CALIFORNIA INSTITUTE OF TECHNOLOGY

PASADENA, CALIFORNIA

SEISMOLOGICAL LABORATORY BULLETIN

1955

(Pasadena and Auxiliary Stations)

STATIONS, 1955

Station	Lat.N.	Long.W.	h	Symbol	Ground
Pasadena	34°08.9'	118°10.3'	295m	P, PX	Granitic rock
Mt. Wilson	34 13.4	118 03.5	1730	MW	Granitic rock
Riverside	33 59.6	117 22.5	260	R	Granitic rock
Palomar	33 21.2	116 51.7	1690	Pr	Granitic rock
Barrett	32 40.8	116 40.3	520	Bt	Granitic rock
Santa Barbara	34 26.5	119 42.8	90	SB	Alluvial with boulders
Woody	35 42.0	118 50.8	490	W	Granitic rock
Isabella	35 38.6	118 28.6	760	Is	Granitic rock
China Lake	35 49.0	117 35.8	766	CL	Granitic with intrusions
Haiwee	36 08.2	117 56.8	1150	H	Tuff
Tinemaha	37 03.3	118 13.7	1195	T	Basalt
Big Bear	34 14.3	116 54.8	2060	BB	
Dalton	34 10.2	117 48.6	523	D	Granitic rock
Fort Tejon	34 52.4	118 53.6	990	FT	
King Ranch	35 19.6	119 44.7	680	Kg	

China Lake station out of service until July 20.

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

Components are indicated as N, E, Z; where no such letter appears the reading is for Z alone.

Instruments for 1955 were as follows:

Short-period Benioff Z	One at each station
Short-period Wood-Anderson N,E	P, R, SB, H, T
Short-period Wood-Anderson, one component	Bt, W, Is
Long-period Wood-Anderson	P
Short-period Benioff, N, E	P, Pr, Bt
Long-period Benioff Z	P, R, Bt, CL, T
Long-period Benioff N, E	P, R, Bt, T
Strong-motion (low magnification) N,E,Z	P, R, Is, H
Other special and experimental instruments	P, Pr

PX = long-period instruments, Pasadena. c = compression, d = dilatation. When surface waves are not reported for Pasadena they are not found or are small. Columns headed A and T give maximum amplitude (microns) of computed earth displacement, and period (seconds), of the indicated phases and components. H = combined N and E.

All times are G.C.T. Times are usually not reported for SB, H, BB, D, FT or Kg unless of exceptional interest or when other records are defective; D readings will be reported more regularly beginning Nov. 8, 1955. Times are normally given for P or MW, but not both.

Earthquakes in Southern California are reported only if of magnitude 5 or over, unless they are of special interest.

Magnitudes for local earthquakes are on the same basis as heretofore. For teleseisms, magnitudes without designation or lettered M are on the previous system; magnitudes lettered m are on Professor Gutenberg's unified scale. For large magnitudes approximately M-m = 0.37 (M - 6.76).

Date	Sta.	Phase	h	m	s
January					
1	MW	e	10	45	13
	R	eP			02
	Pr	eP			02
	W	iP			07
		i			14
		e		47	58
	T	eP		45	01
	USCGS: 28½N 44W 10:34:41				
1	MW	eP	10	59	57
	R	iP			54
	Pr	iP			53
	W	iP			59
		i	11	00	04
		i		03	18
	T	eP	10	59	53
	USCGS: 28½ N 44 W; 10:49:32				
	P	eP	12	15	12
		i			16
		iNZ			27
		eSE		16	29
	R	eP		15	13
	SB	eP			27
	W	eP		14	49.5
		iSE		15	41
	H	eP		14	48.0
		iSE		15	27.5
	T	iP		14	29.9
		iNEZ!			33.2
		iSNE			59.1
	Magnitude 5.1 Nevada (aftershock of December 16, 1954) USCGS: 12:13:54				
1	Pr	eP	17	03	10
	W	iP			11
	T	eP			18
	BCIS: 26 S 175 W; 16:50.9				
1	MW	eP	18	11	31
		i			42
	Pr	e			48
	W	iP			26
	T	eP			23
		i			30
	USCGS: 51 N 178½ W; 18:03:08				
1	MW	e	18	46	05
	W	iP		45	52
	T	eP			50
		i			57
	USCGS: 51½ N 178½ W; 18:37:41, 60 km				
1	W	iP	19	38	44
		e			52
		i		39	02
2	P	iP	07	33	12
	R	iP			15
	W	iP			15
		epP?		34	47
	T	eP		33	22
	BCIS: 20¼ S 177¼ W; 07:21:54, 400 km				
January					
2	W	iP	17	21	55
		e		22	02
		i			10
2	P	eP	22	08	40
		iS		09	52
	W	iP		07	11
		iSEZ		08	02
	T	eP		07	44
		i			46
		iSNE		08	20
	Magnitude 4¼ Nevada?				
3	R	e	01	20	43
	T	e			30
	Greece				
3	W	iP	01	47	18
		i			59
	T	eP			18
		i			59
3	P	e	02	41	57
	R	eP			51
	W	eP			44
		i		42	00
	T	e		41	46
	BCIS: Marianas 02:29.0				
3	P	ePZ	18	52	23
	PX	eLN	19	14.4	
	R	iP	18	52	19
		i			25
	T	eP			37
		i			43
	BCIS: 15¼ S 75¼ W; 18:41:55, 60 km				
4	MW	eP	12	20	04
	R	iP			07
	W	iP		19	57
	Is	iP			59
	T	eP			56
	BCIS: 32 N 140 E; 12:07:46				
5	W	e	00	09	34
5	P	iPP	01	08	52
		i		09	32
	PX	ePSNE			18.6
		iPPSEZ		19	52
	P	iPKKP		20	09
	PX	eGNE			34.5
		eR			39.2
		eG2N	02		33.2
			A		T
		PPZ	1		7
		PPH	1½		4
		MH	13		20
	R	e	01	08	18
		ePP			51
		e		09	19
		iPKKP		20	09
	Is	ePP		08	54
		i		09	27
		iPKKP		20	07
	T	e		08	56
		e		09	31
		ePKKP		20	04
	Magnitude 6¾± USCGS: 50 S 162½ E; 00:50:12				

Date	Sta.	Phase	h	m	s
January					
5	P	iPNEZ	15	38	14
		i			23
		i			40
	R	eP			17
	Is	iP			04
		i			13
	T	iP		37	59
		i		38	09
		i			18
	USCGS: 54½ N 161 E; 15:28:20				
5	MW	eP	15	44	12
	Is	eP			19
	T	eP			21
	USCGS: 0 78 E; 15:35:08				
5	P	eP	18	01	27
		i			42
		ePP		04	53
	PX	eSKSNE		11	38
		iSNE			55
		ePSNE		12	59
		eGN		24	
		eR		27.5	
			A		T
		PZ	1½		6
		SH	6		17
		MH	25		20
	R	eP	18	01	24
		i			35
		i			42
	Is	eP			26
		i			31
		i			41
	T	eP			30
		i			39
		i			45
		iPP		05	00
	Magnitude 6¾				
	USCGS: 16 S 167½ E; 17:48:35				
5	P	eP	23	54	54
		i		55	09
	PX	ePP		58	01
		ePS	24	06	33
		eR		20.9	
			A		T
		PZ	4		12
		PPZ	2		9
		MH	30		20
	R	eP	23	54	54
		i			58
		i		55	04
	Bt	iP			00
	Is	i		54	58
	T	eP		55	00
	Magnitude 6¾ - 7				
	USCGS: 16 S 167½ E; 23:42:03				
6	MW	e	02	12	51
	Bt	e		13	15
	T	e			05
	USCGS: New Hebrides; 01:59:43				
6	P	e	02	35	23
		e			34
	PX	eNE			47.7
		eR	03	01.8	
			A		T
		MH	18		20
	R	eP	02	35	26
		e			46
	Bt	e			47
	Is	eP			27
		i			49
	T	e			40
		i			52
	USCGS: 16 S 167½ E; 02:22:35				
6	MW	eP	04	07	37
	R	eP			34
	Bt	eP			24
	Is	eP			53
		e		08	47
	Tacubaya: 15°57' N 99°09' W; 04:02:22				
6	MW	e	04	23	34
	R	eP			21
	Is	e			24
	New Hebrides				
6	MW	e	05	15	55
	Is	e			51
	T	e			47
	CMO: 41.4 N 143.6 E; 05:04:23, 50 km				
6	MW	e	07	12	51
	R	e		13	00
	Is	e		12	41
		e			48
		e		13	09
	T	e		12	54
	New Hebrides				
6	P	eEZ	10	01	23
		e			46
		eL			28.1
	MW	e		01	13
	R	e			10
	Is	e			09
	T	e			10
	USCGS: 16 S 167½ E; 09:48:19				
7	MW	iP	05	37	15
	R	iP			09
	T	iP			26
		e		38	06
	USCGS: 14½ N 90½ W; 05:30:56, 150 km				
7	MW	e	10	05	04
	R	e			07
	Bt	i			13
	Is	eP'		04	26
		e			56
		e		05	10
	T	e		04	53
		i			57
		i		05	03
		i			09

(continued)

Date	Sta.	Phase	h	m	s
January (continued)					
7	T	i	10	05	15
		i			36
	USCGS: 16½ S 78 E; 09:44:28				
8	P	e	07	46	13
		i			18
		i			29
		ePP		49	47
	PX	iNEZ		56	59
		i		57	21
		eLEZ	08	11.8	
			A		T
		PZ	1½		5
		PH	1½		5
		MH	40		20
		MZ	23		19
	R	eP	07	46	10
		i			30
	Bt	eP			14
		i			26
		i			30
	Is	eP			12
		i			30
		i			41
	T	eP			14
		iNEZ			31
	Magnitude 6¾±				
	USCGS: 11½ S 166½ E; 07:33:36, 60 km				
8	P	eP	09	12	40
		i			47
		i		13	03
	R	eP		12	48
	Is	iP			34
	T	iP			31
		i			40
		i			54
	CMO: 31.5 N 141.6 E; 09:00:30, 100-120 km				
8	P	eP	10	06	25
	PX	iRNZ			17.8
	R	eP		06	21
	Bt	iP			12
	Is	eP			39
	T	eP			49
	USCGS: 5 S 106 W; 09:58:42				
8	P	eP	19	14	13
	Bt	iP			26
	Is	iP			04
	T	eP		13	53
	USCGS: 50½ N 158 E; 19:03:55				
9	P	eP	00	37	40
	R	eP			43
	Bt	iP			53
	Is	iP			31
	T	iP			26
	USCGS: 54½ N 162 E; 00:27:48				
9	P	iP	04	10	30
		i			38
	R	eP			33
	Bt	iP			43

(continued)

Date	Sta.	Phase	h	m	s
January (continued)					
9	Is	iP	04	10	20
	T	iP			15
	USCGS: 55N 161½ E; 04:00:44, 60 km				
9	P	iPNZ	09	12	07
		iSNEZ		13	29
	R	iP		12	09
	SB	eP			15
	W	ePEZ		11	47.0
		i			54.7
		iSE		12	38.9
	Is	iP		11	46.4
	H	eP			39.2
		i			58.0
		iSNZ		12	27.6
	T	iPEZ		11	26.1
		iSE			56.7
	Magnitude 5.0				
	USCGS: 39 N 118 W; 09:10:50				
9	P	iP"	11	25	41
		ePP		27	11
	R	iP"		25	39
	Is	iP"			44
	T	eP"			45
	BCIS: 56 S 27 W; 11:06:54				
10	Bt	eP	09	47	24
	Is	eP			42
	T	e		48	02
	USCGS: ½ S 80 W; 09:38:43				
10	P	eP	10	08	32
		i			46
		iSNE		09	46
	R	iP		08	27.1
		eSE		09	35
	Is	iP		08	21.4
		i			33.5
		i(S)		09	26.6
	T	iP		08	12.7
		i			24.1
		iS		09	05.8
	Magnitude 4.4				
	USCGS: 37 N 114½ W; 10:07:28				
10	MW	eP	13	17	36
	R	iP			41
	Is	eP		16	59
		i		17	08
		iS		18	01
	T	iP		16	36
		i			45
		iSEZ		17	19
	Magnitude 4.0				
	USCGS: 40 N 118½ W; 13:15:54				
10	Is	eP	19	38	09
		iPcP		41	01
	T	eP		38	16
		i			32
		iPcP		41	02
	USCGS: 15 N 92½ W; 19:31:50, 100 km				

Date	Sta.	Phase	h	m	s
January					
10	P	iPNZ	21	54	30
	Is	iP			33
	T	iP			39
	USCGS: 14½ S 175 W;				
	21:43:10, 100 km				
11	P	iP	00	47	21
	R	iP			17
	Bt	iP			11
	Is	iP			27
	T	eP			32
	USCGS: 20 S 69½ W;				
	00:35:58				
11	P	eP	10	23	00
		i			15
		iSEZ		24	21
	R	iP		23	00.5
	W	ePEZ		22	44.8
		iSEZ		23	31.5
	Is	eP		22	37.7
		i			45.7
	H	ePN			38.1
		iSE		23	19.0
	T	iPEZ		22	17.1
		iEZ			20.8
		iSE			50.0
	Magnitude 4.7 Nevada				
11	P	iPNEZ	13	00	49 c
	R	iP			52 c
	Bt	iP			53 c
	Is	iP			51 c
	T	iP			54 c
	Initial compressions followed by larger dilatations.				
	USCGS: 13 S 167½ E;				
	12:48:10				
11	P	iPNEZ	14	01	29
		i			36
		i			47
	R	iP			32
	Bt	iP			38
	Is	eP			24
	T	eP			21
	USCGS: 27 N 127½ E;				
	13:48:11				
11	MW	eP	15	48	20
		e			33
		e		49	38
		i(P)		51	39
	R	eP		48	14
		i		50	51
		i		51	06
		i(P)			43
	Is	i(P)		50	57
		i		51	10
		i			27
	T	i(P)			13
		i			23
	Probably two earthquakes				
11	P	iP	22	37	57
	R	iP			54
	Bt	iP			46
	Is	iP		38	05
		ipP			49
	South America				
	BCIS: 22:26.4, 150-200 km				

Date	Sta.	Phase	h	m	s
January					
11	P	iPNEZ	23	10	23
	Is	eP			31
		i		12	48
	USCGS: 11 N 86½ W;				
	23:03:07				
12	P	ePNZ	19	37	28
		epP			53
	R	iP			25
		ipP			50
	Bt	iP			16
		ipP			40
	Is	iP			35
		ipP		38	01
	Depth 100 km				
	USCGS: 21½ S 69 W;				
	19:25:56				
12	Is	iP	22	47	40
		i			50
13	P	eP"	00	33	29
	R	eP"			28
	Is	eP"			23
	BCIS: 57½ S 11 W;				
	00:14:23				
13	P	eP	02	11	17
		i			19
		iEZ!			36
		iNEZ			59
	PX	ePPNE			12.8
		iSNE		17	20
		iGNE			20.1
		iNE		20	28
		iScSNE		21	23
		eN			45
			A		T
		PZ	5		5
		PH	2½		5
		PPH	3		5
		SH	20		10
		GH	150		40
		MH	150		23
		MZ	150		23
	R	eP	02	11	21
		i			33
	Pr	iP			28
		i			30
		i			47
		iS		17	46
	Bt	iP		11	32
		i			48
		i		12	25
		i		13	36
		iSNZ		17	55
	W	ePEZ		11	06
		eSE		17	05
	Is	iP		11	07
		i			10
		i			16
	T	ePNZ		11	01
		i			03
		i			19
		eSE		16	52
	Magnitude 6.9				
	USCGS: 53 N 167½ W;				
	02:03:43				

Date	Sta.	Phase	h	m	s
January					
13	P	iP	02	43	19
		i			29
		i			39
	PX	iSNE		49	22
		iNE		52	26
	P	iScSN		53	24
		eN			44
			A		T
		PZ	3		5
		SH	10		10
	R	eP	02	43	23
		i			37
	Pr	iP			30
	Bt	iP			35
		i			52
	W	eP			08
	Is	eP			10
	T	eP			03
		i			20
	Magnitude 6½				
	Aftershock				
	USCGS: 53 N 167½ W;				
	02:35:45				
13	P	iP	02	52	20
	R	iP			23
	Pr	iP			30
	Bt	iP			35
	W	iP			09
	Is	iP			10
	T	iP			05
	Aftershock				
	USCGS: 02:44:47				
13	P	eP	02	58	41
	T	eP			25
	Aftershock				
13	MW	iP	08	43	03
	R	iP			01
	Pr	eP		42	54
	Bt	iP			54
	Is	iP		43	13
	T	iP			17
	USCGS: 20½ S 70 W;				
	08:31:40				
13	MW	iP	16	38	36
	R	eP			39
	Pr	iP			41
	Is	iP			38
	Pacific				
14	P	eP	17	00	32
	R	eP			34
	Pr	eP			34
	Bt	eP			22
	Is	eP			36
15	P	iPNEZ!	01	03	25.4 d
		iSE			39.2
	MW	iP			25.4 d
	SB	iPNEZ!			21.1
		iSNE			31.7
	W	iP!			20.5
		iSE			30.5
	(continued)				

Date	Sta.	Phase	h	m	s
January (continued)					
15	Is	iP!	01	03	22.1
	T	iPNEZ			45.7
	FT	eP			11.5
		i			12.2
	Kg	iP!			20.6
	Magnitude 4.3				
	34°57' N 118°58' W;				
	01:03:07				
15	R	e	03	48	27
	Pr	i			28
	W	i			09
		i			26
	Is	e			10
		i			28
	Pacific				
15	MW	iP	13	30	47
	Pr	iP			50
	Is	iP			50
	Pacific				
15	Is	eP	16	13	51
	Iceland				
15	Is	eP	16	53	17
	Iceland				
15	MW	eP	20	07	21
	Pr	eP			28
	Bt	eP			30
	CMO: 35.2 N 141.5 E;				
	19:55:15, 20 km				
16	MW	iP	15	57	54
	R	iP			56
	Bt	iP			54
	Is	iP			57
	T	iP		58	02
	Near Apia				
17	R	iP	02	33	54
		i		34	12
	Pr	iP		33	59
	Bt	iP		34	01
	Is	iP		33	44
		e		34	02
	T	eP		33	42
		e			59
	CMO: 35.5 N 140.4 E;				
	02:21:49, 80 km				
17	P	i	02	52	12
	Pr	iP		51	58
		i		52	15
	Bt	i			14
	Is	iP			00
		i			16
		i			46
	T	iP			05
		e			21
		e			48
	USCGS: 20 S 176½ W;				
	02:40:17, 200 km				
17	MW	eP	21	31	46
		e			59
	R	e			41
	Is	iP		32	03
		e			17
		e			23
	continued				

Date	Sta.	Phase	h	m	s	
January (continued)						
17	T	e	21	32	14	
		e			26	
	Tacubaya: 20°36' N 106°09'W					
	21:27:48					
17	R	i	22	22	36	
		i			44	
	Is	iP			47	
		i			56	
		e		23	00	
	BCIS: Northern Chile,					
	22:11.1					
18	P	e	07	09	29	
		e		10	18	
	Pr	i			10	
	Is	e		09	35	
		e		10	04	
	Near Apia					
18	P	iP	08	49	47	
		i			54	
		i			59	
	R	iP			41	
	Pr	iP			35	
		i			40	
		i			43	
	Bt	iP			31	
		i			35	
	Is	iP			56	
	T	i		50	02	
	USCGS: 5 N 87½ W;					
	08:42:03					
18	P	iP	14	47	52	
	R	iP			58	
		epP		49	22	
	Pr	iP		47	58	
		ipP		49	23	
	Is	iP		47	58	
		ipP		49	25	
	T	iP		48	05	
	USCGS: 19 S 179 W;					
	14:36:32, 400 km					
18	R	eP	17	02	56	
	Pr	iP			54	
	Bt	iP			56	
	Is	eP			07	
		i			16	
	T	eP			12	
	USCGS: 36½ S 98½ W;					
	16:51:26					
19	Is	iP	02	11	17	
	T	iPNZ		10	51.4	
		iSN		11	22.9	
	Magnitude 4.4					
	USCGS: 39½ N 118½ W;					
	02:10:07					
19	P	iP	15	41	58	
	Bt	iP			44	
	Is	iP		42	06	d
	T	iP			21	d
	USCGS: 1 N 78½ W;					
	15:33:07, 100 km					

Date	Sta.	Phase	h	m	s	
January						
20	P	iPNEZ	03	53	54	d
	PX	iSNE		58	08	
		eGNE		59.1		
		iRNZ		59.9		
			A		T	
		PZ	2½		4	
		PH	2		4	
		SH	8		10	
		MH	35		16	
	R	iP	03	53	48	
	Pr	iP			40	
	Bt	iP			33	
	Is	iP		54	08	
	T	iPEZ			16	
	Magnitude 6¼					
	USCGS: 15 N 104½ W;					
	03:48:45					
20	Is	iP	04	24	38	
	Kermadec region					
21	P	iP	09	17	44	
		e		18	31	
	R	iP		17	41	
		i(pP)		18	14	
		e			28	
	Pr	iP		17	36	
	Bt	iP			32	
	W	iP			52	
	Is	iP			51	
		i(pP)		18	24	
	T	iP		17	56	
	Depth 120 km?					
	BCIS: 25 S 68¼ W;					
	09:05:57					
21	P	iPEZ	14	26	10	
		i			24	
	R	eP			15	d
		i			30	
	Pr	iP			23	
		i			37	
	Bt	iP			25	d
		i			41	
		i		27	01	
	W	iP		25	59	
		i		26	09	
		i!			14	
		i!			19	
	Is	iP			00	d
		i			15	
		i			21	
		i			43	
	T	eP		25	54	
		e		26	06	
		i			09	
		i			38	
	USCGS: 53 N 168 W;					
	14:18:33					
21	MW	e	18	13	33	
	W	iP			29	
	Japan					
21	W	i(P)	22	00	44	

Date	Sta.	Phase	h	m	s
January					
22	W	eP'	05	48	47
	Is	eP'			56
	BCIS: 9½ S 68¾ E;				
	05:28:28				
22	W	iP	21	20	08
	Is	eP			09
22	P	iPNEZ	21	21	55
	Pr	iP			58
	W	iP			56
	Is	iP			58
	T	iP		22	03
	Apia gives 17½ S 178½ W;				
	21:11:03, 650 km				
22	P	e	23	51	53
	W	eP			58
	Is	eP			58
	T	e		52	14
	BCIS: off Chile, 23:39.6				
23	P	eP	15	21	40
	R	eP			45
	Pr	i		25	04
	W	iP		21	31
	Is	iP			31
23	P	iP"EZ	23	40	30
		e			48
		iSKP		43	50
		iNZ			59
	R	eP"		40	32
		iSKP		43	53
	Pr	eP"		40	28
		eSKP		43	55
	Bt	eP"		40	33
	W	iP"			28
		iSKP		43	46
	Is	eP"		40	28
		iSKP		43	46
	BCIS: 7¼ S 105¾ E;				
	22:21:17				
24	P	eP	00	56	54
	R	eP			51
	Pr	eP			44
	Bt	iP			38
	W	eP		57	13
	Is	eP			06
	USCGS: 4 S 104 W;				
	00:49:20				
24	P	eP	05	53	23
	R	eP			18
	Pr	eP			11
	W	eP			35
	Is	iP			35
	Mexico				
24	P	eP	14	45	40
	R	eP			43
	Pr	iP			43
	W	iP			42
		i(pP)		47	01
	Is	iP		45	43
		i(pP)		46	57
	Phases marked (pP) show				
	very short periods.				
	USCGS: 18 S 179½ W;				
	14:33:38				

Date	Sta.	Phase	h	m	s
January					
25	P	eP	00	38	39
		e			47
	R	eP			34
	Pr	eP			22
	Bt	eP			12
	W	eP			56
	Is	eP			56
	Mexico?				
25	P	eSKP	04	32	09
	W	eP"		28	47
		iSKP		32	05
	Is	eP"		28	47
		eSKP		32	06
	USCGS: Off Java; 04:09:30				
25	P	iPEZ	12	23	55.4
	MW	iP			57.1
	R	eP		24	01.4
	Subsidence under Terminal				
	Island, Long Beach harbor				
	Damage to oil wells.				
25	P	ePNEZ	14	23	25
	PX	eLNEZ		27	--
	R	eP		23	22
	Pr	eP			15
	Bt	eP		22	59
	W	eP		23	43
	Is	eP			43
	T	eP			54
	USCGS: 19½ N 109½ W;				
	14:19:29				
25	P	iP	15	00	30
		i			42
	PX	eGE		18.5	
		eRNE		21.8	
			A		T
		MH	20		20
	R	eP	15	00	23
		e			29
	Pr	eP			28
	Bt	eP			38
	Is	eP			13
		e			20
	T	eP			08
		i			19
	USCGS: 80 N 3 W; 14:50:05				
25	MW	eP	15	45	11
	Is	eP			02
		e			06
25	P	iP	23	18	33
		epP		19	33
	Pr	iP			25
	Bt	iP		18	22
		epP		19	18
	W	iP		18	41
		ipP		19	43
	Is	iP		18	39
		ipP		19	40
	USCGS: 22½ S 65½ W;				
	23:07:10, 250 km				
25	P	eP	23	28	00
		i			13
		iSNE		29	16

(continued)

Date	Sta.	Phase	h	m	s	
January (continued)						
25	W	iP	23	27	38	
		iSEZ		28	27	
	Is	iP		27	38.8	
		i!			43.9	
		iS		28	28.1	
	T	iP		27	17.6	
		iEZ			18.9	
		iSNE			45.2	
	Magnitude 4.7					
	Region of Fallon, Nevada					
26	P	eP	03	02	16	
	Bt	eP			09	
	W	eP			22	
	Is	eP			23	
	Southeast Pacific					
26	P	iP	04	06	14	
	Pr	iP			19	c
	Bt	iP			17	
	W	iP			13	c
	Is	iP			15	c
	T	iP			19	
	Southwest Pacific?					
26	MW	e	07	39	01	
	Pr	iP		38	50	
		i			57	
	Bt	i			51	
	W	e		39	24	
	Is	eP			12	
		e			23	
	USCGS: Galapagos region; 07:31:09					
27	P	eP	13	17	29	
		iNZ			45	
	Pr	iP			21	
		i			34	
	Bt	i			28	
	W	e			51	
		i		18	00	
	Is	eP		17	42	
		i			56	
	T	eP			48	
		e		18	02	
	BCIS: 15¼ N 93½ W; 13:11:36, 60 km					
27	P	iP	16	27	49	c
	Pr	iP			55	c
	Bt	iP			59	
	W	iP			40	c
	Is	iP			40	c
	USCGS: 43 N 140½ E; 16:16:05					
27	P	iPNEZ	18	49	32	c
		ipPNZ		50	58	
	Pr	iPZ		49	35	c
		ipP		51	01	
	Bt	iP		49	33	c
		i			58	
		ipP		50	58	
	W	eP		49	30	
		iP!			35	c
		ipP		51	00	
		e		52	30	
		e		54	13	
	Is	iP		49	35	c
		ipP		51	01	

(continued)

Date	Sta.	Phase	h	m	s	
January (continued)						
27	T	iPNEZ	18	49	41	c
		i		50	07	
		ipP		51	06	
		iSN		59	02	
		iN			33	
	USCGS: 17½ S 177 W; 18:38:20, 400 km					
28	Pr	i	10	02	00	
	W	i		01	59	
	Is	i		02	00	
	Very distant?					
28	PX	eLE	17	51.9		
			A		T	
		MH	8		20	
	MW	e	17	21	18	
	Pr	e			21	
	W	e		20	47	
		e		21	06	
	Is	e			11	
		e			23	
	Magnitude 6¼ - 6½					
	USCGS: 33N 82½ E; 17:02:33					
29	MW	eP	17	13	49	
		e		14	00	
	Bt	e			08	
	W	eP		13	33	
		i			45	
	Is	e			40	
	T	e			44	
	USCGS: 51½ N 159½ E; 17:03:35					
29	P	ePNZ	18	05	37	
	Pr	iP			25	
	Bt	iP			19	
	W	eP			48	
		e(PcP)		08	49	
	Is	eP		05	46	
	T	iP			42	
	Tacubaya: 15°09' N 95°44' W; 18:00:09					
31	MW	eP	02	35	25	
		e			34	
	Pr	iP			35	
		i			44	
	Bt	eP			38	
	W	iP			08	
		i			13	
		i			21	
	Is	eP			11	
		i			23	
	T	e			17	
	Aleutian Islands; USCGS: 02:27:12					
31	W	eP	02	54	52	
		i		55	05	
	Is	eP			55	
	USCGS: 46 N 152½ E; 02:44:15					
31	P	iPNEZ	05	14	42	c
		iE		15	11	
	PX	iSNE		24	18	
		iE			58	
		eL		38.8		

(continued)

Date	Sta.	Phase	h	m	s	
January (continued)						
31			A		T	
		PZ	1		2	
		PH	¾		2	
		SH	¾		4	
	Pr	iP	05	14	34	c
	Bt	iP			32	c
		i			44	
	W	iP			49	c
		i		15	03	
	Is	iP		14	47	c
	T	iPNEZ			50	c
	Magnitude 6¾					
	USCGS: 12½ S 57 W; 05:03:03; Matto Grosso, Brazil					
31	MW	eP	12	53	25	
	Is	iP			26	
	Near Apia					
31	P	iPNZ	15	15	18	
		i(pP)			28	
	R	iP			10	
		i(pP)			21	
	Bt	iP			06	
		i(pP)			18	
	W	iP			25	
		i(pP)			37	
	Is	iP			24	
		i(pP)			35	
	T	iP			30	
		i(pP)			42	
	USCGS: 31½ S 71½ W; 15:03:10					
31	P	iPNEZ	16	12	54	
	PX	iSNEZ		21	45	
		eLN		29.6		
		eL		32.1		
	P	eP'P'		41	40	
			A		T	
		PZ	½		2	
		PH	¼		1½	
		SH	1¼		5	
		MH	10		20	
	Pr	eP	16	12	59	
	Bt	iP		13	05	
	W	eP		12	39	
		i			43	
		eP'P'		41	38	
	Is	eP		12	42	
		eP'P'		41	41	
	T	iP		12	40	
		iNE			48	
		e		13	06	
		eSEZ		21	18	
	Magnitude 6½±					
	USCGS: 46½ N 153 E; 16:02:07					
31	P	e	19	30	22	
	Pr	i(P)			08	
	W	eP		29	59	
		i		30	04	
	T	i		29	59	

Date	Sta.	Phase	h	m	s	
February						
1	PX	eLEZ	14	20.0		
	MW	e(P)		15	14	
	W	eP			32	
	Is	eP			31	
	T	e(P)			39	
	Mexico					
1	P	eP	19·27		44	
		i			58	
		eL		50.3		
	Pr	eP		27	52	
	Bt	eP			58	
		i		28	11	
		i			18	
	W	iP		27	35	
		i			39	
		i			46	
	T·	eP			34	
		i			45	
	CMO: 41.9 N 142.6 E; 19:16:12, 60 km					
1	W	iP	20	32	07	
	Volcano Islands					
2	P	iPNEZ	07	34	28	d
	Pr	iP			30	
	Bt	iP			28	
	W	iP			31	d
	Is	iP			32	d
	T	iP			38	
	USCGS: 22 S 176 W; 07:22:32, 100 km					
2	W	eP	14	50	53	
	Is	eP			51	
	Southeast Pacific					
2	R	eP	22	14	44	
	W	eP			05	
	USCGS: 44 N 128½ W; 22:11:18					
3	MW	e(P)	03	13	16	
		e			26	
		e		14	25	
	R	e?		13	32	
		e		14	26	
	Pr	iP		13	43	
		i		14	27	
	W	eP		12	54	
		i		13	48	
	Is	eP			01	
		i			52	
	T	eP		12	53	
		e		13	40	
	USCGS: 44½ N 128 W; 03:10:16, off Oregon					
3	W	eP	09	10	38	
	Is	eP			40	
	T	ePEZ			32	
	Off Oregon					
3	P	eP	12	25	44	
		iNEZ			55	
		i		26	00	
	R	eP		25	53	
	Pr	eP		26	02	

(continued)

Date	Sta.	Phase	h	m	s	
February (continued)						
3	Bt	i	12	26	15	
	W	eP		25	18	
		i			31	
	Is	eP			26	
		i			34	
	T	eP?			19	
		eNEZ			29	
	USCGS: 44 N 128½ W; 12:22:41					
3	MW	e	12	38	06	
	R	e			05	
		e			14	
	Pr	i			18	
	W	eP		37	33	
	Is	e(P)			42	
	Off Oregon					
3	P	eP	12	44	25	
		iNZ			37	
		i			43	
	PX	eLNE			46.8	
	R	eP		44	32	
		iNEZ			41	
		i		45	02	
	Pr	i		44	45	
		i			50	
	Bt	i			52	
	W	iP		44	05	
	Is	iP			08	c
		i			16	
	T	iP		43	58	
	USCGS: 44 N 128½ W; 12:41:24					
4	P	eP'	07	41	56	
		iP2'		42	44	
		iPP		46	27	
	PX	eGE	08		30.2	
		eR			47.4	
			A		T	
		MH	5		20	
	R	eP'	07	41	53	
		iP2'		42	42	
		ePP		46	23	
		e		47	43	
	Pr	iP'		41	56	
		iP2'		42	46	
		iPP		46	30	
	Bt	iP'		41	58	
		iP2'		42	50	
		iPP		46	33	
	W	iP'		41	52	
		iP2'		42	33	
		iPP		46	00	
		i			27	
	Is	eP'		41	53	
		ePP		46	22	
	T	eP'		41	53	
		iP2'NEZ		42	34	
		i		44	34	
		iPP		46	16	
	Magnitude 6¼ - 6½					
	USCGS: 17 S 67 E; 07:21:49					

Date	Sta.	Phase	h	m	s	
February						
4	P	iP	13	34	59	
	R	iP			54	
	Pr	iP			52	
	Bt	iP			48	
	W	iP		35	08	
	Is	iP			07	
5	P	iP	14	18	06	
	R	iP			10	
	Pr	iP			15	
	Bt	iP			20	
	W	iP		17	55	
	Is	iP			59	
	T	iP			53	
	BCIS: 53½ N 162½ E; 14:08:15					
5	R	eP	20	00	21	
	Pr	iP			22	
	W	iP			20	
	Is	iP			23	
	BCIS: off Fiji; 19:48.7					
5	P	eP	20	52	36	
		i			49	
	R	eP			37	
		i			53	
	Pr	eP			49	
		i		53	00	
	Bt	iP		52	40	
		i			00	
	W	iP			32	
	T	iP			28	
	USCGS: 46½ N 153 E; 20:41:51					
5	MW	eP	21	57	23	
	R	eP			27	
	Pr	iP			37	
	USCGS: 47 N 153 E; 21:46:32					
6	P	iPNZ	02	38	19	
	PX	eLE			56.3	
	R	iP		38	19	
	Pr	iP			21	
		e(P'P')	03	07	15	
	Bt	iP	02	38	24	
	T	eP			03	
	USCGS: 71 N 13½ W; 02:27:53					
6	Pr	e	05	53	05	
6	P	iP"	10	24	39	
	R	iP"			39	
	Pr	iP"			37	
	Bt	eP"			35	
	Is	iP"			42	
	T	eP"			45	
	BCIS: 57½ S 23½ W; 10:05:46					
6	P	eP	10	57	35	
	R	eP			32	
	Pr	iP			30	
	Bt	iP			25	
	Is	iP			43	
	USCGS: off Chile; 10:45:30					

Date	Sta.	Phase	h	m	s	
February						
6	MW	eP	18	25	40	
	R	eP			43	
	Pr	iP			50	
	Bt	iP			54	
	W	iP			27	
		i			38	
	Is	iP			31	
	USCGS: 50½ N 180; 18:17:05					
6	P	iP	21	15	44	
	Pr	iP			47	c
	W	iP			45	c
	Is	iP			47	c
	USCGS: 16½ S 179 W; 21:04:43, 550 km					
6	P	iP	22	45	51	
	R	eP			52	
	W	iP			41	
	Is	iP			42	
	T	iP			39	
	BCIS: 52½ N 160 E; 22:35:52					
7	Bt	i	00	22	49	
	W	eP			05	
		i			22	
		i			29	
	Is	eP			07	
		i			24	
		i			30	
	CMO: 43½ N 147 E; 00:11:06, 40 km					
7	MW	eP	05	40	51	
	R	eP			51	
	Pr	iP			52	
	W	iP			49	
	Is	iP			52	
	Pacific					
7	P	ePEZ	13	50	57	
		iEZ		51	01	
		i			07	
	R	eP			04	
	Pr	eP			13	
	W	iP		50	36	
		i			38	
		i(S)		51	53	
	Is	iP		50	40	
		i(S)		52	47	
	T	iPNEZ		50	34	
		i		52	12	
		i(S)NEZ			25	
	USCGS: near Cape Mendocino; 13:49:00					
7	MW	eP	17	00	00	
	R	eP	16	59	54	
	Pr	eP			51	
	Bt	eP			39	
	W	eP	17	00	11	
	Is	eP			13	
	USCGS: 3½ S 81 W; 16:50;47					
7	P	eEZ	17	50	25	
	R	eP		48	04	
		e		50	04	
	Pr	eP		48	14	
		i(S)		49	18	

(continued)

Date	Sta.	Phase	h	m	s	
February (continued)						
7	Bt	eP	17	47	42	
		i		49	27	
	W	eP		48	28	
	Is	iP			29	
	USCGS: Sonora (Mexico); 17:46:15					
7	P	eP	20	08	47	
	R	eP			50	
	Pr	eP			55	
		i		09	10	
	Bt	iP		08	58	
		e		09	12	
	W	iP		08	39	
		e			55	
	Is	eP			42	
	CMO: 34.3 N 141 E; 19:56:46, 40 km					
8	P	iPNEZ	04	23	00	d
		i			17	
		epP		25	10	
		iSNE		31	47	
			A		T	
		PZ	0.1		1	
		SH	1		3	
	R	iP	04	22	57	d
		epP		25	03	
	Pr	iP		22	54	d
		ipP		24	56	
	Bt	iP		22	50	d
		epP		24	45	
	W	iP		23	08	d
		ipP		25	14	
	Is	iP		23	08	d
		epP		25	20	
	T	iP		23	12	
		iSNE		32	08	
	Magnitude 5¾					
	USCGS: 20 S 62½ W; 04:12:10, 600 km					
8	P	iPNEZ	05	56	59	c
	R	iP			55	c
	Pr	iP!			50	c
	Bt	iP			44	c
		i			53	
	W	iP		57	12	c
	Is	iP			11	
	T	eP			18	
	USCGS: ½ S 92 W; 05:49:00					
8	MW	iP	08	16	17	
	Pr	iP			24	
	Bt	iP			25	
	W	iP			11	
	Is	iP			13	
	T	iP			12	
	South of Japan?					
8	P	iPNZ	14	29	20	
	R	eP			20	
	Pr	eP			15	
	Bt	iP			11	
	W	eP			31	
	Is	eP			32	
	West of Easter Island					
	USCGS: 14:19:03					

Date	Sta.	Phase	h	m	s	
February						
8	P	eP	15	55	17	
	R	eP			19	
	Pr	eP			22	
	Bt	eP			26	
	W	iP			08	
	Is	iP			10	
	CMO: 33½ N 141 E; 15:43:05, 40 km					
8	MW	eP	19	43	19	
		e			24	
	Pr	i			25	
	Bt	e			29	
	W	iP			00	
	Is	e			12	
	USCGS: off Alaska Peninsula; 19:36:22					
9	MW	e	22	49	33	
	Pr	eP			38	
	W	iP			13	
	BCIS: off Alaska Peninsula; 22:42.7					
10	P	iPNEZ	00	13	39	
		ipPEZ			54	
	R	iP			42	
		ipP			58	
	Pr	iP			48	
		ipP		14	04	
		iPP		16	24	
	Bt	iP		13	51	
		ipP		14	07	
	W	iP		13	28	
		ipP			44	
	T	eP			27	
		ipP			43	
	USCGS: 50 N 156 E; 00:03:21, 60 km					
10	P	iPNZ	04	16	20	
		ipP			33	
	R	iP			16	
		ipP			29	
	Pr	iP			11	
		ipP			24	
	Bt	iP			07	
		ipP			20	
	W	iP			29	
		ipP			43	
	Is	iP			30	
		ipP			42	
	T	iP			35	
		ipP			48	
	USCGS: 11½ S 77½ W; 04:06:12					
10	MW	eP	09	48	31	
		e		51	02	
	R	eP		48	39	
	Pr	eP			39	
		e		51	04	
	Bt	eP		48	38	
	W	eP			38	
		i		49	18	
		i		51	03	
	Is	eP		48	41	
		e		51	07	

(continued)

Date	Sta.	Phase	h	m	s	
February (continued)						
10	T	eP	09	48	48	
	USCGS: Tonga Islands 09:36:41					
	Apia: 21½ S 173 W 09:36:45. Either this is a deep shock or a second shock follows after about 2m 25s.					
11	MW	e	03	02	46	
	R	e			43	
	Pr	e			26	
	W	e			50	
	USCGS: 17 N 95 W; 02:57:00, 100 km					
11	P	iP	01	43	14	
	R	iP			15	
	Pr	iP			17	
	W	iP			17	
		e(pP)		44	56	
	Is	iP		43	18	
	Kermadec region. Depth 400-500 km.?					
11	MW	iP	11	13	11	
	Pr	eP			14	
	W	iP			13	
	Is	iP			15	
	Pacific					
11	P	iPNEZ	12	17	14	
		ipP			39	
	R	iP			09	
		ipP			36	
	Pr	iP			06	
		ipP			30	
	Bt	iP			03	
		ipP			29	
	W	iP			22	d
		ipP			48	
	Is	iP			21	
		ipP			48	
	T	eP			25	
	BCIS: 19¼ S 68½ W; 12:06:03, 100 km					
11	P	eP	16	13	57	
		i		14	09	
		iSNE		16	19	
	R	eP		13	57	
	W	eP			35	
		i			42	
		iSE		14	30	
	Is	eP		13	25.8	
		iP!			42.0	
		iS		14	31.1	
	H	ePN		13	35	
		iSE		14	17	
	T	iP		13	12.8	
		iNEZ			17.1	
		iS			48.6	
	Magnitude 4.7					
	USCGS: 39½ N 118 W; 16:12:33					
11	P	eP	19	19	12	
	Pr	eP			22	
	W	iP			02	
	Is	eP			04	

Date	Sta.	Phase	h	m	s	
February						
11	P	iP!	19	44	52.3	d
		iSE		45	08.4	
	MW	iP!		44	52.0	d
	R	iPNEZ!			58.4	
	SB	eP			55.1	
		iSE		45	14.1	
	W	iP		44	37.5	
		iEZ!			39.8	
	Is	iP			35.2	
		i!			37.1	
	H	iPNZ			47.8	
		iSEZ		45	00.1	
	FT	iP!		44	41.0	
		iS			48.0	
	Kg	iP!			49.7	
	Magnitude 4.5 19:44:30.0					
	35°24' N 118°31' W					
	Felt (V) at Tehachapi					
11	P	iP	21	58	55	
	R	eP			52	
	Pr	iP			48	
	Bt	iP			26	
	W	iP		59	02	
	Is	iP			02	
	Chile					
12	P	eP	00	14	51	
		e		15	10	
	R	iP		14	47	
		e			58	
		e		15	06	
	Pr	iP		14	44	
		e			58	
	Bt	iP			40	
		e			59	
	Is	iP			59	
		i		15	17	
		i			21	
	T	eP			03	
	Chile-Bolivia					
	BCIS: 00:03.8					
12	P	iP	04	38	49	
	R	eP			51	
	Pr	iP			52	c
	Bt	iP			50	
	Is	iP			53	c
	T	eP			58	
	Apia gives 23 S 179 E; 04:27:22, 600 km					
12	P	eP	06	29	42	
	R	iP			46	
	Pr	eP			50	
	Bt	iP			51	
	Is	eP			39	
	T	iP			39	
	Marianas?					
12	P	iP	10	46	34	
	R	iP			38	
	Pr	iP			39	
	Bt	iP			38	
	Is	iP			37	
	Pacific					
12	W	iP	18	29	14	

Date	Sta.	Phase	h	m	s	
February						
12	MW	eP	19	15	46	
		e		16	15	
	R	eP		15	48	
		e		16	14	
	Pr	iP		15	48	
		e		16	09	
	Bt	eP		15	48	
	W	iP			47	
		i			53	
		e		16	13	
		i			24	
	Is	iP		15	49	
		i		16	15	
		i			27	
	T	iP		15	53	
		i		16	31	
	USCGS: 21 S 171 E; 19:03:08, 100 km					
13	W	iP	04	40	55	
	Pr	eP			55	
13	P	iPNEZ	17	26	31	d
		ipPNEZ		27	09	c
		ePP		31	06	
		iP'P'		56	21	
			A		T	
		PZ	0.2		1	
	R	iP	17	26	34	d
		ipP		27	13	
		eP'P'		56	19	
	Pr	iP		26	40	
		ipP		27	18	
	Bt	iP		26	44	d
		ipP		27	22	c
	W	iP!		26	20	d
		ipP			57	
		iPP		30	58	
	Is	iP		26	22	d
		ipP		27	00	c
	T	iP		26	17	d
		ipP			55	
		ePP		30	58	
	USCGS: 56 N 160½ E; 17:16:55, 200 km					
13	MW	e	19	46	19	
	R	e			19	
	Pr	e			21	
	W	eP			17	
13	P	iPNEZ	19	50	08	
	Pr	iP			11	
	W	iP			11	
	Is	iP			13	
	Pacific					
13	P	eP	19	55	12	
	R	eP			12	
	Pr	eP			15	
	Bt	eP			10	
	W	iP			14	
	Is	eP			16	
	T	eP			23	
	Apia gives 20 S 175 W; 19:43.4					

Date	Sta.	Phase	h	m	s	
February						
14	MW	eP	13	50	24	
	R	eP			21	
	Pr	eP			17	
	W	iP			34	
		i			40	
	Is	eP			33	
14	P	eP	15	37	12	
	Pr	eP			16	
	W	iP		36	58	
		i		37	09	
	Is	eP			01	
	T	e		36	56	
	USCGS: 54 N 169 E; 15:27:48					
14	PX	eLEZ	17	44.8		
			A		T	
		MH	8		20	
		MZ	6½		20	
	MW	e	17	11	51	
	W	e			42	
		ePKKP		23	17	
	Is	e?		11	29	
		ePKKP		23	15	
	Magnitude 6¼ MCIS: 3¾ N 126½ E; 16:53:17					
14	W	e	19	43	51	
		e		45	56	
	USCGS: 3 N 126½ E; 19:27:04					
15	MW	e	06	33	12	
	R	eP		32	59	
		e		33	16	
	Pr	eP			00	
	W	eP		32	53	
		i			56	
		e		33	12	
		i			17	
	Is	eP		32	57	
	USCGS: 13½ S 166½ E; 06:20:18; 60 km					
	P	eP	06	34	00	
		e			26	
		i		35	11	
	PX	eLE	07	00.3		
	R	eP	06	34	03	
		i			21	
		i		35	13	
	Pr	eP		34	04	
		i			21	
		i		35	12	
	Bt	e		34	09	
		i		35	13	
	W	iP		34	02	
		i			16	
		i			23	
		i		35	10	
	Is	iP		34	02	
		i			24	
		i		35	13	
	T	eP		34	06	
	USCGS: 14 S 166½ E; 06:21:22, 60 km. Our readings near 06:35:11 may be P of a third shock.					

Date	Sta.	Phase	h	m	s	
February						
15	P	ePNEZ	18	54	32	
		i			50	
	PX	eL	19	21.3		
	R	eP	18	54	33	
		e			49	
	Pr	iP			35	
		i			50	
	Bt	eP			37	
	W	iP			31	
		i			52	
	Is	eP			32	
		e			48	
	T	eP			38	
	BCIS: 14½ S 167 E; 18:41:57, 60 km					
16	P	eP"NZ	11	48	20	
		e		51	40	
	MW	eP"		48	18	
		e(PP)		49	00	
		e		50	03	
		i		51	40	
	R	e(PP)		49	06	
	W	eP		44	19	
		e		47	23	
		iP"		48	17	
		i(PP)			55	
		i		51	37	
	Is	eP"		48	18	
		i(PP)			58	
		e		49	43	
	T	e(PP)		48	59	
	USCGS: 7 S 130 E; 11:29:54, 150 km					
16	Pr	iP	22	16	12	
	W	iP			11	
	Is	eP			14	
	BCIS: Fiji region; 22:04.(					
17	W	iP	03	41	42	
		i			50	
	Is	iP			44	
		i			51	
	Off Hokkaido					
17	P	eP	08	57	54	
	R	eP			51	
	W	iP		58	04	
	Is	eP			04	
	T	eP			09	
	USCGS: 4 S 79 W; 08:48:34					
18	P	iPNEZ	08	15	07	c
		iN			42	
	PX	eLN		32.3		
	R	iP		15	03	
		i			25	
		e			36	
	Pr	iP		14	58	
	Bt	iP			57	c
	W	iP		15	14	c
		i			35	
		i			48	
	Is	iP			11	c
		i			43	

(continued)

Date	Sta.	Phase	h	m	s	
February (continued)						
18	T	iP	08	15	11	c
		i			25	
		i			43	
	USCGS: 19 N 68 W; 08:08:41, 100 km					
18	W	iP	22	48	47	
18	PX	eL	23	55.9		
	Pakistan					
19	P	iP	03	55	44	
	R	iP			40	d
		ipP		56	45	
	Pr	iP		55	36	
	W	iP			52	d
	Is	iP			51	d
		ipP		56	55	
	T	iP		55	56	
		epP		57	02	
	USCGS: 20½ S 65 W; 03:44:28, 250 km					
19	W	iP	07	33	14	
		i			19	
	Is	iP			13	
		i			20	
	BCIS: Off Salvador; 07:26.5 Tucson (original seismogram, courtesy USCGS: eP=07:32:10)					
19	W	iP	10	42	26	
	Is	eP			25	
	USCGS: Ecuador; 10:33:00					
19	W	iP	12	49	12	
		i			22	
	Is	iP			16	
		i			25	
	Alaskan region					
19	W	eP	23	50	28	
		i			35	
	Is	i(P)			35	
	T	iPNEZ			07.5	
		iSEZ			40	
	Nevada, near 39 N 118 W Magnitude 4.1					
19	P	iP	23	51	59	
	W	iPEZ			22	
		iSEZ		52	16	
	Is	iP		51	23	
	T	iP			04	
		iSE			34	
	Nevada, near 39 N 118 W Magnitude 4.8. Entangled with the preceding.					
20	P	iP	12	25	53	
	R	eP			59	
	Pr	iP		26	04	
	Bt	iP			19	
	W	iP		25	42	
	Is	eP			43	
	T	eP			40	
	USCGS: 57½ N 178½ E; 12:17:21, 100 km					

Date	Sta.	Phase	h	m	s	
February						
20	R	eP	16	21	27	
	Pr	iP			23	
	Bt	eP			18	
	W	iP			47	
	Is	eP			46	
	Mexico					
20	P	iPNEZ	20	28	01	
	R	eP			03	
	Pr	eP			06	
	W	iP		27	58	
	Is	eP		28	01	
	USCGS: 5 S 152 E; 20:14:46					
20	MW	e	22	43	52	
	R	e			51	
	Pr	eP			23	
		i			56	
	W	eP			19	
		i			23	
		i			52	
	Is	eP			24	
		i			43	
	New Hebrides					
21	Pr	iP	03	34	15	
	W	iP!			14	
	Is	iP			15	
21	W	e	14	41	32	
	Is	e			29	
	BCIS: 10 N 34 W; 14:29.3					
21	P	iP	18	54	27	
	R	iP			30	
	Pr	iP			35	
	Bt	iP			39	
	W	iP			17	c
	Is	iP			18	c
	T	iP			11	
	USCGS: 49 N 153 E; 18:43:48					
21	MW	eP	23	25	49	
	R	eP			44	
	Pr	iP			45	
	Bt	eP			46	
	W	eP			42	
	Is	eP			42	
	T	eP			37	
	BCIS: 40¾ N 29½ W; 23:14:44					
22	W	iP	15	01	53	
	Is	eP			54	
	USCGS: 25½ N 122½ E; 14:48:26					
22	MW	eP	15	49	35	
	Pr	iP			45	
	W	iP			22	
		i			36	
	Is	iP			24	
		e			38	
23	P	iPNEZ	05	08	40	c
		ipP		09	31	
	R	iP		08	42	c
		ipP		09	34	

(continued)

Date	Sta.	Phase	h	m	s	
February (continued)						
23	Pr	iP	05	08	43	c
		ipP		09	34	
		i		10	03	
	Bt	iP		08	42	c
		ipP		09	33	
	W	iP!		08	42	c
		i		09	06	
		ipP			34	
		i			48	
		ePP		11	27	
	Is	iP		08	44	c
		ipP		09	36	
	T	iP		08	50	
		ipP		09	42	
		e(S)		18	30	
USCGS: 20 S 175 W; 04:57:11, 250 km						
23	P	iP	08	47	47	
	Pr	iP			50	c
	W	iP			49	d
		epP		50	00	
	Is	iP		47	51	d
USCGS: 23 S 179 E; 08:36:22, 600 km						
23	P	iPNEZ	11	52	02	d
		i			19	
		isP		55	05	
	R	iP		52	04	d
		epP		54	05	
		isP		55	05	
	Pr	iP		52	05	d
		ipP		54	13	
		isP		55	13	
	Bt	iP		52	04	d
	W	iP!			04	d
		i			12	
		i			50	
		ipP		54	07	
	Is	iP		52	06	d
		i			13	
		ipP		54	09	
	T	iP		52	10	d
USCGS: 18 S 178 W; 11:41:02, 600 km						
23	P	eP'	18	51	57	
		eP2'		54	25	
		ePP		57	26	
	PX	eLE	19	57.8		
	R	eP'	18	52	02	
		ePP		57	32	
	W	eP'		52	03	
		ePP		57	32	
		e	19	01	02	
	Is	eP'	18	52	04	
		ePP		57	35	
	T	eP'		52	03	
USCGS: 34 S 54½ E; 18:31:45						
23	MW	eP	20	13	43	
	W	iP			36	
	Is	eP			40	
	T	eP			37	
CMO: 31 N 142½ E; 20:01:27, 60 km						

Date	Sta.	Phase	h	m	s	
February						
24	MW	eP	09	26	10	
	R	eP			26	
	W	iP			00	
		i			11	
	Is	iP			02	
CMO: 43¼ N 149 1/3 E; 09:15:03, 60 km						
24	W	iP	09	49	25	
	Is	iP			27	
24	W	eP	12	26	26	
		i			38	
Kurile Islands						
25	P	e	11	21	56	
	R	e			59	
	Bt	e			57	
	Is	e			46	
26	P	iPP	00	52	38	
		iSKP		53	26	
	R	eP"		50	25	
		ePP		52	42	
		iSKP		53	27	
	Bt	ePP		52	50	
		eSKP		53	32	
	W	eP"		50	20	
		iPP		52	29	
		iSKP		53	19	
	Is	eP"		50	19	
		ePP		52	30	
		iSKP		53	21	
	T	ePP		52	23	
		eSKP		53	21	
USCGS: 0 102 E; 00:31:14						
26	Bt	eP	02	59	38	
		i			53	
	W	iP			08	
		i			23	
		i			34	
USCGS: 54 N 163½ W; 02:52:04						
26	MW	e	18	03	04	
	R	e			02	
	W	e		02	53	
26	MW	eP	18	27	08	
		e			23	
	R	eP			03	
		e			18	
	W	iP			20	
		i			34	
Region of Peru						
27	P	eP	10	42	42	
		i		43	00	
	R	e			02	
	W	iP		42	37	
		i			49	
	Is	eP			38	
		e			51	
	T	eP			34	
		e			48	
BCIS: 48¾ N 154¾ E; 10:32:16						
27	R	iP	16	48	35	c
	Bt	iP			31	
	W	iP			42	c
	Is	iP			42	c
USCGS: 7½ N 42½ W; 16:36:59						

Date	Sta.	Phase	h	m	s	
February						
27	MW	iP	19	33	00	
	R	iP			02	
	Bt	iP			09	
	W	iP		32	51	
	T	eP			53	
CMO: 33.2 N 138.3 E; 19:21:16, 320 km						
27	P	iPNEZ	20	55	49	
	PX	iPPNEZ			58.9	
		eSNE	21	06.0		
		eSSNE		11.2		
		iGNE		17.0		
	P	eP'P'		22.5		
			A		T	
		PZ	30		6	
		PH	15 5		5	
		PPZ	12		6	
		PPH	10		5	
		SH	20		10	
		MH	800		20	
	R	ePNEZ	20	55	49	
		eSNEZ	21	06	17	
		eP'P'		22	30	
		e		42	35	
	Pr	iP	20	55	49	
	Bt	iPNZ			50	c
		eSN	21	06	09	
	W	iP	20	55	51	c
		eP'P'	21	22	26	
		e		42	50	
	Is	iP	20	55	52	c
		eP'P'	21	22	18	
	T	iPNEZ	20	55	58	
		eSNEZ	21	06	31	
		iP'P'		22	28	
		e		42	55	
Magnitude 7¾						
USCGS: 27½ S 176 W; 20:43:16. Kermadec region.						
28	W	iP	00	29	13	
		i			26	
	Is	iP			14	
Kermadec aftershock						
28	MW	i	01	07	02	
	R	e			03	
	W	iP		06	35	
		i			43	
	Is	e			40	
	T	e			33	
USCGS: 52 N 174 W; 00:58:39						
28	W	iP	01	18	11	
		i			17	
	T	e			24	
28	R	e	03	14	52	
	W	iP			44	
		i			54	
		i		15	03	
	Is	iP		14	46	
		i			56	
Kermadec aftershock						
28	MW	e	05	19	51	
	W	iP			40	
		i			52	
BCIS: 53½ N 159 E; 05:09:47						

Date	Sta.	Phase	h	m	s	
February						
28	W	iP	07	55	02	
	Is	eP			03	
28	MW	eP	12	28	23	
	R	eP			24	
	W	iP			24	
	Is	iP			27	
28	P	eP'	21	02	33	
		e		03	01	
		iPP		06	39	
	PX	eL	22	12.4		
	R	eP'	21	02	31	
		ePP		06	41	
	Pr	eP'		02	32	
		ePP		06	47	
	Bt	eP'		02	24	
		ePP		06	51	
	W	eP'		02	29	
		e		04	47	
		ePP		06	26	
		e		07	02	
	Is	eP'		02	30	
		ePP		06	29	
	T	eP'		02	35	
BCIS: 12 S 67 E; 20:42:33						
28	P	iP	21	25	05	
	R	eP			00	
	W	iP			13	
	Is	iP			12	
March						
1	P	iP	01	59	36	c
	R	iP			33	c
	Pr	iP			29	
	Bt	iP			26	
		i			50	
	W	iP			40	
		i			50	
		i	02	00	03	
		e		03	29	
	Is	iP	01	59	40	
	T	eP			40	
Off Brazil						
USCGS: 21 S 37 W; 01:46:10						
Pasadena: 19½ S 36½ W; 01:46:14						
1	MW	eP	04	23	41	
	R	eP			38	
	Pr	iP			34	
	W	iP			50	
	Is	eP			50	
	T	iP			59	
	P	iPNEZ	04	49	33	c
		iNEZ			47	
		i			51	
	PX	iPPNEZ		50	47	
		iSNE		54	53	
		i		55	03	
		eLNE		58.2		
	P	iEZ	05	00	42	
	PX	iNZ!		03	22	
			A		T	
		PZ	3		3	
		PH	2		3	
		SH	20		27	
		MH	200		20	

(continued)

Date Sta. Phase h m s
March (continued)
1 R iPNEZ 04 49 33 c
iPP 50 51
i! 05 03 19
Pr iP 04 49 40 c
Bt iPN 04 49 47 c
iPPNZ 51 31
W iP 49 17 c
Is iP 19 c
T iPNEZ 08 c
Magnitude $6\frac{3}{4}$
USCGS: 65 N 133 W;
04:42:59. Large sharp
surface wave at 05:03:22,
probably Rg
1 MW eP 05 47 47
R eP 50
Pr iP 52
W iP 47
Is iP 49
Very distant? P!?
1 R iP 08 08 29
W eP? 47
i 53
Is eP 48
USCGS: Off Guerrero;
08:03:05
1 P iP 08 54 55
R iP 55
Pr iP 55 03
Bt iP 09
W iP 54 38
Is eP 41
T eP 34
USCGS: 65½ N 133 W;
08:48:21
1 P iP 14 08 58
iNEZ 09 10
PX eL 19.3
R iP 09 00
Bt iP 13
W iP 08 42
Is iP 44
T iPNEZ 34
USCGS: 65 N 133 W;
14:02:25
1 P iPNEZ 14 53 56
i 54 05
R iP 53 58 d
Pr iP 54 02
Bt iP 05
W iP 53 48
Is iP 50
T iPNEZ 49
USCGS: 29½ N 141½ E;
14:41:37
CMO: 30.2 N 142.7 E;
14:41:37, 60 km
1 W i(P) 17 20 25
e 23 12
Is e(P) 20 26
Very distant?
1 MW eP' 17 38 44
R eP' 43
Pr eP' 45
i 50
Bt iP' 46
(continued)

Date Sta. Phase h m s
March (continued)
1 W eP' 17 38 32
i 40
Is eP' 36
Indian Ocean
1 MW e 17 52 27
W i 12
1 W iP 18 02 50
i 59
1 MW e 19 30 54
W iP" 50
eSKP 34 10
Is eP" 30 46
East Indies
1 MW e 22 29 25
W iP' 16
BCIS: 15½ S 41½ E;
22:10:26
2 W eP 00 07 31
e 43
2 P iPNEZ 01 32 09 c
iPcP 16
e(pP) 38
R iP 12 c
ePcP 17
e(pP) 41
Pr iP 14 d
Bt iP 15 d
W iP 06 c
i(pP) 37
Is iP 08 c
T iPNEZ 10 d
ePcP 16
Where dilatation is here
reported there is suggestion
of small preceding compression.
Depth 100 km?
USCGS: 4½ S 151½ E;
01:18:53
2 P iPEZ 01 49 56 d
e 50 06
i 19
i 32
ePP 53 39
PX eLEZ 02 19.4
R iP 01 49 58 d
e 50 09
i 22
i 33
Pr iP 01
e 18
i 25
i 33
ePP 53 47
Bt i 50 24
i 34
W iP 49 53 d
i 50 03
i 27
e 51 23
ePP 53 39
Is eP 49 54
e 50 11
T eP 49 57
e 50 15
(continued)

Date Sta. Phase h m s
March (continued)
2 Seismograms very different
from those of the preceding
shock, with a relatively
smaller P
USCGS: 4 S 151½ E;
01:35:45
2 W iP' 03 56 56
e 57 08
Indian Ocean
2 P iPNEZ! 15 59 47.3 c
iSE 16 00 21.3
MW iP! 15 59 47.8 c
R iPNEZ 55.2 c
SB iP 32.6
W iPEZ! 30.1 c
iSE 47.6
Is iP! 35.1
H iPEZ 42.2
iSNEZ 16 00 12.0
T iP 15 59 41.9 d
iEZ! 42.3
iSE 16 00 11.8
Kg iP! 15 59 23.3
Magnitude 5.1
Epicenter and origin time
by Berkeley; 36°00' N
120°56' W; 15:59:01. Felt
in west central California,
especially San Luis Obispo
County; reported maximum
intensity VI
2 P i 17 25 45
R e 44
Bt i 53
W e 34
Is e 35
T e 26
Epicenter unknown; reported
times hard to account for
3 W iP 00 40 34
e 51
3 P e 12 02 35
W iP 08
i 21
BCIS: 51¼ N 156 E;
11:51:59
3 R eP 16 14 49
Pr iP 50
W iP 50
e 15 24
e 30
Is iP 14 49
Apia gives 35 S 179 E;
16:02.0
3 Pr eP 20 23 51
e 24 02
W iP 23 51
i 24 03
Pacific
3 MW eP 20 30 09
Pr eP 04
W iP 02
Pacific

Date Sta. Phase h m s
March
3 P eP 20 58 06
Pr e 09
Bt i 13
W iP 57 57
e 58 14
USCGS: 71½ N 4½ W;
20:47:22
4 P iP 02 15 42
R eP 44
Pr iP 47
i 16 04
W iP 15 45
e 55
T eP 53
USCGS: 26½ S 176 W;
02:03:22
4 P iP 11 43 51
R eP 52
Pr iP 54
W iP 51
Is iP 54
USCGS: 15 S 175½ W;
11:32:42, 250 km
4 MW eP 13 39 20
R eP 21
i 41
Pr e 23
e 49
i 40 04
W iP 39 17
Is eP 20
5 P iP 03 36 15 c
iPcP 39 01
R iP 36 09 c
iPcP 39 01
Pr iP 36 03 c
i 37 24
i 38 20
iPcP 39 00
Bt iP 35 58 c
i 37 12
W iP 36 26 c
i 37 44
iPcP 39 05
eScP 43 53
Is iP 36 25 c
iPcP 39 06
T iP 36 30
USCGS: 14 N 90½ W;
03:29:58, 150 km
5 P eP 05 44 09
R eP 14
ePP 48 47
W eP 44 04
ePP 48 24
i 31
Is eP 44 10
ePP 48 05
i 32
USCGS: 3 N 129 E;
05:29:58, 100 km

Date	Sta.	Phase	h	m	s	
March						
5	MW	i	07	51	07	
		i			24	
	W	e			08	
		i			22	
	Is	e(P)			08	
		e			19	
	USCGS: 60½ N 67 W;					
	07:43:00					
5	P	eP	12	33	12	
	R	eP			15	
		e(pP)			44	
	Pr	eP			15	
		e(pP)			43	
	W	eP			15	
		i(pP)			45	
	Is	iP			17	
		i(pP)			47	
	New Zealand region					
5	P	iPZ	15	23	10	
	R	eP			12	
	Pr	iP			13	
	W	iP			14	d
	Is	iP			15	d
5	P	eP	19	39	54	
		i		40	03	
	R	eP		39	49	
		i		40	05	
	Pr	iP		39	49	
		i			56	
	Bt	eP			48	
		i			59	
	W	eP			58	
		i		40	06	
	Is	eP		39	55	
		i		40	05	
	T	i		39	57	
	USCGS: 11 N 44 W;					
	19:28:31					
6	P	eP"	06	37	20	
		i			31	
		ePP		39	39	
		iSKPEZ		40	41	
		i		41	02	
	R	eP"		37	21	
		e			50	
		e		38	13	
		ePP		39	41	
		eSKP		40	46	
		i			50	
	Pr	eP"		37	33	
		iSKP		40	51	
	Bt	iP"		37	26	
		iSKP		40	49	
		i			58	
		i		41	14	
	W	eP"		37	17	
		e			29	
		ePP		39	21	
		iSKP		40	37	
		i		41	01	
	Is	eP"		37	13	
		eSKP		40	38	
	USCGS: 2½ S 100 E;					
	06:18:01					

Date	Sta.	Phase	h	m	s	
March						
6	PX	eLEZ	11	46.3		
			A		T	
		MH	5		20	
	Philippines; foreshock					
6	W	eP	13	22	20	
	Is	eP			24	
6	PX	eLEZ	14	22.2		
			A		T	
		MH	10		20	
	MW	e	13	51	31	
	W	e		52	21	
	Is	ε			24	
	Philippines					
	USCGS: 9½ N 122½ E;					
	13:33:31					
7	P	iPNEZ	04	57	34	c
	PX	eLEZ	05	24.9		
	R	iP	04	57	37	c
	Pr	iP			38	c
	Bt	iP			36	
	W	iP			35	c
	T	iP			42	
	USCGS: 18½ S 169 E;					
	04:44:44					
7	MW	eP	06	40	38	
	W	iP			27	
	T	eP			24	
	USCGS: 49½ N 155 E;					
	06:30:10					
7	W	iP	09	09	27	
	Mexico					
7	P	iPNEZ	14	59	33	
	PX	eLEZ	15	29.9		
	R	iP	14	59	37	
	Pr	iP			36	
	Bt	iP			35	
	W	iP			37	
	T	eP			44	
	USCGS: 28 S 175½ W;					
	14:47:07					
7	P	iP	19	39	46	
		iPcP		42	17	
	R	iP		39	40	
		iPcP		42	14	
	Pr	iP		39	35	
		iPcP		42	13	
	W	iP		39	56	
		iPcP!		42	20	
	T	eP		40	00	
	USCGS: 13 N 87 W;					
	19:32:50					
8	W	eP	06	55	05	
		i			13	
8	W	e(P)	07	00	48	
8	W	eP	07	04	59	
		i		05	07	
8	MW	eP	07	27	21	
	R	eP			22	
	Pr	eP			23	
	W	iP			22	
		i			35	
		e		28	00	
8	P	eP	08	28	31	
	R	eP			36	
	Pr	eP			39	
	W	eP			27	
	Near Hawaii					

Date	Sta.	Phase	h	m	s	
March						
8	P	e(P)	16	58	41	
	R	i(P)			40	
	Pr	i(P)			37	
	W	i(P)			45	
		i	17	03	19	
	T	i(P)	16	58	48	
	Possibly very distant					
8	P	ePNZ	20	06	46	
		iNEZ			55	
		iSNEZ		08	02	
	W	iP		06	17	
		iSEZ		07	11	
	H	ePN		06	15	
		iSE			59	
	T	iPEZ		05	57	
		iNZ		06	00	
		iSNEZ			31	
	Region of Fallon, Nevada					
	Magnitude 4.8					
	A similar shock of magnitude 4.2 at 23h 29m following					
8	P	eP	23	40	36	
		iEZ			47	
	R	eP			39	
		e			52	
	Pr	eP			46	
		i			59	
	Bt	i		41	01	
	W	iP		40	26	
		i			39	
	Is	eP			27	
		e			40	
	T	eP			23	
		e			37	
	USCGS: 50½ N 156 E;					
	23:30:20, 60 km					
9	P	ePP	02	46	35	
	Pr	ePP			27	
	W	ePP			38	
	Is	ePP			35	
	USCGS: 30½ S 13 W;					
	02:26:25					
9	P	eP	03	54	55	
		e		55	03	
	R	eP		54	56	
	Pr	iP			56	d
		i		55	08	
	Bt	iP		54	55	
		i		55	07	
	W	iP		54	57	d
		i		55	10	
		i			20	
	Is	iP		54	59	
		i		55	12	
	T	eP		55	04	
	USCGS: Kermadec region;					
	03:42:30					
9	P	eP	05	53	15	
	R	eP			18	
	Pr	eP			20	
	W	iP			13	
		i			20	
	Is	iP			14	
	T	eP			17	
	USCGS: 9½ S 154½ E;					
	05:39:57					

Date	Sta.	Phase	h	m	s	
March						
9	W	iP	09	32	41	
	USCGS: 24½ N 123 E;					
	09:19:05					
9	P	iPNEZ	17	20	52	c
		i		21	25	
		i(PcP)		22	00	
	R	iP		20	47	c
	Bt	iP			37	c
		i			49	
		e		21	05	
		i			23	
		i(PcP)			48	
	W	iP			01	c
		i			12	
		i(PcP)		22	01	
	Is	iP		21	00	
		i			20	
		i			41	
	T	iPNEZ			06	c
	Deep?					
	USCGS: 5 S 79 W;					
	17:11:23					
10	MW	eP	03	45	46	
	R	iP			39	
	Pr	iP			34	
	W	iP			56	
		iPcP		48	51	
	Is	eP		45	54	
	T	eP			58	
	USCGS: 12½ N 87 W;					
	03:38:38					
10	Pr	iP	05	01	57	
	W	iP		02	21	
	Is	eP			18	
	T	eP			24	
	USCGS: 10 N 90½ W;					
	04:55:10					
10	P	iPNEZ	21	21	40	
	PX	eLNEZ		42.3		
			A			
		PZ	1		2	
		MH	10		20	
	R	iP	21	21	42	d
		i			55	
		eS		30	55	
	Pr	iP		21	43	d
	Bt	iP			41	d
		i			54	
	W	iP!			42	d
		i			54	
	Is	iP			43	d
	T	iPNEZ			49	d
	USCGS: 15 S 174 W;					
	21:10:11					
11	PX	eLE	07	16.8		
	R	eP		07	50	
	Pr	iP			45	
	Bt	iP			39	
	W	eP		08	09	
	Is	eP			07	
	T	eP			19	
	USCGS: 16 N 96½ W;					
	07:02:13					

Date	Sta.	Phase	h	m	s	
March						
11	P	iPEZ	09	16	22	
	PX	eL		21.3		
	R	iP		16	16	
		iPcP		19	46	
	Pr	iP		16	10	c
	Bt	iP			05	c
	W	iP			34	c
		iPcP		19	50	
	Is	iP		16	32	c
		iPcP		19	50	
	T	eP		16	39	
		e			46	
	USCGS: 16 N 98 W; 09:10:44					
11	MW	eP	21	53	49	
		i		54	02	
	R	eP		53	51	
		i		54	07	
	Pr	iP		53	57	
		i		54	11	
	Bt	i			13	
	W	iP		53	37	
		i			51	
	Is	eP			39	
		i			54	
	T	i			46	
	USCGS: 52 N 158 E; 21:43:40					
11	Pr	e	23	51	45	
	W	e			20	
	Philippines					
12	R	iP	04	43	50	
	Pr	iP			56	
	W	iP			31	c
	Is	iP			34	
12	P	iPNEZ	13	37	49	c
		ipP		38	55	
	R	iP		37	52	c
		epP		38	53	
	Pr	iP		37	54	c
		ipP		38	58	
	Bt	iP		37	53	c
		ipP		38	59	
	W	iP		37	48	c
		i		38	37	
		ipP			52	
	T	iP		37	55	c
		i		38	23	
	Depth 270 km ±					
	USCGS: 11½ S 167½ E; 13:25:15 (assuming normal depth)					
12	MW	e	19	08	33	
		e		09	05	
	R	e		08	32	
	Pr	e		05	09	
		e		08	33	
		e			51	
	Is	i		05	43	
		e		08	35	
		e			53	
	Two shocks?					

Date	Sta.	Phase	h	m	s	
March						
13	P	iPEZ	04	14	16	
		iEZ			30	
	R	iP			19	
		e			31	
	Pr	iP			25	
		i			37	
	Bt	iP			29	
		i			43	
	Is	iP			08	
		i			22	
	T	iP			04	
	USCGS: 49½ N 155½ E; 04:03:53, 60 km					
13	P	ePEZ	08	42	43	
		iSNE		44	01	
	R	eP		42	31	
	Is	iP			17	
		iS		43	08	
	H	eP		42	17.0	
		eSE		43	03.5	
	T	ePNE		41	51	
		iSNE		42	26	
	Kg	iP			27	
		iS		43	28	
	Magnitude 4.3					
	USCGS: 40 N 118 W; 08:40:23					
13	P	e	19	51	06	
	Pr	i		50	53	
	Is	i		51	01	
	USCGS· Celebes; 19:32:43, 200 km					
13	W	iP	19	00	54	
	USCGS: Bonin Islands; 18:48:38					
14	P	iPNEZ!	13	19	59	c
		ipP		20	15	
		iPcP		21	42	
		i		22	16	
		iScPEZ		25	22	
	PX	iSNZ		26	16	
		i(sS)E			43	
		iE		27	11	
		iScSN			40	
		iNE			45	
		i(sScS)NE		30	30	
			A		T	
		PZ	2		1	
		PH	1½		1	
		SH	8		7	
	R	iP	13	20	03	c
		ipP			18	
		i			35	
		iScP		25	23	
		iS		26	24	
	Pr	iP!		20	10	c
		iScP		25	27	
		iS		26	08	
	Bt	iP!		20	15	c
		ipP			33	
		iScP		25	30	
		iS		26	40	

(continued)

Date	Sta.	Phase	h	m	s	
March (continued)						
14	W	iPEZ!	13	19	47	c
		iScP!		25	15	
		iSEZ			53	
	Is	iP!		19	49	c
		iScP		25	16	
		iSN			44	
	T	iPNEZ!		19	45	c
		iE		20	24	
		iE		21	26	
		iPcP			35	
		iScP		25	16	
		iSE			48	
	Depth 70-80 km					
	Magnitude 7					
	USCGS: 52½ N 173½ W; 13:12:04, 100 km					
14	P	eP	17	26	57	
	R	iP			58	
	W	iP			54	
	USCGS: Solomon Islands 17:13:45					
14	P	eP	18	25	14	
		i			29	
		iSE		26	39	
	R	eP		25	12	
	W	iP		24	49	
		i			58	
		iSE		25	48	
	Is	iP		24	59	
	H	eP			50.2	
		iSE		25	35.1	
	T	iPNEZ		24	28.8	
		i			32.8	
		iSNE		25	06.6	
	Magnitude 4.7					
	USCGS: 39½ N 118 W; 18:23:46					
15	MW	eP	04	17	44	
	R	eP			46	
	Pr	iP			46	
	W	iP			47	
	Is	iP			47	
	Tonga region; Apia gives 04:06.3					
15	P	iPNZ	11	27	45	
	PX	eL		49.1		
	R	eP		27	43	
	W	eP			42	
		i			47	
	s	eP			43	
		i			49	
	T	e			56	
	USCGS: 14½ S 174 W; 11:16:12					
15	R	e	13	26	12	
	Pr	e			10	
	W	i			24	
	Is	e(P)			16	
		e			24	
15	R	eP	22	52	55	
	W	iP			49	
	Is	iP			53	
16	W	iP	02	15	00	
		i			09	
	USCGS: 52 N 167 E; 02:07:43					

Date	Sta.	Phase	h	m	s
March					
16	MW	e	19	48	09
	R	eP			02
	W	eP			22
	Is	eP			22
16	P	iPNZ	21	55	28
		i			36
	PX	eGE	22	10.1	
		eRNZ		14.1	
	R	eP	21	55	27
	Pr	eP			22
	Bt	iP			17
	Is	iP			38
	T	iP			47
	USCGS: 26½ S 115 W; 21:45:14, region of Easter Island				
17	P	eP	17	47	58
	R	eP		48	07
	Pr	eP			11
	W	eP		47	54
	Is	eP		48	05
	USCGS: New Britain, 17:34:24				
17	P	eP	18	49	59
	R	eP		50	00
	Pr	eP		49	54
	Bt	iP			49
	W	eP		50	09
	Is	eP			09
	T	eP			19
	BCIS: Region of Easter Island (as on March 16); 18:39:47				
17	MW	eP	18	59	38
	R	eP			37
	Bt	i(P)			35
	W	eP			49
	Is	eP			49
	T	eP			59
	BCIS: Easter Island region; 18:49:26				
17	MW	eP	23	08	21
	R	iP			26
	Pr	iP			32
	Bt	iP			38
	W	iP!			10
	Is	iP			12
	T	iP			07
	BCIS: Andreanof Islands; 23:00:30				
18	P	iP	00	16	37
		i			41
		i!		17	00
	PX	iSNEZ		24	35
		iSSNEZ		28	34
		iGNE		30.9	
	P	eP'P'		46	22
		i			29
			A		T
		PZ	10		5
		PH	30		14
		PPZ	4		7
		SH	18		10
		SH	200		25
		MH	200		20
		MZ	200		20

(continued)

Date	Sta.	Phase	h	m	s	
March (continued)						
18	R	eP	00	16	40	
		i		17	04	
		iSEZ		24	44	
		eP'P'		46	27	
	Pr	iP		16	46	
		iP'P'		46	25	
		i			37	
	Bt	iP		16	51	
		iS		25	04	
	W	iP!		16	26	c
		iE			50	
		iP'P'		46	31	
	Is	eP		16	28	
		i			36	
		i!			52	
		iP'P'		46	31	
	T	eP		16	23	
		i			35	
		i			40	
		i			46	
		eSNEZ		24	10	
		eP'P'		46	32	
	Magnitude 7¼					
	USCGS: 54½ N 161 E;					
	00:06:42					
18	W	iP	03	31	12	c
		i			28	
	T	eP			08	
	Aftershock					
18	P	eP	09	17	52	
		i		18	01	
	R	eP			05	
	Pr	iP			08	
		i			19	
	Bt	e			26	
	W	iP		17	40	
		i			50	
		i			53	
		i			58	
	Is	eP			44	
		e			53	
		e		18	01	
	T	eP		17	38	
		e			48	
		i			55	
	Depth 40 km?					
	USCGS: 55N 161½ E;					
	09:08:10, 100 km					
19	R	eP	07	06	25	
		e			33	
	Bt	iP			31	
	W	iP			24	
		i			32	
	Is	iP			24	
		i			32	
	T	eP			14	
		e			22	
	Small, peculiar. Recorded earlier at European stations					
	BCIS: "Data discordant"					
19	P	e(P)	09	58	32	
	W	i(P)			16	
	T	e(P)			35	

Date	Sta.	Phase	h	m	s
March					
19	PX	eL	12	07.0	
	MW	eP	11	36	56
	R	eP			57
	Pr	eP			57
	W	iP			58
	Is	eP		37	00
	T	eP			05
	Apia gives 24 S 178 W;				
	11:24.7				
19	MW	e(P)	14	17	10
	R	e			27
	Pr	iP			21
		i			34
	Bt	iP			25
		i			38
	W	iP		16	58
		i		17	12
	Is	iP			01
		i			14
	T	eP		16	55
		e		17	12
	USCGS: Andreanof Islands;				
	14:08:45				
19	P	iPNZ	17	22	04
	R	eP		21	55
		i			58
	Pr	eP			48
		i			52
	W	iP		22	15
		e			29
		iPcP		24	47
	Is	eP		22	11
		ePcP		24	48
	T	eP		22	17
		e			33
	USCGS: 13 N 90 W;				
	17:15:23				
19	Bt	iP	17	28	24
	W	iP			05
	CMO: 36.2 N 139.8 E;				
	17:16:15, 50 km				
19	P	i(P)	17	30	12
	Bt	i(P)			01
	W	i(P)			21
	Is	e(P)			21
	T	e(P)			29
	Possibly ScP of Central American shock. Tucson (original seismograms, courtesy USCGS): i(P)				
	17:29:55				
19	W	iP	23	49	12
		i			18
		i			24
	BCIS: 54 N 161 E;				
	23:38:29				
20	W	iP	00	44	58
		i		45	05
	USCGS: 53½ N 161 E;				
	00:35:13				
20	MW	eP	03	57	00
		e			11

(continued)

Date	Sta.	Phase	h	m	s
March (continued)					
20	W	iP	03	56	49
		i		57	00
		i			07
	USCGS: 52 N 158½ E;				
	03:46:52				
20	P	iPNZ	20	19	46
		ipP		20	01
	R	iP		19	34
		ipP			50
	Bt	iP			29
		ipP			45
	W	iP			56
	Is	iP			56
		ipP		20	10
	T	ipP			18
	Period of pP longer than that of P at these stations. Depth 70-80 km				
	USCGS: 15 N 92 W;				
	20:13:42. Tacubaya, 100 km				
21	W	eP'?	01	11	59
	Indian Ocean				
21	P	iP	01	35	56
	R	eP			57
	Pr	iP			58
	W	iP			57
	Is	iP			59
	Southwest Pacific				
22	PX	eLN	03	08.2	
	Pr	eP	02	44	07
	Bt	eP			10
	W	eP			02
		i			08
	Is	eP			00
	T	eP		43	54
	USCGS: 45 N 28 W;				
	02:33:09				
22	W	eP	03	16	15
		i			23
		iS			58
	Is	eP			14
		iNZ			24
	H	iP			20
	T	iPEZ		15	54
		iNZ			58
		iSNZ		16	31
	Nevada; magnitude 4.2				
22	P	eP	04	07	51
		i			56
		iSNE		09	05
	R	eP		07	39
	W	eP			15
		i			24
		iSEZ		08	13
	Is	eP		07	16
		iNZ			25
		iSNZ		08	15
	H	eP		07	21
		iSE		08	05
	T	iPNEZ		06	54.0
		i			57.9
		iSNEZ		07	33
	Nevada; magnitude 4.4				
	USCGS: 39½ N 118½ W;				
	04:06:16				

Date	Sta.	Phase	h	m	s	
March						
22	MW	eP	05	24	02	
	Pr	iP			13	
	W	iP		23	49	
		i		24	02	
	Is	iP			00	
		e			11	
	T	eP		23	46	
		e			55	
22	P	iPNZ	06	07	17	
	R	iP			14	
	Pr	iP			09	
	Bt	iP			07	
	W	iP			24	d
	Is	iP			23	
	T	iP			29	
	BCIS: Southern Bolivia;					
	05:56.0					
22	MW	e	06	33	01	
		e			16	
		ePKKP		43	36	
	R	e		33	15	
		ePKKP		43	40	
	Pr	e		33	23	
		ePKKP		43	33	
	Bt	i		33	47	
		iPKKP		43	39	
	W	e		32	35	
		i		33	06	
		iPKKP		43	37	
	Is	i		33	15	
		e			27	
		ePKKP		43	40	
		e			49	
	T	e		32	59	
		ePKKP		43	39	
	USCGS: 26 N 98½ E;					
	06:14:00					
22	W	eP	06	54	56	
	Is	eP			57	
	T	eP			48	
	Atlantic; aftershock of 02h					
22	P	ePNEZ	14	00	20	
	R	eP			14	
	Pr	iP			09	d
		i			22	
	Bt	iP			04	
	W	iP			32	
	Is	iP			29	
	T	iP			35	
	USCGS: near the coast of Guatemala; 13:53:57					
22	P	eP	14	02	13	
	R	eP			14	
		e			20	
	W	iP		01	57	
	Is	iP			58	
	USCGS: 65½ N 133 W;					
	13:55:38					
22	P	eP'	14	24	38	
		iP'			43	
	PX	ePPNEZ		28	00	
		iEZ			07	
		eEZ			39.9	
		iSSNE			46.4	
		eLN		15	02.9	

(continued)

Date	Sta.	Phase	h	m	s	
March (continued)						
22			A		T	
		P'Z	2		5	
		P'H	1½		5	
		PPH	1¼		4	
		PPZ	¾		3	
		MH	20		20	
		MZ	20		20	
	R	eP'	14	24	40	
		i			46	
	Pr	eP'			42	
		iP'			49	
		i		25	06	
	Bt	iP'		24	44	c
		i!			50	
	W	iP'			32	
		i			40	
		i		25	03	
	Is	eP'		24	33	
		i			47	
	T	eP'			32	
		i			44	
		ePP		27	21	
	Magnitude 7. Indian Ocean					
	USCGS: 8½ S 92 E;					
	14:05:04					
	BCIS: 9.0 S 91¾ E;					
	14:05:06					
	Pasadena distant 143°±					
23	P	eP'	05	14	06	
		i			11	
	PX	eL			59.9	
	R	eP'		14	07	
	Pr	iP'			10	
	Bt	iP'			13	
	W	iP'			00	
		i			07	
	Is	iP'			01	
	T	eP'			00	
	Aftershock, Indian Ocean					
	USCGS: 04:54:31					
23	PX	eL	18		14.0	
	MW	e	17	35	07	
	W	e			08	
	Is	e			10	
	USCGS: 56¼ S 147 E;					
	17:16:17					
24	W	eP	00	44	32	
	USCGS: Ryukyu Islands;					
	00:31:36					
24	MW	eP	12	11	38	
	R	eP			36	
	Bt	iP			40	
	W	eP			34	
	Is	iP			33	
	T	iP			25	
		i			37	
	Peculiar. Similar to March 19, 07h					
24	P	iP	18	04	11	c
	R	iP			14	c
	Pr	iP			20	c
	Bt	iP			23	c

(continued)

Date	Sta.	Phase	h	m	s	
March (continued)						
24	W	iP!	18	04	01	c
		i			27	
		i		05	28	
	Is	iP		04	05	c
	T	iP			00	
	USCGS: Kurile Islands;					
	17:53:20					
25	P	ePEZ	00	20	15	
		epP			31	
	R	eP			18	
		epP			34	
	Pr	iP			25	
		ipP			42	
	Bt	iP			30	
		ipP			46	
	W	iP			04	
		ipP			21	
		iPcP!		21	47	
		iScP		25	24	
	T	eP		20	01	
		epP			17	
		ePcP		21	38	
		eScP		25	24	
	Probably Aleutian Islands, 80 km; but note the following overlapping readings.					
25	P	iPNZ	00	21	39	
	R	iP			35	
	Bt	iP			27	
	T	iP			50	
25	R	eP	06	06	47	
	Pr	eP			42	
	W	iP			57	
	BCIS: 19 N 65½ W;					
	05:58:02					
25	P	iP	23	02	39	d
	R	iP			42	d
	Pr	iP			49	d
	Bt	iP			51	d
	W	iP			28	d
	Is	iP			28	d
	T	iP			26	d
	USCGS: 52 N 156 E;					
	22:52:28, 100 km					
26	Pr	iP	17	48	55	
	W	iP			34	
	CMO: 33.3 N 139.7 E;					
	17:36:42, 120 km					
27	P	eP	09	43	07	
		ipPEZ			17	
	R	eP			10	
		epP			20	
	Pr	eP			16	
		ipP			27	
	Bt	ipP			32	
	W	iP		42	55	d
		i		43	01	
		ipP			06	
	T	iP		42	53	
		ipP		43	04	
	USCGS: 53½ N 162 E;					
	09:33:18, 60 km					

Date	Sta.	Phase	h	m	s	
March						
27	Pr	e	14	57	55	
		i		58	09	
	W	e		57	48	
	T	e			39	
	USCGS: 30 N 90 E;					
	14:38:44					
27	Pr	iP	17	43	29	
	W	iP			27	
		i			36	
	CMO: 40.2 N 145.3 E;					
	17:32:04, 60 km					
27	W	iP	21	06	43	
		ipP			57	
	CMO: 37½ N 141.6 E;					
	20:55:00, 50 km					
27	MW	eP	21	50	30	
	R	eP			31	
	Pr	iP			33	
	W	iP			30	
		i			35	
	T	eP			36	
		e			40	
	USCGS: 19 S 169 E;					
	21:37:38					
28	P	eP	01	09	16	
		e			28	
	PX	eL			31.0	
	R	eP		09	14	
		e			26	
	Pr	eP			16	
		i			28	
	Bt	iP			17	
		i			30	
		i			44	
	W	iP			11	
		i			23	
	T	eP			04	
		e			16	
	USCGS: 53 N 35 W;					
	00:59:09					
28	W	i	07	01	35	
		i			54	
	T	e	06	59	30	
		e	07	01	38	
	Central America					
28	P	iP	09	25	12	
		ipP			24	
	PX	iSNE		36	01	
		iN			22	
		e		37	11	
		eLEZ			53.5	
				A	T	
		PZ		½	1½	
		SH		1	6	
	R	iP	9	25	15	
		ipP			26	
	Pr	iP			19	c
		ipP			31	
	Bt	iP			21	c
		ipP			33	
		iPP		29	10	

(continued)

Date	Sta.	Phase	h	m	s	
March (continued)						
28	W	iP	09	25	06	c
		ipP			18	
		i			27	
	T	iP			06	c
		ipP			18	
		iSN		35	46	
	Magnitude 6¼					
	CMO: 29.4 N 130.1 E;					
	09:12:20, 60 km					
28	P	eP	15	08	38	
		e			45	
	R	eP			42	
	Pr	eP			41	
		e			54	
	Bt	e			51	
	W	iP			16	
		i			34	
	T	e			15	
		e			25	
	USCGS: 53 N 160 E;					
	14:58:28					
29	P	iP	01	50	52	
	R	eP			55	
	Bt	eP			54	
	W	iP!			54	d
		ipP		53	03	
	T	iP		51	00	
	Apia: 21½ S 179 W;					
	01:39:45, 600 km					
29	MW	eP	08	27	43	
	Pr	eP			46	
	W	iP			41	
29	P	eP	10	00	42	
		i			45	
	R	eP			48	
	Pr	eP			50	
	Bt	eP			53	
	W	iP			38	
	T	eP			39	
	Bonin Islands					
	USCGS: 09:48:10					
29	P	iP	17	55	43	
	R	iP			37	
	Pr	iP			35	
	Bt	iP			32	
	W	iP			48	
	T	iP			45	
	USCGS: 17½ N 62½ W;					
	17:46:30					
30	MW	iP	01	35	09	
	R	iP			11	
	Pr	iP			15	
	Bt	iP			18	
	W	iP			01	
	CMO: 31½ N 138.9 E;					
	01:23:25, 400 km					
30	P	iPEZ	05	01	22	
		ipP			31	
	R	eP			25	
	Pr	iP			31	
	Bt	eP			35	
	W	iP			10	
		ipP			19	

(continued)

Date	Sta.	Phase	h	m	s	
March (continued)						
30	T	iP	05	01	07	
	USCGS: 55 N 164 E;					
	04:51:43					
30	P	ePNZ	09	25	51	
		i(S)N		27	03	
	R	iP		25	47	
	W	iP			26	
	H	ePN			25	
		iSN		26	05	
	T	ePNE		25	04	
		iSNE			33	
	Magnitude 4.6. Nevada					
30	MW	eP	12	17	27	
		e			47	
	W	iP			16	
		i			26	
		i			34	
	USCGS: 52 N 160½ E;					
	12:07:24					
31	MW	iP	16	23	37	
	Pr	iP			38	
	W	iP			38	
	Is	iP			39	
31	P	iP	16	36	59	
	R	iP		37	01	
	Pr	iP			02	
	W	iP			01	c
	Is	iP			02	c
	USCGS: 19½ S 169 E;					
	16:24:09					
31	P	eP	18	31	37	
		i			42	
		eP"		35	34	
	PX	ePP			56	
		eSNE		43	40	
		iSP		45	24	
		ePPS		46	26	
		eSSNE		51.0		
		eSSSNE		55.0		
		eGNE	19	01.0		
			A		T	
		PZ	3		7	
		PPZ	3		5	
		PPH	3		5	
		MH	50		20	
		MZ	60		18	
	R	eP	18	31	47	
		e		34	05	
		i		35	17	
		iPP		36	15	
	Pr	iPP			21	
		iSP		45	44	
	W	eP		31	25	
		i			40	
		i		35	04	
		iPP			54	
		ePKKP		47	03	
	Is	iP		31	40	
		iPP		35	58	
		eSP		46	03	
		ePKKP		47	10	

(continued)

Date	Sta.	Phase	h	m	s	
March (continued)						
31	T	iP	18	31	33	
		e		35	13	
		i			56	
		iSP		45	22	
	Magnitude 7½					
	USCGS: 8 N 124 E;					
	18:17:00					
	Destructive on Mindanao					
31	MW	eP	21	07	15	
		e		10	35	
	R	eP		07	14	
		e		10	58	
		iPP		11	40	
	Pr	iPP			47	
	Bt	iPP			54	
	W	iP		07	07	
		e		10	16	
		e			31	
		iPP		11	24	
		ePKKP		22	29	
	Is	eP		07	07	
		e		10	23	
		iPP		11	24	
	T	eP		07	08	
		ePP		11	14	
	Aftershock					
	USCGS: 8 N 124½ E;					
	20:52:34					
31	W	e	23	59	10	
	T	e			35	
	Aftershock					
April						
1	MW	iP	14	31	29	
	R	eP			32	
	Pr	iP			35	
		i			41	
		i			47	
	W	iP			27	
		i			32	
	Is	iP			29	
		i			36	
	T	e			40	
		e			48	
	USCGS: 19½ N 155 W;					
	14:24:23					
1	R	eP	19	17	15	
		e			27	
		e			30	
	Pr	iP			15	
		i			31	
	W	iP			16	c
		e			31	
	Is	iP			17	
		i			33	
	T	iP			18	
1	R	eP	21	59	07	
	W	iP			19	
	Is	iP			17	
	T	eP			23	

Date	Sta.	Phase	h	m	s	
April						
2	MW	eP	02	24	34	
		iS		25	42	
	R	eP		24	36	
		i		25	59	
	W	iP		24	01	
		iS			50	
	Is	iP			03	
		iS			52	
	T	eP		23	33	
		i			38	
		iS		24	08	
	Magnitude 4.0±					
	Nevada					
2	W	iP	15	16	22	c
	Is	iP			17	
3	P	iPEZ	00	03	24	c
		i			30	
	R	iP			27	c
	Pr	iP			33	c
	W	iP!			14	c
		i			17	
	Is	iP			16	c
	T	iP			12	c
	USCGS: 53½ N 154½ E;					
	23:53:42, 400 km					
4	P	iP	02	52	38	
		i(pP)			51	
	R	eP			40	
	Pr	iP			40	
	W	iP			41	d
		i			44	
	Is	iP			42	d
		i(pP)			53	
	T	eP			48	
		e		53	39.	
	USCGS: 26½ S 175½ W;					
	02:40:17					
4	PX	eL	11	59.3		
			A		T	
		MH	6		20	
	MW	eP	11	25	15	
		ePP		29	26	
	Pr	iPP			37	
	W	iP		25	07	
		ePP		28	50	
	Is	iP		25	10	
	Magnitude 6½±					
	USCGS: 22 N 121 E;					
	11:11:21					
4	P	iPNEZ	19	31	06	
	PX	eLNZ		40.5		
			A		T	
		PZ	0.2		1	
		MH	70		20	
	R	iP	19	31	00	
	Pr	iP		30	53	
	W	iP		31	16	
	Is	iP			13	
		i			45	
		e		32	45	
	T	iPEZ		31	18	
		i		32	49	
	Magnitude 6¼					
	USCGS: 13 N 87 W;					
	19:24:04					

Date	Sta.	Phase	h	m	s	
April						
5	W	iP	07	45	08	
		i			38	
	Is	iP			09	
		e		46	09	
	USCGS: 15½ S 178½ W;					
	07:33:27					
5	MW	eP	11	36	32	
	R	eP			36	
	Pr	iP			40	
	Bt	iP			39	
	W	iP			28	
	Is	e			29	
	T	eP			29	
	USCGS: 13 N 142½ E;					
	11:23:17					
5	P	iPNEZ	15	12	07	d
	PX	iGNE		14	23	
	P	iLgN			40	
			A		T	
		PZ	9		6	
		MH	700		10	
	R	iPNEZ	15	12	01	d
		iGNE		14.2		
		iL		14	27	
	Pr	iP		11	51	d
	Bt	iPNEZ			40	d
		iLE		13	36	
		i		14	08	
	W	iP		12	29	d
	Is	iP			27	d
	T	iPNEZ			42	d
	Magnitude 6¾					
	USCGS: 25 N 110 W;					
	15:09:15					
5	Pr	i(P)	15	35	47	
	W	e(P)		36	26	
	Is	i(P)			22	
5	P	iPNEZ	16	19	19	
	PX	iGN		21.6		
			A		T	
		MH	80		10	
	R	eP	16	19	11	
	Pr	iP		18	58	
	Bt	iP			52	
	W	eP		19	36	
	Is	iP			33	
	Magnitude 6±					
	USCGS: 24½ N 110 W;					
	16:16:24					
5	Pr	eP	19	24	30	
	Bt	eP			21	
	W	eP		25	08	
	Is	eP			06	
	USCGS: 26 N 109 W;					
	19:22:05					
6	P	eP'	13	10	55	
		e		11	10	
		eP2'			58	
		ePP		15	35	
	PX	eLEZ	14	25.5		
	R	eP'	13	11	01	
	Pr	e			13	
		iP2'			55	
		ePP		15	40	
		i			56	

(continued)

Date	Sta.	Phase	h	m	s	
April (continued)						
6	Bt	e?	13	11	01	
	Is	eP'		10	59	
		eP2'		11	57	
		e		15	44	
	T	eP'		11	00	
		e			09	
		i			38	
		iPP		15	20	
	USCGS: 17½ S 66½ E; 12:50:50					
6	Pr	e	13	36	56	
	Is	eP		37	28	
6	Is	eP	15	02	02	
		e			52	
	USCGS: Tonga Islands; 14:50:04					
6	Pr	eP	18	25	35	
	W	eP			37	
	Is	eP			39	
	BCIS: Pacific, 18:14.1					
6	R	iP	19	20	21	
	W	iP			32	
	Is	iP			31	
6	P	iP'	20	08	46	c
		iP2'NEZ		09	24	d
		ePPE		12	59	
		i		13	04	
	R	eP'		08	47	c
		iP2'		09	26	d
		ePP		13	07	
	Pr	eP'		08	49	c
		iP2'		09	28	d
		iPP		13	09	
	Bt	iP'		08	48	c
		iP2'		09	29	d
		iPP		13	10	
	W	iP'		08	45	c
		iP2'		09	21	d
		ePP		12	58	
	Is	iP'		08	46	c
		iP2'		09	23	
		iPP		13	03	
		e		19	02	
	T	eP'		08	48	
		iP2'		09	24	
		ePP		13	02	
	P' and P2' sharp at all these stations; P2' large with,periods near one second					
	USCGS: 33½ S 87 E; 19:48:46					
7	P	e	11	46	11	
		e		47	18	
	R	e		46	13	
		e		47	19	
	Pr	e		46	07	
		e		47	12	
	Is	e(P)		46	12	
		e		47	20	
8	Pr	e	01	39	45	
8	R	e	02	11	12	
		e			19	
	Pr	e			13	

Date	Sta.	Phase	h	m	s	
April						
8	P	iP	13	20	35	
	R	eP			30	
	Pr	iP			24	
	USCGS: 2 S 80 W; 13:11:30					
8	R	e	16	23	58	
	Pr	i			57	
	BCIS: Tonga region; 16:12:04					
8	Pr	eP	17	00	19	
	Is	eP			22	
	BCIS: Tonga region; 16:48:18					
8	W	eP	21	34	16	
		i			28	
	Is	eP			19	
		e			31	
	Tonga region					
9	W	iP	01	34	28	
		ipP			44	
	USCGS: Alaska Peninsula; 01:27:24					
9	W	iP	01	54	14	
		e		57	16	
	Is	e		54	24	
9	W	eP	07	14	54	
	Is	eP			50	
	BCIS: 45.5 N 28.2 W; 07:03:59					
9	P	iP	15	31	41	d
		ipP		32	11	
		e			24	
	R	iP		31	36	d
		ipP		32	22	
	Pr	iP		31	32	d
		ipP		32	21	
	Bt	iP		31	28	d
	W	iP			50	d
		ipP		32	31	
	Is	iP		31	49	d
		ipP		32	30	
	T	iP		31	55	d
	USCGS: 10 S 75 W; 15:21:41; 100 km					
9	P	eP	16	05	16	
	R	eP			19	
	Pr	eP			23	
	W	iP			12	
	Is	eP			12	
9	MW	eP	21	55	06	
		i			15	
	R	eP			09	
		i			18	
	Pr	i			23	
	Bt	eP			17	
		i			27	
	W	iP		54	57	c
		i		55	06	
	Is	i			07	
	T	i			04	
	BCIS: 45 N 150½ E; 21:44:05					

Date	Sta.	Phase	h	m	s	
April						
10	P	e	07	41	06	
	R	e		40	55	
	Pr	i		41	02	
	W	eP		40	36	
		i			57	
	BCIS: off Kamchatka; 07:30:30					
10	P	eP"	17	56	00	
		iPPEZ		57	08	
	PX	iSKSE	18	03	17	
		e(PS)NZ		06	23	
		eLE		26.1		
		eL		26.7		
			A		T	
		MH	7		20	
	Pr	iPP	17	57	08	
	Bt	eP		52	53	
		iPP		57	26	
	W	eP		52	29	
		ePP		56	43	
		ePKKP	18	08	00	
		i			14	
	T	eP	17	52	41	
	Magnitude 6½					
	USCGS: 8 N 125 E; 17:38:12					
10	W	iP	21	00	34	
		e		02	14	
10	MW	eP	23	40	56	
	R	eP		41	00	
	Pr	iP			01	d
	Bt	i			00	
	USCGS: 12 S 167 E; 23:28:21					
12	PX	eLN	18	20.1		
	MW	e		10	09	
	Pr	e			06	
	W	iP		09	41	
		i			45	
		i			55	
	USCGS: 52 N 170 W; 18:02:03					
13	MW	eP	03	53	19	
	R	eP			22	
	Pr	eP			23	
	W	iP			15	
		i			20	
	USCGS: Fiji region; 03:40:50					
13	P	iP	11	34	40.6	
		iS		35	49.5	
	W	eP		34	01.2	
		iS			58.2	
	Is	eP			01.5	
		i			10.6	
		iSNZ		35	00.5	
	T	iPNZ		34	45	
		iSE		35	17	
	Magnitude 4.2					
	Nevada					
13	MW	ePP	21	03	39	
	Bt	iP	20	59	41	
	W	ePP	21	03	32	

(continued)

Date	Sta.	Phase	h	m	s	
April (continued)						
13	Is	ePP	21	03	31	
	At these stations P mostly masked by a small local shock					
	BCIS: 37¼ N 22¼ E; 20:45:45					
13	MW	iP	21	15	51	
	W	iP			55	
		i			59	
		e		16	25	
	Is	eP			01	
14	PX	eP	01	43.4		
		eP"		47	07	
		iPP			38	
		ePPP		49	53	
		ESKSN		53	53	
		iE		54	48	
		iPSNEZ		56	55	
		iPPS		57	56	
	P	ePKKP		59	03	
	PX	eSSNE	02	02.5		
		eGNE		14.4		
		eR		17.1		
			A		T	
		PPZ	3		6	
		PPH	1¼		3	
		MH	80		20	
		MZ	70		20	
	R	eP	01	43	25	
		eP"		47	33	
		iPP			46	
		i		50	02	
	Pr	eP"		47	27	
		iPP			54	
	Bt	iPP			55	
		iPS		57	17	
	T	e		46	42	
		ePP		47	21	
	Magnitude 7¼					
	USCGS: 30 N 101½ E; 01:28:58					
14	P	iP	04	17	53	
	R	e			57	
	Bt	iP		18	06	
	W	iP		17	43	
		ipP			53	
	Is	iP			44	
		epP			55	
	T	eP			43	
	BCIS: 52 N 160 E; 04:07:52					
14	Pr	i	08	31	26	
	W	iP			10	
		iPcP		33	52	
	Is	eP		31	09	
	USCGS: Guatemala; 08:24:50, 150 km					
14	P	iP	15	34	01	
	R	eP		33	58	
	Pr	iP			54	
	Bt	iP			50	d
	W	iP		34	08	
		i			30	
		i			37	

(continued)

Date	Sta.	Phase	h	m	s	
April (continued)						
14	Is	iP	15	34	07	
		i			29	
		i			42	
	T	iP			14	
		i			35	
	USCGS: central Chile; 15:21:32					
15	PX	iP	03	55	01	
	P	e		58	06	
		eP"		59	15	
	PX	iPP			28	
		i	04	01	40	
		iPS		08	48	
	P	iPKKP		10	44	
		eSSN		14.4		
		eN		18.5		
		eG		28.5±		
			A		T	
		PPZ	4		8	
		MH	30		20	
		MZ	30		20	
	R	e	03	58	53	
		iPP		59	27	
		iPKKP	04	10	44	
	Pr	e	03	59	17	
		iPP			33	
		iPKKP	04	10	59	
	Bt	e	03	59	36	
		iPP			44	
		i	04	00	07	
	W	eP	03	55	01	
		iPP		59	19	
		iPKKP	04	10	50	
	Is	e	03	58	28	
		ePKKP	04	10	49	
	T	eP	03	54	51	
		e		58	24	
		e			49	
		i		59	12	
	Magnitude 7					
	USCGS: 40 N 74½ E; 03:40:52					
15	P	iP"	04	32	01	
		i		34	15	
	Pr	e		31	56	
		i		32	04	
		i			31	
	Bt	e		31	52	
		,iPP		32	15	
	W	eP		27	41	
		iPP		31	50	
	T	e			34	
		i			42	
	USCGS: 40 N 75 E; 04:13:23					
15	MW	iP	14	28	53	
		i		29	20	
	R	eP		28	55	
		e		29	22	
	Pr	eP		28	59	
		e		29	27	
	Bt	eP			02	
		i			29	

continued

Date	Sta.	Phase	h	m	s	
April (continued)						
15	W	iP	14	28	41	d
		i		29	08	
	Is	iP		28	44	d
		i		29	10	
	T	i			07	
	CMO: 44 N 148 E; 14:17:55, 120 km					
15	MW	eP	16	20	03	
		i			05	
	R	iP			06	
	Pr	iP			06	
	W	iP			04	
	Is	iP			05	
	USCGS: 19 S 168½ E; 16:07:11					
16	MW	eP	01	18	57	
	W	eP			58	
	Is	eP			59	
	Near Apia. USCGS: 01:07:42					
16	MW	eP	21	50	24	
		i			36	
	R	e			40	
	Pr	e			40	
	W	iP			13	
	Is	eP			15	
		i			36	
	T	i			22	
	USCGS: 53½ N 162 E; 21:40:30					
17	P	e	12	59	06	
	R	e			09	
	Is	e		58	47	
	T	e			45	
	BCIS: 53 N 159 E; 12:48:50					
17	P	eP	18	45	24	
		i			41	
		i			45	
		i			58	
	PX	iSNE		53	36	
		eGN	19	00.2		
		eR		03.2		
			A		T	
		PZ	1		2	
		PH	¾		4	
		SH	20		20	
		MH	20		20	
		MZ	15		20	
	R	eP	18	45	31	
		i			52	
	Pr	iP			39	
	Bt	iP			42	
		eSNZ		54	01	
	Is	eP		45	19	
		i			38	
	T	eP			08	
		i			34	
	Magnitude 6¾					
	USCGS: 52 N 159¼ E; 18:35:27					

Date	Sta.	Phase	h	m	s	
April						
17	P	iPNEZ	22	47	55	
	R	iP			54	c
	Pr	iP			51	c
	Bt	iP			45	c
		i		49	33	
	Is	iP		48	03	
		i?		50	07	
	T	iP		48	09	
		i		49	26	
	BCIS: 29 S 70 W; 22:36.3, 100 km					
17	P	iP	23	32	26	
	R	iP			30	
	Pr	iP			33	
	Bt	iP			35	
	T	iP			20	
	USCGS: 28 N 140 E; 23:20:33, 350 km					
18	MW	iP	07	40	24	
		epP		41	29	
	R	iP		40	20	
		ipP		41	26	
	Bt	iP		40	14	
	USCGS: 18 S 67½ W; 07:29:30, 250 km					
18	T	i(P)	09	01	46	
	BCIS: 25¼ N 124 E; 08:47:57					
19	W	iP	00	05	43	
	Is	iP			42	
19	W	eP	01	17	45	
		ipP			53	
	Is	eP			46	
	T	eP			53	
	USCGS: 26 S 74½ W; 01:06:06					
19	R	eP	10	08	57	
	W	iP			56	
	Is	iP			58	
	T	e		09	01	
	USCGS: Fiji Islands; 09:57:50, 600 km					
19	P	iP	10	38	07	
	R	eP			09	
	Pr	iP			11	
	W	iP!			09	d
	Is	iP			11	d
	T	iP			15	
	Apia: 20 S 176 W; 10:27.2, 600 km					
19	R	e(P)	14	39	36	
	W	iP			36	d
		i		40	00	
	Is	iP		39	37	d
	T	eP			44	
		i		40	07	
	USCGS: 28 S 176½ W; 14:27:11, 100 km					
19	PX	eLNZ	17	36.7		
	MW	e		05	01	
	Is	eP		00	56	
		e		04	52	
	T	eP		00	50	
		e		04	43	
	BCIS: 39¼ N 23 E; 16:47:19					

Date	Sta.	Phase	h	m	s	
19	W	e	17	17	33	
	Is	e			34	
	Probably PKKP of preceding					
19	P	eP	20	36	05	
		i			09	
	PX	iSNE		45	53	
		e		46.5		
		e		50.0		
		iGNE		57.0		
		iR	21	01.1		
	P	e(P'P')		03	21	
			A		T	
		PZ	3		5	
		PH	2		5	
		PPZ	4		7	
		SH	10		11	
		MH	70		15	
		MZ	50		15	
	R	eP	20	36	01	
		i			15	
	Pr	iP		35	58	c
	Bt	iP			55	
		i			59	
		i		36	09	
		iSN		44	22	
	W	iP		36	10	
		i			19	
	T	iP			17	
		iEZ			35	
		eSNEZ		46	20	
	Magnitude 7. Chile					
	USCGS: 30 S 72 W; 20:24:05					
19	MW	eP	21	18	39	
	R	eP			36	
	Pr	iP			32	
	W	iP			47	
	T	eP			51	
	Aftershock					
19	R	e	21	33	39	
	W	e			51	
20	W	e	00	05	37	
	Is	i(P)			25	
20	P	eP	02	24	30	
		i			34	
	PX	iSNE		34	24	
		eR		50.1		
			A		T	
		PZ	1¼		4	
		SH	2½		8	
		MH	9		13	
		MZ	5		14	
	R	eP	02	24	23	
		i			29	
	Pr	i			26	
	Bt	i			25	
	Is	eP			34	
	T	eP			40	
	Magnitude 6½					
	USCGS: 30½ S 72½ W; 02:12:26					

Date	Sta.	Phase	h	m	s	
April						
20	P	eP	06	00	29	
	PX	iSNE		10	25	
		eGE		21.6		
		eR		25.7		
			A		T	
		PZ	1		3	
		PH	1		5	
		SH	4		8	
		MH	10		20	
		MZ	3½		12	
	R	iP	06	00	29	
	Pr	iP			28	
	Bt	iP			27	
	W	eP			38	
		i			50	
	Is	eP			35	
	T	eP			43	
	Magnitude 6½					
	USCGS: 30½ S 72½ W;					
	05:48:27					
20	MW	eP	06	29	21	
	R	eP			19	
	Is	eP			31	
	T	eP			36	
	Chile, aftershock					
20	Is	eP	09	13	59	
		i		14	08	
	Morocco					
20	PX	eLE	10	30.3		
	USCGS: 1 N 126 E;					
	09:44:07					
20	MW	iP	10	22	57	
	R	iP			52	
	Pr	eP			45	
	Bt	iP			45	
	Is	eP		23	09	
	T	eP			20	
	Tacubaya: 7.5 N 99 W;					
	10:16:59					
21	P	eP	07	32	03	
		iPP		36	04	
			A		T	
		PZ	0.05		1½	
		PPZ	½		3	
	R	eP	07	32	00	
		ePP		36	03	
	Pr	eP		32	01	
		iPP		36	07	
	Bt	eP		32	05	
		iPP		36	11	
	Is	iP		31	56	
		ePP		35	51	
	T	eP			50	
	USCGS: 39½ N 23 E;					
	07:18:07					
21	P	eP	14	10	42	
	PX	eL		46.7		
	R	eP		10	39	
	Pr	eP			35	
	W	iP			49	
	Is	iP			48	
	T	eP			54	
	Aftershock, Chile					
	USCGS: 13:58:46					

Date	Sta.	Phase	h	m	s	
April						
21	R	eP	16	20	29	
	Pr	eP			25	
	Bt	iP			21	
	W	iP			41	
	Is	iP			40	
	T	iP			45	
	Chile, aftershock					
21	R	e	17	52	18	
	Is	e			18	
	Chile					
22	R	e	01	23	25	
	Pr	i			33	
	Bt	i			26	
		i			43	
	W	e		22	42	
		e		24	09	
	Is	e		22	43	
		e		24	04	
	South Atlantic					
	USCGS: 01:03:56					
22	MW	eP	11	12	24	
	W	iP			33	
	USCGS: 0 81 W; 11:03:35					
22	MW	eP	16	22	08	
	R	eP			05	
	Is	eP			20	
		i			31	
	Mexico?					
22	P	iP	16	38	20	
		ipP			50	
	R	iP			23	
		ipP			54	
	Pr	iP			37	
		ipP		39	06	
	W	iP!		38	10	c
		ipP			37	
	Is	iP			12	
	T	iP			09	
		ipP			36	
	USCGS: 46 N 150½ E;					
	16:27:31, 100 km					
	CMO: 45 N 150½ E;					
	16:27:40, 100 km					
	MW	e	04	09	56	
		e		10	03	
	R	e			01	
	Pr	i			04	
	W	e			09	
		i			17	
	Is	e			07	
	Chile; aftershock of April 19					
	USCGS: 03:58:03					
23	Pr	iP	04	39	05	
	W	iP			05	
	Is	iP			06	
	T	eP			08	
	USCGS: Kermadec region;					
	04:27:00, 300 km					
23	R	e	12	09	00	
	W	eP			12	
	Is	eP			11	
	USCGS: Chile, 11:57:07					
23	MW	e	15	11	07	
	W	e			07	
	Is	i			09	

Date	Sta.	Phase	h	m	s	
April						
23	P	iPEZ	16	50	47	c
		ipP		52	32	
	R	iP		50	50	c
		ipP		52	33	
	Pr	iP		50	54	
		epP		52	35	
	Bt	iP		50	56	c
		ipP		52	41	
	T	iP		50	41	
	USCGS: 27½ N 139½ E;					
	16:39:04, 500 km					
23	P	iPNZ	18	38	49	d
		i		39	12	
		iPcP			39	
	PX	iSNZ		47	02	
		iSS		51.1		
		eGE		53.6		
		eRNEZ		56.5		
	P	eP'P'	19	08	28	
		i			38	
			A		T	
		PZ	3		3	
		PH	4		3	
		SH	4		25	
		MH	12		20	
		MZ	10		20	
	R	iP	18	38	48	d
		iPcP		39	38	
		eS		46	59	
	Pr	iP		38	43	d
		iPcP		39	35	c
		eP'P'	19	08	40	
	Bt	iP	18	38	39	
		i		39	00	
		eS		46	40	
		eP'P'	19	08	08	
		i			43	
	W	iP	18	38	59	d
		iPcP		39	44	
		eP'P'	19	08	32	
	Is	iP	18	38	59	d
		i		39	27	
		iPcP			45	
		eP'P'	19	08	23	
		i			33	
	T	iP	18	39	08	
		i			51	
		eS		47	28	
		eP'P'	19	08	29	
		i			40	
	Magnitude 6¾					
	USCGS: 24½ S 113 W;					
	18:28:47					
23	P	eP	19	53	19	
	Pr	eP			10	
	Bt	eP			08	
	W	eP			27	
		i			29	
		i			36	
	Is	eP			25	
	T	eP			30	
	USCGS: Chile, 19:41:20					

Date	Sta.	Phase	h	m	s	
April						
23	MW	eP	22	00	30	
	R	e			28	
	Bt	eP			19	
	W	eP			40	
24	R	eP	12	53	11	
		e			27	
		e		55	11	
	Pr	eP		53	06	
		i			14	
		i		55	09	
	W	eP		53	23	
		i		55	15	
	Is	eP		53	28	
		i		55	15	
	T	eP		53	21	
		e			43	
	USCGS: 19 N 74 W;					
	12:45:25					
24	P	iP	13	13	01	
		iNZ			13	
		e			29	
		i		15	36	
		ePP		16	56	
	PX	eL		54.6		
			A		T	
		MH	8		20	
	R	eP	13	13	03	
		i			15	
		i		15	38	
	Pr	eP		13	09	
		i			22	
		i			37	
		i		15	45	
		ePP		17	09	
	Bt	eP		13	10	
		i			24	
		i			40	
		i		15	47	
		i		16	32	
	W	iP		12	51	c
		i		13	00	
		i!			04	
		i(P)		15	15	
		i			26	
		i			55	
	Is	eP		12	51	
		i		13	04	
		i			23	
		i		15	27	
	T	eP		12	48	
		i		13	01	
		i		15	25	
		e			55	
		ePP		16	46	

Two overlapping shocks from different epicenters
USCGS: 45 N 86 W, 12:59:00
CMO: 44½ N 149½ E, 13:02:02
Our seismograms (notably at Woody) suggest two shocks from the first source at an interval near 2m23s

Date	Sta.	Phase	h	m	s	
April						
24	MW	eP	13	47	41	
	R	eP			42	
	Pr	iP			45	
	W	iP			41	
	Is	iP			42	
24	P	eP	20	45	58	
	R	eP			53	
	Pr	eP			53	
	Bt	iP			46	
	W	iP		46	06	
	USCGS: 17 S 65 W;					
	20:34:35					
24	MW	eP	21	16	54	
	R	eP			47	
	Pr	eP			46	
	W	eP		17	03	
	T	eP			05	
	USCGS: 7 N 71½ W;					
	21:07:55					
	Bogota: 8.4 N 72.6 W;					
	21:07:45					
25	MW	eP	09	00	53	
		e		01	07	
	R	eP		00	57	
		e		01	10	
	Bt	i			18	
	USCGS: 44½ N 149½ E;					
	08:49:50					
25	P	eP	10	43	57	
		i		44	01	
		iSE			42	
	R	iPNEZ		43	48	c
		iNEZ!			53	
	Pr	iP!			38	c
	Bt	iPNZ!			33	c
		iSN			52	
	BB	iP			47	
		i			53	
	Magnitude 5.2					
	32.3 N 115.0 W; 10:43:08					
26	P	iPEZ	03	10	14	
		iNEZ			16	
		ePcP		12	56	
		i		13	05	
	PX	iSNE		16.0		
	P	iScP		16	39	
	PX	eLNZ		20.3		
		iScSE		20	36	
			A		T	
		PZ	½		1	
		PH	½		1	
		MH	25		20	
	R	eP	03	10	09	
		i			11	
		iPcP		12	53	
		iScP		16	37	
	Pr	iP		10	01	
		i			22	
		iPcP		12	51	
		i		13	01	
		iScP		16	35	

(continued)

Date	Sta.	Phase	h	m	s	
April (continued)						
26	Bt	iP	03	09	58	
		iPcP		12	50	
		i			56	
		iScP		16	33	
	W	eP		10	25	
		i			26	
		iPcP		12	59	
		i		13	08	
		iScP		16	44	
	Is	eP		10	22	
		i			23	
		iPcP		12	57	
		i		13	07	
		iScP		16	43	
	T	iP		10	29	
		iPcP		13	00	
		i			10	
		iScP		16	45	
	Magnitude 6½±					
	USCGS: 13½ N 89½ W;					
	03:03:34, 60 km					
26	W	iP	04	56	08	
		i			20	
	Is	e			22	
	T	e?			20	
	USCGS: Kurile Islands;					
	04:45:20					
26	P	iPNZ	21	50	06	
	R	eP			00	
	Pr	iP		49	56	
	Bt	iP			50	
	W	iP		50	18	
		i			22	
		i			25	
		iPcP		52	48	
	Is	iP		50	15	
	T	eP			20	
	Aftershock of 03h					
27	Pr	iP	22	16	19	
	W	eP			42	
		iPcP		19	27	
	Is	eP		16	39	
	T	eP			46	
	Central America					
28	P	iPNZ	00	43	59	
		iNEZ		44	06	
	PX	eSN		50	36	
		eLNZ		56.3		
		iXNEZ	01	00	42	
			A		T	
		PZ	0.1		1	
		MH	4		20	
		MZ	4		20	
		XH	1½		6	
		XZ	1½		6	
	R	iP	00	43	56	c
		i		44	01	
	Pr	iP		43	50	c
	Bt	iP			44	c
	W	iP		44	11	c
		e		45	48	
		e		46	51	

(continued)

Date	Sta.	Phase	h	m	s	
April (continued)						
28	Is	iP	00	44	10	c
		e		45	57	
	T	iP		44	22	c
	Phase designated iX may be a					
	channel wave.					
	Magnitude 6±					
	USCGS: 8½ S 108½ W;					
	00:35:49					
28	W	i(P')	05	45	23	
	Is	i(P')			25	
		e			40	
28	P	iP	19	13	26	c
		i			47	
		iPP		15	23	
		i			43	
		i		16	24	
	PX	iSNE		20	09	
		iSSEZ		23	42	
		eR		26.1		
			A		T	
		PZ	0.1		1	
		SH	40		23	
		MH	60		20	
		MZ	30		20	
	R	iP	19	13	30	c
		i			36	
		i			45	
		eS		20.2		
	Pr	iP		13	37	c
		i			58	
		i		14	12	
	Bt	iP		13	40	c
		i		14	02	
		iPP		16	00	
		iS		20	44	
	W	iP		13	16	c
		i			35	
		i			54	
		iS		19	48	
	Is	iP		13	17	c
	T	iPNEZ			12	c
		i			18	
		i			38	
		eSNE		19	43	
	Magnitude 6½					
	USCGS: 51 N 178½ W;					
	19:04:59					
28	P	iPEZ	21	59	19	d
		e	22	02	46	
	R	iP	21	59	21	d
		e			46	
		e	22	02	49	
	Pr	iP	21	59	23	d
		e			44	
		e	22	02	51	
	Bt.	iP	21	59	21	d
	W	iP			20	d
		i			41	
		i	22	02	48	
	Is	iP	21	59	22	d
	T	iP			26	d
		e	22	02	56	
	USCGS: 20 S 169½ E;					
	21:46:30					

Date	Sta.	Phase	h	m	s	
April						
29	P	iP	08	33	33	
	R	eP			36	
	Pr	eP			43	
	Bt	iP			45	
	W	iP			22	c
		i			37	
	Is	iP			24	
	T	iP			21	
	BCIS: 51¾ N 153½ E;					
	08:23:08					
30	P	eP	01	39	31	
		i		40	07	
	PX	eLN		49.5		
	R	eP		39	24	
		e			58	
	Pr	eP			18	
		i			51	
		i			56	
	W	eP			40	
		i		40	19	
	Is	eP		39	40	
		i		40	16	
		e		41	44	
	T	eP		39	44	
		e		40	22	
		e			37	
	USCGS: 12½ N 87 W:					
	01:32:25					
30	P	eP	01	51	02	
	R	eP		50	52	
	Pr	iP			50	
		i			55	
		i		51	02	
	Bt	eP		50	47	
	W	eP		51	11	
	Is	eP			11	
		e			15	
		i			46	
		e		52	40	
	T	eP		51	13	
		i			17	
	USCGS: 12 N 87 W;					
	01:43:50					
30	MW	eP	06	33	22	
		i			28	
	R	eP			18	
		i			25	
	Pr	eP			15	
		i			20	
	Bt	e			14	
		i			17	
	W	iP			30	
		i			36	
	Is	iP			29	
		i			36	
	T	eP			34	
		i			40	
	USCGS: northern Chile;					
	06:22:05					
30	W	e(P)	07	49	39	
	Is	e			17	

Date	Sta.	Phase	h	m	s	
April						
30	PX	eLE	09	36.7		
	R	eP		21	59	
	Pr	eP			54	
	Is	eP		22	15	
	T	eP			19	
	USCGS: 12½ N 86½ W; 09:15:10					
30	MW	eP	09	27	05	
	R	eP		26	57	
	Pr	eP			59	
	W	eP		27	12	
	Is	eP			12	
	T	eP			23	
	USCGS: 13 N 86½ W; 09:19:59					
30	P	i	14	16	54	
	R	e			52	
	W	iP			42	
		i			50	
	Is	eP			41	
	USCGS: 40½ N 143 E; 14:05:10					
	CMO: 39.7 N 143.9 E; 14:05:07, 60 km					
May						
1	P	ePEZ	10	06	58	
		iEZ		07	15	
	PX	ePP		09	48	
		e(S)E		15	56	
		iE		16	35	
		eSSE		21.1		
		eLNZ		27.0		
			A		T	
		PZ	0.4		2	
		SH	3½		8	
		MH	12		20	
	R	eP	10	07	02	
	Pr	eP			08	
		i			23	
	Bt	iP			10	
	W	iP		06	50	
	Is	iP			52	
	T	eP			48	
	Magnitude 6¾±					
	CMO: 39¾ N 143¾ E; 09:55:19, 60 km					
1	P	eP	14	10	26	
	PX	eSE		19	54	
		eLN		30.3		
			A		T	
		PZ	0.2		2	
		SH	1¼		10	
	R	eP	14	10	30	
	Pr	iP			34	
	Bt	iP			38	
	W	iP			16	
		i			18	
		i			26	
		i			42	
	Is	eP			18	
		i			20	

(continued)

Date	Sta.	Phase	h	m	s	
May (continued)						
1	T	eP	14	10	16	
		i			32	
	Magnitude 6±					
	CMO: 39¾ N 143¾ E; 13:58:46, 40 km					
2	W	eP	01	06	25	
		i			28	
	Is	e			27	
	BCIS: Tonga region; 00:54.8					
2	P	iPNEZ	12	51	34	d
		i		52	26	
	R	iP		51	37	d
	Pr	iP			41	d
	Bt	iP			42	d
	W	iP			28	d
		i			56	
	Is	iP			30	d
	T	iP			30	
	USCGS: 19 N 145 E; 12:39:06, 100 km					
3	P	eP	12	59	50	
	R	eP			45	
		e	13	00	01	
	Pr	iP	12	59	40	
		i			56	
	Bt	eP			37	
	Is	iP			58	
		i	13	00	13	
	T	eP			03	
		e			19	
	USCGS: 8½ S 79½ W; 12:50:05					
3	MW	eP	15	27	47	
	R	iP			49	c
	Pr	iP			51	c
	Bt	e			49	
	W	eP			44	
		i			46	
	Is	eP			46	
		i			48	
	T	eP			51	
		e		28	05	
	USCGS: 12½ S 166½ E; 15:15:07					
3	R	e	16	22	06	
	Is	eP			21	
3	P	e(P)	17	19	18	
		iNZ			35	
		i		20	49	
	R	e(P)		19	20	
		e		20	48	
	Pr	e(P)		19	24	
	Bt	i			27	
	W	eP			07	
		i		20	39	
	Is	eP		19	08	
	T	eP			07	
	CMO: 39.5 N 143.8 E; 17:07:13, 40-60 km					

C. F. Richter
Violet M. Taylor
December 14, 1955

Date	Sta.	Phase	h	m	s	
May						
3	P	eP	19	03	52	
	R	eP			55	
	W	iP			47	
	Is	iP			48	
	T	iP			47	
3	MW	e	19	26	55	
	R	e			46	
	W	e		27	14	
	Is	iP			06	
	T	e.			18	
4	W	e	00	35	56	
	USCGS: 28 N 96½ E; 00:16:56					
4	W	eP	10	08	51	
	Is	eP			54	
		e		09	02	
	T	eP		08	46	
5	P	eP	06	01	20	
	R	eP			21	
		e		02	52	
	Pr	iP		01	22	
		i			41	
	Bt	i			21	
	Is	iP			25	
		i			40	
	USCGS: 33 S 179½ W; 05:48:30					
5	R	e	08	22	23	
	Pr	iP		21	47	
	Bt	e		22	13	
	Is	e			37	
	Tacubaya: 15° 20' N, 92°13' W; 08:16:21, 100 km					
5	P	eP	07	57	30	
		e(pP)			55	
	R	eP			34	
		e(pP)		58	01	
	Pr	e		57	38	
		e			45	
	Is	e			32	
	USCGS: New Britain, 08:44:12					
6	P	eP	00	16	15	
		e(pP)			23	
	R	eP			19	
		e(pP)			27	
	Pr	e			25	
		e		17	04	
	Bt	e		16	26	
	W	iP			08	
	Is	eP			09	
		e(pP)			16	
	T	eP			06	
		e			48	
	USCGS: 40 N 143 E; 00:04:31					
	CMO: 40.1 N, 143.8 E, 00:04:33, 60 km					
6	W	iP	01	10	40	
6	P	ePNZ	11	50	39	
		i(pP)EZ			49	
	R	eP			36	
		i(pP)			46	

(continued)

Date	Sta.	Phase	h	m	s	
May (continued)						
6	Pr	iP	11	50	37	
		i(pP)			46	
	Bt	iP			38	
		i(pP)			47	
	W	iP			38	
		i(pP)			46	
	Is	iP			38	
		i(pP)			46	
	T	iP			32	
		i(pP)			41	
	USCGS: 35½ N 36 W; 11:39:53					
6	R	e	12	54	10	
	W	iP		53	41	
	Is	eP			44	
6	P	iPNZ	13	53	44	
	R	iP			41	
	Pr	iP			37	d
	Bt	iP			34	d
	W	iP			51	d
	Is.	iP			51	d
	T	iP			56	d
	Chile					
6	MW	e(P)	16	44	29	
		i			40	
	R	e			43	
	Pr	i			49	
	Bt	e			46	
	W	iP			17	
		i			29	
	Is	e			19	
	T	e			21	
		e			27	
	USCGS: 51 N 180; 16:35:57, 100 km					
7	P	iP	01	46	18	
	R	iP			20	
	Pr	iP			21	
	Bt	eP			18	
	W	iP			21	d
	Is	iP			22	
	T	iP			28	
	USCGS: 28 S 179 W; 01:34:16, 300 km					
7	MW	e	05	44	11	
	R	e			04	
	Pr	e		43	41	
	W	e		44	29	
	T	e		45	06	
7	P	iPEZ	11	52	08.8	d
		iNZ			19.2	
		iSN		53	51	
	R	iP		52	15.6	
		i(S)		53	47.5	
	W	iP		51	46.6	
		iS		52	52.7	
	Is	iP		51	51.6	
		iS		52	56.8	
	H	ePN		51	52.6	
		eSE		52	57.8	
	T	eP		51	42.8	
		iSN		52	36.3	
	Magnitude 5.0±					

(continued)

Date	Sta.	Phase	h	m	s
May (continued)					
7	Berkeley 38°56' N, 122°52' W; 11:50:39 Intensity VI in Lake County, California				
7	P	eP	14	57	45.3
	R	eP			49.0
		i(S)	15	00	07.6
	W	e(P)	14	57	23.3
		i(S)		58	28.0
	Is	iP		57	28.2
		i(S)		58	41.7
	T	eP		57	19.5
		iS		58	15.5
	Magnitude 4.8± Berkeley 38°56' N, 122°52' W; 14:56:15				
8	W	iP	04	41	41
		i			47
8	W	e	07	38	39
	Is	e			37
8	P	ePNZ	10	34	23
		i			38
		e		36	10
	PX	iXE		39	09
	P	e		39	11
			A		T
		X	3		8
	R	eP	10	34	15
		e		37	20
		iX		38	25
	Pr	iP		34	04
		i			23
		i		37	13
		i			39
	Bt	iP		33	57
		i		36	16
	W	iP		34	42
	Is	iP	10	34	40
	T	iP			54
	Phase marked X probably a channel wave. USCGS: 25½ N 110 W; 10:31:40				
8	P	eP	10	39	52.6
		iSN		41	08.1
	R	eP		39	50.5
		eS		41	12.6
	W	iP		39	27.9
		iSE		40	16.9
	Is	eP		39	28.9
		iS		40	16.8
	H	ePN		39	27.4
		iSE		40	03.6
	T	iPNEZ		39	07.4
		iSNE			35.9
	Magnitude 4.9 USCGS: 39 N 118 W; 10:38:33				
8	P	eP'	18	53	44
		e		54	47
	R	eP'		53	46
		e		54	49
	W	eP'		53	43
		i		54	43
	T	eP'		53	44
		e		54	47
	BCIS: 35 S 75 E; 18:33.8				

Date	Sta.	Phase	h	m	s
May					
9	MW	iP	03	02	37
	W	iP			27
9	P	iPNEZ	11	11	41
	R	eP			34
		i			37
	Pr	eP			23
		i			51
	Bt	iP			18
	W	eP			50
	Is	eP			57
	T	iP		12	11
	Tacubaya: 13.3 N 111.0 W; 11:06:49				
9	P	iPEZ	20	26	42
	R	iP			45
		ipP			55
	Pr	iP			50
		ipP		27	08
	W	iP		26	34
		ipP			44
	Is	eP			35
		epP			45
	T	eP			32
	CMO: 40.7 N 145.6 E; 20:15:11, 80 km				
10	P	eP	06	19	18
	W	iP			20
	Is	iP			22
10	R	e	11	43	21
	W	e			28
	Is	i			26
11	MW	eP	00	12	06
	R	eP			03
	Bt	iP		11	56
	W	iP		12	14
	Is	iP			14
	BCIS: 21¾ S 68½ W; 00:00:38				
11	P	iP	11	13	07
		iNEZ			09
		iEZ		14	01
		i		15	59
	PX	eSE		20	24
		eE			24.3
		eR			28.5
			A		T
		PZ	1¼		2
		PH	1¼		2
		Sh	4		10
	R	eP	11	12	59
		i		13	05
		i			15
	Pr	eP		12	55
		i			58
	Bt	iP			51
		i			55
	W	iP		13	15
		i			21
	Is	eP			14
		i			18
		i			37
	T	eP			19
		i			23
	Magnitude 6¾ USCGS: 0 78 W; 11:04:00				

Date	Sta.	Phase	h	m	s
May					
11	MW	eP	14	09	14
	R	eP			14
	Pr	eP			17
11	P	eP	16	01	01
	R	eP			03
		e			15
	Pr	eP			06
	Bt	iP			10
	W	iP		00	52
	Is	eP			54
	CMO: 35.1 N 141.6 E; 15:48:52, 40 km				
11	P	iP"NEZ	19	41	35d
	MW	iP"			34
		i		42	56
	R	iP"		41	35
	Pr	iP"			37
		i		43	00
	Bt	iP"		41	37d
	W	iP"			31d
		i		42	47
		i		43	05
	Is	iP"		41	34
	T	iP"			33
	USCGS: 7 S 123½ E; 19:23:58, 700 km				
12	P	ePEZ	07	29	35
		epP		30	01
	R	iP		29	31
		ipP			58
	Pr	ipP			53
	Bt	iP			23
		ipP			50
	W	iP			42
		ipP		30	09
	Is	iP		29	42
		ipP		30	10
	T	eP		29	47
		epP		30	13
	USCGS: 22½ S 68 W; 07:18:06, 100 km				
13	P	iP	03	38	53d
		i		39	18
	PX	iPP		40	59
		eSE		46	07
		eL'NZ		58	
			A		T
		PZ	0.3		2
	R	iP	03	38	48d
		i			58
		iPcP		39	46
		iS		46	01
	Pr	iP		38	45d
		i			56
		iPcP		39	44
		i		40	13
	Bt	iP		38	43
		i			55
		i		39	08
		i			30
		(continued)			

Date	Sta.	Phase	h	m	s
May (continued)					
13	W	iP	03	38	56d
		i		39	10
		i			21
		i		40	57
	Is	iP		38	56d
		i		39	07
		i			23
		i			55
		e		44	11
	T	iP		38	56d
		i		40	13
		i		41	02
	Magnitude 6 USCGS: 19 N 63½ W; 03:29:49				
13	R	e	05	30	17
	Pr	e			03
	Bt	e			01
	W	i			16
	Is	e			09
		e			14
	T	e			13
	USCGS: 19 N 63½ W; 05:21:09				
13	P	e	22	04	29
	R	e(P)			10
		e			19
	Pr	eP			06
		i			18
	Bt	e			02
	W	iP			25
	USCGS: 7½ N 78 W; 21:55:51				
14	P	iPNEZ	06	15	56c
		ipPNEZ		17	40
	PX	eE?		25	17
		iSNE			29
		iE			38
	P	eSKPP'		44	47
			A		T
		PZ	1¼		1¼
		PH	¾		1¼
		SH	2		3
	R	iP	06	15	59c
		ipP		17	44
		eS		25	38
		eSKPP'		44	45
	Pr	iP		16	03c
		ipP		17	48
		i		19	28
		eS		25	45
	Bt	iP!		16	06c
		ipP		17	51
		i		19	32
		iS		25	57
	W	iP		15	49
		ipP		17	34
		i		18	27
		i		19	04
		iS		25	25
		(continued)			

Date	Sta.	Phase	h	m	s
May (continued)					
14	Is	iP	06	15	51c
		ipP		17	36
		i		19	10
		eS		25	27
		eP'P'		42	17
		iSKPP'		44	51
	T	iP'		15	50c
		ipP		17	34
		i		19	05
	Magnitude 6¾ Depth 460 km				
	USCGS: 28 N 139½ E; 06:04:14, 500 km				
	CMO: 27.8 N 140.2 E; 06:04:17, 500 km				
14	P	iP	12	44	43
		ipP		45	06
	R	eP		44	05
		ipP		45	03
		i			10
	Pr	i		44	54
		i		45	18
	Bt	i			22
	W	iP		44	29
		ipP			40
		i			52
	Is	eP			30
		ipP			46
	T	e(P)			33
		e			47
	USCGS: 59½ N 151½ W; 12:38:08, 100 km				
14	P	iPNEZ	20	02	08.4
		iEZ			12
		i		08	40
	MW	eP		02	10.2
	R	eP			12.8
	Pr	iP			15.7
	Bt	iP			12.7
	SB	eP		01	58.7
	W	iP		02	14.1
	Is	eP			18.7
	H	eP			32.7
	T	iP			37.2
	FT	eP			08.8
	D	eP			11.3
	BB	eP			21.4
	USCGS: 29 N 126 W; 20:00:00				
14	MW	e	21	35	41
		e			49
	Is	iP			25
	USCGS: 61 N 148 E; 21:29:01				
15	P	iP	10	20	20
	R	eP			22
	Pr	iP			24
	W	iP			22
	Is	iP			23
	USCGS: 18 S 168½ E; 10:07:34				

Date	Sta.	Phase	h	m	s
May					
16	R	e	01	06	48
	W	eP			56
	Is	eP		07	00
	T	eP			06
	BCIS: Central Chile, 00:54.7				
16	Pr	iP	03	46	59
	W	iP			44
		e			56
	Is	eP			45
	T	eP			43
	CMO: 32¾ N 142¼ E; 03:34:44, 60 km				
17	P	eP	08	06	45
	R	eP			47
	Pr	e(P)			45
	Bt	i			53
	W	iP			42
	Is	iP			43
	T	eP			46
17	Pr	iP	08	24	26
	W	eP			49
	Is	eP			46
	T	eP			52
17	Is	eP	12	55	06
17	Pr	iP	14	14	39
	Bt	eP			44
		e			51
	W	iP			13
		e			50
	Is	eP			15
	T	eP			10
		e			32
	USCGS: 56 N 156½ W; 14:07:43				
17	P	eP"	15	09	03
		i			08
		i			11
		iPP		11	19
		iSKP		12	17
		i			46
		eSKKP		22	19
			A		T
		PPH	3		10
		MH	40		20
		MZ	35		20
	R	eP"	15	09	01
		e			05
		i			12
		i			26
		ePP		11	14
		iSKP		12	20
	Pr	eP"		09	09
		i			15
		i			29
		i			51
		iPP		11	29
		i			56
		iSKP		12	25
		i		20	22

(continued)

Date	Sta.	Phase	h	m	s
May (continued)					
17	Bt	iP"	15	09	08
		i			15
		iPP		11	32
		i			59
		iSKP		12	29
		iSKKP		21	50
	W	iP"		08	57
		i		09	06
		iPP		11	06
		iSKKP		22	24
	Is	iP"		08	59
		i		09	06
		iPP		11	08
	T	eP"		09	01
		i			08
		iPP		11	07
		i		12	26
	Magnitude 7				
	USCGS: 7 N 94½ E; 14:49:47				
17	P	eP	21	35	18
	R	eP			19c
	Pr	iP			24c
	Bt	iP			28c
	W	iP			09c
	T	eP			09
	CMO: 37½ N 134½ E; 21:23:41, 360 km				
18	P	iPNEZ	15	59	24d
	R	iP			27
	Pr	iP			28
	Bt	eP			30
	W	iP			21d
	Is	iP			22d
	T	eP			24
	USCGS: 5 S 150 E; 15:46:04				
18	R	eP	16	02	27
	Pr	iP			22
	W	iP			37d
	Is	iP			36
	Part of preceding?				
19	MW	iP	00	01	10
	R	iP			12
	Pr	iP			13
	W	iP			10
	Is	iP			12
	New Hebrides?				
19	R	e(P')	02	30	11
	W	e(P')			49
		i(PP)		34	09
	Is	e(P')		30	50
	Indian Ocean?				
19	P	iPNEZ	07	18	21d
		ipP			49
		iNZ		19	17
		i			51
	PX	iSNE		27	29
		iNE		28	15
	R	iP		18	16d
		ipP			44
		i			54

(continued)

Date	Sta.	Phase	h	m	s
May (continued)					
19	Pr	iP	07	18	12d
		i			40
		i			51
	Bt	iP			19d
		ipP			37
	W	iP			29d
		ipP			40
		i			56
	Is	iP			29d
		ipP			56
		i		19	07
	T	iP		18	34
		ipP		19	02
	USCGS: 19 S 69 W; 07:07:13, 100 km				
21	MW	eP	01	42	40
	R	eP			42
	Pr	e(P)			53
	Bt	e		43	17
	Is	e		42	34
	T	eP			33
	USCGS: 29 N 140 E; 01:30:15				
21	P	ePEZ	03	42	30
	PX	eLEZ	04	07.5	
	R	eP	03	42	36
	Pr	iP			40d
		i			52
	Bt	iP			41d
		i			58
	Is	eP			25
		e			28
	T	eP			22
		e			26
	Magnitude 6±				
	USCGS: 29 N 140½ E; 03:30:06				
	CMO: 29 N 141 E, 60 km				
21	Pr	eP	10	45	05
	W	iP		44	42d
	Is	eP			45
	T	eP			41
	BCIS: Aleutian Is., 10:36.0				
21	P	iP"	15	46	28
		i			45
	R	eP"			30
	Bt	eP"			31
	W	iP"			26
		iPP		48	15
		i			24
	Is	eP"		46	27
	T	eP"			28
	USCGS: Eastern Java, 15:27:10				
21	P	iPNZ	15	50	44d
		i		51	09
	PX	eL	16	12.0	
	R	iP	15	50	47d
	Pr	iP			46d
	Bt	iP			45d
	W	iP			47d
		i		51	08

(continued)

Date	Sta.	Phase	h	m	s
May (continued)					
21	Is	iP	15	50	48d
	T	iP			55d
USCGS: 15½ S 173 W; 15:39:24, 100 km					
21	P	e	22	56	26
	Pr	e			28
	T	e			18
Apia: 23 S 178 W; 22:44:46, 300 km					
22	P	e	14	18	11
	R	e			12
	Pr	e			27
	W	eP			00
		i			02
	Is	eP			03
	T	e			12
USCGS: 18 N 147½ E; 14:05:35					
22	P	iPNZ	23	55	30
		e			42
		ipP			55
	Pr	iP			21
	Bt	iP			15d
		ipP			41
	Is	iP			38d
		ipP		56	03
	T	iP		55	44d
		ipP		56	09
		i			18
USCGS: 11 S 74 W; 23:45:17, 100 km					
23	Pr	iP	17	06	46
	W	iP			23d
		i			40
23	P	eP	17	54	33
		e		57	54
	PX	eL	18	20.0	
	R	eP	17	54	34
	Pr	eP			32
	Bt	e			30
	W	iP			29
		i		57	54
	Is	e		54	51
	T	e		54	40
USCGS: 18 S 169 E; 17:41:40					
23	MW	e	21	37	09
		e			30
	Pr	eP		36	59
		i		37	14
		i			32
	Is	e			01
	T	e			08
USCGS: Fiji Islands, 21:25:22, 250 km					
24	P	eP	01	23	04
	Pr	iP			13c
	T	e			28
USCGS: Kurile Islands, 01:12:11					
24	MW	e	06	41	07
	R	e			02
	Pr	e		40	50
		e			57
		e		41	15
		(continued)			

Date	Sta.	Phase	h	m	s
May (continued)					
24	Is	e	06	41	07
	T	e			23
BCIS: 3½ N 83¾ W, 06:32:48					
24	P	i	06	57	47
	Pr	i			50
24	Pr	e	11	31	31
	Is	e			58
	T	e		32	08
24	MW	eP	16	42	58
	Bt	iP			46
	W	iP		43	05c
	Is	iP			05
	T	iP			10
Chile					
25	P	iPNEZ	03	15	20
	PX	eLE		26.0	
	R	iP		15	15
	Pr	iP			09
	Bt	iP			04
	Is	iP			30d
		ePcP		18	16
		i		20	32
	T	eP		15	36
USCGS: 14 N 92½ W; 03:08:58					
BCIS: 13 N 91¾ W; 03:08:57					
25	P	iPEZ	04	05	59d
	Pr	i		06	10
	Bt	iP			16d
	Is	iP		05	49d
		i		06	01
	T	iP		05	43d
		i			55
USCGS: 54 N 165½ W; 03:58:36					
25	MW	iP	11	44	38
	Pr	iP			40
	W	iP			39
	Is	iP			41
	T	iP			46
25	Is	e	12	36	18
		e			31
	T	e			18
USCGS: 46 N 27 W; 12:25:25					
25	P	iP	18	31	19c
		i			39
	R	iP			22
	Bt	i(P)			31
	W	iP			08
		i		33	25
		i		34	05
	T	eP		31	07
		e			52
USCGS: 48 N 157 E; 18:20:53					
26	MW	iP	05	01	16d
	R	eP			18
	T	e			18
26	P	i	06	19	36
	R	i			37
	Pr	e			32
	Is	eP			30
		e			50
USCGS: 10 N 79½ W; 06:11:18					

Date	Sta.	Phase	h	m	s
May					
26	P	e(P)	07	08	41
	R	eP			37
	Pr	eP			32
	Is	eP			45
	T	eP			48
USCGS: 10½ N 65 W; 06:59:13					
26	Is	eP	12	57	24
	e	epP			37
USCGS: Honshu, 12:45:40					
26	Bt	e	13	34	30
	Is	eP"			16
		e			23
	T	e			22
BCIS: 7 N 93 E; 13:15.3					
26	P	e	16	01	08
	R	e			03
		e			14
		e			34
	Pr	e			04
	Is	e			01
	T	e			05
26	P	eP	16	36	06
		iNZ			10
		i		37	47
	PX	ePP		39	35
		iSNE		46	54
		eSSEZ		52.5	
		eGN		59.5	
		eREZ	17	02.4	
			A		T
		PZ	1½		2
		PH	¾		2
		SH	1¼		4
		MH	35		20
		MZ	30		20
	R	eP	16	36	09
		iEZ			12
	Pr	eP			09
		i			15
	Bt	eP			09
		i			12
		i			31
	W	iP			02
		i			06
	Is	iP			08
	T	eP			10
		iNEZ			14
Magnitude 6¾-7					
USCGS: 10 S 161 E, 16:23:10					
26	P	eP	21	33	52
		iEZ		34	01
	PX	eR	22	01.2	
	R	eP	21	33	54
	Pr	eP			55
	Bt	iP			55
		i		34	06
	W	iP		33	50
	T	eP			55
USCGS: 10 S 160½ E; 21:20:57					
26	MW	eP	22	08	11
	Pr	iP			04
	W	iP			24
Felt at San Salvador					

Date	Sta.	Phase	h	m	s
May					
27	P	e	07	20	58
		e		21	09
	R	e		20	52
	Pr	e			53
	W	e			47
USCGS: Solomon Islands region, 07:08:01					
27	P	eP	12	39	34
	R	eP			37
	Pr	eP			37
	Bt	e			38
	W	iP			33
	T	eP			37
USCGS: 10 S 160½ E; 12:26:39					
27	P	iP"	19	25	07
		e			13
	R	eP"			09
	W	iP"			06
		i		26	03
		i		28	18
	T	e		25	49
BCIS: 8 S 118 E; 19:06.3					
28	P	eP	04	39	39
	W	iP			32d
	T	eP			37
28	P	iPNEZ!	06	32	39d
		i		33	14
		ipPNEZ			24c
	PX	iSNE		42	36
		iNE			52
		eLNE		54	47
	P	eSKPP'	07	02	29
			A		T
		PZ	0.8		1
		PH	0.6		1
		pPZ	1		1½
		SH	4		5
	R	iPNEZ	06	32	36d
		i		33	10
		ipPNEZ			21c
		eS		42	31
	Pr	iP		32	33d
		ipP		33	17
	Bt	iP		32	29d
		i		33	03
		ipP			13
		i		35	35
	W	iP!		32	47d
		ipP		33	31
	T	iPNEZ		32	52d
		ipPNEZ		33	36
		eSEZ		42	56
Magnitude 6¾-7					
USCGS: 30½ S 65 W; 06:20:40, 200 km					
28	P	iP!NEZ	19	44	45.0d
		iSN		45	04.2
	MW	iP!		44	44.0d
	R	iP			49.0d
		iSE		45	10.3
	W	iP!EZ		44	29.1
		iSE			36.1
		(continued)			

Date Sta. Phase h m s

May (continued)
28 FT iP 19 44 35.4
Kg iP 42.6c
D iP! 45.3c
iS! 45 03.8
SB iP 44 49.1d
H iP! 31.8d
iS!N 41.0
T ip!NEZ 48.2d
iSN 45 08.0
Magnitude 4.5
35° 34' N, 118° 14' W;
19:44:20.0
Felt at Sageland, Little Lake, Tehachapi. Maximum reported intensity V.
28 P iP 22 23 51
epP 25 43
R eP 23 48
Pr eP 53
W iP 52
ipP 25 48
T eP 23 59
USCGS: 17½ S 179 W;
22:12:52, 600 km
29 P iPNZ 01 26 39c
R iP 42
Pr e(P) 35
i 41
Bt iP 40c
W iP 41c
ipP 28 54
T eP 26 48
USCGS: 24 S 177½ E;
01:15:07, 600 km
29 P iPNEZ 02 41 37d
iEZ 41
R iP 41d
i 45
epP 43 07
Pr eP 41 45
i 50
ipP 43 11
Bt iP 41 49
i 53
W iP! 28d
i! 32
ipP 42 53
i 43 06
T iP 41 25d
i 29
USCGS: 50 N 151 E;
02:31:34, 400 km
CMO: 49 N 152 E;
02:31:35, 400 km
29 P eP" 04 18 39
R iP" 40
Pr eP" 38
W iP" 38
e 21 53
T eP" 18 42
BCIS: 52½ S 13½ E;
03:59.06

Date Sta. Phase h m s
May
29 P iP 11 16 15c
i(pP) 30
R iP 20c
i(pP) 34
Pr eP 25
e(pP) 37
Bt iP 28c
i(pP) 42
W iP 05c
i 15
i(pP) 17
i! 20
T iP 03c
i(pP) 18
USCGS: 49 N 157 E;
11:05:50
29 MW eP 11 24 42
R eP 47
Pr eP 54
Bt eP 25 00
W iP 24 28d
29 P eP 13 38 02
PX eLN 46.4
A T
PZ 0.1 1
MH 13 18
R iP 13 38 06
Pr iP 13
Bt iP 19
i 43
i 39 19
W iP 37 48d
T eP 44
Magnitude 5¾
USCGS: 56 N 155 W,
13:31:26
29 P eP 14 51 15
R eP 20
Pr eP 27
W iP 01d
T eP 50 56
Aftershock of preceding
29 P eP" 15 53 14
ePPEZ 55 33
PX e 16 06.8
e 10.4
eL 36.9
M 17 25±
A T
PPZ 0.3 3
MH 10 20
R eP" 15 53 17
ePP 55 34
Pr eP" 53 17
Bt iP" 35
iPP 55 35
W eP" 53 12
ePP 55 18
T eP" 53 21
ePP 55 09
Magnitude 6¾
USCGS: 10½ S 110½ E;
15:34:00

Date Sta. Phase h m s
May
29 P eP 21 09 47
PX eGN 17.9
eREZ 19.5
A T
PZ 0.1 2
MH 8 18
R eP 21 09 51
Pr eP 10 03
Bt iP 04
W iP 09 30
T eP 28
Magnitude 5½
USCGS: 56 N 155 W;
21:03:07
29 MW eP 21 31 22
epP 53
R eP 15
epP 49
Bt eP 10
epP 42
W iP 28
ipP 32 00
T eP 31 34
epP 32 06
USCGS: Northern Chile,
21:20:00, 100 km
29 MW eP 22 56 33
W iP 21
i 32
T eP 19
BCIS: 55 N 160 E;
22:46:37
30 P e 00 32 26
R e 20
Pr eP 13
e 23
Bt e 22
W e 26
USCGS: 19 N 63 W;
00:23:15
30 P iP 08 08 24
R eP 27
Pr e 30
Bt e 33
W iP 17
T e(P) 15
USCGS: Volcano Islands region; 07:55:50
30 MW eP 08 35 28
P eP 30
W iP 30c
T eP 50
USCGS: Samoa region;
08:24:00
30 P i 09 39 02
R eP 03
Pr (e) 02
Bt iP 16
W iP 38 45d
i 53
T eP 40
USCGS: off Alaska;
09:32:11

Date Sta. Phase h m s
May
30 P iPNEZ! 12 43 15d
i 44 07
ipPNEZ 45 17
PX isP 46 13
i 32
eSKS 52 38
iSNEZ! 42
iNEZ 54
isSNE 56 20
iSSN 58.5
iN 13 05.2
P eP'P' 09.5
e(pP'P') 11 54
PX eM 13
P eP'P'P' 29.5
A T
PZ 5 1
PH 5 2
SH 32 8
MH 15 20
MZ 15 20
R iPNEZ 12 43 18d
ipP 45 23
isP 46 16
iSEZ 52 44
iNEZ 53 00
iP'P' 13 09 30
e 11 36
i 53
e 58
eP'P'P' 29 58
Pr iP 12 43 00d
ipP 45 28
e 13 11 54
Bt iPNEZ 12 43 24d
ipP 45 29
e 52 55
iSNEZ! 53 00
iNE 29
isSNE 56 41
i 13 11 51
iP'P'P' 29 54
e 35 01
W iPEZ! 12 43 09d
ipP! 45 10
i 46 27
i(S)EZ 52 41
iP'P' 13 08 08
e 09 19
i 11 55
e 16 07
iP'P'P' 29 57
e 32 18
T iPNEZ 12 43 09d
i 44 11
ipP 45 24
isP 46 30
iSNEZ 52 44
eP'P' 13 09 20
i 11 58
eP'P'P' 29 57
(continued)

Date	Sta.	Phase	h	m	s
May (continued)					
30	BB	iP	12	43	20
		ipP		45	28
		isP		46	46
		e	13	11	51
	Depth 580 km				
	Magnitude 7½				
	USCGS: 24½ N 142½ E;				
	12:31:41, 600 km				
30	P	iPNEZ	17	05	56d
	R	iP			59
	Pr	iP		06	00d
	Bt	iP		05	58d
	W	iP!			59d
		epP		07	54
	T	iP		06	05d
	USCGS: 17 S 178½ W;				
	16:54:57, 550 km				
30	P	eP	21	29	47
		i		30	08
		iS		31	13
	R	eP		29	49
	W	eP			24
		iSEZ		30	19
	H	iPEZ		29.25	
		iSEZ		30	08
	T	iPEZ		29	05
		iSNEZ			37
	Magnitude 4.6				
	Nevada				
30	P	eP	23	40	57
		e		41	31
	PX	ePPEZ		45	28
		iSKSNE		51	37
		eL		55	58
		eLEZ	24	13.5	
			A		T
		SKSH	1		4
		MH	10		20
		MZ	7		20
	R	eP	23	41	01
		eZ			34
		ePP		45	03
		ePKKP		57	04
	Bt	e		45	30
		i			48
	W	iP		40	55
		i		41	27
		ePP		45	13
	T	eP		40	57
	Magnitude 6½				
	USCGS: 3 S 137 E;				
	23:26:50				
31	W	iP	07	34	10
		ipP			32
		i			43
	USCGS: Honshu, Japan				
	07:22:30, 100 km				
31	P	iPNEZ	09	43	05d
		i(pP)			42
		iPPNEZ		46	17
	PX	iSE		53	15
			A		T
		PZ	1		1
		PH	¾		1
		(continued)			

Date	Sta.	Phase	h	m	s
May (continued)					
31	R	iP	09	43	07d
		i			21
		i(pP)			47
		i		46	20
	Pr	iP		43	08
	Bt	iP			04d
		i			29
		i(pP)			46
		iPP		46	16
	W	iP!		43	09d
		i(pP)!			46
		iPP		46	23
	T	iPNZ		43	14
		i(pP)			54
		ePP		46	26
	Magnitude 6¾				
	USCGS: 27 S 177½ E;				
	09:30:44, 100 km				
31	P	iP	14	55	45c
	R	iP			48c
		i		56	21
	W	iP			36c
		ipP		56	08
	T	iP		55	36c
	CMO: 42.0 N 141.5 E;				
	14:44:14, 90 km				
31	P	iPNEZ	18	05	11c
		i			19
		iPcP		07	04
	PX	eSNE		11	50
		e		14	50
		eLE		15.9	
			A		T
		PZ	1½		2
		PH	1¼		2
	R	iP	18	05	06c
		i			15
		iPcP		07	00
	Pr	iP		04	59
	Bt	iP			51c
		i			58
	W	eP		05	22
		i!			24
		iPcP		07	08
	T	iP		05	31
	USCGS: 0 92 W;				
	17:57:12				
June					
1	W	iP	05	54	44d
	Tonga region.				
	USCGS: 05:43:04				
1	P	iP	10	25	48
	R	iP			44
	Bt	iP			36
	W	iP			57c
		i(pP)		26	58
	T	iP			00
	BCIS: Central Bolivia,				
	10:15.2, 250 km				
1	P	eP	16	24	48
		e		25	18
	W	iP		24	52
		i		29	14
	USCGS: 1½ S 128 E;				
	16:10:32, 100 km				

Date	Sta.	Phase	h	m	s
June					
2	PX	iP	00	27	30
		ePP		28	29
		ePPP		30.5	
		ePcS		32.8	
		iSNEZ		34	22
		iSS		38	03
		iR		40.4	
			A		T
		PZ	4		10
		PH.	3		10
		SH	30		20
		MH	30		12
		MH	40		20
		MZ	30		18
	R	iP	00	27	37
		e(ScP)		33	00
		iPcS			11
		iS		34	27
	Pr	eP		27	42
		iPcP		31	38
	Bt	iP		27	47
	W	iP		27	20c
		iPcP		31	16
		eS		34	02
	T	ePEZ		27	17
		iNZ			19
		iPcP		31	17
		iScP		32	52
		eSE		33	56
		iSNZ		34	04
	Magnitude 6¾				
	USCGS: 51½ N 180				
	00:18:56				
2	P	eP	00	43	04
	R	eP			07
	Pr	iP			14
	Bt	iP			21
	W	iP		42	52d
		i			56
		i		43	00
	T	eP		42	49
	USCGS: 52 N 179½ W;				
	00:34:33				
2	P	ePNEZ	02	10	47
	PX	iSNE		17	36
	R	eP		10	50
	Pr	iP			55
	Bt	iP		11	01
	W	iP		10	24
	T	ePEZ			32
		eSE		17	12
	USCGS: 51½ N 180				
	02:02:10				
2	W	iP	03	15	34
		i			41
	T	eP			39
2	W	iP	07	42	27d
		i			41
	USCGS: Aleutian Islands;				
	07:34:04				
2	P	eP	12	31	22
	Pr	eP			27
	W	iP			25d

Date	Sta.	Phase	h	m	s
June					
2	W	iP	20	01	46
2	R	e	23	52	31
		e			54
	W	iP			10
	USCGS: 40 N 25½ E;				
	23:34:31				
3	MW	eP	01	46	57
	Bt	iP		47	08
	W	iP		46	49c
		i(pP)		47	14
	Is	iP		46	50
	T	eP			48
		e		47	34
	CMO: 38.2 N 141.8 E;				
	01:35:10, 60 km				
3	MW	eP	05	25	19
	Bt	eP			37
	W	iP			08
		i			17
		i			20
		i			31
	Is	iP			10
	USCGS: 51½ N 179 W;				
	05:16:56, 100 km				
3	W	iP	11	21	22
	Is	iP			21
	USCGS: 9 S 74 W;				
	11:11:15, 150 km				
3	W	eP	17	44	50
	Kamchatka				
3	W	iP	23	34	51
		i		35	11
4	W	e	02	31	32
		ε			46
4	W	iP	12	09	06
	Is	eP			07
4	W	e	12	58	33
		e		59	20
	Japan				
4	MW	iP	14	51	43
	R	iP			46
	Is	iP			37
	CMO: 33.5 N 140.6 E;				
	14:39:39, 80 km				
4	MW	eP	16	59	19
	R	eP			21
	Pr	eP			22
	W	iP			16
	Is	eP			17
		e			30
	Southwest Pacific				
4	P	eP	17	03	02
		epPEZ			12
		iEZ			16
	PX	eL		25.6	
	R	eP		03	06
		ipP			19
	Pr	eP?			05
		e(pP)			19
	Bt	eP			13
		e			22
	W	iP		02	53
		ipP!		03	06
		(continued)			

Date	Sta.	Phase	h	m	s
June	(continued)				
8	USCGS: 13 S 167 E; 22:16:03, 200 km				
9	R	e	00	28	18
	W	iP			17
	T	eP			24
9	Pr	eP	02	43	49
	W	iP			48
	Is	iP			50
9	P	iPNEZ	04	17	11d
	R	iP			13d
	Pr	iP			14d
	Bt	iP			13d
	W	iP!			12d
	Is	iP			14d
	T	iP			19d
	USCGS: 16 S 179 W; 04:05:20				
9	W	iP	23	06	37
		i			47
	T	eP			35
10	P	iP	00	49	31
	PX	eLE	01	11.8	
	R	eP	00	49	25
	Pr	eP			28
		i			35
	W	iP			26
		i			33
	Is	e(P)			27
		e			36
	T	e			40
	Southwest Pacific				
10	R	e(P)	00	59	47
	W	e(P)			47
	Is	e(P)			49
10	W	iP	07	29	52
	Is	iP			54
10	R	e	16	08	59
	Pr	e			57
	W	e		09	10
	Is	e			09
	T	e			19
	USCGS: South of Easter Island; 15:53:19				
10	P	e	19	06	28
	R	e			06
	Pr	e			19
	W	iP			19
	Is	eP			18
	USCGS: South of Easter Island				
10	R	eP	22	12	16
	Pr	eP			15
		i			21
	W	iP			14
		i			20
	USCGS: 15 S 177½ W; 22:00:31				
10	R	e	22	16	31
	Pr	e			42
		e			50
	W	i(P)			26
		e			38
		i			47
	T	e			05

Date	Sta.	Phase	h	m	s
June					
11	Is	iP	01	40	11
	T	eP			14
11	R	eP	03	49	56
	Pr	eP			58
	W	iP			55c
	Is	eP			57
	BCIS: 11¾ S 167 E; 03:37:20				
11	P	iPNEZ	21	23	18c
	R	iP			20c
		i			24
		e		25	38
	Pr	iP		23	21
	W	iP			20c
		i			24
		e		25	31
	Is	iP		23	22c
		e		25	28
	T	iP		23	27c
	USCGS: 16½ S 179 W; 21:12:27, 650 km				
11	P	iPNEZ	22	30	53d
		iNE		31	02
		epP		32	59
		iEZ		33	02
		iSNEZ		40	13
		iE			28
				A	T
		PZ		1	1
		PH		¾	1
		SH		1¼	3
	R	iPEZ	22	30	50d
		i		32	11
		ipP			54
		eS		40	08
		e		41	00
	Pr	iP		30	47
		e		31	14
	W	iP			00d
		ipP		33	37
	Is	iP		30	59d
		ipP		33	04
		eS		40	27
	T	iPNEZ		31	03d
		epP		33	15
		eSEZ		40	31
		e		41	35
	USCGS: 27 S 63 W; 22:19:40, 600 km				
	The following entries may represent late phases of this shock, as indicated				
11	P	iP	22	49	32
	R	eP			31
		i			33
	Pr	e			36
	W	iP			26
		i			28
	T	eP			28
	Possibly PKKP of the preceding.				
11	P	iP	22	52	23
	R	iP			25
	Pr	iP			25
	W	iP			23c
		i		53	04

(continued)

Date	Sta.	Phase	h	m	s
June	(continued)				
11	T	iP	22	52	31
	Possibly SKKP				
11	P	e	22	57	31
		e			37
	R	e			38
	Pr	e?			23
		e			40
	W	e			25
		e			31
	T	e			29
	Very probably P'P'				
12	P	eP	00	22	56
		e		23	25
	R	iP		22	54
	Pr	eP			51
	W	iP		23	05d
	Is	iP			05
	T	eP			15
	USCGS: South of Easter Island, 00:12:00				
12	P	ePNZ	01	28	05
		epP			21
	R	iP			07
	Pr	eP			07
	W	iP			08c
		ipP			23
	Is	iP			09
		ipP			24
	USCGS: 29½ S 178 W; 01:15:25				
12	R	e	05	25	29
	W	iP			16
		ipP			29
	USCGS: 49 N 156 E; 05:14:58				
12	R	eP	10	02	12
	Pr	eP			07
	W	eP?			29
	Is	eP			27
	T	e			36
12	P	iPEZ	20	41	15
		iNEZ			24
		i			32
		i			48
	PX	eSE		50	24
		eLZ		59.9	
	R	iP		41	18
		i			26
		iS		50	49
	Pr	eP		41	22
		i			24
		i			33
	W	iP			05
		i!			14
	Is	iP			07
		i			16
	T	iP		41	03
		i			12
		i			55
	USCGS: 49 N 155 E; 20:30:45				

Date	Sta.	Phase	h	m	s
June					
13	P	e	05	18	43
	R	e			43
	Pr	e			50
	W	e			24
		e			35
		e		22	01
	Is	e		18	23
		e		22	07
	T	e		18	23
		e			34
		e		22	21
	USCGS: 29½ N 130 E; 05:05:28				
13	W	iP	10	35	02
	Is	eP			04
	T	eP			09
13	P	iPNEZ	14	03	55
	R	iP			57
	Pr	eP		04	00
	W	iP		03	43c
		e		04	42
	Is	iP		03	45
	T	iP			41c
	USCGS: 47 N 151 E; 13:52:59				
	BCIS: 49½ N 151½ E; 13:53:12				
13	P	e	21	49	22
	R	eP		48	50
		e		49	27
	Pr	eP		48	49
		e		49	20
	W	iP		48	50
		i		49	21
	T	eP		48	52
	USCGS: 21½ S 170½ E; 21:36:06, 100 km				
14	P	e	03	10	10
	R	e		09	57
	W	eP			46
	Is	e			53
	USCGS: Bonin Islands region, 02:57:37				
14	P	eP	06	15	31
		iNEZ!			39d
	PX	eGNE		19.2	
		iR		20.2	
				A	T
		PZ		20	3
		PH		15	3
		MH		200	18
		MZ		200	18
	R	eP	06	15	17
		iNEZ!			33d
	R	eP			14
		i			19
		i!			23
	Bt	eP			00
		iNZ!			15
	W	eP			38
		i			48
		iEZ!			56

(continued)

Date	Sta.	Phase	h	m	s
June	(continued)				
14	Is	eP	06	15	44
		iNZ			55
	T	eP			58
		iNEZ		16	07
	Magnitude 7±				
	USCGS: 20 N 107 W;				
	06:11:18				
14	P	eP	07	40	44
		eLNE			44.4
		eRNEZ			45.5
			A		T
		PZ	1		3
		MH	17		18
		MZ	25		20
	R	eP	07	40	33
		i			39
	Pr	eP			25
	Bt	eP			17
	W	eP			55
	Is	eP			55
	T	eP		41	06
	Magnitude 5¾-6				
	Aftershock				
	USCGS: 07:36:29				
14	P	eP	10	45	19
	R	eP			33
	W	eP			22
	Is	eP			26
	USCGS: 1 S 150 E;				
	10:32:04				
14	R	e	15	09	19
	Pr	e			16
	Bt	e			10
	W	eP			31
	USCGS: ½ N 80 W;				
	15:00:30				
14	W	e	16	46	44
	Is	e			17
	Japan; foreshock of next				
14	P	e(P)	17	33	56
		i		34	16
		eLN			57.8
	R	eP		33	59
		i		34	15
	Bt	iP			07
	W	eP		33	41
		i			48
	Is	eP			51
		i			56
	T	eP			49
		i			55
		i		34	01
	CMO: 36.3 N 142.1 E;				
	17:21:57, 40 km				
14	P	iPNEZ	19	33	26
	PX	iLgNEZ		36	20
		iN			40
		eLNZ			37.3
	R	eP		33	17
		eLg		35	35
	Bt	ePNZ		32	57
		iLg		34	50
		(continued)			

Date	Sta.	Phase	h	m	s
June	(continued)				
14	W	iP	19	33	44
		i			49
		eLg		37	04
	Is	iP		33	46
	T	eP		34	00
		e(Lg)		38	00
	USCGS: 25 N 113 W;				
	19:30:53				
15	P	iP	03	14	01
		i			11
		e			40
	R	eP			01
		i			03
		i			13
	Bt	iP			04
	W	iP			00
		i			02
	Is	eP			03
		i			05
	T	eP			06
	USCGS: 21 S 169 E;				
	03:01:05				
15	P	eP	10	12	17
		e			34
	R	eP			10
	W	eP			28
		i			56
	Is	eP			26
	T	eP			33
	USCGS: 16 N 93½ W;				
	10:06:16				
15	P	iPEZ	12	41	13d
		e			26
	R	eP			16
		e			29
	Bt	eP			21
		e			40
	W	iP			07d
	Is	iP			10
		e			23
	T	eP			09
		e			23
	USCGS: 18½ N 146 E;				
	12:28:36				
15	W	iP	13	18	27c
		i			53
	T	e			50
15	P	iPEZ	15	49	24
		iNZ			26
		i			50
		i			58
	PX	eLZ	16	18.3	
	R	iP	15	49	26
		e			38
		i			51
		i		50	01
	Bt	eP		49	28
		e			51
		i		50	10
	W	iP		49	20
		i			35
		i			59
		i		50	50
		(continued)			

Date	Sta.	Phase	h	m	s
June	(continued)				
15	Is	e	15	49	24
		e		50	C1
	T	eP		49	25
		e			51
		e		50	05
	USCGS: 3 S 153 E;				
	15:36:27, 100 km				
16	P	e(P)	05	06	29
	R	e(P)			27
	Bt	e(P)			21
	W	e(P)			11
	Is	e(P)			18
	BCIS: Marianas region;				
	04:53:30				
16	P	e	06	17	44
	R	e			46
	Bt	e			49
		e		18	10
	W	e		17	31
		i			39
	Is·	e			38
	USCGS: Marianas region;				
	06:04:36				
16	P	iPNEZ	12	39	49
	PX	iSN		41	20
		eGE			·50
		eRNZ			42.3
		iLgEZ		42	41
			A		T
		MH	20		10
	R	ePNZ	12	39	43
		iNEZ		42	05
	Bt	ePNZ		39	21
		iEZ		41	17
	W	iP		40	11
	Is	iP			09
		i		43	16
		i			44
	T	iPNEZ		40	27
		i		43	24
	USCGS: 25 N 113½ W;				
	12:37:15				
16	W	e(P)	13	15	14
	Is	e(P)			14
16	P	iP	14	09	26c
	R	iP			29c
	Bt	e			28
	W	iP			27c
	Is	iP			28c
	USCGS: New Hebrides;				
	13:56:43				
16	PX	eLE	16	49.1	
	W	e		36	21
		i		42	03
	Two shocks?				
16	W	iP	17	12	47
17	P	eP	07	35	35
	R	e			36
	W	iP			36
	Is	iP			39
	T	eP			43
17	MW	e	07	56	57
	W	iP			47
	Is	eP			49
		e		57	00
	BCIS: 15 S 172½ W;				
	07:45:35				

Date	Sta.	Phase	h	m	s
June					
17	MW	e	08	24	34
	R	e			36
	W	iP		20	14
		e		23	16
		e		24	14
	Is	e(P)		20	31
		e		24	02
	USCGS: 22 N 122 E;				
	08:06:31				
17	W	iP	12	48	56
	Is	eP			59
17	MW	e	17	37	41
	W	e(P)			57
	Is	e(?)		38	00
	T	e			04
		e			24
17	P	iP	18	11	26d
	R	e			35
	Bt	e(P)			39
	W	iP			28d
		ipP		12	21
	Is	iP		11	30d
		ipP		12	24
	T	i		11	36
	USCGS: 20½ S 175 W;				
	17:59:48, 200 km				
17	PX	eLEZ	22	40.8	
	MW	eP		37	55
	R	eP			53
	W	i(P)		38	13
	Is	e			12
	T	e			29
	BCIS: Off Lower California;				
	22:35.4				
18	P	iP	00	42	32
	R	iP			35d
		i		43	05
	Bt	iP		42	43
	W	iP			22d
		i			52
	Is	iP			25d
		e			54
	T	iP			22
	BCIS: 48½ N 153 E;				
	00:31:50				
18	P	e	04	54	16
	W	iP		53	57
		i		54	08
	USCGS: 46½ N 155 E;				
	04:43:26				
18	R	e	05	59	23
	W	i			17
	Is	e			28
	Apia: south of Fiji;				
	05:47.2				
19	P	eP	19	22	16
		iSEZ		23	36
	SB	e(P)		22	24
		iS		23	31
	H	eP		21	47
		iSE		22	32
	T	iPNEZ		21	35d
		iSNE		22	04
	W	iP		21	53d
		iS		22	43
		(continued)			

Date	Sta.	Phase	h	m	s
June	(continued)				
19	Is	eP	19	21	54
		iS		22	46
	Kg	eP			02
	Magnitude 4.9				
	USCGS: 39 N 118½ W;				
	19:21:05				
19	P	eP	19	26	36
		iSNEZ		27	50
	SB	eP		26	50
		eS		27	45
	H	eP		26	08
		iSEZ			47
	T	iP		25	50
		iSE		26	18
	W	iP		25	39
		iS		26	59
	Is	iPNZ			15
		iS		27	00
	Kg	eP		26	21
	Magnitude 5.0				
	USCGS: Fallon, Nevada;				
	19:25:19				
19	P	e	19	43	42
	R	e			45
		e			52
		e		44	06
	Bt	e(P)		43	58
		e		44	15
	W	iP		43	28
		i			35
		i			40
		i		44	05
	Is	eP		43	32
		i			37
		i			40
		i			56
	T	i			33
		i			40
	USCGS: 53 N 166½ W;				
	19:36:14				
19	P	iPEZ	21	32	49
		ipPNEZ			55
	PX	eLNE		41.9	
	R	iP		32	53d
		ipP			58
	Bt	iP		33	04d
		ipP			09
	W	iP		32	35d
		ipP!			42
		i		33	36
	Is	iP		32	38
		ipP			44
	T	iP			33d
		ipP			40
	USCGS: 53½ N 166 W;				
	21:25:21				
19	R	e?	22	31	56
	W	e			35
	Is	e			33
20	P	iP	12	15	59
	PX	i		16	12
		i			20
		(continued)			

Date	Sta.	Phase	h	m	s
June	(continued)				
20	P	iPP	12	17	52
		i		18	08
	PX	ePcSE		21	36
		iSNEZ		22	46
		iGN		26.1	
			A		T
		FZ	2½		3
		PH	2		3
		PPZ	3½		8
		SH	20		12
		MH	60		20
	R	iP	12	16	03
		iNEZ			06
		i			17
		i		18	09
		iSNEZ		22	58
	Bt	iPNEZ		16	13
		iNZ			16
		iNE		18	21
		i(ScP)		21	36
		iSNEZ		23	17
	W	iP		15	47d
		iScP		21	15
		iSEZ		22	28
	Is	iP		15	50
		i		16	13
		iSNZ		22	40
	Depth 50 km?				
	Magnitude 6¾				
	USCGS: 51½ N 180;				
	12:07:25				
	BCIS: 51¾ N 179¼ W;				
	12:07:34, 100 km				
20	P	i	12	47	01
	MW	e		46	54
	R	e			56
	W	i		49	18
	Is	e		46	46
21	MW	e	10	05	46
	R	e			41
	W	eP			52
	Is	eP			52
	T	e(P)			59
	USCGS: 27½ S 63 W·				
	09:53:30				
21	P	iPNEZ	11	00	59d
	PX	eL		17.4	
	MW	iP		00	59d
		ipP		01	10
	R	iP			01d
	W	iP		00	47d
		ipP			58
		i		01	07
	Is	iP		00	49d
		ipP		01	09
	T	iP		00	45d
	Dilatations followed by				
	larger compressions				
	USCGS: 52 N 161½ E;				
	10:51:00				

Date	Sta.	Phase	h	m	s
June					
21	P	eP	12	52	22
		e(pP)		53	45
	R	eP		52	24
	W	iP		52	16
		i(pP)		53	34
	Is	e		52	23
	T	e			16
	USCGS: 29 N 139½ E;				
	12:40:28, 350 km				
21	P	iP	16	12	01
	W	iP		11	56c
	Is	eP			58
	USCGS: 12 N 144 E;				
	15:58:55				
21	W	i	21	43	35
		i		44	45
	T	e		43	14
		e		44	01
	USCGS: 7 S 80½ W;				
	21:35:07				
22	R	e	11	23	17
	W	e?			11
		i			14
		i			24
	Is	e			18
	USCGS: Fiji region;				
	11:11:27				
22	W	eP	14	41	12
	Is	eP			11
22	W	iP	20	16	23
		i			33
23	MW	e(P)	08	51	39
	W	iP			30
		ipP			47
	Is	eP			32
	T	e(P)			30
	USCGS: 37 N 141 E;				
	08:39:43, 60 km				
23	W	e	13	53	55
23	R	e	16	04	27
	W	e			32
	Is	e			32
	T	e			43
23	P	iP	22	24	34
		ipP			58
	R	iP			37
		ipP			51
	W	iP			25c
		ipP			39
	T	iP			23
	USCGS: 44½ N 149 E;				
	22:13:31, 60 km				
23	W	iP	22	28	05
		i			22
	Aftershock of preceding				
24	W	iP"	04	55	27
		i		58	49
		e		59	08
	Is	iP"		55	28
	East Indies				
	USCGS: 04:36:20				
25	MW	eP	04	55	15
	W	iP			18
	Is	iP			19
	Near Apia				

Date	Sta.	Phase	h	m	s
June					
26	Pr	e	13	58	04
	W	iP		57	40
		i		58	07
27	P	ePNZ	02	02	34
	PX	eLNE		06.1	
	R	iP		02	29
	Pr	eP			14
	W	eP			54
	Is	eP			50
	T	eP		03	02
	USCGS: 19½ N 108 W;				
	01:58:30				
27	P	e	10	33	33
	PX	eLE	11	08.7	
	Pr	e	10	32	56
	Is	e			56
	T	e		33	12
	USCGS: 32 N 78½ E;				
	10:14:06				
27	P	e(P)	10	43	43
	R	e			38
	Pr	e			39
	Is	e(P)			40
	PKKP of preceding?				
27	PX	eLZ	17	05.0	
	W	e(P)	16	26	13
		e		30	39
	Is	e(P)		26	07
	USCGS: 1 N 128½ E;				
	16:11:44				
27	P	iP	18	21	46
	R	iP			48c
	Pr	iP			50c
	W	iP			45c
	Is	eP			46
	T	iP			50c
	USCGS: 10½ S 166 E;				
	18:09:12				
27	W	iP	22	37	58
28	P	ePEZ	04	38	13
		i			19
		eN			22
		ePP		40	25
		e		41	59
	PX	eSNE		46	25
		eRNZ		56.3	
			A		T
		PZ	¾		5
		MH	4		20
	R	iP	04	38	14
		iPP		40	26
		eP'P'	05	07	48
	Pr	eP	04	38	16
		i			24
		eP'P'	05	07	53
	W	iP	04	38	01
		i			07
	Is	iP			02
	T	iPNEZ		37	54
		iSNEZ		45	48
	Magnitude 6				
	USCGS: 86½ N 70 E;				
	04:28:07				

Date	Sta.	Phase	h	m	s
June					
28	P	eP	06	30	19
	R	eP			21
	Pr	iP			21c
	W	iP			21c
	Is	eP			23
	USCGS: 23 S 176 W; 06:18:53, 400 km				
28	W	iP	07	44	27
	Is	eP			29
	USCGS: Tonga region; 07:32:22				
	Apia: 23 S 176 W; 07:32.6				
28	W	iP	09	03	05c
29	P	eP	05	07	54
		i		08	09
	PX	eL			38.4
	R	e		08	10
	Pr	e			11
	Bt	e			12
	W	iP		07	47
		i		08	05
	Is	eP		07	48
		e		08	06
	USCGS: 29 N 131 E; 04:54:52				
29	W	iP	07	22	35c
		i			47
	Is	eP			37
29	P	eP	10	07	14
	PX	eLE			38.5
	R	iP		07	17
	Pr	iP			19
	W	iP			11
	Is	eP			12
	USCGS: 6½ S 148 E; 09:53:38				
29	R	e	17	45	48
	W	e			49
		e		47	04
30	P	iPEZ	04	17	42d
		ipP			55
	R	iP			46d
		epP			57
	Pr	iP			51d
		ipP		18	03
	Bt	iP		17	55
		epP		18	06
	Is	iP		17	35d
		ipP			46
	T	eP			30
		epP			42
	USCGS: 48½ N 155½ E; 04:07:16				
30	P	eP	18	40	17
		epP			28
	R	eP			18
		epP			31
		e			37
	W	iP			20c
	Is	eP			21
		ipP			35
	T	e(P)			27
		e			31
		epP			40
	Apia: 23 S 176 W; 18:28.3				

Date	Sta.	Phase	h	m	s
June					
30	P	e	20	31	48
	PX	eLNEZ			34.3
	R	e		31	54
	W	i(P)			25
		i			28
		i			39
	Is	i			31
	T	e			22
	USCGS: off coast of Oregon, 20:29:16				
July					
1	W	iP	10	44	23
		i			33
	Is	eP			24
2	P	eP	06	44	18
		epP			30
	R	eP			22
		epP			34
	Pr	iP			29
	Bt	eP			33
		epP			45
	W	iP			07
		ipP			17
	T	e			22
	Depth 50 km?				
	USCGS: Kurile Islands, 06:33:52				
2	P	iPNEZ!	16	30	01.6c
		iSNE			18.3
	R	iPNEZ!		29	51.8d
		iSN		30	01.2
	Is	iPNZ			14.5
	BB	iP!		29	43.9
	Magnitude 4.2				
	34° 25' N 116° 38' W; 16:29:39				
3	P	eP	08	09	42
		epP			52
	R	eP			46
		epP			57
	Pr	iP			52c
		ipP		10	03
	Bt	iP		09	56
		ipP		10	07
	W	iP		09	31c
		ipP			41
	Is	iP			33c
		ipP			42
	T	iP			28c
		ipP			38
	Depth 40 km ±				
	USCGS: 51 N 177 E; 08:00:53				
3	P	eP	08	11	56
		epP		12	06
	R	eP			00
		epP			09
	Pr	iP			07
		ipP			16
	Bt	eP			11
		epP			19
	W	iP		11	45
		ipP			55
	Is	iP			47
		ipP			57
	T	iP			41
	Aftershock				
	BCIS: 08:03.3				

Date	Sta.	Phase	h	m	s
July					
3	P	epP	08	13	42
	Pr	epP			45
	W	iP			24
		ipP			32
	Aftershock				
3	Pr	eP	13	28	40
	W	iP			08
3	P	iP	14	35	18
		ipP			27
		esP			35
		iEZ			51
	PX	eSEZ		42	20
		eEZ			30
		eGE			47.4
		eR			49.0
			A		T
		PZ	1		2½
		PH	½		2
		PPZ	1¼		4
		SH	2		5
		MH	5		16
	R	iP	14	35	21
		ipP			31
		eS		42	31
	Pr	iP		35	28
		ipP			37
	Bt	iPNEZ			31
		ipP			43
		i			50
		iSNEZ		42	49
	W	iP		35	05
		i!			07
		ipP			16
		i		39	02
		eS		42	03
	Is	iP		35	09
		ipP			18
	T	iPEZ			02
		ipPEZ			14
		eSNEZ		41	58
	Magnitude 6½				
	USCGS: Rat Islands, 52 N 178 E; 14:26:32				
3	Pr	eP		46	23
		ipP			33
	W	iP			01
		ipP			11
	Is	e			03
	T	eP			00
		epP			08
	Aftershock				
3	P	eP	15	29	43
		epP			52
	R	eP			47
		epP			58
	Pr	iP			54
		ipP		30	03
	Bt	eP		29	58
		epP		30	06
	W	iP		29	31
		ipP			40
	Is	eP			28
	T	iP			29
		ipP			38
	BCIS: Aftershock, Aleutians; 15:20:59				

Date	Sta.	Phase	h	m	s
July					
4	P	eP	02	51	50
		e		52	10
	R	eP		51	45
	Pr	iP			39
		i			51
		i			58
	Bt	eP			33
	W	iP		52	03
		e		54	47
	Is	eP		52	02
	T	eP			06
		e			09
	BCIS: 13¾ N 91¾ W; 02:45:30				
4	P	iPNEZ	14	28	33c
		ipP			43
		i			49
	PX	eSN		35	48
		eREZ			42.7
			A		T
		PZ	2		3
		PH	1½		3
		SH	1½		5
	R	iPEZ	14	28	37c
		i			54
		eS		35	52
	Pr	iP		28	42
		i			48
		i			54
	Bt	iPNEZ			48
		i			57
	W	iP			21c
		ipP			31
		i			47
		i		31	53
		i		36	06
	T	ePNEZ		25	18
		i			39
		iSNEZ		35	20
	Magnitude 6½-6¾				
	USCGS: Rat Islands; 51½ N 177 E; 14:19:44				
4	MW	iP	14	37	18d
		ipP			29
	R	e(P)			22
	Pr	iP			28d
		ipP			38
	W	iP			06d
		ipP			17
	Is	iP			09d
		ipP			19
	T	iP			04d
		ipP			14
	BCIS: Aftershock; 14:28:30				
5	MW	eP	04	12	10
		epP			20
	R	eP			13
	Pr	iP			20
		ipP			30
	Is	eP			00
		epP			11
	T	eP		11	54

(continued)

Date	Sta.	Phase	h	m	s
July	(continued)				
5	Depth about 40 km				
	USCGS: Rat Islands (Aleutian Is.) 04:03:25, 100 km				
5	MW	e	05	21	38
	Pr	e			41
	Is	e			40
5	P	iP"	08	47	09
		e			44
	Is	eP"			07
	BCIS: 8½ S 112½ E; 08:28:00				
5	MW	iP	10	52	46
	Pr	eP			49
	Is	eP			50
	USCGS: 16 S 175 W; 10:41:11				
5	MW	iP	11	50	09
		ipP			21
	R	iP			06
		ipP			18
	Pr	e			22
	Is	iP			16
		ipP			29
	USCGS: North of Montezuma, Chile; 11:38:40				
5	P	eP	15	17	53
	R	eP		18	00
	Pr	eP			10
		e			22
	Is	iP		17	35
	T	eP			22
	USCGS: off coast of Oregon; 15:15:00				
5	Pr	e	19	55	54
		e			58
6	P	iPNEZ	02	04	31
		ipP			42
		i		05	26
	PX	iSNEZ		12	48
		eSSE		16.9	
		eGN		20.2	
		eR		22.3	
	P	eP'P'		33	54
			A		T
		PZ	1		2
		PH	½		2
		SH	1¾		6
		MH	15		28
	R	iP	02	04	34
		ipP			45
		eS		12	50
		eP'P'		33	34
		e			51
	Pr	iP		04	40c
		eP'P'		33	45
	Bt	iP		04	43
		eS		13	09
	Is	iP		04	22
		ipP			34
		eP'P'		33	37
		e		34	00
		(continued)			

Date	Sta.	Phase	h	m	s
July	(continued)				
6	T	iPNEZ	02	04	18c
		ipP			29
		i		05	08
		eS		12	17
		eSNE			24
	Magnitude 6¾				
	USCGS: 51 N 158 E; 01:54:17				
6	P	eP	10	36	50
	PX	eL		47.1	
	MW	eP		36	50
		ipP		37	01
	R	eP		36	54
		epP		37	05
	Pr	iP			00c
		ipP			12
	Is	iP		36	39c
		ipP			51
		i		37	00
	T	eP		36	34
		epP			46
	Depth 40 km?				
	USCGS: 54½ N 162½ W; 10:29:40				
6	MW	iP	15	11	32d
		i			36
		i			43
		epP		12	00
	R	iP		11	34d
		ipP		12	03
	Pr	iP		11	33d
		ipP		12	02
	Is	iP		11	36d
		ipP		12	05
	T	iP		11	42d
		ipP		12	11
	USCGS: 24½ S 177 W; 14:59:21, 100 km				
7	PX	eLE	15	15.7	
	MW	e(P)		04	23
	R	eP			19
		e		06	51
	Pr	eP		04	11
		e			23
		e		06	49
	T	eP		04	38
	USCGS: 12½ N 86 W; 04:57:25				
7	P	eP	07	16	32
	R	eP			36
	Pr	eP			36
		i			44
	Is	e			23
		e			30
	T	eP			18
		e			24
	BCIS: Rat Islands; 07:07.5				
7	Pr	eP'	09	22	32
		ePP		25	48
	Is	eP'		22	30
		ePP		25	25
	BCIS: 1 N 66 E; 09:02:45				

Date	Sta.	Phase	h	m	s
July					
7	MW	e	18	18	53
	R	e		19	24
	Pr	eP			05
		ipP			13
	USCGS: Rat Islands, 18:10:02				
7	MW	iP	23	06	06
	R	eP			03
	Pr	eP			01
	Is	iP			14
	T	iP			18
	Chile				
8	P	eP	18	31	28
		e			38
		epP		33	31
	R	eP		31	30
		epP		33	32
	Pr	eP		31	29
		epP		33	33
	Is	eP		31	28
		epP		33	28
	T	eP		31	41
		iSNE		41	02
	USCGS: 21 S 179½ W; 18:20:11, 600 km				
8	P	iPNEZ	18	50	24c
		epPEZ		52	20
	PX	eSNE		59	10
		iSNE			47
	R	iP		50	26
		ipP		52	28
		eS		59	51
		i	19	00	36
	Pr	iP	18	50	27c
		ipP		52	28
	Bt	iP		50	24c
		ipP		52	27
	Is	iP		50	27c
		i			36
		ipP		52	28
	T	iPNEZ		50	32
		epP		52	20
		iNEZ			34
		iSNEZ	19	00	04
	USCGS: 20½ S 179½ W; 18:39:11, 600 km				
8	P	iP"	19	21	13
		iPP		23	33
		i			52
	PX	iSKSE		27	24
		iNE		29	13
		eSSE		39.9	
	R	eP"		21	14
		ePP		23	17
		i			36
		e		32	26
		e		33	38
		i		34	32
	Pr	eP"		21	18
		iPP		23	25
	Bt	iPP			38
	T	eP"		21	11
		e		22	58
		iPPNE		23	21
		(continued)			

Date	Sta.	Phase	h	m	s
July	(continued)				
8	T	i	19	23	30
		i		25	09
		i			37
		e		32	09
	USCGS: 5 S 110 E; 19:03:09, 600 km				
9	P	iP	00	59	21
	R	iP			26
	Pr	iP			32
	Bt	eP			38
	Is	iP			18
	BCIS: 59½ N 151 W; 00:52:40				
9	MW	eP	05	20	34
	R	eP			39
	Pr	eP			45
	Is	eP			24
9	MW	iP	16	56	25
	R	eP			27
	Pr	iP			27
10	Is	e	07	04	24
	Argentina				
10	P	iPNEZ	14	32	45
		iNZ			52
	PX	eSNE		42	33
		eLN		52.3	
		eR		55.2	
			A		T
		PZ	½		2
		SH	1½		10
		MH	5		16
	R	iP	14	32	47
		i		33	13
		eS		42	49
	Pr	iP		32	48
		i		33	09
	Bt	iP		32	44
		i		33	02
		eSNZ		42	36
	Is	iP		32	47
		i			57
	T	eP		32	52
		iEZ		33	01
		iSNEZ		42	51
	Magnitude 6¼				
	USCGS: 20 S 175½ W; 14:20:52				
10	MW	eP	21	25	05
	Pr	eP			04
	Near Apia, which gives O = 21:13.6				
11	P	e	05	27	27
	MW	e(P")			17
	Is	e			15
	USCGS: Sumatra, 05:08:00				
11	MW	iP	17	24	30
	Is	iP			22
	USCGS: 48¾° N, 157° E; 17:14:06				
11	PX	eLE	21	12.9	
	MW	e	20	40	00
	R	e		39	28
	Is	e			35
	USCGS: 1 S 13½ W; 20:21:21				

Date	Sta.	Phase	h	m	s
July					
12	R	e(P)	00	53	51
	Pr	e(P)			52
		e		54	04
	Is	e(P)		53	53
	BCIS: Kermadec Is. 00:40.5				
12	MW	e	14	56	21
	R	eP			14
	Pr	eP			13
	Bt	e			26
	Is	eP			19
	USCGS: 12½ N 35 W; 14:44:26				
12	R	i(P")	16	05	14
		e			24
	Pr	e(P")			13
	Is	e(P")			18
	South Atlantic; BCIS: 15:46.4				
12	P	eP	18	08	41
		i			49
	PX	eLE			29.6
	R	eP		08	43
	Pr	eP			44
	Bt	eP			45
		e			54
	Is	eP			44
	T	eP			51
	USCGS: 14½ S 173 W; 17:57:18				
13	R	eP	01	07	05
	Pr	iP			06
	Is	iP			05
	Pacific				
13	P	iPNZ	02	08	15
	R	iP			11d
	Pr	eP			07
	Bt	iP			04d
	Is	iP			21d
	T	iP			27
	USCGS: 20½ S 70 W; 01:56:52				
13	Pr	eP	09	51	26
	Is	eP			44
	Central America?				
13	P	iPNEZ	10	07	06
	R	eP			08
		epP		08	20
	Pr	iP		07	09
		e(pP)		08	27
	Bt	eP		07	08
	Is	iP			10
		epP		08	20
	T	iP		07	16
	USCGS: 20 S 178½ W; 09:55:32, 300 km				
13	P	eP	16	03	51
	R	eP			53
	Pr	iP			54
13	P	iPNEZ	18	53	45c
		i		54	12
	PX	eLZ	19	17.0	
	R	iP	18	53	46c
		i		54	02
		(continued)			

Date	Sta.	Phase	h	m	s
July	(continued)				
13	Pr	iP	18	53	48c
		e		54	05
	Bt	iP		53	49
	T	eP			45
	USCGS: 6 S 154½ E; 18:40:34				
13	P	iP"	20	35	13
		e		36	40
	R	iP"		35	11
		e			33
	Pr	eP"			10
	Bt	eP"			08
	Is	iP"			15
		e			43
	T	eP"			17
		e		36	37
	USCGS: 54½ S 27 W; 20:16:28				
13	P	iP	22	33	30
	MW	iP			30
		e			51
	R	iP			31
		e			53
	Pr	eP			34
		e			55
	Bt	eP			34
		e			56
14	P	iPNEZ	04	07	11c
		e			25
	R	iP			13c
		e			32
	Pr	iP			16c
		i			34
	Bt	eP			15
		i			17c
	Is	iP			10c
		e			22
	T	iP			12
		e			25
	USCGS: 6 S 154½ E; 03:54:02				
14	P	eP"	10	10	44
		iNZ			51
	R	eP"			46
		i			51
	Pr	eP"			49
		i			56
	Bt	i			57
	Is	eP"			37
		i			51
		e		24	07
	T	e		10	48
	USCGS: 8½ N 94 E; 09:51:37				
14	PX	eL	11	00.0	
	Pr	e	10	29	31
	Bt	e			33
	Is	eP			15
	CMO: 36.4 N 141.2 E; 10:17:25, 40 km				
14	Is	eP	16	07	54
	USCGS: off Honshu, 15:56:10				

Date	Sta.	Phase	h	m	s
July					
15	P	eP	03	03	25
	PX	eL			23.5
	R	eP		03	27
		i			34
	Bt	eP			30
		e			43
	W	iP			26
	Is	eP			27
	T	e			37
	BCIS: 15 S 175 W; 02:51:49				
15	P	e	04	48	49
	R	e		49	10
	W	eP		48	43
	Is	eP			43
	T	eP			31
15	P	iPNEZ	04	50	54
	R	iP		51	03
	Bt	iP			17
	W	iP		50	31
	Is	iP			34
		i			45
	T	eP			20
		i			30
	USCGS: off Vancouver Island, 04:44:58				
15	R	eP	06	52	28
	W	iP			24
		e			33
	Is	eP			25
15	P	eP	12	07	05
	R	eP			08
		e			18
	W	iP		06	57
		i		07	07
	Is	eP		06	58
		e		07	10
	BCIS: off Honshu, 11:55.3				
15	W	iP	14	59	29
	Is	e			30
15	P	eP	20	13	05
		e			37
	R	eP		12	59
	W	eP		13	16
		i			24
	T	eP			27
	BCIS: off Ecuador, 20:04.7				
15	MW	e	23	28	47
	R	e			55
	W	iP			39
		i			45
	BCIS: Region of Bonin Is., 23:16.2				
16	R	i(P)	01	49	49
	W	iP		50	11
	Is	iP			09
		e			30
16	MW	e	02	15	41
	R	e			42
		e			54
	W	e			42
	Is	e			43
	BCIS: South of Australia, 01:56.3				

Date	Sta.	Phase	h	m	s
July					
16	P	eP	07	21.1	
		iPP		25	15
	PX	eSKSN			31.9
		eNE			32.7
		ePSNE			34.4
		eSSNE			39.9
		eGNE			50
		eR			55
				A	T
		PZ		0.1	3
		PPZ		1	4
		PPH		½	4
		MH		40	60
		MH		30	20
		MZ		25	16
	R	eP	07	21	05
		e			30
		iPP		25	15
		ePS		34	15
	Bt	eP		21.1	
		iPP		25	22
	W	eP		21	00
		iPP		25	07
		ePS		33	56
	Is	eP		21	00
		iPP		25	09
		ePS		34	06
	T	iP		20	53
		iPPNEZ		24	55
		ePS		33.8	
	Magnitude 6¾				
	BCIS: 37.9 N, 27.1 E; 07:07:12				
	See also following entry				
16	P	e	07	37	15
		i			35
	R	i			14
		i			36
	W	i(P)			15
		i			17
		i			43
	Is	e			15
		e			23
		e			42
	T	e			22
		e			47
	May be PKKP group of preceding shock				
16	W	iP	08	02	41
		epP		04	05
	Is	iP		02	41
		epP		04	07
	Depth 400 km±				
	BCIS: Region of Kermadec Is. 07:50.4				
16	P	eP	12	28	50
	R	eP			52
	Bt	eP			51
		i		29	00
	W	iP		28	53
		i		29	04
	Is	iP		28	54
		i		29	05
	T	iP			01
	USCGS: Tonga Islands, 12:17:04				
	Apia: 20 S 175 W; 12:17.1				

Date	Sta.	Phase	h	m	s
July					
16	MW	eP	13	42	01
		e			15
	R	eP		41	58
		e		42	10
	W	eP			13
		e			23
	Is	eP			12
		e			22
	T	e			23
		e			28
		e			37
	USCGS: 14 S 78½ W; 13:31:43				
17	MW	iP	07	18	43
	R	iP			46
	Bt	e			44
	Is	iP			45
	BCIS: 17½ S 170 W; 07:06:03				
17	P	ePNEZ	08	04	52
	R	eP			52
		i		05	12
	Bt	eP			00
	Is	eP		04	41
		i			44
	T	eP			37
	USCGS: 46½ N 153 E; 07:54:02				
17	MW	e	12	29	41
	Is	eP			10
	T	e			28
	USCGS: 53 N 170 W; 12:21:42				
17	P	ePNEZ	22	06	06
		i			13
	PX	eNE		12	10
		iSN		13	09
		eGN		15.3	
		eR		16.5	
			A		T
		PZ	¼		2
		SH	1		5
		MH	5		20
	R	eP	22	06	06
		i			14
	Bt	iP			18
		i			21
		iPP		08	15
	Is	iP		05	42
		i		06	04
	T	ePNEZ		05	45
		iEZ			57
		iPPNEZ		07	29
		iNE		11	42
	Magnitude 5¾-6 USCGS: 54 N 168 W; 21:58:25				
18	P	iPEZ	01	07	23c
		iE			27
		iE			36
	R	iPNEZ			26c
		e		10	52
	Bt	iP		07	26c
		i			39
		(continued			

Date	Sta.	Phase	h	m	s
July (continued)					
18	W	ip!	01	07	24c
		i			37
		i		08	30
		i		10	50
	Is	iP!		07	26c
		i			32
		e		08	31
	T	iPNEZ		07	29c
		i			34
		e		10	56
	USCGS: 18 S 170 E; 00:54:37				
18	MW	e	02	23	02
	R	e		22	58
	W	e			27
		i			40
	T	e			33
	USCGS: 52½ N 169 W; 02:14:59				
18	W	eP	10	25	09
		i			29
	Is	eP			14
		e			27
	USCGS: 44½ N 149 E; 10:14:14				
18	R	e	10	37	48
	W	eP			19
	Is	e			34
	USCGS: 45 N 149 E; 10:26:26				
18	MW	e	10	47	41
	R	e			43
	W	eP			17
		i			23
	Is	e			24
	USCGS: 44½ N 149 E; 10:36:24				
18	MW	e	10	52	09
		e			14
	R	eP			10
	Bt	e			28
	W	eP		51	51
		i		52	07
	Is	e			02
		e			09
	T	e			06
	USCGS: 44½ N 149 E; 10:40:55				
18	PX	iPNEZ	11	42	23c
		ipP		43	10
		iE			34
		eEZ		45	45
		e(S)E		52.5	
	R	iPEZ		42	25c
		i			35
		ipP		43	12
		e		52	36
	Bt	iP		42	26c
		ipP		43	12
		e		45	50
		e		52	36
	W	iP!		42	22c
		ipP		43	10
		i		44	14
		(continued)			

Date	Sta.	Phase	h	m	s
July (continued)					
18	Is	iP	11	42	25c
		ipP		43	11
		i		45	46
	T	iPNEZ		42	28c
		ipP		43	14
		e		52	51
	USCGS: 13½ S 167 E; 11:29:58, 150 km				
18	MW	i(P)	12	00	24
	R	e(P)			24
	W	i(P)			25d
	Is	i(P)			26d
	PKKP of preceding?				
18	MW	e	12	08	31
	R	i			30
	Bt	e			25
	W	e			18
	Is	e			21
		i			34
	T	e			34
	Probably P'P' of preceding				
18	MW	iP	13	44	36
	R	eP			38
	W	iP			37d
		i			45
	Is	iP			39d
		i			56
	T	iP			46
	USCGS: 16 S 173 W; 13:13:08				
18	W	e(P)	20	18	59
		ePcP?		21	34
		i			51
		i(ScP)		25	15
	BCIS: off coast of Guatemala 20:12:12				
19	W	iP	00	47	41
	USCGS: Kurile Islands; 00:36:50				
19	W	iP	11	31	25
	Is	eP			23
		e			37
	Tacubaya, 18° 29' N, 103° 52 W; 11:27:19				
19	MW	e	15	36	34
	R	e			56
	W	eP			31
		i			38
	Is	e			42
	BCIS: Yukon-Alaska border, 15:31.1				
19	P	iPNEZ	16	04	12c
		ipP			31
	PX	eLZ		35.5	
	R	iP		04	14c
	W	iP!			06c
		ipP			21
	Is	iP			07c
	T	iP			07c
	USCGS: 12 N 143 E; 15:51:06				

Date	Sta.	Phase	h	m	s
July					
19	P	eP	16	27	32
	R	iP			34d
	W	iP			15d
	Is	iP			17d
	USCGS: 60½ N 145½ W; 16:21:05				
19	P	eP	16	50	49
	R	eP			52
		e			57
	W	iP			33
		i			37
	Is	iP			36
	USCGS: 60½ N 146 W; 16:44:24				
19	P	iP	20	00	58
		ipPNZ		01	13
		eZ			49
	R	eP		01	00
		ipP			17
		iPcP		02	25
	W	iP		00	45
		ipP!		01	01
		e		03	17
		iScP		06	02
		e		08	00
	Is	eP		00	47
		ipP		01	03
		eScP		06	04
		e		08	37
		e		09	06
	T	eP		00	42
		ipP			59
		iPcP		02	16
		i			34
		eScP		06	02
	USCGS: 51½ N 178 E; 19:52:15, 60 km				
19	P	iPEZ	23	58	58d
		iNEZ		59	03
	PX	eSNE	24	04	20
		e			07.5
			A		T
		PZ	0.2		2
		SH	2		10
		MH	15		20
	R	iP	23	59	02
		i			07
		e	24	00	18
		i		07	56
	Is	iP	23	58	46
	T	iPNEZ			38
		iNE			54
		iSNE	24	03	45
	Magnitude 6 USCGS: 56½ N 153 W; 23:52:25				
20	P	eP	00	20	58
	R	eP		21	01
	Is	eP		20	46
	T	eP			34
	Aftershock of preceding USCGS: 00:14:20				

Date	Sta.	Phase	h	m	s
July					
20	MW	eP	04	16	27
	W	eP			16
	USCGS: Andreanof Islands: 04:07:53				
20	P	eP	04	25	59
	R	eP			56
	Is	eP		26	06
		e			23
	T	eP			11
		e			29
	BCIS: Chile, 04:13.6				
20	P	ePNZ	06	49	06
		e			28
		eNE			57
		eEZ		50	30
	PX	eGN		57	34
			A		T
		PZ	0.2		2
		PH	0.2		2
		MH	5		16
	R	eP	06	48	57
	Is	eP		49	17
		i			39
		i		50	05
	T	ePNE		49	38
		e		50	27
	Magnitude 6				
	USCGS: Off Colima; 06:44:30				
20	P	ePNZ	06	52	13
		e			27
		eN			56
	R	iP			03
	Is	eP			22
		e			37
	T	eP			38
	Aftershock				
20	MW	eP	07	01	29
	R	eP			17
	Is	eP			39
	T	eP			53
20	MW	e	07	39	50
	R	e		40	10
	Is	e		39	15
	T	e			17
	USCGS: Fox Islands; 07:31:45				
20	P	e	17	07	15
	R	e			16
	Is	e			08
	T	e			06
20	P	iPNZ	21	09	43
		iNZ			48
		i		10	01
	PX	eSN		16	59
		eLN		25.3	
			A		T
		PZ	½		1½
		PH	½		1½
		SH	1		6
	R	iP	21	09	37
		i			43

(continued)

Date	Sta.	Phase	h	m	s
July (continued)					
20	W	eP	21	09	50
		i		10	04
		e			58
		i		11	05
	Is	iP		09	51
		i			57
	T	iP			55
	USCGS: ½ N 78½ W; 21:00:43				
21	MW	iP	08	56	01
	W	iP		55	49
21	P	iPNEZ	11	56	14 d
		ipP			36
		isP			46
	PX	iSNE	12	04	53
		isSNE		05	32
		eGN		13.0	
	P	eP'P'		24	58
			A		T
		PZ	1½		3
		PH	¾		2
		SH	2½		5
	W	iP	11	56	23
		ipP			48
		isP			59
		eP'P'	12	24	53
		e		25	35
	Is	iP	11	56	22d
		ipP			46
		isP			57
		eP'P'	12	24	56
	T	iPNEZ	11	56	27d
		ipP			47
		isPNE			56
		iSNE	12	05	16
		eP'P'		24	52
	Magnitude 6¾; depth 80 km				
	USCGS: 15 S 74 W; 11:45:40, 100 km				
22	MW	e	06	03	24
	W	iP			14
		i			29
	Is	iP			16
	T	e			11
	BCIS: Southern Kurile Is.; 05:52.2				
22	W	eP	07	08	50
		e		11	37
	Is	eP		08	48
	Tacubaya: 16°35' N 90°53' W; 07:02:34				
23	P	eP"	10	38	54
		ePP		40	57
	W	eP"		38	56
		i		39	11
		ePP		41	06
	Is	eP"		38	57
		e		39	10
		ePP		41	05
	T	eP"		39	13
		e		40	45
		ePP		41	09
	South Atlantic				
	USCGS: 10:19:49				

Date	Sta.	Phase	h	m	s
July					
23	P	eP"	13	07	11
		e		08	02
	W	eP"		07	09
	Is	eP"			10
	T	eP"			12
	USCGS: 7 S 128½ E; 12:48:28				
23	P	eP	14	06	16
	W	eP			15
	Is	eP			14
	T	eP			09
	BCIS: 34½ N 38¾ W; 13:55:40				
23	PX	eLE	14	40.2	
	USCGS: 9½ N 122½ E; 13:57:04				
23	MW	eP	21	02	49
	W	iP			31
	Is	iP			33
	T	eP			21
23	W	iP	23	11	51
	T	eP			41
		e			52
24	P	eP	01	16	20
		iNEZ			31
	PX	eSE		26	17
		eN		35.3	
		eZ		36.8	
		eL		38.0	
	W	iP	01	16	27d
		i			35
		i			45
	Is	eP			30
		i			39
		e		20	09
	T	eP		16	36
		i			45
		eSN		26	22
	USCGS: 14 S 175 W; 01:04:56				
24	MW	eP	08	39	54
		e		40	11
	Is	eP		39	51
		e		40	11
24	P	ePEZ	11	14	12
		e			19
		iNZ			22
	PX	eSE		24	06
		eLEZ		38.0	
	Is	iP		14	06
	T	i			03
	CMO: 35.7 N 140.7 E; 11:02:11, 70 km				
24	P	ePEZ	16	33	49
		e		37	41
	PX	eL	17	06.9	
	Is	eP	16	33	43
		e		37	28
	T	e		34	13
		e		37	36
	USCGS: 24 N 122 E; 16:20:03				

Date	Sta.	Phase	h	m	s
July					
24	P	iP	19	17	06d
	W	iP			07d
		e			45
	Is	iP			09d
		e			45
	T	eP			13
	USCGS: New Hebrides; 19:04:20				
24	P	eP	20	31	26
	W	i			24
		i			28
25	P	iPN		34	02d
		ipP			14
		i			40
	W	eP			10c
		iP			12d
		ipP			22
	Is	eP			08c
		iP			10d
		ipP			21
	T	eP			15c
		iP			16c
		ipP			27
	USCGS: 23½ S 70½ W; 11:22:31, 60 km				
26	P	ePEZ	04	10	56
	PX	eSNEZ		16	07
		eNE		17	25
		eGNE		18.2	
			A		T
		PZ	0.05		1
		SH	1		8
		MH	5		10
	R	eP	04	10	58
	Bt	eN		11	14
	Is	eP		10	32
		e			42
		i			45
	T	eP		10	37
		i			40
	USCGS: 56½ N 153 W; 04:04:18				
26	MW	eP	05	28	34
		e			57
	R	eP			36
	W	eP			30
		e			42
	Is	eP			35
		e			53
	USCGS: 13 S 166½ E; 05:15:50				
26	W	e(P)	05	32	11
		i			24
	Is	e(P)			22
		e			35
	Part of preceding?				
26	P	e	11	51	16
		e			27
	R	e			17
	W	e			15
		i			25
		i			30
	Is	e			15

Date	Sta.	Phase	h	m	s
July					
27	P	iPNEZ	01	33	24
		iEZ			29
		i			47
	PX	eLN			55.4
	R	iP		33	27
		i			32
	W	iP			17
		i			23
		i		34	00
	Is	iP		33	18
	T	ePNZ			16
		e			21
	USCGS: 34 N 134 E; 01:20:50				
27	P	eP	05	13	27
	R	eP			28
	W	iP			27
	Is	eP			29
	USCGS: 15 S 175½ W; 05:01:48				
27	MW	eP	06	19	44
	R	eP			45
	W	eP			42
	Is	e			52
27	P	ePEZ	12	12	50
	MW	eP			51
		e			53
		e		13	40
	R	eP		12	52
	W	iP			48
	Is	eP			49
27	MW	e	15	41	07
	W	iP		40	41
		i			54
27	MW	eP	15	54	28
	W	iP			16
27	W	iP	17	58	01
27	P	iP	18	25	44
		i			51
	PX	iSNE		31	00
		eGN		32.9	
		eR		34	
			A		T
		PZ	0.3		1½
		PH	0.2		1½
		SH	6		12
		MH	20		16
		MZ	15		14
	R	eP	18	25	48
		i			55
	W	eP			28
		i			30
		i!			34
		iPcP		28	33
	Is	eP		25	33
	T	eP			26
		i			32
		iSN		30	30
	Magnitude 6¼				
	USCGS: 56½ N 153 W; 18:19:08				

Date	Sta.	Phase	h	m	s
July					
27	MW	e	21	20	32
		e			38
	R	e		22	52
	W	eP		20	52
		e		21	02
	CL	eP		20	49
27	MW	eP	21	54	26
	W	iP			15
	CL	iP			20
28	P	eP	02	12	07
	PX	eLN			41
			A		T
		PZ	0.03		1
		MH	5		17
	R	eP	02	12	13
	W	eP			22
		i			24
	Is	iP			22
	CL	iP			18
		i			39
		i			57
	T	eP			26
	USCGS: 40½ S 71½ W; 01:59:30				
28	MW	iP	12	12	28d
	R	eP			31
	W	iP			19d
		i			27
		i			34
	Is	eP			20
	CL	iP			23d
		i			31
		i			38
	T	eP			18
	CMO: 42.2 N 143.0 E; 12:00:56, 80 km				
29	W	iP	07	44	57
	Is	eP			58
	CL	iP		45	02
29	MW	eP	22	03	18
		i			29
	R	e			36
	W	iP			08
		i			12
		i			19
	Is	e			09
		e			15
	CL	eP			12
		i			18
		i			24
	T	eP			10
		e			16
	USCGS: 51½ N 158 E; 21:53:13				
30	P	e	15	30	31
	R	e			39
	W	i(P)			12
	Is	i(P)			15
	CL	e			22
31	P	eP	04	23	28
	R	eP			32
	Is	iP			23
	CL	iP			27

Date	Sta.	Phase	h	m	s
July					
31	Is	eP	10	34	23
	CL	eP			21
31	P	e(P)	13	28	58
	R	e		29	01
	Bt	e			14
	Is	eP		28	28
		e			39
	CL	eP			32
		i			43
	T	eP			37
	USCGS: Southwestern Yukon; 13:22:44				
31	P	eP	20	45	15
		e			30
	R	eP			18
		e			33
	Is	eP			18
		e			31
	CL	iP			21
		i			35
	Pacific				
August					
1	Is	e	02	43	59
	CL	eP			45
	BCIS: Off Kamchatka; 02:33.6				
1	Is	e(P")	03	34	25
		e		35	40
	CL	i(P")		34	24
		i			42
		i		35	40
	South Atlantic				
	USCGS: 03:15:40				
1	MW	iP	12	33	55c
	Is	iP			55c
	CL	iP			58c
	T	eP			53
1	W	iP	20	44	59
	Is	eP			59
	CL	iP		45	04
2	W	iP	04	56	47d
	Is	eP			48
	CL	iP			53
2	P	eP"	07	09	27
	R	iP"			28d
	W	iP"			22d
	Is	eP"			23
	CL	iP"			25
	T	eP"			23
	BCIS: 9½ N 94¼ E; 06:50:20				
2	W	iP	12	13	28
	Is	eP			30
	CL	iP			34
2	W	e	12	45	41
	Is	e			54
3	P	ePEZ	06	42	25
		e			37
		e(S)		44	40
		i			45
	R	e(P)		42	04
		i			22
		i(S)		44	31

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
3	W	eP	06	42	01
		i			38
		i(S)		44	43
	Is	e(P)		42	12
		i			34
		i(S)		44	26
	CL	eP		41	57
		e		42	19
		i(S)		44	14
	T	e(P)		42	25
		e			37
		e(S)N		44	25
	USCGS: Southwestern Colorado; 06:39:42. VI at Lake City; V at Creede and Silverton; IV at Ouray and Telluride.				
3	P	e	09	49	20
		e			37
	R	e			41
	W	iP			31
		i			58
	Is	eP			33
	CL	iP			36
3	W	eP	11	16	43
		i			53
	Is	e			58
	CL	e			58
3	P	eP	12	12	53
	R	eP			56
		e		13	27
	W	iP		12	46d
		i		13	15
	Is	iP		12	48d
		e		13	18
	CL	iP		12	51d
		i		13	21
3	MW	e	13	13	12
		e			36
	R	e			06
	W	iP			06
		i			45
	Is	eP			08
		e			46
	CL	iP			12
		i			51
	T	eP		12	56
3	MW	e	15	10	07
	W	iP		09	51
		i			55
		i		10	02
	Is	e		09	57
	CL	e			54
3	MW	eP	19	53	52
	W	iP			41
	Is	eP			43
	CL	iP			46
		i			59
	T	eP			39
		e			50
	USCGS: 52 N 179½ W; 19:45:20				

Date	Sta.	Phase	h	m	s
August					
3	MW	eP	20	29	57
	R	eP		30	00
	W	i		29	54
	CL	iP		30	00
	USCGS: New Ireland region; 20:16:54				
3	P	iP	22	34	49
	R	iP			47
	Pr	iP			42
	W	iP			58d
		i		35	47
	CL	iP		34	54d
	T	iP		35	01
	USCGS: Santiago del Estero, Argentina; 22:22:40				
4	W	iP	06	34	54
		i			59
	CL	eP		35	02
	T	eP			06
4	MW	e	07	10	17
	W	i			22
	Is	e			31
4	MW	eP	11	06	14
		e			45
	R	eP			16
		e			54
	Pr	eP			19
		e			53
	W	eP			12
	Is	eP			12
	CL	iP			17
		i			39
	T	eP			15
		e			42
	USCGS: 5 S 152½ E; 10:53:01				
4	W	iP	14	31	44
		e		32	13
	Is	eP		31	44
	T	eP			43
	USCGS: 25½ N 125 E; 14:18:20				
4	W	i	18	25	03
	Is	e			24
	T	e			06
4	P	e	23	47	02
	Pr	eP		46	48
		e			53
	W	e		47	08
		e			14
5	MW	eP	01	06	26
		e			38
	W	eP			11
		i			24
5	P	ePNEZ	03	16	46
		i		17	08
	PX	eLE		21.0	
	R	eP		16	49
	Pr	eP			30
		e			38
	W	eP			59
		i		17	06
		i			14

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
5	Is	iP	03	16	57
		i		17	02
		i			12
	USCGS: 17½ N 106 W; 03:12:06				
	BCIS: 17½ N 105½ W; 03:12:08				
5	MW	eP	08	25	51
	W	eP			59
	Is	eP			58
5	MW	e	11	19	49
	R	e			54
	Pr	i			58
	W	iP			37
	Is	e			38
	USCGS: 51 N 179½ W; 11:11:15				
5	P	eP	16	58	23
	R	eP			23
		e			30
	Pr	eP			23
		i			31
	W	eP			20
		i			24
		i			27
		i			33
	Is	eP			22
	CL	iP			26d
		i			31
		i			34
		i			38
	T	eP			29
	USCGS: 16 S 174 E; 16:46:01				
5	R	eP	19	05	21
	Pr	iP			22
	W	iP			21c
	Is	iP			23
	CL	iP			26c
6	P	iPNEZ	08	42	57c
		ipPEZ		44	16
		esP		45	07
	PX	iSNEZ		52	27
		iN			53
		iSPNZ		53	22
		isSNE		54	55
		iN		55	27
		eSSNE		57	54
		eL	09	05.3	
	P	eP'P'		09	55
		iSKPP'		12	51
			A		T
		PZ	3		3
		PH	2		3
		pPZ	13		7
		pPH	3		3
		SH	9		8
	R	iPEZ	08	42	59c
		ipPEZ		44	22
		isP			59
		iSEZ		52	33
		iSP		53	20
		i			58

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
6	R	iP'P'	09	09	54
		iSKPP'		12	50
	Pr	iP!	08	43	00c
		ipP!		44	22
		eS		52	36
		e(PKKP)	09	01	48
		eP'P'		09	52
		i			58
		e		12	35
		iSKPP'			50
	Bt	iP!	08	42	57c
		ipP		44	20
		iS		52	31
		iP'P'	09	09	52
		iSKPP'		12	50
	W	iPEZ!	08	42	59c
		ipPEZ		44	21
		isP			37
		iSEZ		52	34
		i	09	02	06
		iP'P'		09	57
		eSKPP'		12	45
	Is	iPNZ!	08	43	00c
		ipPNZ		44	22
		iSNZ		52	35
		iP'P'	09	09	56
		iSKPP'		12	46
	CL	iP!	08	43	04c
		ipP		44	24
		isP		45	21
		iS		52	35
		iP'P'	09	09	46
		i		12	23
		iSKPP'			44
	T	iPNEZ	08	43	06
		ipPEZ		44	29
		eSNEZ		52	46
		iE		53	12
		eP'P'	09	09	49
		iSKPP'		12	44
	Magnitude 6¾				
	USCGS: 21½ S 177½ W; 08:31:25, 350 km				
6	R	eP	18	26	03
	W	iP			05
	Is	iP			05
	CL	iP			07
7	MW	eP	10	23	49
		epP		24	02
	R	eP		23	52
		epP		24	06
	Pr	eP		23	57
		epP		24	11
	W	iP		23	38
		ipP			51
		i			54
	Is	iP			39
		ipP			52
	CL	iP			42
		ipP			56
	T	e			49

Date	Sta.	Phase	h	m	s
August					
7	P	eP	11	05	10
	R	eP			14
	Pr	iP			14
	W	iP			13c
	Is	iP			14c
	CL	iP			17c
	T	eP			19
7	MW	e	17	24	37
	Pr	i			44
	W	i			35
	Is	e			37
	CL	e			43
	USCGS: 20½ N 155½ W; 17:17:32				
7	P	eP	17	35	35
		epP			48
	R	eP			30
	Pr	eP			20
		ipP			37
	W	iP			47
		i			50
		i			57
	Is	iP			44
	CL	iP			39
		ipP			52
7	W	iP	17	38	19
		ipP			33
	Is	iP			18
		ipP			33
	CL	iP			16
		ipP			31
7	MW	e	17	53	12
		e			29
	R	e		52	42
	Pr	e			45
	W	iP			31
	Is	eP			33
	CL	iP			35
	USCGS: South of Honshu; 17:40:30				
7	W	e	17	58	29
	CL	e			24
		e			31
7	W	iP"	18	43	47
	CL	iP"			46
		i		44	02
		i			48
	South Atlantic				
	BCIS: 18:24:54				
7	R	eP"	21	12	26
		i		16	51
	W	eP"		12	30
	CL	eP"			29
		i		16	59
	BCIS: aftershock of preceding; 20:53:38				
8	P	iPNZ	03	22	14.2
		iSNE			31.9
	R	iP			20.4
		iS			42.4
	W	iP!		21	56.8

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
8	Ts	iPNZ	03	21	55.8c
	CL	iP!		22	08.4c
	FT	iP!			00.6
	Kg	iP			07.1
	SB	iP			14.8
		iEZ			15.7
		iSNE			28.6
	H	iP!NEZ			07.1
		iSE			19.9
	T	iP			21.6
		iNE			22.6
		iSE			45.1

Pasadena: 35°24' N 118°38' W; 03:21:51.0 Magnitude 4.7 IV at Bakersfield; felt over a large area in Kern County, with reported maximum V.

Date	Sta.	Phase	h	m	s
8	P	eP	10	36	41.9
		iNZ			50.6
		iSNE		37	47.4
	R	iP		36	45.8
		iS		37	52.4
	Pr	eP		36	55.8
		i!		37	12.3
	W	iP		36	19.2
	Is	iPNZ			20.5d
		iS			58.4
	CL	iP			19.8d
		i			25.9
	H	eP			15.1
		iS			51.1
	T	iP			01.0c
		iNE			02.0
		iSN			20.0

Pasadena: 38°23' N 118°39' W; 10:35:37 Magnitude 5.0 Felt in Nevada and California; reported maximum V

Date	Sta.	Phase	h	m	s
8	MW	e	19	06	39
	Pr	e			45
	Bt	e			49
	W	i(P)			22
		i			25
		i			35
	CL	e			28
	T	e			40
		e			47
9	W	eP	05	25	20
		i			24
	T	eP		24	59.6
		iEZ!		25	01.8
		iSN			28.3

Nevada; magnitude 4.2±

Date	Sta.	Phase	h	m	s
9	P	eP	06	51	46
	R	eP			44
	Pr	iP			38
	W	eP		52	01
	Is	eP			00
	CL	iP		51	58c

Date	Sta.	Phase	h	m	s
August					
9	P	eP	10	23	09
		e			23
	W	iP			02
	Is	eP			04
	CL	iP			08
	T	e			27
9	MW	eP	13	45	47
	R	eP			49
	Pr	iP			49d
	Bt	e			44
	W	iP			47
	Is	iP			47
	CL	iP			52d

USCGS: New Hebrides region; 13:32:25

Date	Sta.	Phase	h	m	s
9	MW	eP	18	27	02
	R	eP			04
		e			18
		e			25
	Pr	eP			03
		i			06
		i			17
	W	iP		26	59
		i		27	01
		i			13
	Is	eP			00
		i			14
		e			22
	CL	iP			05c
		i			20
	T	e			06

USCGS: 11 S 166½ E; 18:14:25

Date	Sta.	Phase	h	m	s
9	Pr	i	19	25	01
		i			12
		i			18
	W	iP		24	36d
		i			45
		i			50
	Is	eP			39
		e			54
	CL	iP			43d
	T	eP			49
		e		25	04

USCGS: 54 N 165 W; 19:17:30

Date	Sta.	Phase	h	m	s
10	MW	e	00	46	49
	R	eP			50
	Pr	eP			56
	Bt	e		47	00
	W	iP		46	38c
		e			52
	Is	eP			40
	CL	iP			44c
		e			59
10	P	iPNEZ	05	14	53c
	R	iP			57c
	Pr	iP			58c
	Bt	iP			59
	W	iP			50
	Is	iP			51

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
10	CL	iP	05	14	55c
	T	eP			53

USCGS: 2 S 151 E; 05:01:43

Date	Sta.	Phase	h	m	s
10	P	eP	07	43	38
	R	eP			35
	Pr	iP			30
	Bt	iP			27
		e			58
	W	iP			45
		i		44	16
	Is	iP		43	45
		e		44	16
	CL	iP		43	43
		i		44	14

Chile. BCIS: 07:32.3

Date	Sta.	Phase	h	m	s
10	P	e	07	55	16
	R	e			10
	Pr	e			07
	Bt	e			02
	W	e			25
		i			35
	Is	e			24
		e			51
	CL	i			19
		i			28
		i		56	27
	T	e		55	25

USCGS: 4 S 80 W; 07:45:49, 100 km

Date	Sta.	Phase	h	m	s
10	R	e	15	19	35
	Bt	e			29
	W	i			00
		i			11
	Is	e			00
10	P	iPEZ	16	10	36c
		e			45
	R	iP			39c
	Pr	iP			44c
		epP		11	15
	Bt	iP		10	47c
	W	iP!			27c
		ipP			59
	Is	iP			29c
		ipP		11	01
	CL	iP!		10	32c
		ipP		11	04
	T	iP		10	26c

CMO: 43.6 N 144.7 E; 15:59:27, 120 km

Date	Sta.	Phase	h	m	s
11	P	eP	01	01	16
	R	eP			17
	Pr	iP			18
	W	iP			18c
	CL	iP			23c
11	MW	e?	12	59	03
		i			17
	R	e(P)			14
	Bt	e			06
	W	i(P)			25
	CL	i?			21

Date	Sta.	Phase	h	m	s
August					
11	W	iP	15	49	01c
		i(pP)			25
11	P	iP	17	47	06.5
		iSN			48.9
	R	iP			00.0
		iS			34.2
	Pr	iP!		46	49.7d
		iS!		47	13.0
	Bt	iPNZ		46	38.4c
		iSN			52.9
	W	iP		47	29.3
		iS		48	38.4
	BB	iP		47	02.0d

Magnitude 4.8 Roughly 31.7 N 116.0 W; 17:46.3

Date	Sta.	Phase	h	m	s
11	R	e	22	06	37
	Pr	e			32
	W	eP			55
		e		07	07
	CL	iP		06	52
		i			59
12	P	eP	04	21	25
	R	eP			27
	Pr	eP			32
	Bt	eP			35
	W	iP			17
		i			28
		e		22	33
	CL	iP		21	22
		i			36
		i		22	25

USCGS: 37 N 141 E; 04:09:26

Date	Sta.	Phase	h	m	s
12	P	e	10	42	09
	R	e			10
	Pr	i			12
	Bt	e			17
	W	i(P)			09
	CL	i(P)			17
		i		43	07
	T	e(P)		42	17

Near Apia. BCIS: 10:30.6

Date	Sta.	Phase	h	m	s
13	R	eP	01	08	33
	Pr	iP			24c
	Bt	eP			21
	W	iP			23
	CL	iP			28c
	T	eP			30

New Hebrides: BCIS: 00:56.2

Date	Sta.	Phase	h	m	s
13	Pr	iP	13	09	11
	W	iP			12
	CL	iP			16
13	Pr	iP	14	18	21
	W	iP			22
	CL	iP			27
14	MW	eP	05	50	03
		ipP			28
	R	eP		49	59
		ipP		50	24

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
14	Bt	eP	05	49	52
		ipP		50	17
	W	iP			11
		ipP			37
	Is	eP			10
		ipP			36
		i			47
	CL	eP			09
		ipP			33
	T	e			40
	BCIS: 23¼ S 72¼ W; 05:38:34				
14	MW	iP	07	20	19d
		epP			48
	R	iP			14
	Pr	eP			08
	Bt	eP			05
	W	iP			29d
	Is	iP			28
	CL	iP			24
	USCGS: Ecuador; 07:11:12				
14	P	ePNEZ	12	35	01
	R	eP			06
	Pr	iP			09
	Bt	eP			09
	W	iP			01c
	Is	iP			03c
		i			20
	CL	eP			11
		i			27
	T	e			17
	USCGS: 19½ N 155½ W; 12:27:58				
14	MW	e	13	58	07
		e			26
	R	e		57	57
		e		58	17
	Pr	e			12
	Bt	e		57	53
		e		58	10
	W	e			12
	Is	e			11
		e			29
	CL	e			07
	BCIS: Chile-Argentina				
14	P	ePE	16	56	10
	PX	eLNE	17	19.5	
	R	eP	16	56	12
		i			18
	Pr	eP			14
	Bt	eP			15
		i			27
	W	eP			13
		i			22
		i			27
	Is	eP			15
		i			20
		i			24
	CL	iP			19
	T	e			20
		i			50
	USCGS: 33 S 179 W; 16:43:20				

Date	Sta.	Phase	h	m	s
August					
14	MW	e	20	30	43
	R	e(P)			28
		e(PcP)		33	01
	Pr	e(P)		30	22
		e(PcP)		32	57
	Bt	e		30	30
	W	e(P)			25
		i(PcP)		33	08
	CL	e(P)		30	35
		i(PcP)		33	05
	Off Mexico?				
15	R	e	00	37	23
	Pr	e			23
	W	iP			29
	Is	iP			28
		e			34
	CL	eP			31
	USCGS: 25½ N 45 W; 00:27:00				
15	P	e(P)	06	08	00
	Bt	e			12
	W	e(P)			04
	Is	e(P)			07
		e			26
	T	e			14
	BCIS: Tonga region; 05:56.4				
15	W	iP	13	35	52
		i(pP)		36	14
		i			25
	Is	eP		35	52
15	MW	e	15	11	50
		e			53
	R	e			51
	Pr	e			56
	W	e			43
	Is	e			51
	T	e		12	10
	USCGS: 3½ S 149½ E; 14:58:27				
15	P	e	15	24	44
	R	e			58
	Pr	e			40
	W	e(P)			45
	Is	e(P)			46
	CL	i			55
	BCIS: 17½ S 168 E; 15:11:57				
16	MW	i	02	38	44
	R	e			44
	W	iP			45d
		i			52
		i		39	21
	Is	iP		38	47d
		i			53
	CL	iP			51d
		i			58
	Near Apia. BCIS: 02:27.3				
16	P	ePNZ	04	25	42
		ePcP		28	21
	PX	eLN		35.3	

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
16	R	e(P)	04	25	30
		e			38
		ePcP		28	14
	Pr	e(P)		25	32
		e			43
		e			52
	W	iP			55
		i		26	08
		iPcP		28	19
		e		32	08
	Is	eP		25	54
		i		26	02
		iPcP		28	19
	CL	iP		25	48
	T	eP		26	08
	USCGS: 12½ N 88½ W; 04:18:47				
16	P	iPNEZ	11	59	48d
		i(PcP)NZ			54
		i(pP)NEZ	12	00	12
		eE			25
		i			30
	PX	ePPEZ		03	26
		iSKSNEZ		10	03
		iSN!			30
		e			38
		eNE		11	25
		iN			55
		eSSN		16	39
		eN		23.0	
		e(G)N		24.2	
			A		T
		PZ	2		2
		PH	2		3
		PPZ	1½		4
		PPH	1¾		5
		SKSH	2½		7
		SH	15		10
		MH	8		20
		MZ	8		20
	R	iPNEZ!	11	59	50
		i(PcP)			56
		i	12	00	36
		iPP		03	33
		iSKSNEZ		10	09
		iSN!			36
		iN		11	59
		iSSN		16	40
		eP'P'		25	28
		e		28	45
		e(P'P'P')		46	15
	Pr	iP!	11	59	53
		i(PcP)			59
		i	12	00	36
	Bt	iP	11	59	53d
	W	iP!			45d
	Is	iP			47
		iPP	12	03	21
		eSKS		10	15
		eSN			34
		eP'P'		25	20

Date	Sta.	Phase	h	m	s
August (continued)					
16	T	iPNEZ	11	59	49
		iNEZ			57
		i	12	00	43
		ePPEZ		03	26
		eSKSNEZ		10	07
		iSNE!			35
		iNE		11	53
		iSSNE		16	48
	Magnitude 7¼± Depth 100km?				
	USCGS: 6S 155E; 11:46:58, 200 km				
16	W	iP	14	59	48
		i	15	00	09
	Is	eP	14	59	50
		e	15	00	13
16	MW	iP	15	16	08
	R	iP			04d
	Pr	eP			01
	Bt	iP		15	58d
	W	iP		16	15d
	Is	iP			15d
	CL	iP			11
		i			21
	T	iP			19
16	P	iPNEZ	19	17	18
		i			27
		ePcP		19	39
		i			48
		e(ScP)		23	45
	PX	eLNE		27.6	
	R	iP		17	13
		i			22
		iPcP		19	37
		i			47
		eLNE		27.6	
	Pr	iP		17	08
		i			17
		iPcP		19	36
		e			45
	Bt	eP		17	00
		e			10
	W	eP			27
		i			38
		iPcP		19	42
		i			52
		e(ScP)		23	31
	Is	iP		17	27
		iPcP		19	43
	T	e(P)		17	28
		i			50
		i		18	18
		iPcPNEZ		19	44
		i			53
		i(ScS)NE		27	41
	USCGS: 11 N 87 W; 19:10:06				
17	MW	eP	10	52	24
		e			36
		e			53
	R	iP			20
		e			51

(continued)

Date	Sta.	Phase	h	m	s
August(continued)					
17	W	iP	10	52	32
		i		53	04
		i			17
	Is	iP		52	32
		i		53	01
		i			16
	CL	iP		52	28
		i			59
		i		53	14
	USCGS: 8½ S 76 W; 10:42:57, 150 km				
17	W	iP	14	54	27
	Is	eP			30
	CL	iP			33
	T	e			31
	USCGS: Marianas region; 14:42:00				
17	W	iP	17	41	55
		i			59
		i		42	02
	Is	e			01
	USCGS: About 350 miles south of Honshu: 17:29:52				
18	R	e	08	39	18
	Pr	e			19
	W	i			15
	Is	e			18
	CL	i			22
	BCIS: 18¼ S 167¾ E; 08:26:25				
19	MW	iP	07	54	23c
		e			50
	R	iP			19c
	Pr	iP			14c
		e			58
		e		56	52
	Bt	iP		54	09
		e		55	12
	W	iP		54	33c
		i			45
		i		55	25
	Is	iP		54	32c
	CL	i			54
		i		55	22
	T	iP		54	37c
	USCGS: 8 S 79½ W; 07:44:44, 60 km				
19	MW	eP	14	45	11
	R	eP			09
	Pr	eP		44	55
		ipP		45	19
	Bt	eP			05
	W	iP			16
	CL	iP			08
		ipP			32
	T	eP			14
	USCGS: Virgin Islands region· 14:36:10				

Date	Sta.	Phase	h	m	s
August					
19	P	epP	16	40	13
	R	e		38	10
		epP		40	09
	Bt	e		38	04
		e			41
		epP		40	05
	Is	iP		38	23
		ipP		40	22
		i			25
	CL	iP		38	18
		i			20
		ipP		40	19
	T	eP		38	29
		epP		40	27
		e			33
	USCGS: 9 S 71 W; 16:28:50, 650 km				
20	R	eP	04	12	55
	Pr	eP			56
		e		14	17
	Is	iP		13	02
	CL	e(P)		12	55
	BCIS: 8¾ N 40¼ W; 04:01:15				
20	R	e	04	38	46
	Pr	e(P)			37
		i			44
		i		39	19
	Is	eP		38	44
	CL	e			43
	P'P' of preceding?				
20	P	iP	19	09	10
	R	iP			12c
	Pr	iP			14c
		e			23
		e		10	01
	Is	iP		09	14c
		i			20
		i		10	00
	CL	iP		09	18c
		i		10	06
	USCGS: 20½ S 176½ W; 18:57:28, 200 km				
21	P	eP	09	04	15
	PX	eLN		36.1	
	R	e		04	16
		e			22
	Pr	eP			20
		i			30
	Bt	e			28
	Is	eP			19
		e			24
		i			31
	CL	e			25
		i			36
		ePP		07	28
	T	e		04	30
	BCIS: 17 S 173½ W; 08:52:44				

Date	Sta.	Phase	h	m	s
August					
21	R	e	11	21	08
		e			14
	Pr	e			06
	Is	e			09
	CL	e			13
21	Is	iP	16	11	46c
	CL	eP			52
	T	eP			39
21	R	e	16	23	41
	Is	e			23
	CL	e(P)			04
		e			20
	USCGS: 24 N 96½ E; 16:04:08				
21	P	ePNZ	17	48	03
	PX	e(PP)		52	03
		e(PP)		52.3	
		iSKSNE		58	44
		eEZ	18	01	27
		eSSN		06.8	
		eGN		16.6	
			A		T
		PZ	0.4		5
		PH	0.05		1
		PPZ	2½		9
		SKSH	4		6
		MH	30		22
		MZ	30		22
	R	iP	17	48	08
		ePP		52	24
		iSKS		58	48
	Pr	eP		48	10
		ePP		52	17
		e	18	01	39
		i(PKKP)		04	15
	Bt	eP	17	48	10
		e(PP)		52	36
		eSKSE		58	53
		e	18	01	38
	W	iP	17	48	00d
		ePP		51	38
	Is	iP		48	00d
		ePP		52	22
		e(PS)	18	00	16
		i(PKKP)		04	20
		e		12	17
	T	e(P)	17	48	04
		e(P)			08
		ePP		52	17
	Magnitude 6¾ - 7 USCGS: 3 S 137½ E; 17:33:58				
22	R	eP	00	41	09
	Pr	iP			12
	W	iP			07c
	CL	iP			12c
23	MW	eP	10	16	05
		e			08
		e			17
	R	iP			01c
		e			13
	Pr	eP		15	56

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
23	Bt	iP	10	15	52
		e		16	05
	W	iP			12
		i			25
	Is	iP			11c
		i			23
	CL	iP			09
		i			20
	T	eP			17
	This appears not to be the Philippine shock recorded elsewhere about this time.				
23	MW	iP	13	53	22
	R	eP			25
	Pr	iP			25c
	W	iP			22c
	Is	iP			24c
		e			32
	CL	iP			27
	T	eP			30
23	P	iPNEZ	15	35	31d
		iNZ			41
	PX	eGNE		37.6	
		eR		38.2	
			A		T
		PZ	3		1
		PH	4		2
		MH	25		28
		MH	20		10
	R	iP	15	35	38d
	Pr	iP			49d
	Bt	iPNEZ			56d
	W	iP!			09d
	Is	iPNZ			14d
	T	iPNEZ			03d
	Magnitude 6¼± USCGS: 43½ N 128 W; 15:32:40				
23	MW	eP	16	59	46
		e(PcP)	17	01	55
	R	e			37
	Pr	eP	16	59	39
		i(PcP)	17	01	52
	W	eP	16	59	55
		i(PcP)	17	01	56
		e		02	13
	Is	eP	16	59	57
		e(PcP)	17	01	56
	CL	eP		00	04
		i(PcP)		01	52
	T	e			19
	Two shocks?				
23	MW	eP	17	39	54
		e		40	07
	R	eP		39	59
		e		40	09
	Pr	eP			13
		e			25
	W	iP		39	32c
		i			40
	Is	iP			36c
		i			50
	CL	iP			42c
	T	eP			29

Date	Sta.	Phase	h	m	s
August					
23	CL	e	22	49	48
24	R	eP	03	10	14
	Is	eP			17
	CL	iP			15
	Chile				
24	P	iP	04	47	22c
		epP			44
	R	iP			25c
	Pr	iP			27c
		ipP			36
		i			47
	Bt	iP			25
	Is	iP			26c
		i			34
	CL	iP			30c
		i			37
	T	iP			31c
	USCGS: 18 S 178 W; 04:36:22, 600 km				
24	P	ePNZ	06	59	33
		iNEZ			44
	PX	eLNEZ	07	02.7	
	R	eP	06	59	41
	Pr	eP			50
	Bt	iPNEZ			59
		i	07	00	15
	CL	eP	06	59	20
		i			24
	Is	iP			15
	T	eP			06
	USCGS: 44½ N 129½ W; 06:56:20				
24	MW	e(P)	07	11	38
		e			48
	R	e(P)			44
		e			52
	Pr	e(P)			53
		i		12	24
	Bt	e			07
	Is	i(P)		11	18
		i			24
	CL	i			36
	T	e			07
	BCIS: Off coast of Oregon; 07:08.4				
24	MW	e	07	19	55
	R	e			57
	Pr	e		20	02
	Is	e		19	22
	CL	e			36
24	R	e	10	46	17
		e			22
	Pr	e			23
	Is	eP		45	55
	CL	e			56
24	Is	eP	14	12	37
		e		13	02
	CL	eP		12	41
		e		13	07

Date	Sta.	Phase	h	m	s
August					
24	MW	iP	14	15	13
		e			23
	R	eP			16
	Pr	iP			25d
		i			30
		i			45
	Bt	iP			29
	Is	iP			01
	CL	iP			05
	T	iP		14	55
	BCIS: Alaska; 14:09.4				
24	P	iP	15	51	10c
	R	iP			12
	Pr	iP			15c
		i			18
	Is	iP			13c
		i			20
		e		53	06
	CL	iP		51	17c
		i			25
		e		53	11
	T	iP		51	18
	USCGS: Fiji Islands; 15:39:17				
24	P	eP	18	21	09
	R	eP			02
	Pr	e			04
	Bt	eP		20	45
	CL	iP		21	18d
	T	eP			34
24	P	eP	18	29	49
	R	eP			52
	Pr	e			58
	Bt	e			57
	CL	iP			48d
	T	eP			44
24	P	e(P)	20	31	50
		e		32	11
	PX	eLN		44.7	
	R	e(P)		31	56
	Pr	iP			52
		i		32	00
	Bt	eP		31	45
	W	iP		32	13
	Is	eP			10
		e			41
	CL	iP			06d
		i			19
	BCIS: El Salvador; 20:25.4				
24	MW	e	22	48	41
	Pr	iP			35
	W	iP			55
	CL	iP			48
25	P	iPNEZ	22	21	33c
		ipPNEZ			46
		i			51
		i			59
	PX	eLN		33.8	

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
25	R	iPNZ	22	21	37c
		ipP			49
		i		22	01
	Pr	iP		21	47c
		ipP			59
		i		22	04
		e		26	58
	W	iP!		21	22c
		ipP			34
		i			37
		i		23	15
		i		26	41
	Is	iP		21	24c
		i		23	18
	CL	iP!		21	28c
		ipP			46
		i		22	11
		i			51
		i		24	48
		i		26	35
	T	iP		21	21c
	USCGS: 52 N 176 E; 22:12:43, 60 km				
26	MW	eP	03	52	22
		e			33
	W	iP			10d
		i			21
	CL	i			16
26	MW	eP	06	30	03
	R	eP			07
	W	eP			48
	Is	eP			49
	CL	eP			48
	USCGS: 65½ N 133 W; 06:23:29				
26	P	iPNEZ	21	05	27c
	MW	iP			28c
		isP		08	37
		i			44
	R	iP		05	30
		esP		08	38
	Pr	iP		05	33c
		isP		08	44
	W	iP		05	28c
		ipP		07	35
		isP		08	38
	Is	iP		05	30c
	T	iP			35
	USCGS: 16 S 177½ E; 20:54:20, 600 km				
26	MW	iP	23	07	27
	R	iP			23c
	Pr	eP			23
	W	iP			35c
		i			41
	T	eP			38
	BCIS: Chile; 22:56.4				
27	P	iP	02	57	46
	R	iP			42d
		e			51
		e		58	00

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
27	W	iP	02	57	54d
	Is	iP			53d
	T	eP			57
	USCGS: 19 S 69½ W; 02:46:30				
27	MW	eP	07	01	15
		epP			45
		i			52
	R	iP			17
		epP			47
		i			55
	Pr	iP			21
		ipP			54
		i!		02	00
	W	iP		01	15
		ipP			47
		i!			52
	Is	eP			16
		epP			49
		i			53
	USCGS: 15 S 168 E; 06:48:45, 150 km				
27	P	ePNZ	07	02	26
		iNEZ			33
		i			40
	R	iPNZ			33
		i			40
	W	iP			04
		i!			06
	Is	eP			08
		iNZ			16
	T	eP		01	51
		e			56
		iSEZ		03	26
	Berkeley: 40°23' N 124°30'W 07:00:26. Felt at Eureka, California.				
27	W	iP	11	58	30
	Is	iP			29
	T	eP			33
27	P	eP	15	07	58
	MW	iP			59
	Pr	iP		08	04
	W	iP			00
	Is	iP			02
27	P	eP	15	51	18
	Pr	iP			22
	W	iP			19d
	Is	iP			22d
27	R	e	18	14	46
	Pr	i			53
	W	iP			36
	Is	iP			37
	CL	i			40
	T	eP			37
28	W	iP	10	54	20
		i			32
	Is	eP			22
	CL	iP			26
		i			38
	T	eP			29

Date	Sta.	Phase	h	m	s
August					
28	W	iP	13	37	11
	Is	eP			13
	CL	iP			16
	T	eP			19
28	MW	e	20	09	48
	R	e			42
		ePcP		12	36
	Pr	iP		09	39
		ePcP		12	39
	W	iP		10	01
		i			08
		iPcP		12	41
	Is	eP		09	58
		ePcP		12	41
	CL	iP		09	54
		i		10	04
		iPcP		12	39
	T	eP		10	04
		ePcP		12	43
	Tacubaya: 13°48' N 91°47' W				
	20:03:31; 70 - 100 km				
28	P	iPNEZ	20	19	58c
		ipP		20	13
		iPP		21	14
		i(PcP)NZ		22	47
		isPcP		23	01
	PX	eSNE		25	08
		iS			16
		e(ScP)		26	27
	P	e			35
	PX	e(G)N		27.8	
		eScSN		30	35
			A		T
		PZ	2		2
		PH	2½		3
		SH	10		6
		MH	100		20
		MZ	60		20
	R	eP	20	19	51c
		iPNZ			52
		i(pP)		20	09
		i(PcP)		22	46
		i		24	18
		iSN		25	00
		i(ScP)		26	30
		e(ScS)E		30	32
	Pr	iP		19	49c
		i		22	16
		iPcP			47
		i		24	46
		eS		25	00
		iScP		26	31
	W	eP		20	07
		i			10
		iPcP		22	51
		i		24	23
		iScP		26	37
	Is	iP		20	07
		e(pP)			21
		iPcP		22	51
		eS		25	31
		eScP		26	39

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
28	CL	iP	20	20	01
		i!			04
		iPcP		22	49
		iS		25	27
		iScP		26	36
		i		30	16
	T	iPNEZ		20	16
		iPcP		22	53
		i		24	23
		eSE		25	41
		iScP		26	40
		eScS		30	45
	Magnitude 6¾				
	USCGS: 14 N 91 W;				
	20:13:30, 60 km				
	Tacubaya: same epicenter as				
	preceding, 70 - 100 km				
28	P	iP	21	17	30c
	R	iP			31c
	Pr	iP			34c
	W	iP			31c
	Is	iP			33c
	CL	iP			35
	USCGS: 24½ S 179 E;				
	21:05:59, 600 km				
29	P	eP	01	20	35
		e			56
	PX	eLNE		29.2	
	R	e(P)		20	54
		e		21	08
		e		23	33
	Pr	i(P)		20	47
	W	i(P)		21	06
		i			24
		i		23	48
	Is	eP		21	04
	CL	iP			00c
		i		23	46
	T	eP		21	11
		e		23	49
	USCGS: Guatemala;				
	01:14:27, 60 km				
29	Pr	eP	01	36	24
		e			36
	W	eP			56
		i		39	37
	CL	iP		36	50
	T	e		37	0[illegible]
	BCIS: Guatemala; 01:30.3				
29	P	eP	07	16	44
	Pr	iP			58
	W	iP			32
	Is	eP			34
	CL	iP			39
	T	eP			30
29	P	eP	08	00	40
	PX	eLNE		11.7	
	Pr	eP		00	32
	W	eP			51
	Is	eP			49
	CL	iP			44c
	T	e			56
	USCGS: 12 N 87 W; 07:53:32				

Date	Sta.	Phase	h	m	s
August					
29	P	eP	08	15	19
	MW	iP			20c
		epP			45
		e			58
	R	iP			16c
		epP			42
	Pr	iP			15
		epP			41
	W	iP			28c
	Is	iP			28c
		epP			53
	CL	iP			25c
		ipP			50
		i		16	03
	T	iP		15	33
	USCGS: near coast of Peru;				
	08:05:15, 100 km				
29	MW	e	11	13	56
	R	e			52
	Pr	eP		14	00
	W	iP		13	54
	Is	eP			55
		e		14	10
	CL	iP		13	59c
		i		14	12
	USCGS: New Hebrides;				
	11:01:02				
29	P	eP	14	47	57
	R	e			45
	Pr	eP			37
		e			51
	W	e(P)			54
	CL	iP			49c
	USCGS: south of Panama;				
	14:39:35				
29	P	eP	15	42	24
		iNZ			36
		i			41
		e		43	54
	PX	eLNZ		52.5	
	R	eP		42	27
		i			38
		e		43	19
	Pr	iP		42	38c
		i			49
	W	iP			12c
	Is	iP			14
		i			26
		i			36
	T	iP			11
		i			23
	USCGS: 51 N 178½ W;				
	15:33:56				
29	P	e	18	25	42
	R	e			36
	Pr	eP			34
	W	eP			51
	Is	eP			50
		e		26	00
	CL	iP		25	46
		i			53
	BCIS: off coast of Colombia;				
	18:17.2				

Date	Sta.	Phase	h	m	s
August					
29	P	iPNEZ	23	22	15
		epP			43
	R	iP			10d
		ipP			38
	Pr	iP			09d
		ipP			37
		e			50
	W	iP			24d
		ipP			50
	Is	iP			23d
	CL	iP			20d
		ipP			47
	T	iP			29d
		epP		23	08
	USCGS: 11 S 76½ W;				
	23:12:03				
30	P	iPNEZ	01	59	12
		eNE	02	01	45
	R	eP	01	59	18
	Pr	eP			32
	W	iP		58	50c
		i	02	00	09
	Is	iP	01	58	54
		e(S)	02	00	19
	CL	iP	01	59	02c
		i	02	00	58
	T	eP	01	58	48
		iSNEZ	02	00	32
	Berkeley: 40°25' N 124°11' W;				
	01:57:15, felt at Eureka,Calif.				
30	P	ePNEZ	03	43	40
		epPN			56
	R	eP			42
	Pr	iP			46c
	W	iP			44c
		ipP			54
	Is	iP			45c
		epP			56
	CL	iP			49c
		ipP		44	01
	T	eP		43	50
	USCGS: Kermadec Islands;				
	03:30:50				
30	P	e	16	49	36
	R	e			36
	W	iP			39d
	Is	eP			41
	CL	iP			44d
	T	e			48
30	P	iPNEZ	17	47	06c
		iNZ			19
		iNZ			27
		ipP		49	03
	R	iP		47	08
		ipP		49	06
	Pr	iP		47	16c
		ipP		49	13
	W	iP		46	57c
		ipP		48	50
		i		49	06
		i		50	17

(continued)

Date	Sta.	Phase	h	m	s
August (continued)					
30	Is	iP	17	47	00
		i			26
		epP		48	52
		i			58
	CL	eP		47	02
		i!			04
		i			30
		ipP		49	01
	T	iP		46	59
		i		47	25
		ipP		48	56
	USCGS: 28 N 139 E; 17:35:20, 500 km				
30	P	iP	20	19	25
		e		22	49
	R	iP		19	26
		e			53
		e		20	18
		e		22	15
		e			54
	Pr	iP		19	29
		e			49
		e		22	20
		e			59
	W	iP		19	25d
		i			35
		i		22	52
	Is	iP		19	26d
		e			46
		e		22	40
	CL	iP		19	30
		i			56
		i		20	22
		i		22	18
	T	eP		19	30
		e		23	02
	USCGS: 19½ S 169½ E; 20:06:34				
31	PX	eLN	11	38	
	W	e	10	54	53
	Is	e			54
	BCIS: south of Tasmania				
31	P	e	12	30	26
		i			31
	R	e			28
	Pr	e			37
	W	iP			11d
		e			38
	Is	e			08
		e			14
	CL	i			25
	T	e			00
	USCGS: 63½ N 147 W; 12:23:36				
September					
1	W	iP	00	40	43d
	Is	iP			45
	CL	iP			48

Date	Sta.	Phase	h	m	s
September					
1	MW	e	04	25	25
	R	e			31
	Pr	e			34
	W	e		22	23
		e		23	25
		e		25	26
		e		29	50
	Is	e		25	29
1	MW	eP	10	11	43
	Pr	iP			49
	W	iP			43
	Is	iP			45
	CL	e(P)			35
		e			48
	Southwest Pacific				
1	P	e	13	26	56
		e		27	04
	MW	eP		26	47
		e		27	01
	R	e		26	51
	Pr	eP			59
		e		27	13
		e			22
		e			37
	W	iP		26	35d
		i			48
	Is	eP			37
		e			51
	CL	iP			40
		i			55
		i		27	18
	BCIS: Andreanof Islands, Aleutians; 13:18.4				
1	P	iP	15	42	57
	R	iP			52c
	Pr	iP			49c
	W	iP		43	06c
	Is	iP			05c
	BCIS: 3½ S 77 W; 15:33:29				
1	P	e(P)EZ	17	40	35
		e			43
	PX	eLN		50.6	
	Pr	eP		40	23
	W	eP			44
	Is	eP			39
	CL	iP			35
		i		41	14
		i(PcP)		42	35
	T	e		41	09
		e(PcP)		42	38
	USCGS: 10 N 84½ W; 17:33:01				

C. F. Richter
Violet M. Taylor
April 20, 1956

Date	Sta.	Phase	h	m	s
September					
1	MW	e	21	57	19
	W	iP		56	55
		i		57	06
		i			18
	Is	i			10
	CL	iP			00
		i			12
1	P	iPEZ	22	50	08c
	R	iPNZ			11c
	Pr	iP			19c
	W	iP		49	58c
		ipP		51	37
	Is	iP		50	00c
	CL	iP			02c
		i			36
		i		52	01
	T	iP		49	55
	USCGS: 52½ N 153 E; 22:40:15, 400 km				
2	MW	iP	03	42	12
	Pr	iP			16
	W	iP			14c
	Is	iP			15c
	CL	iP			18c
2	MW	iP	03	45	21
	R	eP			23
	Pr	iP			26
	W	iP			18
	CL	i			22
	Part of preceding?				
2	W	eP	06	36	03
	Is	iP			05
	CL	iP			08
2	Pr	eP'	10	44	08
		e			27
	W	eP'			08
	CL	iP'			01
		i			09
	BCIS: 17 S 42 E; 10:24.1				
2	MW	eP	12	55	30
		e			37
	R	eP			25
		e			32
	Pr	eP			22
		e			29
	W	iP			38
		i			46
		i		56	26
	Is	eP		55	37
		e			44
	T	e			50
	Central America?				
2	P	iP	13	29	32
	R	iP			34
	Pr	iP			36d
	W	iP			31d
	Is	iP			32
	CL	iP			36d
	T	eP			36
	New Hebrides USCGS: 13:07:07				

Date	Sta.	Phase	h	m	s
September					
2	W	eP	20	04	31
		e			47
	Is	e			40
	CL	iP			31
		i			37
2	MW	e	21	26	01
	R	e			01
	W	iP		25	56
	CL	e		26	00
	USCGS: Western New Guinea; 21:11:56				
2	P	iP	23	09	43
	R	iP			38
	Pr	iP			34
		i			45
		i			55
	W	iP			55
	CL	iP			48
	BCIS: Galapagos region; 23:01.5				
3	P	iP	03	57	03
	R	iP			05
	Pr	iP			07
	W	iP			04c
		ipP		58	19
	Is	iP		57	07c
		ipP		58	23
	CL	iP		57	10c
		ipP		58	26
	T	iP		57	12
	USCGS: 21½ S 175 W; 03:45:27, 300 km				
3	P	iP	05	31	31
	PX	eL		54.4	
	R	iP		31	25c
	Pr	iP			23
	W	iP			37c
	Is	iP			35c
	CL	iP			28c
	T	iPNEZ			35c
	USCGS: 19 N 70 W; 05:23:08				
3	P	iPNEZ	12	42	44c
		iPcPNEZ		45	32
	PX	iSNEZ		48	00
		iNE			18
	P	eScP		49	19
		e			36
	PX	eGN		51.0	
		e(R)		53.0	
				A	T
		PZ		1½	3
		PH		2	4
		SH		3	5
		MH		60	18
	R	iPNZ	12	42	38c
		i			47
		iPcP		45	32
		i			45
		eSNEZ		47	48
		iScP		49	22

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
3	Pr	iP	12	42	34c
		iPcP		45	31
		iScP		49	21
	W	iP		42	55c
		i			59
		iPcP		45	35
		eS		48	22
		iScP		49	23
		i			30
	Is	iP		42	53c
		iPcP		45	34
		iScP		49	28
	CL	iP!		42	48c
		iPcP!		45	35
		i			46
		i		47	46
		i		48	13
		iScP		49	19
	T	iPNEZ		42	59c
		i		43	10
		iPcP		45	40
		i			50
		eSNE		48.4	
		iScP		49	30
		eScSNEZ		53	27
	Magnitude 6½ - 6¾				
	USCGS: 14 N 91 W;				
	12:36:20, 100 km				
3	P	eP	16	37	55
		iP"NEZ		41	32d
		ePPEZ		42	31
		eSKSN		47	54
			A		T
		P"Z	¼		1
	MW	eP	16	37	54
		iP"		41	33d
		iPKKP		52	09
		eSKKP		56	10
	R	eP		37	56
		iP"		41	33d
		i!		42	35
		e		47	33
		iPKKP		52	09
		iSKKP		56	07
	Pr	iP"		41	35d
		e		42	35
		i			41
		iPKKP		52	09
		e		53	27
	W	iP		37	37d
		i			50
		iP"		41	29d
		i		42	07
		i		44	21
		iPKKP		52	14d
		i!			22
		i		53	33
		iSKKP		56	16

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
3	Is	eP	16	37	38
		iP"		41	29d
		e		53	28
		iSKKP		56	14
	CL	iP		37	42d
		i			59
		iP"		41	32d
		i		42	25
		iPKKP		52	12d
		i			19
		iSKKP		56	14
	T	eP		37	39
		iP"NEZ		41	45d
		i		42	26
		i		43	27
		iPKKP		52	27
	BCIS: ¾ S 121½ E;				
	16:23:22, 300 km				
4	W	iP	02	57	30
	CL	iP			22
	BCIS: Guatemala; 02:50:55				
4	MW	e	06	52	29
	Pr	i			25
	W	eP			39
		i			46
	Is	eP			37
		i			45
	CL	iP			33
		i			40
	T	e			44
4	MW	e	06	59	13
	R	e			15
	W	e			16
	CL	i			17
	South Atlantic				
4	P	iPNEZ	11	41	04d
		ipPNZ			27
			A		T
		PZ	½		1¼
	R	iP	11	41	01d
		ipP			25
		isP			34
	Pr	iP		40	57d
		ipP		41	18
		isP			22
	W	iP			12d
		ipP			36
	Is	iP!			11d
		ipP!			35c
		isP			45
	CL	iP!			09d
		ipP			21
		isP			31
	T	iPNEZ			16
		ipPNZ			40
		i			58
	USCGS: 22 S 69 W;				
	11:29:40, 100 km				

Date	Sta.	Phase	h	m	s
September					
4	Is	e	13	34	33
	CL	e			37
		i			48
		e		35	07
	Pacific?				
4	P	iP	19	20	59c
	R	iP		21	01c
	Pr	iP			08
	W	iP		20	49c
	Is	iP			51c
	T	iPNEZ			48c
	CMO: 42.6 N 144.9 E;				
	19:09:36, 40 km				
5	P	eP	02	02	24
		iNEZ			25.4
		iEZ!			27.5
		iSNE		03	16.0
	R	eP		02	32.1
		eS		03	25
	Pr	iP		02	44
	SB	iPNEZ			11.1
	FT	eP			11.1
	W	iP			03.5c
	Is	iPNZ			09.3c
		iN			18.6
		iSN			46.6
	H	ePNE			11.9
		iE			21.6
		eSE		03	00.1
	T	iPNEZ		02	05.9c
	Kg	iP!			01.1
	Magnitude 5.8				
	Berkeley: 37°22' N 121°47' W;				
	02:01:18				
	Maximum intensity VII west of Mt. Hamilton and in parts of San Jose. V at San Francisco. Felt to distances of almost 300 km.				
5	MW	iP	07	12	06
		epP		14	07
	R	iP		12	07
		epP		14	09
	Pr	iP		12	08
		ipP		14	08
	W	iP		12	07
		epP		14	04
		i			09
	Is	iP		12	08
		epP		14	06
		i			10
	T	eP		12	15
		epP		14	16
	USCGS: 24 S 180;				
	10:16:30, 550 km				
5	Pr	eP	10	27	59
	W	iP			57
	Is	iP			58
	Samoa: USCGS: 10:16:30				

Date	Sta.	Phase	h	m	s
September					
5	P	eP	11	56	02
	R	iP		55	59
	W	iP		56	11c
	T	iP			17
	USCGS: off southern Peru;				
	11:45:40				
5	MW	iP"	17	31	15
	R	iP"			17
	W	iP"			12c
		i		33	53
	Is	iP"		31	14c
	CL	iP"			15c
		i		33	57
	USCGS: 7 S 120½ E;				
	07:13:24, 600 km				
5	MW	iP	19	11	25
	R	iP			28
	Is	eP			25
	CL	iP			29
	USCGS: Solomon Islands;				
	18:58:33				
6	W	e	09	11	42
	CL	e			53
6	MW	eP	09	32	09
		ipP		34	08
	R	eP		32	13
		ipP		34	12
	Is	iP		32	04
		ipP		34	03
	CL	iP		32	08
		ipP		34	07
	T	ipP			01
	USCGS: 28 N 139 E;				
	09:20:30, 550 km				
6	MW	e	21	06	37
		e			41
	Pr	eP			46
		i		07	00
	Is	iP		06	26
		i			32
	CL	iP			29
		i			38
	T	eP			19
		e			27
		e			34
	USCGS: 53½ N 166 W;				
	20:58:47				
7	P	iP'NZ	03	39	09
		i			18
		iNE			48
		i		41	32
		iPP		42	28
	PX	eLE	04	12	
	R	eP'	03	39	06
		i			09
	Pr	iP'			10
	W	iP'			02
		i			17
	Is	eP'			03
		i			05

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
7	CL	iP'	03	39	03
		i			05
		iPP		42	23
	T	iP'		39	01
		iNEZ			07
	USCGS: 2 S 68 E;				
	03:19:21				
	Pasadena distant 147°				
7	R	iP	06	36	31
	Pr	iP			32
	W	iP			31
	Is	eP			31
	CL	iP			28
	T	eP			33
7	W	iP	12	59	40
	Is	iP			47
	CL	iP			52
7	W	eP	20	58	51
		i		59	06
	R	e		58	46
	West Indies				
7	MW	e	22	25	41
	R	e			44
	W	e			48
	CL	i			53
8	R	eP	00	47	34
		e			48
	W	iP			23
		i			39
		i			54
	CL	iP			29
		i			42
	T	eP			30
		e			41
	Marianas?				
8	P	eP"EZ	02	22	14
	PX	ePPNZ		23	57
		eSSNE		40.6	
		eLNEZ	03	02.4	
			A		T
		PPZ	½		3
		PPH	¾		3
		MZ	5		20
	R	iP"	02	22	15
		i			34
	Pr	eP"			09
	W	iP"			18
		i			33
		i			37
		ePKKP		35	55
	CL	iP"		22	17
		i			24
		i			32
	T	eP"			20
		e			36
		iPP		24	12
	Magnitude 6½ - 6¾				
	BCIS: 60 S 20 W;				
	02:03:15				
8	MW	eP	03	40	02
	R	eP		39	45
	Pr	eP			41
	W	eP			59
	T	eP?		40	11
	USCGS: 8 S 77 W;				
	03:21:25				
8	P	iPNEZ	03	40	21c
		iNZ			28
		eE			35
		eNZ			52
	PX	eLN	04	04.6	
			A		T
		PZ	½		1½
		MH	15		20
	R	iP	03	40	21c
		i			28
	Pr	iP			27c
		i			34
	W	iP			19c
		i			26
	CL	iP			24c
		i			30
	T	iPEZ			23
		i			30
	Magnitude 6½				
	USCGS: 7 S 155½ E;				
	03:27:14				
8	PX	eL	05	45.5	
	W	iPKKP?		14	44
	USCGS: 25 N 95 E;				
	04:45:26, 150 km				
8	P	ePEZ	11	09	16
	R	eP			21
	Pr	iP			26
	W	iP			06c
		i			19
	CL	iP			12c
	T	iP			03
		i			17
	USCGS: 53½ N 160 E;				
	10:59:15				
8	Pr	iP	17	04	46
	W	iP			46c
		e		05	39
	Is	iP		04	46
		i		05	42
	CL	iP		04	51c
		i		05	47
	T	iP		04	52
	USCGS: 19 S 176½ W;				
	16:53:15, 250 km				
8	MW	e	23	50	17
	R	e(P)			03
	Pr	e			11
	W	eP		49	39
		i			42
		i			49
	Is	eP			43
		i			56

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
8	CL	iP	23	49	44
		i		50	42
	T	e?		48	55
		i(P)		49	32
9	W	iP	03	22	19
	Is	eP			26
	CL	iP			25
9	W	eP	05	02	52
	Is	iP			52
	CL	iP			47
9	Pr	iP	07	20	09
	W	iP			09
	Is	iP			09
	CL	iP			13
9	P	eP"NZ	10	01	13
		iNEZ			15c
		i			18
		iPPEZ		03	33
		iSKP		04	38
		iNE			45
		e			52
		iNEZ			59
		e		05	28
	PX	eL		45.1	
			A		T
		PPZ	0.4		3
		PPH	¼		3
		MH	2½		20
	R	iP"	10	01	16c
		i			30
		ePP		03	27
		iSKP		04	39
	Pr	iP"		01	18c
		e			32
		iPP		03	43
		iSKP		04	42
		i		05	02
	W	eP"		01	12
		i			25
		e		03	03
		i			18
		iSKP		04	32
		i			47
	Is	eP"		01	09
		e		03	20
		iSKP		04	33
		i			51
		i		05	11
	CL	eP"		01	04
		iP"			14c
		i			28
		ePP		03	22
		i			31
		iSKP!		04	36
		i			51
	T	iP"EZ		01	13c
		e			26
		e		02	50
		i		03	41
		iSKP		04	31
	Magnitude 6½±				
	USCGS: 2 S 100 E;				
	09:41:57				
September					
9	P	eP	16	34	22
		e			36
	PX	eL	17	07	
	R	eP	16	34	24
	Pr	eP			24
		i			42
	W	iP			19
		i			37
	Is	eP			21
		e			31
	CL	iP			24
		i			40
	T	eP			23
		e			38
	USCGS: 7 S 155 E;				
	16:21:12				
10	MW	eP"	00	56	45
	R	iP"			45d
	Pr	iP"			44
	W	iP"			49d
	CL	iP"			48d
	T	iP"			51
	South Atlantic.				
	BCIS: 00:37.8				
10	P	iPEZ	06	03	28c
		i			35
		i			44
	R	eP			31
		e			37
	Pr	iP			37
	W	iP!			16c
		i			24
	Is	iP			18
		i			26
	CL	iP			22c
		i			29
	T	iP			13
		i			20
	USCGS: 54½ N 169 E;				
	05:54:08				
10	P	eP	07	47	02
		ipP			28
	R	iP			06
		epP			30
	Pr	eP			06
		ipP			32
	W	iP			00
		epP			24
	CL	iP			06
		ipP			31
	BCIS: Solomon Is. region;				
	07:34.0, 100 km				
10	P	iP	09	37	17d
		ePcP		38	57
	R	iP		37	22d
	Pr	iP			29
	W	iP!			05d
		i			23
		iPcP		38	55
	Is	iP		37	17d

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
10	CL	iP	09	37	12d
		ePcP		38	55
		i		39	05
	T	iPEZ		37	03d
	USCGS: 50½ N 173½ W; 09:29:15				
10	P	eP	12	40	16
	R	eP			09
	Pr	e		39	58
	W	iP		40	30
	Is	eP			38
	CL	iP			26
	T	eP			42
	Mexico?				
10	W	eP	19	36	39
		iSEZ		37	35
	Is	eP		36	38
		iS		37	37
	CL	iP		36	35
		iS		37	37
	H	eSE			23
	T	iP		36	18
		iSNE			54
	Nevada; magnitude 4.3				
10	W	eSEZ	19	38	43
	Is	iS			46
	CL	iS			42
	H	eS			30
	T	eSNE			03
	Nevada; magnitude 4.1				
10	W	i	21	18	58
		e		22	56
	Philippines				
11	R	e	00	56	23
	W	iP			12
		i			18
	CL	iP			01
		i			19
	USCGS: 48½ N 125½ W; 00:52:35				
11	P	eP	01	59	20
		iNEZ			26
		eNZ	02	00	16
	R	iP	01	59	14
		i			22
		e	02	00	24
	Pr	iP	01	59	11
		i			17
	W	iP			29c
		i			37
		i			40
	Is	iP			28c
		i			35
	CL	iP			24c
		i			31
	T	iP			40
		e			59
	BCIS: 4 S 77 W; 01:49:51				

Date	Sta.	Phase	h	m	s
September.					
11	R	eP	08	50	51
	Pr	iP			45
	W	iP		51	05c
		e		52	08
		i		53	32
	Is	eP		51	01
	CL	iP		50	57
	USCGS: Swan Island region; 08:44:00				
11	MW	e	09	09	27
	R	e			27
	W	iP			02
	Is	eP			05
		e			11
	CL	eP			13
11	P	iPNEZ	12	28	17c
		epPEZ			43
	R	iP			21c
		i			48
	Pr	iP			26
	W	iP			10c
		ipP			37
	Is	iP			12c
	CL	iP			16c
	T	iPEZ			10c
	CMO: 32 N 140¾ E; 12:16:09, 100 km				
11	P	ePNZ	12	35	23
	R	eP			24
	Pr	iP			25
		i			39
	W	iP			26d
		i			36
	Is	iP			27
		i			40
	CL	iP			30
		i			43
	T	eP			33
		e			43
	Pacific				
11	P	iP	15	20	46
	R	eP			45
	Pr	iP			40
	W	iP			57
	Is	i			57
	CL	iP			57
	T	eP		21	07
11	R	eP	15	25	23
	Pr	iP			20
	W	iP			18c
	Is	iP			20c
	CL	iP			24c
11	P	eP	18	07	37
	PX	eGNEZ			32.0
		eR			35.8
			A		T
		MH	20		20
	R	iP	18	07	40
	Pr	iP			43

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
11	W	iP	18	07	35c
	Is	iP			36
	CL	iP			40
	T	eP			38
	USCGS: 7 S 155 E; 17:54:28				
11	P	iP	18	17	24
	R	iP			27c
	Pr	iP			28c
	W	iP			21c
	Is	iP			22c
	CL	iP			28c
	T	iPEZ			26
	USCGS: 7 S 155 E; 18:04:16				
12	R	e	03	02	48
	W	iP		03	01
	Is	eP			00
	CL	iP		02	57
12	P	eP	06	23	52
		eP"		27	13
		e			29
		ePP		28	06
		iPPNEZ			14
		i			24
	PX	iSPNZ		37	18
		iN			47
	P	iPKKPNEZ		39	04
		iNZ			17
	PX	eGN			55.1
		eR	07	01.1	
			A		T
		PPZ	½		2
		PPH	1		4
		MH	10		20
	R	eP"	06	27	11
		ePP		28	03
		iSPNZ		37	18
		ePKKP		39	03
		i			18
	Pr	eP"		27	18
		i			29
		i		28	16
		iPKKP		39	04
		i			18
	W	eP		23	43
		iP"		27	06
		i			57
		iPP		28	14
		e		31	50
		e		33	40
		eSP		37	10
		iPKKP		39	07
		i			23
		i(P'P')		47	30
		e		48	51

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
12	Is	eP	06	23	36
		i			55
		e		26	42
		iP"		27	03
		i		28	01
		iPP			12
		iSP		37	08
		iPKKP		39	08
		i			24
		e(P'P')		47	30
		e		48	48
	CL	i		23	50
		i		26	42
		i			59
		i		27	33
		iPP			57
		i		34	43
		iSP		37	05
		iPKKP		39	04
		i			26
		i(P'P')		47	32
	T	eP		23	39
		eP"		26	28
		ePP		27	56
		i		28	37
		iSPNEZ		36	57
		ePKKP		39	12
		i			31
	Magnitude 6¾ BCIS: 32.9 N 29.8 E; 06:09:29, 50 km				
12	MW	eP	11	38	11
		e			37
		e			42
	R	eP			13
		e			44
	W	iP		37	56c
		i		38	26
	Is	iP		37	58c
	CL	iP		38	01
		i			32
12	MW	eP	19	48	56
		i		49	11
	R	iP		48	57
		i		49	12
	Pr	iP		48	58
		i		49	14
	Is	iP			00
		i			15
	CL	iP			03
		i			19
	BCIS: Solomon Is. region; 19:37.1				
13	P	iPEZ	02	08	55
		ipP		09	12
		isP			21
		iPcP		10	38

(continued)

September (continued)

Date	Sta.	Phase	h	m	s
13	PX	eSNE	02	15	31
		eGN			18.9
		iScSNE		19	11
		eRNEZ			21.3
			A		T
		PZ	0.05		1½
		MH	10		20
	R	iP	02	08	59c
		ipP		09	14
		isP			23
		iPcP		10	38
		eScSE			19.1
	Pr	iP		09	06c
		ipP			21
	Bt	iP			11c
		ipP			26
	W	iP		08	44c
		ipP!			59c
		i		14	07
		i			40
	Is	iP		08	46c
		i		09	01
		i			04
		isP			11
	CL	iP		08	50c
		ipP		09	08
		iPcP!		10	38
		i		12	43
		i		14	21
		i			46
	T	eP		08	41c
		iPcP			57
		i		10	32
		i			43
		e		11	21
		e		14	23
		eSNEZ		15	06
		iScSNEZ		19	02
	Magnitude 6±				
	USCGS: 52 N 176 W;				
	02:00:43, 60 km				
13	MW	iP	07	41	48c
		e		42	05
		e			12
	R	iP		41	50c
	Pr	iP			50c
	Bt	iP			48c
	W	iP			50c
	Is	iP			52c
	CL	iP!			55c
	T	iP			56c
	Deep?				
	Apia: north of the Kermadec				
	Islands; 07:30.0				
13	P	eP'	17	19	47
		e		20	04
		i(P2')			23
	R	eP'		19	49
	Pr	eP'			48
		e		20	29

(continued)

September (continued)

Date	Sta.	Phase	h	m	s
13	W	eP'	17	19	44
		i			57
		i		20	06
	Is	eP'		19	42
	CL	eP'			40
		i			53
	T	e			53
	USCGS: 45 S 96½ E;				
	16:59:52				
14	MW	eP	11	40	39
	R	eP			41
	Is	eP			39
	CL	iP			42
	Pacific				
14	MW	eP	17	42	27
		i			35
	W	iP			15
		i			22
	Is	eP			18
		e			25
		e			30
	CL	iP			17
		i			25
	T	eP			08
	USCGS: Laptev Sea;				
	17:32:10				
15	PX	eP	12	44	48
		iPPNZ		49	12
		eSN		56	58
		eGN	13		14.0
		eR			18.6
			A		T
		PZ	0.6		6
		PPZ	0.6		5
		PPH	1/3		5
		MH	8		20
		MZ	8		20
	R	e	12	44	58
		iPP		49	19
	Pr	iPP			34
	Bt	eP		44	58
		iPP		49	28
	W	iP		44	49
		iPP		49	12
	Is	eP		44	47
	CL	iP			53
		i		48	54
		iPP		49	16
	T	eP		44	49
		iPP		49	14
	Magnitude 6¾				
	USCGS: 5 S 134½ E;				
	12:30:27				
15	MW	iP	18	23	07
	W	iP			08d
		i			18
	Is	iP			10
	CL	iP			15
	Near Apia (felt, III)				
	USCGS: 18:11:44				

September

Date	Sta.	Phase	h	m	s
16	R	iP	01	44	25
	W	iP			25c
	CL	iP			30
	Pacific				
16	P	iPEZ	04	41	02d
	R	iP			05d
		i			17
	Pr	iP			05d
	W	iP			03d
		i			14
	Is	iP			05
	CL	iP			09d
	T	iP			10d
	USCGS: 15 S 177½ W;				
	04:30:00, 400 km				
16	P	iP	04	55	11d
		i			15
		i			26
	PX	eL	05		25.5
	R	eP	04	55	13
		i			17
		e			30
	Pr	iP			12
		i			30
	Bt	iP			11d
	W	iP			14d
		i			32
		i			43
	Is	iP			16d
		i			33
	CL	iP			18
	T	eP			21
	USCGS: 30 S 178½ W;				
	04:42:30				
16	W	iP	05	02	20
	Is	iP			22
	CL	iP			24
	Pacific				
16	MW	eP	07	13	40
	R	eP			43
	Pr	iP			45
		i			59
	W	iP			39
	CL	iP			44
		i			51
	T	eP			32
		e			44
	USCGS: Solomon Islands;				
	07:00:47				
16	P	iP	07	44	48
	R	iP			53
	Pr	iP		45	00
	Bt	iP			04
	W	iP		44	36
	Is	iP			40
	CL	iP			42d
		iPcP		46	13
	T	iP		44	34
	BCIS: 51½ N 172 W;				
	07:36:48				

September

Date	Sta.	Phase	h	m	s
16	MW	iP	10	12	49
	R	eP			50
		e			58
	Pr	iP			51
	W	iP			51
	Is	iP			52
	CL	iP			55
	T	eP			58
		e		13	04
	USCGS: 21 S 176 W;				
	10:01:35, 500 km				
16	MW	iP	20	57	11
	Pr	iP			12c
	W	iP			10
		ipP		59	03
	CL	iP		57	15
	T	iP			18
	USCGS: 25 S 179½ W;				
	20:45:32, 500-600 km				
17	MW	eP	02	05	06
	R	eP			00
	Pr	iP		04	55
	W	iP		05	17
		iPcP		07	02
	Is	iP		05	15
	CL	iP			10c
	T	iP			22
	Tacubaya: 13°15'N 95°W;				
	01:59:04				
17	PX	eLEZ	12		35.3
	MW	eP		08	18
		e			28
		ePP		11	03
	R	iP		08	20
	Pr	eP			22
	W	iP			17
		i		11	08
	Is	iP		08	19
	CL	iP			23
		iPP		11	04
		i			13
	T	eP		08	23
	USCGS: 17½ S 168 E;				
	11:55:28				
17	MW	eP	15	02	30
	R	iP			33
	Pr	iP			33
	W	iP			30
	Is	iP			31
	CL	iP			34
	T	eP			37
	USCGS: 17½ S 168 E;				
	14:49:40				
17	W	iP	18	17	10
		i			23
	CL	iP			16
		i			29
	CMO: 43½ N 148 E;				
	18:06:08, 60 km				

Date	Sta.	Phase	h	m	s
September					
17	MW	eP	18	29	25
	R	eP			28
	Pr	iP			33
	W	iP			25
	CL	iP			30
	USCGS: 17½ S 168½ E; 18:16:35				
17	PX	eL	20	40.8	
	MW	eP		09	32
	R	eP			32
	Pr	eP			32
	W	iP			33
		e			45
	CL	iP			38c
		i			50
	T	eP			41
	USCGS: 32 S 178 W; 19:56:46				
17	W	iP	23	46	46
	CL	iP			52
	BCIS: New Hebrides; 23:34.0				
18	R	eP	01	28	31
	Pr	eP			36
		i			46
	W	iP			34
		i			44
	CL	i			49
	USCGS: 17½ S 167½ E; 01:15:46				
18	W	iP	06	53	23d
	CL	iP			29d
18	MW	e?	09	11	58
		e(P)		12	06
		e			10
	Pr	e?		11	54
		e(P)		12	09
	W	i(P)			10
		i			14
	Is	i(P)			11
		i			15
		e			28
	CL	i(P)			15
18	R	eP	11	44	09
		epP		46	22
	Pr	iP		44	12
		epP		46	19
	W	iP		43	58c
	Is	iP			59
	CL	iP		44	02c
		ipP		46	14
	USCGS: 39 N 129 E; 11:32:32, 600 km				
	CMO: 40 N 129 E; 11:32:30, 600 km				
19	MW	e	04	24	27
	Pr	e			25
	W	i			24
	CL	iP			18
		i			24
	USCGS: 26½ N 129 E; 04:11:03				

Date	Sta.	Phase	h	m	s
September					
19	CL	iP	20	25	57
		i		26	08
		e		30	31
19	MW	iP	20	31	19
		e			37
	CL	iP			13
		i			31
	USCGS: Andreanof Islands; 20:22:56, 60 km				
20	P	eP	13	33	04
	PX	ePP		37	05
		eSKSNE		43	36
		eSP		44	35
		eSSN		50.3	
		eGN		56.1	
		eR		59.4	
			A		T
		PZ	0.4		2
		PH	½		4
		SKS	3½		12
		MH	12		18
		MZ	12		18
	R	iP	13	33	07d
	Pr	iP			07
	Is	iP			09d
	CL	iP			13d
		i!			16
	T	eP			15
	Magnitude 6½				
	USCGS: 32 S 178 W; 13:20:19				
20	Is	eP	14	35	37
		e			50
	CL	iP			41d
		i			56
20	MW	e	15	01	23
		e			31
	Is	eP			21
		e			24
		i			32
	CL	iP			23
		i			28
		i			35
20	Is	eP	18	05	27
		e			39
	CL	iP			30
20	P	iP	18	25	19
	R	eP			20
	Pr	iP			22
	Is	iP			23
		i			34
	CL	iP			27d
		i			39
20	R	eP	22	58	28
		e(P)	23	01	34
	Pr	eP	22	58	29
		e	23	00	51
		i(P)		01	35
	Is	iP	22	58	31
		e			42
		e		59	04
		e	23	01	37

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
20	CL	iP	22	58	34
		i			46
		i(P)	23	00	45
		i			58
		i(P)		01	41
		i			50
	T	eP	22	58	37
		e(P)	23	01	43
	Southwest Pacific. Probably three shocks, as indicated.				
20	Is	iP	23	13	49
		i			59
	CL	iP			52
		i		14	04
21	P	iP'	01	23	08
		iNZ			20
		iNZ		24	11
		e		25	39
		ePPNZ		29	40
		i		30	16
	R	eP'		23	01
		e		24	16
	Is	eP'		23	06
		i			11
	CL	eP'			04
		i			10
		i		24	07
	T	e		23	13
	BCIS: off South Africa; 01:03.3				
21	MW	eP	05	12	41
	Pr	iP			46
	Is	iP			33
	CL	iP			31
	T	eP			24
	USCGS: 70½ N 52½ E; 05:00:55				
21	P	iPNEZ	06	52	27c
		iEZ			39
		iNEZ			52
	PX	eE	07	03	10
		eE		04	10
		eGN		15.2	
		eRNEZ		19.2	
			A		T
		PZ	¼		3
		MH	¼		20
	R	iP	06	52	29c
		i			41
	Pr	iP			30c
		i			41
	Bt	iP			30c
	Is	iP			30c
		i			41
	T	iP			32c
		i			44
	USCGS: 17½ S 169 E; 06:39:38				

Date	Sta.	Phase	h	m	s
September					
21	P	eP	07	39	05
		iSNZ		40	41
	R	eP		39	06
	Is	eP		38	42
		i			50
		iSNZ		39	50
	CL	eP?		38	40
		i(P)			56
		iS		39	55
	T	eP		38	21
		iEZ			31
		iSE		39	13
	Tucson (original seismogram courtesy USCGS) eP 07:40:46±				
	Magnitude 4¾				
	Northern Nevada?				
21	P	iPNEZ	07	52	22d
		iLgNE		54	46
	R	eP		52	14
		i			23
		i(S)		54	26
		i			35
	Pr	iP		52	03d
		i!		54	10
	Bt	iP		51	55d
		i(S)		53	47
	Is	iP		52	41d
		i		53	06
		i		55	32
	CL	iP		52	39d
		i		55	14
		i!			38
	T	iPNEZ		52	57
		iNE		56	06
		iNEZ!			24
	USCGS: 27 N 112 W; 07:50:06				
21	P	iPNEZ	09	20	36
	PX	eLNE		22.6	
	R	iP		20	43
	Pr	eP			54
	Is	eP			20
		i			25
	CL	iP			26
		i			34
	T	iP			12
	USCGS: Near coast of Oregon; 09:18:02				
21	P	iP	13	41	20
	PX	eL	14	11.5	
	R	iP	13	41	22
	Pr	iP			21
		i			38
	Is	eP			23
	CL	iP			28
	T	iP			30
	USCGS: 32 S 178½ W; 13:28:35				

Date	Sta.	Phase	h	m	s
September					
22	P	eP	03	38	46
		iPPNZ		42	41
	PX	iNE		49	28
		eLE	04	09.0	
		eLNE		12.4	
			A		T
		MH	10		20
	R	eP	03	38	47
	Pr	eP			49
	Bt	eP			58
		ePP		43	08
	Is	eP		38	40
	CL	iP			42
		iPP		42	34
	T	eP		38	37
		iPP		42	37
	Magnitude 6¾				
	USCGS: 24 N 123 E;				
	03:25:03				
22	R	eP	05	48	04
	Pr	i			39
	Is	eP			01
		e			37
	CL	iP			03
	T	eP			01
	USCGS: New Britain;				
	05:34:26				
23	CL	i(P)	07	39	40
23	MW	eP	10	22	28
	Is	eP			28
	CL	iP			32
23	P	iP	12	36	32
	R	iP			35
	Pr	iP			36
	Is	iP			32c
	CL	iP			38c
	T	eP			38
	USCGS: 15 S 170 E;				
	12:23:00				
23	P	iP	12	40	15
	R	eP			19
	Pr	iP			21
	Is	iP			17
	CL	iP			23
	Same source as the preceding?				
23	PX	iPP	15	25	16
		e		26	22
		ePSNEZ		34	37
		iPPS		35	47
		eSSNEZ		40.8	
		eLNE		50	
		e(R)		59.0	
			A		T
		PPZ	1		5
		MH	25		20
		MZ	15		20
	MW	e(P)	15	21	20
		e		25	06
		iPP			19

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
23	R	e	15	24	50
		i		25	23
		ePS		34	38
		ePPS		35	55
	Pr	iPP		25	16
	Bt	iPP			32
		ePS		34	56
	Is	eP		20	53
		i(PP)		25	09
	CL	eP		20	40
		i		25	02
		i			10
	T	eP		20	33
		e		24	54
		iPP		25	01
		ePS		34	13
	Magnitude 6¾ - 7				
	USCGS: 27 N 101½E;				
	15:06:19				
23	MW	eP	17	37	51
		e		39	03
	R	e			04
	Pr	eP		37	36
		i		39	06
	Is	eP		37	54
		i		39	04
	CL	iP		37	53
		i		39	09
	T	e			08
		e			37
	New Hebrides. Deep?				
23	P	iP!NEZ	19	30	12c
	R	iP!			14c
	Pr	iP!			16c
		e			53
		i		31	10
	Bt	iP!		30	15c
	Is	iP!			14c
	CL	iP!			17c
		i			47
		i		31	13
	T	eP		30	18c
	USCGS: New Hebrides;				
	19:17:29				
24	P	iP	02	13	32
		e			50
	PX	eSKSNE		24	00
		e(S)N		25	16
		eL	indefinite		
			A		T
		PZ	0.3		3
		MH	3		20
		MZ	4		20
	R	ePNEZ	02	13	32
		i			50
		eSKSNEZ		24	02
	Pr	iP		13	32
		i			44
		i			50
	Bt	eP			32

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
24	Is	iP	02	13	36
	CL	iP			38
		i			49
		i			55
		i		16	08
	T	eP		13	40
		e			57
	USCGS: 32 S 178 W;				
	02:00:45				
24	R	e	02	33	00
	Is	eP			03
		e			28
	CL	iP			05
	Southwest Pacific				
24	P	e	10	38	29
	PX	eL	11	16	
	Bt	e	10	38	51
	Is	e			15
	CL	e			29
	USCGS: 22 N 121 E;				
	10:21:29				
24	P	iPNEZ	17	02	16d
		ipP			43
		e		05	19
		e			39
	R	iPNEZ		02	13d
		ipP			40
		e		03	09
	Pr	iP		02	08d
		i			24
		e			46
		e		04	51
	Bt	iP		02	05d
		epP			30
		i			42
	Is	iPNZ			24d
		ipP			50
		i		03	02
	CL	iP!	17	02	21d
		i			43
		ipP			48
		e		03	55
		i		05	20
	T	iP		02	28d
		ipP			55
		i		03	02
	USCGS: 23 S 68 W;				
	16:50:45, 100 km				
24	P	e	20	05	15
	MW	e			18
		e			33
	R	e			13
	CL	e		04	59
	USCGS: Solomon Islands;				
	19:51:43				
25	P	iP	11	46	35
	R	eP			38
	Pr	eP			38
	Is	eP			39
	CL	iP			45
	Apia: 15 S 175 W;				
	11:35:14, 100 km				

Date	Sta.	Phase	h	m	s
September					
25	P	eP	15	40	19
	R	eP			24
		e			51
	Pr	e(P)			08
		e			31
	Is	e		39	58
		e		40	06
	CL	iP			02
25	R	e	18	28	25
	Is	e			10
	CL	e			14
25	P	iPNEZ	18	53	48d
		ipP		54	22
		i			39
		iPcP		57	08
	R	iPNEZ		53	42d
		ipPNEZ		54	17
		i		55	16
		ePcP		57	06
	Pr	iP		53	36d
		ipP		54	03
		i			38
	Bt	iP		53	31
	Is	iP		53	57d
		iPcP		57	10
		e			38
	CL	iP		53	54d
		ipP		54	28
		i			54
		iPcP		57	11
	T	iPNEZ		54	04
		ipP			38
	Felt in the state of Veracruz, Mexico.				
	Depth 100 km ±				
25	P	eP"	19	16	58
		e		17	31
		ePPNZ		18	03
	PX	iSKSNE		24	14
		ePSE		27	10
		ePPS		28.6	
	P	iPKKP		29	18
		e		33	23
	PX	eGN		43.2	
		eREZ		47.5	
			A		T
		PPZ	½.		4
		MH	7		10
	R	eP	19	13	58
		eP"		17	01
		ePPNEZ		18	05
		iSKSNE		24	15
		ePSNEZ		27	17
		ePKKP		29	03
		i			17
	Pr	e		17	54
		ePP		18	09
		ePKKP		29	01
		i			14
	Bt	iPKKP			12
	Is	iPKKP			10
		i			24

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
25	CL	eP	19	13	37
		e		16	46
		iPP		18	10
		iPKKP		29	08
		i			21
	T	e		16	43
		i		18	08
		eS		24	01
	Magnitude 6½ - 6¾				
	USCGS: 6 N 127½ E;				
	18:59:22, 100 km				
25	P	e(P)	22	13	38
	R	e(P)			43
	Pr	e(P)			41
		e(S)		15	20
	Is	i		13	10
		iS			57
	CL	eP		12	55
		i		13	11
		i(S)			59
	T	eP		12	36
		i			41
		iS		13	14
	Magnitude 4¼± Nevada?				
26	MW	eP	07	50	30
	R	eP			31
	Is	e			28
	CL	eP			31
26	P	iPNEZ	08	34	18d
		i!			20
		ipPEZ			58d
		isP		35	22
		iPcPNZ!		37	15
	PX	iSNE		39	00
		e(G)NE		39.9	
		iScP		40	42
		eR		42.8	
		iScSNEZ		44	37
			A		T
		PZ	1.7		1
		PH	1½		1
		SH	35		18
		SH	5		3
		MH	50		19
	R	iP	08	34	12d
		i!			14
		ipP!			55d
		iPcP!		37	17
		iSEZ		38	55
		iScP		40	39
		iScSNEZ		44	35
		i			48
	Pr	iP		34	06d
		ipP!			48
		iPcP		37	16
		iScP		40	38

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
26	Bt	iP	08	34	0!d
		ipP			41d
		iPcP		37	13
		iScP		40	38
	Is	iPNZ		34	27d
		i			41
		ipP		35	03
		iPcP!		37	19
		eSN		39	20
		iScP		40	46
		iScSN		44	43
	CL	iP!		34	23d
		ipP			59
		iPcP!		37	18
		iScP!		40	43
		i		43	21
		iScS		44	43
	T	iPNEZ		34	33d
		ipP		35	14
		iPcP!		37	24
		iSNE!		39	29
		iScPNZ		40	47
		iScSNEZ		44	47
	Magnitude 6¾ - 7				
	USCGS: 15½ N 92½ W;				
	08:28:20, 200 km				
26	P	iP	09	06	18d
		e		07	48
	R	iP		06	21d
		e		07	45
	Pr	iP		06	25d
		e		08	19
		e		10	18
		e			45
	Bt	iP		06	27
		e		08	19
	Is	iP		06	13d
	CL	iP			16d
	T	eP			12
	Possibly an unidentified late phase of the preceding				
26	P	eP	09	16	52
		e			54
		e		17	04
	R	eP		16	50
	Pr	eP			40
	Bt	eP		17	06
	Is	eP		16	58
	CL	iP			59
	Part of preceding? PKKKP?				
27	Is	eP	04	33	39
		e			49
	CL	iP			38
		i			48
27	P	ePEZ	07	13	24
	PX	eLN		45.3	
	R	e(P)		13	26
	Pr	eP			18

(continued)

Date	Sta.	Phase	h	m	s
September (continued)					
27	Is	eP	07	13	29
		epP			43
	CL	iP			30
		ipP			46
	T	eP			33
		epP			47
	BCIS: Kermadec Islands region, 07:00.1				
27	MW	eP	11	44	04
	R	eP			00
	Is	i			11
	CL	iP			08
	BCIS: Chile: 11:32.7				
27	MW	eP	11	53	23
		e			37
	R	eP			18
		e			28
	Pr	eP			11
		e			21
	Is	eP			33
		e			48
	CL	iP			30
		i			45
	T	e			56
27	MW	e	20	50	08
	R	e		49	52
		e		50	09
	Pr	e		49	49
		i		50	09
	Bt	e			08
	Is	eP		49	55
		e		50	12
	CL	iP		49	57
		i		50	14
	T	e			00
	USCGS: Kermadec Islands; 20:37:12				
28	Is	e	02	05	01
	CL	e			09
		i			32
	USCGS: 27 N 101½ E; 01:46:36				
28	P	e	07	56	41
	R	e			51
	Is	eP			27
	CL	e			28
		e			33
	T	e			15
28	P	eP	09	53	42
		iSE		54	38
	W	ePEZ		53	18
		iSEZ			49
	Is	eP			18
	CL	eP			18
	T	iPNE		52	59.2
		iSN		53	20.2
	Magnitude 4.3. Nevada, roughly 38.5 N 118.3 W; 09:52.6				

Date	Sta.	Phase	h	m	s
September					
28	Is	iP	13	19	03
	CL	iP			06
28	CL	iP	15	09	32
28	P	iPNEZ	18	15	21d
		iNEZ		16	02
		iPcP		18	42
	PX	eSNEZ		20	00
		eLNE		25.2	
			A		T
		PZ	¾		3
		PH	½		2
		SH	2½		12
	R	iP	18	15	15d
		i			56
		iPcP		18	41
		eSEZ		19	52
	Pr	iP		15	09d
	Bt	iP			04d
	Is	iP			22
	CL	iP			29
		iPcP		18	46
	T	ePNEZ		15	40d
		ePcP		18	48
	Magnitude 6				
	USCGS: 15 N 97½ W; 18:09:40				
29	P	iPN	05	42	10.8
		iSN		43	32.9
	W	e(P)		41	56.8
		e(S)		42	43.1
	Is	iP		41	49.8
		iS		42	41.3
	T	iP		41	29.5c
		iSN		42	01.6
	Magnitude 4.5. Nevada 38.5 N 119+ W; 05:40:50				
29	P	e(P)	08	48	28
	MW	e(P)			29
		e			33
	Is	e			19
		e			23
	T	e			16
	BCIS: 53 N 159¾ E; 08:38:27				
29	MW	iP	11	25	45
	Pr	iP			47
	Is	iP			47
	T	eP			51
29	P	e(P)	11	38	55
		e		39	12
	MW	e(P)		38	53
		e		39	11
	R	e(P)			01
	Pr	e(P)			06
	Is	e		38	43
		e			52
	T	e			44
	USCGS: 51½ N 176 W; 11:30:33				

September

Date	Sta.	Phase	h	m	s
29	P	iPNEZ	20	10	03c
		ipPEZ			37
		e		12	00
		e			43
	R	iP		10	07c
		ipP			42
		e		11	59
		e		12	58
	Pr	iP		10	12c
		ipP			46
		i		11	29
		i		12	53
		e		13	06
	Bt	iP		10	14c
		ipP			49
	Is	iP		09	57c
		ipP		10	32
	CL	iP!			00c
		i			24
		ipP			35
		i			56
	T	iPNEZ		09	54c
		ipP		10	29

CMO: 40.1 N 141.3 E;
19:58:25, 90 - 100 km

Date	Sta.	Phase	h	m	s
30	MW	e	03	30	33
		e		31	06
	R	e		30	42
		e			54
	Pr	e			50
		e		31	01
	Is	i		30	41
	CL	e?		27	25
		e		30	23
		i			29
	T	e			15
		i			22
		i			47

Interpretation uncertain
USCGS: 8 N 126½ E;
03:08:46
Andreanof Islands; 03:22:12

Date	Sta.	Phase	h	m	s
30	Is	e	07	20	06
	CL	e		19	49
		i		20	13

USCGS: 7½ N 126½ E;
07:01:22

Date	Sta.	Phase	h	m	s
30	Pr	eP	07	59	31
	Is	iP			31
	CL	iP			35c

Near Apia

Date	Sta.	Phase	h	m	s
30	P	e(P)	13	55	57
		e		56	26
	R	e(P)			00
		e			13
	Pr	e(P)			05
	Is	e(P)		55	43
		e		56	02
	T	e		55	43

USCGS: 51½ N 176½ W;
13:47:37

September

Date	Sta.	Phase	h	m	s
30	P	eP	19	22	42
		i			45
		i			59
	PX	eLN			34.4
	R	eP		22	43
		e			49
		e			57
		e		23	13
	Pr	eP		22	53
		i		23	06
	Bt	eP		22	59
		i		23	10
	Is	eP		22	33
	CL	iP			37
		i			50
		i		28	24
		i			30
	T	eP		22	31
		e			41

USCGS: 51½ N 176½ W;
19:14:24

October

Date	Sta.	Phase	h	m	s
1	P	iP	00	21	51
	R	eP			51
	Is	e			21
		i			43
	CL	iP			41
		i			48

USCGS: 53½ N 170 E;
00:12:29

Date	Sta.	Phase	h	m	s
1	P	iP	06	15	05
	R	iP			08
	Bt	iP			19
	Is	iP		14	56
	CL	iP		15	00c
		i			30
		i			49
	T	iP		14	51
		i		15	21
1	P	eP	10	16	06
		e			18
	PX	eLNE			21.7
	R	iP		15	59d
	Bt	iP			45
	Is	iP		16	21
		i			28
	CL	iP			15
		i			22
	T	eP			30
		e			40

Tacubaya: 17°59'N 102°45'W;
10:10:59

Date	Sta.	Phase	h	m	s
1	MW	eP	10	34	30
	R	eP			32
	Is	eP			23
	CL	eP			27

BCIS: 40 N 142 E;
10:22:35

Date	Sta.	Phase	h	m	s
1	Is	eP	12	37	11
1	Is	eP	14	52	43

October

Date	Sta.	Phase	h	m	s
1	P	iP	19	01	59d
		ePP		05	24
	R	iP		02	01d
		i			25
		ePP		05	28
	Bt	iP		02	02
	Is	iP			02d
		i			25
		iPP		05	30
	CL	iP!		02	05d
		i			16
		i			29
		iPP		05	35
	T	iP		02	06d
		iPP		05	36

USCGS: 19 S 169 E;
18:49:10
BCIS: 20.5 S 170 E;
18:49:10

Date	Sta.	Phase	h	m	s
2	MW	e(P)	03	22	08
	Is	e(P)		21	50
	CL	e(P)			52

USCGS: Andreanof Islands;
03:13:40

Date	Sta.	Phase	h	m	s
2	P	iPNEZ	16	11	00c
	R	iP		10	55c
		e		11	25
		ePcP		12	39
	Bt	iP		10	46c
	Is	iP		11	08c
		e			28
	CL	i			15
		iPcP		12	48
	T	iP		11	15

USCGS: 5½ N 83 W;
16:02:54

Date	Sta.	Phase	h	m	s
2	P	ePNZ	19	47	58
		i		48	07
		e			17
	R	eP		47	58
		e		48	08
	Pr	iP			01
	Is	iP			02
		i			10
	CL	iP			04
		i			14

USCGS: Tonga region;
19:35:42

Date	Sta.	Phase	h	m	s
2	P	eP	23	07	04
	R	eP			06
	Pr	eP			07
		i			22
	Is	eP			19
	CL	eP			17
		i			22
		i			47

Southeast Pacific

Date	Sta.	Phase	h	m	s
3	P	iPNEZ	03	03	26
	R	iP			29
	Pr	iP			29
	Is	iP			30
	CL	iP			33c

Southwest Pacific

October

Date	Sta.	Phase	h	m	s
3	MW	eP	03	48	25
	Is	eP			30
	CL	iP			32
3	P	eP	10	13	39
		e			45
		epP		15	59
		e		16	10
	R	eP		13	45
		epP		16	01
	Pr	eP		13	41
		epP		15	44
	Bt	eP		13	45
	Is	eP			42
		epP		15	59
	CL	iP		13	45c
		i			51
		ipP		15	36
		i		16	53

USCGS: Fiji region;
10:02:16, 600 km

Date	Sta.	Phase	h	m	s
3	P	iPNEZ	11	28	03
	R	iP			07
	Pr	iP			16
	Bt	eP			24
	Is	eP		27	43
		i			48
	CL	iP			44
		i			47

Vicinity of Vancouver Island;
USCGS: 11:24:03

Date	Sta.	Phase	h	m	s
3	P	iPEZ	17	47	10
		i			43
	R	iP			14d
		i			34
	Pr	iP			22d
		i			53
	Bt	iP			25
	Is	iP		46	54d
	CL	iP!		47	02d
		i			33
	T	iP		46	53

USCGS: 56 N 162 W;
17:40:00

Date	Sta.	Phase	h	m	s
4	Pr	iP	00	07	06
	Is	iP			06
	CL	iP			09
4	R	eP	06	34	37
	CL	e			22
		i		35	03
4	P	e	07	39	12
		i			27
	PX	eLNE	08	02.7	
	R	e	07	39	18
		e			37
		e			53
	Pr	e			20
		i			29
	Bt	e			14
	Is	eP			17
		e			26
	CL	eP			22
		i			29
		i			45

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
4	T	e	07	39	28
		e			59
	BCIS: 25 S 175 W; 07:27.0				
4	P	iP	21	00	44
	R	eP			48
	Pr	iP			49
	CL	iP			54
	USCGS: Fiji Islands region; 20:48:49				
5	P	iP	00	58	36
	R	eP			39
	Pr	iP			40
	CL	iP			45
		ipP		59	27
	USCGS: 23½ S 178 W; 00:46:42, 200 km				
5	MW	e	01	45	12
	R	e			05
	Pr	iP			12
	Bt	eP			09
	CL	iP		44	54
5	P	e	01	51	07
	R	e			14
	Bt	e			30
	CL	e(P)		50	55
		i			59
	T	e			50
5	MW	e	05	35	24
	R	e			26
	Pr	iP			38
	Bt	e			45
	Is	e			01
	CL	i(P)			08
		i			21
	T	e		34	53
5	P	iPNEZ	09	07	53
		i		08	05
		i			16
	PX	iSNEZ		15	54
		eL		25.0	
	P	eP'P'		37	41
			A		T
		PZ	0.2		1½
	R	iP	09	07	56
		i		08	21
		i			35
		e		10	01
		eS		16	04
		eP'P'		37	39
	Pr	iP		08	03
		i			22
		i			40
		i			51
		eP'P'		37	29
	Is	iP		07	44
		eP'P'		37	22
	CL	iP		07	47c
		i		08	10
		eP'P'		37	45

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
5	T	iPNEZ	09	07	40
		i			56
		i		08	06
		iS		15	31
	Magnitude 6 - 6¼ USCGS: 53½ N 161 E; 08:57:55				
5	MW	iP	17	51	32
	Is	iP			23
	CL	iP			26
6	P	iP	11	05	24
	R	iP			20
	Pr	eP			19
	Bt	eP			20
	W	iP			23
	Is	iP			24
	CL	iP			17
	T	eP			19
	BCIS: 32½ N 48 W; 10:55.5				
6	P	iPNEZ	11	15	31d
		ipP		16	12
		isPEZ			31
		epPP		19	37
		eSNEZ		25	34
	PX	iSKSNE			43
		iNEZ		26	56
		eNE		32	10
	P	eP'P'		41	47
		eSKPP'		44	54
			A		T
		PZ	0.4		1
		PH	0.2		1½
		SH	8		10
	R	eP	11	15	27d
		iPEZ			29
		ipPEZ		16	09
		isP			28
		iS		25	32
		eE		26	49
	Pr	iP		15	24
		ipP		16	06
		isP			25
	Bt	iP		15	19d
		iEZ'			21
		ipP		16	01
		isP			20
		iSE		25	23
		iE		26	34
	W	iP		15	37
		ipP		16	19
	Is	iP		15	37d
		ipP		16	19
	CL	iP		15	34d
		ipP		16	16
		isP			39
	T	iPNEZ		15	42
		ipP		16	24
		isP			44
		iSNE		26	07
		i		27	19

Magnitude 6½. USCGS: 36 S 70 W
11:03:16, 150 km

Date	Sta.	Phase	h	m	s
October					
6	P	iPEZ	18	01	33
		e			44
	R	iP			36
		e			47
	Pr	iP			38
	Bt	iP			37
	W	iP			34
		i			45
	Is	iP			36
		e			47
	CL	iP			40
		i			51
	T	iP			41
		e			51
	Depth 40 km? USCGS: 19 S 167 E; 17:48:39				
7	MW	e	04	11	11
	R	e			07
	Pr	eP			06
	Is	iP			11
	W	iP			12
	CL	eP			07
	T	eP			06
	USCGS: 30½ N 41 W; 04:00:37				
7	P	eP	07	32	16
	R	eP			19
	Pr	eP			19
	W	iP			19
	Is	eP			21
	CL	iP			25
		i			38
		i			50
	T	eP			30
	USCGS: 19 S 173½ W; 07:20:36				
7	P	iPNZ	15	00	40
		e		01	16
	R	iP		00	36
		e		01	11
	Pr	iP		00	30d
	Bt	iP			26
		i		01	21
	W	iP		00	49d
		i		01	29
		i			34
	Is	iP		00	47d
	CL	iP			45d
		i		01	25
		i			31
	T	iP		00	53
	USCGS: Peru; 14:50:42, 100 km				
7	R	eP	21	16	39
		e			56
	W	iP			25c
		i			41
		i(pP)		18	03
		e			18

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
7	Is	iP	21	16	28
	CL	iP			33
		i			48
		i(pP)		18	10
	Deep?				
8	W	e	01	10	09
	Is	e			05
	CL	e			08
8	W	iP	01	29	24
	Is	iP			25
	CL	iP			31
8	Pr	iP	09	34	30
	W	iP			30c
		i(pP)		36	31
	Is	iP		34	32c
		i(pP)		36	33
	CL	iP		34	35c
		i(pP)		36	36
	Apia: 24 S 180; 09:22:57, 400 km				
8	MW	eP	21	17	41
	R	e			46
	Pr	iP			41
		i			46
	W	iP			40
	Is	i			47
	CL	eP			46
		i			51
	USCGS: Fiji Islands; 21:05:32				
8	MW	eP	21	23	43
	W	eP			27
	CL	iP			34
9	P	iPEZ	01	23	04c
		ipPEZ			28
	R	iP			07c
		e			17
		ipP			31
	Pr	iP			10c
		epP			35
	Bt	iP			12c
		epP			36
	W	iP			00c
		i			10
		ipP			24
	Is	iP			00c
		ipP			24
	CL	iP			05c
		ipP			27
	T	eP			02
	BCIS: Marianas; 01:11.6, 100 km				
9	Pr	e	03	39	28
	W	iP		38	55
		i		39	01
		i			06
	Is	eP		38	56
		e		39	03
		e			10
	CL	iP			01
		i			12
		i			16

Date	Sta.	Phase	h	m	s
October					
9	MW	e	16	42	05
	R	e		41	55
	Pr	e			51
	W	i(P)		42	10
	Is	e			10
		e			18
	CL	iP			04
9	P	iPNEZ	17	53	21
		i			49
		iPP		57	18
	PX	eL	18	22.4	
	R	iP	17	53	24
		i			53
		e		57	58
	Pr	eP		53	26
		e			36
		e		54	05
	Bt	eP		53	25
		e			55
		i		54	20
	W	iP		53	17
	Is	eP			19
		e			48
		e		54	12
	CL	iP		53	24
		i		54	03
		i		55	09
		iPP		57	07
	T	eP		53	22
		ePP		57	20
	USCGS: 5 S 153 E;				
	17:40:09				
9	MW	e	21	12	58
	W	e		13	01
	Is	e		12	54
	CL	e		13	03
9	P	eP	23	22	29
		iNEZ			31
		i			40
		i			59
		e(ScP)		27	48
			A		T
		PZ	2		4
	R	iPNEZ	23	22	34c
		iNEZ			44
		i			56
		i		24	35
		i			59
	Pr	iP		22	40c
		i			50
	Bt	iP			43c
		i			54
	W	iP			18c
		i			29
		eScP		27	43
		i		29	17
	Is	iP		22	20c
		i			32

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
9	CL	iP	23	22	24c
		i			32
		i		23	18
		i			53
		i		24	17
		i		29	36
	T	iPNEZ		22	17
		i			29
		i			46
	Magnitude 6±				
	USCGS: 50½ N 176 E;				
	23:13:32				
10	P	eP	01	29	13
	R	e			20
	W	eP		28	57
		i		29	07
	CL	iP			02
		i			13
		i			49
	CMO: 41.1 N 143.1 E;				
	01:17:29, 40 km				
10	P	eP	08	48	25
	R	eP			32
	Pr	eP			32
		e			47
	W	iP			04
	Is	eP			08
	CL	eP			14
		e			29
10	P	eP	09	10	58
		i		11	08
		i!			12
		i			45
	PX	eNE		21	57
		e		23	16
		eSSNE		28.1	
		eGN		34.8	
	P	eP'P'		36	44
		e		37	00
	PX	eR		38.4	
			A		T
		PZ	0.15		1
		PH	0.15		1
		MH	80		20
		MZ	80		20
	R	eP	09	11	00
		i			09
		i			54
	Pr	iP			03
		i			17
		eP'P'		36	46
	Bt	eP		11	03
		i			12
	W	iP		10	51c
		i			56
		i		11	08
		i			54
		iPP		14	30

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
10	Is	eP	09	10	53
		i			57
		i		11	11
		eP'P'		36	29
	CL	iP		11	01
		i			11
		i			16
		iP'P'		36	06
	T	ePEZ		10	59
		iNZ		11	14
		i			19
	Magnitude 7¼. New Britain				
	USCGS: 5 S 153 E;				
	08:57:44				
10	P	iPEZ	09	17	44
	R	iP			45
	W	iP			40d
	CL	iP			56
	Aftershock				
10	P	iP	09	21	34
	R	iP			37
	Pr	i(P)			44
	Bt	e(P)			39
		i			44
	W	iP			12
		i!			23
	Is	i			24
	CL	i			28
10	MW	eP	10	14	40
		e		15	11
	W	iP		14	30
		i		15	03
	Is	eP		14	31
		e		15	03
	CL	iP		14	36
		i		15	09
	BCIS: 48¾ N 152 E;				
	10:03:58				
10	P	eP	12	05	47
	R	eP			49
	Pr	eP			53
	W	iP			45
	Is	eP			45
	CL	iP			50
	USCGS: New Britain;				
	11:52:32				
10	P	iP	16	08	48
	R	iP			51
	Pr	iP			57
	Bt	eP		09	02
	W	iP		08	38d
		i			49
	Is	iP			39
	CL	iP			43d
		i			54
	T	iP			35
	BCIS: Off Kamchatka;				
	15:58.7				

Date	Sta.	Phase	h	m	s
October					
10	P	iPEZ	19	29	11
	R	eP			14
	Pr	iP			17
	Bt	eP			20
	W	iP			06c
	CL	iP			11
10	Bt	e	20	48	25
	W	iP			15
		ipP			24
	T	e			35
	CMO: 31.7 N 131.7 E;				
	20:35:35				
10	P	eP	21	03	15
		e			21
	R	eP			14
		e			24
	Pr	eP			16
		i			25
	Bt	e			21
	W	eP			13
		i			24
	Is	eP			16
		e			26
	CL	iP			21
		i			30
	T	e			33
	USCGS: 17½ N 174 W;				
	20:51:42, 60 km				
10	P	iPNEZ	23	15	25
		ipP			49
	R	iP			28
	Pr	iP			32
		e		18	59
	Bt	iP		15	37
	W	iP			16c
		ipP			40
		i		16	13
		i		18	25
	Is	iP		15	18c
		ipP			43
	CL	iP			22c
		ipP			46
	T	iP			16
		epP			40
		e		18	23
	CMO: 39 N 141.3 E;				
	23:03:42, 90 km				
11	P	e	01	33	08
	W	e			05
		e		34	33
	USCGS: Northern Celebes;				
	01:14:27				
11	P	e	02	08	15
	R	e			12
	W	i			17
		i			24
	Is	e			16
		e			22

(continued)

Date	Sta.	Phase	h	m	s
October(continued)					
11	CL	i	02	08	15
	South Atlantic				
	BCIS: 01:49:20				
11	W	i	02	30	00
		i			09
	CL	i			01
11	Pr	e	04	30	42
		e		31	20
	Is	e			08
		e			26
	CL	i			06
		i			13
	BCIS: 21 S 69¼ E; 04:10:01				
11	MW	e	05	19	14
	R	e			04
		e			10
	Pr	e			04
		e			18
	W	iP			26
	CL	iP			20
11	Pr	iP	05	26	21
	W	iP			19
	Is	iP			21
	CL	iP			25
11	MW	e	15	18	21
	W	iP		17	37
		i			59
		i		18	11
	Is	iP			00
		e			11
		e			18
11	R	e	16	36	08
	Pr	eP			08
	W	iP			05
		i			14
	Is	eP			07
	CL	e			12
	BCIS: Tonga region 16:24:10				
11	R	eP	20	35	20
	W	iP			19c
		i		37	29
	Is	iP		35	21
	CL	iP			25
		ipP		37	35
	BCIS: Fiji region; 20:24.1, 600 km				
13	MW	eP	01	12	52
		e			57
	R	e		13	01
	Pr	eP		12	54
		e		13	22
	W	iP		12	51
		i		13	02
	Is	eP		12	53
		i		13	04
	CL	eP		12	51
		i		13	07
	Apia: Tonga region; 01:00.0				

Date	Sta.	Phase	h	m	s
October					
13	MW	eP	06	09	19
	W	iP			08
		i			28
	Is	eP			10
	CL	iP			13
13	P	iPNEZ!	09	39	38c
		iN		40	03
		ePP		43	03
		i			21
	PX	eSKSE		50	04
		iSNE			20
		i			37
		eSSNE			56.4
		eGN	10	02.9	
		eR		07	
	P	eP'P'P'		26	08
			A		T
		PZ	3		1½
		PH	1½		3
		SH	4		6
		MH	45		20
		MZ	45		20
	R	iPNEZ!	09	39	42c
		i		40	02
		eSKSE		50	06
		iSNEZ			27
	Pr	iP!		39	43c
		i		40	03
		i		41	14
		iPP		43	13
		i			34
	Bt	iPNZ!		39	47c
		i		40	06
	W	iP!		39	38c
		iPP		43	03
		i			22
	Is	iP!		39	39c
		i		40	03
		iPP		43	06
		iSNZ		50	23
	CL	iP!		39	43c
		iPP		43	13
		iS		50	28
	T	iPNEZ		39	42c
		iNEZ		40	14
		iEZ			39
		ePP		43	09
		i			21
		e		47	13
		iSKSE		50	08
		iSNEZ			28
	Magnitude 6¾ - 7				
	USCGS: 9½ S 161 E; 09:26:44				
13	MW	e	10	49	56
	W	iP			31
		i			45
	Is	eP			32
		e			46
	CL	iP			36
		i			50

Date	Sta.	Phase	h	m	s
October					
13	P	iPNEZ	12	10	48c
	R	eP			51
	Pr	iP			52c
	Bt	eP			55
	W	iP			51c
		i		11	05
	Is	iP		10	53c
		i		11	06
	CL	iP		10	57
		i		11	17
	T	iP		10	58
	BCIS: 15¾ S 172¾ W; 11:59:24				
13	P	eP	16	32	43
		iNZ			50
	R	eP			44
		i			51
		e		33	23
	Pr	iP		32	46
		i			53
	Bt	iP			49
		i			55
		i		33	28
	W	iP		32	45c
		i		33	05
		i			24
		i		35	55
	Is	eP		32	48
		i			55
		i		36	31
	CL	iP		32	51
		i			58
		i		33	22
		i		36	50
	T	e		32	59
	USCGS: 36 S 177½ E; 16:19:51, 200 km				
13	P	eP	18	04	08
	W	eP		03	52
		i		04	01
	Is	eP		03	55
		e		04	02
	CL	eP		03	58
		i		04	06
	T	eP			00
	USCGS: 24 N 121 E; 17:50:16				
13	MW	eP	19	34	36
	W	eP			22
		e			41
	Is	eP			27
	CL	iP			30
13	P	iPNZ	21	58	06
		iPcP	22	00	29
		eL		04.2	
	R	eP	21	58	00
		i			06
		iPcP	22	00	27
		e			37
	Pr	eP	21	57	53
		i			58
		iPcP	22	00	26

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
13	Bt	eP	21	57	56
		e		58	18
		iPcP	22	00	29
	W	eP	21	58	14
		i			21
		i			24
		iPcP	22	00	31
		i			42
	Is	eP	21	58	13
		iPcP	22	00	33
	CL	iP	21	58	08
		i			20
	T	eP		57	52
		iPcP	22	00	34
		i			45
	USCGS: 12 N 87 W; 21:50:59				
14	W	iP	00	35	51
14	P	eP	01	07	24
	PX	eL		32.0	
	R	eP		07	27
	Pr	iP			28
		i			48
	Bt	eP			31
	W	iP			26
		i			58
	Is	iP			29
		i			48
	CL	iP			34
		i			43
	T	eP			35
		e		08	07
	USCGS: 16½ S 172 W; 00:55:55				
14	Pr	eP	08	49	13
	W	iP		48	47
	Is	iP			50
	CL	iP			55
14	P	eP	08	50	35
		iEZ			42
		i		51	20
		i(PcP)		52	57
		eScP		56	11
	PX	iSN			51
		iGE			59.9
		iR	09	02.0	
			A		T
		PZ	½		1½
		PH	¼		1¼
		SH	4		10
		MH	20		17
	R	eP	08	50	31
		iSN		56	45
	Pr	eP		50	25
	Bt	eP			25
		i·			32
		eSE		56	21
	W	eP	09	50	45
		i			49
		i		52	48

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
14	Is	eP	09	50	46
		i			54
		i		52	55
	CL	iP		50	48
		i		52	53
	T	iP		50	59
		e		53	10
		iSNZ		57	35
	Magnitude $6 - 6\frac{1}{4}$				
	USCGS: 3 S $103\frac{1}{2}$ W;				
	08:43:00				
14	P	iP	10	06	11
	R	eP			13
	Pr	iP			14
	Bt	eP			19
	W	iP			12c
	Is	iP			13
	CL	iP			18
	USCGS: $17\frac{1}{2}$ S 179 W;				
	09:55:11, 600 km				
14	P	ePNZ	10	15	58
	R	eP			54
	Pr	eP			48
	Bt	eP			48
	W	e		16	10
	Is	eP			09
		e			15
	CL	e			10
	T	e			19
	BCIS: West of Galapagos Is.;				
	10:08:21				
14	P	ePNZ	14	55	55
		e		56	07
	R	eP			01
	W	iP			02
		i			09
	Is	eP			03
		e			10
	CL	iP			09
		i			18
	USCGS: $24\frac{1}{2}$ S $176\frac{1}{2}$ W;				
	14:43:41				
14	W	iP	18	10	22
	Is	eP			24
	CL	iP			26
14	MW	e	19	59	57
	W	eF	20	00	12
	CL	eP			17
14	W	iP	20	22	27
	Is	iP			26
	CL	iP			20
14	MW	eP	04	39	52
		e		40	07
	R	e		39	45
	Pr	e			40
	W	iP			59
		i		40	04
	Is	eP		39	57
	CL	eP			53
	USCGS: 6 N $77\frac{1}{2}$ W;				
	04:31:15				

Date	Sta.	Phase	h	m	s
October					
15	P	eP	10	15	39
		e			52
	W	iP			35
	Is	eP			37
	CL	iP			42
15	Is	eP	12	32	35
	CL	iP			38
		i			46
15	Pr	e	19	07	33
	W	iP		06	57
	Is	eP		07	00
	CL	iP			02
	T	eP		06	55
16	P	eP'	05	01	38
	MW	eP'			38
		e			46
	R	e			36
	Pr	eP'			40
	Bt	iP'			50
	W	eP'			35
		e			52
	Is	eP'			36
	CL	iP'			35
		i			48
	T	eP'			31
	Indian Ocean.				
	USCGS: Farquhar Islands;				
	.04:41:23				
16	W	iP	07	11	59
	Is	iP		12	01
	CL	iP			05
16	P	eP	10	52	26
	Pr	eP			36
	W	iP			14
	Is	eP			18
	CL	iP			20
16	P	iPEZ	17	26	50
		epPNZ		27	07
	R	eP		26	54
		epP		27	08
	Pr	eP			00
	Bt	eP			13
	W	iP		26	40c
		ipP			55
	Is	iP			43
		ipP			58
	CL	iP			46c
		ipP		27	01
	T	eP		26	38
	USCGS: near south coast of				
	Kamchatka; 17:16:38, 60 km.				
16	MW	e	19	29	31
	W	eP			17
		i			19
		i			29
	CL	iP			26
	CMO: $42\frac{1}{4}$ N $144\frac{1}{2}$ E;				
	19:20:52, 40 km				
16	W	iP	19	32	04
	CL	iP			10
		i			23
	Part of preceding?				

Date	Sta.	Phase	h	m	s
October					
17	P	eP	01	21	18
		e			28
		e			42
	R	eP			21
		e			45
	Pr	eP			23
		e			48
	Is	eP			16
	CL	eP			20
		i			47
	USCGS: 6 S 154 E;				
	01:08:07				
17	MW	eP	04	02	13
		e			22
	R	eP			09
		i			19
	Pr	eP			04
		e			14
	Is	eP			21
		e			30
	CL	iP			18
		i			28
	South America				
17	Is	eP	05	31	11
	CL	iP			13
	T	eP			10
	BCIS: Formosa; 05:17.5				
17	MW	eP	05	49	28
	Is	eP			16
	CL	iP			22
	T	eP			14
17	R	eP	06	59	24
	Is	eP			32
		e	07	01	59
	CL	iP	06	59	34
		i			45
		e	07	01	58
	T	eP	06	59	40
	Deep?				
17	Is	eP	08	52	13
	CL	iP			18
17	R	eP	11	31	16
	CL	i			33
17	Is	eP	17	32	40
	CL	iP			44
	T	eP			35
17	R	eP	19	08	09
	Pr	iP			02
	Is	eP			26
	W	eP			28
	CL	iP			32
	Mexico				
17	CL	eP"	20	27	07
	BCIS: 17 N 44 E;				
	20:08:53				
17	MW	e	23	27	16
	Pr	i			31
	W	iP		26	59
		i		27	05
	Is	eP		27	01
	CL	iP			05
		i			17
	T	eP		26	56

Date	Sta.	Phase	h	m	s
October					
18	R	eP	00	11	19
	W	iP			34
		i		12	01
		i			11
	Is	iP		11	31
		i			59
		i		12	09
	CL	iP			30
		i			56
		i		12	07
18	W	iP	01	19	22
	CL	iP			27
18	Pr	iP	07	40	49
	W	eP			35
	Is	eP			36
	CL	iP			40
18	W	iP	07	43	35
	Is	iP			36
	CL	iP			39
18	W	iP	10	41	53
		i		42	04
	CL	eP		41	59
		e		42	10
18	W	eP	11	09	16
	Is	eP			21
18	MW	e	11	22	07
	W	eP			09
	Is	eP			10
	CL	eP			14
18	W	iP	14	18	54
		i		19	38
	CL	i			45
18	W	iP	17	45	57
	Is	eP			53
	T	eP			54
18	W	iP	20	27	36
		i			47
	Is	eP			41
	T	eP			31
		e		30	06
18	W	iP	23	04	11
19	W	iP	01	41	39
		i			50
	Is	eP			42
19	P	e(P)	01	57	19
	R	e(P)			27
	Pr	e			33
	W	iP			13
		i			22
	Is	eP			15
	T	e			13
	CMO: 40.3 N 140.2 E;				
	01:45:27				
19	W	iP	06	19	36
19	W	iP	07	36	50
19	P	iPEZ	10	05	12
		i			22
		i			34
	PX	iSNEZ		13	40
		eGN			20.6
		eREZ			23.5

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
19	P	eP'P'	10	34	19
			A		T
		PZ	0.3		$1\frac{1}{2}$
		PH	0.2		1
		SH	3		7
		MH	10		20
	R	eP	10	05	15c
		i			22
		eSEZ		13	43
		eP'P'		34	09
	Pr	eP		05	20c
		i			31
		i			37
	W	iP			02
		i			11
	Is	eP			04c
		i			15
		e		34	20
	T	iPNEZ		04	59c
		iEZ		05	10
		eSE		13	17
		iNEZ			29

Magnitude $6\frac{1}{2}$
USCGS: $49\frac{1}{2}$ N 155 E;
09:54:43

Date	Sta.	Phase	h	m	s
19	MW	iP	11	45	51
	R	eP			52
	Pr	iP			53
	W	iP			53
	Is	iP			55
	T	iP			58

Fiji region

Date	Sta.	Phase	h	m	s
19	W	iP	17	12	32
		i			39
	CL	iP			38
		i			44

CMO: 33.0 N 140.5 E;
17:00:36, 160 km

Date	Sta.	Phase	h	m	s
19	W	iP	18	06	52
		i		07	05
19	Pr	eP	18	37	31
	W	eP			36
	CL	eP			29
19	MW	eP	20	46	55
		e		47	09
		e			21
	R	e(P)			04
		e			11
	W	iP		46	45
		i			50
		i			58
	CL	iP			51
		i			56
		i		47	04
	T	e		46	47
		e			58

USCGS: Northern Kurile Is.;
20:36:30

Date	Sta.	Phase	h	m	s
October					
19	W	iP	21	23	42
		i			50
	CL	i			50
20	MW	e	00	14	37
		e			48
	R	e			41
		e			49
	W	eP			09
	Is	e(P)			12
	CL	e(P)			14
	T	e(P)			04
20	W	eP"	01	52	00
	CL	eP"			08
		e		53	05
		e			14

USCGS: South Atlantic;
01:33:30

Date	Sta.	Phase	h	m	s
20	W	iP	02	02	43
	Is	eP			44
	CL	iP			47
20	P	e	04	04	16
	R	e			01
	Pr	e			11
	W	e			19
		i			37
		i		05	48
	Is	e		03	30
	CL	e			29
	T	e			52

BCIS: Indian Ocean;
03:43:20

Date	Sta.	Phase	h	m	s
20	MW	e	07	24	36
	W	eP			15
	CL	eP			20
20	P	e(P)	07	38	12
		i			17
	R	e			16
	Pr	eP			15
		i			36
	W	iP		37	54
		i		38	06
	Is	eP		37	56
		i		38	08
	CL	iP		37	59
		i		38	11
		i		39	03
	T	e		38	03

USCGS: $52\frac{1}{2}$ N 159 E;
07:27:58

Date	Sta.	Phase	h	m	s
20	P	e	12	13	53
	R	eP'			47
		e		14	21
	W	eP'		13	50
		i		14	31
	Is	eP'		13	50
		e		14	30
	CL	iP'		13	50
	T	eP'			52

BCIS: off South Africa

Date	Sta.	Phase	h	m	s
October					
20	W	iP	13	12	03
	Is	eP			00
		e			06
	CL	iP			10
	T	eP			01
20	MW	eP	13	22	47
		epP			56
	R	eP			48
		epP			59
	Pr	eP			54
		ipP		23	04
	W	iP		22	39
		ipP			48
	Is	eP			40
		epP			50
	CL	iP			45
		ipP			54
	T	eP			38
		epP			49

CMO: 35.3 N 140.5 E;
13:10:40, 50 km

Date	Sta.	Phase	h	m	s
20	MW	eP	15	12	35
		epP			47
	R	eP			30
		epP			41
	W	iP			44
	Is	eP			43
		epP			54
	CL	iP			41
		ipP			52
	T	eP			47
		epP			59
20	W	iP	17	34	45
		i			47
	Is	eP			48
	CL	iP			50
	T	e			44
20	MW	iP	18	49	09
	W	iP			10
	Is	iP			12
	CL	iP			16
20	W	eP	22	36	58
	CL	e		37	03
21	MW	e	03	53	19
	W	iP			08
		i			18
	CL	eP			13
21	P	eP"	04	51	05
		i			17
		ePP		53	34
		eSKP		54	34
	R	eP"		51	07
		i			18
		ePP		53	38
		iSKP		54	36
	Pr	eP"		51	20
		ePP		53	45
		iSKP		54	40

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
21	W	eP"	04	51	04
		i			14
		i			31
		ePP		53	13
		eSKP		54	29
	Is	eP"		51	13
		i			15
		e			33
		ePP		53	20
	CL	eP"		51	11
		i			16
		iPP		53	16
		i			28
		iSKP		54	32
	T	eP"		51	12
		ePP		53	05

BCIS: 4 N 95 E;
04:32:03

Date	Sta.	Phase	h	m	s
21	W	iP	06	37	51
	Is	eP			51
	CL	iP			57
21	R	iP	07	05	47c
	W	iP			59c
	Is	iP			57c
	CL	iP			56c
21	W	iP	11	17	32
	Is	eP			29
	CL	iP			37
21	W	iP	08	49	40
	Is	eP			38
	CL	iP			45
	T	eP			37
21	P	eP	14	00	33
	W	iP			36
		i			51
	Is	eP			36
	CL	iP			39
		i		01	03
	T	eP		00	42

Southwest Pacific

Date	Sta.	Phase	h	m	s
21	W	iP	16	13	36
	Is	eP			36
	CL	iP			42
21	P	iPNEZ	19	13	47d
		i		14	12
		ipP		15	58
		iNZ		16	04
		i			58
		i		17	06
		esPP		20	17
		i		21	59
		i		22	10
	PX	iSNEZ		23	02
		eNE			20
		eE		27.5	
	P	iP'P'		40	37
			A		T
		PZ	$\frac{3}{4}$		$1\frac{1}{2}$
		PH	0.2		1
		SH	7		7

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
21	R	iPNEZ	19	13	49d
		ipPEZ		16	02
		i		17	11
		iSNEZ		23	07
		e		32	28
		eP'P'		40	17
		i			37
		eSKPP'		43	03
	Pr	iP		13	51d
		epP		16	03
		i		17	05
		iS		23	09
		iP'P'		40	34
		eSKPP'		43	02
	W	iP!		13	50d
		ipP		16	03
		e		17	11
		iS		23	07
		e		40	09
		iP'P'			35
		eSKPP'		43	07
	Is	iP		14	01d
		ipP		16	05
		i		17	07
		eS		23	09
		e		40	17
		iP'P'			23
		eSKPP'		43	07
	CL	iP!		13	55d
		ipP		16	07
		i		17	10
		iS		23	18
		i		32	27
		eP'P'		40	19
		i			30
		iSKPP'		43	01
	T	iPNEZ		13	56d
		epP		16	08
		iNEZ			13
		iEZ		17	10
		iSNEZ		23	13
		eNZ			48
		i		24	11
	Magnitude 6¼				
	USCGS: 21 S 179 W;				
	19:02:40, 650 km				
21	W	iP	20	51	21
	CL	iP			27
	T	e			19
21	MW	eP	21	39	37
	R	eP			40
	Pr	eP			44
	W	iP			40
	Is	iP			44
	CL	iP			46
	T	eP			48
	Southwest Pacific				

Date	Sta.	Phase	h	m	s
October					
21	P	eP"	23	28	22
		ePP		29	13
	PX	eN		30	33
	P	e(SKP)		31	05
	PX	eSKSE		35	09
		iPSE		38	47
		eSSN		45.2	
		eLN		56.2	
			A		T
		MZ	7		20
	MW	e(P)	23	24	41
	R	eP"		28	26
		e			51
		i		29	26
		eSKSE		35	14
		ePSE		38	53
		ePKKP		39	13
	Pr	eP"		28	28
		e		29	09
		i			33
	W	e(P)		24	38
		i			57
		iP"		28	23
		iPP		29	06
		iPKKP		39	21
	Is	e		29	21
		ePKKP		39	21
	CL	e(P)		24	41
		iP"		28	24
		iPP		29	19
		iSKS		35	15
	T	eP"		28	23
		iPPEZ		29	16
		iSKSN		35	23
		ePSEZ		38	42
	Magnitude 6¼ - 6½				
	USCGS: ½ S 123½ E;				
	23:09:38				
22	MW	iP	01	24	46
	R	eP			49
	W	iP			33
		i			43
	Is	iP			34
	CL	iP			35
		i			42
	USCGS: 67 N 136 W;				
	01:18:00				
22	W	iP	02	04	56
	CL	iP		05	03
22	P	iP	03	08	24
	R	eP			28
	Pr	iP			27
	W	iP			27c
	Is	iP			25
	CL	iP			32
	T	eP			33
	Southwest Pacific				

Date	Sta.	Phase	h	m	s
October					
22	P	eP	04	25	01
	W	iP			02
	Is	iP			00
	CL	iP			07
22	Pr	eP	07	25	33
	W	iP			33
	Is	iP			34
	CL	iP			39d
22	W	iP	07	53	21c
	Is	iP			22
	CL	iP			26
22	MW	eP	09	28	18
	W	iP			08
		i			56
	CL	iP			13
	T	eP			06
22	R	eP	10	20	18
	W	iP			06
		i			17
	Is	iP			09
	CL	iP			12
		i			24
	USCGS: 46 N 156 E;				
	10:09:20				
22	W	iP	10	39	05
	CL	iP			11
22	W	iP	12	52	25
22	W	iP	14	59	12
	CL	iP			17
22	W	iP	16	38	06
	CL	iP			12
22	W	iP	18	48	47
	CL	iP			52
22	W	iP	20	45	05
	CL	iP			10
22	MW	eP	22	20	26
	R	eP			30
		ePP		23	30
	W	eP		20	27
		iPP		23	59
	CL	eP		20	32
		i		24	05
	T	eP		20	34
	USCGS: 6 S 149 E;				
	22:06:56				
22	MW	epP	22	45	25
	R	eP		44	15
		epP		45	26
	Pr	iP		44	16
	W	iP			15c
		ipP		45	27
	CL	iP		44	22c
		ipP		45	33
	T	iP		44	22
		ipP		45	34
	USCGS: 15 S 176 W;				
	22:33:10, 300 km				
22	W	iP	23	05	21
	CL	eP			27
	Southwest Pacific				

Date	Sta.	Phase	h	m	s
October					
23	W	iP	00	24	18
	CL	iP			23
23	W	iP	01	47	01
	CL	iP			06
	T	eP		46	57
23	W	iP	03	14	20
	CL	eP			24
	T	eP			14
23	R	i	03	37	45
	W	iP			19
		i			28
	Is	iP			21
		i			30
	CL	eP			22
		i			30
	T	e			20
23	W	iP	06	06	56
		ipP		07	08
	CL	eP		06	59
		ipP		07	12
		isP			20
	BCIS: off Kamchatka;				
	05:56.6				
23	W	iP	08	04	49
	CL	iP			54
23	W	iP	08	19	07
	CL	iP			13
23	W	iP	09	30	35
	CL	iP			41
23	MW	eP	17	17	01
	R	iP			03
	Pr	iP			05
	W	iP		16	59
		i		17	13
	Is	iP			00
		e			14
	T	iP			05
		i			17
	USCGS: 11½ S 163 E;				
	17:04:09				
23	W	iP	18	09	15
	CL	iP			20
23	W	iP	18	56	07
	CL	iP			12
23	W	iP	20	17	40
	CL	eP			45
23	W	iP	21	10	35
23	W	eP	22	04	56
	CL	eP		05	01
23	W	eP	22	55	20
23	W	iP	23	48	13
	CL	eP			18
24	P	iP	00	33	14
	R	eP			14
		e		34	28
	W	iP		33	10c
		e		34	24
	Is	eP		33	12
	CL	iP			16c
		i		34	27

(continued)

Date	Sta.	Phase	h	m	s
October (continued)					
24	T	e	00	33	19
		e		34	26
	USCGS: 5 S 150½ E;				
	00:20:15, 250 km				
24	W	iP	01	19	12
	CL	iP			18
	T	eP			09
24	W	e(P)	03	05	16
	CL	i(P)			23
	T	e(P)			14
24	P	eP	03	43	18
	R	e(P)			02
		e			35
	W	e		44	04
	Is	eP		43	14
		e			48
	CL	e			45
	T	e			52
24	Pr	eP	03	55	16
	CL	eP			35
24	P	eP	04	11	56.3
		i!NZ			56.9
	MW	iP			54.1d
		i		12	04.6
		iS			54.8
	SB	iP		11	43.3
		i(S)		12	24.3
	W	iP!		11	44.9
	Is	iPNZ			40c
	CL	iP!			46.2c
	FT	iP			44.3
	H	iP			41.1
		iSE		12	36.1
	T	iPEZ		11	34.4c
		i!			35.1
		i(S)N		12	11.7
	Magnitude 5.4				
	USCGS: 37.9 N 121.9 W;				
	04:10:40.5				
	Moderate damage (VII) at				
	Walnut Creek, VI at				
	San Francisco				
24	W	iP	04	58	01
	Is	eP			02
	CL	iP			06
	T	eP		57	57
24	MW	iP	05	16	21d
		i			38
	R	iP			22d
	Pr	iP			22d
		i			31
	W	iP!			23d
	Is	iP			24d
	CL	iP!			28d
	T	iP			29
	BCIS: 30 S 179 W;				
	05:03.5				
24	W	iP	07	04	37
	CL	iP			42
24	R	e	12	13	25
		e			44

Date	Sta.	Phase	h	m	s
October					
24	W	iP	15	51	43
	CL	iP			46
24	W	iP	17	00	43
	CL	iP			47
24	W	iP	17	54	31
	CL	eP			38
24	W	eP	18	28	37
	CL	eP			43
24	W	eP	19	54	04
	CL	eP			10
24	R	eP	20	38	47
	W	iP			52
24	W	iP	21	45	55
	CL	iP		46	01
	T	eP		45	52
24	W	eP	22	23	32
24	W	i	23	29	46
25	W	iP	00	46	52
	CL	iP			57
25	W	eP	01	50	26
25	W	iP	03	24	45
	Is	eP			45
	CL	iP			50
25	W	eP	04	25	09
	CL	iP			14
	T	eP			06
25	W	iP	06	27	21
	Is	eP			22
	CL	eP			25
	T	eP			19
25	MW	eP	06	32	49
	W	e(P)			50
		i		33	02
	Is	eP		32	50
	CL	eP			53
	T	eP			58
25	MW	eP	07	20	26
	R	eP			28
	Pr	eP			31
	W	iP			25
	Is	eP			27
	CL	eP			28
25	W	iP	08	43	53
	CL	iP			56
	T	iP			49
25	MW	eP	16	01	30
	R	eP			34
		ipP		02	07
	Pr	iP		01	33
		ipP		02	10
	W	iP		01	29
		ipP		02	06
	Is	eP		01	30
		epP		02	08
	CL	iP		01	35
		ipP		02	11
	Southwest Pacific				
25	W	iP	16	16	38
	CL	eP			43

Date	Sta.	Phase	h	m	s
October					
25	P	iPNEZ	16	40	06c
	PX	eN		43	56
		eNE		44	52
		e(L)N			47.8
			A		T
		PZ	¼		2
		PH	½		2
		MH	22		16
	R	iP	16	40	00c
	Pr	iP		39	54c
	Bt	iPEZ			50c
	W	iP		40	18c
	Is	iP			16c
	CL	iP			13c
	T	iPNEZ			24c
	Magnitude 6 - 6½				
	USCGS: 16½ N 95½ W;				
	16:34:23				
25	P	iP	17	50	25.5
		iNEZ			26.5
		iSNEZ			58
	R	iP			11.5
		iNZ			15.5
		iSNE			39
	Pr	iP!			02.7c
	BB	eP			09.9
		i			15.0
		iS			36
	Bt	iPNZ!		49	59.8
		iSN		50	12.4
	W	eP			44.3
		iEZ			53.5
	Magnitude 4.3				
	33°00' N 115°32' W;				
	17:49:42. USCGS reports V				
	at Calipatria, El Centro,				
	Imperial; IV at Brawley, etc.				
25	MW	eP	20	33	30
	W	iP			28
	Is	eP			30
	CL	iP			33
25	MW	eP	20	58	24
	W	iP			12
		i			19
	CL	iP			20
26	W	iP	00	14	48
	CL	iP			53
26	W	iP	02	44	54
		i		45	01
	Is	e			08
	CL	iP		44	59
	T	eP			51
26	W	iP	05	09	22
	Is	eP			24
	CL	iP			27
	T	eP			19
26	W	eP	11	26	08
		i		28	35
	Is	eP		26	08
	CL	iP			13
		i		28	38
	T	eP		26	09
		e		28	35
	USCGS: 24½ N 122½ E;				
	11:12:39				

Date	Sta.	Phase	h	m	s
October					
26	W	iP	13	10	50
	CL	eP			54
26	W	eP	20	33	10
27	P	iPNEZ	00	12	35
		ipP			57
		eScP		17	48
		eSNE		19	19
	R	iP		12	38c
		ipP		13	01
		ePcP		14	07
		eScP		17	50
	Pr	iP		12	45c
		ipP		13	07
		esP			19
		iScP		17	53
		iS		19	42
	Bt	iP		12	50c
		ipP		13	12
		isP			17
		iScP		17	56c
	W	iP!		12	23c
		ipP			45
		isP			55
		i		13	01
		iScP!		17	42
		iS		18	58
	Is	iP		12	25c
		ipP			47
		iScP		17	43
	CL	iP		12	30c
		ipP			51
		iPcP		14	04
		i			30
		iScP		17	56c
		iS		19	11
	T	ePE		12	21
		eSNE		18	55
	USCGS: 52 N 179½ W;				
	00:04:10, 100 km				
27	P	iPNEZ	01	47	56
	R	iP			58c
	Pr	iP			59c
	Bt	iP			58c
	W	iP!			58c
		i		48	07
		epP		49	58
	Is	iP		47	59c
	CL	iP		48	04c
		epP		50	00
	USCGS: 17 S 179 W;				
	01:36:58, 600 km				
27	W	iP	02	16	16
	CL	iP			23
27	MW	eP	03	02	28
	W	eP			45
	CL	eP			56
	USCGS: 20 N 155½ W;				
	02:55:40				
27	MW	eP	03	44	37
	W	iP			27
	CL	eP			06
		i			33
	USCGS: 49 N 157½ E;				
	03:34:17				

Date	Sta.	Phase	h	m	s
October					
27	P	eP	11	19	08
		e			23
	R	iP			11
		e			24
		e			34
	Pr	iP			13
		e			25
		i			35
	Bt	eP			11
	W	iP			08c
		i			21
		i			30
	Is	iP			10c
		e			32
	CL	iP			13c
		i			26
		i			31
	USCGS: $10\frac{1}{2}$ S 166 E; 11:06:32				
27	P	iP	11	46	55
	R	eP			56
	Pr	iP			59
	W	iP			58
	Is	iP		47	00
	CL	iP			03
	Southwest Pacific				
27	P	eP	12	00	46
		e			56
	R	e		01	01
	W	iP		00	36
		i			48
	Is	eP			38
	CL	iP			41
		i			52
	USCGS: $52\frac{1}{2}$ N $159\frac{1}{2}$ E; 11:50:40				
27	R	e	18	00	10
	W	iP			15
28	W	iP	00	14	03
	Is	eP			00
	CL	iP			06
28	W	e	00	58	18
	Is	e			17
		e			30
	CL	e(P)			07
		i			11
		i			34
	BCIS: Atlantic Ridge				
28	Is	e	09	22	50
	USCGS: $58\frac{1}{2}$ N 138 W; 09:17:12				
28	Is	eP	01	34	54
	CL	eP			52
	BCIS: $39\frac{3}{4}$ N $29\frac{1}{2}$ W; 01:23:55				
28	MW	eP	12	12	15
	R	eP			16
	Pr	eP			16
	Is	eP			17
	CL	iP			21
	USCGS: 20 S 178 W; 12:01:06, 600 km				

Date	Sta.	Phase	h	m	s
October					
28	W	iP	22	04	50
28	W	eP	23	33	37
	CL	e			45
29	MW	iP	03	24	32
	Pr	eP			42
		e			51
	W	iP			20c
	Is	eP			23
		e			27
	CL	iP			27c
	USCGS: off east coast of Kamchatka, 03:14:40				
29	MW	eP	05	59	28
	W	iP			16
	CL	iP			20
29	W	iP	17	51	59d
	Is	eP		52	02
29	W	iP	20	10	36
	Is	eP			39
	CL	iP			42
29	P	iPEZ	21	05	58c
		epP		06	09
	R	eP			02
		epP			14
	Pr	iP			09c
		epP			21
	Bt	eP			13
	W	iP!		05	49c
		ipP		06	00
	Is	iP		05	50c
	CL	iP			54c
		ipP		06	06
	USCGS: $54\frac{1}{2}$ N $161\frac{1}{2}$ E; 20:56:07				
29	MW	eP	22	19	15
		e			25
	R	eP			08
	Pr	eP			08
	Bt	eP		18	54d
	W	iP		19	29d
	Is	eP			28
	CL	eP			23
		i			28
	Tacubaya: 16°04' N 99°33' W; 22:15:12				
29	W	iP	23	48	03
	CL	iP			11
30	MW	e	01	22	56
	R	e			51
	Pr	eP			37
	Bt	eP			38
		e			51
	W	e		23	04
	Is	e			02
		e			08
	CL	i(P)		22	57
		i		23	04
	Tacubaya: 16°04' N 90°33' W; 01:17:45				
30	W	eP	01	30	08

Date	Sta.	Phase	h	m	s
October					
30	P	iPNEZ	02	14	22d
		e			29
	R	iP			24d
	Pr	iP			24d
	Bt	iP			23d
	W	iP!			25d
		i			29
	Is	iP			27d
	CL	iP			29d
		i		15	06
		i			51
	USCGS: $29\frac{1}{2}$ S $178\frac{1}{2}$ W; 02:01:39				
30	P	e(P)	16	05	55
	W	eP		06	07
30	W	iP	18	00	31
	CL	iP			37
30	W	iP	18	37	58
30	P	iPNEZ	19	31	53d
		i			58
		e		32	13
		epP		34	09
	R	iP		31	55d
		i		32	00
		epP		34	03
	Pr	iP		31	57d
		i		32	17
		epP		34	09
	Bt	iP		31	55d
	W	iP!			55d
		i		32	05
		i			37
		ipP		34	07
	CL	iP!		32	00
		i			07
		i			20
		ipP		34	13
		i			58
	USCGS: 19 S 180; 19:20:50, 650 km				
30	P	eP	21	16	46
		epP		17	24
	W	iP		16	35
		ipP		17	12
	CL	iP		16	41
		ipP		17:17	
	Depth 200 km ±. Kamchatka?				
31	W	iP	00	43	51
		i			56
	CL	iP			57
31	P	eP	01	14	03
		e			16
		iNEZ			21
		i			53
	PX	eSE		20	33
		eLN		24.0	
		eREZ		26.1	
			A		T
		PZ	½		3
		MH	5		20
	(continued)				

Date	Sta.	Phase	h	m	s
October (continued)					
31	R	eP	01	14	07
		i			29
	Pr	iP			17
		i			34
		i		15	59
	Bt	eP		14	20
	W	iP		13	52c
		i			59
		iScP		19	29
	CL	iP		13	59
		i		14	04
		i			12
		i		19	33
		iScP			54
	Magnitude $5\frac{3}{4}$ - 6				
	USCGS: 52 N $175\frac{1}{2}$ W; 01:05:53				
31	Pr	eP	04	44	26
	W	iP			11
	CL	iP			18
31	W	iP	07	09	57
	CL	iP		10	03
31	P	eP	08	36	25
		i			35
		i			57
	R	eP			27
	Pr	iP			28
		i		37	01
	Bt	eP		36	26
	W	iP			27
		e			46
	CL	iP			24d
	BCIS: 25 S 176 W; 08:24.4				
November					
1	MW	eP	06	41	27
		e			38
		e		42	13
	R	eP		41	23
	CL	eP			28
		i		42	16
	BCIS: Peru; 06:30.7				
1	P	eP	10	25	22
	R	eP			24
	CL	iP			20
	USCGS: 5 S 153 E; 10:12:09				
1	MW	eP	15	27	13
	R	eP			13
		e			24
	Pr	eP			15
		i			26
	CL	iP			17c
		i			28
	T	eP			18
	BCIS: $19\frac{1}{2}$ S 168 E; 15:14:20				
1	Pr	iP	23	52	05
		e			40
	Tacubaya: 16°24' N 98°39' W; 23:47:39				

Date	Sta.	Phase	h	m	s
November					
1	P	e	23	58	21
	CMO: 40½ N 144¼ E; 23:46:14, 40 km				
2	P	ePNZ	05	04	53
	R	eP			54
	Pr	iP			56
	Bt	eP			52
	USCGS: Kermadec Islands 04:52:11				
2	P	e(P)NZ	06	16	44
		iSE		18	07
	W	ePE		16	27
		eS		17	17
	H	eP		16	20
		e(S)		17	05
	T	ePNE		15	59
		i(S)E		16	33
	Magnitude 4.6 Nevada				
2	P	eP	08	55	35
	R	eP			35
2	P	iP!NEZ	19	40	52.7c
		iSE		41	27.1
	W	iP		40	35.5
		iS			55.7
	FT	iP			40.1c
	SB	iPNEZ			38.4d
		iSN		41	07.4
	H	iP		40	48.8
		iSNE		41	18.3
	T	iP		40	48.0
		i(S)		41	19.5
	Magnitude 4½ Intensity VI from Paso Robles to King City. USCGS: 36 N 121 W; 19:40:06				
3	P	iPNEZ	12	51	23d
		ipPEZ			51
		isPNZ		52	04
	Pr	iP		51	14d
		ipP			45
		isP			54
	Bt	iP			10d
		ipP			38
		isP			51
	Is	iP			29d
		ipP			57
		isP		52	10
	CL	iP		51	27d
		ipP			42
		isP			56
		i		52	08
	USCGS: Bolivia-Chile; 12:39:56, 100 km				
4	MW	eP	02	07	38
		epP			51
	R	eP			40
4	MW	eP	02	28	28
		epP			46
	Bt	eP			39
	Is	eP			18

Date	Sta.	Phase	h	m	s
November					
4	P	eP	13	23	53
4	P	iPNEZ	22	56	10d
		ipP			39
		isP			51
		ePP		59	16
	PX	eSE	23	06	15
		iN			22
		iNE			56
		eR			22.8
			A		T
		PZ	1½		2
		PH	1¼		2
		PPZ	¾		4
		PPH	¼		4
	R	iPEZ	22	56	07d
		ipP			37
		e	23	03	34
		eS		06	14
	Pr	eP	22	56	05
	Bt	iPNEZ		55	59c
		ipP		56	26
		isP			39
		iPP		58	57
		i		59	38
		iSNE	23	05	57
		e		06	30
	Is	iP	22	56	16d
	T	iPNE			23
		iE			46
		eSNE	23	06	42
		i		07	09
	Magnitude 6¾ USCGS: 33½ S 69½ W; 22:43:50, 100 km				
5	P	iP	04	06	14
		epP			45
	MW	iP			15
		epP			44
		e		09	39
	R	iP		06	16d
		epP			46
		e		09	44
		e		10	12
	Bt	iP		06	15
		e			58
	Is	iP			16
		ipP			47
		e		09	04
	T	ePNE		06	21
	USCGS: 19½ S 169 E; 03:53:38, 150 km				
5	P	eP	07	22	24
		e			34
	PX	eLNE			24.8
	R	eP		22	17
		e		23	42
	Pr	iP		22	06
		e		25	00
		i			45
	Bt	eP		21	56
		e		22	04

(continued)

Date	Sta.	Phase	h	m	s
November (continued)					
5	Is	iP	07	22	42
		i			52
		i		23	18
	T	iPNE		22	58
		eN			26.8
	USCGS: 24½ N 109 W; 07:19:23				
5	P	eP	08	12	58
		e		13	07
	PX	eLN			15.9
	R	eP		12	53
		e		16	15
		e		17	54
	Pr	eP		12	40
		i		13	59
		e		15	59
	Bt	iP		12	33
	Is	eP		13	13
		i			18
		e		14	46
	T	ePNE		13	33
		eLN		19	19
	USCGS: 24½ N 109 W; 08:09:51				
5	Is	eP	08	37	13
		e			18
		e			44
5	P	eP	08	51	42
	R	iP			38c
	Pr	iP			34
	Bt	iP			30
	Is	iP			50c
	USCGS: Southern Bolivia; 08:40:17				
5	P	eP	08	54	39
		e			50
	R	eP			38
	Pr	eP			34
	Bt	eP			27
	Is	eP			50
5	Pr	eP	15	04	26
	Is	eP			26
		e		06	01
	Apia: 17 S 179 W; 14:53.2, 200 km				
6	P	e	06	15	27
	R	i			23
	Pr	i			00
	Bt	e			13
	Is	i			18
6	MW	eP	22	19	59
		epP		20	18
	Pr	eP		19	50
		e		20	01
	Is	eP		19	52
		i		20	21
	USCGS: 25½ N 177½ W; 22:07:33, 100 km				

Date	Sta.	Phase	h	m	s
November					
7	P	iPNEZ	07	44	56c
	R	eP			59c
	Pr	iP			59c
		e(pP)		47	06
		e(sP)		48	05
	Bt	eP		44	57
	Is	iP			59c
		e(pP)		47	06
	T	eE		45	04
	USCGS: 17 S 179½ E; 07:33:52, 600 km				
7	MW	eP	08	14	18
	Is	eP			07
7	Pr	eP	13	57	13
		e			29
	Is	eP			02
		e			30
8	Is	eP	01	49	43
8	MW	eP	15	51	10
	Is	eP			00
9	MW	eP	15	46	36
		e			40
9	Is	eP'	22	18	30
		i		19	24
	Madagascar BCIS: 17.2 S 48.6 E; 21:58:51				
10	MW	eP	01	02	27
	R	eP			24
	Is	iP			34
10	P	eP	01	37	55
		e		38	14
	R	eP		37	55
	Is	eP			45
	USCGS: 5 S 152 E; 01:24:20				
10	P	iPNEZ	01	55	25d
		iPP		58	08
	PX	iSNE	02	04	43
		e(SP)NE			05.5
		e(SS)E			09.2
		iGNE			13.9
		e			15.0
		iR			16.8
		eSKPP'		26	43
			A		T
		PZ	7		3
		PH	3		3
		PPZ	2		5
		SH	7		10
		MH	20		18
		MZ	12		17
	R	iPNEZ	01	55	27
		iEZ			29
		i			39
		i			46
		i		56	36
		iPP		58	13
		i			34
		iSN	02	04	49
		eGN			14.0
		eSKPP'		26	42

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
November	(continued)				
10	Pr	eP	01	55	28
		i			31
	Bt	iP			28
		iSN	02	04	49
	Is	eP	01	55	27
		i			29
		i			45
		i		56	37
		e(S)	02	04	32
	D	iP	01	55	25
		i			27
		i			42
		i		56	26
	T	iPNE!		55	36
		iSNE	02	05	01
	Depth 80km? Magnitude 6¾±				
	USCGS: 15S 174W;				
	01:44:04 100km				
10	P	iPNEZ	05	23	00d
	R	iP			02d
	Pr	iP			01d
	Bt	eP			00
	Is	iP			04d
	USCGS: 28½S 178½W;				
	05:10:20				
	Apia: 30S 179W:				
	05:10:55 300km				
10	P	ePNZ	05	44	10
		e		45	41
	R	iP		44	08
		e		45	35
	Pr	i			29
	Is	iP		44	11
		e		45	45
	BCIS: "Insufficient data".				
	European and North American				
	stations mostly report times				
	05:44--5:45				
10	P	iPNZ	09	03	47d
		i			59
	R	iP			43d
	Pr	iP			39d
		epP		04	35
	Bt	iP		03	36d
	Is	iP			53d
		epP		04	50
	D	iP		03	46d
		epP		04	43
	USCGS: 24S 67W;				
	08:52:20 200km				
11	MW	eP	10	49	20
		e			29
	R	eP			23
	Pr	iP			25
		i			31
	Is	eP			18
		i			32

(continued)

Date	Sta.	Phase	h	m	s
November	(continued)				
11	USCGS: Tonga Is region,				
	10:37:03				
12	P	eP	10	20	55
		epP		21	17
		i			23
		i			41
	PX	eREZ			49.0
	R	eP		20	56
		ipP		21	21
		i			26
		ePP		25	11
	Pr	eP		21	01
		epP			28
	Bt	eP			23
		i			28
		ipP			43
	T	eP		20	53
		epP		21	20
	USCGS: 5S 152½E;				
	10:07:47, 60km				
12	P	iPNEZ	12	31	08c
	R	iP			09c
		i			13
	Pr	iP			10
	Bt	iP			09c
	Is	iP			10c
	T	iP			15c
	USCGS: 22½S 179E;				
	12:19:44, 600km				
12	MW	e	13	56	08
		e			36
		e		57	17
		e			26
	R	e		56	11
		e			35
		e			51
	BCIS: 5S 154E;				
	13:43:01				
12	R	e	15	58	30
	T	e			21
	USCGS: 17½S 167½E,				
	15:45:34				
13	PX	eL		23	18.1
	R	eP	22	55	27
		e			45
	Is	iP			29
	BCIS: 15¾S 177W;				
	22:43:40				
13	R	iP	23	19	58
		e		20	34
	Bt	iP		19	55
	Is	iP		20	00c
		e			38
	USCGS: 33½S 179½W				
	23:07:08, 100km				
14	P	iPNEZ	01	28	25d
		i			29

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
November	(continued)				
14		ipPEZ	01	28	56
	R	iP			28d
		ipP			59
	Bt	iP			32d
		ipP		29	03
	Is	iP		28	22d
		ipP			52
	T	iP			20d
		ipP			51
	USCGS: 17½N 146E,				
	01:15:56, 100 km				
14	P	iPNEZ	03	21	30c
		ipPNEZ		22	21c
	R	iP		21	32c
		i			40
		ipP		22	23c
	Bt	iP		21	32c
		ipP		22	22c
	Is	iP		21	21c
		ipP		22	22c
	T	iP		21	33c
		ipP		22	24c
	USCGS: 14S 167E,				
	03:09:10, 200 km				
14	MW	eP	08	32	31
	Is	iP			34
	T	eP			37
	Apia: 22S 180, 08:21.2				
14	P	iPNEZ	13	35	35d
		iNZ			45
		ipPEZ		36	13
	R	iP		35	36d
		ipP		36	14d
		i			26
	Bt	iP		35	42d
		ipP		36	20d
	Is	iP		35	30d
		i			34
		ipP		36	08
	T	iP		35	29d
		ipP		36	09
	CMO: 16½N 146E,				
	13:23:01, 150 km				
15	P	eP	10	13	28
		iNEZ			38
		i			51
	PX	ePPNE		14	50
		eE		15	42
		iSE		18	54
		eLNE			21.0
		eR			21.9
				A	T
		PZ		1½	4
		MH		15	12
	R	eP	10	13	33
		i			42

(continued)

Date	Sta.	Phase	h	m	s
November	(continued)				
15	Bt	iP	10	13	46
		iSE		19	21
	Is	iP		13	17
		i			26
	T	iP			12
		i			17
		i		14	10
		e(S)		18	09
	Magnitude 6½±				
	USCGS: 55½N 155W,				
	10:06:49				
15	MW	iP	22	24	32
	R	iP			27
	USCGS: 43½N 87E,				
	22:10:53				
16	P	iP	06	23	35
	R	iP			37
	Is	eP			32
	T	e			34
	South Pacific?				
16	P	iP	08	11	20
	R	iP			26d
	Pr	e(P)			33
	Is	eP		10	59
		e		11	04
	T	eP		10	45
16	P	eP"	09	24	45
		e		25	20
	R	eP"		24	41
		e		25	15
	Pr	e			18
		e		26	00
	Is	iP"		24	46
		e		25	10
	T	eP"		24	49
		e		25	15
	BCIS: 57S 28W				
	09:05:53				
16	MW	iP	14	24	44
	R	eP			41
	Pr	eP			37
	Bt	iP			34
	Is	iP			51
	South America				
17	P	iP	07	05	13c
		i			24
		i			29
	PX	ePPNZ			08.2
		iSNE		14	48
		eSSNE			19.9
		eGNE			25.6
		i(R)			29.7
				A	T
		PZ		2	4
		PH		3¾	3
		PPZ		½	3

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
November	(continued)				
17			A		T
	PPH		$\frac{3}{4}$		4
	SH		5		12
	MH		20		30
	MH		10		20
	MZ		30		30
	MZ		7		20
	R	iPNEZ	07	05	09c
		iNEZ!			19
		iSNE		14	44
	Bt	iP		05	01c
		i			12
		i			18
		iSNE		14	29
	Is	iP		05	20c
		i!			31
	T	iP			25c
		i!			37
		iS		15	15
	Magnitude $6\frac{3}{4}$				
	USCGS: $26\frac{1}{2}$S 69W,				
	06:53:27, 60 km				
17	Is	eP	23	42	15
	USCGS: Kenai Peninsula,				
	Alaska, 23:35:43				
18	P	eP	03	36	59
		e		37	21
	R	eP		36	56
		e		37	13
	Pr	eP		36	51
		e		37	09
	Bt	eP		36	47
		e		37	09
	Is	eP			08
		e			28
	T	eP			13
		e			30
	USCGS: off Peru,				
	03:26:53				
18	P	iPEZ	07	16	38
		ipPNZ			56
	R	eP			40
		epP			58
	Pr	iP			40
		ipP		17	00
	Bt	eP		16	39
	Is	iP			41
		ipP		17	01
	T	eP		16	47
		epP		17	07
	USCGS: 15S 173W,				
	07:05:26				
18	MW	eP	07	34	04
		ipP			42
	R	e			36
	Pr	e			55

(continued)

Date	Sta.	Phase	h	m	s
November	(continued)				
18	Is	iP	07	34	11
		e			47
	T	eP			16
		e			50
	Peru?				
18	P	eP	11	44	19
	R	eP			12
	Pr	eP			11
	Is	iP			13
	T	eP			29
18	P	eP	17	27	58
	R	e			53
	Pr	e			50
	Is	eP		28	06
	T	eP			13
		e			21
	BCIS: 38S 103W,				
	17:16:23				
18	P	iP	22	08	01
	R	iP			02
	Pr	iP			03
	Bt	eP			00
	W	iP			04c
		i			14
	Is	iP			05c
		i			16
	T	eP			11
19	P	e(P)	05	50	18
		e			53
	PX	eLEZ	06	15.9	
	R	e	05	50	52
	Pr	e			54
	Bt	e			51
	W	i			53
	Is	e			55
	T	e		51	04
	BCIS: $14\frac{1}{2}$S $178\frac{1}{2}$W,				
	05:39:08				
19	W	iP	07	17	13
		i			20
	Is	eP			13
		e			19
19	P	iPNEZ	08	38	19c
		i			33
	R	iP			21c
		i			29
		ePP		41	48
	Pr	iP		38	22c
		i			30
	Bt	iP			21c
		i			28
	W	iP!			20c
		iPP		41	43
	Is	iP		38	21c
		i			29
		ePP		41	46

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
November	(continued)				
19	T	iP	08	38	25c
		i			32
	USCGS: $17\frac{1}{2}$S 168E,				
	08:25:32				
19	P	iPEZ	23	15	56
	MW	iP			56c
		i		16	08
		e			14
	R	iP		15	58c
		i		16	11
	Pr	iP			00
	Bt	iP		15	59
	W	iP			54c
		i		16	06
	Is	iP		15	56c
	T	eP			58
	USCGS: Solomon Is.				
	23:03:01				
20	W	iP	06	02	28
		i			36
	Is	e			30
	T	e			26
20	W	iP	15	21	33
		i			41
21	MW	e(P)	11	00	47
	Is	e(P)			44
21	P	iP	17	47	28
	R	iP			32
	Bt	iP			41
	Is	iP			20
	T	eP			15
	BCIS: Kamchatka, 17:37.4				
21	P	ePNZ	20	26	55.5
		iNZ		27	09.5
		i(S)			54
	R	iP		26	57.4
		i		27	15.2
		iSEZ		28	27.0
	Is	iP		26	33.3
		iSN		27	32.5
	Kg	iP		26	42.4
	FT	eP			50
		iS		27	57
	T	iPNZ		26	11.7d
		iSE			47.7
	Magnitude 5.5				
	USCGS: 39.4N 118W,				
	20:25:34.5				
21	P	iP!NEZ	20	55	51.1d
		iSE		56	09.0
	R	eP		55	56.7
		iP!NEZ			57.8
		eS		56	20.9
	D	iP!		55	52.9d
	Is	iP!NEZ			33.3
		iS			37.7

(continued)

Date	Sta.	Phase	h	m	s
November	(continued)				
21	FT	iP!	20	55	37.4
		iS!			43.2
	Kg	iP			43.7
	T	iPNEZ			57.2c
		iSNE		56	20.2
	Magnitude 4.3				
	Pasadena 35°24' N118°44'W,				
	20:55:27.4				
	Felt in Kern County;Vat				
	Arvin and Tehachapi, IV				
	at Bakersfield				
21	P	iP	21	17	17
	R	iP			19
	Pr	iP			19
	Bt	iP			17
	Is	iP			18
	USCGS: 38S 178E,				
	21:04:00				
21	P	iP	21	20	59
	R	iP		21	02
	W	iP		20	55d
22	R	eP	00	21	35
	W	iP			32
22	P	iPNZ	03	34	03d
	PX	ePP		36	32
		eSNE		42	20
		iSN			30
		eSSNE		46.1	
		iGE		48.3	
			A		T
		PZ	$3\frac{1}{2}$		5
		PH	1		3
		SH	20		20
		MH	20		9
		MH	20		16
	R	iP	03	34	01
		iSN		42	08
		iSE			28
	Pr	iP		34	01
	Bt	iPNZ		33	53d
		iSEZ		41	54
		iN		42	13
	W	iP		34	12d
	Is	eP			13
		i			15
	T	iPNEZ			21d
	Magnitude $6\frac{3}{4}$				
	USCGS: $24\frac{1}{2}$S 123W,				
	03:24:00 Unusual epicenter				
22	R	i	07	36	23
	Pr	iP			09
		epP			19
	W	iP		35	46
		ipP			57
	Is	e(P)			59
	T	e(P)			55

Date	Sta.	Phase	h	m	s
November	(continued)				
22	P	iP	17	18	42
	R	iP			45
	W	iP			39c
	Is	eP			41
	USCGS: New Britain 17:05:22				
22	W	iP	17	42	53
	Is	eP			39
23	MW	e	00	13	47
	R	eP			36
	Is	eP			48
		e			53
	USCGS: Southern Colombia, 00:04:40				
23	MW	eP	02	44	01
	R	eP		43	57
	W	i		44	23
	Is	eP			12
	to Southeast? (Not Asia)				
23	P	iPNEZ	03	21	00
		eNEZ			09
	PX	eLNEZ			33.9
	R	i		21	05
	Pr	i		20	50
	W	iP		21	13
	Is	iP			10
		i			19
		e			47
	T	eP			16
	USCGS: 14N 90W, 03:14:36, 150 km				
23	P	iPNEZ	06	39	43c
		ipP!		40	00
		esPNEZ			08
		iPcP			19
	Px	ePP			42.1
		iSNEZ!		48	05
		isS			31
		iSSE			52.1
		iGNE			55.0
		iR			58.0
	P	iP'P'	07	08	58
			A		T
		PZ	3		3
		PH	1		3
		pPZ	14		7
		PPZ	2½		7
		PPH	2½		6
		SZ	15		13
		SH	20		14
		P'P'Z	0.3		2
		MZ	100		28
		MH	100		30
		MH	25		26
	R	iPNEZ	06	39	43c
		i			52

(continued)

Date	Sta.	Phase	h	m	s
November	(continued)				
23	R	ipP!	06	40	02
		iSEZ!		48	12
		iE			46
		iSSNE		52	23
		eP'P'	07	08	37
		e		09	00
	Pr	iP	06	39	52c
		i			59
		i		40	13
		eP'P'	07	08	53
	Bt	iPNEZ	06	39	55c
		iNEZ		40	13
		i			16
		iSNEZ		48	28
		iP'P'	07	08	51
	W	iP	06	39	32c
		iP'P'	07	08	51
		i		09	12
	Is	iP	06	39	34c
		i			41
		i			48
		i			55
		eP'P'	07	08	47
		i		09	12
	T	iPNEZ	06	39	29c
		i			35
		i			44
		i			53
		eE		42	49
		iSEZ		47	43
		eP'P'	07	08	50
		e		09	11
	Magnitude 7				
	USCGS: 50½N 157E, 06:29:29, 60 km				
23	Pr	e	17	34	14
	W	e			47
24	MW	iP	04	43	40
	Pr	eP			42
	Is	iP			43
24	Pr	e	05	07	25
		e			31
	W	i		08	40
		i		09	33
	USCGS: 19N 120½E, 04:51:20				
24	P	eP	08	49	21
	Pr	eP			24
	Is	iP			25
24	P	iPEZ	11	20	49c
		ipP		21	03
	R	iP		20	53
		ipP		21	07
	Pr	iP		20	59
		ipP		21	13
	Bt	iP			02
		ipP			16

(continued)

Date	Sta.	Phase	h	m	s
November	(continued)				
24	W	iP	11	20	39c
		ipP!			54
	Is	iP			41c
		ipP			56
	T	iP			36c
		ipP			51
	BCIS: 51N 157E, 11:10:30				
24	Pr	eP	11	35	10
	Bt	e			19
	Is	eP			19
24	MW	eP	17	24	44
	W	iP			31c
	Is	eP			34
	T	iP			30
25	P	eP	08	44	49
		e		45	35
	R	eP		44	51
	Pr	eP			56
	Bt	eP		45	00
	W	iP		44	39c
	Is	iP			42
	T	eP			38
	CMO: 42.2N 143.1E, 08:33:21, 60 km				
25	MW	e	09	57	18
	Pr	e			32
	W	i			44
	Is	e			14
25	P	eP	14	31	24
	R	eP			27
	Pr	eP			34
	W	iP			07c
	Is	eP			11
	T	eP			03
	USCGS: Alaska Peninsula, 14:24:26				
25	P	eP	16	31	42
		iS		32	52
	W	iP		31	03
		iSE		32	02
	Is	e(P)		31	04
		iS		32	02
	T	eP		30	43.5
		iSNEZ		31	20.3
	Magnitude 4.3 Nevada				
25	P	eP	16	56	17
	R	eP			21
	Pr	eP			29
	W	iP			03
	Is	eP			05
	USCGS: Alaska Peninsula 16:49:30				
25	MW	eP	17	48	03
	Pr	iP			16
	Bt	iP			21
	W	iP		47	52c
	Is	iP			55

Date	Sta.	Phase	h	m	s
November					
25	P	ePNZ	18	28	31
		eSNE		29	39
	W	eP		27	53
		eSE		28	50
	Is	eP		27	53
		iS		28	52
	T	iP		27	32c
		iSNE		28	09
	Magnitude 4.1 Nevada				
26	MW	eP	02	01	48
	R	eP			50
	Pr	eP			50
	W	iP			48
	Is	eP			49
26	MW	iP	13	37	24
	R	eP			26
	Pr	iP			28
		e			46
	W	iP			23
	Is	iP			24
		e			38
	USCGS: Santa Cruz Is., 13:24:47				
26	P	iP!NEZ	17	36	47.7d
		iSN		37	23.6
	R	iP!NZ		36	41.8d
		iSNE		37	17.2
	Pr	iP!		36	30.4d
	Bt	iP!NZ			19.1d
		iS!			34.3
	D	iP			46.2d
	BB	iP!			42.8d
	Magnitude 5.4				
	31.6N 116.1W, 17:36:00				
26	D	iP	20	55	20
	Bt	e		54	48
26	P	ePNZ	21	11	17
		e			25
	PX	eLZ			28.4
	R	eP		11	15
	Pr	eP			10
	Bt	iP			06
	Is	eP			28
	T	e			45
27	P	ePNZ	01	13	13
	R	eP			12
	Pr	eP			07
	Bt	eP			02
	Is	eP			25
27	P	eP	17	17	16
		e			26
	PX	eLZ			43.7
	R	eP		17	22
		e			27
	Pr	eP			19
		e			26

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
November (continued)					
27	Bt	eP	07	17	14
		e			22
	Is	iP			20
		i			28
	T	eP			26
	USCGS: 24½S 177½W, 07:05:07, 100 km				
27	P	iP	10	19	19
	Pr	iP			21
	Is	iP			22
	T	eP			39
27	P	iP	13	13	43
	R	iP			48
	Pr	iP			54
	Is	iP			31
		e			51
	USCGS: 57½N 156½W, 13:06:50				
27	P	iP	17	29	02
	R	iP			05
	Pr	eP			09
	Bt	iP			10d
	W	iP		28	57d
	Is	iP			59
	T	iP			59
	USCGS: 19N 145E, 17:17:24, 600 km				
27	P	ePNEZ	19	44	16
		ePP		48	08
	Pr	eP		44	24
		ePP		48	24
	Bt	eP		44	29
		ePP		48	25
	W	iP		44	08
		i			21
		ePP		47	45
	Is	iP		44	11
		ePP		47	57
	USCGS: 23N 124½E, 19:30:35				
27	W	eP	20	13	20
27	P	iP"NZ	21	46	39
	R	i(P")			52
	Bt	eP"			42
	W	iP"			37
	Is	eP"			38
	USCGS: 21:29:05, Banda Sea, 500 km				
27	W	iP	22	08	50
27	W	eP	22	27	21
28	W	eP	00	45	52
		e		46	03
	Is	eP		45	53
28	Pr	eP	01	19	57
	Is	eP			58
	Near Apia				

Date	Sta.	Phase	h	m	s
November					
28	P	eP	01	40	19
		e			30
	Pr	eP			28
	W	iP			09
		i			21
	Is	eP			09
	T	e			17
	USCGS: Near east coast of Kamchatka, 01:30:26				
28	MW	e	04	32	40
		e			44
		e			56
		e		33	04
	Pr	i(P)		32	56c
	Bt	i(P)		33	01c
	W	iP		32	33c
		i			45
	Is	iP			35
	T	eP			30
	USCGS: 04:24:43, Andreanof Islands				
28	P	iP	10	22	33
	Pr	eP			43
	W	iP			20
	Is	eP			23
	T	iP			19
28	P	eP	18	33	17
	PX	eL		55.9	
	R	eP		33	20
	Pr	eP			21
	Bt	eP			17
	W	iP			17
	Is	iP			21
	T	eP			26
	Apia gives: 15½S 176W, 18:21.6				
29	MW	eP	06	15	42
		e			53
	R	eP			39
	Pr	eP			39
	Bt	eP			41
	Is	eP			40
	USCGS: 37½N 34W, 06:04:52				
29	P	e	09	44	44
	R	e			48
	Pr	e			50
	Bt	e			50
	Is	e			42
	USCGS: 5S 153½E, 09:31:12				
29	Is	eP	16	35	37
		e(pP)		36	22
	USCGS: 18½S 175½W, 16:24:05, 200 km				
29	MW	iP	19	32	29
	Is	iP			18

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
November (continued)					
29	T	iP	19	32	13
	USCGS: Kamchatka, 19:22:33				
30	MW	eP	00	22	27
		e			54
	R	eP			29
	Pr	eP			29
	Bt	eP			28
	Is	eP			30
	T	eP			37
	USCGS: 21S 174½E, 00:09:51				
30	P	ePNEZ	06	38	28
	R	eP			32
	Pr	iP			32
	Bt	eP			29
	T	eP			37
	Apia: 21½S 175E, 06:26.0				
30	MW	iP	17	27	14
	R	eP			17
	Pr	iP			18
	T	eP			27
	USCGS: 11S 166E, 17:14:36				
December					
1	MW	e	04	44	07
1	P	eP	10	26	37
		iSE		27	47
	R	eP		26	26
	W	iP			00
		i			07
	Is	iPNZ			07
		iSNZ			58
	H	eP			01.1
		iS			51.2
	T	iP		25	42.8
		iSEZ		26	16.5
	Magnitude 4.4				
	USCGS: 39½N 118W, 10:25:00				
2	W	iP	04	58	29
	Is	iP			31
	T	eP			36
2	W	iP	14	38	17
	Is	iP			15
2	W	iP	16	31	13c
	T	eP			11
	BCIS: Kamchatka, 16:21.0				
3	W	eP	05	37	23
	Is	eP			21
3	W	iP	14	40	12
	Is	eP			12
	CMO: 33.8N 135.1E, 14:27:47				
4	MW	eP	01	56	47
	W	iP			50
	Is	eP			50
	BCIS: Tonga region, 01:44.8				

Date	Sta.	Phase	h	m	s
December					
4	P	eP	02	14	33
		i			54
	Pr	eP			35
		e			49
		e		15	01
	Bt	iP		14	33
	W	iP			37
		i			56
	Is	iP			37
		i			56
	T	eP			44
	USCGS: 35S 179½W, 02:01:28				
4	MW	eP	08	04	07
	W	eP			23
	Is	eP			14
	Mexico				
4	W	iP	13	29	56
		i		30	09
	Southwest Pacific				
5	MW	iP	14	38	18
		ipP			49
	Bt	iP			06
	Is	iP			24d
		ipP			55
	T	iP			30
		ipP		39	01
	USCGS: 23½S 67W, 14:26:46, 150 km				
5	W	eP	20	27	54
		i		28	08
	USCGS: 24½N 122½E, 20:14:18				
6	P	ePEZ	04	42	20
		iNEZ			26
		iNZ			56
	PX	iSN		51	35
		eN			50
		eLN	05	05.4	
			A		T
		PZ	1½		5
		PH	1		5
		SH	3		8
		MH	5		20
	Pr	eP	04	42	12
		i			23
		i			54
	Bt	iP			06
		iNEZ			14
		iSNZ		51	14
	W	eP		42	48
	Is	i			26
		eP			35
	T	eP			29
		iEZ			35
		iS		52	00
	Magnitude 6¾				
	USCGS: 20S 70W, 04:31:00				

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December					
6	MW	eP	06	13	02
	Bt	eP			02
	W	eP		12	54
	Is	iP			52
6	Pr	eP	11	34	49
	W	iP			48
	Is	e			56
6	W	iP	15	28	00
	T	eP		27	44
6	Pr	iP	15	38	38
	W	iP			33
	Is	eP			35
7	Is	iP	02	07	10
7	Is	eP	05	55	23
	USCGS: Central Yukon, 05:49:40				
7	D	iP	14	29	22
		e			49
	Pr	eP			16
	Bt	eP			12
	Is	iP			29
		e			57
7	P	iPNEZ	14	37	53c
	Pr	iP			55c
	Bt	eP			54
	Is	iP			56
	USCGS: 15S 173½W, 14:26:26				
7	P	eP	15	15	40
		ePP			19.1
	PX	iSE		25	47
		eLNE			36.9
	P	eSKSP'		45	26
			A		T
		PZ	2½		7
		PH	0.2		1
		SH	6		8
		MH	20		20
		MZ	25		20
	Pr	eP	15	15	45
		i		16	01
		iPP		19	05
	Bt	e		15	52
	Is	eP			33
		i		16	13
		e		18	37
	Magnitude 6¾-7				
	CMO: 26½N 143½E, 15:03:10				
7	Pr	eP	16	21	54
	Is	iP			10
		e			55
	USCGS: Tonga region, 16:09:45, 200 km				
7	W	eP	22	03	09
		i			21

Date	Sta.	Phase	h	m	s
December					
7	W	iP	23	06	38d
	USCGS: 26N 128½E, 22:53:27				
8	W	eP'	02	27	25
		e			33
		i		30	47
		e		31	03
	BCIS: 2S 97½E, 02:08:28				
8	MW	eP	09	39	19
	W	iP			07
8	P	iPNEZ	17	48	20d
		i			24
		epP		50	10
	Pr	iP		48	25d
		epP		50	00
	Bt	iP		48	26d
	W	iP			19d
		i			27
		i			43
		ipP		50	04
	Is	iP		48	19d
		ipP		50	12
	USCGS: 4S 152E, 17:36:00, 500 km				
8	Pr	iP	22	15	23
	W	iP			24
	Is	iP			24d
	USCGS: 45N 99½E, 21:58:03				
9	D	eP	00	34	13
	W	iP			24
	Is	eP			22
9	W	iP	07	34	21
9	P	ePNZ	09	10	45
	Pr	eP			46
	Bt	eP			42
	W	iP			47
		i		11	06
	Is	iP		10	48
		i		11	08
	T	eP		10	54
	USCGS: 31S 176½W, 08:58:06				
9	W	iP	10	53	07
9	W	eP	11	06	07
		e			16
9	W	iP	13	20	06
		e			24
9	W	iP	17	37	35
9	D	e(P)	19	48	40
	R	e(P)			34
	W	e(P)			47
9	MW	iP	21	29	06
	R	eP			08
	Bt	e(P)			15

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December (continued)					
9	W	iP	21	28	59c
	Is	eP			56
	T	eP			59
9	W	e	21	41	26
10	W	iP	07	03	59
10	MW	eP	14	09	22
	W	iP			14c
	Is	eP			15
10	W	iP	14	26	25
10	MW	eP	20	34	16
	R	e			18
	Pr	eP			25
	W	iP			04
	Is	eP			04
	CL	iP			07
	T	eP		33	58
	USCGS: 64½N 154E, 20:24:14				
11	P	iPEZ	03	39	50
	R	iP			52
	Pr	iP			52c
	W	iP			54c
		i		40	06
		i			15
	Is	iP		39	54c
		e		40	06
	CL	iP		39	58
	T	eP			59
	BCIS: 31¾S 177¾W, 03:27:07				
11	MW	iP	03	48	53
	R	iP			49
	Pr	i		49	28
	Bt	i		48	41
	W	iP		49	02d
		i			13
		i			21
	Is	iP			00d
		e			37
	CL	iP			17
	T	e			18
	BCIS: Chile, 03:37.5				
11	P	ePNZ	07	32	26
	Pr	eP			36
	W	iP			14
		i			22
	Is	eP			15
	CL	iP			18
	T	iP			10
	USCGS: Kamchatka, 07:22:30				
11	MW	e(P)	07	39	48
	Pr	e(P)			42
	W	i(P)			50
	Is	e(P)			51
11	MW	eP	08	44	55
	W	iP			47
		ipP		45	03

(continued)

Date	Sta.	Phase	h	m	s
December (continued)					
11	Is	eP	08	44	49
	CMO: 40.3N 142.7E, 08:33:15, 60 km				
11	W	iP	10	09	20
11	P	iPNEZ	11	24	44c
	R	iP			46c
	Pr	iP			47c
	Bt	iP			45c
	W	iP			46c
		i			50
		i			56
	Is	iP			48c
	CL	iP			56c
	T	eP			52
	USCGS: Kermadec region, 11:12:11				
11	MW	eP	12	35	30
		epP			38
	W	eP			32
		epP			40
	Is	eP			33
		epP			41
	USCGS: Fiji region, 12:23:49				
11	MW	iP	13	37	04
	W	iP			05
	Is	iP			06
	T	eP			12
11	W	iP	15	33	26
		e			36
	Is	eP			27
12	MW	eP	01	26	43
	W	iP			45
	Is	eP			46
12	P	iPNEZ	02	44	15
		i			24
		iEZ			35
		e			48
	R	iP			10c
		i			20
		i			24
		i			31
	Pr	eP			06
	Bt	iP			02c
		i			11
	W	iP			23c
		i			34
	Is	iP			21c
		i			30
		i			35
	T	eP			27
		e			37
	BCIS: 19½S 70W, 02:32:58				
12	P	iP"NZ	09	17	23
	MW	eP		13	22
		eP"		17	22
	R	eP"			23

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December	(continued)				
12	Pr	eP"	09	17	24
	Bt	e		18	31
	W	eP		13	10
		eP"		17	19
		e			46
	Is	eP"			20
	USCGS: 4½N 126E, 08:58:53, 60 km				
12	R	e(P)	09	28	42
	Pr	e(P)			28
		e			40
	W	e(P)			35
		i			50
	Is	e(P)			35
		e			49
	Possibly PKKP of preceding				
12	P	eP	09	40	52
		e		41	25
	R	eP		40	55
	Pr	eP			59
	Bt	iP		41	02
	W	iP		40	45(c)
	Is	iP			46c
	T	eP			44
	CMO: 36.6 N 140.9E, 09:29:01, 80 km				
12	R	eP	11	24	09
	Pr	eP			01
	W	e			44
	Is	e			39
	Tacubaya 16°46'N 97°49'W, 11:19:06				
12	P	eP	12	09	14
		e			35
	R	e			17
	Pr	eP			17
	W	iP			17
	Is	eP			18
		e			39
	T	eP			24
12	MW	e	15	10	49
		e		11	05
	W	iP		10	52
	Is	eP			55
12	D	eP	16	00	44
		e			58
		e		01	09
	R	eP		00	41
	Pr	eP			33
	Is	eP			55
12	Pr	iP	17	09	58
	W	iP			58
	Is	iP			59
12	P	iPNEZ	19	44	09d
		iEZ			17
	R	iP			15
		i			22

(continued)

Date	Sta.	Phase	h	m	s
December	(continued)				
12	Pr	eP	19	44	26
		e			32
		e			49
	Bt	iP			36
		i			47
		i			51
	W	iP		43	46
		i			48
		i			57
	Is	iP			51d
		i		44	02
		i			17
	T	eP		43	41
	USCGS: 43½N 127½W, 19:41:20				
13	P	eP	08	38	50
	R	eP			51
	Pr	iP			52
	Bt	eP			51
	Is	iP			54
	USCGS: Kermadec Islands, 08:26:00				
14	P	eP"NZ	11	10	44
		eEZ			49
		eNZ		11	03
		e			45
	PX	eLZ			55.9
	R	eP"		10	47
		e		11	18
	Pr	eP"		10	49
		e			54
		e		12	00
	Bt	eP"		10	50
		e			54
		e		12	10
	W	eP"		10	45
	Is	eP"			45
		e		11	41
		e			55
		e		12	44
	T	e		11	39
	USCGS: 22N 92½E, 10:51:44				
14	MW	e	11	21	12
	R	e			10
	Pr	e			19
	W	e			27
	Is	e			08
	PKKP of preceding?				
14	P	eP	12	31	01
		epP			11
	R	eP			07
		epP			15
	Pr	eP			12
		ipP			21
	Bt	eP			16

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December	(continued)				
14	Bt	epP	12	31	26
	W	iP		30	50d
		ipP			59
	Is	eP			51
		ipP		31	01
	T	e		30	57
	USCGS: 51½N 178E, 12:22:15				
14	P	eP	12	34	11
		epP			21
	R	eP			16
		epP			28
	Pr	eP			22
		epP			32
	Bt	e			36
	W	iP			01
		ipP			11
	Is	eP			02
		epP			12
	T	eP		33	58
	Aftershock of preceding				
14	D	eP	13	00	42
	Pr	eP			33
	W	eP			54
	Is	eP			54
14	MW	eP	13	08	25
	Pr	eP			09
	W	iP			27d
	Is	iP			28
	USCGS: near coast of Colombia, 12:52:08				
14	P	eP	13	17	12
		e			35
	R	eP			16
		e			41
	Pr	eP			19
		e			44
	Bt	e			43
	W	eP			07
		e			17
		e			31
	Is	eP			08
		e			30
	USCGS: Marianas region, 13:04:20				
14	P	eP	17	58	48
		e			58
	R	iP			47
	W	iP			47
	T	eP			42
14	W	eP	19	55	08
14	P	ePNZ	20	13	11
		e			17
	R	eP			03
		e			05
		e			14

(continued)

Date	Sta.	Phase	h	m	s
December	(continued)				
14	Pr	eP	20	13	00
		e			13
	Bt	eP		12	54
	W	eP		13	14
		i			26
	Is	eP			12
		i			27
		e			42
	T	eP			22
	USCGS: 30S 69W, 20:01:05				
14	MW	eP	20	53	18
	R	eP			10
	Pr	eP		52	55
	W	eP		53	34
	Is	eP			32
15	P	iPNEZ	01	28	38
		i			45
		i			59
	PX	eLNZ			45.5
	R	eP		28	36
	Pr	eP			33
		e			54
	Bt	iP			26
		i			33
		i			42
	W	iP			50c
		i		29	07
	Is	iP		28	48
		i		29	04
	T	eP		28	59
	BCIS: 21½S 113W, 01:19:02				
15	MW	e	01	34	08
	W	i		33	46
		i			57
	Is	e			48
		e			55
	T	e			45
		e			54
	Part of preceding shock?				
15	MW	e	09	14	33
	R	e			32
	Pr	e			29
	Bt	e			31
	W	e			39
	Is	e			38
15	MW	e(P)	10	12	29
	R	e(P)			27
	Pr	e(P)			26
	Bt	e(P)			28
	W	e(P)			22
	Is	e(P)			29
15	MW	e	10	41	41
	R	e			36
	Bt	e			33
	W	e			28

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December (continued)					
15	Is	e	10	41	32
	BCIS: 5S 31E, 10:18.6				
15	P	iP	14	11	01
	R	iP			04
	Pr	iP			07
	Bt	eP			10
	W	iP			53
	Is	iP			55
	T	eP			54
	USCGS: Bonin Is region, 13:58:32				
15	D	e	16	46	09
	Pr	e			02
	Bt	e		45	59
	W	e		46	13
	Is	e			04
		e			12
15	W	iP	17	14	33
	Is	eP			34
15	P	e(P)	19	15	58
		e		16	10
	PX	eLN		40.7	
	R	e(P)		16	10
	Pr	e(P)			14
	W	e		15	54
	Is	e		16	04
		e			24
	CL	e			10
	USCGS: 3½N 149E, 19:02:43				
16	Pr	iP	00	41	52
	W	iP			29
16	M	eP	05	35	20
		e			36
	R	eP			13
		e			33
	W	eP			33
		i			54
	T	eP		36	01
	Tacubaya 19°24'N 104°35'W, 05:30:43				
16	MW	eP	07	18	45
	Pr	eP			56
	Is	eP			36
	T	eP			32
	Pacific?				
17	MW	e	00	43	38
		e			49
	R	e			41
	Bt	e			55
	W	iP			22c
		ipP			34
	CL	iP			28
		i			30
		i			39
	USCGS: about 100 miles northwest of Sitka, 00:36:53				
December					
17	P	iP	05	18	06.4
		iSN			39.9
	R	iP		17	50.9c
		i!NEZ			56.0
		iSN		18	20.3
	Pr	iP		17	41.6c
		i!			43.5
	Bt	iP!			38.6
		iS			52.2
	Magnitude 4.3, felt at Brawley, 33°00'N 115°30'W, 05:17:19				
17	P	iPNEZ	06	08	08.8c
		iSNE			48.3
	R	iPNEZ			00.0c
		iSN			23.6
	Pr	iP!		07	50.2c
	Bt	iP!			47.1c
		iSN		08	00.6
	D	iP!			05.9c
	W	iP			28.0
	Is	iP			26.0
	T	eP			44.2
	Largest of a numerous swarm. Damage at Brawley, Magnitude 5.4 33°00'N 115°30'W, 06:07:29				
17	P	eP	06	52	44.8
		iSN		53	22.1
	R	iPNZ		52	34.0c
		iSN		53	02.1
	Pr	iP!		52	24.3c
	Bt	iP!			21.3
		iS			35.1
	D	iP			40.1c
	W	iP		53	04.9
	Is	iP			01.1
	Felt at Brawley, Magnitude 4.6 33°00'N 115°30'W, 06:52:03				
17	W	iP	14	23	07
		e			29
	Is	eP			10
		e			39
17	P	eP	18	17	39
	Pr	eP			43
	W	iP			42
		i			53
		i		18	03
	Is	eP		17	43
	CL	iP			47
17	P	iP	19	06	29.0
		iSN		07	00.5
	R	iPNZ		06	13.8d
		iSNE			42.9

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December (continued)					
17	Pr	iP!	19	06	04.2d
	Bt	iP!			01.0d
		iS!N			14.2
	W	eP			42.0
		iS		07	47.6
	Is	eP		06	39.3
		iS		07	39.5
	Magnitude 4.3 33°00'N 115°30'W, 19:05:43				
17	R	e	23	50	09
	W	iP			01
		ipP			28
	Is	eP			02
		epP			30
18	W	iP	03	28	16
18	MW	eP	04	13	30
	W	iP			49
		i			56
		i		14	04
	CL	iP		13	54
	CMO: 35.7N 142.2E, 04:02:01, 40 km				
18	MW	eP	05	45	09
	R	eP			14
	Pr	eP			20
	Bt	eP			20
	W	iP			01
		i			17
	CL	eP			06
	CMO: 36.2N 139.8E, 05:33:10, 50 km				
18	P	eP	06	40	09
	Pr	eP			10
		e			15
	Bt	eP			17
	W	iP			01
		i			17
	CL	iP			06
	T	e			01
	CMO: 33¾N 135.1E, 06:27:42, 40-50 km				
18	P	iP	07	34	37
	R	iP			39
	Pr	eP			40
	Bt	eP			39
	W	iP			39c
	Is	iP			41c
	CL	iP			44
	T	eP			45
	BCIS: New Guinea, 07:21.0				
18	P	eP'	09	12	54
		e		13	10
		e		16	11
	R	eP'		12	54
	Pr	eP'			57
		e		16	19
December (continued)					
18	Bt	iP'	09	12	59
		e		13	19
	Is	eP'		12	53
		e		16	09
	CL	iP'		12	53
		i		16	01
	BCIS: ½N 67½E, 08:53:11				
18	P	eP	10	20	17
	Pr	eP			23
	W	iP			15
	Is	iP			16
	CL	iP			21
	USCGS: near N.E. coast of New Guinea, 10:07:04 200 km				
18	MW	e	12	30	15
	W	iP			03
	Is	eP			06
	CL	iP			09
18	W	eP	20	06	11
18	W	eP	23	05	34
19	P	e	03	32	29
	PX	eL	04	02.6	
	R	e	03	32	38
		e			50
	Pr	e			21
	Bt	e			51
		e		33	03
	W	e		31	13
		e		32	21
	Is	e		31	54
	BCIS: 8.5N 127E, 03:13:48				
19	D	eP	03	44	04
	Pr	eP		43	50
		e		44	35
	Bt	e			20
	W	iP			01
	Is	eP			01
19	MW	eP	08	43	22
	Pr	eP			24
	W	iP			25
	Is	eP			26
19	P	eP	14	05	07
	R	eP			10
	Pr	eP			16
	W	iP		04	55
	Is	eP			56
	T	eP			53
	USCGS: Kamchatka 13:55:12				
20	MW	e	13	44	51
	W	e			57
		i		45	06
	Is	e			04
	CL	e		44	56
	T	e		45	05

continued

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December					
20	P	iPNEZ	13	50	43d
		ipP		51	31
	R	iP		50	38d
		e			47
	Pr	iP			34d
		epP		51	24
	Bt	iP		50	30
	W	iP!			53d
		i		51	57
	Is	iP		50	51d
		epP		51	40
	CL	iP		50	48d
		i		51	00
		ipP			36
	T	eP		50	56
		epP		51	52
	USCGS: Ecuador, 13:41:47, 200 km				
20	MW	eP	14	03	20
		e			50
		e			58
	R	eP			22
		e			53
	Pr	iP			15
		e			56
	W	iP			20
		i			51
	Is	eP			22
		e			53
	CL	iP			27
		i			58
		i		04	03
	USCGS: 14½S 167E, 13:50:46, 100 km				
21	Is	eP	00	14	55
		e		15	04
21	MW	e	03	13	16
		e			25
	Is	eP			15
		e			27
	CL	iP			19
	T	eP		12	58
		e		13	09
	BCIS: 57N 160E, 03:03:31				
21	Pr	e(P)	07	47	47
	Is	eP			14
21	P	eP	12	07	07
	R	eP			01
	Pr	eP		06	59
	Is	eP		07	11
	CL	i(P)			05
		i			13
	USCGS: Mona Passage, 11:58:30				
21	MW	eP	15	55	57
	R	eP		56	00
	Pr	iP			07

(continued)

Date	Sta.	Phase	h	m	s
December (continued)					
21	Bt	iP	15	56	12
	Is	iP		55	47
		e		56	05
	CL	iP		55	52
		i		56	10
	BCIS: Aleutians				
22	R	eP	06	31	58
	Pr	iP			59
	Is	iP		32	01
	CL	iP			04
	USCGS: Fiji Islands, 06:20:48, 600 km				
22	P	iP	08	42	22c
		epP			34
	R	iP			26c
	Pr	eP			30
	Bt	iP			34
	W	iP			14
		ipP			24
	Is	iP			17c
	T	eP			13
	CMO: 39½N 144 2/3E, 08:30:47, 60 km				
22	MW	iP	10	17	10
		e(pP)			24
	R	iP			05
	Pr	iP		16	59
	Bt	iP			55
	Is	eP		17	21
	CL	iP			18
	BCIS: ½S 91½W, 10:09:13				
22	P	eP	10	21	10
		e			20
	R	e			15
		e			23
	Pr	eP			12
		epP			46
	CL	iP			18
	T	eP			19
		epP			53
	USCGS: 18S 176 W, 10:09:37, 150 km				
22	P	ePNEZ	12	06	27
		iSE		07	40
	Is	iP		06	05.5
		iS			51.5
	CL	iP			02
		iS			53
	H	iPNZ			00
		iS			38
	T	iP		05	44.3
		iS		06	11.2
	Magnitude 4.7 USCGS: 39N 118½W, 12:05:10 near Fallon, Nevada				
22	P	iSNEZ	12	09	28

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December (continued)					
22	Is	eSN	12	08	37
	CL	i		07	58
	H	i(S)		08	31
	T	i(P)		07	33
		iSE			57
	Epicenter about the same as preceding. Magnitude 4.5				
22	W	eP	20	26	36
22	Bt	iP	20	42	30
	W	iP			14c
	USCGS: 23½N 141½E, 20:29:43				
23	W	eP	00	34	23
		i			25
	T	eP			22
23	P	iP	01	11	07
	R	eP			10
	Pr	iP			10
	W	iP			08c
	Is	iP			10c
	T	eP			15
23	Pr	e(P)	17	52	59
	Bt	e(P)		53	02
	W	iP		52	33
	T	e(P)		53	08
23	MW	iP	23	21	37
	R	iP			39
	Pr	iP			39
	W	iP			38c
	Is	i(P)			40
	BCIS: 17½S 176½W, 23:09.8				
23	W	iP	23	34	25
		ipP			39
		i			49
	USCGS: Northern Kurile Is, 23:24:10				
24	P	eP	03	42	23
	R	eP			18
	Pr	iP			12
		i			16
		i			49
	Bt	e			13
	W	iP			33
		i			43
		i		44	30
	Is	eP		42	32
	T	eP			38
	BCIS: 9N 84.5W, 03:34:46				
24	P	iP	08	32	29c
	R	eP			32c
	Pr	iP			32c
	Bt	eP			31
	W	iP			31c
	Is	iP			33c
	T	iP			39c

(continued)

Date	Sta.	Phase	h	m	s
December (continued)					
24	USCGS: Tonga region, 08:21:03, 100 km				
24	MW	iP	09	45	54
		epP		46	29
	W	iP			01
		ipP			35
	Is	iP			00
		ipP			35
	BCIS: Central Chile, 09:33:57, 150 km				
24	W	iP	13	19	47
	Is	iP			46
	BCIS: Algiers, 13:06:47				
24	Pr	eP	15	54	58
		epP		55	10
	W	iP		54	56
		ipP		55	08
	Is	iP		54	57
		ipP		55	09
	BCIS: Tonga region, 15:43.4				
24	MW	i(P)	18	07	18
		e			29
	W	i(P)			34
		i			43
		i			48
	Is	i(P)			36
24	MW	eP	18	55	36
	R	eP			36
	Pr	eP			36
	W	iP			37
		i			48
	Is	eP			36
	T	iP			26
	BCIS: Tonga Islands, 18:44.0				
24	MW	e	22	14	08
		e			14
	R	e		13	49
	Pr	e			57
	W	eP			47
		i			49
		i			57
		i		14	04
	Is	eP		13	49
	T	e(P)			55
	BCIS: Tonga Islands, 22:02.1				
25	Pr	e(P)	02	04	23
		e			32
	W	iP			02
25	W	eP	04	06	26
		e			34
	Is	e			30
	T	e			37
	Greece				

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December					
25	MW	eP	05	09	41
	R	eP			46
		e			54
	Pr	eP			46
	W	iP			43
		i		10	09
	Is	iP		09	45
	T	eP			50
	BCIS: 15S 172¾W, 04:58:20				
25	Pr	eP	16	01	20
	W	iP			45
	Is	eP			46
25	W	eP	17	28	58
		e		29	07
	Is	eP		28	56
26	R	e	09	21	57
	Pr	e			54
	W	eP			30
		e			40
	Is	e			35
	T	eP			30
		e			40
	CMO: 28.8N 130.2E, 09:08:35, 60 km				
26	MW	e	17	35	25
	R	e			29
	W	iP			12
	Is	eP			15
26	P	eP	19	35	36
	Pr	eP			25
	Bt	eP			20
	W	eP			47
		i			58
		i		36	14
	Is	eP		35	47
	T	e(P)			31
		e			56
26	P	iPNEZ	20	38	43
	R	iP			46
	Pr	iP			47
		i			50
	Bt	iP			46
	W	iP			44c
		i			46
		i		39	52
	Is	iP		38	46
		i			48
	T	iP			51
	BCIS: New Hebrides, 20:26.0				
26	MW	e	23	20	42
	Pr	e			45
	W	iP			43
	Is	iP			44
	T	eP			51
27	P	iPNEZ	02	39	59
		iEZ		40	01

(continued)

Date	Sta.	Phase	h	m	s
December (continued)					
27	P	ipPNZ	02	40	45
	R	iP			00
		i			02
		ipP			47
	Pr	iP			01
		i			03
		ipP			48
	Bt	iP		39	59
		i		40	01
		ipP			46
	W	iP			00
		i			15
		ipP			45
	Is	iP			02
		i			04
		ipP			48
	T	eP			08
		i			10
		ipP			55
	USCGS: 26S 177W, 02:27:54, 200 km				
27	MW	e	03	52	23
	R	e			25
	W	iP			07
		i			25
	Is	eP			09
		e			27
27	MW	e(P)	06	43	30
	Pr	e(P)			49
	W	iP			33
27	P	e	08	02	57
	MW	e			55
		e		03	01
	R	e			00
		e			07
	Pr	e			04
	Bt	e			10
		e			17
	W	eP		02	39
		i			47
		i			51
		i		03	06
	Is	e		02	42
		i			58
	T	e			38
		e			48
		e		03	04
	BCIS: Pacific				
27	P	ePEZ	08	59	59
		i	09	00	17
		i			28
		i			41
		ePP		03	29
	PX	iSNE		10	43
		eL		30.4	

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December (continued)					
27	R	eP	09	00	03
		i			20
		i			32
		ePP		03	32
	Pr	eP		00	11
		ePP		03	45
	Bt	eP		00	07
		e			49
		ePP		03	36
	W	iP	08	59	54
		i			56
		i	09	00	04
		i			16
		i			37
		ePP		03	19
	Is	eP	08	59	55
	T	eP			59
		e	09	00	20
		e		01	56
		i		02	43
	Depth uncertain				
	BCIS: 12¾N 145½E, 08:47:17, 100 km				
27	P	e(S)NZ	11	01	38
	R	e		00	57
		e		01	24
	Pr	e			11
	Bt	e			12
	W	i		00	13
		e		01	53
	Is	e			53
	T	e			42
27	P	eP	12	01	33
	Pr	iP			26
	W	iP			36
		i			47
		i		02	11
	T	eP		01	28
		e			44
	BCIS: 18S 176W, 11:49:50				
27	P	eP	16	10	59
		e		11	13
		e			26
	R	eP			03
		e			15
		e			29
	Pr	eP			08
		e			25
	Bt	eP			13
	W	iP		10	48
		i		11	04
	T	eP		10	47
	BCIS: 49¼N 155E, 16:00:26				
27	P	iPNEZ	17	32	54d
	MW	iP			55d
		i		33	12

(continued)

Date	Sta.	Phase	h	m	s
December (continued)					
27	R	iP	17	32	56d
		e		33	13
	Pr	iP		32	56d
		i		33	05
		e		34	25
	Bt	iP		32	54d
	W	iP!			56d
		e			19
		e			57
	Is	iP		32	57d
		e		35	06
	T	iP		33	03
	USCGS: 32S 180, 17:20:42, 400 km				
27	P	eP	18	41	56
		e		42	15
	R	iP		41	54
		e		42	11
	Pr	eP		41	50
		e		42	05
	Bt	eP		41	51
		e		42	04
	W	iP			05
		i			23
		i			30
	Is	iP			04
		e			20
	T	eP			10
		e			28
	BCIS: 23S 70W, 18:30:25				
28	P	iP	00	52	24
	Pr	iP			28
	W	iP			26c
	Is	iP			27c
	T	eP			13
28	MW	eP	02	52	49
		e		53	06
	R	eP		52	52
	Pr	eP			58
		e		53	13
	W	iP		52	36
		i			41
		i			44
	Is	eP			38
28	W	iP	07	37	28
	BCIS: Mexico, 07:28.9				
28	P	eP	13	08	02
	Pr	e			23
		e			31
	W	iP			22
29	P	eP	01	10	54
	R	eP			51
	Pr	eP			46
	Bt	eP			42
	Is	eP		11	03

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December					
29	P	eP	05	04	53
	R	eP			57
	Pr	eP		05	05
	Bt	eP			06
	W	iP		04	45c
	Is	iP			46
	CMO: 44N 147.8E, 04:53:55, 60 km				
29	P	eP	06	33	29
	R	eP			32
	Pr	iP			32
	W	iP			30d
	Is	iP			32d
	Apia: 23½S 179E, 06:22.0, 550 km				
29	MW	e(P)	09	12	41
	R	eP			36
	Pr	eP			31
	Is	eP			43
	BCIS: 10¼N 63W, 09:03:03				
29	MW	eP"	10	01	42
	R	eP"			52
	Is	eP"			56
	South Atlantic?				
29	P	ipP	16	11	55
	MW	ipP			56
		iScP		17	35
	R	iP		11	33
		ipP			59
	Pr	eP			40
		ipP		12	05
	Bt	ipP			13
		i			22
	Is	iP		11	17
		ipP			43
		i		12	01
		eScP		17	27
	T	eP		11	10
		epP			35
	USCGS: 59½N 154W, 16:04:45, 100 km. Our southern stations disturbed by an earlier shock.				
29	Pr	iP	22	25	21
	W	iP			20
30	MW	e	05	34	07
	W	iP		33	55
		ipP		34	11
	Is	eP		33	57
		epP		34	13
	BCIS: Kamchatka, 05:23.8				
30	P	ePNZ	09	37	25
		epP		39	27
	R	eP		37	28
		epP		39	27
	Pr	eP		37	28
		epP		39	30

(continued)

Date	Sta.	Phase	h	m	s
December (continued)					
30	Bt	e	09	37	27
	W	iP			27c
	Is	iP			27c
		epP		39	24
	T	eP		37	34
	USCGS: Fiji region, 09:26:13, 600 km				
	Apia: 21½S 178½W, 09:26:08, 500 km				
30	W	iP	19	08	01
31	P	iPNEZ	05	11	17d
		e			40
		i			48
	R	iP			14d
		e			38
		e			47
	Pr	e(P)			02
		iP			10
		e			34
	Bt	iP			6d
		i			14
		i			40
	W	iP			26d
		i			37
		i			49
	Is	iP			25d
		i			49
		i			57
	T	iP			31d
		e		12	04
	USCGS: 18S 69½W, 05:00:06				
31	P	eP	13	52	26
		eSNE		53	42
	W	iP		52	01
		e(S)			51
	Is	i(P)			10
		i(S)			54
	FT	e(P)			18
		i(S)		53	19
	Kg	iP		52	50
		i(S)		53	40
	H	iP		52	00c
		iS			39
	T	eP		51	40
		iSN		52	10
	Magnitude 4.7, 39½N 118W, 13:51.1				
31	MW	eP	15	19	49
	W	iP			36
	T	eP			35
31	MW	e	18	39	51
	R	e			48
		e		40	00
	Pr	e			01
	W	iP		39	50
		i		40	02

(continued)

Pasadena and auxiliary stations, 1955

Date	Sta.	Phase	h	m	s
December (continued)					
31	Is	eP	18	39	51
		e		40	03
	BCIS: Tonga Islands, 18:27.9				
31	P	e	21	25	55
		e		26	12
	R	e		25	55
		e		26	17

(continued)

Date	Sta.	Phase	h	m	s
December (continued)					
31	Pr	e	21	26	14
	Bt	e		25	56
		e		26	25
	W	iP		25	44
		i			55
		i		26	06
	CMO: 41.4N 142E, 21:14:17, 70 km				

C. F. Richter
Violet M. Taylor
October 23, 1956

Principal further instrumental changes to October, 1956, are as follows:

1. New station, Palos Verdes (PV)

   33°45.5'N 118° 21.4'W, 340 meters, Miocene shales.

   Began recording March 21, 1956, with Benioff short-period and long-period Z.

2. New station, Hayfield (Hf)
   At Hayfield pumping station, Metropolitan Water District.

   33°42.4'N 115°38.2'W, 440 meters.

   Thin alluvium over granitic rock.

   Recording since June 20, 1956, with provisional equipment; Benioff short-period horizontal (approximately N-S).

3. Discontinued:

   Benioff short-period N, E at Palomar; long-period Z at China Lake.

4. Installed: Strong-motion (low magnification) unit, N,E,Z; at Santa Barbara.

Revised determinations for 1955

The following epicenters, origin times, focal depths h in km, magnitudes and energies E in ergs have been determined by B. Gutenberg from all data available at Pasadena in May, 1956. M is the magnitude as given on earlier pages, m is the unified magnitude. The following tentative equations are used:

$M = 1.59\ m - 4.0$ $\log E = 5.8 + 2.4\ m$

Note that the numerical factor in the second equation is 2.4 (not 2.8, as printed on page 112 of the report for 1954).

A. Larger shocks of 1955

Date	Time	Lat.	Long.	h	M	m	log E
Jan. 5	00:50:14	50 S	164 E	normal	7.0	6.9	22.4
Feb. 27	20:43:25	28 S	175½W	normal	7.8	7.4	23.6
March 18	00:06:43	54 N	161 E	normal	7.4	7.2	23.1
March 22	14:05:05	8½S	92 E	normal	7.1	7.0	22.6
March 31	18:17:03	8 N	124 E	normal	7.6	7.3	23.3
April 14	01:29:04	29½N	102 E	normal	7.4	7.2	23.1
April 15	03:40:55	40 N	75 E	normal	7.0	6.9	22.4
April 19	20:24:07	30 S	72 W	normal	7.1	7.0	22.6
May 17	14:49:50	7 N	94 E	normal	7.3	7.1	22.8
May 26	16:23:14	10 S	161 E	normal	7.0	6.9	22.4
May 30	12:31:42	24 N	142¾E	570	7.3	7.1	22.8
Aug. 6	08:31:28	21 S	178 W	360	7.0	6.9	22.4
Aug. 16	11:47:03	6 S	155 E	210	7.0	6.9	22.4
Sept. 23	15:06:19	26¾N	101¾E	normal	7.0	6.9	22.4
Oct. 10	08:57:47	5 S	152½E	normal	7.3	7.1	22.8
Oct. 13	09:26:49	10 S	160¾E	70±	7.3	7.1	22.8
Nov. 23	06:29:30	51 N	157¼E	70	7.1	7.0	22.6

B. Earthquakes with unusual foci in 1955

Date	Time	Lat.	Long.	h	M	m	log E
Jan. 31	05:03:03	12½S	57½W	normal	6¾	6¾	22.0
Feb. 17	19:31:31	39½N	13¼E	470	4¾	5½	19.0
March 1	01:46:14	19½S	36½W	normal	6½	6½	21.4

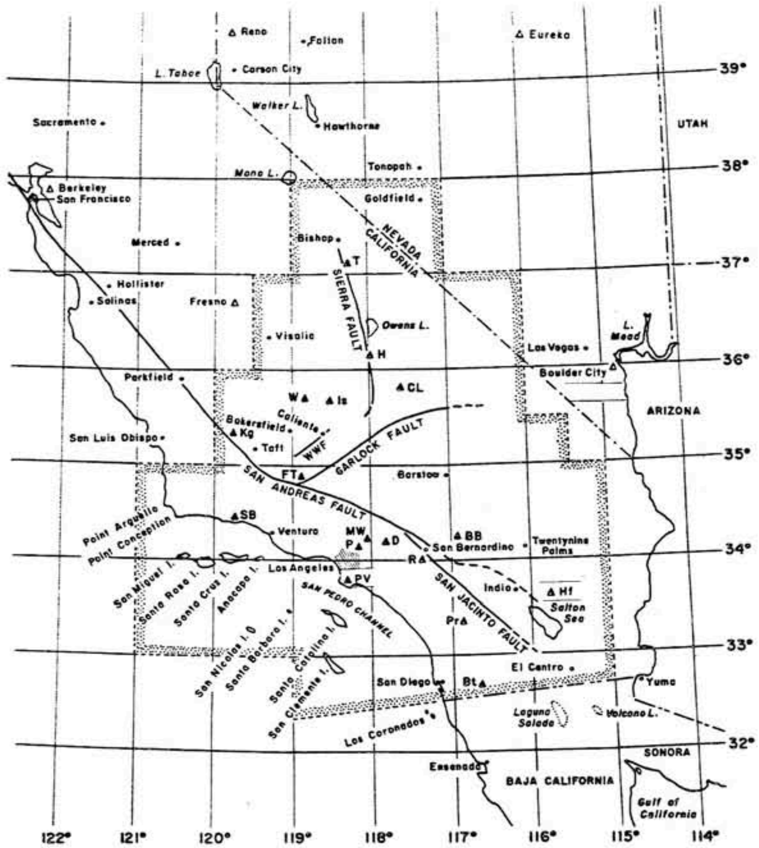
(continued)

Revised determinations for 1955 (continued)

B. Earthquakes with unusual foci in 1955 (continued)

Date	Time	Lat.	Long.	h	M	m	log E
March 1	04:43:01	65N	133½W	normal	6¾	6¾	22.0
Sept. 12	06:09:24	32½N	30 E	40±	6½	6½	21.4
Nov. 22	03:24:06	24S	122¼W	normal	6¾	6¾	22.0

Energy released in all shallow shocks during 1955 approximately 1.3×10^{24} ergs, in all shocks at intermediate depth 0.9×10^{23} ergs, in all deep shocks 0.9×10^{23} ergs and in all shocks 1.5×10^{24} ergs.



STATIONS OF C.I.T. NETWORK		Hayfield Hf	Palos Verdes PV	
Barrett Bt	Dalton D	Isabella Is	Palomar Pr	Santa Barbara SB
Big Bear BB	Fort Tejon FT	King Ranch Kg	Pasadena P	Tinemaha T
China Lake CL	Haiwee H	Mount Wilson MW	Riverside R	Woody W

WWF - White Wolf Fault (earthquake of July 21, 1952)