = 18:46:57		
24	P	iP	06 17 04
	R	iP	09
	H	iP	01
	T	iP	16 58
	CMO: 31 N 138½ E,		
	H = 150 km.		

Date	Sta.	Phase	h m s
	August		
25	T	e(P)	09 26 08
24	T	eP	11 02 34
24	P	eP	17 48 05
		i	09
	PX	iLNE	50.1
	R	iP	48 12
	H	eP	47 56
	T	iP	39
		i	49 23
	USCGS: 42½ N 126 W,		
	O = 17:45:34		
25	P	iP	02 19 15
	R	iP	18
	Pr	ePNE	31
	T	iP	18 59
	USCGS: 49½ N 129 W,		
	O = 02:15:10		
26	P	iPNEZ	04 47 08 d
	PX	ePPNEZ	48 48
		iSE	53 22
		eLNE	56.5
		A	T
		PZ	1¼ 3
		PH	1 3
		PPZ	¼ 1
		PPH	½ 3
		SH	3 8
		MH	25 17
	R	iP	04 47 14
		i	19
		ePP	48 55
	Pr	iPNE	47 20
	H	iPNEZ	46 57
	T	iPNEZ	47 d
		i	47 54
		eSN	52.8
	Magnitude 6½±		
	USCGS: 65 N 162 W,		
	O = 04:39:27		
	Felt at Nome, Alaska		
26	P	iP	07 25 08
		e	46
	PX	eLE	28.8
	R	iP	25 11
	Pr	iPNE	12
	H	iP	13
	T	iP	15
		e	58
	USCGS: 19 S 170 E,		
	O = 07:12:29, h = 100 km.±		
26	P	iP	10 53 19
	R	eP	22
	Pr	iPNE	23
	H	iP	26
	T	iP	27
	USCGS: South of Fiji Islands, O = 10:41:33, h = 300 km.		

Date	Sta.	Phase	h m s
	August		
27	P	iP	00 45 11
	PX	eLE	59
	R	iP	45 17
	Pr	ePNE	23
	H	eP	01
	T	iP	44 53
27	MW	e(P)	10 46 21
	R	e	45
	T	e(P)	45 59
		e	46 27
27	R	e(P")	11 18 34
	Tibet; aftershock of August 15		
27	MW	eP	14 36 02
	R	iP	35 58
	T	iP	36 15
	USCGS: 0 = 14:25:55		
	BCIS: 7.5 S 73.3 W		
27	P	iP	15 40 44
		e	41 11
	R	eP	40 49
	T	eP	24
	USCGS: 0 = 15:33:32		
	Southwestern Alaska		
27	P	iP	19 26 05
	R	iP	25 54
	T	iP	26 10
28	P	eP	08 07 55
	R	eP	59
	T	eP	08 03
28	P	eP	08 27 17
	R	eP	18
	T	eP	19
28	P	iPNZ	13 05 55
	R	iP	59
		e	06 10
	Pr	ePNE	01
	H	iP	05 54
	T	iP	52 c
	USCGS: 0 = 12:52:48		
	Marianas region		
29	P	iP	15 13 58
		e	14 07
	R	iP	13 58
		e	14 08
	H	iP	13 58
	T	eP	56
29	P	e	18 01 13
		i	03 33
		e	04 37
	T	e	01 11
		e	03 30
29	R	iP	20 36 42
	USCGS: 0 = 20:23:34		
	Marianas Islands		
29	P	i(P")	22 46 17
		i	39
	MW	e	17
		e	48 37

(continued)

Date	Sta.	Phase	h m s
	August		
29	R	e	22 46 42
		e	48 41
	T	e	47 54
		i	49 06
	BCIS: Off Sumatra, 0 = 22:26.8		
30	P	eP	04 55 09
		e	23
	R	eP	15
		e	29
30	MW	eP	05 33 22
		i	48
	R	eP	21
	Pacific		
30	P	eP	06 56 42
		e	52
	R	eP	47
		e	56
	T	eP	26
		e	36
	USCGS: 0 = 06:49:10		
	Alaska Peninsula		
30	P	e?	07 05 43
		e(P")	09 37
		ePP	57
	PX	iEZ	10 11
		e(PS)E	19.5
		eREZ	43.2
			A T
		PPZ	0.1 1
		PPH	½ 4
		MH	10 20
	MW	eP	07 05 47
	R	eP	47
		e	09 39
		e	10 18
	T	eP	05 51
	Magnitude 6½±		
	USCGS: 3½ S 130 E, 0 = 06:51:03		
30	P	iP	09 26 39
	R	iP	42
	T	iP	45
	USCGS: 19 S 168 E, 0 = 09:13:49		
30	R	eP	09 37 23
		e	52
	T	eP	33
		e	56
	USCGS: 0 = 09:24:35		
	New Hebrides		
30	T	e	16 34 43
30	MW	e	23 26 41
	R	i	41
	T	i	49
	USCGS: 0 = 23:13:53		
	New Hebrides		

Date	Sta.	Phase	h m s
	August		
31	P	iP	07 20 00 d
		iP"	24 04
		iPP	20
	PX	iSKSNE	30 33
		ePS	33 33
	P	ePKKP	35 24
	PX	eSSE	39.5
		eSSSEZ	43.5
		eGE	49.5
			A T
		PZ	0.3 2
		P"Z	¼ 1
		PPZ	1½ 6
		PPH	1 5
		SKSH	2 6
		MH	12 20
	R	eP	07 20 02
		iP"	24 06
		ePKKP	35 22
	Pr	ePNE	20 05
	H	iP	00
	T	eP"	24 04
	Magnitude 7±		
	USCGS: 6 N 126 E, 0 = 07:05:35		
31	P	iP	14 09 23
	T	iP	19
		e	32
31	P	iP	18 50 09
	R	iP	16
	T	eP	49 45
	USCGS: 42 N 125 W, 0 = 18:47:43		
31	MW	iP	22 36 52
	R	eP	49
		e	37 16
	T	iP	04
		e	31
	September		
1	P	iP'	03 06 34
	PX	eLE	04 02.0
	R	eP'	03 06 27
	T	eP'	25
	USCGS: 0 = 02:46:55		
	Poona 4.0 S 89.5 E, 0 = 02:46:52		
	BCIS: 3.3 S 89 E, 0 = 02:46:58		
1	P	iP	07 11 25
		i	40
		i	56
	R	iP	28
		e	43
	T	iP	14
	USCGS: 0 = 07:00:50		
	Kurile Islands		

Date	Sta.	Phase	h m s
	September		
1	R	eP	08 45 53
	T	iP	46 08
1	T	iP	09 17 22
1	MW	eP	13 37 26
	R	iP	21
	T	iP	32
	Near Suva		
2	P	eP	02 55 02
		i	10
	PX	ePPNE	56.8
		iSNEZ	03 01 06
		iGNEZ	04.1
			A T
		PZ	1½ 5
		PH	0.2 1
		SH	3 8
		MH	15 16
	R	eP	02 55 02
		i	14
		i	19
		e(ScP)	03 01 17
	Pr	ePE	02 55 11
		iNE	17
		iNE	23
		i	59
		iSNE	03 01 28
	H	eP	02 54 55
		i	55 02
		i	06
	T	eP	54 43
		i	55 00
		iScP	03 01 06
	Magnitude 6¼ - 6½		
	USCGS: 52½ N 169 W 0 = 02:47:23, h = 100 ± km.		
2	T	iP	12 34 04
2	PX	eLNE	14 05.0
			A T
		MH	3½ 20
	Southwest of New Zealand		
2	P	ePP	16 33 33
	R	ePP	37
	T	ePP	14
	Long period phase		
	Poona: 30.0 N 97.0 E, 0 = 16:14:33		
3	P	iP	00 45 08
	R	iP	11
	T	iP	16
	Near Apia		
	USCGS: 0 = 00:33:20		
3	P	iP	04 18 04 c
		i(pP)	19
	PX	eLE	45.6
	R	iP	18 07 c
		i(pP)	22
	Pr	iPNE	09

(continued)

Date	Sta.	Phase	h m s	
		September (continued)		
3	H	eP	04 18 08	
		e	21	
	T	iP	09	
	USCGS: 11 S 162½ E,			
	0 = 04:05:15			
3	PX	eLE	19 38.2	
	R	e	25 50	
	T	e	56	
	Tacubaya: 14°43'N,			
	93°20'W, 0 = 19:20:17			
4	R	e(PP)	06 38 07	
4	P	iP	07 46 48	
		i(pP)	47 04	
	R	eP	46 48	
	T	iP	48	
4	T	eP	12 30 51	
	BCIS: 41.1 N 34.2 E,			
	0 = 12:17:09			
5	P	iPNEZ!	19 20 20	c
		iSNE	36	
	R	iPNEZ!	09	c
		iSNE	17	
	Pr	iPNZ	04	d
	LJ	iPNEZ!	13	d
		iSNE	25	
	VI near the epicenter			
	Felt over most of south-			
	eastern California			
	Magnitude 4.8			
	33°39' N 116°45' W,			
	0 = 19:19:56			
6	P	iP	19 20 32	
	R	iP	34	
	T	iP	39	
7	P	iP	00 32 57	
		e	33 16	
	R	eP	32 59	
		e	33 18	
	T	e	25	
7	MW	iP	02 07 19	
	T	iP	27	
	Near Apia			
7	P	e	15 08 49	
	MW	iP	13	
		e	51	
	T	iP	21	
		e	09 01	
	USCGS: 0 = 14:59:02,			
	h = 100 km.±			
	Wellington: 33 S 178 W,			
	0 = 14:59.0, mag. 6¼			
7	P	iP	15 11 37	
		i	40	
	Pr	iPNE	39	
	H	eP	43	
		e(pP)	12 05	
	T	ePNZ	11 46	
		i	50	
		e(pP)	12 08	
	USCGS: Kermadec Islands,			
	0 = 14:59:02, h = 100 km.			

Date	Sta.	Phase	h m s	
		September		
8	P	iP	07 09 41	
		epP	11 27	
	R	iP	09 43	
	Pr	iP	45	
	H	iP	49	
	T	iP	51	
	USCGS: Fiji Islands,			
	0 = 06:58:30, h = 600 km.			
8	P	eP	07 20 35	
		e	46	
	R	iP	40	
	Pr	iPNE	34	
	H	eP	57	
	T	iP	57	
	USCGS: 0 = 07:14:55			
	Tacubaya: 15°53' N,			
	96°37' W, 0 = 07:15:11			
9	P	iP	05 49 29	c
	R	iP	26	c
		e	37	
	Pr	iPN	23	
		eE	39	
	H	iP	36	
	T	iP	42	c
	USCGS: 0 = 05:37:43			
	BCIS: 27.4 S 71 W,			
	0 = 05:37:39			
9	P	eP	10 34 48	
		i	35 10	
		e	36 15	
		iPP	38 28	
		i	45	
		eSE	46 20	
		eGN	59.2	
			A T	
		PZ	0.2 1	
		PPZ	0.2 2	
		MH	10 20	
	R	eP	10 34 51	
		i	35 01	
		e	14	
	Pr	ePN	35 02	
	T	eP	34 50	
	Magnitude 6¼			
	USCGS: 4 S 153 E,			
	0 = 10:21:40			
9	P	eP	12 53 52	
		i	54 01	
	Pr	iPE	53 58	
		eNE	54 05	
	T	eP	03	
		e	29	
	USCGS: 15 S 171 W,			
	0 = 12:42:34			
9	P	eP	14 40 35	
	R	eP	36	
	Pr	ePNE	39	
	H	eP	41	
	T	eP	41	
	USCGS: 19 S 169½ E,			
	0 = 14:27:47			

Date	Sta.	Phase	h m s	
		September		
10	P	iP	03 33 28	
		ipP	41	
		eLN	53.8	
			A T	
		PZ	½ 1½	
		MH	4 20	
	R	ePNE	03 33 32	
	Pr	iPNE	37	
		iNE	56	
	H	iPNZ	24	
	T	iPNEZ	20	
	Magnitude 6¾			
	USCGS: 35 N 140 E,			
	0 = 03:21:20			
	CMO: 35.3 N 140.5 E,			
	h = 30 - 40 km.			
	Felt at Tokyo			
10	T	e	06 37 20	
10	MW	e	14 44 52	
		e	45 06	
	T	e	44 57	
		e	45 12	
10	P	eP	15 28 38	
		i	42	
		ipP	29 00	
		i(sP)	22	
	PX	iPP	32 02	
		i(sPP)	52	
		i(PPP)	34 03	
		iSNE	38 52	
		iN	39 04	
		e(SP)	40 02	
		e SSSN	44 46	
		eGNE	50.9	
	P	iP'P'	54 53	
			A T	
		PZ	6 4	
		PH	0.3 1	
		PPZ	1 1	
		MH	25 20	
	R	ePNE	15 28 44	
		e	29 34	
		eSNE	39.0	
	Pr	iPNE	28 43	
		ipPE	29 04	
		iN	22	
		iPPN	32 11	
		iE	33 06	
		iSE	39 01	
	H	eP	28 43	
		iNEZ	47	
	T	eP	28 41	
		iNEZ	48	
		ipP	29 15	
		iPP	32 13	
		iSNE	38 14	
		eP'P'	54 42	
	Magnitude 7			
	USCGS: 14 S 167 E,			
	0 = 15:15:57			
	JSA: 14.3 S 166.8 E,			
	0 = 15:16:10, h = 100 km.			

Date	Sta.	Phase	h m s	
		September		
11	P	e(P)	00 56 25	
		e	57 13	
	Pr	e(P)	56 16	
11	P	iP	00 57 30	
		i	40	
	R	iP	25	
	H	iP	47	
	T	iP	56	
	Tacubaya: 18°29' N,			
	103°52' W, 0 = 00:53:19			
11	MW	e	09 58 52	
	T	e	38	
	Tibet			
12	MW	eP	01 19 36	
		e	44	
	T	i	51	
12	P	eP	11 19 14	
	R	eP	17	
	T	eP	21	
13	MW	eP	06 17 36	
		epP	49	
	R	eP	37	
		epP	51	
	T	eP	26	
		ipP	39	
13	PX	eLE	12 06	
			A T	
		MH	2 20	
	Magnitude 6			
13	P	iP	12 10 15	
		i	22	
	R	eP	15	
	H	eP	03	
		i	09	
	T	i	03	
	USCGS: 76 N 3 E,			
	0 = 11:59:40			
	BCIS: 77.5 N 5 E			
	0 = 11:59:35			
13	P	iP	20 56 04	
		iPP	21 00 46	
	PX	eLNZ	25	
	R	eP	20 56 07	
	Pr	eP	12	
	T	eP	12	
	USCGS: 0 = 20:43:10			
	New Hebrides			
13	MW	eP	22 47 53	
	R	eP	48	
		e	48 12	
	Pr	eP	47 45	
	T	eP	48 04	
	South America			
14	P	eP	03 30 18	
	Pr	iP	20	
	T	eP	28	
14	P	eP	07 12 41	
	Pr	iP	45	
	T	iP	51	

Date	Sta.	Phase	h m s
		September	
14	P	iP	07 39 38
		i	43
		i	54
	R	eP	42
	Pr	iP	49 c
		i	40 08
	H	eP	39 29
	T	iP	24
		i	45
		iPcP	41 08
	USCGS: 0 = 07:31:20		
	Aleutian Islands		
14	P	iPNZ	08 03 09 d
		i	25
	PX	iSNE	11 56
			A T
		PZ	0.2 1
		SH	1½ 4
	R	iP	08 03 06 d
		e	22
		eSNE	11 51
	Pr	iP	03 01 d
	H	iP	14
		eSNE	12 09
	T	iP	03 19
		i	37
		eSNEZ	12 16
	USCGS: 20 S 63 W,		
	0 = 07:52:20, h = 600 km.		
14	P	iP"	09 24 10
		e	24
		ePP	25 14
		e(SKKP)	39 18
	PX	eLE	59.4
			A T
		MH	5 20
	R	eP"	09 24 27
		e	25 25
	Pr	iP"	24 29
	H	eP"	25
	T	eP"	36
		e	26 49
	BCIS: 0.5 N 127 E,		
	USCGS: 0 = 09:06:08,		
	h = 200 km.		
14	P	eP'	22 05 32
	R	eP'	08
		e	31
	T	eP'	04 46
		e	05 08
	South Africa.		
	Geophysical Research		
	Institute gives:		
	25.8 S 36.0 E, 0 = 21:44:59		
	BCIS: 26 S 35 E, 0 = 21:45:05		
15	P	iP	04 15 06
	R	iP	08
	Pr	iP	09
	T	eP	14

Date	Sta.	Phase	h m s
		September	
15	P	iPNEZ	14 26 34
	PX	eSNE	36 39
	R	iP	26 35
	Pr	iP	35
		iSNE	36 48
	H	iP	26 41
	T	eP	44
		eSN	37 02
	USCGS: 23 S 176 W,		
	0 = 14:14:30, h = 100 km.		
15	P	iP	19 16 18
		epP	17 17
	R	eP	16 21
		epP	17 20
	Pr	iP	16 22
		ipP	17 22
	H	iP	16 26
	T	iP	27
	USCGS: 16 S 175 W,		
	0 = 19:05:08, h = 250 km.		
16	P	iP	01 03 14 c
		iPcP	05 18
	PX	iSN(E)Z	09 30
		iL(N)E	12.5
		iLNZ	14.5
			A T
		PZ	¼ 1½
		PH	0.2 1½
		SH	1 5
		MH	15 15
	R	iP	01 03 10
		iPcP	05 21
	Pr	iP	03 04
		i	05 15
	H	eP	03 24
		ePcP	05 40
	T	eP	03 36
		ePcP	o5 43
	Magnitude 6½		
	USCGS: 4 S 104½ W,		
	0 = 00:55:36		
16	P	iP	12 41 16
		i	26
	R	iP	19
	Pr	iP	26
	H	iP	09
	T	iP	03
	USCGS: 0 = 12:30:50		
	Kurile Islands		
16	P	eP	12 49 44
		i	50 19
	R	eP	49 52
	Pr	eP	58
		e	50 13
	T	eP	49 32
		i	50 32
	USCGS: 48 N 156 E,		
	0 = 12:39:13		

Date	Sta.	Phase	h m s
		September	
16	P	eP	13 01 13
		ipP	45
	R	eP	16
	•	ipP	46
	Pr	ipP	51
	H	eP	10
		ipP	40
	T	iP	05
		ipP	36
	USCGS: 0 = 12:48:39,		
	h = 150 km.		
	CMO: 32.7 N 131.5 E,		
	h = 110 km.		
	BCIS: 31.6 N 130.3 E,		
	h = 150 km.		
16	MW	e	13 26 52
		e	27 00
	T	e	26 21
	Probably not P'P'		
16	P	iPNEZ	22 06 53 c
		ipP	07 16
		ePcP	08 13
		epPcP	40
		iPP	09 08
		iScP	12 01
	PX	eSNE	13 55
		iScSNE	16 33
		eSSNE	17 48
		eL	20
			A T
		PZ	1 2
		PH	¾ 2
		SH	1¼ 4
	R	iPNEZ	22 06 56
		ipP	07 21
		iPcP	08 19
		iScP	12 03
		eScSE	16 36
	Pr	iPNEZ!	07 03 c
		i	13
		ipPNEZ	26
		iScPNEZ	12 06
		iSNE	14 09
		iScSNEZ	16 45
	H	iPNEZ	06 43
		ipP	07 08
		iPcP	08 14
		i	36
		iScPEZ	11 57
		eScSNE	16 28
	T	iPNEZ	06 38 c
		i	45
		ipP	07 02
		i	24
		iPcP	08 09
		iScPNEZ	11 54
		iScSNE	16 22
	Magnitude 6½ - 6¾		
	USCGS: 52½ N 178 E,		
	0 = 21:58:15, h = about		
	100 km.		

Date	Sta.	Phase	h m s
		September	
17	P	eP	14 10 30
	Pr	iP	04
	T	iP	40
17	P	iPNEZ	19 44 06 d
		iSN	40
	R	iPNEZ	01 d
		iSNE	28
	Pe	iP!	43 57
	LJ	iPNZ!	45 d
		iSNE	55
	Magnitude 4.5		
	32°10' N 116° 25' W,		
	0 = 19:43:30		
	Felt, San Diego to Jacumba		
18	P	eS	06 50 13
	Pr	iP	48 13
		iS	49 27
18	P	iP	19 46 03 d
		e(PcP)	36
		ipP	48 07
		isP	49 12
		eSN	53 40
		eScSE	54 49
			A T
		PZ	¾ 1½
		PH	½ 2
		SH	0.1 1
	R	iPNEZ	19 45 59 d
		ipP	48 03
		e(SCS)NZ	54 34
	H	iP	46 09
	T	iPNEZ	15 d
		i	44
		epP	48 20
	Depth 650 km.		
	Magnitude about 6.		
	USCGS: 9 S 71½ W,		
	0 = 19:36:44		
	BCIS: 7.8 S 70.8 W,		
	0 = 19:36:44, h = 600 km.		
18	MW	e	21 11 14
	R	e	15
	USCGS: 0 = 21:03:34		
	Western Alaska		
19	P	iP	02 47 23
	R	iP	25
		e(pP)	49 27
	Pr	iP	47 25
	USCGS: 0 = 02:35:00		
	South of Fiji Islands		
19	MW	i(P)	13 33 36
	Pr	i(P)	36
	T	i?	31 33
		i(P)	33 43
19	P	eP	20 43 45
		i	54
	PX	ePPNEZ	48 13
		iSKSNE!	54 25
		ePS	56 43
		i	57 04
		eSSNE	21 02.5
		eGNE	11.2

(continued)

Date	Sta.	Phase	h m s
		September (continued)	
19			A T
		PZ	0.4 2
		PPZ	1 3
		PPH	1 4
		SKSH	1½ 4
		MH	28 20
	R	eP	20 43 47
		eSKSE	54 29
	Pr	iP	44 01
		i	28
		iPP	48 11
	H	eP	43 44
	T	eP	45
		Magnitude 6.9	
		USCGS: 2 S 138½ E,	
		0 = 20:29:48	
20	P	iP	00 47 00 d
		ipP	48 51
	R	iP	47 01
		ipP	48 53
	Pr	iP	47 05
		ipP	48 56
	T	iP	47 00
		ipP	48 54
			A T
		PZ	0.4 2
		Magnitude 6±	
		USCGS: (revised)	
		4 S 154 E,	
		0 = 00:34:46, h = 500 km.	
20	P	iP	03 10 04
		ipP	41
	R	iP	09 58 d
		ipP	10 35
	Pr	iP!	09 52 d
	H	eP	10 12
	T	iP	20 d
		e	53
		USCGS: 16 N 93 W,	
		0 = 03:04:07, h = 100 km.	
		BCIS: 17.5 N 93.3 W,	
		0 = 03:04:13	
20	P	e	12 41 47
	Pr	iP	44
		i	58
	H	eP	23
		e	38
	T	eP	16
		e	31
20	P	iP	14 09 03
	R	iP	02
	Pr	iP	01
	H	iP	08
	T	iP	09
21	P	iP'	23 10 55
			A T
		P'	¾ 4
	R	iP'	23 10 56
		ePP	14 53
			(continued)

Date	Sta.	Phase	h m s
		September (continued)	
21	Pr	iP'NEZ	23 10 58
		i	11 12
		i	22
		ePP	14 59
	H	iP'	11 01
	T	eP'	10 53
		i	59
		ePP	14 40
		Magnitude 5¾	
		USCGS: 9 S 67 E,	
		0 = 22:51:02	
		Poona: 8.0 S 65.0 E,	
		0 = 22:51.1	
		BCIS: 9.2 S 66 E,	
		0 = 22:51:02	
22	P	iP	01 47 06
		ipP	47
	R	iP	09
		IpP	46
	Pr	iP	14
		ipP	52
	H	iP	46 58
		USCGS: 47½ N 153 E,	
		0 = 01:36:36, h = 150 km.	
22	MW	e	03 52 27
	R	eP'	06
		e	14
	H	eP'	10
	T	iP'	07
		Indian Ocean	
22	P	iP	04 15 58
	R	iP	16 01
	Pr	iP	02
		e	51
		i	17 04
	H	iP	16 04
	T	iP	05
22	P	iPNEZ	08 02 11 d
		i	35
		i	48
		e	03 01
	PX	iPPNE	04 15
		iSNE	10 21
		iScSNE	12 06
		eLN	17.6
	P	eP'P'	31 45
			A T
		PZ	1½ 3
		PH	1 3
		PPZ	1 4
		PPH	1¾ 7
		SH	2½ 6
		MH	20 15
	R	eP	08 02 09
	Pr	iP	05 d
		i	27
		i	55
		iSNEZ	10 18
		eP'P'	31 39
			(continued)

Date	Sta.	Phase	h m s
		September (continued)	
22	H	eP	08 02 25
		eP'P'	31 44
	T	iPNEZ	02 31
		iP'P'	31 42
		Magnitude 6¾	
		USCGS: 25 S 114 W,	
		0 = 07:52:07	
22	R	iP	18 24 09
	T	iP	24
23	P	ePNEZ	00 04 37
		iNZ	40
		ipPNEZ	06 09
	PX	iPP	07 36
		iSNEZ	13 51
		iE	14 15
		iSPNE	42
		isSNEZ	16 22
		iSS	19 18
			A T
		PZ	2½ 2
		PH	1 2
		PPZ	0.6 2
		SH	20 10
	R	eP	00 04 39
		ipP	06 13
		iPP	07 43
		iSNEZ	13 58
		e	14 25
	Pr	iPEZ	04 39
		ipPNZ	06 10
		iSNZ	13 48
		iE	14 11
		eP'P'	31 58
		e	34 50
	H	iP	04 44
		ipP	06 18
		eSNZ	14 06
	T	iP	04 46
		ipP	06 26
		iSN	14 10
		Magnitude 7	
		USCGS: 18 S 177 W,	
		0 = 23:53:29, h = 450 km.	
		BCIS: 17.5 S 177.5 W,	
		0 = 23:53:30, h = 400 km.	
23	MW	ePP	06 41 59
		Off Crete	
23	MW	eP	09 52 34
		i	37
	R	eP	36
		e	40
	Pr	i	45
	T	eP	27
		i	31
23	MW	e	17 33 51
		e	58
	R	iP	51
	Pr	iP	58
			(continued)

Date	Sta.	Phase	h m s
		September (continued)	
23	T	eP	17 33 31
		i	34
		i	40
		USCGS: Aleutians,	
		0 = 17:26:15	
23	P	iP	20 33 56
	R	iP	34 00
	Pr	iP	33 59 c
		i	34 08
		i	13
	H	iP	03
	T	iP	06
		USCGS: Fiji Islands,	
		0 = 20:21:55	
24	P	iPNZ	07 29 14
	R	iP	21
		i	30
	Pr	e(P)	33
	H	iP	28 59
	T	eP	51
		e(S)	30 18
		USCGS: Off Cape Mendocino,	
		0 = 07:27:17	
24	P	eP	22 20 17
	R	iP	18
		i(PcP)	22 49
	Pr	iPNEZ	20 25
	H	eP	03
	T	iP	19 53
		USCGS: 64 N 156 W,	
		0 = 22:13:28	
25	P	iPEZ	18 21 36 c
	R	iP	34 c
	Pr	iP	31 c
		i	45
	H	iP	45
	T	iP	50
		USCGS: 0 = 18:09:20	
		BCIS: 33.7 S 71 W,	
		0 = 18:09:22	
26	MW	iP	00 46 22 c
	R	iP	25 c
26	MW	eP	06 56 38
	R	eP	33
	Pr	eP	29
		USCGS: Peru, 0 = 06:45:58	
27	MW	iP	00 48 08
	Pr	iP	47 50
27	P	ePNEZ	03 40 49
	PX	eGNE	43 56
			A T
		PZ	¼ 2
		MH	20 20
		MH	10 10
	R	eP	03 40 44
	Pr	eP	31
		e	35
			(continued)

Date	Sta.	Phase	h m s	
	September (continued)			
27	H	eP	03 41 08	
	T	ePNEZ	18	
	Magnitude $5\frac{1}{4}$-$5\frac{1}{2}$			
	USCGS: 20 N 109 W,			
	0 = 03:36:55			
27	P	iP	03 47 25	
	R	iP	20	
	Pr	iP	07	
	H	iP	46	
	T	iP	54	
27	MW	iP	06 24 51	
	R	eP	52	
	Pr	eP	54	
	T	eP	59	
		e	25 07	
27	MW	iP	08 09 19	
	R	iP	15	
	Pr	eP	10	
	T	iP	33	
	South America			
27	P	iPNEZ	08 36 22	d
	R	iP	25	d
	Pr	iP	26	d
	H	iPNEZ	29	d
	T	iPNEZ	30	d
			A	T
		PZ	$\frac{1}{2}$	1
	USCGS: $18\frac{1}{2}$ S 175 E,			
	0 = 08:23:58			
27	P	eP	16 48 02	
	R	eP	47 59	
	South America			
27	MW	iP	22 31 17	
	R	eP	09	
	Tacubaya: 15°40' N			
	97°27' W, 0 = 22:25:16			
28	P	eP	03 43 22	
		ePP	47 05	
	R	eP	43 23	
		ePP	47 27	
	Pr	ePPNE	35	
	H	eP	43 18	
	T	eP	14	
	USCGS: 23 N 121 E,			
	0 = 03:29:36			
28	MW	eP	05 52 22	
	R	eP	23	
	T	eP	29	
		e	48	
28	P	eP	11 04 14	
		i	21	
		iSN	05 05	
	H	iPNEZ	03 46	d
		iSN	04 04	
	T	iPNEZ!	03 29	d
		iSNE!	35	
	Felt in northern Owens			
	Valley. 37°29' N 118°35' W			
	0 = 11:03:22, magnitude 4.1			

Date	Sta.	Phase	h m s	
	September			
28	P	iP	13 38 28	
	R	iP	31	
	Pr	iPE	34	
	H	iP	30	
	T	iP	30	
	USCGS: 5 S 151 E,			
	0 = 13:25:11			
28	P	iP	21 52 11	
		i	17	
		i	25	
			A	T
		PZ	$\frac{1}{2}$	2
	R	iP	21 52 15	
	Pr	iPNEZ	23	
	H	iP	05	
	T	iP	51 45	
		i	50	
		i	52 00	
	USCGS: $54\frac{1}{2}$ N $134\frac{1}{2}$ W,			
	0 = 21:47:01			
29	P	eP	00 56 27	
		i	37	
	R	eP	24	
		e	39	
	T	e	18	
	USCGS: Marianas			
	0 = 00:43:15			
29	P	iPNEZ!	06 36 27	d
		iZ!	52	
	PX	eLNEZ	39.3	
			A	T
		PZ	20	3
		PH	20	3
		MH	500±	22
		MH	300	10
	R	iPNEZ!	06 36 21	d
	Pr	iPNEZ!	12	d
	H	iPNEZ	45	
	T	iPNEZ	54	d
	Magnitude 7±			
	USCGS: 19 N 107 W,			
	0 = 06:32:14			
29	P	iPNEZ	07 58 35	
	PX	eLN	08 02.4	
			A	T
		PZ	3	3
		PH	3	3
		MH	40	40
	R	iP	07 58 30	
	Pr	iPNEZ	20	
	H	eP	56	
	T	ePNEZ	59 04	
	Magnitude 6 - $6\frac{1}{4}$			
	USCGS: 19 N 107 W,			
	0 = 07:54:22			

C. F. Richter
Marion Reid
April 10, 1951

Date	Sta.	Phase	h	m	s
		September			
29	MW	iP	19	44	05
30	P	e	07	47	03
	PX	iPPEZ		48	00
	P	iPKKP		58	36
	PX	eLNE	08	30	
			A		T
		PPZ	½		1½
	R	e	07	47	27
		ePP		48	00
		iPKKP		58	34
	Pr	ePP		48	13
	T	i		47	48
		iPKKP		58	43
	USCGS: 28 N 94 E,				
	0 = 07:28:54				
		October			
1	MW	e	01	46	55
	R	i			57
	T	eP			57
		i		47	05
	Felt at Apia				
	USCGS: 0 = 01:35:30				
	BCIS: 13.4 S 173.5 W				
1	MW	eP	09	39	52
	T	iP		40	02
	Felt at Apia				
	USCGS: 0 = 09:28:10				
1	MW	iP	13	11	04
	T	iP		10	38
		e			46
	USCGS: Queen Charlotte				
	Is., 0 = 13:06:14				
2	P	eP	11	47	15
	PX	eLNZ		50.7	
	R	eP		47	15
	Pr	ePN			07
		eLE		50	28
	H	eP		47	38
	T	eP			38
	USCGS: 21 N 109 W,				
	0 = 11:43:30				
2	P	iP	23	23	56
	R	eP		24	00
	T	iP			05
	Region of Apia				
3	P	eP	09	11	42
	R	eP			47
	Pr	ePNE			50
	H	eP			35
	T	iP			22
	USCGS: Alaska,				
	0 = 09:04:03				
3	P	iP	12	07	52
		e(pP)		08	10
	R	iP		07	55
	H	eP		08	01
	T	iP			03
		e(pP)			21
		i			39
	Near Apia				
	USCGS: 0 = 11:56:10				

Date	Sta.	Phase	h	m	s
		October			
3	P	iP	12	46	36
	R	iP			39
	Pr	iPNE			45
	H	eP			20
	USCGS: 65½ N 128 W,				
	0 = 12:40:08				
4	PX	eL	06	21.3	
	MW	eP	06	17	27
4	P	e(pP)	17	24	05
	MW	eP		23	30
		e(pP)		24	05
	R	eP		23	31
		e(pP)		24	10
	T	eP		23	34
		e(pP)		24	11
	USCGS: New Hebrides,				
	0 = 17:11:17				
4	R	eP	18	14	24
	Foreshock of next				
4	P	eP	18	16	50
	R	eP			51
	Pr	ePNE			56
	H	eP			55
	T	eP			56
	USCGS: 19 S 169 E,				
	0 = 18:03:23				
	BCIS: 18 S 168 E,				
	0 = 18:04:04				
5	P	eP	00	53	52
		i		54	17
	PX	eSE	01	04.5	
		eLNEZ		20.4	
			A		T
		MH	10		20
	R	iP	00	53	55
		i		54	13
		i			19
	Pr	iPEZ		53	58
	H	eP		54	02
	T	eP		53	59
		i		54	22
	Magnitude 6¼±				
	USCGS: 18½ S 170 E,				
	0 = 00:41:07				
5	P	iPNEZ!	16	16	52 c
	PX	iPPEZ!		18	13
	P	iPcPZ		19	08
	PX	iSE		22	34
	P	iScP		23	00
		i			10
	PX	iGN		25	49
			A		T
		PZ	25		4
		PH	25		4
		PPZ	45		12
		PPH	120		20
		SH	250		25
		MH	1000		20

(continued)

Date	Sta.	Phase	h m s	
		October (continued)		
5	MW	iPNEZ	16 16 52	c
		iPcP	19 01	
		iScP	23 00	
		i	16	
		eScSN	27 07	
	R	iPNEZ	16 46	c
		i	18 38	
		iPcP	19 00	
		eSNE	22 21	
		iScP	22 57	
		i	23 08	
		eScSN	27 22	
	Pr	iPNEZ!	16 41	c
		i	18 24	
		iPcP	58	
		eScP	22 55	
		iScSN	27 06	
	LJ	iPNEZ	16 41	c
	SB	iPEZ	17 01	
		iPcP	19 14	
		eScP	23 01	
		iScSNE	27 14	
	H	ePNEZ	16 59	c
		iPcP	19 15	
		iScP	23 02	
	T	iPNZ	17 04	c
		iPcP	19 18	
		iScP	23 04	
	Magnitude 7.7, normal depth			
	USCGS: 10½ N 85 W			
	0 = 16:09:34, h = 100 km.			
	JSA: 10.4 N 84.9 W,			
	0 = 16:09:34, h = 50 km.			
5	P	iP	16 55 46	
	R	iP	42	
		iPcP	57 57	
	Pr	iPNEZ	55 36	
	T	iP	56 00	
		iPcP	58 02	
	Aftershock			
5	MW	eP	18 49 53	
	R	eP	41	
		e	50	
	Pr	iPNEZ	35	
		iEZ	44	
	Tacubaya: 16°28' N, 98°27' W, 0 = 18:44:30			
5	P	iPNEZ	20 16 37	c
		i	44	
		iPcP	18 51	
		i	58	
		A	T	
	PZ	½	1½	
	R	iP	20 16 32	c
		i	39	
		iPcP	18 50	
	Pr	iPNEZ	16 27	
		iNEZ	37	

Date	Sta.	Phase	h m s	
		October (continued)		
5	H	iP	20 16 45	c
	T	iPNEZ	50	c
		i	58	
		i	17 03	
		iPcP	18 58	
		i	19 04	
	USCGS: 10½ N 85 W,			
	0 = 20:09:22			
5	R	eP	20 59 52	
	Aftershock			
5	MW	eP	22 26 32	
	R	eP	26	
5	P	eP	23 16 57	
		e	17 07	
	R	eP	16 51	
		e	17 02	
	Pr	iNE	16 56	
	T	iP	17 11	
		i	21	
	USCGS: 3½ S 80½ W,			
	0 = 23:07:49			
6	R	e	01 23 39	
	T	e	41	
		e	25 50	
6	R	iP	08 24 41	
		e	25 22	
	T	eP	24 50	
		e	25 20	
	USCGS: 20 N 66 W,			
	0 = 08:16:02			
6	PX	eLEZ	11 52.8	
	MW	eP	28 45	
	R	eP	40	
	T	iP	51	d
	USCGS: 17 N 68 W,			
	0 = 11:20:05			
6	T	eP	12 51 58	
	Aftershock			
6	P	eP	14 34 07	
		iSNEZ	36 52	
	R	eP	34 02	
		e	36 24	
	Pr	iP	33 50	
		iSNE	35 59	
	H	iP	34 30	
	USCGS: 0 = 14:31:47,			
	Lower California			
6	MW	iP	19 53 32	
	R	eP	33	
	Near Apia			
7	MW	iP	09 44 46	
	T	iP	52	
7	P	iP	14 01 27	
	R	iP	23	
	Pr	iPNE	18	
	T	iP	41	
		i	59	

Date	Sta.	Phase	h m s	
		October		
7	P	iP	20 02 26	
	R	iP	32	
	Pr	iPNE	41	
	H	iP	09	
	T	iP	01 59	
		i	02 05	
	USCGS: 50 N 129½ W,			
	0 = 19:58:10			
8	PX	eP	03 37 50	
		i	39 43	
		i	41 05	
		iP"	44	
		iPPNEZ	42 27	
		iPPP	44 37	
		iSKSE	48 35	
		iSN	50 12	
		iPSNEZ	52 04	
		iPPSN	53 09	
		iSSNE	57 23	
		iGN	04 08.4	
		eG2N	05 06	
		A	T	
	PZ	2	8	
	P"Z	½	2	
	PPZ	2½	2	
	PPH	2	2	
	SH	5	10	
	GH	100	60	
	MH	80	20	
	R	eP	03 37 51	
		ePPNEZ	42 32	
	H	eP	37 51	
	T	eP	49	
		e	40 48	
		e	41 40	
		ePP	42 07	
	Magnitude 7.6			
	USCGS: 4 S 128 E,			
	0 = 03:23:09			
8	P	e	05 09 24	
	R	e	27	
	H	e	09	
	T	e	03	
	BCIS: 29 N 95 E,			
	0 = 04:50:11			
8	MW	eP	07 34 33	
	H	eP	28	
	T	eP	27	
	Atlantic			
8	P	eP	07 40 12	
	R	eP	09	
	H	eP	09	
	T	eP	07	
8	P	iP	09 14 02	
	R	iP	07	
	H	iP	06	
	T	iP	05	
	New Hebrides			
	USCGS: 0 = 09:01:29			

Date	Sta.	Phase	h m s	
		October		
8	P	eP	11 20 10	
	PX	eLEZ	41	
	R	eP	20 12	
	H	eP	04	
	Atlantic			
8	MW	eP	11 41 25	
	T	eP	20	
8	P	iP	11 47 30	
	R	iP	33	
	Pr	iP	35	
	H	iP	38	
	T	iP	39	
	Fiji region			
	USCGS: 0 = 11:35:06			
8	P	iPNEZ	12 26 17	
		i	20	
		iSNEZ	27 48	
	R	eP	26 24	
	H	iPNEZ	02	
	T	iP	54	
		iS	27 18	
	USCGS: 40½ N 125 W,			
	0 = 12:24:17			
8	P	iP	14 07 42	
	R	iP	37	
	Pr	iPNE	21	
	H	e	57	
8	P	eP	15 02 48	
		e	03 14	
	PX	eLEZ	31.7	
		A	T	
		PZ	0.2	1
		MH	8	20
	R	eP	02 54	
	Pr	ePE	53	
	H	eP	51	
	T	iP	49	
		e	03 08	
	BCIS: 4.5 S 153 E,			
	0 = 14:49:35			
8	P	eP	16 47 54	
	H	eP	51	
	T	eP	50	
	Atlantic			
8	P	iP	16 51 09	
	PX	eLEZ	17 12.4	
	Pr	ePNE	16 51 04	
	H	eP	08	
	T	iP	05	
	Atlantic			
	USCGS: 32 N 41 W,			
	0 = 16:40:36			
8	MW	e	16 59 41	
	H	eP	35	
	T	eP	36	
	Atlantic			

Date	Sta.	Phase	h m s
	October		
9	P	iP	17 44 28
	R	iP	31
	H	iP	27
	T	iP	59
	BCIS: 19 N 147.5 E		
	USCGS: 0 = 17:31:55		
10	MW	iP	03 43 29
	R	iP	30
	T	iP	29
10	MW	eP	04 14 33
	R	eP	36
	H	eP	26
	T	eP	23
10	P	iP	16 27 36
	R	iP	31
	Pr	iPNE	26
	H	iP	45
	T	iP	50 d
		ePcP	29 54
	Aftershock of Oct. 5, 16h		
	USCGS: 0 = 16:20:20		
10	MW	iP	23 26 19
		epP	28 18
	R	iP	26 21
		ipP	28 17
	Pr	iPNE	26 22
	H	iP	25
		epP	28 24
	T	iP	26 27
		epP	28 45
	USCGS: 17 S 179 W,		
	0 = 23:15:21,		
	h = 600± km.		
11	P	eP	03 02 26
		e	03 02
	R	iP	02 21
	Pr	iPNE	14
	H	eP	33
	T	iP	40
	USCGS: 6 N 83 W		
	0 = 02:54:23		
11	P	iP	04 08 35
	R	iP	28
	Pr	iPNE	24
	H	iP	42
	T	iP	48
		ePcP	10 54
	USCGS: 9 N 85 W,		
	0 = 04:01:00		
11	P	iP	08 16 07
	R	iP	10
		ipP	24
		e'	31
	Pr	iPNE	18
	H	iP	15 54
		ipP	16 09
	T	iP	15 46
		ipP	16 00
	h = 60 km.±		
	USCGS: 63 N 160 W,		
	0 = 08:09:25		

Date	Sta.	Phase	h m s
	October		
11	P	iP	08 42 02
		epP	22
		e	50
	R	iP	03
		epP	21
	Pr	iPNE	13
		iNE	34
	H	iP	41 48
		e	42 04
	T	iP	41 40
	h = 70 km.±		
	USCGS: 63 N 160 W,		
	0 = 08:35:19		
11	MW	eP	14 06 58
		e	07 10
	R	eP	07 05
12	MW	eP	07 21 17
	R	eP	16
12	P	e	21 01 28
	R	eP	23
	H	eP	52
	T	eP	02 01
13	MW	eP	14 45 25
	R	eP	26
	H	eP	27
	T	eP	27
13	MW	e	21 36 39
14	P	iP	05 12 45
	R	iP	48
	H	iP	49
	T	iP	45
		e	13 31
	USCGS: 5 S 150½ E,		
	0 = 04:59:26		
14	P	iP	13 34 34
		i	41
	R	iP	28
	Pr	iPNE	22
	H	iP	41
	Aftershock of Oct. 5, 16h		
14	P	iP	17 48 51
	R	iP	45
	Pr	iPE	42
	H	iP	58
	T	iP	49 04
14	MW	e	18 37 18
		e	34
	R	e	42
	T	e	00
15	MW	e	14 11 38
		e	12 15
15	MW	eP	14 28 09
		e	30 51
	R	eP	28 13
	T	eP	10

Date	Sta.	Phase	h m s
	October		
15	P	iPNEZ	16 12 50 c
		i	59
		i	13 20
		i	31
		ePP	16 24
	PX	iSNE	23 33
		eREZ	40.2
			A T
		PZ	¾ 2
		SH	1 5
		MH	10 20
	R	iP	16 12 53 c
		i	13 02
		i	25
	Pr	iPNEZ	12 55
		iSE	23 46
	H	eP	12 53
		e	13 26
	T	iP	12 53 c
		i	13 02
		i	34
	Magnitude 6½±		
	USCGS: 10 S 160 E,		
	0 = 15:59:53		
15	MW	e	18 22 25
	R	e	21 54
		e	22 00
		e	28
	T	eP	21 57
		i	22 33
15	MW	iP	23 54 37
	T	iP	47
	Near Apia		
16	P	iP	05 34 34
		ipP	50
	R	iP	29
		ipP	45
	Pr	iPE	25
	H	eP	42
		epP	58
	T	iP	48
		ipP	35 04
	h = 60 km.		
	USCGS: 5 S 80 W,		
	0 = 05:25:24		
16	MW	eP	08 08 01
	T	eP	07 54
	USCGS: 0 = 07:57:10		
	BCIS: 39 N 34 W		
16	P	i	21 49 52
	R	e	35
	Pr	iE	25
	T	e	50 06
		e	18
17	T	iP	02 01 23
17	P	eP	03 55 52
		eSN	57 03
	H	eP	55 20
	T	eP	00
		iSE	34
	Magnitude 4.3		
	USCGS: 39½ N 117 W,		
	0 = 03:54:33		

Date	Sta.	Phase	h m s
	October		
17	MW	eP	05 35 46
	R	eP	41
	T	eP	52
17	MW	eP	10 39 13
17	P	iP	15 03 37
	R	iP	31
	Rr	iPE	29
	T	iP	51
	Aftershock of Oct. 5, 16h		
17	P	iP	15 13 40
		i	14 17
		iPcP	16 19
	PX	eLNE	23.4
	R	iP	13 35
		iPcP	16 16
	Pr	iPE	13 30
	H	iP	52
	T	iP	55
		i	14 14
		iPcP	16 21
		iScP	20 05
	USCGS: 11 N 88 W,		
	0 = 15:06:46, h = 150 km.±		
17	P	iP	16 48 02
		i	15
	R	iP	05
		i	14
	USCGS: 13 S 165 E,		
	0 = 16:35:17		
17	MW	eP	22 14 51
	R	eP	14 46
	T	eP	15 04
	USCGS: 9½ N 85 W,		
	0 = 22:07:23		
18	P	iP	06 47 44
	H	eP	36
	T	iP	30
19	MW	iP	00 04 10
19	T	eP	02 21 44
		e	55
		e	22 18
19	P	ePZ	03 57 22
	PX	eLN	04 14.9
	R	eP	03 57 19
	H	eP	21
	T	eP	25
	USCGS: 19 N 64 W,		
	0 = 03:48:25		
19	P	iPNEZ	10 04 05 d
		i	25
	PX	eLNE	27.4
			A T
		PZ	½ 1½
		MH	7 19
	R	iPNEZ	10 04 06 d
	Pr	iPNE	06
	H	iP	12
	T	eP	15
		i	57
	USCGS: 32 S 178 W,		
	0 = 09:51:20		
	Wellington: 27 S 176 W,		
	0 = 09:51.3, mag. 6½		

Date	Sta.	Phase	h	m	s	
		October				
19	T	eP	13	48	19	
19	R	eP	20	35	43	
	T	eP			30	
20	MW	eP	01	43	41	
	R	eP			38	
	Pr	iP			35	
	H	eP			53	
	T	eP			58	
20	MW	eP	07	53	26	
	R	eP			26	
	Pr	eP			28	
	T	eP			33	
	USCGS: 19 N 64 W,					
	0 = 07:44:30					
21	P	iPEZ	04	24	31	
		ipP			48	
	PX	iPP		27	39	
		iSNE		34	07	
		eGNE		44.8		
			A		T	
		PZ	¾		3	
		SH	2½		6	
		MH	12		20	
	R	iP	04	24	34	
		ipP			52	
	Pr	iPNZ			34	c
		i			42	
		ipPNZ!			52	
	H	eP			40	
		ipPNEZ			59	
		eP'P'		52	06	
	T	iP		24	42	
		ipPNEZ		25	01	
		eSN		34	27	
		eP'P'		52	03	
	Magnitude 6½±					
	h = 60 km.					
	USCGS: 18½ S 174 W,					
	0 = 04:12:59					
21	P	e(P")	06	22	16	
		e			36	
		i(PP)		25	36	
	R	e(PP)			39	
	Pr	e(PP)			42	
	H	e(P")		22	16	
		e(PP)		25	34	
	T	e(PP)			33	
21	MW	eP	08	31	48	
	Pr	iP			45	
	H	eP		32	05	
	T	eP			15	
	USCGS: 17½ N 106 W,					
	0 = 08:27:13					
21	P	eP	09	01	48	
	PX	eLNE		06.8		
			A		T	
		PZ	½		3	
		MH	3		20	

(continued)

Date	Sta.	Phase	h	m	s	
		October (continued)				
21	R	eP	09	01	39	
		i			51	
	Pr	iP			31	
		i			42	
	H	e		02	01	
	T	i			11	
	Magnitude 5¾±					
	USCGS: 17½ N 106 W,					
	0 = 08:57:10					
21	P	iPNEZ	09	47	35	d
		iNEZ!			41	
	PX	iPPNEZ		48	00	
		iSNE		51	26	
		iGNE		52.1		
		iR		52.9		
			A		T	
		PZ	3		3	
		PH	3		3	
		PPZ	5		4	
		PPH	4		3	
		SH	20		10	
		MH	85		20	
		MH	60		12	
	R	iPNEZ	09	47	29	d
		i			47	
	Pr	iPNEZ			19	d
		i			58	
	LJ	iPNEZ			18	
	H	iPNEZ			50	
	T	iP		48	00	
		iNEZ			16	
	Magnitude 6¾±					
	USCGS: 17½ N 106 W,					
	0 = 09:42:58					
21	P	iP	13	42	14	
		e			39	
	R	eP			09	
	Pr	iPNEZ			03	c
	USCGS: 0 = 13:33:55					
	BCIS: 2½ S 89 W,					
	0 = 13:33.8					
21	P	iP	16	13	26	
		ipP		14	19	
	R	eP		13	29	
		epP		14	24	
	Pr	iPNEZ		13	30	
		epP		14	21	
	H	eP		13	31	
		epP		14	22	
	h = 220 km.					
	USCGS: 11½ S 167 E,					
	0 = 16:00:50					
22	MW	e	08	16	16	
	Pr	e			04	
	T	e			28	

Date	Sta.	Phase	h	m	s	
		October				
22	Pr	iP	14	38	49	
	H	iP		39	04	
	T	iP			08	
22	P	i	15	21	44	
	MW	e?			18	
		i			42	
	Pr	i			53	
	T	e(P)			08	
		i			31	
		i			41	
	USCGS: 48½ N 153 E,					
	0 = 15:10:47, h = 100± km.					
22	P	iP	19	07	29	
		e(pP)			39	
	R	iP			31	
		i			41	
	Pr	iPNEZ			33	d
		i			42	
	H	eP			34	
		e			45	
	T	eP			34	
		e			44	
	BCIS: 10 S 162 E,					
	0 = 18:54.6					
23	P	eP	08	14	12	
		iSEZ		15	33	
	R	eP		14	09	
		eSEZ		15	34	
	Pr	iP		14	18	
		iNEZ			37	
		iSEZ		15	54	
	H	eP		13	39	
		eSNEZ		14	27	
	T	eP		13	28	
		iNEZ!			31	
		iSNEZ		14	02	
	Magnitude 4.6					
	USCGS: 39½ N 117 W,					
	0 = 08:12:50					
23	P	iP	10	23	59	
	R	iP		24	01	
	Pr	iP			10	
	T	iP		23	58	
23	R	eP	15	01	46	
	Pr	eP			36	
	H	eP			57	
	T	eP		02	03	
	Foreshock					
23	Pr	iP	15	09	41	
	H	eP		10	02	
	T	eP			08	
	Foreshock					
23	P	iPNEZ!	16	19	36	c
		i			44	
		i			50	
		iX		21	05	
		iPcPNZ		22	37	
	PX	iSNEZ		24	42	
	P	eScP		26	21	

(continued)

Date	Sta.	Phase	h	m	s	
		October				
23	PX	iGNE	16	27.0		
			A		T	
		PZ	4½		3	
		PH	3½		2	
		X	2½		3	
		PcPZ	2½		2	
		SH	100		15	
		MH	300		20	
		MH	200		15	
	R	iPNEZ	16	19	33	
		i			45	
		i		20	06	
		iX			55	
		iPcP		22	32	
		i!			43	
		eScP		26	17	
	Pr	iPNEZ!		19	24	
	H	ePNEZ			45	
		i			53	
		i		20	00	
		iPcP		22	44	
		eScP		26	26	
	T	ePNEZ		19	52	
		i		20	00	
		i			06	
		i			11	
		i			23	
		iPcP		22	41	
		iScP		26	27	
	Magnitude 7.3					
	Probably a multiple shock;					
	numerous measurable impulses					
	following P. That designated					
	iX may be P of a separate					
	shock.					
	Normal depth.					
	Guatemala.					
	USCGS: 14½ N 92W,					
	0 = 16:13:24, h = 100 km.					
	The next few entries refer					
	to aftershocks.					
23	Pr	iP	16	43	06	
	T	eP			33	
23	Pr	iP	17	02	49	
	T	eP		03	19	
23	P	iPNEZ	17	11	43	
		ePcP		14	37	
	R	iP		11	36	
	Pr	iPNEZ			31	
	H	iP			51	
	T	iPNEZ			59	c
		iPcP		14	42	
23	Pr	iP	17	48	37	
	T	eP		49	05	
	Small					

Date	Sta.	Phase	h	m	s	
		October				
23	P	iPNEZ	17	54	10	c
		iPcP		57	04	
	PX	eLNE	18	02		
			A		T	
		PZ	2		3	
		MH	40		18	
	R	iP	17	54	03	
	Pr	iPNEZ!		53	59	c
	H	iP		54	18	
	T	iPNEZ			26	c
		iPcP		57	15	
		eScP	18	01	00	
	Magnitude 6½±					
23	P	iP	18	05	54	
	R	iP			47	
	Pr	iPNEZ!			42	c
		i			51	
		i		06	02	
	H	iP			04	
	T	iPNEZ			10	
23	P	eP	19	57	08	
	R	eP			03	
	Pr	iPNEZ		56	58	c
	H	eP		57	18	
	T	eP			25	
		ePcP	20	00	11	
23	P	iP	21	38	18	
	R	eP			11	
	Pr	iPNEZ			06	
23	P	eP	23	45	04	
	PX	eLN		53	.0	
			A		T	
		PZ	½		1	
		PH	½		5	
		MH	20		15	
	R	iP	23	44	58	
		iPcP		47	55	
	Pr	iPNEZ		44	51	c
	H	iP		45	12	
	T	iP			18	
		iPcP		48	03	
	Magnitude 6.1					
23	P	iP	23	55	21	
	R	eP			17	
	Pr	iPNEZ			09	c
24	MW	eP	00	29	40	
	R	eP			34	
	Pr	iPNEZ			29	
	T	eP			56	
24	P	eP	00	58	20	
	PX	eLN	01	05	.0	
			A		T	
		PZ	½		3	
		MH	15		12	
	R	eP	00	58	12	
	Pr	iP			06	
	H	eP			28	
	T	eP			30	
	Magnitude 6.2					

Date	Sta.	Phase	h	m	s	
		October				
24	P	iP	01	58	11	c
			A		T	
		PZ	½		2	
	R	iP	01	58	11	
	Pr	iP			06	
	H	iP			18	
	T	iP			20	
	USCGS: 0 = 01:45:25					
	BCIS: 32 S 178.5 W					
24	Pr	eP	05	06	02	
24	Pr	eP	06	22	49	
	H	eP		23	09	
24	P	eP	05	56	36	
	R	iP			30	
	Pr	iPNEZ			24	c
	H	eP			45	
	T	iP			52	
24	Pr	eP	09	34	58	
	H	eP		35	18	
	T	eP			24	
24	Pr	iP	12	22	46	c
	T	eP		23	12	
24	Pr	iP	16	01	14	
	T	eP			42	
24	Pr	iP	19	52	07	
24	P	e	22	29	58	
	R	e		30	12	
	Pr	e			17	
	T	e?		29	33	
	USCGS: 43½ N 148 E,					
	0 = 22:18:42					
25	P	eP	05	11	19	
	R	eP			14	
	Pr	iPNEZ			08	
	T	eP			36	
	Guatemala; aftershock of					
	Oct. 23, 16h					
25	P	iP	07	16	35	
		e			51	
		e(pP)EZ		17	08	
		e(PP)		20	20	
			A		T	
		PZ	0.1		1½	
	R	eP	07	16	39	
		e			54	
		e(pP)		17	09	
		e(PP)		20	23	
	Pr	iPNEZ		16	42	
		i			58	
		i(pP)		17	13	
		iNE			16	
		iE			54	
		i(PP)N		20	22	
		iNEZ			35	
		iNE			50	
	H	iP		16	32	
		e(pP)		17	03	
		e(PP)		20	17	
					(continued)	

Date	Sta.	Phase	h	m	s	
		October (continued)				
25	T	iP	07	16	28	
		i			44	
		i(pP)			59	
		e(PP)		20	02	
	Felt at Ishigakishima					
	USCGS: 26 N 125½ E,					
	0 = 07:03:17, h = 100 km.					
	BCIS: 24N 124 E,					
	0 = 07:03:26, h = 100 km.					
	CMO: 25 N 128 E					
25	P	iPNEZ	08	57	15	c
		i			26	
	Small surface waves					
	recorded					
			A		T	
		PZ	0.3		1	
	R	iPNEZ	08	57	18	c
	Pr	iPNEZ			20	c
	H	iP			17	
	T	iP			16	c
	Compressions followed by					
	larger dilatations.					
	USCGS: 6½ S 155 E,					
	0 = 08:44:07					
26	Pr	iP	01	07	19	
26	Pr	iP	02	50	57	
26	P	iP	04	02	39	
	PX	e(S)NE		13	.1	
		eLNEZ		32	.7	
			A		T	
		PZ	¼		2	
		(S)H	1		6	
		MH	10		18	
	R	iP	04	02	41	
	Pr	iPNEZ			38	
	T	iP			50	
	Magnitude 6¼+					
	Foreshock, see 15h					
	following.					
	USCGS: 32 S 178 W,					
	0 = 03:49:55					
26	P	iP	07	23	30	
		i			59	
	R	iP			33	
		e			54	
		i		24	00	
	Pr	iP		23	32	
		i			55	
	H	e			38	
	T	iP			36	
		e			54	
	h = 70 km.?					
	USCGS: 21 S 171 E,					
	0 = 07:10:42					
	BCIS: 21.5 S 170.5 E,					
	0 = 07:10:40					
26	P	iP	09	09	55	d
	R	iP			51	d
	Pr	iP			48	d
	T	iP		10	05	d

Date	Sta.	Phase	h	m	s	
		October				
26	P	eP	09	20	55	
	R	eP			49	
	Pr	eP			46	
	T	eP		21	02	
26	P	eP	15	51	27	
		iNEZ			35	
	PX	e(S)NE	16	02	.0	
		eLNE		14	.6	
			A		T	
		PZ	½		2	
		PH	½		3	
		(S)H	1½		12	
		MH	25		20	
	R	eP	15	51	31	
	Pr	eP			30	
		iNEZ			34	
	H	eP			31	
	T	ePNEZ			37	
	Magnitude 6½ - 6¾					
	USCGS: 32 S 178 W,					
	0 = 15:38:43					
27	P	iP	06	12	32	
		e		13	44	
	R	iP		12	34	
	Pr	iP			39	
	USCGS: 11½ N 139 E,					
	0 = 05:59:10					
27	P	eP	21	41	27	
	R	eP			30	
		e			39	
		i			45	
	Pr	iP			31	
		iNZ			48	
	T	iP			34	
		i			48	
	USCGS: 15 S 167 E,					
	0 = 21:28:41					
	BCIS: 15 S 167.5 E,					
	0 = 21:28:36					
27	P	iP	22	37	01	
	R	iP			05	
		i			18	
	Pr	iPNEZ			05	c
		i			18	
	H	iP			10	
	T	iP			13	
		i			32	
	USCGS: 23 S 177 W,					
	0 = 22:24:53					
28	P	eP	09	18	24	
	R	eP			22	
	Pr	iP			26	
		i			36	
	H	eP			29	
	T	eP			31	
	USCGS: 32 S 177½ W,					
	0 = 09:05:38					
	Wellington: mag. 6½					

Date	Sta.	Phase	h m s
		October	
28	P	iP	22 22 00
		iPcP	24 25
	R	iP	21 54 d
		i	22 15
		iPcP	24 52
		eScP	28 43
	Pr	iP	21 48 d
		i	22 07
		i	30
	H	iP	22 07
	T	iP	17 d
		iPcP	25 00
	USCGS: 15 N 91½ W,		
	0 = 22:15:48, h = 100 km.		
29	MW	eP	10 44 05
	R	iP	09
	Pr	eP	13
	T	iP	43 54
30	P	iP	02 37 26
		i	46
		i	59
	PX	eLE	58
	MW	iP	02 37 26
		i	38
	R	iP	29
		i	41
	Pr	iP	30
	H	iP	34
		e	45
	III at Apia		
	USCGS: 14 S 173 W,		
	0 = 02:26:15, h = 100 km.		
30	P	iP	10 33 31
		i	34 14
	R	iP	33 27
		i	34 10
	Pr	iP	33 21
		e	34 05
	USCGS: 14 S 70 W,		
	0 = 10:23:02, h = 100 km.		
30	MW	iP	14 03 11
		e	25
	R	iP	13
		i	28
	Pr	iP	15
		i	34
	USCGS: 11 S 163 E,		
	0 = 13:50:22		
31	MW	iP	04 57 25
	R	eP	29
	Pr	iP	36
	USCGS: 52 N 174 W,		
	0 = 04:49:15		
31	Pr	e	05 11 15
31	R	e	19 28 24
	Pr	e	42
	USCGS: 1 N 26 W,		
	0 = 19:15:22		

Date	Sta.	Phase	h m s
		October	
31	PX	eLE	19 42.6
	MW	e	38 43
	R	e	19
	T	iP	39 31
	USCGS: 0 = 19:35:14,		
	foreshock of next		
31	P	eP	20 25 40
	PX	eLNE	28 22
		A	T
		PZ	¼ 2
		MH	10 45
		MH	30 10
	R	eP	20 25 41
	Pr	iPNEZ	30
e	H	eP	26 08
	T	iP	19
	Magnitude 5½±		
	USCGS: 23½ N 108 W,		
	0 = 20:22:30		
		November	
1	MW	e	01 29 13
	R	e	28 59
	Pr	iPNEZ	29 02
	T	e	29
	USCGS: 0 = 01:22:57,		
	foreshock of next		
1	P	iPNEZ	12 52 50 c
		eLNE	13 06.8
		A	T
		PZ	¼ 1½
	Surface waves small		
	R	iP	12 52 44 c
	Pr	iPNEZ	39 c
		i	50
		iPcP	54 08
		iSN	58 41
	H	iP	52 58
	T	iPNEZ	53 06
		i(PcP)	55 09
	USCGS: 10 N 85 W,		
	0 = 12:45:32, h = 100 km.		
2	P	iP	07 42 06
	R	iP	08
	Pr	iP	08 d
	USCGS: Fiji Islands region,		
	0 = 07:30:56, h = 600 km.		
2	PX	eP	15 42 34
		eP"	46 15
		iP"	28
		iPP	47 07
		iSKSNE	52 54
		e(S)	55 15
		iPS	56 28
	P	iPKKP	57 28
	PX	iNE	31
		ePPS	58 07
		iSSN	16 03 24
		(continued)	

Date	Sta.	Phase	h m s
		November (continued)	
2	P	eP'P'	16 06 15
	PX	iN	11.1
		iGN	14.4
		A	T
		PZ	2 7
		P"Z	1 1
		PPZ	4 4
		PPZ	30 20
		PPH	1 1½
		SKSh	5 2
		PKKPZ	½ 1
		SSH	250 40
		GH	500 70
		MH	50 20
	R	eP	15 42 36
		iP"	46 28
		iSKSNE	52 59
		ePKKP	57 10
		eP'P'	16 06 15
	Pr	iP	15 42 44
		iP"	46 31
		iSKSNE	53 02
		iPS	56 38
		iPKKP	57 10
		i	54
	H	iP"	46 28
		iSKSNE	52 56
	T	eSKSNE	52 34
	Magnitude 7.5		
	6½ S 129½ E, 0 = 15:27:56,		
	h = 50± km.		
	USCGS: 6 S 129½ E,		
	0 = 15:27:49		
	BCIS: 6.0 S 129.5 E		
	BCIS interprets as two		
	shocks at an interval of		
	1 m 10 s; the data of		
	these stations do not		
	appear to confirm this.		
2	P	iP"	18 32 41
	Pr	iP"	43
	Aftershock		
	USCGS: 0 = 18:14:03		
4	P	iP	07 35 12
		ipP	48
		A	T
		PZ	0.1 1
		pPZ	0.3 1
	R	iP	07 35 15
		ipP	50
	Pr	iP	16 c
		ipP	51
	H	epP	52
	USCGS: 15 S 167 E,		
	0 = 07:22:50, h = 200 km.		
4	P	iP	09 08 41 c
	R	iP	45 c
	Pr	iP	45 c
	H	iP	49
	USCGS: south of Fiji,		
	0 = 08:56:10		

Date	Sta.	Phase	h m s
		November	
4	Swarm of shocks probably originating in the Gulf of California, imperfectly recorded at these stations. First shock, magnitude 4.3: Pasadena P 05:48:29±, S 05:49:24. Several others before 07h, followed by comparative quiet. Activity resumed at 11:03, lasting to 16h; largest shock with Pasadena P 13:21:47, S 13:22:43, magnitude 4.7.	
5	MW	iP	05 20 34
	Pr	iP	45
5	P	iPNEZ	16 41 37 c
		i	44
		ePP	42 40
		iPcP	44 40
	PX	eSNE	46 42
	P	iScP	48 23
	PX	eLNE	49.5
		A	T
		PZ	¾ 2
		PH	1 3
		SH	4 8
		MH	15 20
	R	iP	16 41 31 c
		i	39
	Pr	iPNEZ	25 c
	T	iPNEZ	53 c
		iPcP	44 43
	Magnitude 6¼		
	USCGS: 14½ N 92 W,		
	0 = 16:35:20		
5	P	eP	17 49 59
	PX	iSNE	18 00 18
		eSSNE	05.5
		eGNE	11.5
		A	T
		PZ	¼ 1
		SH	10 15
		MH	20 20
	R	eP	17 50 01
	Pr	eP	06
		eN	59 39
		eSE	18 00 32
	H	eP	17 49 57
	T	iP	52
	Magnitude 6.9		
	USCGS: 33 N 134½ E,		
	0 = 17:37:25		
	CMO: 33.5 N 134.9 E		
6	MW	eP	10 01 04
	R	eP	06
	Pr	iP	05
6	P	e	11 08 22
		i	31
	Pr	iNEZ	07 53

Date	Sta.	Phase	h	m	s	
	November					
6	P	iP	20	56	11	
		eSE			29	
	R	iPEZ!			10	d
		iSE!			29	
	Pr	iPNEZ!			05	
	LJ	iPNEZ!		55	56	d
		iSNEZ!		56	05	
	SB	iPNZ			24	
	Magnitude 4.4					
	32°43' N 117°50' W,					
	0 = 20:55:46					
	Felt at San Diego					
6	P	iP	21	11	35	
	R	iP			38	
	Pr	iP			38	
	T	iP			45	
	Southwest Pacific?					
6	P	iPNEZ	22	35	12	c
		i			26	
		iEZ			33	
		iNEZ			42	
		iEZ			55	
	PX	eSKSNE		45	37	
		e(S)NE		46	19	
		iPPSNE		47	22	
		eGN		59.5		
			A		T	
		PZ	1		1½	
		PH	0.4		1	
		SKSH	½		5	
		MH	12		20	
	R	iPNEZ	22	35	15	c
		i			28	
		i			35	
	Pr	iPNZ			17	c
		eNZ			35	
	H	iP			14	
	T	iPNEZ			14	c
	Magnitude 6½ - 6¾					
	Depth 50 km?					
	USCGS: 7½ S 155½ E,					
	0 = 22:22:05					
7	R	eP	01	36	04	
	West Indies					
7	P	e	04	02	17	
	R	e			15	
	Pr	e			16	
7	P	iP	06	37	44	
		e(pP)		38	03	
	R	iP		37	48	
		e(pP)		38	08	
	Pr	iP		37	50	
		e(pP)		38	09	
	T	iP		37	48	
	USCGS: 0 = 06:24:37					
	BCIS: 7 S 156½ E,					
	0 = 06:24:40					

Date	Sta.	Phase	h	m	s	
	November					
7	P	iP	16	51	46	
	Pr	iP			48	
		i			55	
	USCGS: Kurile Islands,					
	0 = 16:40:55					
8	P	iP	02	11	55	
	R	iP			57	
	Pr	eP			58	
	T	iP		12	02	
	USCGS: 18 S 168 E,					
	0 = 01:59:06					
8	P	iPNEZ	02	31	09	c
		i			13	
		i(PcP)!			17	
		i			37	
	PX	ePP		34	39	
		eSKSNEZ		41	35	
		iSNE		41	56	
		eSP		42	53	
		eSS		48.3		
		iGNE		54	27	
	P	eP'P'		56	56	
			A		T	
		PZ	2		2	
		PH	1		2	
		PPZ	2		3	
		SH	20		10	
		MH	120		20	
	R	iPNEZ	02	31	10	c
		eSNEZ		41	56	
	Pr	iPNEZ		31	11	
		iNE		41	47	
		iN		42	13	
	H	iPNEZ		31	11	
		eSNE		41	55	
	T	iPNEZ		31	12	
	Magnitude 7¼					
	USCGS: 9½ S 159½ E,					
	0 = 02:18:09					
8	P	iP	02	48	59	
	R	iP		49	00	
	Pr	iPNZ			02	
	H	iP			00	
	T	iP			01	
	Aftershock					
	USCGS: 0 = 02:35:59					
8	P	eP	06	54	04	
	R	eP			06	
	Pr	eP			08	
	T	eP			08	
	Aftershock					
	USCGS: 0 = 06:41:06					
8	P	eP	12	02	20	
	R	eP			23	
	Pr	eP			25	
	Aftershock					
	USCGS: 0 = 11:49:22					

Date	Sta.	Phase	h	m	s	
	November					
8	P	eP	12	06	28	
	R	eP			31	
	Pr	eP			33	
	T	eP			30	
	Aftershock					
	USCGS: 0 = 11:53:30					
8	MW	e	15	55	52	
	Pr	iP		56	03	
9	P	eP	03	39	42	
	R	eP			41	
	CL	eP			43	
	CL - China Lake, resumed					
	recording November 8					
9	MW	e	04	01	14	
9	Pr	eP	09	51	45	
9	MW	eP	11	08	13	
	Pr	eP			25	
	USCGS: 53 N 171 W,					
	0 = 11:00:22					
9	P	iP	12	05	32	
		ipP		06	12	
		esP			27	
	R	iP		05	36	
		ipP		06	15	
	Pr	iP		05	41	
		epP		06	20	
		isPNE			25	
		iSE		14	28	
	CL	iP		05	29	
		epP		06	08	
	USCGS: 46½ N 150 E,					
	0 = 11:54:53, h = 200 km.					
9	P	iP	12	20	43	
	R	iP			45	
	Pr	iPNEZ			48	
	CL	iP			47	
	H	iP			46	
	USCGS: 9½ S 159 E,					
	0 = 12:07:46					
9	P	iP	12	37	26	
		epP		38	02	
	R	iP		37	28	
	Pr	iPNEZ			36	
		epPZ		38	13	
	CL	iP		37	22	
		ipP			55	
	H	eP			21	
	USCGS: 48 N 152 E,					
	0 = 12:27:00, h = 200 km.					
10	P	ePNEZ	02	18	09	
	PX	eSNE		21	13	
		iLNE		22	31	
			A		T	
		PZ	¼		1½	
		PH	1		5	
		SH	1		5	
		MH	20		14	
	R	iPNEZ	02	18	05	
			(continued)			

Date	Sta.	Phase	h	m	s	
	November (continued)					
10	Pr	ePNEZ	02	17	51	
	CL	eP		18	22	
	T	iPNEZ			40	
	Magnitude 5½ - 5¾					
	USCGS: 19½ N 110 W,					
	0 = 02:14:12					
10	P	iPNEZ	05	13	09	d
		e			49	
		e		15	34	
		i			59	
	PX	eSNE		22	17	
	R	iP		13	11	d
	Pr	iPNEZ			11	
		iSN		22	24	
	CL	iPZ		13	17	d
	T	iPNEZ			18	
	USCGS: 16 S 176 W,					
	0 = 05:02:05, h = 350 km.					
11	P	eP	03	51	38	
	PX	eLEZ	04	22.5		
	R	eP	03	51	41	
	CL	eP			41	
11	P	e	08	19	14±	
11	P	ePNEZ	09	32	17	
		i			23	
	PX	eSE		35.2		
		iLN		36	41	
			A		T	
		PZ	½		1½	
		MH	13		12	
	R	iP	09	32	14	
	Pr	ePE		31	58	
	CL	iP		32	34	
	T	iPNE			52	
	Magnitude 5½±					
	USCGS: 19½ N 110 W,					
	0 = 09:28:23					
11	P	iPNEZ	13	58	32	c
		i			41	
		ePcP	14	00	45	
		e			54	
	Pe	iP	13	58	24	c
		i			34	
		ePcP	14	00	42	
		e			51	
	CL	iP	13	58	36	
		i			44	
	H	i			48	
	USCGS: 10 N 85 W,					
	0 = 13:51:04					
11	P	eP	14	29	44	
	Pe	eP			48	
	CL	eP			38	
	USCGS: 53 N 161 E,					
	0 = 14:19:45					
12	MW	eP	09	28	26	
		e			37	
	CL	eP			29	

Date	Sta.	Phase	h m s
	November		
12	P	eP	13 17 30
		e	36
	Pe	eP	13
		i	21
	CL	eP	32
13	P	iP	00 03 46
	Pe	iP	49
	CL	iP	48
13	P	iP	08 08 41
		e	49
	Pe	eP	46
	CL	eP	46
	Omission, see page 101		
14	P	eP	06 36 16
	CL	e(P)	35 58
		i	36 13
		e(S)	37 23
	H	eP	36 08
		eSNEZ	37 13
	T	eNE	36 21
	Largest of swarm of shocks in region of Mt. Lassen Magnitude 5		
	USCGS: 40.5 N 121.5 W, 0 = 06:34:33		
14	P	iP	08 45 28
	PX	eL	09 12.7
	Pe	iP	08 45 30
	CL	iP	32
	USCGS: 11 S 161 E, 0 = 08:32:34		
14	P	iP	21 27 06
	R	iP	10
	Pr	iP	15
14	P	iP	21 48 37
	R	iP	32
	Pr	iP	25
	BCIS: 2 N 88.5 W, 0 = 21:41.0		
16	P	iP	01 09 46 c
		ipP	10 14
	R	iP	09 49 c
		ipP	10 17
	Pr	eP	09 53
	CL	iP	46 c
		ipP	10 11
	USCGS: Marianas, 0 = 00:57:15, h = 100 km.		
16	P	iP	05 38 15
		ipP	28
	R	iP	18
		ipP	31
	Pr	eP	24
	CL	iP	12
		ipP	24
	USCGS: 42 N 145½ E, 0 = 05:26:46		
	CMO: 41.5 N 144.7 E, h = 50 km.		

Date	Sta.	Phase	h m s
	November		
16	P	e	07 21 31
		e	41
	R	e	40
	CL	e	41
	USCGS: Solomon Islands, 0 = 07:08:29		
16	MW	e	08 57 54
	CL	e	28
16	P	eP	09 10 40
	R	eP	41
		e	11 01
	CL	eP	10 40
		e	11 01
16	P	e	09 13 59
		e	14 23
	R	e	08
		e	24
	CL	e	00
		e	22
	Part of preceding?		
16	P	iP	13 25 04
	R	iP	04
	Pr	iP	05
	CL	iP	11
	USCGS: 32 S 180, 0 = 13:12:11		
16	MW	iP	15 23 37
		i	24 05
16	MW	iP	16 58 54
	D	iP	53
		e(pP)	59 10
	Peru?		
17	P	iP	04 06 48
	R	iP?	29
	CL	iP	55
17	MW	e	12 43 23
	Pr	e	42 59
17	P	iPNEZ!	19 33 28 d
		i	46
	PX	iN	34 28
		iNE	35 22
	P	ePcP	37 09
	PX	iSNE	44
	P	iScP	41 23
			A T
		PZ	3 2½
		PH	5 3½
		SH	10 5
		MH	20 16
	R	iPNEZ	19 33 21 d
		i	38
		iPcP	37 12
		iSNZ	34
	Pr	iPNEZ	33 14 d
		iSE	37 23
	CL	iP	33 36 d
		i	48
		eS	38 16
		iScP	41 28
	T	iPNE	33 49
		eScPNE	41 36

(continued)

Date	Sta.	Phase	h m s
	November (continued)		
17	Slightly deeper than normal? Magnitude 6¾		
	USCGS: 17 N 100½ W, 0 = 19:28:18		
18	P	eP	11 12 44
		ipP	13 20
	R	eP	12 46
		ipP	13 22
	Pr	iP	12 48
		epP	13 24
	CL	iP	12 47
		epP	13 25
18	R	e	20 54 55
19	MW	eP	06 34 42
19	P	iP	09 56 53
	R	iP	53
	Pe	iP	53
	CL	eP	57 07
	H	iP	14
20	Pe	eP	12 08 35
20	R	e	12 45 24
21	P	eP	01 47 50
	R	eP	51
	CL	eP	54
21	MW	iP	14 07 06 d
		epP	08 12
	R	iP	07 02 d
		epP	08 08
	Pe	iP	07 02 d
		epP	08 07
	CL	iP	07 11
	USCGS: 21 S 65 W, 0 = 13:55:55, h = 300 km.		
21	P	e	20 33 40
	R	e	40
	CL	e	49
		i	34 01
	Region of Easter Island? Note: on November 21 the China Lake Instrument began recording with very high magnification.		
21	MW	eP	20 49 09
		e	16
	R	eP	13
		e	20
	CL	iP	15
		i	24
21	MW	eP	21 22 00
	CL	eP	10
21	CL	e	21 28 06
21	CL	eP	22 34 48
	USCGS: 3½ S 147 E, 0 = 22:21:18		
22	P	eP	06 36 59
		eSNE	38 12
	R	iP	37 04
	CL	eP	36 43
		i	51
		i(S)Z	37 56
	H	iP	36 46
		iSNEZ	37 43

(continued)

Date	Sta.	Phase	h m s
	November (continued)		
22	T	eP	06 36 20
		i	28
		eSE	37 14
22	CL	iP	07 59 08
	Pe	eP	19
22	P	iPNEZ	10 24 41 d
		ipP	51
	PX	iPPNE	26 22
		eSEZ	31 18
		eLNE	34.6
			A T
		PZ	1 2
		PH	1 2
		SH	15 24
		MH	12 20
	R	iPNEZ	10 24 46 d
		i(sP)	59
	Pe	iP	48 d
		eScP	30 15
		i	39
	Pr	iPNEZ	24 53 d
		iNE	25 06
	CL	iP	24 35 d
		i(sP)	50
		i	26 26
		eScP	30 15
		i	25
	T	iP	24 27 d
		ipP	38
	h = 40± km. Magnitude 6¾		
	USCGS: 51 N 176 W, 0 = 10:16:26		
22	P	eP	13 18 11
		i(pP)	22
	R	eP	06
	Pr	eP	07
		i(pP)	18
	CL	eP	18
		i(pP)	30
	T	eP	28
		i(pP)	40
	h = 50 km?		
	USCGS: Off Ecuador, 0 = 13:09:53		
22	CL	e	18 05 46
23	P	e	01 08 00
	CL	eP	03
23	CL	iP	07 04 12
		i	20
23	P	iP	09 13 27
	R	eP	21
	Pr	iPN	17
	CL	iP	31
		i	40
	T	eP	40
	Central America?		
23	P	eP	05 59 25
		i	28
		iSE	06 00 14
	SB	iP	05 59 13
	CL	iP	2o

(continued)

Date	Sta.	Phase	h m s
	November	(continued)	
23	H	eP	05 59 16
	T	eP	10
		i	13
		iSNE	44
	Magnitude 4.4		
	Felt at Watsonville and		
	Hollister (CGS)		
23	P	e	15 23 55
	CL	iP	24 00
		i	07
24	P	iP	03 16 58
	R	iP	53
	Pr	iPE	52
	CL	iP	17 09
	T	iP	24
	Tacubaya: 19°01'N, 105°		
	05'W, 0 = 03:12:36		
24	P	e	10 01 28
	Pe	eP	19
		e	30
	CL	eP	16
		i	28
24	Pe	e	10 04 44
		e	51
	CL	e	48
		i	05 08
	Part of preceding?		
24	P	eP	13 15 08
		e	28
		e	37
	PX	eSNE	24.4
		eGNE	33.0
		A	T
		PZ	0.1 1
		SH	1¼ 12
		MH	10 20
	R	eP	13 15 11
		e	30
		e	42
	Pr	ePE	09
	CL	eP	12
		e	24
		i	29
		i	37
	T	e	23
		e	36
	Magnitude 6¼-6½		
	USCGS: 15 S 173 W,		
	0 = 13:03:43		
24	CL	iP	20 15 00
24	P	eP	20 30 12
		i	20
		e	29
	PX	eSNE	39 43
		iNE	40 02
		eGNE	48 37
		A	T
		PZ	0.2 1
		PH	0.1 1
		SH	1¼ 12
		MH	10 20
		(continued)	

Date	Sta.	Phase	h m s
	November	(continued)	
24	R	eP	20 30 15
		i	36
	Pr	ePNE	16
	CL	iP	19
		i	27
		i	41
	T	e	22
		e	29
	Magnitude 6¼-6½		
	USCGS: 15 S 173 W,		
	0 = 20:18:18		
24	MW	e	22 51 42
	CL	eP	29
	T	e	20
24	P	iP	23 33 16
		ipP	31
	R	iP	13
		ipP	27
	Pr	iP	09
		ipP	23
	CL	iP	20
		ipP	34
	T	iP	28
		ipP	42
	h = 50 km.		
	South America		
25	MW	iP	01 13 36
	Pe	iP	39
	CL	iP	42
	T	iP	43
25	P	eP	05 32 40
	R	eP	42
	Pr	ePE	43
	CL	eP	47
	T	e	54
	Near Apia		
	USCGS: 0 = 05:21:30		
25	P	eP	12 11 11
	R	eP	07
	Pe	iP	05
	CL	iP	16
	South America		
25	CL	i(PP)	17 36 05
26	CL	e	01 19 35
26	MW	e	02 10 09
	CL	e	09 58
26	MW	iP	03 13 35
	CL	iP	42
	Near Apia		
	USCGS: 0 = 03:02:12		
26	MW	e?	03 54 21
	Pe	e	31
		e	40
	CL	e	23
26	CL	e	04 46 51
26	P	iP	06 21 31
		ipP	47
	R	iP	32
		ipP	49
	Pr	iPNE	34
		ipPN	51
		(continued)	

Date	Sta.	Phase	h m s
	November	(continued)	
26	CL	iP	06 21 39
		ipP	55
	T	iP	40
		epP	57
	h = 60 km.		
	USCGS: Kermadec Islands,		
	0 = 06:09:00		
26	R	iP	06 44 46
	Pe	iP	46
	CL	iP	50
26	MW	eP	10 04 19
		e	30
	CL	iP	24
		i	36
26	MW	eP	19 08 03
		e	08
		e	37
	CL	iP	07
		i	39
		i	54
26	P	eP	22 58 03
		eSE	58
	Pr	ePE	57 36
		iSN	58 26
	Magnitude 4½		
	Gulf of California?		
27	P	eP	02 12 53
		e(pP)	13 13
	R	eP	12 55
	Pe	eP	55
	CL	iP	13 00
		i(pP)	18
	Near Apia		
	USCGS: 0 = 02:01:23		
27	P	eP	03 39 54
	R	eP	55
	Pe	eP	56
	CL	eP	55
		i	40 01
	T	e	05
	Near Apia		
27	P	eP	04 06 08
		iSN	49
	Pr	iPNEZ	05 43
	LJ	iPEZ	47
		iSE	06 13
	Magnitude 4.3		
	Near 31.7 N 115.0 W,		
27	MW	eP	17 21 28
		e	39
	CL	eP	35
		e	47
	T	e	47
	Near Apia		
	USCGS: 17:10:03		

Date	Sta.	Phase	h m s
	November		
27	MW	iP	18 16 41
		e	54
	R	eP	46
	Pr	iNE	53
	H	iP	34
	T	iP	27
	USCGS: Near Adak, Aleutian		
	Islands, 0 = 18:08:19		
28	P	iP	02 27 26
	R	iP	22
	Pe	iP	22
	Near La Paz		
28	Pe	e	04 31 38
		i	44
28	MW	eP	09 31 40
		e	32 11
		e	18
	Pe	iP	31 43
		e	32 07
28	P	eP	12 30 09
	R	i	37
	Pe	eP	11
		i	16
		i	26
	T	e	20
	Near Apia		
	USCGS: 0 = 12:18:30		
29	P	iP	01 50 27
		i	34
	Surface waves very small		
	R	eP	01 50 30
	Pr	ePN	35
	H	eP	27
	T	eP	23
		e	40
	USCGS: 22 N 143 E,		
	0 = 01:37:52		
29	CL	iP	22 55 38
	Mexico		
30	R	eP	23 34 43
	December		
1	P	eP	15 01 45
		i	52
		i	02 05
	PX	eS	10 29
		iSNE	40
		eSSNE	15.1
		eGN	18.0
	P	iP'P'	30 26
		A	T
		PZ	2 3
		PH	1 2
		SH	30 15
		MH	50 40
		MH	120 25
		MH	50 20
		(continued)	

Date	Sta.	Phase	h	m	s	
		December (continued)				
1		Surface waves with T less than 20 sec.relatively small				
	R	eP	15	01	42	
		iNEZ			48	
		eSNE		10	33	
		e		30	16	
		iP'P'			27	
	Pr	e(P)NEZ		01	44	
	CL	eP			43	
		i			50	
		i		03	02	
		eP'P'		30	20	
		i			29	
	T	eP		01	47	
		iNEZ			53	
		eSNE		10	43	
		eP'P'		30	21	
		Magnitude 7				
		USCGS: 14 N 47 W,				
		0 = 14:51:00				
1	P	i(P)	17	38	31	
	R	i(P)			33	
	CL	i(P)			31	
	T	i(P)			29	
		Very distant				
1	P	iP	17	39	12	
		iScP		44	45	
	R	iP		39	14	
	CL	iP			07	
		iPcP		40	49	
		iScP		44	17	
	T	iP		38	57	c
		USCGS: 52 N 172 W,				
		0 = 17:31:13				
1	CL	iP	18	31	41	
	T	eP			41	
		Mexico?				
1	MW	iP	19	07	20	
	CL	iP			31	
	T	eP			41	
		Mexico				
2	P	iP	08	42	01	
		epP			18	
	R	iP		41	58	d
		ipP			15	
		i			23	
	Pe	iP			56	
		ipP		42	14	
	CL	iP			06	
		epP			22	
	T	eP			14	
		epP			31	
		USCGS: northern Argentine,				
		h = 100 km., 0 = 08:30:40				
2	P	iPNEZ!	15	28	37	d
		iPcP		29	04	
		ipPNZ		30	40	
	PX	iPPNEZ		31	00	
		esPNE			46	
		ipPPNEZ		32	50	
		e		36	01	

(continued)

Date	Sta.	Phase	h	m	s	
		December (continued)				
2	PX	iSNE	15	36	09	
		iScSE		37	23	
		esSNE		39	55	
		eNE		40	31	
		i(sScS)		41	32	
		eNE		42	17	
		eNE		44	.0	
		eGN		55		
	P	eP'P'		57	11	
		e	16	00	08	
			A		T	
		PZ	7		3	
		PH	4		3	
		pPZ	1		2	
		PPH	1¼		1½	
		SH	2½		3	
	R	iPNEZ!	15	28	33	d
		ipP		30	37	
		iPP		31	00	
		eSNEZ		35	59	
	Pr	iPNEZ		28	29	d
		ipPE		30	24	
		iSNE		35	57	
		iScSE		37	17	
		IE		41	28	
	Pe	iP!		28	32	
		i		29	10	
		ipP		30	32	
		eP'P'		57	14	
		e	16	00	18	
	CL	iP!	15	28	41	d
		i		29	07	
		iP'P'		57	08	
		e	16	00	04	
	T	iPNEZ	15	28	48	d
		i		29	20	
		eipP		30	54	
		eSNZ		36	33	
		Magnitude 6¾				
		USCGS: 8 S 71½ W,				
		0 = 15:19:20, h = 650 km.				
2	P	iPNEZ	16	29	54	
			A		T	
		PZ	3		3½	
	R	iP	16	29	56	
	Pr	iPNEZ			57	c
	Pe	iP			57	c
	T	iP		30	00	c
		USCGS: 17 S 168 E,				
		0 = 16:17:10				
2	P	iP	18	49	55	d
	R	iP			52	d
	Pe	iP			51	
	Pr	iPE			49	
	CL	iP			59	
	T	eP		50	07	
		USCGS: 6 S 71½ W,				
		0 = 18:40:40, h = 600 km.				

Date	Sta.	Phase	h	m	s	
		December				
2	P	iPNEZ!	20	04	37	c
		i			47	
		i			51	
		i		05	09	
	PX	iPPEZ		07	58	
		iSKSEZ		14	58	
		iSNZ		15	08	
		iGNE		27	.3	
	P	eP'P'		30	36	
		eP'P'P'		51	14	
	PX	eG2NE	21	43		
			A		T	
		PZ	8		2	
		PZ	40		12	
		PH	4		3	
		PPZ	6		3	
		PPH	8		5	
		SKSH	13		8	
		SH	13		7	
		SH	75		60	
		GH	500		60	
		MH	90		20	
	R	iPNEZ	20	04	40	c
		i			51	
		i(S)EZ		15	07	
		eP'P'		30	30	
	Pe	iP		04	41	
	Pr	iPNEZ			42	
		i		05	07	
		iSE		15	23	
		eP'P'		30	35	
	LJ	ePE		04	39	
	SB	ePNEZ			33	
	CL	iP!			43	c
	T	iPNEZ			44	c
		i			55	
		e(S)NE		15	16	
		eP'P'		30	41	
		eP'P'P'		51	19	
		Magnitude 7¾				
		USCGS: 18 S 167 E,				
		0 = 19:51:45				
		BCIS: 17.9 S 167.0 E,				
		0 = 19:51:45				

Aftershocks very numerous; from this point through Dec. 7 only a few are included in the main body of the Bulletin. A full list for December follows. Times tabulated are those of P at Pasadena (or Mt. Wilson) and at China Lake. (When the same shock is recorded at Pasadena and at Mt. Wilson the times usually agree within one second, so that Mt. Wilson times are here given as if for Pasadena.) The column headed pP-P gives the value of that interval for each shock, when available; this usually is an interval between two sharp impulses, and is the same for all stations of this group. For completeness, the first entry is that for the main shock. Through Dec. 7, a small percentage of the shocks listed may be from some other source.

December (continued)

Beginning with December 8, only well-identified instances are included in this list, and all shocks, whether here listed or not are represented in the main body of the Bulletin.

Aftershock list, 1950 Dec. 2, 20h.

	P	CL	pP-P
Dec. 2	20:04:37	:43	10
	20:08:15	:21	10
	20:17:11	:15	10
	20:30:03	:08	10
	20:34:	:26	
	20:40:	:40	08
	20:44:	:47	08
	20:51:	:31	08
	21:04:28	:33	08
	21:08:16	:20	
	21:13:	:23	11
	21:17:	:44	
	21:22:	:26	
	21:28:00	:05	11
	21:29:11	:16	
	21:31:17	:23	
	21:38:	:48	
	21:52:	:13	
	21:59:34	:38	10
	22:04:	:25	08
	22:18:	:03	09
	22:22:01	:05	09
	22:27:	:16	
	22:31:00	:03	
	22:41:07	:12	
	22:45:	:51	
	23:08:56	:60	11
	23:14:29	:34	10
	23:28:	:11	
	23:34:56	:59	10
	23:38:	:27	06
	23:47:19	:24	
	23:52:	:07	09
	23:55:	:43	09
Dec. 3	00:18:	:22	
	00:24:	:34	08
	00:46:	:47	
	01:36:	:34	
	01:44:	:47	
	01:59:	:51	
	02:00:	:29	
	02:13:11	:14	10
	02:15:21	:24	
	02:19:	:18	10
	02:45:47	:51	11
	02:59:37	:42	
	03:02:20	:24	
	03:20:35	:40	10
	04:02:	:49	09
	04:30:	03	
	04:40:	:11	
	04:44:	:55	
	06:09:	:43	
	06:13:	:37	
	06:26:	:17	

(continued)

Aftershocks, Dec. 2, 20h (continued)

	P	CL	pP-P
Dec. 3	06:29:	:15	
	06:48:35	:39	
	07:30:	:33	11
	07:50:	:01	
	08:00:23	:28	12
	08:35:00	:05	11
	08:35:	:28	09
	09:53:00	:07	11
	10:12:32	:39	08
	10:14:03	:09	12
	12:08:04	:11	09
	12:15:	:10	10
	12:18:21	:26	09
	12:42:27	:32	15
	12:47:10	:15	10
	13:30:36	:40	09
	13:39:46	:52	09
	13:44:35	:41	11
	16:14:18	:24	
	17:19:28	:32	
	19:07:54	:58	09
	20:17:27	:31	10
	20:38:09	:15	
Dec. 4	01:56:51	:57	10
	04:08:33	:39	10
	04:11:	:25	08
	04:17:	:58	10
	04:48:	:54	09
	05:28:34	:39	
	05:29:25	:29	
	05:48:	:25	10
	07:07:44	:49	10
	07:50:51	:57	15
	07:51:	:28	
	09:00:	:00	10
	10:11:	:38	10
	10:30:52	:58	13
	10:43:	:00	
	11:20:35	:42	16
	14:11:39	:48	
	14:24:	:02	09
	14:44:45	:50	
	15:29:	:49	
	18:04:	:45	09
	20:23:	:23	
	20:25:03	:05	
	20:51:00	:06	
	21:20:	:11	12
Dec. 5	01:25:	:04	
	01:47:08	:13	08
	04:57:	:05	
	06:57:	:14	09
	08:55:56	:61	09
	09:38:25	:30	
	12:08:	:38	09
	12:18:58	:64	10
	12:22:	07	
	12:27:19	:24	
	17:05:06	:12	13
Dec. 6	03:50:	:43	21
	04:13:53	:56	10
	07:31:27	:32	12
	09:33:	:01	11
	17:06:59		09
	17:28:57	:61	09
Dec. 6	21:18:54	:59	11
Dec. 7	00:55:42	:47	
	02:13:	:34	10
	05:41:	:37	09
	06:42:39	:45	
	07:38:	:39	08
	22:11:	:37	17
	23:03:	:02	08
Dec. 8	01:11:25	:31	12
	09:11:	:59	12
	15:44:27	:32	09
Dec. 9	16:14:	:53	
	16:48:55	:61	13
	17:47:	:08	
	17:59:	:12	
Dec. 10	00:09:28	:33	10
	09:17:54	:61	
	09:54:09	:14	
	09:58:31	:37	
	10:46:	:00	13
	11:29:28	:35	11
Dec. 12	01:22:	:55	08
Dec. 13	02:42:	:14	09
Dec. 16	15:33:08	:14	
	16:35:24	:28	09
	16:59:20	:24	09
Dec. 19	14:29:10	:16	10
	23:21:39	:44	09
Dec. 24	20:49:34	:39	16
Dec. 28	16:11:	:26	11

Date	Sta.	Phase	h m s
	December		
2	P	iPNEZ	20 08 15
	R	iP	19
	Pe	iP	20
	Pr	iPEZ	20
	CL	iP	21
	T	iP	22
	Aftershock of magnitude 7¼, following the main shock by 3m 38s. P at these stations superposed on P of the main shock.		
3	P	e	06 45 49
		i	56
		e(PKKP)	55 26
	R	e	45 59
	CL	e	48
	T	e	38
	Poona: 28 N 94.3 E, 0 = 06:27:02		
3	P	eP	08 00 24
	PX	eLNEZ	27.6
			A T
		PZ	1 4
		MH	15 20
	R	iP	08 00 23
		ipP	35
	Pr	iP	26
		epP	39
	CL	iP	28
		ipP!	40

(continued)

Date	Sta.	Phase	h m s
	December (continued)		
3	T	eP	08 00 29
	USCGS: 17½ S 167 E, 0 = 07:47:33		
4	P	iP	01 46 39 c
		i	53
		i	47 13
	R	iP	46 33 d
		i	43
	Pr	eP	25
		e	35
		e	47
	CL	iP	01 46 48
		i	57
		e	47 08
	Tacubaya: 18°17' N, 103° 19' W, 0 = 01:41:38		
4	P	iP	06 53 43
		e	57
		i	54 11
	R	eP	53 47
		e	54 04
		e	14
	Pr	e	53 51
	CL	iP	33 d
	Aleutian Islands??		
4	P	iP	14 03 50
	R	iP	52
	Pr	iP	53
	CL	iP	58
	T	iP	58
	USCGS: Fiji Islands region, 0 = 13:51:50		
4	P	eP	16 30 41
	R	eP	37
	Pr	iP	34 c
	CL	iP	39
	T	eP	45
	USCGS: 18 N 63 W, 0 = 16:22:05		
4	P	eP	16 41 00 d
		iNEZ!	02 c
		ipPNEZ!	24
		isP	36
		i	51
	PX	i	44 16
		iPP	35
		eSN	51.4
		isSNZ	52 38
		iSPE	53.0
		eGN	17 04.8
	P	eP'P'	06 37
			A T
		PZ	3 4
		PH	4 7
		pPZ	4 3
		pPH	3 4
		PPZ	5 5
		PPH	4 6
		MH	100 35
		MH	25 20

(continued)

Date	Sta.	Phase	h m s
	December (continued)		
4	R	iPNEZ	16 41 05 c
		ipP	29
		eP'P'	17 06 31
	Pr	iPNEZ	16 41 07 c
		ipPNEZ	30
		i	36
		iPP	44 50
		eP'P'	17 06 36
	CL	iP	16 41 06 c
		ipP	29
		iPP	44 44
		eP'P'	17 06 20
		i	33
	T	eP	16 41 05
		i	27
	Magnitude 7.2, h = 110 km. USCGS: 5 S 153½ E, 0 = 16:28:01, h = 100 km.		
4	P	iP	21 46 17
		i(sP)	56
	R	iP	12 d
		e(pP)	39
		i(sP)	51
	Pr	eP	08
		e(sP)	54
	CL	iP	21 d
		e(pP)	49
		i(sP)	47 00
	Andes, h = 100 km? USCGS: 0 = 21:35:06		
5	Pr	e(P")	00 22 33
	CL	e(P")	22
		e	23 38
	East Indies?		
5	Pr	eP	05 58 09
	CL	eP	16
		e	28
	T	eP	17
	Near Apia		
5	MW	iP	15 54 05
	CL	iP	09 c
		i	55 59
5	CL	iP	19 10 28
5	CL	e	21 54 27
		e	33
	T	e	20
		e	30
	USCGS: Riukiu Islands, 0 = 21:41:30		
5	MW	e	22 06 24
		i	39
	CL	e(P)	28
		i	35
	T	e(P)	23
		i	34
5	CL	iP?	23 32 01
		i	35 43
6	CL	i(P)	03 46 33
6	R	e	03 51 02
	CL	eP	50 43
		i(pP)	51 04
	Aftershock of Dec. 2? If so, deeper		

Date	Sta.	Phase	h m s	
		December		
6	MW	iP	09 55 01	
	R	iP	54 57	
	CL	iP	55 05	
	T	eP	12	
6	P	iP	17 56 50	
	R	iP	53	
	Pr	iP	57	
	CL	iP	47	
	T	iP	42	
	USCGS: near Kiushiu			
	0 = 17:44:30			
6	CL	e(P)	18 09 57	
7	P	eP	05 05 52	
		i	55	
		iSN	06 31	
	R	iP	05 36	
		i	43	
		iS	06 14	
	Pr	iPE	05 25	
		i!	29	
		iS!	52	
	LJ	eP	27	
		i	34	
		iSNE	54	
	Roughly 32.4 N 115.1 W,			
	0 = 05:04.9, magnitude 4.1			
	Foreshock about 04:54.8			
7	CL	iP	22 11 37	
		i	54	
	Dec. 2 aftershock?			
8	MW	eP	01 11 25	
	R	eP	28	
	CL	iP	31	
		e	43	
	Dec. 2 aftershock			
	Resuming with Dec. 8, all recorded teleseisms are reported in these columns.			
8	MW	iP	01 33 21	c
	R	eP	23	
	Pr	iP	29	
	CL	iP	28	c
	T	iP	30	
8	CL	eP	03 00 36	
8	MW	iP	04 55 48	
		e	58	
	R	iP	52	
		e	56 01	
	Pr	iP	55 58	
		e	56 07	
	CL	iP	55 42	
	T	iP	34	
		e	44	
8	P	eP	07 21 21	
	R	eP	24	
	Pr	eP	25	
	CL	iP	28	
	T	eP	32	
	USCGS: 23 S 178 W,			
	0 = 07:09:12			
8	R	eP	09 11 57	
		e	12 11	
	CL	eP	11 59	
		e	12 11	

(continued)

Date	Sta.	Phase	h m s	
		December (continued)		
8	T	eP	09 12 02	
		e	14	
	Dec. 2 aftershock			
8	CL	iP	01 22 30	
		e	41	
8	CL	iP	09 52 50	
		i	53 05	
8	CL	eP	11 07 29	
8	CL	iP	12 59 28	
8	P	iP	13 01 23	
	R	eP	25	
	Pr	eP	24	
	CL	iP	29	
	T	eP	33	
	USCGS: 15 S 173 W,			
	0 = 12:49:57			
8	MW	eP	14 27 44	
	Pr	eP	44	
	CL	iP	49	
8	P	eP	15 44 27	
	Pr	eP	30	
	CL	iP	32	
		e	41	
	T	eP	32	
	Dec. 2 aftershock			
9	P	eP	00 41 55	
	R	iP	57	
	Pr	iP	57	
	CL	iP	42 02	c
	T	iP	02	
9	P	eP	03 35 06	
	R	iP	08	
	Pr	e(P)	34 59	
		e	35 10	
	CL	eP	09	
9	CL	eP	05 56 54	
	T	eP	57	
	Near Apia			
	USCGS: 0 = 05:45:14			
9	CL	eP	16 14 53	
9	P	eP	16 48 55	
	Pr	eP	59	
	CL	eP	49 01	
		e	14	
	Dec. 2 aftershock			
9	CL	eP	17 47 08	
	Dec. 2 aftershock			
9	R	eP	17 59 09	
	Pr	eP	09	
	CL	iP	12	
	T	iP	11	
	Dec. 2 aftershock			
9	R	iP	20 27 02	
		i	42	
	CL	iP	08	
	T	e	17	
	Foreshock of next?			
9	P	iPNEZ!	21 50 21	d
		iNEZ	45	
		iNE	50	
	PX	ePP	53.2	
		iSNE!	59 52	
		iNE	22 00 16	
		eSSNE	05.2	
		iGNE	09.0	

(continued)

Date	Sta.	Phase	h m s	
		December (continued)		
9	P	eP'P'	22 17 39	
		i	52	
		i	18 25	
		eP'P'P'	37 23	
	PX	iG2N	23 39	
			A T	
		PZ	20 2	
		PH	2.5 4	
		PPZ	13 4	
		SH	100 10	
		GH	1000 80	
		RH	1000 60	
		MH	60 20	
		G2H	400 120	
		P'P'	2 3	
	R	iPNEZ!	21 50 17	
		iSNE	59 46	
		iP'P'	22 17 33	
		eP'P'P'	37 26	
	Pr	iPNEZ!	21 50 14	d
		iNEZ!	18	
		ipP!	37	
		iSNE	59 37	
	LJ	ePNEZ	50 12	
		iSE	59 37	
	SB	ePNEZ	50 27	
		iSNE	59 57	
	CL	iP	50 24	d
		i(P'P')	22 17 43	
		eP'P'P'	37 23	
	H	iPNEZ	21 50 28	d
		eSE	22 00 05	
		eP'P'	17 30	
		eP'P'P'	37 29	
	T	iPNEZ	21 50 33	d
		ipP	57	
		iSE	22 00 13	
		eP'P'	17 30	
		eP'P'P'	37 30	
	Chile-Argentina			
	23½ S 67½ W, 0 = 21:38:48			
	h = 100 km., Magnitude 8			
	USCGS: 24 S 67½ W,			
	0 = 21:38:56, h = 200 km.			
	BCIS: 25.0 S 68.5 W,			
	0 = 21:38:54, h = 200 km.			
9	P	iP	22 14 18	
	R	iP	14	
	CL	iP	22	
	H	iP	25	
	T	iP	30	
	Aftershock			
	Sharp; shorter periods than P'P' of main shock			
9	MW	e	23 12 20	
		e	13 03	
	R	e	12 14	
		e	13 05	
	CL	e	12 02	
		e	40	

Date	Sta.	Phase	h m s	
		December		
10	MW	eP	00 09 28	
		epP	38	
	R	eP	29	
	CL	eP	33	
		epP	43	
	T	eP	34	
	Dec. 2 aftershock			
10	MW	i	00 33 37	
	R	e	36	
	CL	i	46	
		e	34 48	
	T	e	33 55	
	Aftershock of Dec. 9,21h?			
10	P	iPNEZ	03 01 04	c
		ipPNZ	22	
		e	35	
		iPP	03 33	
	PX	iSNEZ	09 34	
		i(sS)NE	56	
		iScS	10 51	
		eSSNE	13.6	
		eNE	16.8	
	P	eP'P'	30 02	
			A T	
		PZ	2 2	
		PH	1 3	
		pPZ	1½ 2	
		PPZ	½ 2	
		SH	8 4	
		MH	5? 20	
	R	iPNEZ	03 01 01	c
		eSE	09 27	
		eP'P'	30 13	
	Pr	iPNEZ	00 56	c
		iSNE	09 19	
		iN	46	
		iScSN	10 44	
		iE	11 13	
		eP'P'	30 17	
	CL	iP	01 09	c
		ipP	26	
		i	02 22	
		e	16 10	
		eP'P'	30 01	
	H	ePNEZ	01 13	
		eP'P'	30 13	
	T	iPNEZ	01 18	c
		i(sP)	39	
		eP'P'	30 05	
	Magnitude 6¾			
	h = 60 km.			
	Damage in Peru			
	USCGS: 14½ S 76½ W,			
	0 = 02:50:40, h = 60 km.			
	BCIS: 14.3 S 77.4 W,			
	0 = 02:50:40			

Date	Sta.	Phase	h m s
		December	
10	P	iP	04 46 40
		i(pP)	47 14
	R	iP	46 38
		ipP	47 09
		isP	23
	CL	iP	46 45
		ipP	47 16
		esP	33
	T	eP	46 53
		h = 120 km; Chile?	
10	P	eP	05 21 46
	R	eP	51
		epP	22 08
	Pr	eP	21 51
		epP	22 09
	CL	eP	21 50
		epP	22 08
	T	epP	08
		USCGS: Solomon Islands,	
		0 = 05:08:58	
10	CL	eP	06 21 53
10	P	eP	06 52 20
	R	eP	25
	Pr	eP	27
	CL	eP	26
	T	eP	28
		Unusual epicenter?	
		Tucson iP = 06 53 09	
10	P	iP	08 51 31
		ipP	42
	R	iP	36
		epP	46
	Pr	eP	42
		epP	52
	CL	iP	26 c
		ipP	36 c
	T	iP	17
		ipP	27
		USCGS: 0 = 08:41:20	
		BCIS: 53 N 157 E	
10	MW	eP	09 17 54
	R	eP	57
	CL	iP	18 01
		Dec. 2 aftershock	
10	P	eP	09 19 19
	R	iP	13
	CL	iP	23
		epP	42
		esP	53
	T	eP	31
		South America	
10	P	eP	09 54 09
	R	eP	13
	Pr	eP	13
	CL	eP	14
		Dec. 2 aftershock	

Date	Sta.	Phase	h m s
		December	
10	P	eP	09 58 31
	R	eP	34
	Pr	eP	34
	CL	iP	37
	T	eP	44
		Dec. 2 aftershock	
10	R	eP	10 45 57
		epP	46 10
	CL	eP	00
		ipP	13
	T	eP	02
		Dec. 2 aftershock	
10	P	eP	11 29 28
		epP	39
	R	eP	30
	CL	iP	35
		ipP	46
	T	eP	35
		epP	45
		Dec. 2 aftershock	
10	P	iPNEZ!	13 35 16 d
		iE	44
		iNZ	36 09
		iEZ	36
		ePPEZ	38 30
	PX	i(S)NEZ	45 10
		iNEZ!	25
		iSPNEZ!	46 15
		eSSNE	50.5
	P	iPKKPNEZ	53 22
	PX	i	54 20
		iGNE	57.6
	P	eP'P'	14 01 31
		eSKPP'	04 23
		i	41
		eP'P'P'	21 37
			A T
		PZ	8 2
		PH	6 4
		PPZ	4 2
		SH	80 12
		GH	300 40
		MH	15± 20
	R	iPNEZ	13 35 18 d
		i	37 05
		eSNE	45 17
		ePKKP	53 22
		eP'P'	14 01 18
		iSKPP'	04 38
		e	21 53
	Pr	iP	13 35 18
		eSE	45 10
		iNE	17
	CL	iP!	23 d
		iPP	38 57
		eS	45 32
		iPKKP	53 21

(continued)

Date	Sta.	Phase	h m s
		December (continued)	
10	CL	i	13 55 25
		eP'P'	14 01 10
		i	31
		iSKPP'	04 39
		eP'P'P'	21 53
		e	22 11
	H	iPNEZ	13 35 24 d
		eSNE	45 24
	T	iPNEZ	35 25
		e(S)E	45 21
		iN	44
		eP'P'	14 01 25
		eSKPP'	04 36
		PKKP recorded with very	
		short periods at these	
		stations. See note page 103	
		Magnitude 7¼	
		USCGS: 28½ S 179 W,	
		0 = 13:23:10, h = 300 km.	
		BCIS: 0 = 13:23:00	
10	CL	eP	18 30 17
		e	32
10	CL	e	21 13 24
10	P	iP	21 16 53 d
	R	iP	49 d
	Pr	eP	45
	CL	iP	57 d
	T	iP	17 04
		USCGS: Chile, 0 = 21:05:22	
10	Pr	eP	22 36 04
	CL	eP	07
10	MW	iP	23 42 15
	R	iP	11
	Pr	eP	08
	CL	iP	20
	T	iP	27
		South America?	
11	Pr	iP	00 28 22
	CL	iP	26
11	Pr	eP	00 17 35
	CL	iP	37
11	P	iPNEZ!	03 44 18 d
			A T
		PZ	½ 1
	R	iPNEZ	03 44 15 d
	Pr	iPNEZ	11 d
	CL	iP!	23 d
	T	iPNEZ!	31 d
		USCGS: 24 S 68 W,	
		0 = 03:32:56, h = 200 km.	
11	P	iP	04 08 42
	R	iP	38
	Pr	iP	33
	CL	iP	46 d
	T	iP	53
		South America	
11	R	iP	04 33 43
	Pr	iP	37
		e	59
	CL	iP	52
		e	34 06
	T	iP	00
		South America	

Date	Sta.	Phase	h m s
		December	
11	P	eP	07 32 11
	R	eP	13
	Pr	eP	15
	CL	eP	17
	T	eP	17
		Hawaii	
		USCGS: 19½ N 155½ W,	
		0 = 07:25:06	
11	Pr	eP	08 07 26
	CL	iP	31
11	MW	iP	10 57 12
	R	iP	15
	Pr	iP	22
	CL	iP	11
	T	iP	08
11	Pr	iP	11 44 10
		e	31
	CL	iP	26
	T	eP	37
		Tacubaya: 15°20' N, 92°	
		36' W, 0 = 11:38:26	
11	P	iPNEZ!	14 56 00 d
		iPcP	47
		ipP	58 05
	PX	eSNE	15 03 25
		iScSNE	04 45
			A T
		PZ	2 2
		PH	1½ 2
		SH	1 3
		ScSH	1 3
	R	iPNEZ	14 55 55 d
		ipP	57 58
		e	58 19
	Pr	iPNEZ	55 52 d
		eSNE	15 03 17
		iScSNE	04 38
	CL	iP!	14 56 01 d
		i	54
		ipP	58 11
		i	34
		i	55
		i	15 24 27
		e	27 28
	T	iPNEZ	14 56 11 d
		eSN	15 03 57
		eScSN	05 01
		Magnitude 6¼	
		USCGS: 8 S 71W,	
		0 = 14:46:41, h = 650 km.	
11	CL	e	18 32 12
11	CL	eP	18 50 27
		i	51 26
		Near Apia	
11	P	eP	22 30 34
	CL	eP	19
		i	29
		iS	31 41
	T	eP	29 57
		iS	30 56
12	CL	eP	01 22 55
		e	23 03
		Dec. 2 aftershock?	

Date	Sta.	Phase	h m s	
		December		
12	P	eP'	01 52 22	
	R	eP'	23	
		e	53 25	
			26	
	Pr	e		
	CL	iP'	52 24	
		i	53 26	
	Indian Ocean?			
12	Pr	e	03 59 36	
	CL	iP	18	
		ipP	28	
	T	eP	10	
		epP	20	
12	CL	e	10 23 25	
		e	48	
12	CL	iP	22 44 37	
	T	eP	39	
13	R	e	02 42 21	
	Pr	e	13	
	CL	iP	14	
		i	23	
	Dec. 2 aftershock			
13	MW	iP	18 35 20	
	R	iP	17	
	CL	iP	24	
14	P	eP	00 44 38	
	R	eP	41	
		e(pP)	45 04	
	CL	eP	44 44	
		i(pP)	45 07	
		i	57	
	T	eP	44 47	
		e	45 57	
	USCGS: 19 S 171 E,			
	0 = 00:31:53			
14	CL	e	00 53 08	
		e	27	
		e	47	
14	MW	eP	01 32 25	
		e	31	
	CL	iP	12	
		i	20	
14	P	iPNEZ	02 04 20	c
		iNEZ!	23	c
	PX	iE	37	
		ipPNEZ!	05 10	
		i	18	
		isP	38	
		ipPP	08 16	
		iSEZ	13 48	
		iSNEZ!	52	
		isSNZ	15 08	
		iSSN	18.5	
		iGNE	24 44	
	P	e	30 48	
		e	31 25	
		iP'P'	38	
		i	32 39	
		iSKPP'	34 49	
		eP'P'P'	51 19	

(continued)

Date	Sta.	Phase	h m s	
		December	(continued)	
14			A T	
		PZ	30 5	
		PH	8 2	
		pPZ	150 16	
		pPH	50 10	
		PPZ	13 5	
		SH	150 12	
		MH	400 30	
		P'P'Z	4 2½	
		SKPP'Z	11 4	
	R	iPNEZ!	02 04 22	c
		ipP	05 15	
		iSNEZ	13 58	
		eP'P'	31 15	
		i	34	
		i	41	
		i	32 39	
		iSKPP'	34 48	
		eP'P'P'	51 22	
	Pr	iPNEZ!	04 23	c
		i	47	
		i	05 22	
		iE	13 28	
		iSNE!	57	
		iN	14 31	
		eP'P'	31 35	
		eSKPP'	34 51	
	LJ	ePNEZ	04 20	
		epP	05 17	
		iSNE	13 52	
	SB	ePNEZ	04 16	
		iSNE	13 43	
	CL	iP!	04 27	c
		iS	14 05	
		iP'P'	31 32	
		i!	39	
		i	32 39	
		iSKPP'	34 48	
		eP'P'P'	51 11	
	H	iPNEZ	04 28	c
		ipP	05 24	
		iSNZ	14 07	
	T	iPNEZ	04 30	c
		i!	34	d
		i	44	
		iSNE	14 12	
		eP'P'	31 12	
		e	37	
	Magnitude 7.7			
	USCGS: 19½ S 176 W,			
	0 = 01:52:47, h = 200 km.			
14	P	iP	03 12 00	c
		i	22	
		ipP	54	
	R	iP	02	c
	Pr	iP	03	
		i	26	
		ipP	59	
	CL	iP	08	c
		i	28	
		ipP	13 05	
	T	iP	12 10	
	Aftershock			

Date	Sta.	Phase	h m s	
		December		
14	MW	eP	05 22 02	
	Pr	eP	06	
	CL	iP	07	
14	CL	iP	06 21 58	
14	Pr	iP	06 59 42	
	CL	iP	41	
	T	iP	32	
14	Pr	iP	07 16 36	
	CL	iP	40	
	T	iP	41	
14	P	iPNZ	09 01 05	
		iSE	02 33	
	CL	eP	00 48	
		i!	01 03	
		eS	02 08	
	H	eP	00 51	
		iSEZ	01 52	
	T	eP	00 26	
		i	38	
		iSE	01 26	
	Magnitude 5			
	Felt at Herlong, Calif.			
	USCGS: 40.1 N 120.2 W,			
	0 = 08:59:34			
14	P	iP	09 31 25	
		eSE	33 00	
	T	eP	30 46	
		iSNE	31 40	
	Magnitude 4¾			
	Felt at Herlong, Calif.			
	USCGS: 0 = 09:29:34			
14	R	e	11 26 06	
	CL	e	09	
		i	12	
		i	22	
		e	27 27	
	T	e	26 15	
		e	25	
14	P	iPNEZ	13 25 52	
		iNZ	26 12	
		iSNZ	27 01	
	R	iP	25 57	
	SB	iP	48	
	CL	iP	34	
		i!	50	
	H	eP	30	
		i	38	
		iSNE	26 37	
	T	iP	25 14	
		i	23	
		iSNE	26 13	
	Magnitude 5¾			
	Damage at Herlong, Calif.			
	Felt over a wide area in			
	California and Nevada			
	USCGS: 40.1 N 120.2 W,			
	0 = 13:24:21			
	Many aftershocks			
14	P	iPNEZ	13 56 44	c
		iSNE!	57 00	
	SB	iPNEZ!	56 36	d
		iSNE	46	

(continued)

Date	Sta.	Phase	h m s	
		December	(continued)	
14	CL	iP	13 57 48	
		i!	51	
	Magnitude 4.4			
	35°03' N 119°10' W,			
	0 = 13:56:23			
	Reported felt near the			
	epicenter.			
14	MW	iP	14 02 09	
	CL	iP	16	c
	T	iP	18	
14	P	iPNEZ!	14 21 12	c
		iE	49	
		iN	22 49	
	PX	iZ	23 52	
		iSNEZ	25.6	
		i(G)N'	27.2	
			A T	
		PZ	50 4	
		PH	40 4	
		SH	180 15	
		MH	600 30	
		MH	200 14	
	R	iPNEZ	14 21 05	c
	Pr	iPNEZ!	20 59	c
	LJ	ePNEZ	59	
	CL	iP!	21 19	c
	T	iPNEZ	30	c
	All these stations record a			
	train of waves with periods			
	near 4 seconds beginning			
	about 14h 29m to 30m.			
	Magnitude 7.3. Felt widely			
	in Mexico			
	USCGS: 17 N 98 W,			
	0 = 14:15:50			
	Tacubaya: 16°29' N 98°			
	13' W, 0 = 14:15:49			
	Numerous aftershocks, from			
	various epicenters mostly			
	noted here as "Mexico".			
14	P	iP	14 58 12	
	R	iP	37	
	Pr	iP	30	
	CL	iP!	51	d
	T	iP	59 02	
	Aftershock, Mexico			
14	MW	eP	16 39 42	
	R	iP	35	
	CL	iP	48	
	Aftershock, Mexico			
15	P	iPNEZ	01 50 30	c
		ipP	59	
	PX	iSN	02 00 45	
			A T	
		PZ	½ 1½	
	R	iP	01 50 32	
		ipP	59	
	Pr	iP	35	c
		epP	51 02	
		iSN	02 01 00	
	CL	iP!	01 50 28	c
		ipP	55	

(continued)

Date	Sta.	Phase	h m s
		December (continued)	
15	T	iP	01 50 24 c
		ipP	55
		USCGS: 0 = 01:38:07, h = 150 km.	
		BCIS: 25 N 142 E.	
15	CL	i	03 19 55
		i	20 00
		Mexico	
15	R	iP	04 18 37
	Pr	eP	33
	CL	iP	44
		i	50
		Mexico	
15	CL	iP	05 19 40
15	MW	eP	09 55 04
		e	08
	R	eP	00
	Pr	eP	54 59
	CL	eP	55 12
		i	18
		Mexico	
15	P	iP	18 02 49
		iS	04 18
	T	eP	02 11
		i	19
		iSEZ	03 08
		California; aftershock of Dec. 14, 13h	
		Magnitude $4\frac{3}{4}$	
		USCGS: 0 = 18:01:16	
16	MW	epP	00 03 58
	R	iP	09
		epP	56
	CL	iP	17
		epP	04 03
	T	iP	03 24
		South America	
16	CL	iP	03 14 34 d
16	MW	eP	04 22 20
	R	iP	15
	Pr	eP	08
	CL	iP	28
		i	33
	T	eP	40
		Mexico; aftershock of Dec. 14, 14h	
16	P	iPNEZ	10 51 51 c
	PX	eLNZ	54.3
			A T
		PZ	$\frac{1}{4}$ $1\frac{1}{2}$
	R	iP	10 51 58 d
	Pr	eP	52 09
	CL	iP	51 38 d
	T	eP	23
		USCGS: $43\frac{1}{2}$ N 127 W, 0 = 10:49:01	
16	MW	iP	15 33 08
	Pr	eP	12
	CL	iP	14
	T	iP	14
		New Hebrides, aftershock of Dec. 2, 20h	
		December	
16	MW	eP	16 35 24
	CL	iP	28
		ipP	37
	T	eP	29
16	CL	iP	16 52 19
	T	iP	21
16	MW	eP	16 59 20
	CL	iP	24
		ipP	33
	T	eP	26
		Dec. 2 aftershock	
17	P	iPNEZ	01 13 24
	PX	iSEZ	18 06
		eLN	19.2
			A T
		PZ	$\frac{3}{4}$ 2
		PH	$\frac{1}{2}$ 3
		SH	$\frac{1}{4}$ 10
		MH	5 20
	R	iPNEZ	01 13 19
	Pr	iPNEZ	12 c
	CL	iP	31 c
	T	iPNEZ	43 c
		Mexico; aftershock of Dec. 14, 14h	
		Magnitude $6\frac{1}{4}\pm$	
		USCGS: 0 = 01:08:02	
17	P	iP	01 22 01
	CL	eP	20 17
		iS	21 42
	T	eP	19 45
		i	53
		California	
17	MW	eP	03 34 32
	R	eP	27
	CL	iP	39
		Mexico	
17	R	eP	05 40 26
	CL	eP	29
17	MW	eP	06 58 46
	R	eP	48
	CL	iP	51
17	CL	iP	10 56 47
17	CL	iP	23 27 30
		i	39
18	P	eP	02 42 42
		e(pP)	52
	PX	eLEZ	03 16.6
	R	eP	02 42 44
	Pr	iPNEZ	45
	CL	iP	49
		i(pP)	43 01
	T	eP	42 53
		BCIS: Kermadec Islands, 0 = 02:29.5	
18	P	eP	02 45 07
	R	eP	09
	Pr	iPNEZ	11
	CL	iP	15
		i(pP)	22
	T	eP	18
		Same epicenter as preceding?	

Date	Sta.	Phase	h m s
		December	
18	MW	eP	02 58 21
	R	eP	16
	CL	iP	36
		Mexico	
18	MW	eP	03 18 33
	R	eP	32
	CL	eP	34
18	P	eP	03 48 19
	R	eP	09
	CL	eP	04
		i	20
18	P	iPNEZ	08 10 57 c
		iPcP	13 43
		iScP	17 09
			A T
		PZ	$\frac{1}{2}$ 2
	R	iP	08 10 52 c
		iPcP	13 41
		iScP	17 07
	Pr	iPNEZ	10 47 c
		iE	17 13
	CL	iP	11 02 c
		ePcP	13 42
		iScP	17 11
	T	ePNEZ	11 12 c
		iScP	17 13
		USCGS: 15 N 90 W, 0 = 08:04:46, h = 200 km.	
18	P	eP	12 32 18
		epP	46
	R	eP	21
	Pr	iPN	21
	CL	iP	26
		ipP	55
		i	33 25
		Southwest Pacific	
18	P	iP	15 38 54
		e	39 04
	R	iP	38 52
		e	39 04
	Pr	iPNE	38 48
	T	iP	39 09
		e	23
	CL	iP	01
		South America?	
18	P	e	16 03 20
		e	04 05
	PX	eLEZ	45.0
	R	e	04 08
	CL	i	03 25
		USCGS: Flores Sea, 0 = 15:44:15	
		BCIS: 5 S 122 E, h = 200 km.	
18	CL	iP	18 05 23
18	MW	eP	19 37 48
	R	eP	43
	CL	iP	49
	T	eP	57
		South America	
18	MW	e	22 57 15
	R	e	08
	CL	eP	23
		Mexico	
19	R	eP	04 05 52
	CL	iP	06 05
		Mexico	
19	MW	eP	09 29 47
	R	eP	41
	CL	eP	55
	T	eP	30 02
		Felt at Apia	
19	P	eP	14 29 10
		ipP	20
	R	iP	12
		ipP	22
	CL	iP	16
		ipP	26
	T	eP	17
		epP	27
		New Hebrides, aftershock of Dec. 2, 19h	
19	MW	iP	17 44 35
	R	iP	37
	CL	iP	41 c
		e(pP)	46 32
	T	eP	44 42
19	P	eP	19 47 49
	R	eP	55
	CL	eP	33
	T	eP	22
		USCGS: 49 N 129 W, 0 = 19:43:53	
19	P	eP	21 37 23
	R	eP	21
	CL	eP	12
	T	eP	12
		USCGS: 55 N 35 W, 0 = 21:27:22	
19	MW	eP	23 21 39
	R	eP	41
		i(pP)	50
	CL	iP	44
		e(pP)	52
		New Hebrides, aftershock of Dec. 2	
20	P	eP	02 18 29
		i(pP)	39
	R	iP	25
		i(pP)	33
	CL	iP	36
		i(pP)	45
		e(PcP)	22 06
	H	iP	18 43
		i(pP)	52
		Mexico	
20	MW	eP	08 30 15
	R	eP	17
		epP	24

(continued)

Date	Sta.	Phase	h m s	
	December	(continued)		
20	CL	iP	08 30 19	
		ipP	27	
	T	eP	20	
		epP	29	
	New Hebrides; not same epicenter as Dec. 2			
	BCIS: 0 = 08:17.5			
20	P	eP	17 19 41	
		eSE	22 04	
	CL	iP	19 57	
		eS	22 21	
20	P	eP	18 23 16	
	R	eP	10	
		e(pP)	21	
	CL	iP	22	
		i(pP)	31	
	Mexico			
21	MW	eP	02 26 08	
	R	eP	16	
	CL	eP	28	
	T	eP	45	
	Mexico			
21	MW	iP	02 34 32	
	R	iP	28	
	CL	iP	36	
	T	iP	43	
	South America?			
21	CL	eP	08 55 25	
	Mexico			
21	MW	eP	10 26 53	
	CL	iP	27 06	
	T	iP	16	
21	P	iPNEZ	11 48 37	d
		e	54	
		ipP	49 01	
	R	iPNEZ	48 34	d
		e	54	
		ipP	49 01	
	Pr	iPNEZ	48 31	
	CL	iP	42	d
		e	49 00	
		ipP	09	
	T	iP	48 49	d
		epP	49 11	
	USCGS: 30 S 71 W, 0 = 11:36:50, h = 150 km.			
21	MW	eP	15 49 33	
	CL	eP	38	
	T	eP	50	
	Mexico			
21	CL	eP	21 15 41	
22	MW	eP	00 02 43	
	R	iP	39	
		ipP	48	
	Pr	iPNE	31	
	CL	iP	50	
		ipP	03 00	
	T	eP	02	
		epP	14	
	Mexico			

Date	Sta.	Phase	h m s	
	December			
22	P	iPNZ	00 45 43	
	R	iP	45	
	CL	iP	43	
	T	iP	43	
	Possibly P' instead of P			
22	MW	iP	04 47 08	
	CL	iP	03	
	T	iP	46 55	
22	CL	eP	06 28 19	
22	P	i	08 03 34	
	MW	i	24	
	R	e?	13	
		e	24	
	Pr	iPN	14	
		iNE	20	
	CL	eP	33	
		e	05 41	
	USCGS: Galapagos region, 0 = 07:55:52			
22	P	eP"	09 29 50	
		e	57	
		e	30 03	
		ePP	31 44	
		e	32 19	
	PX	eLE	10 15.7	
	R	eP"	09 29 51	
	CL	eP"	48	
		i	30 02	
		i	14	
		ePP	31 49	
	T	eP"	09 29 43	
	USCGS: 0 = 09:10:36			
	Poona: 8.0 N 91.5 E; BCIS: 8.0 N 92.0 E, 0 = 09:10:41			
22	P	iP	17 46 27	
	MW	iP	29	d
		e	47 28	
	R	iP	46 29	d
	Pr	iPNEZ	30	
	CL	iP	35	d
		e	47 50	
		e	48 17	
	BCIS: Kermadec Islands			
23	MW	iP	04 48 26	
	CL	iP	24	
23	MW	eP	06 44 35	
	CL	eP	55	
		i	45 03	
	Mexico?			
23	P	eP	09 04 56	
		ipPNZ	05 10	
			A T	
		PZ	0.05 1	
		pPZ	0.3 2	
	R	eP	04 59	
		ipP	05 14	
	CL	iP	04 53	
		ipP	05 07	
			(continued)	

Date	Sta.	Phase	h m s	
	December	(continued)		
23	T	eP	09 04 47	
		ipP	05 01	
	h = 50 km.			
	USCGS: 0 = 08:53:00			
	BCIS: 35.5 N 140.5 E			
23	P	iPNEZ	17 57 22	d
		e	58 25	
		epP?	59 16	
	R	iP	57 25	d
		epP?	59 27	
	Pr	iPNEZ	57 26	
	CL	iP	29	d
		epP	59 32	
	T	iP	57 32	d
	USCGS: 20 S 179 W, 0 = 17:46:14, h = 600 km.			
24	R	iP	04 24 51	
	CL	iP	59	
	Tu	eP	20	
24	P	eP	05 22 53	
		ipP	23 04	
	R	epP	06	
	CL	eP	22 51	
		ipP!	23 01	
	T	eP	22 46	
		ipP	54	
	pP much larger than P at these stations.			
	h = 35± km.			
	USCGS: off Kiushiu, 0 = 05:10:03			
24	P	e(pP)	09 29 12	
	CL	eP	00	
		e(pP)	10	
	T	eP	28 56	
		e(pP)	29 04	
	USCGS: Kiushiu, 0 = 09:26:20			
24	P	iPNEZ	20 49 34	c
		ipP	50	
			A T	
		PZ	0.2 1	
	R	iP	37	c
	Pr	iPNE	38	
	CL	iP	39	c
	T	iP	41	
	New Hebrides; aftershock of Dec. 2			
	USCGS: 18 S 168 E, 0 = 20:36:47			
24	MW	eP	23 27 33	
	CL	iP	37	
	T	iP	44	
26	MW	iP	06 29 28	
	R	iP	24	
	CL	iP	33	
	T	eP	41	
	USCGS: Peru, 0 = 06:18:35			
26	R	eP	07 55 54	
	CL	eP	56 05	
	T	eP	19	
	Mexico			

Date	Sta.	Phase	h m s	
	December			
26	P	iPNEZ	13 57 04	
		i(sP)	19	
		iPP	58 09	
	PX	eSNE	14 01 43	
		eLN	03.4	
		iNE	08 08	
			A T	
		PZ	1½ 3	
		PH	1½ 3	
		PPZ	¼ 1	
		SH	3 9	
		MH	10 19	
	R	iPNEZ	13 56 59	c
		i(sP)	57 12	
		iPP	57	
	Pr	iPNEZ	56 52	c
		iE	57 15	
	CL	iP	13 57 11	
		i(pP)	19	
		i	58 07	
	T	iP	24	
		i	36	
	Magnitude 6½			
	h = 40 - 50 km.?			
	Mexico			
	USCGS: 17 N 98 W, 0 = 13:51:43			
26	MW	iP	14 27 48	
	R	iP	48	
	CL	iP	51	
	T	eP	52	
26	P	iP	21 22 18	
	R	iP	14	
		i	23 08	
	CL	iP	22 21	
		e	23 15	
	T	eP	22 29	
		e	23 05	
		i	23	
	Andes, h = 150 km.? (N.B. Tucson iP = 21:21:44)			
27	P	iP	04 45 20	
		i	51	
		e	46 05	
	R	iP	45 17	
		e	47	
		e	59	
	CL	iP	25	
		e	45	
		i	56	
	Andes, deep?			
27	CL	e	09 58 57	
27	CL	eP	23 00 16	
27	MW	e	23 19 21	
	R	e	17	
		e	34	
	CL	eP	04	
		i(pP)	19	
	USCGS: Foreshock Dec. 29, 20h, 0 = 23:10:02, h = 100 km.			

Date	Sta.	Phase	h m s
	December		
27	R	eP	23 28 23
	CL	eP	24
	USCGS: Foreshock of Dec. 29, 20 h, 0 = 23:19:24, h = 100 km.		
27	R	e	23 47 51
	CL	iP	55
		i	48 09
	South Pacific?		
28	MW	iP	02 41 33
		e	45
		i(pP)	57
	R	iP	37
	CL	iP	28 c
		i(pP)	42 01
	T	iP	41 19
		e(pP)	52
	USCGS: Off Kamchatka, 0 = 02:31:22		
28	CL	iP	06 31 33
	T	iP	35
28	P	iPNEZ	14 26 44 d
		e	28 06
		e	57
		e	29 13
		e	30 19
		A	T
		PZ	1 2
		PH	½ 1
	R	iP	14 26 40
	Pr	iPNEZ	36
	CL	iP	48 d
		e	27 02
		e	16
		i	29 15
	T	iPNEZ	26 56 d
		e	29 02
	Magnitude 6¼ USCGS: 9 S 72 W, 0 = 14:17:29, h = 750 km. Probably h = 650 km. as on Dec. 2 and Dec. 11		
28	MW	i(pP)	16 11 32
	CL	iP	26
		ipP	37
	T	epP	36
	New Hebrides?		
28	P	iP	21 16 41
		ipP	56
		i	17 10
	R	iP	16 37
		ipP	53
	Pr	iPNZ	32
	CL	iP	45 c
		ipP	17 00
	T	iP	16 54
		epP	17 11
		e	22
	USCGS: 11½ S 73 W, 0 = 21:06:29, h = 100 km.		
	December		
28	P	iP	22 53 37
		i	58
		ipP	54 04
	R	iP	53 41
		e	59
		epP	54 09
	Pr	iPNE	53 45
		iN	54 12
	CL	iP!	53 36 d
		ipP!	54 02
		i!	09
	T	iP	53 32 d
		ipP	59
	USCGS: 23 N 143 E, 0 = 22:41:14, h = 100 km.		
29	CL	iP	02 41 14 c
	T	iP	16
29	CL	iP	03 10 32
	T	eP	34
29	CL	iP	04 57 51
29	MW	eP	11 26 51
	CL	iP	59
	T	eP	27 01
	BCIS: Samoa, 0 = 11:15.5		
29	PX	eLE	12 48.4
	CL	e	14 16
	T	e	09
	BCIS: 38 N 87.5 E, 0 = 11:56:07		
29	MW	iP	20 10 09
	R	iP	05
	CL	iP	12
	T	eP	20
	South America?		
29	P	iP	20 25 36 c
		i(pF)	53
	PX	iLNZ	43.9
	R	iP	25 31
	Pr	iPNE	29
	CL	iP	25 33
		i	26 03
		e	46
	T	eP	25 39
	USCGS: 17 N 63 W, 0 = 20:16:29, h = 100 km.		
29	CL	e	22 53 56
		e	54 56
	BCIS: 24 N 92 E, 0 = 22:35:21		
30	MW	e	03 03 21
	CL	e	02 58
		i	03 19
30	CL	iP	03 09 02
		e	11
		i	17
	T	eP	08 57
30	P	e	04 44 04
	R	e	07
	CL	eP	43 48
		i	59
	T	e	52

Date	Sta.	Phase	h m s
	December		
30	R	eP	06 25 20
	CL	iP	23
	T	eP	23
30	P	iP	06 55 26 d
		i	31
		ipP	41
	R	iP	28 d
		ipP	42
	Pr	iPNE	30
	CL	iP	34 d
		i	39
		ipP	48
	T	iP	36
	USCGS: Kermadec Islands, 0 = 06:42:56, h = 100 km.		
30	CL	e(P)	12 04 56
	Near Apia?		
30	CL	e(P)	12 49 58
	Near Apia?		
30	P	iPNEZ	13 11 12 d
		ipP	57
		e	12 16
		A	T
		PZ	0.2 1
	R	iP	13 11 07 d
		ipP	52
	Pr	iPNE	02
	CL	iP	16 c
		i	21
		ipP	59
	T	iP	25
	USCGS: 1 S 77 W, 0 = 13:02:20, h = 200 km.		
30	CL	iP	17 05 58
30	MW	e	17 08 32
	R	eP	12
	CL	eP	17
		e	37
	T	e	40
	Mexico		
30	P	iPNEZ	21 26 08
		ipP	27 08
		A	T
		PZ	0.2 1
	R	iP	26 11
		ipP	27 09
	Pr	iPNEZ	26 12
	CL	iP	26 15
		ipP	27 14
	T	iP	26 17
		ipP	27 17
	USCGS: Fiji Islands, 0 = 21:14:53, h = 300 km.		
30	P	iP	21 56 18
		ipP	57 18
	R	eP	56 14
	T	eP	32
	Aftershock		
	December		
31	P	eP	11 37 12
		eSE	38 45
	CL	eP	36 58
		iS	38 15
	T	eP	36 40
		eS	37 29
31	CL	iP	15 22 37
	Mexico?		

C. F. Richter
Marion Reid
June 29, 1951

Correction:
Page 33 Shock of May 19, 02h
For GH 7 10
Read SH 7 10

Omitted from page 82:
November

14	P	eP	04 36 40
	Surface waves recorded, overlapping those of the next.		
	CL	eP	04 36 44
	USCGS: 11 S 161 E, 0 = 04:23:46		
14	P	eP	04 44 53
	Pe	eP	56
	CL	eP	56
	USCGS: 11 S 161 E, 0 = 04:32:00		

Larger shocks of 1950

Epicenters, origin times, depths and magnitudes revised by B. Gutenberg

		Lat.	Long.	Depth	Magnitude	
Jan. 12	12 06 09	18 S	178 W	550 km.	7.0	
Feb. 2	23 33 39	22 N	100 E	normal	7.0	
Feb. 28	10 20 57	46 N	144 E	340 km.	7.8	
May 17	18 13 13	21 S	169 E	40 km.	7.0	
May 25	18 35 07	13 N	143½ E	90 km.	7.0	
May 26	01 17 25	20¼ S	169¼ E	40 km.	7.1	Foreshock 18 sec. earlier
June 7	16 52 34	4 S	76½ W	110 km.	7.0	
June 8	16 07 32	47 S	15 W	60 km.	7.1	
June 21	06 55 37	20¼ S	169¼ E	40± km.	6.9	
June 24	22 25 34	20½ S	169½ E	40 km.	7.2	
July 9	04 40 04	8 S	70¾ W	650 km.	7	
July 29	23 49 02	6½ S	155 E	70 km.	7.1	
Aug. 14	22 51 24	27¼ S	62½ W	630 km.	7¼	
Aug. 15	14 09 30	28½ N	96½ E	normal	8.6	
Sept. 10	15 16 08	15½ S	167 E	100 km.	7.1	
Sept. 19	20 29 48	2 S	138½ E	normal	6.9	
Sept. 29	06 32 20	19 N	107 W	60 km.?	7	
Oct. 5	16 09 31	11 N	85 W	normal	7.7	
Oct. 8	03 23 09	3¾ S	128¼ E	normal	7.6	
Oct. 23	16 13 20	14½ N	91½ W	normal	7.3	
Nov. 2	15 27 56	6½ S	129½ E	50 km.	7.5	
Nov. 5	17 37 27	33¼ N	134¾ E	normal	6.9	
Nov. 8	02 18 12	10 S	159½ E	normal	7¼	
Dec. 1	14 50 58	14 N	47¼ W	60 km.	7	
Dec. 2	19 51 49	18¼ S	167½ E	60 km.	7¾	
Dec. 2	19 55 27	18¼ S	167½ E	60 km.?	7¼	Aftershock

Larger shocks of 1950 (continued)

Dec. 4	16 28 03	5 S	153½ E	110 km.	7.2
Dec. 9	21 38 48	23½ S	67½ W	100 km.	8.0
Dec. 10	13 23 04	28 S	178½ W	250 km.	7¼
Dec. 14	01 52 49	19¼ S	175 ¾ W	200 km.	7.7
Dec. 14	14 15 51	17 N	97½ W	normal	7.3

The earthquakes of Feb. 28, August 15, and December 9 rank among the largest known deep, shallow, and intermediate shocks respectively. This makes the energy release in 1950 one of the highest since 1904 in all three classes. The release of energy at intermediate depth, while high, ranks below that for some other catalogued years; but the activity during the first half of December was exceptional for so short an interval.

The shock on December 10, 13h, is reported by Wellington as felt in New Zealand as far as Banks Peninsula (distant about 16 degrees)

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STATION NOTES

Haiwee H — Reported usually at times of defective registration at Tinemaha or China Lake, particularly from July 5 to November 8, when China Lake was out of service during reconstruction.

Crestline Cr — Reported usually at times of defective registration at Riverside or Palomar. The Crestline installation was destroyed by fire on August 31, 1950. The station was not replaced; but on June 21, 1951 recording began at a new location referred to as Big Bear, approximately 34 14.3' N. 116 54.8' W., h = 2060 meters.

Perris Pe — Reported under the same conditions as Crestline particularly after the loss of that station.

ROYAL OBSERVATORY * EDINBURGH
23 SEP 1951