

No. 1.

MANILA, P. I.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY

$\phi=14^{\circ} 34' 42''$ N. $\lambda=120^{\circ} 58' 41''$ E. $h=2.40$ m. Alluvium.

GALITZIN-WILIP.

WIECHERT. M=1000 Kg.
January 1, 1935.

	T_0	D	T_1	l	y^2	K
N-S	12.4	100.5	12.6	11.5	0.017	97
E-W	11.8	100.5	11.9	11.4	-0.075	80
Z	11.6	100.5	9.0	14.8	1.250	200

	T_0	V	ϵ	$\frac{r}{T_0^2}$
N-S	4.5	197	2.3	0.041
E-W	4.8	188	2.7	0.038

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 January				
No. 3 1st	iPNEZ iN SNEZ LNE MN F	13 31 46 13 31 52 13 40 40 13 52 30ca 13 58 ca 15 40	7380	Compression. 17° S; 174° W; $0=13:20:56$ by U.S.C.G.S. Approx. 18° S; 179° W by Manila, River- view and Adelaide.
No. 10 3rd	iPNEZ iSNE LNE MN F	1 56 58 2 02 22 2 06 50ca 2 10 ca 3 45	3810	Compression. In region of 33° N; 87° E, Tibet.
No. 11 3rd	iPNEZ iSNE F	9 16 26 9 16 41 9 36	120	Compression. Felt at Tarlac, Manila and Baguio. $15^{\circ} 50'$ N; $120^{\circ} 20'$ E by Manila and Baguio.
No. 14 4th	ePNEZ iSNEZ F	0 16 11 0 19 44 1 05	2155	Deeper than normal.
No. 15 4th	PNEZ SNEZ F	10 04 54 10 05 06 10 08	95	
No. 16 4th	PNEZ iZ SNEZ LNE MNE	14 53 45 14 54 03 15 04 10 15 20 30ca 15 26 30ca	9215	
No. 17 4th	PNEZ SNE LNE F	16 32 38 16 44 00 17 04 30ca 18 05	10650	No. 16 still recording.
No. 18 5th	PNEZ SN MNE F	10 12 53 10 17 24 10 22 50ca 10 45	2990	

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 January No. 21 8th	iPNZ ePE SNEZ F	12 52 08 12 52 08 12 52 54 13 45	360	Felt at Laoag with intensity IV. Compression. Baguio $\Delta=160$ Km.
No. 27 11th	PNEZ SNEZ F	0 09 26 0 10 23 1 15	480	Dilatation. Felt at Aparri with intensity IV. 19° N; 120° E by Manila and Hong Kong. Baguio $\Delta=270$ Km.
No. 29 13th	iPNEZ SNEZ F	6 31 05 6 32 38 6 50	865	Dilatation from SE. Felt at Butuan with intensity IV. $10^{\circ} 10'$ N; $126^{\circ} 30'$ E by Manila and Butuan.
No. 30 14th	PNEZ SNE LNEZ F	2 07 05 2 09 09 2 10 ca 3 30	1195	Dilatation. Felt at Davao with intensity II. In region of $5^{\circ} 45'$ N; 127° E by Manila, Butuan, Hong Kong, Chiufeng.
No. 32 14th	PNEZ SNE LN F	15 08 21 15 10 25 15 11 40ca 16 03	1190	Felt at Agaña, Guam, with intensity IV.
No. 33 14th	PE SNE LNE F	22 29 56 22 32 00 22 34 ca 23 50	1190	Same epicenter as No. 32.
No. 38 17th	ePNEZ SNEZ LNE MNE F	2 18 17 2 26 00 2 35 20ca 2 40 ca 3 50	6090	19° S; 165° E by Riverview, Manila, Hong Kong, Chiufeng.
No. 40 18th	PNEZ SNE LN F	17 13 50 17 18 52 17 22 30ca 18 45	3455	Disturbed by microseisms.
No. 41 18th	\bar{P} NE SNE	17 18 13 17 18 22	70	Small earthquake superimposed on No. 40.
No. 42 18th	PNE SNE LE F	20 35 52 20 41 22 20 45 20 21 22	3900	Disturbed by microseisms.
No. 48 21st	\bar{P} NEZ SNEZ F	17 56 00 17 56 06 18 01	40	
No. 50 21st	\bar{P} NE SNE F	22 18 15 22 18 24 22 21	70	

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SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time			Dist. Km.	Remarks.
		h.	m.	s.		
1935 January						
No. 51 22nd	$\overline{\text{PNEZ}}$	1	35	54	85	
	$\overline{\text{SNEZ}}$	1	36	05		
	F	1	41			
No. 52 22nd	iPZ	15	02	10	3035	Compression. Approx. 2°S ; 141°E by Manila and Riverview. Subject to correction for depth of focus.
	ePNE	15	02	13		
	SNEZ	15	06	44		
	LN	15	09	50		
	LN	15	12	10		
	F	16	35			
No. 54 23rd	iPNEZ	7	34	52	7400	Compression from north.
	SNE	7	43	48		
	LINE	7	56	10ca		
	MNE	8	01	ca		
	F	10	40			
No. 55 23rd	i $\overline{\text{PNEZ}}$	20	17	01	160	Compression from SE. Deep focus. Baguio $\Delta=240$ Km. Distances subject to correction for depth of focus.
	i $\overline{\text{SNEZ}}$	20	17	21		
	F	20	32			
No. 65 30th	PNEZ	0	51	35	2855	
	SNE	0	55	57		
	LINE	0	58	36ca		
	MNE	1	01	ca		
	F	1	14			
No. 67 31st	PNEZ	0	17	35	1670	
	SE	0	20	28		
	LN	0	22	12ca		
	MNE	0	23	36ca		
	F	0	40			
No. 69 31st	iPZ	17	55	02	5820	Dilatation. Approx. 2°S ; 171°E by Riverview and Manila.
	ePNE	17	55	02		
	SNEZ	18	02	24		
	MNE	18	16	20ca		
	F	19	25			
No. 71 31st	$\overline{\text{PNEZ}}$	22	47	27	190	
	$\overline{\text{SNEZ}}$	22	47	51		
	F	22	53			

Forty-three insignificant or undecipherable disturbances on the following days of January: 1st(5), 2nd(3), 3rd(2), 5th, 6th, 9th(2), 10th(3), 11th, 14th, 15th(3), 16th, 18th, 19th(2), 20th(3), 21st, 23rd, 26th(2), 27th(4), 28th(2), 29th, 30th, and 31st(2).

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$\phi=14^{\circ} 34' 42''$ N.

$\lambda=120^{\circ} 58' 41''$ E.

$h=2.40$ m.

Alluvium.

WIECHERT. $M=1000$ Kg.

February 2, 1935.

GALITZIN-WILIP.

	T_0	D	T_1	δ	μ^2	K
N-S	12.4	100.0	12.6	11.5	0.017	97
E-W	11.8	100.5	11.9	11.4	-0.075	80
Z	11.6	100.5	9.0	14.8	1.250	200

	T_0	V	ϵ	$\frac{r}{T_0^2}$
N-S	4.5	194	2.3	0.036
E-W	4.8	201	2.7	0.036

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 February No. 73 1st	PNEZ SNE MN F	13 26 07 13 28 17 13 31 ca 13 42	1260	
No. 74 1st	\bar{P} NEZ \bar{S} NEZ F	21 28 38 21 28 58 21 42	160	Felt at Iba with intensity IV and at Manila slightly. Dilatation.
No. 77 3rd	PNEZ iZ iE iSNZ iSE F	2 19 22 2 20 10 2 21 21 2 26 27 2 26 28 3 20	5490	Compression. Deep focus.
No. 78 3rd	PNEZ S?NE F	16 40 52 16 45 11 17 30	2810	Conspicuous group of about 18 seconds period waves on E component from 17:01 to 17:06.
No. 81 4th	PNEZ SNE MNE F	7 53 22 7 58 26 8 04 53ca 8 30	3500	Deeper than Normal?
No. 82 4th	PNEZ SNE LNE ME F	17 36 01 17 45 01 17 56 ca 18 02 ca 19 15	7455	
No. 83 4th	iPEZ ePN iSNEZ	21 10 47 21 10 47 21 13 26	1535	Dilatation.
No. 84 4th	\bar{P} NEZ \bar{S} NE F	22 20 04 22 20 21 22 42	135	Dilatation from the SE. Felt in Manila with intensity III. S from the Wiechert and Horizontal Pendulums. No. 83 still recording.
No. 89 7th	PNZ \bar{S} NZ F	14 07 51 14 08 21 14 23	220	Precursor of No. 90. No time marks on Galitzin E Component.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 February No. 90 7th	1PNZ SN F	17 20 39 17 21 09 19 30	220	Compression. Felt in southeastern part of Luzon with intensity IV and in Manila with intensity III. S from the Wiechert. No. 91 to No. 95 are aftershocks of No. 90.
No. 96 8th	PNZ SN F	0 15 35 0 15 51 0 17	125	
No. 98 9th	PNEZ SNE F	19 22 11 19 24 09 20 40	1135	Region of 24°6' N; 121°9' E by Taihoku.
No. 107 13th	PNZ SNE F	13 52 08 13 52 29 14 01	165	In the Caraballo Mountains by Manila and Baguio. About 16° 05' N; 121° 10' E.
No. 116 18th	PNEZ SNE F	3 59 01 3 59 53 4 13	430	Felt at Calbayog with intensity II. Butuan $\Delta=370$ Km.
No. 122 19th	ePNZ SNZ F	19 01 23 19 01 53 19 36	230	About 16° 10' N; 122° 30' E by Manila and Baguio.
No. 123 19th	ePNEZ SN LN F	20 16 36 20 20 25 20 22 30 20 58	2365	
No. 124 20th	PNEZ SNE F	18 18 51 18 20 55 18 44	1195	Dilatation. Approx. 10° N; 111° E by Manila and Butuan.
No. 126 20th	PNEZ SNE F	23 17 36 23 18 04 23 23	215	Baguio $\Delta=200$ Km.
No. 129 21st	ePNEZ SNE F	10 48 23 10 49 00 10 56	260	
No. 130 21st	ePNEZ SNE LNE MNE F	18 44 27 18 44 55 18 49 30 18 51 ca 19 20	2090	
No. 131 21st 22nd	PNEZ SNEZ F	23 56 20 23 57 00 0 24	300	Dilatation. Deep focus. Felt at Vigan with intensity II. Baguio $\Delta=160$ Km.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 February				
No. 132 22nd	PEZ S?NEZ F	8 57 47 8 59 52 10 30	1200?	24.2° N; 121.8° E according to Taihoku. Felt at Karenko.
No. 133 22nd	ePNEZ SNEZ L?N MNE F	17 15 52 17 23 52 17 34 21ca 17 40 ca 20 10	6470	Data after S from the Wiechert. 52° N; 175° E; O=17:06.2 by U.S.G.G.S
No. 135 23rd	PNEZ SNEZ F	13 00 01 13 00 37 13 17	255	
No. 136 23rd	ePNE S?NE LNE F	20 55 18 20 57 13 21 02 25ca 22 00	1115?	Felt at Karenko, Taiwan. 24.1° N; 121.6° E according to Taihoku.
No. 138 24th	PNE SNEZ	0 05 51 0 06 26	250	
No. 140 24th	PNE SNE	0 08 58 0 09 38	300	From the Wiechert. Galitzin records lost in changing paper. 16° 52' N; 122° 25' E. Earthquakes rare in this locality. Baguio $\Delta=200$ Km. No. 141 to 145 small aftershocks of No. 140.
No. 146 24th	PNEZ SNE F	4 31 34 4 32 14 4 54	300	Similar to No. 140. No. 147 small aftershock.
No. 148 24th	PNEZ SNEZ F	5 56 22 5 57 02 6 37	300	Similar to No. 140.
No. 151 24th	PNEZ SN MN F	11 12 27 11 21 31 11 39 09 12 30	7535	
No. 152 24th	PNEZ SNE F	13 47 26 13 48 06 14 45	300	Similar to No. 140. S from the Wiechert.
No. 153 25th	ePNEZ eSNE LNE F	3 04 26 3 14 25 3 28 ca 4 35	8610	
No. 154 27th	PNEZ INEZ SNE F	9 12 35 9 12 37 9 15 28 10 45	1670	Compression from the SE Netherlands East Indies by Manila, Hong Kong, Chiufeng. Butuan $\Delta=9.5^\circ$.



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SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 February				
No. 159 28th	PNEZ	5 28 08	250	Compression from the SE.
	SNE	5 28 43		Felt at Legaspi with intensity III.
	F	6 23		

Fifty-six insignificant or undecipherable disturbances on the following days of February: 1st(2), 2nd, 3rd(2), 5th, 6th(3), 7th(5), 8th, 10th(5), 11th, 12th(2), 13th(2), 14th(2), 15th, 16th, 17th, 18th(4), 19th(2), 20th, 21st(2), 23rd, 24th(10), 27th(3), and 28th(3).

C O R R E C T I O N T O N O . 3 2

January 14, 1935.

S at 15:12:38 $\Delta = 2510$ Km.

C O R R E C T I O N T O N O . 3 3

Same epicenter as No. 30.

C O R R E C T I O N T O N O . 3 9

January 31, 1935.

Region of New Hebrides by Riverview, Wellington,
Manila, Chiufoeng.

MANILA, P. I.

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$\phi = 14^{\circ} 34' 42''$ N.

$\lambda = 120^{\circ} 58' 41''$ E.

h=2.40 m.

Alluvium.

GALITZIN-WILIP

WIECHERT. M=1000 Kg.

March 5, 1935.

	T_0	D	T_1	λ	M^2	K
N-S	12.4	100.5	12.6	11.5	0.017	97
E-W	11.8	100.5	11.9	11.4	-0.075	80
Z	11.6	100.5	9.0	14.8	1.259	200

	T_0	V	ξ	$\frac{r}{T_0^2}$
N-S	4.6	187	2.2	0.030
E-W	4.8	204	2.7	0.037

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 March				
No. 162 2nd	PNEZ LNE MNE F	6 10 47 6 15 22 6 17 00 6 28	1780	There is no S.
No. 163 2nd	PEZ SN LN F	11 00 47 11 03 25 11 04 41 11 23	1520	
No. 164 2nd	PNEZ SNEZ F	16 13 37 16 14 49 16 30	640	
No. 170 5th	eNEZ F	9 35 52 9 55		Trace.
No. 171 5th	PNEZ SNE MNE F	10 45 24 10 51 21 11 02 ca 11 44	4330	Disturbed by microseisms.
No. 172 5th	PNEZ SNE F	22 23 33 22 32 52 23 40	7630	Disturbed by microseisms.
No. 173 6th	\bar{P} NEZ SNE F	7 47 17 7 47 36 8 50	150	Compression at Manila and Baguio. $15^{\circ} 30' N$; $122^{\circ} E$ by Manila and Baguio. Felt at Baler and Manila with intensity III. S from the Wiechert.
No. 174 6th	\bar{P} NEZ \bar{S} NEZ F	9 40 19 9 40 38 9 56	150	Aftershock of No. 173.
No. 176 7th	PNEZ SNEZ F	0 17 17 0 18 07 0 30	340	
184 h	PNEZ SNE F	14 50 27 14 54 24 15 14	2490	

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SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

International
Seismological
Centre

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 March				
No. 187 11th	P?NEZ S?NE MNE F	11 25 38 11 27 54 11 30 30ca 12 52	1310?	About 25°N; 124°E by Manila and Taihoku. Disturbed by microseisms.
No. 189 11th	PNEZ SNE F	17 01 08 17 01 23 17 40	115	Dilatation. Felt at Lucena and Santa Cruz, Laguna, with intensity III. S from the Wiechert. Disturbed by microseisms.
No. 190 11th	P?NEZ SNE F	19 53 28 19 55 43 20 41	1300?	Disturbed by microseisms.
No. 191 12th	PNEZ SNE F	10 33 08 10 33 20 10 50	95	Compression from SW. S from the Wiechert.
No. 195 13th	PNEZ SNE F	17 46 57 17 47 36 18 38	290	
No. 196 13th	iPEZ ePN SNE F	18 44 39 18 44 40 18 50 46 19 35	4490	Compression. In region of Bougainville Island by Riverview, Manila, Hong Kong, Chiufeng.
No. 198 14th	P?NEZ SNE F	11 47 05 11 52 07 13 40	3470?	
No. 199 14th	P?NEZ SNEZ LNE MN F	13 51 30 13 53 10 14 05 ca 14 09 05ca 14 59	5070?	
No. 200 14th	PNEZ SNE LNE F	15 44 09 15 54 27 16 09 00 17 18	9020	
No. 203 16th	iPZ ePNE SNE F	7 54 47 7 54 48 7 58 27 8 56	2240	Compression.
No. 205 17th	PN SN F	20 09 26 20 15 03 20 40	2200	
No. 209 19th	iPZ ePNE SNE F	13 47 53 13 47 54 13 51 46 14 19	2435	Compression.
No. 211 20th	PNEZ SNE F	13 45 13 13 47 11 14 04	1000	Felt at Davao with intensity I. Philippine Deep by Manila and Butuan (200 Km.)

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SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 March				
No. 212 20th	iPEZ ePN iSNE	23 05 13 23 05 13 23 11 36	4780	Dilatation. 5°S; 162°E by Riverview, Manila, Hong Kong.
No. 213 21st	PNEZ SNE LNE F	0 10 18 0 17 59 0 27 31 1 25	6125	No. 212 still recording.
No. 214 21st	PNZ SNE F	19 37 52 19 38 39 19 51	370	
No. 218 24th	iPNEZ SNE LN MNE F	14 28 46 14 31 37 14 32 45ca 14 34 30ca 15 30	1645	Compression from the SE. 23° 30' N; 132° 30' E by Manila and Tainoku.
No. 219 24th	PNEZ SNE F	17 44 30 17 44 48 18 10	140	
No. 221 24th	iPZ PNE SNEZ F	23 36 11 23 36 11 23 38 08 23 59	1120	Compression. Approx. 6° 30' N; 127° E by Manila and Butuan (320 Km.) Felt at Davao with intensity II.
No. 227 27th	iPZ ePNE SNE F	14 32 30 14 32 30 14 40 52 15 26	6830	Dilatation. Focus deeper than normal.
No. 228 27th	PNEZ SNEZ LNE F	19 22 04 19 24 36 19 26 00ca 20 20	1465	
No. 229 28th 29th	iPZ ePE SE F	23 53 15 23 53 15 23 57 35 0 30	2845	Dilatation. Deep focus. N-S cylinder stopped at 22:29. Chiufoeng, Hong Kong, Manila indicate epicenter in region of Tyosen.
No. 230 29th	iPNEZ iZ iZ iSNE LN F	12 35 55 12 43 10 12 43 15 12 45 41 13 00 ca 15 40	8345	Compression. In region of 40°S; 175° W by Manila and Riverview.
No. 231 29th	PNEZ SNE F	23 00 18 23 00 39 23 00	165	Very small.
No. 233 30th	P?NEZ SE F	16 44 48 16 52 02 17 35	5655?	

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SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.—Continued.

No. and Date	Phase.	Greenwich Time			Dist. Km.	Remarks.
		h.	m.	s.		
1935 March						
No. 234 30th	PNEZ	21	25	41	4680	Dilatation. In region of Kurile Islands by Chiufeng, Hong Kong, Manila.
	SNE	21	31	58		
	LNE	21	38	ca		
	MNE	21	41	30ca		
	F	23	20			
No. 235 31st	PNEZ	7	27	40	1345	In the region of 4°N; 127°E by Mani- la and Butuan (630 Km.)
	SNE	7	30	00		
	LNE	7	31	10		
	F	8	46			

Thirty-eight insignificant or undecipherable disturbances on the following days of March: 2nd, 3rd(2), 4th(2), 6th, 7th(2), 8th(2), 9th(4), 10th, 11th, 12th(2), 13th, 14th(2), 15th, 17th(2), 18th, 19th(2), 22nd, 23rd, 24th(2), 25th(2), 26th(2), 27th, 30th, and 31st.

C O R R E C T I O N

Manila, February 4, 1935.

P= 17:36:01 Distance 8590 Km.

S= 17:46:00 22°S; 169°W by Wellington and Manila.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY



$\phi=14^{\circ} 34' 42''$ N.

$\lambda=120^{\circ} 58' 41''$ E.

$h=2.40$ m.

Alluvium.

GALITZIN-WILIP

	T_0	D	T_1	Δ	Δ^2	K
N-S	12.4	100.5	12.6	11.5	0.017	97
E-W	11.8	100.5	11.9	11.4	-0.075	80
Z	11.6	100.5	9.0	14.8	1.250	200

	T_0	V	ξ	$\frac{r}{T_0^2}$
N-S	4.5	197	2.3	0.034
E-W	4.9	199	2.7	0.041

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 April No. 238 3rd	P?NE SE LN ME F	6 54 07 6 59 18 7 03 27 7 06 40ca 7 30	3600?	Disturbed by microseisms.
No. 239 3rd	PEZ SNE F	11 11 29 11 12 37 11 50	595	Disturbed by microseisms.
No. 242 7th	\overline{PE} \overline{SE} F	3 25 45 3 26 05 3 30	160	
No. 243 7th	P?EZ SE F	6 41 14 6 48 12 7 40	5390?	
No. 244 7th	\overline{PEZ} \overline{SNEZ} F	12 22 22 12 22 40 12 27	140	
No. 245 8th	PNEZ SE ME F	17 57 23 18 00 02 18 02 42ca 18 30	1535	Compression.
No. 246 9th	PEZ SE LZ F	2 53 17 2 56 06 2 57 32 3 42	1630	
No. 251 9th 10th	PZ SE F	22 58 56 23 04 12 0 08	3680	

On April 4th the N-S Galitzin-Wilip was temporarily discontinued and its recording drum used for an experimental Wood-Anderson.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 April No. 252 10th	$\overline{\text{PEZ}}$ $\overline{\text{SEZ}}$ F	7 33 22 7 33 42 7 38	160	Baguio $\Delta=120$ Km.
No. 253 10th	PEZ SE LE F	9 59 40 10 04 02 10 07 02 10 45	2855	
No. 257 11th	PEZ SE LE ME F	1 23 22 1 27 57 1 30 40ca 1 34 ca 2 40	3055	
No. 259 11th	$\overline{\text{PNEZ}}$ $\overline{\text{SNEZ}}$ F	14 53 29 14 53 59 15 10	220	Compression.
No. 261 11th	iPZ SE F	17 28 25 17 31 02 18 12	1515	Compression.
No. 264 11th 12th	iPEZ SE LEZ MNE F	23 25 17 23 34 22 23 47 ca 23 53 ca 2 10	7545	Compression.
No. 266 12th	PZ SE F	19 23 03 19 26 47 20 20	2300	
No. 268 13th	$\overline{\text{PNEZ}}$ S?E F	20 24 22 20 27 05 20 58	1570?	
No. 272 15th	$\overline{\text{PNEZ}}$ iEZ iEZ SEZ LE F	11 20 18 11 21 08 11 24 33 11 26 08 11 29 53ca 12 00	4235	
No. 274 16th	$\overline{\text{PNEZ}}$ $\overline{\text{SNEZ}}$ MN F	20 36 53 20 40 48 20 42 06 21 44	2470	
No. 280 18th	PE SE F	3 13 25 3 14 00 3 27	250	

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time			Dist. Km.	Remarks
		h.	m.	s.		
1935 April						
No. 284 19th	PEZ	15	36	50	8735	
	1Z	15	40	51		
	1Z	15	42	50		
	1SEZ	15	46	55		
	F	19	50			
No. 286 20th	PEZ	5	27	23	5430	
	SE	5	34	23		
	LE	5	41	33		
	F	7	10			
No. 290 20th	PEZ	11	10	50	2640	In the Nero Deep by Manila and Guam.
	SE	11	14	58		
	L?E	11	17	07		
	F	12	35			
No. 291 20th	1PZ	22	04	16	1170	Compression.
	1PE	22	04	19		Formosa.
	1SNE	22	06	17		Data after P from the Wiechert.
	LNE	22	07	50		
	1N	22	09	07		
	MNE	22	09	10ca		
21st	F	0	30			
No. 293 21st	1PEZ	7	30	40	2580	Dilatation.
	1SE	7	34	43		
	LE	7	36	55		
	F	9	20			
No. 296 21st	PEZ	19	16	08	1090	
	SE	19	18	03		
	F	20	13			
No. 297 21st	PE	22	26	52	1455	
	SE	22	29	23		
	F	23	00			
No. 302 23rd	1PEZ	16	51	12	3420	Dilatation.
	1SE	16	56	12		
	LE	17	00	24		
	ME	17	02	39		
	F	18	10			
No. 303 24th	1PNEZ	0	34	04	135	Dilatation.
	1SNE	0	34	21		Felt at Manila and Baguio with intensity II.
	F	0	57			S from the Wiechert and Horizontal Pendulums.
No. 305 24th	PEZ	16	01	06	5235	
	SE	16	07	56		
	ME	16	19	45ca		
	F	17	23			

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 April				
No. 307 26th	PNEZ SNEZ F	1 53 46 1 53 58 1 59	90	Dilatation.
No. 313 29th	PEZ SEZ F	11 47 57 11 48 14 12 40	2265	Compression
No. 314 29th	PEZ SEZ	23 57 30 23 57 46	125	
No. 315 30th	P?EZ SEZ F	0 00 08 0 01 26 0 14	500?	
No. 316 30th	PEZ SEZ LE F	5 48 10 5 51 48 5 53 00 6 12	2210	

Forty-six insignificant or undecipherable disturbances on the following days of April: 1st, 3rd, 6th, 9th(4), 10th(2), 11th(5), 12th(2), 13th, 14th, 15th, 16th, 17th(5), 18th(2), 19th(2), 20th(3), 21st(3), 22nd(3), 23rd, 24th, 25th, 26th, 28th(3), and 29th.

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY



$\phi=14^{\circ} 34' 42''$ N.

$\lambda=120^{\circ} 58' 41''$ E.

h=2.40 m.

Alluvium.

GALITZIN-WILIP.

WIECHERT. M=1000 Kg.

May 4, 1935.

	T_0	D	T_1	L	μ^2	K
N-S	12.4	100.5	12.6	11.5	0.017	97
E-W	11.8	100.5	11.9	11.4	-0.075	80
Z	11.6	100.5	9.0	14.8	1.250	200

	T_0	V	ϵ	$\frac{F}{T_0^2}$
N-S	4.5	191	2.3	0.039
E-W	4.8	200	2.7	0.040

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 May No. 317 1st	PEZ SE ME F	10 36 07 10 45 28 11 06 ca 11 48	7845	Disturbed by microseisms.
No. 323 4th 5th	PEZ SEZ LE F	23 05 01 23 07 03 23 08 15 0 35	1180	
No. 324 5th	PEZ iZ SE iZ F	5 35 33 5 35 39 5 37 10 5 37 31 5 54	905	Felt at Davao with intensity II.
No. 325 5th	iPNEZ SNEZ F	13 20 38 13 20 54 13 34	125	
No. 328 5th	PEZ SE ME F	18 16 30 18 20 04 18 23 55ca 19 27	2170	
No. 329 6th	PEZ SE F	17 43 07 17 45 09 18 20	1180	Formosa.
No. 330 7th	iPNEZ iSNE IN MNEZ F	5 58 01 6 00 34 6 01 49 6 03 15 7 50	1480	Felt at Davao with intensity II. P in minute gap.
No. 336 9th	PNEZ SNE LE F	4 47 13 4 50 25 4 52 03 6 04	1900	

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 May				
No. 338 9th	PNEZ SNE F	13 56 49 13 58 01 14 18	470	
No. 342 10th	PNEZ SNE LN ME F	17 09 17 17 13 04 17 15 25ca 17 17 34 18 20	2335	Deep focus.
No. 345 11th	1PNEZ PR1Z SNEZ MN F	18 47 45 18 47 52 18 50 29 18 53 25ca 19 40	1585	
No. 347 11th 12th	PNE SNE LNE F	23 51 14 23 54 51 23 56 50ca 1 15	2200	P in Z component lost in changing record.
No. 349 12th	PEZ SNE LNE MN F	19 52 41 19 58 43 20 04 50ca 20 08 10ca 21 10	4220	
No. 356 13th	1PZ ePNE 1SNEZ LNE MNE F	19 58 11 19 58 12 20 02 02 20 04 ca 20 07 ca 22 00	2410	
No. 358 13th	PEZ SNEZ F	23 14 37 23 19 01 23 50	2880	
No. 359 13th 14th	P?NEZ SN MNE F	23 54 35 24 00 01 0 04 15ca 1 10	3835?	
No. 361 14th 15th	PEZ iZ iE S?E LE MNE F	23 42 08 23 45 18 23 48 09 23 51 10 23 59 20ca 0 04 ca 1 58	7490?	

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued,



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 May				
No. 362 15th	PZ PE PN SNEZ LNE MN F	2 10 45 2 10 50 2 11 01 2 18 00 2 26 25 2 30 40 3 20	5680	Focus deeper than normal.
No. 371 18th	PNEZ S?NE F	21 46 24 21 48 41 22 19	1320?	
No. 372 19th	PNE SNE F	2 01 37 2 02 33 2 10	370	
No. 376 20th	PNEZ SNE LN MNE F	5 24 34 5 27 02 5 28 32 5 29 42 7 20	1420	
No. 383 21st	PNEZ SNE MN F	4 29 22 4 34 06 4 39 40 5 00	3180	
No. 385 21st	1PZ ePNE SN LNE MNE F	6 58 09 6 58 12 7 03 23 7 07 30 7 10 30ca 8 35	3655	
No. 386 21st	PNEZ S?NE LN F	13 12 42 13 17 57 13 21 55ca 14 20	3665?	
No. 387 21st	1PZ PNE SNE	15 23 39 15 23 39 15 27 17	2210	Deep Focus.
No. 388 21st	PNEZ SNEZ F	15 46 54 15 47 26 16 22	235	No. 387 still recording.
No. 397 24th	1PEZ ePN SNEZ F	2 56 16 2 56 16 2 57 41 4 15	775	Precurdor of No. 399.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 May				
No. 398 24th	PEZ SEZ F	5 15 22 5 16 47 5 30	775	Precursor of No. 399.
No. 399 24th	1PNEZ 1SNE	5 37 51 5 39 16	775	Felt in eastern Visayas with intensity VII. S from the Wiechert.
No. 400 24th	PNE SNE F	8 36 11 8 37 26 8 54	775	Aftershock of No. 399. Number 401 to 412 are aftershocks of No. 399. From the Wiechert.
No. 413 25th	1PNEZ SNE F	0 09 13 0 10 39 2 20	780	Similar to No. 399. S from the Wiechert, and Horizontal.
No. 415 25th	PNEZ SNE F	8 34 22 8 35 47 10 35	775	Similar to No. 399. Nos. 414, 416 to 423 are aftershocks of No. 399.
No. 425 26th	1PNEZ 1SNE	22 05 14 22 06 59	980	Felt at Borongan with intensity II.
No. 426 27th	PNEZ SNEZ F	0 04 06 0 05 31 0 24	775	No. 425 still recording.
No. 427 27th	PNE SNEZ F	1 27 19 1 28 44 2 40	775	Felt at Borongan with intensity II.
No. 429 27th	PNEZ SNE F	5 38 14 5 39 45 6 00	840	
No. 430 27th	PNEZ SNE F	8 14 30 8 15 46 8 38	680	
No. 431 27th	PNEZ SNE F	8 39 18 8 40 54 9 23	895	
No. 432 27th	PNEZ SNE F	11 32 33 11 33 28 11 39	365	
No. 433 27th	PNEZ SNE F	11 43 50 11 45 16 12 00	780	

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time			Dist. Km.	Remarks.
		h.	m.	s.		
1935 May						
No. 398 24th	PEZ SEZ F	5	15	22	775	Precursor of No. 399.
		5	16	47		
		5	30			
No. 399 24th	1PNEZ 1SNE	5	37	51	775	Felt in eastern Visayas with intensity VII. S from the Wiechert.
		5	39	16		
No. 400 24th	PNE SNE F	8	36	11	775	Aftershock of No. 399. Number 401 to 412 are aftershocks of No. 399. From the Wiechert.
		8	37	26		
		8	54			
No. 413 25th	1PNEZ SNE F	0	09	13	780	Similar to No. 399. S from the Wiechert, and Horizontal.
		0	10	39		
		2	20			
No. 415 25th	PNEZ SNE F	8	34	22	775	Similar to No. 399. Nos. 414, 416 to 423 are aftershocks of No. 399.
		8	35	47		
		10	35			
No. 425 26th	1PNEZ 1SNE	22	05	14	980	Felt at Borongan with intensity II.
		22	06	59		
No. 426 27th	PNEZ SNEZ F	0	04	06	775	No. 425 still recording.
		0	05	31		
		0	24			
No. 427 27th	PNE SNEZ F	1	27	19	775	Felt at Borongan with intensity II.
		1	28	44		
		2	40			
No. 429 27th	PNEZ SNE F	5	38	14	840	
		5	39	45		
		6	00			
No. 430 27th	PNEZ SNE F	8	14	30	680	
		8	15	46		
		8	38			
No. 431 27th	PNEZ SNE F	8	39	18	895	
		8	40	54		
		9	23			
No. 432 27th	PNEZ SNE F	11	32	33	365	
		11	33	28		
		11	39			
No. 433 27th	PNEZ SNE F	11	43	50	780	
		11	45	16		
		12	00			

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 May				
No. 398 24th	PEZ SEZ F	5 15 22 5 16 47 5 30	775	Precursor of No. 399.
No. 399 24th	1PNEZ 1SNE	5 37 51 5 39 16	775	Felt in eastern Visayas with intensity VII. S from the Wiechert.
No. 400 24th	PNE SNE F	8 36 11 8 37 26 8 54	775	Aftershock of No. 399. Number 401 to 412 are aftershocks of No. 399. From the Wiechert.
No. 413 25th	1PNEZ SNE F	0 09 13 0 10 39 2 20	780	Similar to No. 399. S from the Wiechert, and Horizontal.
No. 415 25th	PNEZ SNE F	8 34 22 8 35 47 10 35	775	Similar to No. 399. Nos. 414, 416 to 423 are aftershocks of No. 399.
No. 425 26th	1PNEZ 1SNE	22 05 14 22 06 59	980	Felt at Borongan with intensity II.
No. 426 27th	PNEZ SNEZ F	0 04 06 0 05 31 0 24	775	No. 425 still recording.
No. 427 27th	PNE SNEZ F	1 27 19 1 28 44 2 40	775	Felt at Borongan with intensity II.
No. 429 27th	PNEZ SNE F	5 38 14 5 39 45 6 00	840	
No. 430 27th	PNEZ SNE F	8 14 30 8 15 46 8 38	680	
No. 431 27th	PNEZ SNE F	8 39 18 8 40 54 9 23	895	
No. 432 27th	PNEZ SNE F	11 32 33 11 33 28 11 39	365	
No. 433 27th	PNEZ SNE F	11 43 50 11 45 16 12 00	780	

Please change the page number 19 of May, 1935 with this new one with corrections and additions.



NO. 19.

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 May				
No. 398 24th	PEZ SEZ F	5 15 32 5 16 47 5 30	670	Precursor of No. 399.
No. 399 24th	1PNEZ 1SNE	5 37 51 5 39 06	670	Compression. $11^{\circ} 15' N$; $128^{\circ} 05' E$. O=5:36:21. Felt in eastern Visayas with intensity VII. S from the Wiechert.
No. 400 24th	PNE SNE F	8 36 11 8 37 26 8 54	670	Aftershock of No. 399. From the Wiechert. Number 401 to 412 are aftershocks of No. 399.
No. 413 25th	1PNEZ SNE F	0 09 13 0 10 28 2 20	670	Compression. Similar to No. 399. Felt in eastern Visayas with inten- sity III.
No. 415 25th	PNEZ SNE F	8 34 22 8 35 36 10 35	670	Similar to No. 399. Felt in eastern Visayas with intensity III. Nos. 414, 416 to 423 are aftershocks of No. 399.
No. 425 26th	1PNEZ 1SNZ	22 05 14 22 06 08	440	Felt at Borongan with intensity II. Compression.
No. 426 27th	PNEZ SE F	0 04 06 0 05 21 0 24	670	No. 425 still recording.
No. 427 27th	PE SNE F	1 27 29 1 28 23 2 40	440	Felt at Borongan with intensity II.
No. 429 27th	PNEZ SNE F	5 38 14 5 39 45 6 00	840	
No. 430 27th	PNEZ SNE F	8 14 30 8 15 46 8 38	680	
No. 431 27th	PNEZ SNE F	8 39 18 8 40 54 9 23	895	
No. 432 27th	PNEZ SNE F	11 32 33 11 33 28 11 39	365	
No. 433 27th	PNEZ SNE F	11 43 50 11 45 16 12 00	780	



SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 May				
No. 398 24th	PEZ SEZ F	5 15 22 5 16 47 5 30	775	Precursor of No. 399.
No. 399 24th	1PNEZ 1SNE	5 37 51 5 39 16	775	Felt in eastern Visayas with intensity VII. S from the Wiechert.
No. 400 24th	PNE SNE F	8 36 11 8 37 26 8 54	775	Aftershock of No. 399. Number 401 to 412 are aftershocks of No. 399. From the Wiechert.
No. 413 25th	1PNEZ SNE F	0 09 13 0 10 39 2 20	780	Similar to No. 399. S from the Wiechert, and Horizontal.
No. 415 25th	PNEZ SNE F	8 34 22 8 35 47 10 35	775	Similar to No. 399. Nos. 414, 416 to 423 are aftershocks of No. 399.
No. 425 26th	1PNEZ 1SNE	22 05 14 22 06 59	980	Felt at Borongan with intensity II.
No. 426 27th	PNEZ SNEZ F	0 04 06 0 05 31 0 24	775	No. 425 still recording.
No. 427 27th	PNE SNEZ F	1 27 19 1 28 44 2 40	775	Felt at Borongan with intensity II.
No. 429 27th	PNEZ SNE F	5 38 14 5 39 45 6 00	840	
No. 430 27th	PNEZ SNE F	8 14 30 8 15 46 8 38	680	
No. 431 27th	PNEZ SNE F	8 39 18 8 40 54 9 23	895	
No. 432 27th	PNEZ SNE F	11 32 33 11 33 28 11 39	365	
No. 433 27th	PNEZ SNE F	11 43 50 11 45 16 12 00	780	

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.---Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 May				
No. 440 28th	PNEZ SNE F	1 14 12 1 15 37 2 05	775	
No. 443 28th	PNEZ SNE F	14 17 36 14 19 12 15 34	895	
No. 444 28th	PNEZ SNE F	16 39 05 16 40 42 17 30	900	
No. 445 29th	PNEZ SNE LNE MNE F	19 45 04 19 47 09 19 48 20 ca 19 49 50 ca 21 10	1200	Formosa.
No. 446 30th	iPEZ oPN SNE LNE MNE	21 42 07 21 42 07 21 49 49 21 59 13 22 03 44	6145	India.
31st	F	2 00		29°N; 66°E; $\phi=21:33:00$ by U.S.C.G.S.
No. 448 31st	PNEZ SNEZ F	4 26 30 4 27 18 4 47	325	
No. 449 31st	1PZ ePNE SNE F	8 24 52 8 24 52 8 27 42 9 26	1635	

Seventy insignificant or undecipherable disturbances on the following days of May: 3rd(4), 4th, 5th(2), 7th(3), 8th, 9th(4), 10th, 11th(3), 12th, 13th(7), 14th, 15th(2), 16th(4), 17th, 18th, 19th(3), 20th(5), 21st(3), 22nd(4), 23rd(3), 26th, 27th(7), 28th(2), and 31st(6).

The data in this month's Report has been prepared

By
Cesáreo Dulueña,
Asst. Seismologist.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.



$\phi=14^{\circ} 34' 42''$ N. $\lambda=120^{\circ} 58' 41''$ E. $h=2.40$ m. Alluvium.

GALITZIN-WILIP.

WIECHERT. $M=1000$ Kg.

June 3, 1935

	T_0	D	T_1	λ	μ^2	K
N-S	12.4	100.5	12.6	11.5	0.017	97
E-W	11.8	100.5	11.9	11.4	-0.075	80
Z	11.6	100.5	9.0	14.8	1.250	200

	T_0	V	ϵ	$\frac{F}{T_0^2}$
N-S	4.5	195	2.3	0.040
E-W	4.8	203	2.8	0.040

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 June				
No. 455 1st	PNEZ SNEZ F	3 31 08 3 32 14 3 45	430	Felt at Legaspi with intensity III.
No. 456 1st	PNEZ SNEZ F	4 12 17 4 13 26 5 25	610	
No. 458 1st	1PNEZ SNE F	14 42 02 14 44 12 16 10	1255	Compression from SE. Felt at Davao with intensity III.
No. 459 2nd	PNZ SNE 1N 1Z F	4 43 50 4 45 06 4 46 06 4 46 54 5 40	680	
No. 460 2nd	1PZ PNE SNE LNE MNE F	9 25 39 9 25 41 9 33 02 9 41 50 9 47 ca 11 20	5825	India. Compression.
No. 461 2nd	PNZ SNEZ F	17 00 23 17 03 12 17 38	1625	
No. 462 2nd	PNEZ SNEZ F	18 10 40 18 11 18 18 27	280	
No. 464 2nd	PNEZ SNE MNE F	19 27 54 19 29 34 19 30 30ca 20 30	935	
No. 466 2nd	PNEZ SNE F	22 19 26 22 20 33 22 41	590	
No. 467 2nd 3rd	PNEZ SNE F	23 45 21 23 47 03 0 01	640	

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 June				
No. 468 3rd	PNEZ SNE F	2 36 02 2 39 54 2 55	2420	
No. 469 3rd	PNEZ SNE F	10 10 48 10 12 13 10 35	540	
No. 473 4th	PNEZ SNE F	8 04 26 8 04 58 8 30	235	
No. 474 4th	PNEZ S NE F	8 36 17 8 37 37 9 00	510	Felt at Tacloban with intensity V. Butuan, $\Delta=260$ Km.
No. 478 5th	PNEZ SNE F	6 40 38 6 41 24 6 56	360	
No. 480 5th	PNE S N F	19 47 16 19 47 26 20 05	75	
No. 489 7th	PNEZ SNE MNE F	2 55 19 2 57 43 3 00 20ca 3 30	1390	
No. 490 7th	1PZ PNE SNE F	4 19 24 4 19 24 4 22 19 5 15	1695	
No. 494 8th	PNEZ SNE F	1 19 03 1 19 24 1 38	165	
No. 496 8th	PNEZ SNE F	10 35 57 10 38 05 10 51	1235	Felt at Jolo with intensity II.
No. 497 8th 9th	PNE SNE F	23 44 11 23 44 28 0 02	135	Felt on west coast of Central Luzon and in Manila. Epicenter in China Sea. P in Z component lost in changing record. S from the Wiechert and Horizontal. Baguio, $\Delta=135$ Km.
No. 498 9th	PNEZ SNE F	1 33 47 1 35 15 1 53	560	Felt at Basco with intensity II.
No. 499 9th	PNEZ SNZ F	6 35 21 6 36 51 9 11	830	

No. 23.

June, 1936,

MANILA, P. I.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY,--Continued.

No. and Date	Phase.	Greenwich Time			Dist. Km.	Remarks.
		H.	m.	s.		
1935 June						
No. 500 9th	PNEZ SNEZ	8	19	56 23	555	Earthquake superimposed on No. 499.
No. 501 9th	PNEZ SNE F	9	17	22 03 35	310	
No. 504 9th	PNEZ SNE F	16	43	39 22 02	330	
No. 507 10th	PNEZ SNEZ F	7	42	03 58 57	455	
No. 511 11th	PEZ SNEZ F	2	05	52 16 25	770	
No. 520 15th	PNEZ SNE F	8	10	16 44 25	810	Butuan, $\Delta=200$ Km.
No. 521 15th	PNEZ SNE F	14	32	05 34 30	820	Butuan, $\Delta=245$ Km.(?).
No. 522 16th	PNEZ S?NE IN F	6	25	09 44 45 30	3920?	
No. 527 18th 19th	PNEZ SNE F	22	28	58 00 00	525	Compression. Welt at Borongan and Legaspi with intensity III.
No. 529 19th	PZ PNE SNE F	22	23	28 33 13 35	5155	
No. 530 22nd	PNEZ SNE INE F	15	53	16 05 14 40	2365	Dilatation. Deep foc us.
No. 535 23rd	PNEZ SNE F	9	29	41 06 10	2890	Deep focus.
No. 536 23rd	PNEZ SNE F	14	23	37 33 53	2480	

No. 24.

June, 1935.

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 June				
No. 542 24th	iPEZ	23 32 37	6020	Dilatation. Region New Hebrides. 18°S; 165°E according to Wellington.
	ePN	23 32 37		
	iSNE	23 40 12		
	LE	23 49 18		
25th	F	2 40		
No. 544 25th	iPZ	12 41 17	4435	
	ePNE	12 41 17		
	SNE	12 47 20		
	LNE	12 52 36		
	F	14 50		
No. 545 26th	PNEZ	6 46 44	895	
	SNE	6 48 20		
	mE	6 49 08		
	mN	6 49 24		
	F	7 48		
No. 547 27th	PNZ	0 34 41	1235	
	SNZ	0 36 49		
	LN	0 38 06		
	F	0 50		
No. 549 28th	iPZ	2 20 19	1755?	
	ePE	2 20 19		
	S?NE	2 23 20		
	F	3 14		
No. 551 29th	PNEZ	7 09 32		
	MNE	7 47 30		
	F	9 30		

Fifty-eight insignificant or undecipherable disturbances on the following days of June: 1st, 2nd(2), 3rd(3), 4th(2), 5th(5), 6th(5), 7th(3), 8th, 9th(2), 10th(4), 11th(3), 12th, 13th(3), 14th, 15th, 18th(4), 19th, 22nd(2), 23rd(6), 24th, 26th, 27th, 28th, 29th, and 30th(2),

No. 25.

July, 1935.

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.



$\phi=14^{\circ} 34' 42''$ N.

$\lambda=120^{\circ} 58' 41''$ E.

h=2.40 m.

WIECHERT. M=1000 Kg.

GALITZIN-WILIP.

July 3, 1935.

	T_0	D	T_1	λ	μ^2	K
N-S	12.4	100.5	12.6	11.5	0.017	37
E-W	11.8	100.5	11.9	11.4	-0.075	80
Z	11.6	100.5	9.0	14.8	1.250	200

	T_0	V	ϵ	$\frac{F}{T_0^2}$
N-S	4.6	190	2.3	0.038
E-W	4.8	203	2.8	0.048

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 July				
No. 556 1st	\overline{PNEZ} \overline{SNEZ} F	14 36 34 14 36 52 14 50	140	
No. 558 1st	\overline{PNEZ} \overline{SNEZ} F	17 01 56 17 02 11 17 11	120	Compression. Felt in Manila with intensity II.
No. 561 3rd	\overline{PNEZ} \overline{SNEZ} F	21 14 38 21 14 56 21 24	145	
No. 562 3rd	PNEZ SNEZ F	21 52 10 21 56 28 22 19	2800	Deep focus.
No. 563 4th	\overline{PNEZ} \overline{SNEZ} F	0 15 38 0 15 51 0 28	100	Dilatation.
No. 569 5th	\overline{PNEZ} PN \overline{SNE} PNE MNE F	18 02 17 18 02 17 18 09 45 18 18 40 18 23 ca 19 40	5910	Compression.
No. 570 5th	\overline{PNEZ} \overline{SN} F	20 04 09 20 04 31 20 18	175	
No. 571 5th	\overline{PNEZ} \overline{SNE} F	21 19 29 21 19 49 21 26	160	
No. 572 6th	PNEZ SNE F	4 49 49 4 50 53 5 15	550	Butuan, $\Delta=380$ Km.
No. 574 6th	PNZ SN F	21 53 10 21 58 16 22 25	3520	E-W Cylinder stopped at 21:28.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 July				
No. 575 7th	1PNEZ SNE MN ME F	13 24 20 13 25 24 13 28 09 13 29 56 15 00	430	Compression from NW. Epicenter about 18° 20' N; 120° 10' E. Felt in northwestern part of Luzon with intensity IV and slightly in Manila. Data after P from the Wiechert. Baguio, Δ=230 Km.
No. 576 8th	PNEZ SNE F	3 42 46 3 43 20 3 57	245	Disturbed by microseisms.
No. 577 8th	PNEZ SN F	15 54 21 15 54 56 16 10	250	Disturbed by microseisms.
No. 579 9th	ePNE SNE SN F	0 49 12 0 50 14 0 50 36 1 25	540	
No. 580 9th	ePEZ SNE SZ F	2 11 50 2 12 53 2 13 15 2 50	540	
No. 581 9th	PNEZ S?NE LE F	4 40 16 4 44 52 4 48 00 5 40	3065	
No. 582 9th	1PZ PNE SNE SN F	12 51 59 12 52 00 12 53 02 12 53 24 14 30	540	Compression.
No. 583 9th	ePNEZ SNE F	17 57 04 17 58 30 18 45	550	
No. 584 9th	PNEZ SNEZ F	21 12 53 21 16 30 22 08	2200	
No. 588 11th	1PZ ePNE SNEZ IN F	8 30 20 8 30 20 8 34 57 8 38 20 ca 9 57	3080	Destructive in Sizuoka Prefecture, Japan.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 July				
No. 607 13th	PNEZ SNE F	8 33 50 8 35 44 8 50	1080	
No. 608 13th	PNEZ SNE F	20 03 42 20 04 25 20 16	330	
No. 611 15th	1PZ 1PNE SNE F	14 23 45 14 23 48 14 27 10 15 08	2045	Dilatation.
No. 613 16th	PNEZ SNE MNE F	16 21 24 16 23 10 16 30 24 18 30	1000	Dilatation. $24.4^{\circ}N$; $120.1^{\circ}E$ according to Taihoku. Data after P from the Wiechert.
No. 614 16th	1PNEZ SNE F	20 03 57 20 05 30 21 28	860	Dilatation, from SE , probably in the Philippine Deep.
No. 616 17th	P?NEZ SNE F	2 22 29 2 23 56 2 40	555?	Disturbed by microseisms.
No. 617 17th	PZ PNE SNE F	3 27 14 3 27 16 3 28 36 3 56	740	
No. 618 17th	PNEZ SNE F	9 29 15 9 29 35 9 48	160	S from the Wiechert.
No. 619 17th	PNE S?NE F	11 06 54 11 12 04 12 45	3590	Disturbed by microseisms.
No. 622 19th	PNEZ SNE F	0 55 51 1 02 04 2 40	4600	Kasimanada, Japan.
No. 631 27th	PNEZ SNE F	3 36 13 3 37 21 4 20	600	Felt at Tacloban with intensity IV. Butuan, 240 Km.



SEISMOLOGICAL BULLETIN OF THE OBSERVATORY

$\phi=14^{\circ} 34' 42''$ N. $\lambda=120^{\circ} 58' 41''$ E. $h=2.40$ m. Alluvium.

GALITZIN-WILIP

WIECHERT. $M=1000$ Kg.

August 6, 1935

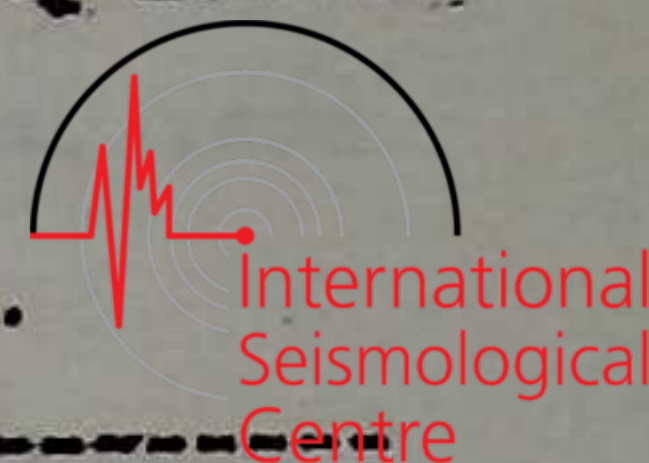
	T_0	D	T_1	λ	μ^2	K
N-S	12.4	100.5	12.6	11.5	0.017	97
E-W	11.8	100.5	11.9	11.4	-0.075	80
Z	11.6	100.5	9.0	14.8	1.250	200

	T_0	V	ϵ	$\frac{T}{T_0^2}$
N-S	4.6	189	2.3	0.039
E-W	4.8	203	2.8	0.041

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 August				
No. 638 1st	iPEZ ePN SNE F	14 07 59 59 09 03 15 58	770	In the Philippine Deep, about $10^{\circ} 30'$ N; $126^{\circ} 25'$ E. Felt strongly in Samar. S from the Wiechert. Baguio, $\Delta=920$ Km. Butuan, $\Delta=200$ Km.
No. 639 1st	ePNEZ eSNEZ F	17 31 21 33 21 18 18	1155	
No. 641 2nd	ePNEZ SNE F	10 10 26 12 04 11 05	870	
No. 647 3rd	iPEZ ePN iSNE MNE F	1 15 41 41 20 40 26 50ca 2 30	3410	Compression. Probably in region of 10° N; 90° E by Manila, Phu-Lieu, Hong Kong. 5° N; 96° E by U.S.C.G.S.
No. 648 3rd	iPNEZ SNE MNEZ F	11 46 52 48 25 49 40ca 13 22	860	$11^{\circ} 15'$ N; $128^{\circ} 15'$ E by Manila, Hong Kong, Chiufeng.
No. 650 3rd	PNEZ SNE F	17 18 56 20 40 18 10	975	
No. 662 11th	PNEZ SNE F	16 29 11 29 33	140	
No. 664 11th	PNEZ SNE F	19 38 36 43 01 20 30	2890	
No. 665 12th	iPZ ePNE SNE F	1 40 39 39 43 06 2 20	1415	Compression from SE.
No. 671 13th	ePNEZ iSNE F	8 21 34 25 51 40	2780	Deep focus.

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time			Dist. Km.	Remarks.
		h.	m.	s.		
1935 August						
No. 672 16th	PNEZ SNEZ F	1	44	29 45 15 55	320	17° 15' N; 119° 52' E by Manila and Baguio, as on June 3, 1932. Felt at Vigan and Bangued with intensity II.
No. 676 16th	PNEZ SE MNE F	19	23	43 28 08 31 40 50	2890	
No. 677 17th	PNEZ SNEZ LNE MNEZ F	1	54	52 52 2 03 44 16 00 21 00 5 30	7335	Compression. 20° S; 172° E by U.S.C.G.S.
No. 679 17th	PNEZ SNE F	20	27	32 28 26 21 30	440	Compression. About 18° 20' N; 120° 10' E as on March 19, 1931. Felt at Laoag with intensity III. Baguio, 240 Km.
No. 680 18th	PNEZ SNEZ F	0	49	06 50 11 1 08	425	
No. 685 19th	PNEZ SNE F	17	00	57 02 02 45		
No. 686 20th	PEZ SNEZ LNZ F	16	46	23 50 31 52 48 17 42	2645	Deep Focus.
No. 688 21st	PNEZ SNE F	5	28	39 32 02 6 09	2020	
No. 690 21st	PNEZ SNE F	14	00	02 09 12 45	7645	
No. 693 22nd	PNE SNEZ F	13	10	17 36 23	150	
No. 697 23rd	PNE SNE LNE MNE F	14	03	24 08 46 13 ca 16 ca 15 10	3770	Compression. From the Wiechart.
No. 698 24th	PNEZ SNE F	10	00	12 01 56 32	975	
No. 705 30th	PNEZ SNE F	17	01	23 05 26 26	2580	



SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 August				
No. 706 31st	PEZ SNE F	8 25 31 26 24 42	435	
No. 707 31st	1PEZ 1SNEZ F	17 17 51 19 09 19 30	700	Compression. Felt at Guiuan and Tacloban with intensity V.

Forty-six insignificant or undecipherable disturbances on the following days of August: 1st, 2nd(5), 3rd(3), 6th, 8th, 9th(6), 10th, 11th(2), 12th(5), 16th(3), 17th, 18th(4), 20th, 21st(2), 22nd(2), 23rd(2), 25th, 26th(2), 27th, 29th, and 30th.

CORRECTION TO NO. 227, APRIL 15th, 1934.

P= 22:17:29 Distance, 1050 Km.

S= 22:19:20

Epicenter, 7° 15' N; 127° 05' E.

H= 22h 15m 10s

Twenty-seven observatories give P-O residuals less than 10 seconds.

CORRECTION TO NO. 90, FEBRUARY 7TH, 1935.

1PNZ= 17:29:40 Compression.

1PN = 17:30:08 S from the Wiechert,

12° 40' N; 121° 50' E by Manila and Baguio.

h about 60 Km.

Reported as violent in Romblon. Felt in southern and southeastern Luzon.

No. 33.

September, 1935



MANILA, P. I.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY

$\phi=14^{\circ} 34' 42''$ N.

$\lambda=120^{\circ} 58' 41''$ E.

h=3 m.

Alluvium

GALITZIN-WILIP.

WIECHERT. M=1000 Kg.

September 5, 1935.

	T_0	D	T_1	l
N-S	12.4	100.0	12.6	11.5
E-W	11.8	100.5	11.9	11.4
Z	11.6	100.5	9.0	14.8

	T_0	V	ϵ	$\frac{V}{T_0^2}$
N-S	4.5	202	2.3	0.031
E-W	4.8	196	2.7	0.049

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 Sept. 708 1st	PNZ SNEZ MNE F	0 30 10 31 28 32 50 1 40	700	Felt at Guiuan with intensity IV.
715 3rd	PNEZ S?NE F	11 01 29 03 14 55	990?	
716 4th	1PNEZ 1SNE	1 39 37 41 18	950	Compression from N. $22^{\circ} 30' N$; $121^{\circ} 30' E$ according to Taihoku. Slight damage in Taito.
717 4th	PNEZ SNEZ F	3 30 09 31 51 4 55	950	An aftershock of No. 716. No. 716 still recording.
722 8th	PEZ SNEZ MN F	17 05 08 06 22 07 22 18 19	660	
723 9th	1PZ PNE 1SNE	6 16 33 33 20 37	2600	Dilatation. Probably same epicenter as No. 724. Guam, $\Delta = 6^{\circ}$.
724 9th	1PZ 1SZ	6 21 55 26 00	2610	Dilatation. $7^{\circ} N$; $143^{\circ} E$ by S-P inter- vals of Guam, Manila, Riverview, Adelaide. No. 723 still recording.
726 10th	PNEZ SNEZ	14 49 37 50 43	580	Felt at Guiuan, Samar, and at Dulag, Leyte. Probably in the gulf of Leyte.
728 11th	1PZ 1SNE LN MN F	11 57 03 12 06 43 21 ca 27 20 13 40	8230	Compression.

MANILA, P. I.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 Sept. 729 11th	1PNEZ 1SNE LNE F	14 11 03 16 38 21 30 18 10	3980	Compression. 42°N; 146°E by Manila, Zikawei, Adelaide, Riverview, Chiufeng. 45°N; 146°E by U.S.C.G.S. L from the Wiechert.
731 12th	PNEZ SNE F	16 14 28 19 36 51	3960	
732 12th	PNEZ SNEZ F	18 30 04 20 40	125	Dilatation from S or SW.
733 13th	PNE SNE F	0 14 02 23 17	165	From the Wiechert. Galitzin-Wilip records being changed.
741 20th	1PNEZ SNE LNE F	1 52 25 56 58 59 12 4 35	3050	Compression from SE. 40°S; 141° 30'E by Guam, Manila, Riverview, Hong Kong, Zikawei, Chiufeng, Taihoku. Data after P from the Wiechert. Guam P at 1:50:39 G.M.T. Region of 1.5°S; 142°E by U.S.C.G.S.
742 20th	1PNEZ 1SNE LE F	5 28 57 33 30 36 24 7 00	3020	Compression. Data after P from the Wiechert. Probably an aftershock of No. 741. Guam, 17.5°.
744 20th	PNEZ SNE F	17 02 19 39 11	160	Felt in Bauan, Batangas (St).
745 20th	P?Z SNE F	21 10 03 16 44 22 05	5080?	Disturbed by microseisms.
746 23rd	PNEZ SNEZ LNE MNE	9 09 04 13 55 17 35 19 50	3290	
747 23rd	1PNEZ S?NZ F	9 24 10 30 19 11 12	4335?	Compression. No. 746 still recording. 1.5°S; 142°E by U.S.C.G.S.
748 24th	PNEZ SNZ F	5 06 55 12 03 42	3555	
750 24th	PNEZ SNE F	20 17 18 28 21	75	



M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time			Dist. Km.	Remarks.
		h.	m.	s.		
1935 Sept.						
752 25th	PNEZ SNE LNE F	10 30 33 12	25 20 43 04	29	3290	Compression. In vicinity of 2°S; 145°E by Manila, Adelaide, Hong Kong, Chiufeng.
753 25th	PNEZ SNE F	13 42 14	36 15 25	35	4055	
755 27th	PNEZ SNE LNE F	3 33 35 4	29 22 33 30	59	2020	Compression.
756 27th	P?NE SNEZ LN MN F	13 34 35 36 14	32 07 41 41 00	00	1220?	Felt at Lupon and Mati, province of Davao.
758 27th	1PEZ SNEZ	17 07	06 54	59	455	Dilatation from ESE. Felt in Virac, Catanduanes Island, Intensity IV-V. Also strong at Vigan.
759 27th	PNE SNE	17 20	19 06	11	455	Aftershock of No. 758. From the Wiechert
760 27th	PNE SNE F	18 19 42	18 16 42	21	455	Aftershock of No. 758. From the Wiechert.
770 30th	1PNEZ SNE LN F	2 55 58 3	50 11 30 45	17	3345	
774 30th Oct. 1	1PEZ 1SNE MNE F	23 54 57 1	51 10 45 05	15	1690	Dilatation. Probably in west Caroline Islands by Manila and Hong Kong.

Thirty-seven insignificant or undecipherable disturbances on the following days of September: 1st(4), 2nd (2), 5th(2), 7th, 8th, 9th, 10th, 12th, 15th(4), 19th, 20th, 24th(2), 26th, 27th(2), 28th(2), 29th(5), and 30th(4).



MANILA, P. I.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY

$\phi=14^{\circ} 34' 42''$ N.

$\lambda=120^{\circ} 58' 41''$ E.

h=3 m.

Alluvium

GALITZIN-WILIP.

WIECHERT. M=1000 Kg.

September 5, 1935.

	T_0	D	T_1	l
N-S	12.4	100.0	12.6	11.5
E-W	11.8	100.5	11.9	11.4
Z	11.6	100.5	9.0	14.8

	T_0	V	ϵ	$\frac{I}{m_0^2}$
N-S	4.5	202	2.3	0.031
E-W	4.8	196	2.7	0.049

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 Sept. 708 1st	PNZ SNEZ MNE F	0 30 10 31 28 32 50 1 40	700	Felt at Guiuan with intensity IV.
715 3rd	PNEZ S?NE F	11 01 29 03 14 55	990?	
716 4th	iPNEZ iSNE	1 39 37 41 18	950	Compression from N. $22^{\circ} 30' N$; $121^{\circ} 30' E$ according to Taihoku. Slight damage in Taito.
717 4th	PNEZ SNEZ F	3 30 09 31 51 4 55	950	An aftershock of No. 716. No. 716 still recording.
722 8th	PEZ SNEZ MN F	17 05 08 06 22 07 22 18 19	660	
723 9th	iPZ PNE iSNE	6 16 33 33 20 37	2600	Dilatation. Probably same epicenter as No. 724. Guam, $\Delta = 6^{\circ}$.
724 9th	iPZ iSZ	6 21 55 26 00	2610	Dilatation. $7^{\circ} N$; $143^{\circ} E$ by S-P inter- vals of Guam, Manila, Riverview, Adelaide. No. 723 still recording.
726 10th	PNEZ SNEZ	14 49 37 50 43	580	Felt at Guiuan, Samar, and at Dulag, Leyte. Probably in the gulf of Leyte.
728 11th	iPZ iSNE LN MN F	11 57 03 12 06 43 21 ca 27 20 13 40	8230	Compression.

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 Sept. 729 11th	1PNEZ 1SNE LNE F	14 11 03 16 38 21 30 18 10	3980	Compression. 42° N; 146° E by Manila, Zikawei, Adelaide, Riverview, Chiufeng. 45° N; 146° E by U.S.C.G.S. L from the Wiechert.
731 12th	PNEZ SNE F	16 14 28 19 36 51	3960	
732 12th	\bar{P} NEZ \bar{S} NEZ F	18 30 04 20 40	125	Dilatation from S or SW.
733 13th	\bar{P} NE \bar{S} NE F	0 14 02 23 17	165	From the Wiechert, Galitzin-Wilip records being changed.
741 20th	1PNEZ SNE LNE F	1 52 25 56 58 59 12 4 35	3020	Compression from SE. 4° S; 141° 30'E by Guam, Manila, Riverview, Hong Kong, Zikawei, Chiufeng, Taihoku. Data after P from the Wiechert. Guam P at 1:50:39 G.M.T. Region of 1.5° S; 142° E by U.S.C.G.S.
742 20th	1PNEZ 1SNE LE F	5 28 57 33 30 36 24 7 00	3020	Compression. Data after P from the Wiechert. Probably an aftershock of No. 741. Guam, 17.5° .
744 20th	\bar{P} NEZ \bar{S} NE F	17 02 19 39 11	160	Felt in Bauan, Batangas (St).
745 20th	P?Z SNE F	21 10 03 16 44 22 05	5080?	Disturbed by microseisms.
746 23rd	\bar{P} NEZ SNEZ LNE MNE	9 09 04 13 55 17 35 19 50	3290	
747 23rd	1PNEZ S?NZ F	9 24 10 30 19 11 12	4335?	Compression. No. 746 still recording. 1.5° S; 142° E by U.S.C.G.S.
748 24th	PNEZ SNZ F	5 06 55 12 03 42	3555	
750 24th	\bar{P} NEZ \bar{S} NE F	20 17 18 28 21	75	

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time			Dist. Km.	Remarks.
		h.	m.	s.		
1935 Sept.						
752 25th	PNEZ SNE LNE F	10	25	29	3290	Compression. In vicinity of 2°S; 145°E by Manila, Adelaide, Hong Kong, Chiufeng.
753 25th	PNEZ SNE F	13	36	35	4055	
755 27th	PNEZ SNE LNE F	3	29	59	2020	Compression.
756 27th	P?NE SNEZ LN MN F	13	32	00	1220?	Felt at Lupon and Mati, province of Davao.
758 27th	1PEZ SNEZ	17	06	59	455	Dilatation from ESE. Felt in Virao, Catanduanes Island, intensity IV-V. Also strong at Viga.
759 27th	PNE SNE	17	19	11	455	Aftershock of No. 758. From the Wiechert
760 27th	PNE SNE F	18	18	21	455	Aftershock of No. 758. From the Wiechert.
770 30th	1PNEZ SNE LN F	2	50	17	3345	
774 30th	1PEZ 1SNE MNE	23	51	15	1690	Dilatation. Probably in west Caroline Islands by Manila and Hong Kong.
Oct. 1	F	1	05			

Thirty-seven insignificant or undecipherable disturbances on the following days of September: 1st(4), 2nd (2), 5th(2), 7th, 8th, 9th, 10th, 12th, 15th(4), 19th, 20th, 24th(2), 26th, 27th(2), 28th(2), 29th(5), and 30th(4).



CORRECTION AND ADDITION TO NO. 575, JULY 7, 1935.

S at 13:25:14

\bar{S} at 13:25:27 Distance 435 Km.

18° 15' N; 119° 25' E as on June 13 1932.

H=13:23:19

- - - - -

NO. 614, JULY 16, 1935.

9° 10' N; 126° 40' E by Manila and Palau.

- - - - -

NO. 647, AUGUST 3rd, 1935

1S at 1:20:18

H=1h 10m 04s

Distance 2910 Km.

5.5° N; 96° E by Manila, Phu-Lien, Hong Kong, Taihoku, ~~Chiufang~~

- - - - -

NO. 665, AUGUST 12th, 1935.

S at 1:42:46 Distance 1220 Km.

5° N; 126° E by Palau and Manila.



M A N I L A O B S E R V A T O R Y
SPECIAL BULLETIN OF PRINCIPAL EARTHQUAKES

J U L Y , 1 9 3 5

3rd	PNEZ	21 52 10	Compression. Deep focus.
	SNEZ	21 56 28	
5th	1PEZ	18 02 17	Compression.
	1SNE	18 09 45	
7th	1PNEZ	13 24 20	Compression from NW. Felt in
	SNE	13 25 24	northwestern part of Luzon with intensity IV and slight- ly in Manila.
9th	PNEZ	4 40 16	
	S?NE	4 44 52	
9th	1PZ	12 51 59	Compression.
	SNE	12 53 02	
9th	PNEZ	21 12 53	
	SNEZ	21 16 30	
11th	1PZ	8 30 20	Dilatation. Japan,
	SNEZ	8 34 57	
11th	ePNEZ	13 18 44	
	SN	13 23 06	
11th	ePNE	23 06 24	
	SN	23 10 44	
12th	PNEZ	20 45 16	
	S?NE	20 54 08	
13th	PNEZ	0 34 27	
	S?NE	0 41 14	
15th	1PZ	14 23 45	
	SNE	14 27 10	
16th	PNEZ	16 21 24	Dilatation. Formosa,
	SNE	16 23 10	
29th	1PNEZ	7 49 16	
	1SNE	7 57 46	

M A N I L A O B S E R V A T O R Y
SPECIAL BULLETIN OF PRINCIPAL EARTHQUAKES



A U G U S T , 1 9 3 5

1st	1PEZ	14 07 59	In the Philippine Deep, about
	SNE	14 09 03	10° 30' N; 126° 25' E.
3rd	1PEZ	1 15 41	Compression. Probably in region
	1SNE	1 20 40	of 10° N; 90° E by Manila and
			Phu-Lien.
3rd	1PNEZ	11 46 52	
	SNE	11 48 25	
17th	1PEZ	1 54 52	Compression.
	1SNEZ	2 03 44	
17th	PNEZ	20 27 32	Compression. Felt at Laoag with
	SNE	20 28 26	intensity III.
21st	PNEZ	14 00 02	
	SNE	14 09 12	
23rd	PNE	14 03 24	
	SNE	14 08 46	
25th	P?	5 21 36	
	SE	5 32 47	
30th	PNEZ	17 01 23	
	1SNE	17 05 26	
31st	1PEZ	17 17 51	Felt at Guiuan, Samar, with in-
	SNE	17 19 54	tensity V.

MANILA OBSERVATORY

SPECIAL BULLETIN OF PRINCIPAL EARTHQUAKES

SEPTEMBER, 1935

1st	PNZ SNEZ	0 30 10 31 28	Felt at Guian with intensity IV.
4th	iPNEZ iSNE	1 39 37 41 18	Compression from N.
8th	PEZ SNEZ	17 05 08 06 22	
9th	iPZ iSNE	6 16 33 20 37	Dilatation. Probably same epicenter as the next earthquake. Guam, $\Delta=6^{\circ}$.
9th	iPZ iSZ	6 21 55 26 00	Dilatation. 5.5°N ; 142°E by Manila, Guam, Zikawei, Riverview.
11th	iPZ iSNE	11 57 03 12 06 43	Compression.
11th	iPNEZ iSNE	14 11 03 16 38	Compression. 42°N ; 146°E by Manila, Zikawei, Riverview.
20th	iPNEZ SNE	1 52 25 56 58	Compression from SE. 3°S ; 141°E by Manila and Zikawei.
20th	iPNEZ iSNE	5 28 57 33 30	Compression.
23rd	iPNEZ SNZ	9 24 10 30 19	Compression.
25th	PNEZ SNE	11 25 29 30 20	Compression.
27th	iPEZ SNEZ	17 06 59 07 54	Dilatation from ESE. Felt in Virac, Catanduanes Island.
30th	iPEZ SNE	23 51 15 54 10	Dilatation.

MANILA, P. I.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY

$\phi=14^{\circ} 34' 42''$ N.

$\lambda=120^{\circ} 58' 41''$ E.

h=3 m.

Alluvium

GALITZIN-WILIP

WIECHERT. M=1000 Kg.
October 2, 1935.

	T_0	D	T_1	λ
N-S	12.4	100.5	12.6	11.5
E-W	11.8	100.5	11.9	11.4
Z	11.6	100.5	9.0	14.8

	T_0	V	Δ	$\frac{P}{T_0^2}$
N-S	4.6	197	2.2	0.048
E-W	4.8	206	2.5	0.059

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 October				
775 1st	PEZ SEZ LEZ ME F	3 29 41 32 02 33 25 34 42 4 26	1345	Netherlands East Indies. Butuan, $8^{\circ}+$ No time marks on Galitzin N-S comp.
777 2nd	PEZ SNE LN F	5 40 11 45 35 50 15 7 25	3810	Japan. 43.8° N; 146.5° E. H=5:33:06 by J.S.A.
778 2nd	ePNZ SNZ mN F	17 16 39 17 53 18 49 33	660	Felt at Guiuan and Gandara, Samar, with intensity III, and at Tanauan, Dulag and Babatngon, Leyte.
780 3rd	PNE SN F	12 10 34 12 39 40	1200	
781 4th	PNEZ SNE F	5 17 46 19 31 45	985	Dilatation from SE. Deep focus. Probably $6^{\circ} 20'$ N; 125° E, h=400 Km., H=5:15:39 by Manila, Hong Kong, Chiufeng. Felt at Santa Cruz, Davao, and at Glan, Cotabato.
782 5th	IPZ SNEZ F	18 56 52 58 55 19 10	1190	Felt at Santa Cruz, Davao, and at Glan, Cotabato.
784 6th	PNEZ SNE F	4 46 26 54 38 6 00	6670	In vicinity of 25° S; 171° E by Manila, Riverview, Chiufeng.
785 6th	PNEZ SNEZ F	9 30 31 57 45	200	Felt lightly at Santa Cruz, Marinduque.

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 Oct.				
786 6th	PNE SN LN F	14 57 17 15 05 03 14 21 40	6210	
787 7th	P?NEZ SE F	35 17 40 20 48 42	1840	
790 8th	PNE SNE F	3 23 12 31 31	150	
791 8th	PNZ SNE LE MNE F	9 28 08 35 18 43 20 47 25 11 00	5590	Dilatation.
7923 8th	1PNEZ 1SNE F	20 05 37 57 34	160	Dilatation. Felt at Iba with intensity III, also in other towns in Zambales, and slightly in Manila. 15° 10' N; 119° 32' E by Manila and Baguio. Data after P from the Wiechert.
795 9th	P?NE SNE F	1 32 54 34 21 59	800?	Felt at Placer and Cantilan, Surigao, and at Butuan with intensity IV.
796 9th	PNEZ SNE F	7 30 42 31 00 40	145	Epicenter near the Coast of Zambales province, as on Nov. 13, 1933. Felt at Masinloc, Zambales. Baguio, 145 Km.
798 9th	P?NE SNEZ F	18 18 14 19 04 27	400?	Felt in Sorsogon, Bulan and Donsol, province of Sorsogon.
800 10th	1PEZ 1SNEZ mN	12 34 01 35 10 36 40	600	Compression. Felt at Tacloban with intensity IV, and at Dulag, Leyte, at Borongan III, and at Gandara and Oras, Samar.
803 10th	1PNEZ SNE SNE F	20 09 42 10 56 11 26 22 10	660	Compression. Felt at Guiuan with intensity III, Gandara and Dulag. Epicenter probably 11° 15' N; 126° 05' E as on May 24.
807 11th 12th	PEZ SNE F	22 21 58 27 00 0 40	3280	Compression. From the southeast. In the vicinity of 1° N; 145° E by Manila, Hong Kong, Osaka. Data after P from the Wiechert.

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY,--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 Oct. 808 12th	PNEZ SNE F	3 40 22 41 40 4 15	700	Felt at Guiuan with intensity III.
809 12th	MNE F	10 53 51 11 01		Long waves.
810 12th	PNEZ SNE LNE MNE	16 51 50 56 47 17 00 10 03 00	3320	In vicinity of 37°N; 143°E by Hong Kong Manila, Phulien, Taihoku, Osaka. 43°N; 144°E. H=16:45:44 by J.S.A.
811 12th	PEZ S?NE F	18 21 24 26 28 20 40	3490?	Japan. No. 810 still recording.
812 13th	PNEZ SN LNE MNE F	2 03 59 09 21 13 ca 16 20ca 3 50	3780	Japan.
815 13th	PNEZ SE F	12 50 11 53 43 13 20	2135	
819 14th	1PNEZ SNE mN	19 47 20 51 48 19	230	Compression. Felt over western Luzon from Vigan, Ilocos Sur, to Manila. In- tensity VI at San Fernando, La Union. Epicenter in Lingayen Gulf.
820 14th	PNE SNE F	19 53 25 56 20 10	230	Aftershock of No. 819. Felt in San Fer- nando and Agoo with intensity IV and in Dagupan with intensity II.
823 15th	PNE SNE F	13 10 34 14 14 35	2245	
824 15th	PNEZ SNEZ F	14 41 19 44 19 15 18	1745	
826 15th	PNE SNE F	21 49 42 50 05 53	180	
827 16th	PE SNE F	5 20 26 37 22	85	Z Cylinder stopped from 1:04 to 7:38.

MANILA, P. I.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 Oct. 829 17th	1PZ 1PE SNZ F	3 57 40 43 58 13 4 13	240	Compression. Felt at Daet with intensity IV. Also felt at Labo, Camarines Norte; at Tigaon, Camarines Sur; Viga, Albay. Epicenter probably in the Pacific.
830 17th	PZ PNE SNE LNE F	14 38 26 27 43 03 46 30 15 40	3080	Japan.
831 18th	1PZ ePNE 1SNE LNE MNE F	0 18 30 30 24 02 28 50 ca 32 ca 3 45	3945	Compression. Japan. Data after S from the Wiechert.
833 18th	1PEZ SNE LNE F	11 10 00 13 57 16 10 13 40	2490	Data after P from the Wiechert.
834 18th	1PZ eSNE LE ME F	15 00 24 05 46 09 40 13 ca 16 25	3780	Compression. Japan. Data after S from the Wiechert.
835 18th	PNEZ SNE LNE MN F	21 58 10 22 03 57 07 ca 09 ca 23 30	3230	Japan.
837 19th	ePZ eSN LN F	2 45 38 49 46 52 10 3 45	2645	
842 20th	PEZ S?NE F	6 53 32 56 39 7 38	1835?	
843 20th	PNEZ SN E F	9 37 28 48 48	160	



SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks.
1935 Oct. 845 20th	PEZ SNEZ F	13 02 14 03 55 55	950	
857 24th	1PNEZ SNEZ F	11 30 02 31 19 48	690	Felt at Basco, Batanes, With intensity III.
859 25th	P?Z S?EZ F	0 04 26 11 41 1 20	5680?	The beginning lost on N and E components in changing papers.
867 31st	1PZ SNEZ L?E F	23 00 16 04 19 06 30 40	2590	Compression.

Forty-nine insignificant or undecipherable disturbances on the following days of October: 1st, 3rd, 5th, 7th(2), 8th(2), 9th(2), 10th (3), 11th(2), 13th(5), 15th(3), 16th, 18th, 19th(4), 20th(5), 21st, 22nd(4), 23rd(3), 24th, 25th(2), 26th, 27th, 28th, 29th, and 31st.

MANILA, P. I.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY



$\phi=14^{\circ} 34' 42''$ N.

$\lambda=120^{\circ} 58' 31''$ E.

h=3 m.

Alluvium

GALITZIN-WILIP

	T_0	D	T_1	l
N-S	12.4	100.5	12.6	11.5
E-W	11.8	100.5	11.9	11.4
Z	11.6	100.5	9.0	14.8

WIECHERT SEISMOGRAPH IS OUT OF SERVICE.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 Nov. 868 1st	P?Z MNE F	6 12 07 7 12 ca 8 30	13000?	Disturbed by microseisms. 46.4°N; 79.4°W; $\sigma=6:03:45$
869 1st	1PZ 1PNE SNE LNE F	16 26 18 19 29 49 31 30 18 30	2120	Compression. 21°N; 103°E by Phu-Lien, Hong Kong, Nanking, Manila, Taihoku, Chiufeng. Felt in Phu-Lien.
871 3rd	PNEZ SNEZ F	15 15 51 17 22 40	840	
873 4th	P?NEZ MNE F	8 42 52 50 16 9 02	2165?	
874 5th	PNEZ SNE LNE MNE F	9 36 15 42 17 46 30 ca 51 15 ca 10 45	4410	
875 5th	PNEZ SNE F	11 16 59 17 15 24	125	Deeper than normal. Baguio, 130 Km.
876 5th	PNEZ SNEZ F	18 36 03 22 44	150	

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time			Dist. Km.	Remarks.
		h.	m.	s.		
1935. Nov.						
878 5th	iPNEZ iSNEZ F	20 21 22	59 02 48	56 02	1135	Compression. $5^{\circ} 45' N$; $126^{\circ} 12' E$ by Palau, Manila, Chiufeng, Hong Kong. Felt in eastern Mindanao.
879 6th	ePNEZ SNEZ F	9 35 10	31 40 48	13 40	3020 6	
881 6th	PNE SN F	13 23 14	17 28 18	47 28	4065	Disturbed by microseisms.
882 6th	PNEZ SEZ LNE F	21 50 51 22	48 04 03 40	05 04 03	1145	Felt in southeastern Mindanao.
883 7th	PNEZ SNE F	10 29 50	28 45 50	04 45	940	
884 9th	PNE SE F	10 52 11	51 03 03	03? 03	500	Felt in Hinigaran and Kabankalan Occidental Negros.
885 10th	iPNEZ LE MN F	18 19 42 20	47 34 ca 50	36 30	16490	$16.7^{\circ} N$; $62.2^{\circ} W$ by U.S.C.G.S.
886 11th	PNEZ SNE LE F	13 26 35 14	18 21 24 35	47 21 24	6010	
887 12th	PNEZ SNE F	21 38 22	33 37 35	49 37	3245	Deeper than normal. In region of $4^{\circ} N$; $95^{\circ} E$ by Phu-Lien, Manila, Nanking, Chiufeng.
889 14th	PNEZ SNE LN F	20 09 13 40	03 19 33	49 19 33	5910	Disturbed by microseisms. $4.5^{\circ} S$; $137^{\circ} E$ by Riverview and Manila.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time			Dist. Km.	Remarks.
		h.	m.	s.		
1935 Nov.						
890 16th	P?NEZ S?NEZ F	5	51	44	530?	Disturbed by strong microseisms. Felt throughout southern Samar and eastern Leyte. Butuan, 270 Km.
895 23rd	PNEZ F	8	11	11	16560	1°N; 86°W by U.S.C.G.S.
898 25th	PNEZ SNE LNE ME F	10	08	57	3035	Dilatation. In vicinity of 7°N; 94°E by Hong Kong, Manila, Taihoku, Chiufeng.
902 26th	PNEZ SNE LNE MN F	18	39	14	3045	In vicinity of 7°N; 94°E by Hong Kong, Manila, Nanking, Chiufeng.
903 27th	PNEZ SNEZ mNEZ F	9	13	02	595	Felt in southern part of Leyte and Samar. P in minute gap.
908 29th	P?NE SN LNE F	18	17	19	3580?	Disturbed by microseisms.
909 29th	P?NE SNE MNE F	19	44	38	2180?	Disturbed by microseisms.
910 30th	PNEZ SNEZ F	3	33	09	900	Formosa. Disturbed by microseisms.
911 30th	PNEZ F	3	59	38	16680	10°N; 80°W; 0=3:39:45 by U.S.C.G.S.
912 30th	PNEZ SNE F	22	12	58	200	Dilatation. Felt in southern Luzon.

Nineteen insignificant or undecipherable disturbances on the following days of November: 1st, 3rd, 5th, 13th, 15th, 20th(2), 22nd, 23rd(2), 24th, 25th, 26th(2), 27th(2), and 28th(2).

MANILA, P. I.

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY

$\phi = 14^{\circ} 34' 42''$ N.

$\lambda = 120^{\circ} 58' 41''$ E.

h=3 m.

Alluvium

WIECHERT. M=955 Kg.

December 22, 1935.

GALITZIN-WILIP

	T_0	D	T_1	λ
N-S	12.4	100.5	12.6	11.5
E-W	11.8	100.5	11.9	11.4
Z	11.6	100.5	9.0	14.8

	T_0	V	ϵ	$\frac{r}{T_0^2}$
N-S	4.0	211	2.4	0.058
E-W	4.1	275	2.8	0.053

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 Dec.				
913 1st	PNEZ SNE LZ	23 48 49 51 55 55 52	1820	Dilatation? Probably in the Ryukyu Islands.
2nd	F	1 40		
915 2nd	PNEZ SNE LNE F	16 46 26 49 15 50 36 18 20	1625	Compression? Probably in the Ryukyu Islands.
917 5th	PNE SNEZ LNE MNEZ F	18 03 28 11 17 21 ca 25 ca 19 10	6265	
918 7th	PEZ SN F	11 52 42 56 17 12 15	2180	
919 8th	\bar{P} NEZ \bar{S} NE F	5 16 08 26 40	75?	Compression. Felt in southern Luzon. Deeper than normal. S from the Wiechert and Horizontal Pendulums.
921 8th	\bar{P} NEZ \bar{S} NEZ F	6 25 17 39 30	175	
922 9th	PNZ S?NEZ F	7 38 12 45 21 8 30	5565?	
925 11th	PNEZ SNE F	8 45 48 50 50 9 38	3455	

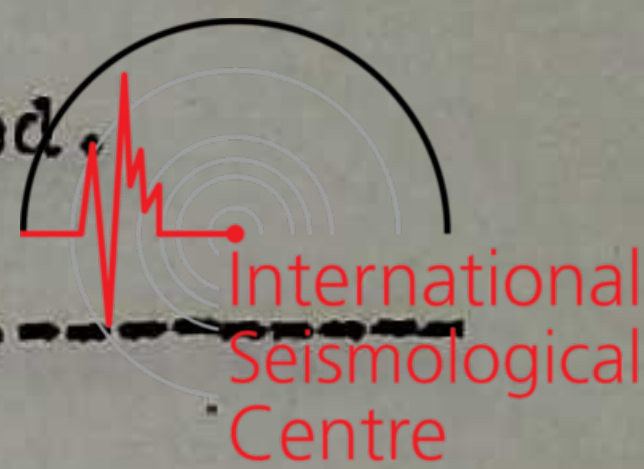
M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.

No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 Dec. 928 13th	PEZ SNEZ F	7 14 19 17 03 40	1580	S in minute gap.
932 13th	PNEZ SNEZ	17 00 11 01 40	820	Near 9° 45' N; 126° 30' E by Butuan and Manila. Felt in Cantilan, Surigao.
934 14th	PNEZ eE eNE F	1 50 11 58 09 2 07 54 3 10	18100	6° S; 74° W by U.S.C.G.S.
936 14th	PEZ SNE F	12 52 10 56 32 13 50	2700	Compression from east. In the northern part of Marianas Islands by Guam and Manila. Guam 12h 49m 12s.
937 14th 15th	PNEZ PP SKP PPP LNE MNE F	22 24 47 27 16 28 18 30 16 23 08 30 19 ca 0 40	15010	Dilatation. 14° N; 94° W by U.S.C.G.S.
939 15th	PNEZ SNEZ F	1 44 51 45 56 2 20	430	Felt in northern Luzon. Epicenter in the mountains of northern Luzon by Baguio (230 Km.) and Manila.
940 15th	1PNEZ 1SNE 1LNEZ 1MNE F	7 16 19 23 21 30 55 34 40 10 50	5355	Dilatation. 10° S; 162° 30' E by Riverview, Manila, Zikawei, Phu-Lien, Guam, Baguio (5455 Km.), Hong Kong, Nanking.
945 17th	PNEZ SNE F	13 25 18 32 40 14 20	5810	
946 17th	PNEZ SNE F	19 19 43 21 23 22 00	940	Compression. East of Formosa. Felt in northern Luzon. Felt on the 3rd floor of the Manila Observatory by Fr. Repetti. Baguio, 750 Km. Compression.

M A N I L A , P . I .

SEISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued.



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 Dec. 951 18th	1PEZ 1SNEZ LNE MN	7 15 27 19 25 22 10ca 24 30ca	2500	Szechwan, Destructive at Ma-Pien; Szechwan, accord- ing to Nanking and Chiufeng 27.5°N; 102.5°E by Chiufeng.
952 18th	PNE? SNE ME F	8 09 22 13 20 18 10ca 42	2500	No. 951 still recording. Probably aftershock of No. 951.
955 18th	1PNEZ SNE ME F	17 04 26 08 23 12 50ca 18 00	2490	Compression. Repetition of No. 951.
957 19th	PNE S?N F	9 56 01 58 39 10 17	1520?	Disturbed by microseisms.
958 19th	P?NZ SNEZ F	13 31 01 35 38 57	3080?	Disturbed by microseisms. Probably repetition of No. 951.
959 19th 20th	P?NE SNE F	23 39 06 45 29 1 00	4780?	Disturbed by microseisms.
960 20th	1PEZ 1SNE LN MN F	18 45 22 52 11 59 30ca 19 03 20ca 20 20	5220	Compression. In region of 9°S; 159°E by Manila, Hong Kong, Nanking, Chiufeng.
962 22nd	1PNZ 1SNE F	12 26 11 27 25 48	660	Felt in northeastern Mindanao and southeastern Leyte.
963 24th	PEZ SNE F	12 41 09 49 05 14 39	6300	Disturbed by microseisms.
964 24th	PNEZ SE F	20 33 31 55 39	190	
965 25th	PNZ S NZ F	12 29 04 30 27 48	530	
968 26th	PNEZ SNE F	20 17 15 25 17 21 05	6380	

M A N I L A , P . I .

S EISMOLOGICAL BULLETIN OF THE OBSERVATORY.--Continued



No. and Date	Phase.	Greenwich Time h. m. s.	Dist. Km.	Remarks
1935 Dec. 972 28th	1PNEZ PP 1 1 1SNE 1LNE 1MNE F	2 41 05 49 42 40 54 46 09 49 50 ca 52 40 ca 7 30	3310	Compression, Probably SW of Sumatra. Data after P from the Wiechert and Horizontals. Baguio, 3310 Km.
974 28th	PNEZ SNEZ LNE MN F	17 27 31 32 31 36 55 59 40 ca 18 50	3435	
980 29th	1PNEZ S?E LN ME F	23 41 50 45 34 49 30 52 ca 2 10	2235?	Compression from southeast. Probably in western New Guinea by Ma- nila, Hong Kong, Nanking, Chiufeng. Data after P from the Wiechert.
983 30th	PNEZ SNE L?NE F	4 16 10 22 31 26 20 ca 5 10	4735	
984 30th	PNEZ SNZ MN F	6 14 12 17 47 21 50 ca 7 00	2180	Disturbed by microseisms.
986 30th	PNEZ SNEZ F	22 06 36 07 12 20	250	
987 30th	P?EZ S?EZ	22 07 52 08 11	150?	
989 31st	PNEZ SNE LNE F	1 35 06 40 25 45 ca 2 15	3735	Dilatation.

Forty insignificant or undecipherable disturbances on the following days of December: 2nd, 4th, 8th, 10th, 11th(2), 13th(3), 14th(2), 15th, 16th, 17th(3), 18th(4), 21st, 26th(2), 27th(3), 28th(2), 29th(4), and 30th(4).



M A N I L A O B S E R V A T O R Y
SPECIAL BULLETIN OF PRINCIPAL EARTHQUAKES

J A N U A R Y , 1 9 3 5

1st	iPNEZ	13 31 46	Compression.	<i>7h00</i>
	SNEZ	13 40 40	Approx. 18°S: 179°W by Manila, River- view, and Adelaide.	
3rd	iPNEZ	1 56 58	Compression.	<i>3800</i>
	iSNE	2 02 22		
4th	ePNEZ	0 16 11	Deeper than normal.	
	iSNEZ	0 19 44		
4th	PNEZ	14 53 45		<i>9 200</i>
	SNEZ	15 04 10		
11th	PNEZ	0 09 26	Dilatation. Felt at Aparri with in- tensity IV. In the Babuyan Chamorro by Manila and Baguio.	
	SNEZ	0 10 23		
14th	PNEZ	2 07 05	Dilatation. Felt at Davao with in- tensity II. In the region of 5° 45'N: 127°E by Manila and Butuan.	
	SNE	2 09 09		
14th	PE	22 29 56		
	SNE	22 32 00		
17th	ePNEZ	2 18 17		<i>6 167</i>
	SNEZ	2 26 00		
18th	PNEZ	17 13 50		<i>3467</i>
	SNE	17 18 52		
22nd	iPZ	15 02 10	Compression. Deeper than normal.	<i>3033</i>
	SNEZ	15 06 44		
23rd	iPNEZ	7 34 52	Compression from north.	<i>7411</i>
	SNE	7 43 48		

MANILA OBSERVATORY



SPECIAL BULLETIN OF PRINCIPAL EARTHQUAKES

FEBRUARY, 1935

3rd	PNEZ	2 19 22	Compression. Deep focus.
	1SNZ	2 26 27	
4th	PNEZ	7 53 22	Deeper than normal?
	SNE	7 58 26	
4th	PNEZ	17 36 01	
	SNE	17 45 01	
4th	1PEZ	21 10 47	Dilatation.
	1SNEZ	21 13 26	
9th	PNEZ	19 22 11	
	SNE	19 24 42	
19th	ePNZ	20 16 36	
	SN	20 20 25	
20th	PNEZ	18 18 51	Dilatation. Approx. 10° N; 111° E by
	SNE	18 20 55	Manila and Butuan.
21st	ePNEZ	18 44 27	
	SNE	18 47 55	
22nd	PEZ	8 57 47	
	S?NEZ	9 03 11	
22nd	ePNEZ	17 15 52	
	SNEZ	17 23 52	
23rd	ePNE	20 55 18	
	SNE	20 59 41	
25th	ePNEZ	3 04 26	
	eSNE	3 14 25	
27th	PNEZ	9 12 35	Compression from SE.
	SNE	9 13 10	

17 05

MANILA OBSERVATORY

SPECIAL BULLETIN OF PRINCIPAL EARTHQUAKES

FEBRUARY, 1935

3rd	PNEZ	2 19 22	Compression. Deep focus.	1720
	1SNZ	2 26 27		
4th	PNEZ	7 53 22	Deeper than normal?	3290
	SNE	7 58 26		
4th	PNEZ	17 36 01	7600	
	SNE	17 45 01		
4th	1PEZ	21 10 47	Dilatation.	1520
	1SNEZ	21 13 26		
9th	PNEZ	19 22 11	1440	
	SNE	19 24 42		
19th	ePNZ	20 16 36	2300	
	SN	20 20 25		
20th	PNEZ	18 18 51	Dilatation. Approx. 10°N; 111°E by	
	SNE	18 20 55	1160 Manila and Butuan.	
21st	ePNEZ	18 44 27	2040	
	SNE	18 47 55		
22nd	PEZ	8 57 47	3600	
	S?NEZ	9 03 11		
22nd	ePNEZ	17 15 52	6410	
	SNEZ	17 23 52		
23rd	ePNE	20 55 18	2730	
	SNE	20 59 41		
25th	ePNEZ	3 04 26	8780	
	eSNE	3 14 25		
27th	PNEZ	9 12 35	Compression from SE.	
	SNE	9 13 10	1705 2820	

M A N I L A O B S E R V A T O R Y

SPECIAL BULLETIN OF PRINCIPAL EARTHQUAKES

M A R C H , 1 9 3 5

5th	PNEZ	10 45 24		4180
	SNE	10 51 21		
5th	PNEZ	22 23 33		7990
	SNE	22 32 52		
11th	P?NEZ	11 25 38		1280
	S?NE	11 27 54		
13th	1PEZ	18 44 39	Compression.	4350
	SNE	18 50 46		
14th	PNEZ	15 44 09		9150
	SNE	15 54 27		
16th	1PZ	7 54 47	Compression.	2200
	SNE	7 58 27		
19th	1PZ	13 47 53	Compression.	2350
	SNE	13 51 46		
20th	1PEZ	23 05 13	Dilatation.	8350
	1SNE	23 14 50		
21st	PNEZ	0 10 18		6100
	SNE	0 17 59		
24th	1PNEZ	14 28 46	Compression from the NE.	1650
	SNE	14 31 37		
24th	1PZ	23 36 11	Compression.	
	SNEZ	23 38 08	Felt at Davao with intensity II.	1090
27th	1PZ	14 32 30	Dilatation.	
	SNE	14 40 52	Focus deeper than normal.	6860
28th	1PZ	23 53 15	Dilatation.	2590
	SE	23 57 35	Deep focus.	
29th	1PNEZ	12 35 55	Compression.	8570
	1SNE	12 45 41		
30th	PNEZ	21 25 40		4960
	SNEZ	21 31 58		



MANILA OBSERVATORY

SPECIAL BULLETIN OF PRINCIPAL EARTHQUAKES.

APRIL, 1935

9th	PEZ	2 53 17	16 20
	SE	2 56 06	
9th	PZ	22 58 56	3490
	SE	23 04 12	
11th	PEZ	1 23 22	2890
	SE	1 27 57	
11th	1PEZ	23 25 17	Compression.
	SE	23 34 22	7700
15th	PNEZ	11 20 18	4050
	SEZ	11 26 08	
16th	PNEZ	20 36 53	3170
	SNEZ	20 40 48	
19th	PEZ	15 36 50	8900
	SEZ	15 46 55	
20th	PEZ	11 10 50	In the Nero Deep by
	SE	11 14 58	Manila and Guam. 7770
20th	1PZ	22 04 16	Compression.
	1SNE	22 06 17	Formosa. 1130
21st	1PEZ	7 30 40	Dilatation. 2270
	1SE	7 34 43	
23rd	1PEZ	16 51 12	Dilatation. 3240
	1SE	16 56 12	

M A N I L A O B S E R V A T O R Y
SPECIAL BULLETIN OF PRINCIPAL EARTHQUAKES
JUNE, 1935

1st	iPNEZ S?NE	14 42 02 14 44 12	Felt at Davao with intensity III.	1220
2nd	iPZ SNE	9 25 39 9 33 02	India.	5750
7th	PNEZ SNE	2 55 19 2 57 43		1360
7th	PNEZ SNE	20 41 26 20 44 23		1710
8th	PNE SNE	23 44 11 23 44 28	Felt in Manila by some persons.	130
9th	PNEZ SNE	1 33 47 1 35 15	Felt at Basco with intensity II.	740
14th	PNEZ SNE	21 15 49 21 20 43		3170
18th	PNEZ SNE	22 28 58 22 30 00	Felt at Borongan and Legaspi with intensity III.	760
22nd	PNEZ SNE	15 53 16 15 57 05	Focus deeper than normal.	2300
23rd	PNEZ SNE	9 29 41 9 34 06	Deep focus.	2760
24th	iPEZ iSNE	23 32 37 23 40 12	Region New Hebrides.	5990
25th	iPZ SNE	12 41 17 12 47 20		4280
27th	PNZ SNE	0 34 41 0 36 49		1200

MANILA OBSERVATORY
SPECIAL BULLETIN OF PRINCIPAL EARTHQUAKES

JULY, 1935

3rd	PNEZ	21 52 10	Compression. Deep focus.	2660
	SNEZ	21 56 28		
5th	iPEZ	18 02 17	Compression.	5570
	iSNE	18 09 45		
7th	iPNEZ	13 24 20	Compression from NW. Felt in northwestern part of Luzon with intensity IV and slight- ly in Manila.	580
	SNE	13 25 24		
9th	PNEZ	4 40 16	2900	
	S?NE	4 44 52		
9th	iPZ	12 51 59	Compression.	570
	SNE	12 53 02		
9th	PNEZ	21 12 53	2160	
	SNEZ	21 16 30		
11th	iPZ	8 30 20	Dilatation. Japan,	2920
	SNEZ	8 34 57		
11th	ePNEZ	13 18 44	2720	
	SN	13 23 06		
11th	ePNE	23 06 24	2690	
	SN	23 10 44		
12th	PNEZ	20 45 16	7450	
	S?NE	20 54 08		
13th	PNEZ	0 34 27	5270	
	S?NE	0 41 14		
15th	iPZ	14 23 45	2020	
	SNE	14 27 10		
16th	PNEZ	16 21 24	Dilatation. Formosa,	980
	SNE	16 23 10		
29th	iPNEZ	7 49 16	7020	
	iSNE	7 57 46		