CLEVELAND

SEISMOLOGICAL OBSERVATORY
JOHN CARROLL UNIVERSITY, CLEVELAND 18, OHIO, U. S. A.
41° 29′ 27.90″ North, 81° 31′ 52.22″ West, h = 326 m.
Seismographs: Two Sprengnether long-period horizontal, one Sprengnether vertical.
Two Sprengnether short-period horizontal.

BULLETIN FOR JANUARY, 1956

Date	Phase and Component	G. M. C. T.	Epicenter
1	ePʹZ	$23^h27^m40^s$ c	USCGS: 7°S, 129°E. Timor Island Region. Felt: Northern Territory Australia. H = $23^h08^m28^s$* h about 150 km. Δ = 136.9°
	iSKPZ	23 30 54.1 d	
3	iPZ	15 52 54 c	USCGS: $48\frac{1}{2}^m$N, 155°E. Kurile Isle H = $15^h40^m55^s$* Δ = 77.1°
	iZ	15 53 02 d	
	isE	16 02 37	
	iE	16 02 57	
7	iPZ	16 48 21.3 d	USCGS: $65\frac{1}{2}$°N, $133\frac{1}{2}$°W. Yukon H = $16^h41^m04^s$* Δ = 37.7°
	iPR_1Z	16 49 46.5 e	
8	iPZ	07 17 27.4 c	USCGS: 17°N, $99\frac{1}{2}$°W. Guerrero, Mex. Many injured and heavy damaged at Acapulco. H= $07^h11^m26^s$* Mag: $6\frac{1}{2}$ Pasadena. Δ = 29.0°
	eN	07 22 04	
	iNE	07 22 45	
8	iPZ	21 04 30.6 d	USCGS: 19°S, 70°W. Northern Chile Slight damage at Arica. H = $20^h54^m13^s$* Mag: $7\frac{1}{2}$ Pasadena Δ = 62.0°
	iSNE	21 12 43	
9	ePn	13 18 01	
	iPZ	13 18 09.0 c	
10	e E	09 12 30	USCGS: 25°S. 176°W. Tonga Is. Region. H = $08^h52^m36^s$* Mag: 7 3/4 Pasadena. Δ = 109.8
	e(SKS)E	09 17 59	
	i(S)N	09 19 48	
	ePPSE	09 21 56	
	$e(SR_1)N$	09 27 46	
11	iSKPZ	06 32 49.9 c	USCGS: $7\frac{1}{2}$°N, 94°E. Nicobar Is. H = $06^h10^m03^s$* Δ = 132.0°
13	iPZ	03 38 11.0 d	USCGS: $57\frac{1}{2}$°N, 163°E. Near East coast of Kamchatka H = $03^h27^m13^s$* Δ = 68.1°
	iZ	03 38 39.9 c	

(January, 1956)

Date	Phase and Component	G. M. C. T.	Epicenter
14	ePZ	14 18 49.8 c	USCGS: 51½°N, 173°W. Fox Islands
	iSN	14 27 00	Aleutian Islands. H = $14^h08^m41^s$*
	eSR_1N	14 31 04	Mag: 6, Pasadena Δ = 60.0
16	iPZ	23 45 31.2	USCGS: ½°S, 80½°W. Near coast of
	eN	23 51 26	Ecuador. Heavy property damage
	eSe	23 51 53	at Portoviejo and Bahia de Caraquez
			Felt on board M/S Equateur at 1.06°
			S, 81.08°W. H = $23^h37^m37^s$*
			Mag: 7¼ - 7½ Pas. Δ = 42.2°
17	iPZ	o8 09 53.1 c	USCGS: Pacific Ocean, about 1,000
	eSN	08 17 02	miles southwest of Galapagos Is.
			H = $08^h00^m45^s$** p-h = 52.0°
18	iPn	08 18 07.7	Δ S-P = 64.4°
	iSE	08 26 54	H = 08 07 37, h about 50 km
	esSE	08 27 13	
23	iPn	03 58 27.6	USCGS: 55½°N, 161½°E. Near East
	iPZ	03 58 30.5 d	coast of Kamchatka. H = $03^h47^m19^s$*
	eSE	04 07 25	Mag: 6½-6 3/4 Pasadena Δ = 70.0°
27	iP_4Z	11 04 06.6	ΔS_4-P_4 = 266 km. H = $11^h03^m26.5^s$
	iS_4Z	11 04 35.8	Felt in and South of Lima, Ohio
30	eE	09 10 35	
	eN	09 20 05	

EDW: ard

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Two Sprengnether short-period horizontal.

BULLETIN FOR FEBRUARY, 1956

Date	Phase	G.M.C.T.		Epicenter
1	iPR1Z	$13^h59^m28.4^s$	d	USCGS: 19°N, 145½°E. Marianas Islands.
	iZ	13 59 40.8	d	H = $13^h41^m44^s$*. h about 350 km.
	ipPR1Z	14 01 12.0	d	Mag: 6 3/4 - 7 Pasadena
	eSKSE	14 05 23		Δ = 105.9
	iSKKSE	14 06 14		
	eSN	14 06 45		
	iPSE	14 08 08		
	esSKKSNE	14 08 30		
2	ePZ	15 00 27	d	USCGS: 16°N, 98½°W. Off coast of
	esN	15 05 29		Guerro, Mexico. H ½ $14^h54^m18^s$*.
				Δ = 29.3°
2	iPZ	17 00 40.2		USCGS: 16°N, 98½°W. Off coast of
	iSE	17 05 40		Guerro, Mexico. H = $16^h54^m32^s$*
				Δ = 29.3°
9	iPZ	14 38 39.6	c	USCGS: 32°N, 116°W. Lower California.
	iE	14 43 11		Minor damage in Imperial Valley, Cali.
	iSN	14 43 36		H = $14^h32^m38^s$*. Mag: 6 3/4-7 Pasadena
				Δ = 29.2°
9	ePZ	15 30 27.7	d	USCGS: 32°N, 116°W. Lower California
	iPZ	15 30 30.1	c	aftershock. Felt: H = $15^h24^m26^s$*
				Δ = 29.2° Mag: 6.4 Pasadena
9	iPZ	18 54 46.3	c	USCGS: 32°N, 115½°W. Lower California
				aftershock. Felt: H = $18^h48^m45^s$*
				Mag: 6-6¼ Pasadena. Δ = 28.7°
13	iPZ	15 38 46.9	c	USCGS: 19½°N, 66°W. Off north coast of
	ie	15 43 43.7		Puerto Rico. Felt: San Juan.
				H = $15^h33^m12^s$* Δ = 25.6°
13	iPZ	16 08 15.9	d	
14	iPZ	18 39 39.5		Δ S-P = 28.5°
	iSN	18 44 34		

(February, 1956)

Date	Phase	G.M.C.T.		Epicenter
15	iPZ	$00^h26^m41.5^s$	d	
	iPR_1Z	00 29 13.5	d	
18	ePZ	07 47 16.9	d	USCGS: 30°N, 137½°E. South of Honshu,
	ipPZ	07 49 07.3	d	Japan. Felt: Honshu. H = $07^h34^m16^s$*
	iSKSNEne	07 57 05.9		h about 450 km. Mag: 7¼-7½ Pasadena
	iSKKSE	07 57 42		Δ = 100.0°
	iSNE	07 58 09.5		
	iPSN	07 59 39		
	esSKSE	08 00 33		
19	iPZ	02 24 57.7		USCGS: 52°N, 131½°W. Queen Charlotte
	i(S)N	02 30 33		Islands. H = $02^h18^m00^s$*.
				Mag: 6 3/4 Pasadena. Δ = 35.4°
20	iPZ	20 43 39.4	c	USCGS: 39½N, 30½E. Turkey, four killed
	iPR_1Zn	20 46 38.8	d	and many injured with extensive property
	iSN	20 53 33		damage at Eskiesehis. H = $20^h31^m35^s$*
	ePSN	20 54 30		Δ = 78.8°
23	iPZ	01 27 42.1	d	USCGS: 31°N, 42°W. North Atlantic Ocean
	iPR_1Z	01 28 48	d	H = $01^h21^m03^s$. Δ = 33.2°
	eSE	01 33 08		

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Two Sprengnether short-period horizontal.

BULLETIN FOR MARCH, 1956

Date	Phase	G. M. C. T.		Epicenter
2	ePZ	$12^h04^m31,3^s$	c	USCGS: $63\frac{1}{2}^\circ$N, $149\frac{1}{2}^\circ$W. Alaska.
	iPZ	12 04 32.1	c	Felt: College, McKinley Park and Talkectna. H = $11^h56^m20^s$*
				Δ = 44.5°
3	ePZ	00 19 23	d	USCGS: 15°S, $173\frac{1}{2}^\circ$W. Samoa Is.
	ePR_1Z	00 23 32	d	region. H = $00^h02^m25^s$
	esKSE	00 30 02		Mag: 6 3/4 Pas., 6 1/2 - 6 3/4
	eSKKSE	00 30 26		Berkley. Δ = 101.7°
	eSE	00 31 04		
5	ePZ	23 42 22.8	c	USCGS: $44\frac{1}{2}^\circ$N, 144°E. Near North
	iPne	23 42 23.4		coast of Hokkaido, Japan. Felt:
	iSN-	23 52 45		H = $23^h29^m41^s$* Mag: $6\frac{1}{2}$ - 6 3/4
				Pas. Δ = 84.3°
13	ePe	13 20 02.7		USCGS: 7°N, 82°W. Off South coast
	iPnZ	13 20 03.0	d	of Panama. Felt: El Salvador and
	eN	13 25 20		Canal Zone. H = $13^h13^m10^s$*
	eE	13 26 09		Δ = 34.4°
22	iPZ	06 42 03.1	d	USCGS: $3\frac{1}{2}^\circ$S, 79°W. Ecuador, Felt:
	ipPZ	06 42 25.5	d	Guayaqual. H = $06^h33^m55^s$*
	isPZ	06 42 38.1	d	h about 100 km. Mag: 6 3/4 Pas.,
	iPR_2N	06 44 25		6 $\frac{1}{2}$ Berkeley: Δ = 45.1°
	is N	06 48 28		
	i N	06 49 40		
	$i(SR_1)N$	06 51 10		

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Two Sprengnether short-period horizontal.

BULLETIN FOR APRIL, 1956

Date	Phase	G.M.C.T.		Epicenter
2	iP'Z	$11^h09^m33.9^s$	c	USCGS: 2°N, 97°E. Off coast of Suma-
	iPR_1Z	11 12 18.9	d	tra. H = $10^h49^m56^s$*. Δ = 137.5°
	ePSKSE	11 22 08		
6	iPZ	07 24 52.4	c	USCGS: 36½°N, 71°E. Hindu Kush.
	iPR_1Z	07 28 54	c	H = $07^h11^m34^s$*. h about 200 km.
	iSKS N	07 35 07.6		Δ = 98.5°
	iSKKSN	07 36 00		
	esSKSN	07 36 49		
	ePSN	07 37 17		
	esSKKSN	07 37 39		
	eN	07 37 59		
	eN	07 39 00		
7	ePZ	00 05 16	d	
18	iPZ	11 10 41.0	d	USCGS: 52°N, 178°W. Andreanof Is. Aleutian Is. H = 11h00m13s*. Mag 6,
	eE	11 20 16		Berk. 6 3/4 Pas. Δ = 62.3°
22	ePZ	17 31 11	d	USCGS: 54°N, 162°W. South of Alaska,
	iSN	17 38 32		Peninsula. H = $17^h21^m53^s$*.
				Mag: 6, Pas., Berk. Δ = 52.7°
23	iPZ	03 44 22.3	C	USCGS: 42½°N, 144½°E. Off east coast
	iZ	03 44 29.3	c	of Hokkaido, Japan. H = 03h31m40s*
	iSE	03 54 53		Mag: 6½ - 6 3/4 Pas. Δ = 86.7°
	eE-	03 55 19		

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Two Sprengnether short-period horizontal.

BULLETIN FOR MAY, 1956

Date	Phase	G.M.C.T.		Epicenter
7	iPZ	$08^h22^m42^s$	c	USCGS: $14\frac{1}{2}^\circ$N, $90\frac{1}{2}^\circ$W. Guatemala. Felt.
	ipPZ	08 23 23	c	H = $08^h17^m03^s$*, h about 200 km.
	iSE	08 27 23		Δ = 27.7°
	isSN	08 28 41		
16	eSKSN	09 25 58		Δ about 90°
	iSKKSe	09 26 31		
	iPSE	09 27 28		
27	ePZ	03 14 56	c	USCGS: $15\frac{1}{2}^\circ$S, 173°W. Samoa Islands.
	iPZ	03 15 05.7	c	H = $03^h01^m03^s$* Mag: $6\frac{1}{2}$ Pas.,
	eSKSE	03 25 37		Δ = 101.8°
	eSKKSE	03 26 30		
23	i(P)Z	21 01 56.2	d	USCGS: $25\frac{1}{2}^\circ$S, 179°W. Fiji Islands.
	i(pP)Z	21 03 36.2	d	H = $20^h48^m30^s$*, h about 450 km.
	iP'Z	21 06 19.6	d	Mag: $7\frac{1}{4}$ Pas., Berk.
	iE	21 08 36		Δ = 112.6°
	eSKSN	21 11 54		Agreement poor.
	eSKKSe	21 13 15		
	isSKSE	21 15 05		
	esSKKSN	21 16 13		
26	ePR$_1$e	20 39 15		USCGS: 19°S, $178\frac{1}{2}^\circ$W. Fiji Islands.
	iPR$_1$Z	20 39 16.0	c	H = $20^h21^m14^s$*, h about 550 km.
	eSKSE	20 44 24		Mag: $6\frac{1}{2}$ Pas., $6\frac{1}{4}$ Berk.
	esKKSE	20 45 16		Δ = 108.0°
	iSPNE	20 46 02		
	esSKSE	20 47 45		
	isSKKSE	20 48 51		

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BULLETIN FOR JUNE, 1956

Date	Phase	G.M.C.T.		Epicenter
3	iPnN-	05h 27m 07s		USCGS: 79½°N, 118½°W. Arctic Ocean
	iPZ	05 27 08	d	H = 05h19m23s*. Δ = 40.9°
	ePR$_1$N	05 28 33		
	eSNE	05 33 18		
4	iPeZ	07 19 18	c	USCGS: 52°N, 170½°W. Fox Islands, Aleu-
	iZ	07 19 30		tian Islands. H = 07h09m18s*.
	eSNE	07 19 30		Mag: 6¼ Pas., Berk. Δ = 58.2°
	e(PS)N	07 27 16		
	e			
4	iPZ	13 13 00.1	d	
	ipPZ	13 13 39.7	d	
4	iP'Z	05 49 26.2	c	USCGS: 8°S, 112°E. Javo. H = 05h29m47s*
				Δ = 146.4°
9	ePZ	10 19 52.4	d	USCGS: 30½°S, 70½°W. Central Chile. Felt
	iPZ	10 19 53.0	c	Coquimbo, Illapel, Santiago, Serena and
	ePR$_1$N	10 22 28		Valparaiso in Chile and San Juan, Argentina.
	iSNE	10 29 12		H = 10h08m32s*. h about 150 km.
				Mag: 6 3/4 Pas. Δ = 73.1°
9	iPZ	23 27 32.7	c	USCGS: 35½°N, 67½°E. Afghanistan.
	iPR$_1$Z	23 31 33.2	d	H = 23h13m51s* Mag: 7¼-7½ Pas., 7½ Berk.
	eSKSE	23 38 13		Δ = 98.8°
	ePSE	23 40 28		
11	ePZ	08 29 01.4	c	USCGS: 52°N, 31½°W. North Atlantic Ocean
	i(S)NE	08 34 37		H = 08h22m09s*. Δ = 35.6°
12	iPne	09 03 48.6	n&e	USCGS: 9°S, 110°W. Eastern Pacific Ocean.
	iPZ	09 03 48.9	c	H = 08h54m02s*. Mag: 6½ Pas., 6¼ Berk.
	iSN	09 11 39		Δ = 57.2°
15	iPSE	16 04 08		USCGS: about 300 miles south of Tonga
				Islands. H = 15h35m47s**.
				h about 200 km. Δ PS - H = 113.6°
23	iPZ	02 29 05.3	c	USCGS: 56½°N, 163½°E. Near east coast of
				Kamchatka. H = 02h18m02s*.
				Mag: 6½ Pas., 6¼-6½ Berk. Δ = 68.2
28	iPZ	23 05 37.5	d	Δ S - P = 33.5°
	iPne	23 05 38.2		H = 22 58 54
		23 11 07		

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BULLETIN FOR JULY, 1956

Date	Phase	G.M.C.T.		Epicenter
6	iPZ	02 28 39.1	c	USCGS: 42½°N, 126°W. Off coast of Oregon. H = 02h22m00s
	eSE	02 34 05		Mag: 5 Berkeley Δ = 32.8°
9	iPZ	03 23 45	c	USCGS: 37°N, 26°E. Aegean Sea. 42 killed, many injured. Several towns destroyed on Thira and Ios Islands.
	isNE	03 33 38		H = 03h11m39s* Mag: 8 Pas., 7¼ - 7½ Berkeley. Δ = 78.1°
9	iPZ	03 36 10	d	USCGS: Aegean Sea aftershock. H = 03 24 05.
9	iPZ	10 01 17		USCGS: 20°N, 73°W. Near coast of Haiti. Moderate damage at Port de Paix.
	iSNE	10 05 25		H = 09h56m13s*. h about 100 km. Mag: 6½ - 6-3/4 Pas., 6½ Berkeley. Δ = 23.3°
16	ePR$_1$Z	15 26 57	d	USCGS: 23½°N, 96°E. Central Burma, 30 killed and major damage at Mandalay and Sagaing. H = 15h07m06s* Δ = 116.5°
17	iP'Z	07 52 44	d	USCGS: 7°S, 126½°E. Banda Sea.
	iPR$_1$Z	07 55 35	d	H = 07h34m07s* h about 450 km.
	iPKSNE	07 56 18		Mag: 6-3/4 Pasadena.
	e$_p$PKSN	07 57 50		Δ = 139.0°
	ePR$_2$N	07 58 49		
	eSKKSE	08 01 37		
18	iP'Z	06 38 36	d	USCGS: 5°S, 130°E. Banda Sea.
	iSKPZ	06 41 50	c	H = 06h19m15s*. Mag: 7¼-7½ Pasadena, 7 Berkeley. Δ = 135.5°
	iN	06 42 39		
19	iPZ	23 32 55		USCGS: 9½°N, 84½°W. Near coast of Costa Rica. H = 23 26 25 *
	iSNE	23 38 05		Mag: 6 Berkeley. Δ = 32.0°
21	iPR$_1$Z	15 51 37	c	USCGS: 23°N, 70°E. Western India.
	ePR$_2$Z	15 54 01	c	Many killed and major property damage at Anjar. H = 15h32m35s*.
	ePSN	16 01 08		Mag: 6½ Pas. Δ = 112.0°
	ePPSN	16 02 13		

(July, 1956)

Date	Phase	G.M.C.T.		Epicenter
23	ePNEZ eSE	19 37 20 19 46 28	c	Δ S - P = 68.7°
27	ePnZ eSE	23 59 57 00 05 07	d	Δ S - P = 30.6°
30	iPZ eSE	09 27 05 09 36 56	c	Δ S - P = 76.8°

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BULLETIN FOR AUGUST, 1956

Date	Phase	G M C T		Remarks
9	iPZ	$17^h07^m09.0^s$	c	USCGS: 12°N, 86°W. Near coast of Nicaragua. H = $17^h00^m57^s$* Δ = 30.0°
9	eZ	23 15 25	d	USCGS: 15°S, 176°W. Samoa Islands region. H = $23^h00^m42^s$* h about 250 km Mag: 6 3/4 Pas. Δ = 104.0°
	eP'Z	23 18 26	c	
	iSKSE	23 24 28		
	iSKKSE	23 25 11		
	eSN	23 25 42		
12	ePZ	17 13 07	d	USCGS: 34°N, 138°E. Near South coast of Honshu, Japan. H = $16^h59^m33^s$* Mag: 6 1/2 - 6 3/4 Pas. Δ = 99.0°
	ePR_1Z	17 17 01	d	
	eSKSN	17 23 56		
14	iSKP'Z	03 12 57	c	USCGS: Prince Edward Island region, South Indian Ocean. H = $02^h50^m30^s$* Δ SKP - H = 130.0°
15	eZ	05 42 25	d	USCGS: 0°, 101½°E. Sumatra. H = $05^h20^m37^s$* h about 300 km Δ = 140.5°
15	iP'Z	11 10 01.2	d	USCGS: ½°S, 123°E. Northern Celebes. H = $10^h51^m19^s$* h about 150 km Δ = 134.7°
	iSKPZ	11 13 43		
15	iPZ	13 24 31.8	d	USCGS: 46°N, 151°E. Kurile Island. H = $13^h12^m10^s$*. Mag: 6¼ Pas. Δ = 81.4°
	iSE	13 34 35		
23	iPZ	13 58 18	d	15°S, 68°W. Bolivia. Felt: La Paz H = $13^h48^m30^s$*. Mag: 6¼ - 6½ Pas. Δ = 59.0°
	iSE	14 06 09		

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Two Sprengnether short-period horizontal.

BULLETIN FOR SEPTEMBER, 1956

Date	Phase	G. M. C. T.		Epicenter
10	iPZ	$14^h11^m46.6^s$	d	USCGS: $11\frac{1}{2}^\circ$N, $103\frac{1}{2}^\circ$W. Pacific Ocean
	eSN	14 17 35		south of Mexico. H = $14^h04^m45^s$*
				Δ = 35.9°
11	iPZ	10 00 36.2	d	USCGS: 14°N, 91°W. Guatemala.
	iPn	10 00 36.3		H = $09^h54^m40^s$*. h about 100 km.
	epPn	10 00 47		Mag: $6\frac{1}{4}$-$6\frac{1}{2}$ Pas., 6-$6\frac{1}{4}$ Berk.
	esN	10 05 31		Δ = 28.6°
11	iPZ	21 15 48.1	d	USCGS: Northern Kurile Islands.
	eSN	21 25 31		H = $21^h03^m56^s$*. Mag: $6\frac{1}{4}$ Pas., 6 Berk.
	ePsN	21 25 53		Δ S - P = 75.2°
15	iPZ	07 49 22.4	d	USGCS: 20°S, 69°W. Northern Chile.
	iPnZ	07 49 23.4	c	Felt: Antofagasta. H = $07^h39^m04^s$*
	iPe	07 49 23.5		h about 100 km. Mag: 6 3/4 Pasadena
	ipPZ	07 49 47.4		Δ = 63.0°
	iSE	07 57 42		
	isSE	07 58 23		
	iS_cSE	07 59 05		
	e_sS_cSE	07 59 49		
16	ePR_1E	08 55 19		USCGS: 34°N, $69\frac{1}{2}^\circ$E. Afghanistan.
	iSKSNE	09 01 49		H = $08^h37^m22^s$*. Mag: $6\frac{1}{4}$ - $6\frac{1}{2}$ Pas.
				Δ = 100.5°

EJW:ard

CLEVELAND

SEISMOLOGICAL OBSERVATORY
JOHN CARROLL UNIVERSITY, CLEVELAND 18, OHIO, U. S. A.

41° 29′ 27.90″ North, 81° 31′ 52.22″ West, h = 326 m.

Seismographs: Two Sprengnether long-period horizontal, one Sprengnether vertical.
Two Sprengnether short-period horizontal.

BULLETIN FOR OCTOBER, 1956

Date	Phase	G. M. C. T.		Epicenter
2	iPZ	$15^h07^m48.2^s$	d	USCGS: 53°N, 159°E. Near southeast coast
	ipPz	15 07 59.3	c	of Kamchatka. H = $14^h56^m26^s$*.
				h about 60 km. Mag: $6\frac{1}{4}$-$6\frac{1}{2}$ Pas.
				Δ = 74.0°
3	iPZ	08 29 01.1	d	USCGS: 20°S, $69\frac{1}{2}$°W. Northern Chile.
	ipPZ	08 29 26.3	c	H=$08^h18^m46^s$*. h about 100km. Mag:$6\frac{1}{2}$ Pas.
	isPZ	08 29 36.9	d	Δ = 63.0°
	iSE	08 37 16		
	isSE	08 37 58		
11	iPZ	02 36 41.9	c	USCGS: 46°N, $150\frac{1}{2}$°E. Kurile Islands.
	ipPZ	02 37 09.8	c	Felt, Hokkaido, Japan. H = $02^h24^m33^s$*.
	iPRN	02 39 52.4		h about 100 km. Mag: $7\frac{1}{4}$-$7\frac{1}{2}$ Pas.
	iSKSN	02 46 42.4		Δ = 82.0°
	iSE	02 47 01.4		
11	iPZ	16 55 28.3	c	USCGS: $40\frac{1}{2}$°N, $126\frac{1}{2}$°W. Off Cape Mendocino,
	eSN	17 00 53		California. Felt, coastal area N. Cali-
				fornia. H = $16^h48^m46^s$*. Mag: 6 Pas., Berk.
				Δ = 33.5°
12	iPn	02 47 26.9		USCGS: 15°S, $74\frac{1}{2}$°W. Near coast central
	i			Peru. H = $02^h37^m43^s$*. Mag: $6\frac{1}{2}$ Pas., Berk.
				Δ = 57.0°
19	iPZ	20 58 12	d	USCGS: 52°N, 177°E. Rat Island, Aleutian
	iSE	21 06 50		Islands. H = $20^h47^m33^s$*. Mag: 6 3/4 Pas.,
				Berkeley.
				Δ = 65.2°
23	ePZ	08 15 14.2	c	USCGS: 3°N, 95°W. Northwest of Galapagos
	epPN	08 16 54		Islands. H = $08^h07^m35^s$*. Mag: 5 3/4 Pas.
	eSE	08 21 28		Δ = 40.4°
	esSE	08 24 30		Our records indicate h about 500 km with no surface waves.

(October, 1956)

Date	Phase	G. M. C. T.		Epicenter
24	ePZ eSE iE	$14^h48^m22.8^s$ 14 53 23 14 53 52	c	USCGS: 12°N, 87°W. Near coast of Nicaragua. Minor damage at Managua. Felt, Southern El Salvador. H = $14^h42^m11^s$*. Mag: $7\frac{1}{4}$ Pas., 7 Berk. Δ = 29.8°
25	ePZ eSN	05 28 95 05 33 17	c	USCGS: 12°N, 87°W. Nicaragua aftershock. Felt, El Salvador and Nicaragua. H = $05^h21^m40^s$*. Mag: $6\frac{1}{4}$-$6\frac{1}{2}$ Pasadena, 6-$6\frac{1}{4}$ Berkeley. Δ = 29.8°
26	iPSE e(SR$_1$)E	23 19 50 23 25 41		USCGS: 14°N, 167°E. New Hebrides Islands. H = $22^h50^m24^s$*. Mag: $6\frac{1}{2}$ Pas., Berk. Δ = 116.0°
28	iPR$_1$Z eSKSE ePSE	03 48 28 03 54 09 03 58 19	c	USCGS: 32°S, 179°W. Kermadeo Islands. H = $03^h28^m41^s$*. Mag: 6 3/4-7 Pas., 6 3/4 Berkeley. Δ = 116.2°
31	eSKSE	14 28 11		USCGS: $26\frac{1}{2}$°N, $54\frac{1}{2}$°E. Southern Iran. Many killed and extensive property damage at Laristan. H = $14^h03^m38^s$*. Mag: 6 3/4 Pasadena. Δ = 101.0°

JW:lt

NOVEMBER, 1956, BULLETIN

Date	Phase	G. M. C. T.	Remarks
4	iSN	$07^h32^m29^s$	USCGS: 20½S, 176½°W, Tonga Islands H = 07-05-51, h about 100 km. Mag: 6½ - 6 3/4 (Pas) = 107.2°
4	iS_4e iS_0n	11 56 07.0 11 56 34.0	USCGS: Southern Quebec, Canada Felt: Gatineau; H = 11-53-30, S_4-H = 655k Phase determination based on Walter-Birkenhauer Tables
9	iPZ ipPZ iSN	13 11 38.9 13 12 07 13 16 03	USCGS: 17°N, 94°W, Southern Mexico - Slight damage in Oapaco Province - h about 150 km. 6 (Berk)
17	iPZ eSE	20 34 25 20 40 18	USCGS: Queen Charlotte Islands Region 54½°N, 134°W. Felt: Ketchikan, Alaska Mag: 6¼ - 6½ (Berk); 6½ (Pas)
26	iS_4e iS_1N	04 16 24.4 04 16 54.4	USCGS: 37°N, 90½°W. Missouri. Felt: Southeastern Mo., and southwestern Ill.
26	iPZ ipPZ	19 00 44.1 19 01 00.5	USCGS: 26°S, 70½°W., Nonthenn, Chile h about 100 km

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DECEMBER, 1956, BULLETIN

Date	Phase	G. M. C. T.	Remarks
4	iPZ	$07^h29^m53^s$	USCGS: 53.5°N, 164°W
	$eS_{N\ E}$	07 37 45	Mag: 6 1/2 - 6 3/4 (Pas)
4	iP_Z	10 20 54	USCGS: 45.5°S, 106°W
	eS_E	10 31 50	$H = 10^h07^m54^s$
4	iP_Z	23 07 18	USCGS: 15°N, 92°W, $H = 23^h01^m35^s$
	isS_E	23 12 54	h = 150 km Mag: 6 (Pas)
18	iP_e	02 42 02	USGCS: 25.5°S, 68.5°W. $H = 02^h31^m00^s$
	eS_e	02 50 58	Mag: 7 - 7 1/4 (Pas); 6-3/4 - 7 (Berk)
21	iP_e	09 05 46	USCGS: 51°N, 131°W
	eM	09 17 20	Mag: 6-3/4 (Pas); 6 ½ (Berk)

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