International Seismological Centre

CALIFORNIA INSTITUTE OF TECHNOLOGY

PASADENA, CALIFORNIA

WILKES STATION, ANTARCTICA

BULLETIN

1959-1960

WILKES STATION, ANTARCTICA
1959 - 1960

Lat. S	Long. E	h	Ground
66°20'	110°31'	10m	Gneiss with pegmatite intrusions

Wilkes Station was established as part of the international Geophysical Year Antarctic Program. It is situated about 100 m from the sea on a peninsula of complex metamorphic and intrusive rock extending from beneath the continental ice cap. The station is about 3 km from the ice cap, which is virtually stagnant in this area.

Instrumentation consists of a Press-Ewing 3-component seismograph, which is described in Press, Ewing, Lehner, A Long Period Seismograph System, Trans. Amer. Geophys. Union, 39, 106-108, 1958. Pendulum period is 15 seconds and galvanometer period 90 seconds. Drum rate is 15 mm/min. The horizontal seismometers are aligned to measure N-S and E-W motion.

Timing is provided by a radio-chronometer relay system that is corrected once or twice daily by time signals from WWV (Washington) or JJY (Tokyo).

The station was installed April 17, 1957 and readings are reported through January 31, 1960. During this period times of prominent phases were radioed to the USCGS, Washington, D. C. Communications should be addressed to the Seismological Laboratory, 220 North San Rafael Avenue, Pasadena 2, California.

Components are indicated as N, E, Z.
c = compression, d = dilatation.
All times are G. C. T.

Wilkes Station, Antarctica No. 3 1959 February 5 - 1960 January 31

Date	Phase	h	m	s
February				
5	eE	14	54	20
	eN	14	56	40
	eN	15	02	
9	iPPZ	21	24	14
	iPSN	21	33	02
	eGNZ	21	46.5	
	eRZ	21	52.3	
	USCGS: 5 S 154 E			
	21:13:18, 100 km			
12	eLE	11	52.5	
	eLN	12	06.5	
14	ePZ	04	46	19
	eSN	04	54	27
	eGZ	05	00	19
	eRZ	05	02	15
	eLNEZ	05	06.1	
	BCIS: 7½ S 122 E			
	USCGS:			
	04:36:10			
16	e(L)NZ	01	34	56
	eLNZ	01	39	56
17	e(PP)NZ	12	42	52
	eNZ	12	46	54
	eSZ	12	51	06
	eSSN	12	57	16
	eSSSNZ	13	03	16
	eGZ	13	08.0	
	eRNZ	13	12.0	
	USCGS: 51½ N 171 W			
	12:03:05			
	Pasadena: Magnitude 6 - 6¼			
23	eZ	02	09	31
	eSNZ	02	18	02
	eSSZ	02	22	38
	eSSSZ	02	25.8	
	eGN	02	28.0	
	eRNZ	02	31.2	
	USCGS: 5½ S 150 E			
	01:58:38			
	Matsushiro: Magnitude 6¼ - 6½			
25	eLZ	20	39.9	
	USCGS: 2 S 129 E			
	20:08:09, 200 km			
	Matsushiro: Magnitude 5¾			
25	ePcPNZ	23	46	58
	e(S)NZ	23	51	36
	eGN	23	53	15
	eRZ	23	54	00
	eScSN	23	54	56
	USCGS: Macquarie Island			
	Region,			
	23:40:55			
27	eLZ	21	40.5	
	USCGS: 27½ N 129 E			
	20:56:30			
	Matsushiro: Magnitude 6.0			
28	eLZ	06	31.5	
	USCGS: 24½ S 179½ E			
	05:59:58			
28	iPEZ	12	48	48
	iGNE	12	52	37
	eSN	12	52	58
	ePcPZ	12	53	08

(continued)

Date	Phase	h	m	s
February (continued)				
28	eRNZ	12	53	22
	i(L)NEZ	12	53	56
March				
1	iPZ	17	00	14
	ipPZ	17	00	36
	ePPZ	17	02	17
	ePPPNZ	17	04	03
	eZ	17	05	49
	iSNEZ	17	08	59
	eE	17	11	08
	iGE	17	16	34
	eRZ	17	20.3	
	USCGS: ½ S 134½ E			
	h = 100 km; 16:49:13			
	Pasadena: Magnitude 7			
2	eLZ	02	06.0	
	USCGS: 5½ S 104 E			
	01:37:52			
2	ePcPZ	09	24	08
	eSNE	09	31	52
	eNZ	09	32	16
	eScSN	09	33	36
	eSSZ	09	35	48
	eGZ	09	38	45
	eRNE	09	43	18
	eE	09	45.5	
	USCGS: 7½ S 127½ E			
	09:13:37			
	Matsushiro: Magnitude 6			
5	ePPZ	23	14	36
	eGN	23	26	25
	eRZ	23	29.2	
	USCGS: 2 N 97 E			
	h = 100 km; 22:55:39			
	Matsushiro: Magnitude 5½ - 5¾			
6	eZ	03	53	14
	eL	04	01.0	
6	eZ	20	50	10
	eLZ	21	00	00
	USCGS: 10½ S 162 E			
	20:41:53			
12	eSNE	01	50	54
	eSSE	01	55	52
	eSSSNE	01	59.7	
	eRZ	02	05.3	
	USCGS: 7 N 145 E			
	01:29:07			
	Pasadena: Magnitude 6			
17	iPZ	08	38	55
	ePPZ	08	42	31
	iSKSN	08	49	53
	eSE	08	50	06
	eSSNEZ	08	56	17
	eRZ	09	11.0	
	eLZ	09	15.9	
	USCGS: 27½ N 130 E			
	08:25:22			
	Pasadena: Magnitude 5¾ - 6			
17	eSN	13	19	25
	eGN	13	23	49
	eRZ	13	27.0	
	USCGS: 57 S 25 W			
	12:58:57			

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Date	Phase	h m s
March		
17	eGNE	15 28.5
	eRZ	15 32.0
23	ePZ	06 11 40
	iGNZ	06 15 31
	eLZ	06 20.2
23	eLNZ	08(27)
	USCGS: 40 N 118 W	
	07:10:22	
	Pasadena: Magnitude 6.3	
23	ePZ	19 32 30
	eGN	19 35.8
	iSN	19 36 09
25	eLN	14 09.4
26	eSPN	02 43 50
	eSSN	02 48 01
	eSSSN	02 51 34
	eGN	02 53 16
	eRN	02 56.2
	USCGS: 7 S 155½ E	
	h = 60 km; 02:24:12	
	Matsushiro: Magnitude 5¾	
26	eLNZ	05 58.2
26	eLN	14 15.7
28	epPZ	19 58 49
	ePPZ	19 59 20
	esPZ	19 59 47
	iSNEZ	20 04 44
	eScSE	20 05 44
	esSNEZ	20 08 08
	esSSN	20 12 02
	eSSSEZ	20 12 25
	USCGS: 20 S 178½ W	
	h = 600 km; 19:47:07	
31	iPZ	07 32 02
	eN	07 41 14
	eSZ	07 41 45
	eGN	07 51.1
	eRZ	07 53.3
	USCGS: 15 S 173 W	
	07:70:07	
April		
1	eZ	01 37 51
	eZ	01 44.3
1	iPNZ	14 16 01
	iLNZ	14 20 25
	USCGS: 48 S 98½ E	
	14:11:30	
4	eLEZ	23 37.1
5	ePNZ	23 40 12
	eSNEZ	23 48 58
	eSSZ	23 53 18
	eGN	23 56 45
	eRZ	24 01 12
	USCGS: 5½ S 146 E	
	23:29:25	
	Matsushiro: Magnitude 6 - 6¼	
6	iPNZ	14 22 22
	ePPZ	14 24 24
	ePcSZ	14 27 10
	iSNEZ	14 30 06
	e(ScS)Z	14 32 48
	iSSZ	14 34 06
	eGE	14 36.1

(continued)

Date	Phase	h m s
April (continued)		
6	iRNZ	14 39 24
	USCGS: 10 S 120½ E	
	14:12:36	
	Pasadena: Magnitude 6¼	
8	eLNEZ	07 50.1
9	ePZ	06 25 40
	iSNEZ	06 31 12
	iGNE	03 33 43
	eRNEZ	06 35.5
	USCGS: 36 S 77 E	
	06:18:34	
	Pasadena: Magnitude 5¾ - 6	
11	eLNEZ	11 (56.0)
	USCGS: 1 S 128 E	
	11:28:50	
	Matsushiro: Magnitude 5¾ - 6	
11	eLNZ	18 31.5
	USCGS: 15 S 173½ W	
	17:55:53	
	Matsushiro: Magnitude 5¼ - 5½	
12	ePZ	15 33 24
	eSNZ	15 41 36
	eGEZ	15 48 36
	eRZ	15 52 18
	USCGS: 4½ S 134 E	
	h = 100 km; 15:22:33	
	Matsushiro: Magnitude 6¼ - 6¾	
12	iPEZ	21 05 16
	iSEZ	21 14 32
	eSSZ	21 19 31
	eGN	21 24.5
	iRNZ	21 27 56
	USCGS: 15½ S 173 W	
	20:54:00	
	Pasadena: Magnitude 6 - 6¼	
14	eZ	00(57.6)
18	eSZ	06 35.7
	eGZ	06 46.0
	eRNZ	06 50.4
	USCGS: 4½ S 153½ E	
	h = 100 km; 06:18:00	
	Matsushiro: Magnitude 5½	
19	eSSEZ	07 50 58
	e(SSS)Z	07 53 20
	eGZ	07 54 18
	eRN	07 57.0
	USCGS: 45 S 82 W	
	07:26:15	
	Pasadena: Magnitude 6	
20	iPZ	03 38 31
	iSNEZ	03 47 10
	eScSN	03 48 04
	eSSNEZ	03 51 40
	eSSSNEZ	03 54 40
	eRNZ	03 59 22
	USCGS: 6 S 149½ E	
	h = 100 km; 03:27:52	
	Pasadena: Magnitude 6	
21	eLNZ	15 34 16
24	iPNEZ	18 07 26
	ePcSE	18 12 36
	iEZ	18 14 54
	iSN	18 15 04

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Date	Phase	h	m	s
April	(continued)			
24	eScSNE	18	17	26
	iSSE	18	18	41
	iNZ	18	18	56
	eGNE	18	20	25
	eN	18	21	00
	eREZ	18	23	12
	USCGS: 31 S 178 W			
	17:57:58			
	Pasadena: Magnitude 6¾ - 7			
25	eNZ	00	29	51
25	eZ	01	(29)	
	USCGS: 37 N 28½ E			
	00:26:40			
	Matsushiro: Magnitude 5¾			
26	iPNZ	20	53	20
	ipPNEZ	20	54	01
	ePPNZ		56	51
	iSNEZ	21	03	54
	iSSN		09	38
	isSSNZ		10	52
	iGEZ		16	47
	eRNZ		21	58
	USCGS: 25 N 122½ E			
	h = 150 km; 20:40:38			
	Pasadena: Magnitude 7½ - 7¾			
27	ePZ	09	58	24
	eSNE	10	06	24
	iScSZ		08	00
	eSSN	10	10	23
	eGNE		12	48
	eRNZ		16.0	
	USCGS: 7 S 129 E			
	h = 150 km; 09:48:09			
28	eLNZ	02	17.0	
28	ePPZ	11	30	24
	ePKSZ	11	31	46
	iPSZ		40	41
	iPPSNZ		41	58
	eSSE		47	38
	eN		48	02
	e(SSS)NZ		51	31
	eN	11	59	05
	USCGS: 15 N 93 W			
	11:09:30			
	Pasadena: Magnitude 6½ - 6¾			
30	iPPE	13	42	33
	ePPPN	13	43	12
	eSZ	13	47	17
	eGNE	13	50.5	
	eRZ	13	52.0	
	USCGS: 55½ S 26 W			
	13:25:35			
May				
1	eLNZ	07	52	49
3	eLNZ	05	41.9	
3	ePcPZ	13	41	12
	eSN		43	57
	eGN		44.7	
	eRZ		46.0	
4	ePNZ	07	31	14
	iPKPNEZ	07	34	44
	iPPNEZ	07	36	30
	iSE	07	44	20

(continued)

Date	Phase	h	m	s
May	(continued)			
4	iSSE	07	53	06
	i(G)E	08	05	02
	USCGS: 52½ N 159½ E			
	h = 60 km; 07:15:42			
	Pasadena: Magnitude 8			
5	ePKPZ	19	36	34
	ePPZ	19	37	40
	eSKSZ	19	43	38
	ePKKPZ		46	42
	eSKKPZ		50	25
	eSSZ		54	06
	eGNZ	20	05.2	
	eRNZ	20	10.0	
6	ePcPN	11	45	24
	eSN	11	48	36
	eGN		50.6	
	eRZ		52.0	
6	eSN	14	15	30
	eGN	14	16	22
	eRZ	14	17	40
	BCIS: 40 S 80 E			
	14:03.8			
6	eLNZ	19	(19)	
7	eLNZ	00	23.4	
	USCGS: 3½ S 148½ E			
	00:03:24			
	Pasadena: Magnitude 6 - 6¼			
7	eLNZ	11	52.4	
	USCGS: 3½ S 150 E			
	11:17:16			
	Matsushiro: Magnitude 5½			
14	eLZ	01	20.0	
14	eLNEZ	07	(31)	
	USCGS: 35½ N 24½ E			
	06:36:57			
	Pasadena: Magnitude 6½			
14	eSE	13	41	54
	eGEZ		47	34
	USCGS: 19 S 170 E			
	h = 150 km; 13:19:32			
16	iPNEZ	06	27	26
	ePPZ	06	30	15
	iSNEZ	06	36	16
	eSSNEZ		40	08
	eGE		44	10
	eRNEZ		49	14
	USCGS: 4½ S 153½ E			
	h = 60 km; 06:16:23			
	Pasadena: Magnitude 6¾			
19	eLNZ	16	10.2	
	USCGS: 33 N 68½ E			
	15:17:44			
	Matsushiro: Magnitude 5¾ - 6			
20	eLNZ	01	34.7	
26	ePPN	04	36	36
	ePPPNZ	04	38	16
	eGNZ	04	57.2	
29	iPEZ	10	52	48c
	iSEZ	11	00	54
	eSSE	11	04	29
	eGZ		06	12
	eRZ		10	14
	USCGS: 19 S 169½ E			
	h = 100 km; 10:42:48			
	Pasadena: Magnitude 6½			

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Date	Phase	h	m	s
May				
31	iPNEZ	09	39	07
	ePPZ		41	48
	iSNEZ		48	04
	eScSNEZ		49	00
	eSSEZ		52	28
	eN		55	18
	eSSSE		55	52
	eGNE	09	57	35
	eRNZ	10	00	40
	USCGS: 6½ S 155 E			
	09:28:09			
	Pasadena: Magnitude 6½			
June				
1	eLZ	13	(05.2)	
1	ePcPZ	17	18	14
	esSNE		27	10
	esScSNEZ		28	05
	eSSSN		34	22
	eGE		35.0	
	eRZ		39.7	
	USCGS: 6½ S 155½ E			
	h = 100 km; 17:07:23			
	Matsushiro: Magnitude 6 - 6¼			
2	eNEZ	03	41	08
	eLNEZ	03	49.7	
	USCGS: 25 S 176 W			
	03:23:12			
2	eSNE	05	20	38
	eSSNZ	05	26	10
	eGE	05	(33)	
	USCGS: 21 N 121½ E			
	04:57:18			
	Matsushiro: Magnitude 6½			
2	eGE	06	12.1	
	eRZ	06	17.7	
	USCGS: 43 S 72 W			
	h = 150 km; 05:42:26			
	Matsushiro: Magnitude 5¾ - 6			
9	eSNE	23	26	19
	eGNE	23	29	12
	eScSN	23	30	14
	eRNE	23	31.3	
	USCGS: 58 S 9½ W			
	23:10:38			
	Matsushiro: Magnitude 6 - 6¼			
12	eLZ	14	14.0	
14	iPZN	00	25	10
	isPZN		25.58	
	iPPZN		29	00
	epPPPZ		31	29
	eSKSNE		35	37
	iSNEZ		36	08
	ipSE		37	00
	iE		39	38
	iN		41	36
	iSSN		42	37
	e(SSS)E		45	44
	i(G)NE		49	29
	iRZ		57	46
18	eLNEZ	07	11.0	
18	ePKPZ	15	52	11
	ePPEZ	15	53	28
	eSKSZ	15	59.7	

(continued)

Date	Phase	h	m	s
June (continued)				
18	e(PS)Z	16	03	54
	eSSZ		09	37
	eSSSZ		13	49
	eGE		22.3	
	USCGS: 54 N 160 E			
	15:31:25			
	Pasadena: Magnitude 6¾ - 7			
19	eLNZ	02	39	12
20	eGNE	17	12.3	
	eRZ	17	14.0	
27	iPEZ	19	13	28c
	ePPPE		16	20
	ePcSE		18	38
	iSNEZ		20	33
	esSN		21	19
	iScSN		22	53
	iSSN		24	12
	eSSSNE		26	14
	eRZ		28.0	
	USCGS: 33 S 179 W			
	h = 100 km; 19:04:27			
	Pasadena: Magnitude 6¾			
July				
3	iPNEZ	18	05	48d
	eSE	18	14	22
	USCGS: 16 S 173 E			
	17:55:10			
3	iPNEZ	18	06	31d
	eSNEZ	18	15	06
	eSSNEZ	18	19	21
	eGN	18	22	34
	eRNEZ	18	26.0	
	USCGS: 16 S 173 E			
	17:55:55			
6	iPZ	09	22	06
	eSKSN	09	31	28
	iScSNEZ		31	52
	iSPNZ		32	57
	esScSNE		35	49
	esPSN		36	42
	iSSNE		37	56
	USCGS: 26½ S 61 W			
	h = 600 km; 09:10:17			
	Pasadena: Magnitude 6¾			
6	ePNZ	09	35	17
	iScSE		45	00
	iSPN		46	05
	isScSNE		48	51
	eSSN		51	00
	USCGS: 26½ S 61½ W			
	h = 600 km; 09:23:27			
	Pasadena: Magnitude 6¾ - 7			
11	eLEZ	05	17.2	
	USCGS: 18½ S 169 E			
	04:51:30			
11	ePEZ	12	08	32
	ePPEZ	12	09	50
	eSEZ	12	14	07
	iGEZ	12	16	16
	iREZ	12	18	17
	USCGS: 37 S 79 E			
	12:01:39			
	Pasadena: Magnitude 6¼ - 6½			

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Date	Phase	h	m	s
July				
14	eSEZ	13	19	32
	eSSE	13	23	44
	eRNEZ	13	30	34
	USCGS: 16½ S 173 E			
	h = 100 km; 13:00:24			
	Matsushiro: Magnitude 5½			
14	eLNZ	23	05.0	
16	eLNEZ	19	40.5	
18	iPNZ	20	07	10
	ePPNZ		10	06
	iScSNEZ		17	06
	iSSNZ		21	59
	eGE		27	04
	iE		29	27
	eRNZ		32	19
	USCGS: 15½ N 120½ E			
	h = 150 km; 19:54:57			
19	eSNZ	04	00	15
	eSSZ	04	03	59
	eRNZ	04	09.4	
	USCGS: 6½ S 105 E			
	03:42:02			
	Matsushiro: Magnitude 5½ - 5¾			
19	iPNZ	15	19	30
	ipPNZ	15	20	22
	ePKPNZ		23	26
	ipPPNEZ		24	19
	iSKSNEZ		29	48
	iSNE		30	38
	isSKSNZ		31	22
	i(SP)E		32	13
	i(PPS)NZ		33	39
	iSSNE		37	41
	isSSE		38	59
	eRZ	15	53.9	
	USCGS: 15 S 70½ W			
	h = 200 km; 15:06:10			
	Pasadena: Magnitude 7			
20	iPNZ	02	50	28
	epPZ	02	52	06
	ePPNZ		52	46
	iSNEZ		58	02
	e(ScS)N	02	59	47
	esSNEZ	03	00	59
	eSSNZ	03	02	03
	e(sScS)E		02	55
	iSSSEZ		05	19
	USCGS: 6 S 111 E			
	h = 500 km; 02:41:04			
	Matsushiro: Magnitude 6½			
20	iSEZ	17	10	24
	eSSSNEZ	17	17	44
	USCGS: 23½ S 179 E			
	h = 600 km; 16:53:38			
21	eLEZ	01 (14)		
	USCGS: 9 S 151 E			
	00:43:38			
21	iPEZ	07	53	49
	eSNEZ	08	02	26
	e(SS)EZ		06.5	
	eGNE		10	40
	eRZ		13	30
	USCGS: 14½ S 167½ E			
	07:43:13			
	Pasadena: Magnitude 6¼			
July				
21	eLNEZ	13	24	24
	USCGS: 16 N 98 W			
	13:03:31			
22	iPNEZ	23	13	28
	iSNEZ		22	16
	eSSNZ		26	34
	isSSE		27	06
	eSSSNE		29	46
	eRNZ		34.9	
	USCGS: 5 S 152½ E			
	h = 60 km; 23:02:27			
	Matsushiro: Magnitude 6¾ - 7			
23	ePcPZ	15	07	10
	iSNEZ	15	15	04
	esScSNE		16	35
	eGN		23.1	
	eRZ		25.8	
	USCGS: 24½ S 176 W			
	h = 60 km; 14:56:45			
	Matsushiro: Magnitude 5¾			
24	eSSNE	02	04.0	
	eSSSN	02	09.0	
	eGN	02	21.0	
	eRZ		28.4	
	USCGS: 41 N 125½ W			
	01:23:09			
	Pasadena: Magnitude 5¾			
24	ePcPZ	23	12	30
	eSNE		19	54
	eE		24	43
	eGE		25.8	
	eRZ		28.2	
	USCGS: 56½ S 28½ W			
	23:03:08			
	Matsushiro: Magnitude 5¾ - 6			
30	eLNZ	06	20.3	
	USCGS: 49 S 118 E			
	06:12:18			
31	eLNEZ	05(36)		
	USCGS: 5 S 152½ E			
	04:59:23			
Aug				
3	ePNZ	15	41	21
	eSN		45	17
	eRNZ		45	56
	USCGS: 46½ S 98 E			
	15:36:37			
3	ePNEZ	16	14	35
	eSNEZ		18	32
	eRNEZ		19	07
	USCGS: 46½ S 98 E			
	16:09:54			
4	ePZ	08	11	55
	iSNEZ		19	44
	e(ScS)N		20	49
	esSN		23	07
	USCGS: 20½ S 178 W			
	h = 600 km; 08:02:17			
7	eLNEZ	22(53)		
8	eLNEZ	01(48)		
	USCGS: 55 N 162½ E			
	00:47:38			
	Pasadena: Magnitude 6½			

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Date	Phase	h	m	s
Aug				
9	ePZ	20	40	07
	iSNZ		48	51
	e(ScS)N		49	54
	e(SS)NE		53	00
	eSSSN		56	20
	USCGS: 10 S 161 E			
	h = 100 km; 20:29:28			
10	iPNEZ	00	41	12
	iSNEZ		44	59
	iPcPN		45	43
	i(R)Z		46	05
	USCGS: 55½ S 140 E			
	00:36:35			
	Matsushiro: Magnitude 5¾ - 6			
11	ePZ	22	00	32
	eSNEZ		09	25
	eSSEZ		13	22
	eRZ		20	30
	USCGS: 11 S 163 E			
	21:49:42			
	Matsushiro: Magnitude 5¾ - 6			
12	ePEZ	10	09	27
	iSNEZ		18	23
	eZ		21	01
	eE		21	31
	eSSEZ		22	35
	e(SSS)E		25	59
	eGN		26	13
	eZ		30	09
	USCGS: 16½ S 177½ W			
	09:58:22			
	Pasadena: Magnitude 6½			
15	ePZ	10	09	56
	iNZ	10	10	02
	iPPNZ		13	24
	iSKSN		20	18
	iSEZ		20	39
	iPSNZ		21	35
	iSSNZ		26	21
	eSSSE		30	17
	iGE		33	17
	eRZ		39	16
	USCGS: 23 N 121 E			
	08:57:04			
	Pasadena: Magnitude 6¾ - 7			
15	ePcPN	13	33	42
	ePPN		34	54
	eSSN		43	54
	eRNEZ		49.3	
	USCGS: 21 S 174 W			
	13:14:26			
	Matsushiro: Magnitude 5¾			
16	ePEZ	01	01	39
	iSNE	01	09	39
	eSSEZ		13	40
	eGE		15	44
	eNE		16	21
	eRZ		19	08
	USCGS: 21 S 169 E			
	00:51:40			
	Matsushiro: Magnitude 6			
17	ePNEZ	21	15	32
	iZ		15	37

(continued)

Date	Phase (continued)	h	m	s
Aug				
17	iPcPZ	21	15	54
	eNEZ		20	12
	iSNE		24	20
	iScSEZ		25	17
	iSSN		28	48
	iSSSNE		31	54
	iRZ		36	(28)
	USCGS: 7½ S 156 E			
	21:04:40			
	Pasadena: Magnitude 7¼			
18	ePZ	06	54	58
	iPKPNEZ		57	05
	iPPZ	07	00	41
	eN		00	56
	iPPPZ		04	01
	iSKKKSNE		07	59
	iZ		08	20
	iSKSPNEZ		11	07
	iPPSNEZ -		13	43
	eNE		19	19
	eSSNEZ		20	45
	iSSSN		26	01
	USCGS: 44°55'N 111°05' W			
	06:37:15.0			
	Pasadena: Magnitude 7½			
20	eZ	12	32.5	
	eLZ	12	34	50
	USCGS: 29 S 78 E			
	12:20:08			
21	iPNEZ	08	08	07
	iNEZ		10	27
	iGNE		12	05
	iS or (PcPEZ)		12	14
	iRZ		13	32
	USCGS: 50½ S 139½ E			
	08:03:15			
	Pasadena: Magnitude 5¾ - 6			
21	ePNEZ	09	42	42
	iGNE		46	42
	iS or (PcPZ)		46	52
	iRZ		48	06
	USCGS: 50½ S 140 E			
	09:37:49			
	Matsushiro: Magnitude 6			
24	eSN	12	01	06
	eScSZ		02.0	
	eSSN		05.3	
	eSSSN		08.6	
	eRNZ		13.9	
24	iPNEZ	21	41	37
	iPPZ	21	44	03
	iZ		45	06
	iSNE		50	12
	iSSEZ		54	24
	eGNE		57	34
	iNE		59	11
	iRZ	22	02	20
	USCGS: 10½ S 161 E			
	21:30:46			
	Pasadena: Magnitude 7			
26	ePKPZ	08	44	44
	ePPNZ		46	52
	ePKSNEZ		48	07

(continued)

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Date	Phase	h	m	s
Aug	(continued)			
26	ePPPE	08	49	34
	eZ		50	00
	eSKSNZ		51	52
	e(SKKS)NE		53	52
	eSE		55	09
	eZ		56	40
	ePS or SKSPNE		56	58
	ePPSZ		58	36
	eSSNE		04	18
	eScSScSN		06.8	
	eSSSN		08.8	
	eGN		18.6	
	eRZ		27.0	
	USCGS: 18 N 94½ W			
	08:25:30			
	Pasadena: Magnitude 6¾			
27	eScSNEZ	13	57	05
	eSSSNE	14	04	54
	eGE		07.2	
	eREZ		10.0	
	USCGS: 45 S 80½ W			
	13:36:50			
28	e(ScS)Z	02	59.0	
	eGE	03	05.2	
	eRZ	03	08.5	
	USCGS: 9 S 158 E			
	h = 150 km; 02:37:00			
28	e(P)Z	16	02	29
	eSN		10	49
	eSSE		14	44
	eGNE		17	56
	eRZ		(23.9)	
	USCGS: 17 S 167 E			
	15:52:10			
29	iPPNZ	17	23	28
	eSKSN		28	57
	ePSNZ		33	06
	ePPSZ		34	16
	eSKKPE		35	40
	eSSN		39	58
	eSSSNZ		44.0	
	eGNE		52.0	
	eRZ		57.6	
	USCGS: 52 N 106½ E			
	17:03:10			
	Pasadena: Magnitude 6½ - 6¾			
30	ePPPE	21	53	16
	ePcSEZ		57	34
	eGE		59	00
	eN		59	28
	eRZ	22	00	20
	eScSNEZ		01	38
	USCGS: 36½ S 78½ E			
	21:45:07			
	Matsushiro: Magnitude 5¼			
Sept				
3	ePNZ	06	37	54
	ePPNZ		40	28
	eSNZ		46	27
	e(ScS)NZ		48	30
	eSSNZ		50	20
	eGE		52.4	
	eRZ		56.9	

(continued)

Date	Phase	h	m	s
Sept	(continued)			
3	USCGS: 4½ S 123 E			
	06:27:30			
	Matsushiro: Magnitude 6¼ - 6½			
4	eLE	23	53.0	
	eLNZ	23	56.0	
	USCGS: 47 S 75 W			
	23:22:56			
5	eSNEZ	06	27	43
	eSSNZ		32	20
	eSSSE		35	30
	eGE		37.0	
	eRNEZ		40.3	
	USCGS: 1 N 129 E			
	06:07:38			
	Matsushiro: Magnitude 6½			
5	iPEZ	07	05	00
	iSNEZ		08	38
	USCGS: 62 S 156 E			
	07:00:26			
5	ePEZ	15	34	48
	e(G)NE		38	26
	eRNEZ		39.4	
	USCGS: 60 S 152 E			
	15:30.2			
5	eSN	15	55	25
	eSSN	15	59	27
	eGNE	16	03	06
	eRNZ		07	26
	USCGS: 1 N 129 E			
	15:34:44			
	Matsushiro: Magnitude 6 - 6¼			
8	e(SS)N	13	26	24
	eGNE	13	29.5	
	eRZ	13	32.0	
	BCIS: 54½ S 22 E			
	13:12:08			
	Matsushiro: Magnitude 5½ - 5¾			
10	eSNEZ	05	54.8	
	eGEZ	06	02	52
	eRZ	06	06.3	
	USCGS: 6½ S 154½ E			
	05:35:04			
12	ePZ	02	04	48
	ePPZ		07	23
	ePPPNZ		09	20
	eSNE		13	44
	eSSZ		18	08
	eSSSNE		21	14
	eGNEZ		22	13
	eRZ		26	24
	USCGS: 3 S 146½ E			
	01:53:47			
	Matsushiro: Magnitude 6½ - 6¾			
12	ePZ	07	12	48
	eSNEZ		21	43
	eSSNZ		26	09
	eGNE		29.5	
	eRZ		34.0	
	USCGS: 3 S 146½ E			
	07:01:45			
14	ePZ	13	26	06
	eSNEZ		34	20
	e(SS)NZ		38	07

(continued)

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Date	Phase	h	m	s
Sept	(continued)			
14	eG or SSS E	13	41	12
	eRZ		45	14
	USCGS: 24 S 176½ W			
	13:15:49			
	Matsushiro: Magnitude 6½			
14	iPNEZ	14	19	28c
	ePPN		21	59
	iSNZ		27	20
	eScSN		29	22
	eSSN		31	36
	eGN		33	53
	eRZ		36	38
	USCGS: 28½ S 177 W			
	14:09:39			
	Pasadena: Magnitude 7¾			
14	iPNEZ	17	15	59
	eSE		23	47
	eScSNZ		25	36
	eGE		30	24
	eRZ		32	21
	eZ		33	30
	USCGS: 29 S 176½ W			
	17:06:15			
	Matsushiro: Magnitude 6½ - 6¾			
14	ePEZ	22	33	40
	ePcSE		38	34
	eSE		41	26
	eScSN		43	26
	e(SS)N		44	26
	eGN		46	36
	eRZ		49.9	
	USCGS: 29 S 177 W			
	22:23:53			
	Matsushiro: Magnitude 6½			
15	iPNEZ	06	09	32
	e(PP)EZ		11	58
	iPcSZ		14	36
	iSNE		17	23
	iScSN		19	19
	iSSNE		21	21
	eGNE		23	40
	eRZ		26	48
15	epPE	11	(17.0)	
	iSNE	11	22	41
	iScSNE		23	54
	isSNEZ		26	10
	esScSN		27	49
	iN		29	04
	USCGS: 21½ S 179½ W			
	h = 600 km; 11:05:33			
	Pasadena: Magnitude 6½			
16	iPEZ	16	06	55
	ePcPZ		07	29
	iSNEZ		14	46
	eScSNE		16	37
	eSSN		18	45
	eGN		21	24
	eRZ		23	42
	USCGS: 28½ S 176 W			
	15:57:03			
	Matsushiro: Magnitude 6 - 6¼			
17	ePEZ	14	46	03
	iSNEZ		53	59

(continued)

Date	Phase	h	m	s
Sept	(continued)			
17	eScSN	14	55	44
	eSSN		57	46
	USCGS: 128½ S 176 W			
	14:36:11			
	Matsushiro: Magnitude 5¾ - 6			
18	iPNEZ	12	10	24
	ePPZ		12	23
	iSNEZ		17	47
	eScSE		20	10
	eN		21	11
	eSSEZ		21	32
	eGE		23	21
	eRZ		26.7	
	USCGS: 57½ S 24 W			
	12:01:11			
	Matsushiro: Magnitude 6¼			
21	eSNEZ	02	27	22
	eSSZ		31	15
	eRNEZ		38.2	
	USCGS: 9½ S 149 E			
	02:08:28			
	Matsushiro: Magnitude 5½			
25	iPNZ	02	49	42
	e(PPP)NZ		54	40
	eSKSNZ	03	00	06
	iSE	03	00	22
	iPPSZ		01	25
	eSSNZ		05	56
	eNZ		06	36
	eGNE		(13.0)	
	eRZ		17.0	
	USCGS: 22 N 122 E			
	02:36:48			
	Matsushiro: Magnitude 6¾			
26	ePPSZ	08	56	21
	eSSN	09	02	00
	ePSPSEZ		03	03
	eSSSNE		07	28
	eN		11.2	
	eN		14.5	
	eGE		19.5	
	eRZ		25.5	
	USCGS: 43½ N 128½ W			
	08:20:51			
29	iPNEZ	15	41	47c
	iPcPZ		42	22
	e(PcS)EZ		46	52
	iSNEZ		49	37
	iScSNE		51	29
	eSSN		53	30
	eGN		56	20
	eRZ		58	46
	USCGS: 29 S 176½ W			
	15:31:57			
	Pasadena: Magnitude 6½ - 6¾			
30	e(PP)Z	05	08	39
	eSNE		14	09
	eScSN		16	09
	eGNZ		(20.0)	
	USCGS: 28½ S 176½ W			
	04:56:12			
30	ePEZ	20	36	12
	eSNEZ		44	28

(continued)

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Date	Phase	h	m	s
Sept	(continued)			
30	eSSNZ	20	48	36
	eGNE		51	28
	eRZ		54	44
	USCGS: 18 S 168 E			
	20:25:58			
	Pasadena: Magnitude 6½			
Oct				
5	ePKPZ	18	47	35
	eRZ		19	(40)
	USCGS: 83½ N 112½ E			
	18:27:47			
	Matsushiro: Magnitude 5¾ - 6			
8	ePEZ	00	13	40
	eSNEZ		21	49
	eSSE		25	49
	eGNE		28	50
	eRNEZ		31	48
	USCGS: 19 S 169 E			
	00:03:28			
12	ePZ	03	33	12
	iSNEZ	03	42	00
	eSSNZ		46	16
	eGE		49	42
	eRZ		53	32
	USCGS: 2 N 98½ E			
	03:21:52			
	Matsushiro: Magnitude 6¼			
15	ePNEZ	06	26	25
	ePPNZ		28	37
	ePPPNZ		30	29
	iSNEZ		35	15
	eSSNEZ		39	22
	iGNE		42	44
	iRZ		47	00
	USCGS: ½ N 120½ E			
	06:15:32			
	Pasadena: Magnitude 6½			
17	iSNE	08	48	40
	eGN		51	45
	eRNEZ		53.7	
	USCGS: 57½ S 161 W			
	08:35:00			
19	iPNZ	08	37	13
	eSNEZ		45	13
	eScSN		47	05
	eSSN		49	15
	eGN		51.3	
	eRZ		54	46
	USCGS: 27½ S 177 W			
	08:27:21			
	Pasadena: Magnitude 6¼			
19	iPNEZ	16	05	12
	iPcPZ		06	11
	iPPNEZ		07	19
	iSNEZ		12	59
	iSSNEZ		16	48
	eGNE		19	28
	eRZ		21	00
	USCGS: 54½ S 29 W			
	15:55:30			
	Matsushiro: Magnitude 6¼			
23	eN	17	42	54
	eLE	18	13.3	

Date	Phase	h	m	s
Oct				
26	e(pPPP)Z	07	56	52
	eSKSN	08	00	04
	eSE		01	29
	eSSNE		08	40
	eGNE		19	00
	eRZ		(27)	
	USCGS: 37½ N 142½ E			
	h = 60 km; 07:35:12			
27	i(PP)NZ	07	12	30
	esSKSN		19	26
	iSE		20	20
	eSPNZ		22	11
	iPSEZ		22	26
	ePPSZ		23	32
	eSSNE		28	17
	eSSSNZ		32	20
	eGE		40	00
	eRZ		44.0	
	USCGS: 45½ N 151 E			
	h = 100 km; 06:52:50			
	Pasadena: Magnitude 6½			
29	iPNEZ	14	29	38c
	ePcSE		34	38
	eSNE		37	23
	esSN		37	46
	eScSNE		39	20
	e(SS)E		42.1	
	eSSSN		44.1	
	eRZ		46.6	
	USCGS: 29½ S 176½ W			
	h = 60 km; 14:19:51			
	Matsushiro: Magnitude 6¼			
29	ePNZ	22	06	56
	eGE		10	05
	eSZ		10	20
	eRZ		10	50
	BCIS: 50 S 119 E			
	22:03:00			
30	ePEZ	14	08	49
	ePcPEZ	14	09	22
	iSNEZ		17	14
	eScSN		18	44
	eSSN		21	18
	eRZ		(28.3)	
	USCGS: 23½ S 175½ W			
	13:59:25			
	Matsushiro: Magnitude 5¾ - 6			
31	ePEZ	04	37	25
	epPZ		38	56
	esPZ		39	41
	iSNEZ		45	47
	eZ		46	11
	eNEZ		46	38
	esSE		48	44
	eN		49.7	
	eSSSN		53	48
	eGNZ		55	28
	USCGS: 16½ S 178 W			
	h = 450 km; 04:27:12			
Nov				
2	iSNEZ	20	23	09
	eSSNEZ		27	37
	eSSSNE		30	39

(continued)

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Date	Phase	h	m	s
Nov	(continued)			
2	eRNEZ	20	35	19
	USCGS: 5½ S 151½ E			
	h = 60 km; 20:03:32			
	Pasadena: Magnitude 6¾			
3	iPNZ	09	49	42
	e(PcS)Z		55	07
	iSNE		57	23
	eSSE	10	01	00
	eRNZ	10	05	23
	USCGS: 10½ S 111 E			
	09:40:05			
	Matsushiro: Magnitude 6 - 6¼			
5	iPEZ	12	00	51
	eSNEZ		09	27
	eScSN		10	32
	eSSEZ		13	43
	eGNEZ		17	06
	eRNZ		20	29
	USCGS: 13 S 166½ E			
	h = 100 km; 11:50:17			
	Matsushiro: Magnitude 5¾ - 6			
5	ePZ	17	48	55
	eSNEZ		57	45
	eSSE	18	01	55
	eRNEZ		09	50
	USCGS: 9 S 157½ E			
	17:38:08			
6	ePEZ	01	18	20
	eSNEZ		27	08
	eScSE		28	22
	eSSNEZ		31	41
	eGE		34	55
	eRNEZ		39	16
	USCGS: 9 S 157½ E			
	01:07:31			
	Matsushiro: Magnitude 5¾ - 6			
6	ePcPZ	11	54	42
	eSNEZ	12	01	55
	eRZ	12	(11)	
	USCGS: 24 S 174½ W			
	11:43:06			
	Matsushiro: Magnitude 5½			
7	ePEZ	22	26	39
	iSNEZ		35	05
	eScSN		36	35
	eSSE		39	12
	eGN		42	56
	eRZ		46	12
	USCGS: 23½ S 175½ W			
	22:16:15			
	Pasadena: Magnitude 6¼			
8	ePPZ	14	14	18
	e(SKKKS)N		21	19
	ePSZ		23	51
	eSKKPE		27	26
	eSSE		29	50
	eGE		41	50
	eRZ		48.2	
	USCGS: 44 N 140½ E			
	13:54:55			
	Pasadena: Magnitude 6½			
9	ePZ	04	27	45
	(continued)			

Date	Phase	h	m	s
Nov	(continued)			
9	eSNE	04	35	00
	eSSNE		38	52
	eGE		40.1	
	eRZ		42.3	
	BCIS: 57 S 136 W			
	04:18:53			
15	ePPZ	10	44	03
	ePSNEZ		53.3	
	eSSNE		59	20
	e(PSPS)Z		59.8	
	eGEZ	11	10.2	
	eRZ	11	15.0	
	USCGS: 38 N 74½ E			
	10:25:03			
15	ePZ	17	24	24
	ePKPZ		27	46
	ePPNEZ		29	32
	eSKSEZ		34	37
	e(SKKS)E		36	24
	eS or PKKPNE		37	34
	ePSZ		38	56
	ePPSE		39	40
	eSKKPEZ		41	30
	eSSN		45	54
	eScSScSN		49	19
	eZ		54	36
	eGN	18	00.4	
	eREZ	18	08.3	
	USCGS: 37½ N 20½ E			
	17:08:41			
	Pasadena: Magnitude 6½ - 6¾			
16	ePZ	01	11	27
	eSNEZ		21	10
	esSE		21	54
	eRE		37.5	
16	eLEZ	11	12.3	
	USCGS: 1 N 26½ W			
	10:21:17			
	Pasadena: Magnitude 6¼ - 6½			
19	iPNEZ	11	19	20
	iPcPNZ	11	19	50
	iSNEZ		27	53
	iSSEZ		32	11
	USCGS: 5½ S 146 E			
	h = 100 km; 11:08:41			
	Pasadena: Magnitude 7			
22	eSNEZ	13	07	30
	eSSZ		11	48
	eGEZ		15	29
	eRZ		19.8	
	USCGS: 3 S 140 E			
	12:47:56			
	Matsushiro: Magnitude 5½			
22	ePZ	16	35	44
	iSNE		42	37
	eScSNE		45	12
	eSSNE		46	35
	eGE		47	30
	eRZ		49.3	
	USCGS: 54 S 136 W			
	16:26:34			
	Matsushiro: Magnitude 6¼			
22	ePPEZ	19	46	57
	(continued)			

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Date	Phase	h	m	s
Nov	(continued)			
22	iSNEZ	19	51	58
	esSNEZ		55	09
	eGEZ		59	18
	USCGS: 21½ S 178½ W			
	h = 550 km; 19:34:35			
23	eSNEZ	16	33	32
	eSSN		37	40
	eGNE		40	45
	eRZ		43.6	
	USCGS: 20 S 174½ E			
	16:14:47			
	Matsushiro: Magnitude 5½ - 5¾			
26	ePZ	07	16	34
	iPcPNZ		17	15
	iSNEZ		24	50
	iSSZ		28	52
	eGE		31	04
	eRNZ		34	11
	USCGS: 5½ S 102½ E			
	07:06:19			
	Pasadena: Magnitude 6½			
26	iPNEZ	23	19	39
	ePPZ		21	58
	iSNEZ		27	55
	e(SS)Z		31	27
	eGE		34	33
	eRZ		37	18
	USCGS: 5½ S 103 E			
	23:09:23			
	Pasadena: Magnitude 6¾			
27	eSNZ	19	10	09
	eSSN		14.2	
	eRNZ		19.7	
	USCGS: 5½ S 103 E			
	18:51:27			
28	ePcPZ	02	56	38
	eSNEZ	03	04	30
	eScSNE		05	58
	eSSNE		08	33
	eGNE		11	47
	eRZ		16	09
	USCGS: 19½ S 174½ E			
	02:45:42			
	Matsushiro: Magnitude 5¾ - 6			
28	iPNZ	12	47	34
	eSNE		57	57
	eSSNEZ		03	36
	eSSSNE		07	17
	eGE		09	46
	USCGS: 28½ S 71 W			
	12:34:53			
	Pasadena: Magnitude 6½			
28	ePEZ	22	49	54
	eSNE		58	20
	eSSN	23	02.6	
	eLN		(11	44)
	USCGS: 13 S 167½ E			
	22:39:13			
29	ePEZ	19	25	49
	eSN		32	23
	eGN		35	52
	USCGS: 57 S 147½ W			
	19:17:40			
	Matsushiro: Magnitude 5¾ - 6			

Date	Phase	h	m	s
Dec				
1	eNZ	15	04	15
	iNZ		07	46
	iZ		10	03
	USCGS: 63 S 154 E			
	14:59:40			
	Matsushiro: Magnitude 6¼ - 6½			
2	esSNZ	07	48	18
	esSSNZ		52	17
	eRNZ		58.1	
	USCGS: 5 S 104 E			
	h = 150 km; 07:30:05			
2	ePNZ	09	44	48
	ePPZ	09	47	07
	eSNZ		53	33
	eSSN		57	16
	e(G)NZ	10	01	33
	eRZ		05	04
	USCGS: 1 S 123 E			
	09:34:00			
	Pasadena: Magnitude 6½ - 6¾			
3	ePZ	02	04	25
	eSNE		12	08
	eSSN		15	48
	eLEZ		19	47
	USCGS: 56½ S 24½ W			
	01:55:05			
3	eLNEZ	19	59.3	
10	ePZ	03	02	35
	eS or GNEZ		06	50
	eE		07	20
	ePcSE		10	10
	BCIS: 63 S 167 E			
	02:57:20			
11	ePZ	01	49	01
	eSNEZ		57	30
	eRZ	02	10	00
	USCGS: 23 S 175 W			
	01:38:33			
	Matsushiro: Magnitude 5¾			
13	eSNZ	05	57	09
	eRZ	06	06.1	
	USCGS: 9½ S 106½ E			
	05:39:31			
13	ePZ	17	47	12
	eSNEZ	17	56	15
	e(SSS)Z	18	02	56
	eLN	18	07.0	
	USCGS: 18 S 123½ W			
	17:36:07			
	Matsushiro: Magnitude 5¾			
14	iPNEZ	18	09	44
	ipPZ		10	28
	iSNEZ		18	56
	eSPNEZ		19	44
	eSSSN		27	26
	eRZ		32	40
	USCGS: 5½ N 125½ E			
	h = 200 km; 17:58:33			
	Matsushiro: Magnitude 6½			
14	ePNZ	22	00	10
	eSZ		09	04
	eScSNZ		10	07
	e(SS)Z		14	05

(continued)

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Date	Phase	h	m	s
Dec	(continued)			
14	eGZ	22	16	28
	eRZ		20	11
	USCGS: 1 N 125 E			
	21:49:10			
	Pasadena: Magnitude 6			
14	iPNEZ	23	30	56
	i(PcP)NE		31	44
	i(PP)NE		33	07
	iSNE		38	08
	iSSZ		41	44
	USCGS: 59½ S 31 W			
	23:21:56			
	Pasadena: Magnitude 7			
15	iPNZ	12	24	47
	ePPNZ		26	52
	eSNE		32	00
	eSSNEZ		35	30
	eRNEZ		41	13
	USCGS: 59 S 24 W			
	12:15:45			
17	eSNEZ	06	12	20
	eGE	06	19	18
	eRNEZ		21.7	
	USCGS: 5½ S 102½ E			
	05:53:46			
	Matsushiro: Magnitude 5½ - 5¾			
17	ePZ	17	00	38
	iSNE		10	19
	eSSNE		15	17
	eSSSE		18	18
	eGNE		20.8	
	eRZ		24.1	
	USCGS: 36½ S 101½ W			
	16:48:55			
	Pasadena: Magnitude 6			
21	eNEZ	01	42	21
	eLNE		45.0	
21	eSSE	10	30	23
	eGN		40	15
	USCGS: 27½ S 176 W			
	10:20:33			
	Pasadena: Magnitude 6			
21	eSN	11	32	12
	eGE		38	32
	USCGS: 14 N 52 E			
	11:19:14			
	Pasadena: Magnitude 6½ - 6¾			
22	eLNEZ	00	52.0	
	BCIS: Gulf of Aden			
	00:09:38			
23	eLNEZ	05	03.0	
	USCGS: 28 S 176 W			
	04:31:00			
24	eE	07	28	30
	eLNEZ	07	30.3	
	BCIS: 42½ S 77½ E			
	07:16.5			
25	iPZ	03	58	54
	eSN	04	06	48
	eScSN		08	43
	e(G)N		13	12
	eRN		16.0	
	USCGS: 27½ S 176 W			
	03:48:58			

Date	Phase	h	m	s
Dec				
25	ePN	10	31	34
	iSNE		42	12
	esSE		42	51
	USCGS: 25½ S 67 W			
	h = 100 km; 10:18:47			
27	ePZ	12	50	50
	eSNE	13	00	33
	USCGS: 28 S 63 W			
	h = 600 km; 12:39:09			
27	ePKPZ	16	12	00
	ePPNZ	14	06	
	e(PKS)NZ	15	09	
	ePPPN	16	50	
	ePS or SKSPE	24	08	
	ePPSZ	25	29	
	eSSNE	31	20	
	USCGS: 56 N 162½ E			
	15:52:55			
	Pasadena: Magnitude 6¾ - 7			
28	eNE	07	41	23
	eE		49	02
	eLN		57	38
	USCGS: 52½ N 160 E			
	07:20:32			
	Pasadena: Magnitude 6½			
29	ePZ	17	25	19
	eSN	17	34	02
	e(R)NE	17	44	16
	USCGS: 21½ S 174 W			
	17:14:40			
31	eN	10	49	01
	eLE		58	47
	USCGS: 3 S 139½ E			
	10:29:23			
	Matsushiro: Magnitude 5¾ - 6			
31	ePNZ	20	41	33
	eGE		44	58
	eSZN		45	19
	BCIS: 48 S 107 E			
	20:37.3			
31	eLNZ	23	34	21
31	eLNEZ	23	42	41
Jan	1960			
2	e(ScS)Z	05	27	57
	eRNEZ		39	33
	USCGS: 2½ N 96 E			
	05:06:54			
	Matsushiro: Magnitude 5¾			
3	eLNEZ	06	(55)	
7	eLZ	08	49.0	
7	ePN	13	37	53
	iSNE		45	22
	eScSE		47	21
	eSSN		48	57
	e(R)NE		52	24
	USCGS: 56 S 27½ W			
	13:28:13			
	Pasadena: Magnitude 6¼ - 6½			
7	eZ	23	39	52
	eLNZ		51	04
	USCGS: 6½ N 94½ E			
	23:17:18			
	Matsushiro: Magnitude 6½			

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Date	Phase	h	m	s
Jan				
8	eNE	00	45	52
	eLNE	00	(52)	
	eLZ	00	54.2	
8	eSE	02	51	24
	eSSZ		55	16
	eRNEZ	03	00	50
	USCGS: 58½ S 26 W			
	02:35:00			
8	eSNE	11	46	22
	eSSNZ		50	06
	eRNEZ		55.0	
	USCGS: 55 S 27½ W			
	11:29:18			
	Matsushiro: Magnitude 5¾			
8	ePZ	14	55	24
	eSNE	15	03	03
	eScSE		05	08
	eSSN		06	41
	eRNEZ		11	40
	USCGS: 55½ S 27½ W			
	14:45:53			
	Matsushiro: Magnitude 6 - 6¼			
8	eSSZ	22	07	48
	eGN		11	28
	eRZ		14.8	
	BCIS: 36½ S 17½ W			
	21:42:37			
12	ePZ	03	18	42
	ePPZ	03	20	37
	eSNEZ		26	20
	eSSNEZ		30	02
	eRNEZ		34	42
	USCGS: 55½ S 27 W			
	03:09:10			
	Matsushiro: Magnitude 6 - 6¼			
13	ePZ	07	37	29
	eSNZ		46	02
	eSSZ		50	21
	eRNEZ		58	39
	USCGS: 3½ S 140 E			
	07:26:26			
13	iPNEZ	15	53	57
	ePPNZ		57	42
	iPPPNZ	16	00	02
	eSKKSN		04	20
	iSN		05	04
	iPSZ		06	41
	eSSNE		11	24
	i(SSS)Z		16	28
	USCGS: 16 S 72 W			
	h = 200 km; 15:40:34			
	Pasadena: Magnitude 7¼			
14	eSE	07	48	33
	eSSZ		52.2	
	eREZ		57.4	
	BCIS: Sandwich Islands			
	07:31:20			
14	eLNEZ	19	22.1	
15	ePN	09	43	55
	ePPN		47	54
	ePPPN		50	06
	eSKSE		54	14
	iSE		55	19
	(continued)			

Date	Phase	h	m	s
Jan	(continued)			
15	iSSNE	10	02	18
	eNE		05	03
	eSSSE		06	31
	ePKPPKPE		08	20
	e(G)E		10	43
	USCGS: 15 S 75 W			
	h = 150 km; 09:30:24			
	Pasadena: Magnitude 7			
16	iPNEZ	07	03	22
	eSNEZ		06	49
	eRZ		07	25
	e(PcS)Z		12	04
	USCGS: 59½ S 149½ E			
	06:59:00			
16	ePZ	21	52	30
	eScSZ	22	02.4	
	eSSZ		05	10
	e(G)Z		09	22
	eRZ		13.6	
	USCGS: 10 S 161½ E			
	21:41:44			
17	eLNEZ	03	49.4	
18	ePZ	09	16	35
	eSNEZ		25	42
	eSSZ		30	40
	eGZ		35	48
	eRZ		39.6	
	USCGS: 5 N 126½ E			
	09:04:43			
	Matsushiro: Magnitude 5¾ - 6			
19	ePZ	09	24	22
	epPZ		26	08
	epPcPZ		27	08
	eSN		31	54
	eScSN		33	17
	isSN		35	09
	esScSN		37	01
	esSSN		39	04
	USCGS: 23 S 180 E			
	h = 600 km; 09:15:40			
	Pasadena: Magnitude 6			
21	eLNEZ	04	31.7	
21	eN	11	03	37
	eLN		11.4	
23	iPNZ	04	51	29
	iSNZ	05	00	04
	eSSN		04	06
	iRNZ		10	54
	USCGS: 4 S 127½ E			
	04:40:56			
	Pasadena: Magnitude 6½			
23	iPZ	07	41	47
	iSNEZ	07	50	21
	eSSN		54	14
	iRZ	08	01	12
	USCGS: 4 S 127½ E			
	07:31:14			
	Pasadena: Magnitude 6¾			
23	iPZ	18	07	22
	iSNE		15	34
	iRZ		26	26
	USCGS: 4 S 127½ E			
	17:56:30			
	Pasadena: Magnitude 6½ - 6¾			

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Date	Phase	h	m	s	Date	Phase	h	m	s
Jan									
24	iSNEZ	04	41	44					
	eSSE		46	09					
	eGN		50	34					
	iRZ		54	40					
	USCGS: 15½ S 179 W								
	04:21:42								
	Pasadena: Magnitude 6¼ - 6½								
25	eNE	16	49	47					
	eLN		57.7						
	USCGS: 16 S 179 W								
	16:29:26								
	Pasadena: Magnitude 6¼								
29	iPEZ	07	54	54					
	iSNEZ	08	01	46					
	eSSN		04	33					
	eGNE		05	04					
	iRNE		06	55					
	USCGS: 53 S 10 E								
	07:46:17								
31	eSKSN	05	32	46					
	ePSNE		35	14					
	eSSNEZ		40	14					
	eSSSE		44	26					
	eScSScSE		45	54					
	eGE		49	36					
	eRZ		(57.0)						
	USCGS: 33½ N 134½ E								
	05:08:18								
	Matsushiro: Magnitude 5.8								

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