

Dr. M. G. R. Room

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## THE SEISMOLOGICAL BULLETIN OF TAIWAN WEATHER BUREAU for January to March, 1959. VOL. VI, No. 1



### 臺灣省氣象所

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TAIWAN WEATHER BUREAU.

No. 64, Kung Yuan Road, Taipei, Taiwan  
China.

## GENERAL ASPECT OF EARTHQUAKES

January to March, 1959.

In January, sixty-eight earthquakes were recorded, four of them were felt by men and the remains were the unfelt ones. All felt earthquakes of this month were classified as local earthquakes. Among those local earthquakes, one happened near Hsinchu, another one occurred near Taitung, and two occurred at the vicinity of Hwalien. There were three distant earthquakes recorded in this month, one of them occurred on 22th and its epicenter was located near Halmahera, and the others occurred on 31th and their epicenters were both located near Hokkaido Japan.

In Februauy, ninety-eight earthquakes had been traced out from seismograms eight of them were felt by man and the remains were the unfelt ones. Among the eight felt earthquakes, one of them occurred at Hwalien was classified as small felt area earthquake and the remains were local ones. Among those local earthquakes, five happened near Hwalien, one near Tawu and another near Hsinkong. Three distant earthquakes were recorded at Taipei, one of the epicenters was located near Ryukyu, which occurred on 28th and the remains were unknown.

In March, the number of earthquakes was seventy-nine. Among them five were classified as local felt earthquakes and the rest were unfelt ones. Four distant earthquakes were recorded at Taipei. Two of their epicenters were located near Ryukyu, one near North of New Guinea and another one was unknown.

Geographical coordinates of the Seismological Station, Taiwan China.

$\lambda$ : Longitude  $\varphi$ : Geographical Latitude

$\varphi'$ : Geocentric Latitude

$$a = \cos\varphi' \cos\lambda \quad b = \cos\varphi' \sin\lambda \quad c = \sin\varphi'$$

Station	$\varphi$ ; (N)	$\lambda$ ; (E)	$\varphi$	Altitude	Subsoil	a	b	c	Seismographs
Alishan(mnt.)	23.31	120.48	23.22	2406.1	Mioceme Sandstone	-0.4700 + 0.7885	+ 0.3966	W. (H. V.) O. S <sub>2</sub> .	
Hengchun	22.00	120.45	21.52	22.3	Alluvium	-0.4745 + 0.7976	+ 0.3724	W. (H. V.) S <sub>2</sub> .	
Hsinkong	23.06	121.22	22.58	36.5 "	"	-0.4793 + 0.7862	+ 0.3901	P <sub>1</sub> . S <sub>1</sub> . W. (H. V.) A <sub>1</sub> .	
Hsinchu	23.48	120.58	24.39	32.8 "	"	-0.4677 + 0.7793	+ 0.4171	P <sub>1</sub> . S <sub>2</sub> .	
Hwalien	23.58	121.37	23.49	17.6 "	"	-0.4796 + 0.7791	+ 0.4038	W. (H. V.) P <sub>1</sub> . S <sub>2</sub> . A <sub>2</sub> .	
Ilan	24.46	121.45	24.37	7.4 "	"	-0.4784 + 0.7731	+ 0.4165	W. (H. V.) P <sub>1</sub> . S <sub>1</sub> .	
Kaohsiung	22.37	120.16	22.29	33.1 "	"	-0.4657 + 0.7981	+ 0.3824	P <sub>1</sub> . S <sub>1</sub> .	
Penghu	23.32	119.33	23.23	9.4	Basalt	-0.4527 + 0.7985	+ 0.3869	P <sub>1</sub> .	
Taipei	25.02	121.31	24.53	8.0	Alluvium	-0.4742 + 0.7733	+ 0.4208	W. (H. V.) O. S <sub>1</sub> . P <sub>2</sub> . P <sub>3</sub> . A <sub>1</sub> .	
Tawu	22.21	120.54	22.13	7.6 "	"	-0.4754 + 0.7944	+ 0.3781	W. (H. V.) S <sub>1</sub> .	
Taitung	22.45	121.09	22.37	8.9 "	"	-0.4775 + 0.7900	+ 0.3846	W. (H. V.) S <sub>2</sub> .	
Tainan	23.00	120.13	22.52	12.7 "	"	-0.4637 + 0.7962	+ 0.3886	W. (H. V.) P <sub>1</sub> . S <sub>1</sub> . A <sub>1</sub> .	
Taictung	24.09	120.41	24.00	77.1 "	"	-0.4662 + 0.7856	+ 0.4067	W. (H. V.) S <sub>2</sub> . P <sub>1</sub> .	
Yushan(mnt. Morrison)	23.29	120.57	23.21	3850.0 "	"	-0.4722 + 0.7873	+ 0.3964	P <sub>1</sub> .	

W(H) : Wiechert's horizontal seismograph.

W(V) : Wiechert's vertical seismograph.

O : Omori's horizontal seismograph. (V:20)

P<sub>1</sub> : C.M.O. type horizontal portable seismograph. (V:40)

P<sub>2</sub> : Three component portable seismograph. (V:20)

P<sub>3</sub> : Higuti-C.M.O. type short period, horizontal seismograph. (V:50)

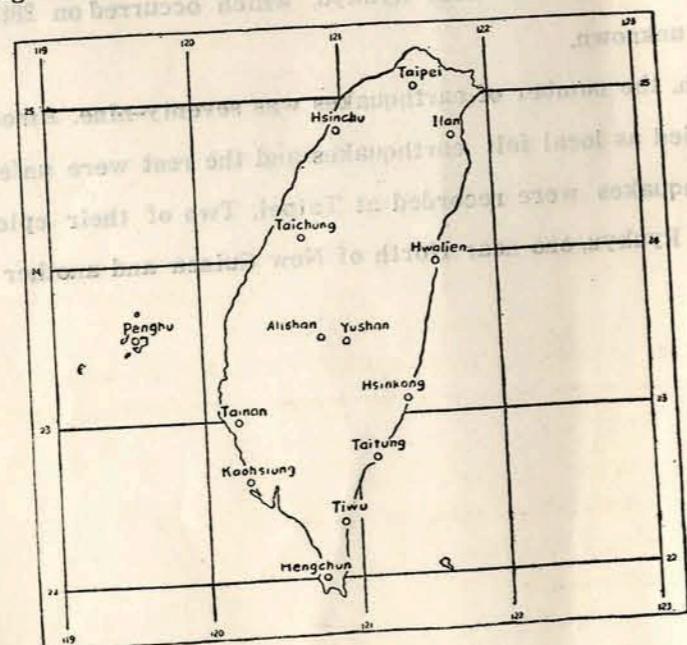
S<sub>1</sub> : C.M.O. type three component strong motion seismograph. (V:2)

S<sub>2</sub> : Higuti-C.M.O. type three component strong motion seismograph. (V:1)

A<sub>1</sub> : Ishimoto's three component acceleration seismograph.

A<sub>2</sub> : Higuti's three component strong motion accelerometer.

Map showing the position of Seismological Station in Taiwan, China.



#### Specification of instruments:-

Mass of the pendulum M (kg) Coefficient of friction  $\frac{r}{T^2}$  (mm/sec.<sup>2</sup>)

Magnification V. Proper period of the pendulum T<sub>o</sub> (sec.)

Damping coefficient  $\xi$

The Constants of Seismographs at Taipei for the Month of January are as follows, and those constants at the other stations are nearly the same.

Seismographs	Component	M.	V.	$\xi$ .	$\frac{r}{T_o^2}$	T <sub>o</sub>
W(H)	E-W	200	76	9	0.004	5.2
	N-S	200	79	9	0.005	6.1
W(V)	U-D	80	78	8	0.003	4.9
P <sub>3</sub>	E-W	18	40	8	0.005	5.1
	N-S	18	40	8	0.005	5.1
O	E-W	15	20	3	0.002	15.7
	N-S	15	20	3	0.003	15.1
S <sub>1</sub>	E-W	2	2	4	0.004	3.8
	N-S	2	2	4	0.004	3.8
	U-D	1.5	2	8	0.004	3.5
P <sub>2</sub>	E-W	10	20	2	0.015	4.0
	N-S	10	20	2	0.026	4.0
	U-D	7.5	20	2	0.018	4.0
A <sub>1</sub>	E-W	15	220	10	0.5	0.10
	N-S	15	220	10	0.9	0.10
	U-D	15	170	10	0.9	0.08

The present publication inserts the following explanation of the notations only in the first number hereafter.

#### 1. Phase.

P: Normal first phase (Longitudinal waves)

pP, PP, PPP, ..... : Longitudinal waves reflected at the earth's surface.

S: Normal second phase (transverse waves).

sS, SS, SSS, ..... : Transverse waves reflected at the earth's surface.

PS, PPS, ..... : Waves suffered a change or changes from longitudinal to transvers oscillation, on reflection at the earth's surface.

SP, SPP, ..... : Waves suffered a change or changes from transverse to longitudinal oscillation, on reflection at the earth's surface.

L : Long waves at the beginning of the surface waves.

Q : Shorter and more regular waves in the surface waves.

M : Largest motion in the surface waves.

C : Tail or end portion.

F : End of the discernible movement.

Δ : Epicentral distance.

ΔH : Focal distance.

H : Depth of focus.

$\mu$  : Micron.

P-S : Duration of Preliminary tremor.

2. Nature of the motion.

i : sudden commencement of a phase.

e : Gradual or indistinct commencement of a phase.

? : Questionable or uncertain.

3. Period and Initial motion.

T : Period, duration of one complete oscillation.

I : Amplitude of the true displacement of the ground from the position at rest.

$I_N$  : N-S component of I.

$I_E$  : E-W component of I.

$I_Z$  : Vertical component of I.

Displacement to the north, east and upward are regarded as positive.

4. Scales of seismic intensity.

The intensity of the shock is estimated according to the scales 0-VI, as follows:

0, No feeling: Shocks too weak to cause human feelings, registered only by seismographs.

I. Slight: Extremely feeble shocks only felt by persons at rest or by those who are observant to an earthquake.

II. Weak: Shocks felt by most persons, slight shaking of doors and latticed sliding doors.

III. Rather strong: Slight shaking of houses and buildings, rattling of doors and latticed sliding doors, swinging of hanging objects like the electric lamps, moving of liquids in vessels.

IV. Strong: Strong shaking of houses and buildings, overturning of unstable objects spilling of liquids out of vessels.

V. very Strong: Cracks in the walls, overturning of gravestones, stone lanterns etc., damaging of chimneys and mud-and-plaster warehouses.

VI. Disastrous: Demolition of houses landslips, fissures on the roads, the ground etc.

	No Feeling	Slight	Weak	Rather Strong	Strong	Very Strong	Disastrous
Scale	0	I	II	III	IV	V	VI
Acceleration (gal)	0.25-0.8	0.8-2.5	2.5-8	8-25	25-80	80-250	250<

5. The magnitude of an earthquake is classified according to the radius of the felt area assumed, roughly to be a circle as follows:-
- (r) Remarkable earthquake: The radius of the felt area is greater than 300 km.

(m) moderate earthquake: The radius is smaller than 300 km but greater than 200 km.

(s) Earthquake of small felt area: The radius is smaller than 200 km but greater than 100 km.

(l) Local earthquake: The radius is smaller than 100km.

(d) Distant earthquake: The epicentral distance is greater than 300 km from the coast of Taiwan.

6. The depth of hypocenter is as a rule expressed in terms of kilometers, If it is not determined so definitely, the following scale will be adopted.

Class	Very shallow	Shallow	Rather deep	Deep
Depth	0~30 km	30~100 km	100~200 km	>200 km

7. Geographical coordinates:

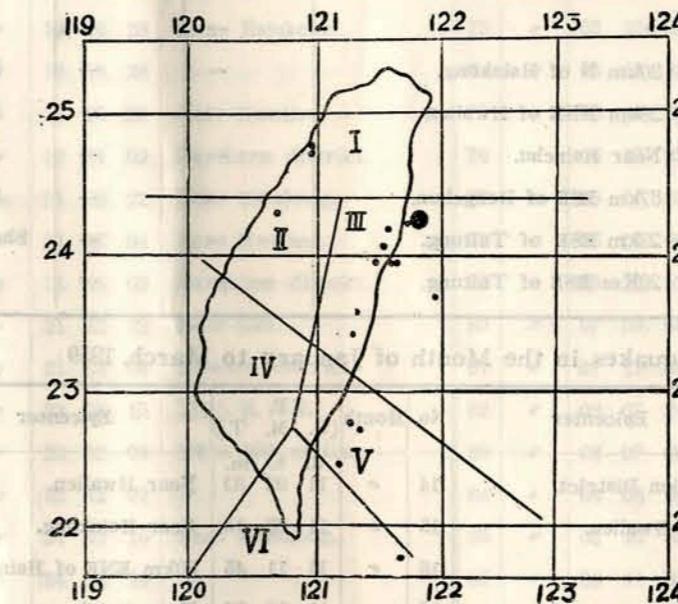
$\lambda$ : Longitude (E)

$\varphi$ : Latitude (N)

The coordinates are been experessed in degrees with one place of decimal.

8. Time

Time is referred to Greenwich Mean Time (G. M. T.)



Number of earthquakes classified according to its' Magnitudes and Districts, January to March, 1959

Classification Districts	Magnitudes	Number of felt earthquakes					Number of unfelt earthquakes	Total
		Remarkable	Moderate	Small felt area	Local	Total		
Northern Distict	"	—	—	—	2	2	26	28
Taichung	"	—	—	—	1	1	6	7
Hualien	"	—	—	1	9	10	113	123
Tainan	"	—	—	—	3	3	3	3
Taitung	"	—	—	—	3	3	55	58
Hengchun	"	—	—	—	1	1	28	29
Other places"	—	—	—	—	—	—	10	10
Total	—	—	—	1	16	17	241	258

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## Felt earthquakes in the month of January to March, 1959

No.	Month	P. (G. M. T.)	Magni- tude	Epicenter	Latitude	Longitude	Depth kms.
		d. h. m.			N.	E.	
1	Jan.	08 08 26	1	Near Hsinchu.	—	—	20
2	"	19 20 18	"	45km SE of HwSlien.	—	—	Shallow
3	"	21 00 40	"	24km N of Taichung.	—	—	20
4	"	31 07 46	"	45km SSW of Hwalien.	—	—	10
5	Feb.	04 21 03	1	20km ESE of Tawu.	24.2	121.8	10
6	"	05 10 38	s	40km NNE of Hwalien.	—	—	Shallow
7	"	05 15 58	1	30km N of Hwalien.	—	—	
8	"	08 22 25	"	Near Hwalien.	—	—	Shallow
9	"	14 08 02	"	10km N of Hwalien.	—	—	"
10	"	24 01 19	"	10km E of Hwalien.	—	—	"
11	"	24 01 21	"	"	—	—	50
12	"	26 10 32	"	30km N of Hsinkong.	—	—	10
13	Mar.	06 06 39	"	28km NNE of Hwalien.	—	—	
14	"	17 12 10	"	Near Hsinchu.	—	—	20
15	"	24 15 44	"	57km ESE of Hengchun.	—	—	Shallow
16	"	28 14 08	"	23km ESE of Taitung.	—	—	"
17	"	28 19 33	"	20Km ESE of Taitung.	—	—	

## Unfelt Earthquakes in the Month of January to March, 1959

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
		d. h. m.				d. h. m.	
1	Jan.	01 15 40	Hwalien District.	14	"	11 02 30	Near Hwalien.
2	"	01 23 48	Near Hwalien.	15	"	11 03 15	Near Hsinkong.
3	"	02 01 49	"	16	"	11 11 45	50km ENE of Hsinkong.
4	"	03 21 12	"	17	"	11 16 56	Near Hsinkong.
5	"	04 14 06	Near Tawu.	18	"	12 15 51	60km SW of Ilan.
6	"	04 14 07	"	19	"	13 01 21	Hengchun district.
7	"	05 09 57	Hwalien district.	20	"	13 03 28	Northern district.
8	"	06 04 47	Near Hwalien.	21	"	14 06 28	Near Hsinkong.
9	"	07 07 21	Northern district.	22	"	14 08 32	"
10	"	08 09 40	Taichung district.	23	"	14 08 35	"
11	"	08 14 09	Hwalien district.	24	"	14 14 24	"
12	"	10 12 53	Near Hwalien.	25	"	15 08 22	Near Hwalien.
13	"	10 21 27	Hwalien district.	26	"	15 10 59	Taitung district.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
		d. h. m.				d. h. m.	
27	"	15 14 34	Near Hwalien.	62	"	30 20 53	Hokkaido Japan.
28	"	16 04 10	43km ENE of Hengchun.	63	"	30 22 30	"
29	"	16 14 58	Hwalien district.	64	"	31 09 11	21km S of Taitung.
30	"	17 02 24	"	65	Feb.	02 08 53	121km ESE of Hwalien.
31	"	17 16 13	35km ESE of Ilan.	66	"	02 09 55	Near Hwalien.
32	"	18 02 27	Near Hwalien.	67	"	02 19 55	Hwalien District.
33	"	18 06 31	"	68	"	03 05 35	Near Hsinkong.
34	"	18 09 35	57km SSE of Hwalien.	69	"	04 06 40	30km NE of Hengchun.
35	"	18 09 40	Near Hwalien.	70	"	04 20 27	"
36	"	18 10 57	Northern district.	71	"	04 21 31	Near Tawu.
37	"	18 12 05	Hwalien district.	72	"	05 05 31	Near Hengchun.
38	"	19 08 23	Near Hsinkong.	73	"	05 13 37	Taitung district.
39	"	19 13 26	"	74	"	05 14 23	30km ENE of Hwalien.
40	"	19 20 20	Near Hwalien.	75	"	05 14 37	22km NNE of Hengchun.
41	"	19 21 09	Northern district.	76	"	05 17 33	20km SSE of Tawu.
42	"	21 02 22	Near Hsinkong.	77	"	05 17 43	"
43	"	21 07 04	Near Hwalien.	78	"	05 20 00	Hwalien district.
44	"	21 11 09	Hengchun district.	79	"	05 22 53	Near Hwalien.
45	"	21 12 22	Near Ilan.	80	"	07 09 56	Distant.
46	"	21 21 06	Hwalien district.	81	"	07 11 38	Near Tawu.
47	"	22 05 15	132 $\frac{1}{2}$ E. 4 N.	82	"	08 07 24	Hwalien district.
48	"	22 12 00	35km ESE of Ilan.	83	"	08 07 38	Near Hwalien.
49	"	22 12 02	"	84	"	08 08 24	"
50	"	24 01 15	Near Hsinkong.	85	"	08 10 38	Hwalien district.
51	"	24 22 19	"	86	"	08 11 33	Near Hwalien.
52	"	25 08 33	Hengchun district.	87	"	08 11 43	"
53	"	27 11 59	Near Hwalien.	88	"	08 17 47	Near Hsinkong.
54	"	27 23 17	Hwalien District.	89	"	09 09 11	Hwalien district.
55	"	28 00 10	Near Hwalien.	90	"	09 09 58	"
56	"	28 02 43	Near Alishan.	91	"	09 11 45	Near Hwalien.
57	"	28 10 57	Northern district.	92	"	09 13 23	"
58	"	28 14 34	"	93	"	10 03 03	Near Hsinkong.
59	"	28 23 40	Near Hsinkong.	94	"	10 03 13	Near Hwalien.
60	"	29 04 47	44km S of Ilan.	95	"	10 08 41	"
61	"	29 09 53	Hwalien district	96	"	10 12 40	Hwalien district.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
97	"	d. h. m. 11 00 32	Hengchun district.	132	"	d. h. m. 19 04 16	Taitung district.
98	"	11 18 08	"	133	"	19 10 01	208km East of Taipei.
99	"	11 23 23	Hwalien district.	134	"	20 17 08	Hwalien district.
100	"	12 06 33	70km ENE of Hwalien.	135	"	21 07 15	Near Hwalien.
101	"	12 20 26	Hwalien district.	136	"	22 06 08	"
102	"	12 21 21	Near Hwalien.	137	"	22 11 11	"
103	"	12 21 31	"	138	"	22 21 33	Hengchun district.
104	"	12 21 36	Hwalien district.	139	"	23 03 49	19km East of Taitung.
105	"	12 22 40	"	140	"	23 07 19	Taitung district.
106	"	12 23 35	"	141	"	23 12 16	Hwalien district.
107	"	13 12 55	"	142	"	24 20 27	Taitung district.
108	"	13 13 18	"	143	"	25 01 57	Near Hsinkong.
109	"	14 13 40	Near Hwalien.	144	"	25 05 04	Near Hwalien.
110	"	14 13 52	Hengchun district.	145	"	25 08 23	Hengchun district.
111	"	14 14 59	Hwalien district.	146	"	25 11 25	Hwalien district.
112	"	15 17 13	Hwalien district.	147	"	26 01 43	257km East of Taipei.
113	"	14 22 38	Distant	148	"	26 05 09	Near Hsinkong.
114	"	15 01 49	Hwalien district.	149	"	26 05 29	Taitung district.
115	"	15 02 51	39km SSW of Hwalien.	150	"	27 00 14	Hwalien district.
116	"	15 14 30	Near Hwalien.	151	"	27 00 29	Near Hwalien.
117	"	15 16 09	132km E of Taipei.	152	"	27 19 57	Near Tawu.
118	"	15 18 20	Hwalien district.	153	"	27 20 58	27½ N. 129 E.
119	"	16 18 45	Hwalien district.	154	"	28 08 21	Hwalien district.
120	"	16 19 03	"	155	Mar.	01 16 53	1½ S. 134 E.
121	"	16 06 54	"	156	"	02 12 51	Hwalien district.
122	"	16 09 53	Hwalien NNW 30km.	157	"	03 14 04	Taitung district.
123	"	16 12 06	Taitung district.	158	"	03 17 07	Near Hsinkong.
124	"	16 18 52	65km ENE of Hengchun.	159	"	04 01 57	63km ESE of Hwalien.
125	"	17 15 ?	Tainan district.	160	"	04 20 18	Near Hsinkong.
126	"	18 06 53	Hwalien district.	161	"	05 13 25	Taitung district.
127	"	18 08 37	Near Hwalien.	162	"	06 11 07	25km East of Hengchun.
128	"	18 11 27	Hwalien district.	163	"	06 12 05	Near Alishan.
129	"	18 12 24	"	164	"	06 12 43	"
130	"	18 19 09	"	165	"	06 21 07	Near Hsinkong.
131	"	18 20 27	"	166	"	08 13 18	"

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
167	"	d. h. m. 08 14 33	Hengchun district.	192	"	d. h. m. 22 10 56	Northern district.
158	"	09 01 51	Northern district.	193	"	22 14 18	52km East of Ilan.
159	"	09 07 36	Hwalien district.	194	"	22 17 01	Hwalien district
160	"	09 19 00	Near Hsinkong.	195	"	23 04 50	Hengchun disritct.
161	"	09 22 31	45km SE of Hwalien.	196	"	23 04 55	"
162	"	09 23 40	Near Hwalien.	197	"	23 05 51	Taitung district.
163	"	10 00 44	108km ENE of Ilan.	198	"	24 17 34	Hwalien district.
164	"	10 07 38	Near Hsinkong.	199	"	24 20 37	Taitung district.
165	"	11 05 16	Near Ilan.	200	"	24 23 10	Near Hwalien.
166	"	12 00 35	Taitung. district.	201	"	25 01 10	Taiwan district.
167	"	12 01 41	?	202	"	25 01 41	Hwalien district.
168	"	12 02 14	Near Hsinkong.	203	"	25 04 11	"
169	"	12 05 55	Taitung district.	204	"	25 05 04	20km WSW of Alishan.
170	"	14 00 88	Near Hsinkong.	205	"	25 06 16	Near Hwalien.
171	"	14 04 11	"	206	"	25 07 05	Northern district.
172	"	15 09 09	40km NE of Alishan.	207	"	26 01 20	Near Hsinkong.
173	"	15 10 03	Hwalien district.	208	"	26 12 31	Near Hwalien.
174	"	16 19 12	Taichung district.	209	"	26 18 44	Near Hsinkong.
175	"	16 21 09	Northern district.	210	"	27 12 35	Northern district.
176	"	17 02 41	Taitung district.	211	"	27 13 05	31km SSE of Ilan.
177	"	17 08 27	27½ N. 130 E.	212	"	28 00 43	Hwalien district.
178	"	18 00 43	27 N. 129 E.	213	"	28 02 57	Near Hwalien.
179	"	18 14 50	Hwalien district.	214	"	28 13 50	"
180	"	18 17 45	Near Hwalien.	215	"	28 14 12	Near Taitung.
181	"	18 17 55	Near Hsinkong.	216	"	28 16 26	Taitung district.
182	"	19 00 23	97km ESE of Ilan.	217	"	28 17 11	194km Eas tof Hengchun.
183	"	19 05 54	Northern district.	218	"	28 19 57	Hwalien district.
184	"	19 06 21	Hwalien district.	219	"	28 20 57	Taitung district.
185	"	19 13 47	Near Hsinkong.	220	"	28 21 03	Hengchun district.
186	"	19 22 18	"	221	"	28 21 08	93km E of Hengchun.
187	"	20 00 10	Hwalien district.	222	"	28 21 35	Hengchun district.
188	"	20 07 35	Near Hengchun.	223	"	29 19 07	Taitung district.
189	"	20 16 43	77km ENE of Hwalien.	224	"	30 02 33	Near Hsinkong.
190	"	21 09 22	Near Hwalien.	225	"	30 12 08	Near Ilan.
191	"	21 15 34	"	226	"	30 12 29	Hwalien district.

No.	Month	P. (G. M. T.)	Epicenter			No.	Month	P. (G. M. T.)	Epicenter		
			d.	h.	m.				d.	h.	m.
227	"	31 05 47	Taitung district.	228	"	31 18 01	Taitung district.				

**Seismological Data of Major Earthquakes Occurred in January, 1959**

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity	Epicenter & Remarks	
					N	E	Z	N	E	Z	N	E	Z				
1	Yushan	21	eP	00 40 08.0	h. m. s.	μ	μ	μ	μ	μ	μ	10.0	0	24km N. of Taichung.			
	Alishan		iP	09.6	-	12.2 +	7.0	?	-	-	-	11.8	0				
	Taichung		iP	41	28.5 -	77.0 -	31.0 +	11.2	355	230	389	0.8	0.8	0.9	03.9	II	
	Hsinchu		eP	33.5	-	-	-	-	-	-	-	-	-	-			
	Penghu		p	40.0	-	-	-	-	-	-	-	26.0	0				
	Hwalien		p	42.4 +	-	-	-	7	64	71	67	0.9	1.1	1.1	14.0	0	
	Ilan		eP	43.8	-	-	-	-	111	101	-	1.5	1.9	-	14.8	0	
	Taipei		p	44.9	-	-	-	-	-	-	-	-	-	-	09.2	0	
	Hsinkong		eP	49.7	-	-	-	-	-	-	-	-	-	-	21.3	0	
	Tainan		eP	51.2	-	-	-	-	-	-	-	-	-	-	24.1	0	
	Taitung		iP	53.9	-	-	-	-	-	-	-	-	-	-	31.9	0	
	Tawu		eP	59.0	-	-	-	-	-	-	-	-	-	-	11.3	0	
	Kaohsiung		p	42 03.6	-	-	-	-	-	-	-	-	-	-	29.7	0	
	Hengchun		p	08 3	-	-	-	-	-	-	-	-	-	-	-	-	0

2	Hsinchu	22	e	05 15 10.0	-	-	-	-	-	-	-	7	30.0	0	4 N. 132 $\frac{1}{2}$ E. about 300miles NE of Halmahera		
	Alishan		e	10.9	-	-	-	-	-	-	-	-	4	06.3	0		
	Taipei		p	15.5	-	-	-	-	350	350	16	17.6	-	-	4	06.4	0
	Hwalien		p	24.9	-	-	-	-	-	-	-	-	-	-	6	44.9	0
	Ilan		e	30.0	-	-	-	-	-	-	-	-	-	-	4	19.7	0
	Taitung		p	32.6	-	-	-	-	-	-	-	-	-	-	4	13.7	0
	Hsinkong		e	33.7	-	-	-	-	-	-	-	-	-	-	4	26.8	0
	Tawu		p	33.7	-	-	-	-	-	-	-	-	-	-	-	0	
	Taichung		e	46.4	-	-	-	-	-	-	-	-	-	-	4	24.2	0
	Tainan		e	46.9	-	-	-	-	-	-	-	-	-	-	4	12.6	0
	Hengchun		e	53.7	-	-	-	-	-	-	-	-	-	-	-	-	0
3	Hwalien	30	p	20 53 02.7	-	-	-	-	-	-	-	-	-	-	-	0	Hokkaido. Japan.
	Tawu		p	54 27.6	-	-	-	-	-	-	-	-	-	-	-	0	
	Hsinkong		p	55 00.0	-	-	-	-	-	-	-	-	-	-	-	0	

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity	Epicenter & Remarks	
					N	E	Z	N	E	Z	N	E	Z				
	Tainan		e	h. m. s. 07.0	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	0		
	Taipei		e	55 ?	-	-	-	-	-	-	-	-	-	-	0		
4	Tawu	30	p	22 30 39.7	-	-	-	-	-	-	-	-	-	-	-	0	Ditto.
	Hwalien		p	31 06.3	-	-	-	-	-	-	-	-	-	-	-	0	
	Hsinkong		p	32 00.0	-	-	-	-	-	-	-	-	-	-	-	0	
	Tainan		e	16.0	-	-	-	-	-	-	-	-	-	-	-	0	
	Taipei		e	32 ?	-	-	-	-	-	-	-	-	-	-	-	0	
5	Yushan	31	e	07 36 10.7	-	-	-	-	-	-	-	-	-	-	-	06 0	45km SSW of Hwalien h=20
	Hsinkong		e	11.2	-	-	-	-	-	-	-	-	-	-	-	06.1	
	Alishan		ip	11.9 -	9.8 +	7.0	?	-	-	-	-	-	-	-	-	07.4	I (I)
	Hwalien		p	14.8	-	-	-	-	-	-	-	-	-	-	-	06.0	
	Taichung		p	19.2	-	-	-	-	-	-	-	-	-	-	-	13.0	0
	Taitung		p	21.3	-	-	-	-	-	-	-	-	-	-	-	11.1	0
	Hsinchu		e	22.0	-	-	-	-	-	-	-	-	-	-	-	22.7	0
	Tawu		p	29.0	-	-	-	-	-	-	-	-	-	-	-	19.2	0
	Ilan		e	29.0	-	-	-	-	-	-	-	-	-	-	-	16.8	0
	Taipei		e	31.0	-	-	-	-	-	-	-	-	-	-	-	15.2	0
	Hengchun		e	37.5	-	-	-	-	-	-	-	-	-	-	-	-	0

**Seismological Data of Major Earthquakes Occurred in February, 1959.**

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity	Epicenter & Remarks	
					N	E	Z	N	E	Z	N	E	Z				
1	Kaohsiung	05	p	10 34 26.3	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	22.4	0	40km NNE of Hwalien
	Yushan		e	38 35.0	-	-	-	-	-	-	-	-	-	-	-	0	24.2 N. 121.8 E.
	Alishan		e	36.2	-	-	-	-	-	-	-	-	-	-	-	10.9	0 (S) h=10
	Hwalien		p	48.4 +	4 -	4 -	11	412	474	-	1.5	1.7	-	-	-	04.9	I
	Ilan		iP	52.0 -	4 +	3 -	-										

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity & Remarks
					N	E	Z	N	E	Z	N	E	Z		
	Tawu		p	h. m. s. 13.5	μ	μ	μ	μ	μ	μ	—	—	—	26.7	0
	Tainan		eP	16.4	—	—	—	—	—	—	—	—	—	28.1	0
	Hengchun		p	23.1	—	—	—	—	—	—	—	—	—	31.6	0
	Penghu		e	—	—	—	—	—	—	—	—	—	—	—	Distant.
2	Tainan	07	e	09 56 30.9	—	—	—	—	—	—	—	—	—	—	0
	Hengchun		p	37.4	—	—	—	—	—	—	—	—	—	—	0
	Taipei		e	39.1	—	—	—	—	—	—	—	—	—	—	0
	Taitung		p	40.1	—	—	—	—	—	—	—	—	—	—	0
	Hwalien		p	41.3	—	—	—	—	—	—	—	—	—	—	0
	Tawu		p	41.9	—	—	—	—	—	—	—	—	—	—	0
	Ilan		eP	44.9	—	—	—	—	—	—	—	—	—	—	0
	Kaohsiung		p	49.5	—	—	—	—	—	—	—	—	—	—	0
	Hsinkong		p	50.2	—	—	—	—	—	—	—	—	—	—	0
3	Hwalien	14	p	08 02 14.5	—	50	? +	216	2600	3600	700	—	—	01.5	3 10km N. of Hwalien.
	Ilan		p	28.0	—	—	—	—	—	—	—	—	—	09.5	0 (1)
	Hsinchu		p	28.7	—	—	—	—	—	—	—	—	—	16.7	0
	Hsikong		eP	28.8	—	—	—	—	—	—	—	—	—	14.7	0
	Alishan		eP	29.6	—	—	—	—	—	—	—	—	—	10.7	0
	Taichung		p	29.8	—	—	—	—	—	—	—	—	—	12.2	0
	Taipei		e	03 32.6	—	—	—	—	—	—	—	—	—	13.5	0
	Taitung		p	39.6	—	—	—	—	—	—	—	—	—	17.6	0
	Tainan		eP	47.3	—	—	—	—	—	—	—	—	—	27.0	0
	Tawu		eP	49.5	—	—	—	—	—	—	—	—	—	26.0	0
	Kaohsiung		p	52.4	—	—	—	—	—	—	—	—	—	28.9	0
	Hengchun		p	55.1	—	—	—	—	—	—	—	—	—	11.6	0
	Penghu		p	03 04.1	—	—	—	—	—	—	—	—	—	—	—
4	Hwalien	24	iP	01 18 34.5	—	+ 45 +	6000	8000	150	0.5	0.8	0.7	02.0	3 10km E. of Hwalien (1)	
	Ilan		eP	51.3	—	—	—	—	—	—	—	—	—	11.6	0
	Alishan		eP	52.1	—	—	—	—	—	—	—	—	—	15.9	0
	Taichung		p	52.4	—	—	—	—	—	—	—	—	—	13.5	0
	Hsinkong		eP	52.7	—	—	—	—	—	—	—	—	—	12.2	0
	Taipei		eP	53.0	—	—	—	—	—	—	—	—	—	14.8	0
	Taitung		p	19 03.4	—	—	—	—	—	—	—	—	—	14.0	0

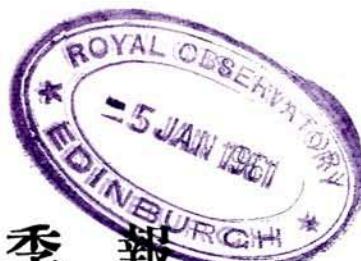
No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity & Remarks		
					N	E	Z	N	E	Z	N	E	Z				
5	Iilan	27	p	h. m. s. 20 58 19.3	—	μ	—	—	μ +	67	56	—	4.3	4.3	—	23.3	0 Ryukyu.
	Taipei		e	26.2	—	—	—	—	—	—	—	—	—	—	—	0.1	0
	Hwalien		p	27.3	—	—	—	—	—	—	—	—	—	—	—	0	0
	Hsinkong		p	27.8	—	—	—	—	—	—	—	—	—	—	—	0	0
	Hsinchu		e	37.0	—	—	—	—	—	—	—	—	—	—	—	0	0
	Taichung		p	40.5	—	—	—	—	—	—	—	—	—	—	—	0	0
	Hengchun		p	51.5	—	—	—	—	—	—	—	—	—	—	—	0	0
	Tawu		p	59 00.0	—	—	—	—	—	—	—	—	—	—	—	0	0
	Tainan		e	14.1	—	—	—	—	—	—	—	—	—	—	—	0	0

## Seismological Data of Major Earthquakes Occurred in March, 1959.

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity & Remarks		
					N	E	Z	N	E	Z	N	E	Z				
1	Tawu	01	p	h. m. s. 16 53 45.8	μ	μ	μ	23	35	μ	μ	15.5	19.1	—	0	Near North of New Guinea.	
	Hwalien		p	54 42.3	—	—	—	—	—	—	—	—	—	—	5	46.6	
	Hengchun		p	52.8	—	—	—	—	—	—	—	—	—	—	4	26.1	
	Taitung		p	44.5	—	—	—	—	—	—	—	—	—	—	—	0	0
	Ilan		e	54.0	—	—	—	—	—	—	—	—	—	—	—	0	0
	Alishan		e	55 03.3	—	—	—	—	—	—	—	—	—	—	—	0	0
	Hsinkong		e	06.7	—	—	—	—	—	—	—	—	—	—	5	15.6	
	Tainan		e	07.5	—	—	—	—	—	—	—	—	—	—	4	33.0	
	Taipei		e	26.0	—	—	—	238	—	—	—	13.7	—	—	4	29.0	
	Taichung		e	26.8	—	—	—	—	—	—	—	—	—	—	—	0	0
	Kaohsiung		e	45.5	—	—	—	—	—	—	—	—	—	—	—	0	0
2	Iilan	17	e	08 27 00.0	—	—	—	—	—	—	—	—	—	—	2	08.2	0 Ryukyu Islands.
	Taipei		e	19.9	—	—	—	—	—	—	—	—	—	—	1	30.2	0
	Hsinkong		e	20.0	—	—	—	—	—	—	—	—	—	—	2	27.4	0
	Hwalien		IP	25.2	—	—	—	—	—	—	—	—	—	—	1	52.6	0
	Taitung		e	26.4	—	—	—	—	—	—	—	—	—	—	2	22.7	0
	Taichung		e	32.9	—	—	—	—	—	—	—	—	—	—	2	05.9	0
	Tawu		p	34.5	—	—	—	—	—	—	—	—	—	—	2	49.7	0
	Hengchun		p	44.0	—	—	—</										



6-3-7



## 地震季報

第六卷 第二號

中華民國四十八年 四、五、六月

# THE SEISMOLOGICAL BULLETIN OF TAIWAN WEATHER BUREAU for April to June, 1959. VOL. II No. 2

臺灣省氣象所

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China.

## General Aspect of Earthquakes

April to June 1959.

In April, the number of earthquakes was one hundred and forty-six, and has a great increase in comparison to last month. Among them eleven were classified as felt earthquakes and the rest were unfelt ones.

A remarkable earthquake was happened on 26th, and its epicenter was located at 145kms. ENE of Hwalien, and it's depth was estimated about 30 kms. Five small felt area and five local area earthquakes were recorded in this month.

Six distant earthquakes had been recorded on seismographs in Taiwan. One of these epicenters had been traced out around Ryukyus. Another was located in the region of marianas. The remains were unknown.

In May, One hundred and thirty-two earthquakes had been recorded. The monthly frequency of earthquakes has a decrease in comparison with the month of April. Twelve earthquakes had been classified as felt earthquakes and the remains were unfelt ones. Among the felt earthquakes happened in this month, two of them were classified as small felt area earthquakes, and the others were classified as local ones.

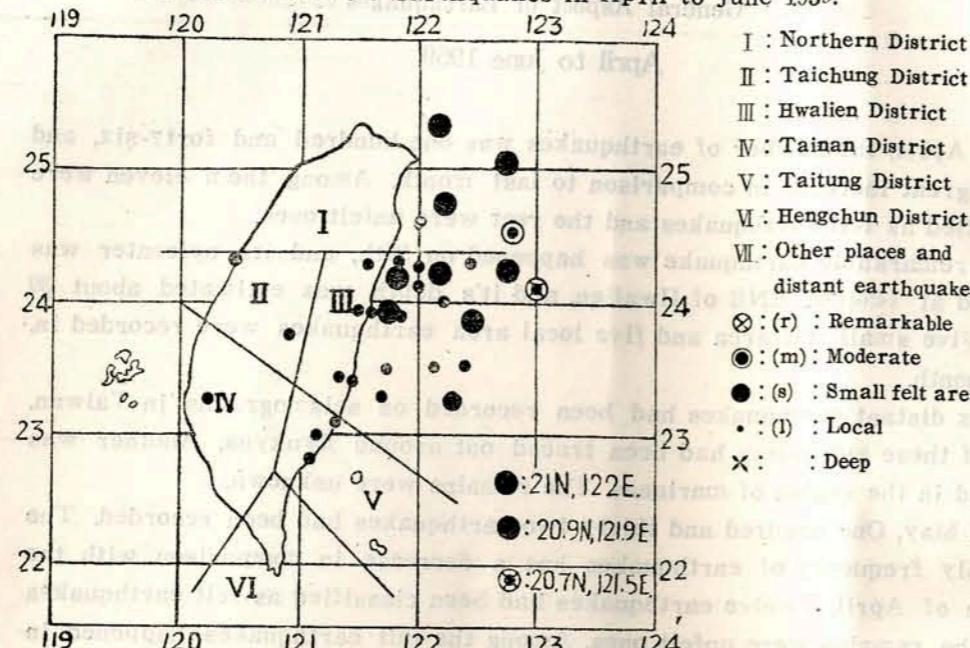
Seven distant earthquakes had been recorded at our station. Their epicenters haе been extrapolated at those places such as: E. coast of kamchatka, Bismarck Sea, Komandorskie Is., Bolivia, Ryukyu Is., and New Hebrides Is., The details of these earthquakes are listed in the attached tables.

In June, one hundred and fourteen earthquakes were occurred in Taiwan. Among them thirteen were classified as felt earthquakes, and the others were unfelt ones. A remarkable earthquake had been recorded on 2nd. June. Its epicenter was located at 160 kms. SSE. of Hengchun and its depth was estimated about 30 kms.

A moderate earthquake happend on 15th, of the month the epicenter was located at 100 km. E. of Ilan, and its depth was calculated to be at a depth of 50kms. Another four small felt earthquakes had been recorded in this month. The number of local earthquakes was seven.

Five distant earthquakes had been treced out from seismograms the location of three earthquakes had been found in Bolivia, kamchatka, and kermadec Is. The remains were unknown.

## Epicenters of Felt Earthquakes in April to June 1959.



Number of earthquakes classified according to its magnitude and districts April to June 1959.

Classification Magnitudes Districts	Number of felt earthquakes					Number of unfelt earthquakes	Total
	Remarkable	Moderate	Small felt area	Local	Total		
Northern District	—	1	3	1	5	52	57
Taichung "	—	—	—	2	2	13	15
Hwalian "	1	—	6	15	22	122	144
Tainan "	—	—	—	1	1	5	6
Taitung "	—	—	2	3	5	96	101
Hengchun "	1	—	—	—	1	50	51
Other places "	—	—	—	—	—	18	18
<b>Total</b>	<b>2</b>	<b>1</b>	<b>11</b>	<b>22</b>	<b>36</b>	<b>356</b>	<b>392</b>

## Felt earthquakes in the month of April to June, 1959.

No.	Month	P. (G. M. T.)	Magnitude	Epicenter	Latitude	Longitude	Depth.
18	April	3 05 48	s	60 km NE. of Hwalian.	24.3	122.1	5
19	"	6 01 32	1	50 km NE. of Hwalian.	—	—	40
20	"	8 08 04	"	55 Km SSE. of Hwalian.	—	—	50
21	"	12 10 59	s	92 hm E. of Hwalian.	23.9	122.5	50
22	"	12 11 06	1	78 km SE. of Hwalian.	—	—	40
23	"	14 23 07	"	41 km N. of Hsinkong.	—	—	10
24	"	22 17 29	s	103 km ENE. of Hsinkong.	23.3	122.4	10
25	"	26 20 41	r	145 km ENE. of Hwalian.	24.1	123.0	30
26	"	27 08 38	1	60 km NE. of Hwalian.	—	—	20
27	"	28 06 28	s	50 km NE. of Hwalian.	24.3	121.9	10
28	"	29 14 31	s	65 km ENE. of Taipei	25.2	122.1	120
29	May	1 12 10	1	9 km NE. of Taitung.	—	—	20
30	"	7 00 32	"	near Hwalian.	—	—	Shallow
31	"	8 23 57	r	129 km ENE. of Hwalian.	24.2	122.8	20
32	"	11 14 00	1	34 km SSE. of Ilan.	—	—	10
33	"	12 15 28	"	30 km E. of Hwalian.	—	—	10
34	"	15 22 01	"	30 km ENE. of Alishan.	—	—	10
35	"	18 08 55	r	114 km ENE. of Ilan.	25.0	122.8	80
36	"	20 06 10	1	94 km ENE. of Hwalian.	—	—	10
37	"	22 02 54	"	48 km ENE. of Hsinkong.	—	—	20
38	"	22 21 41	"	115 km ENE. of Hsinkong.	—	—	50
39	"	27 13 50	"	30 km NNE. of Tainan.	—	—	0~10
40	"	28 20 45	"	23 km SW. of Hsinkong.	—	—	10
41	June	1 16 06	"	40 km NNE. of Hsinkong.	—	—	0~10
42	"	1 18 32	"	40 km NNE. of Hwalian.	—	—	0~10
43	"	2 02 38	r	near 160 km SSE. of Hengchun.	20.7	121.5	30
44	"	2 04 57	s	168 km SE. of Hengchun.	20.9	121.9	50
45	"	2 05 42	"	170 km SE. of Hengchun.	21.0	122.0	50
46	"	2 19 13	"	20 km E. of Hwalian.	23.9	121.8	40
47	"	9 09 37	1	near Hsinkong.	—	—	—
48	"	10 09 05	"	30 km ESE. of Ilan.	—	—	50
49	"	15 02 39	m	100 km E. of Ilan	24.6	122.8	50
50	"	18 04 18	1	near Hwalian.	—	—	—
51	"	23 21 15	"	near 37km NNW. of Taichung.	—	—	10
52	"	27 20 19	s	55 km E. of Ilan.	24.8	122.2	10
53	"	28 15 26	1	near 74 km E. of Hwalian.	—	—	60

## Unfelt Earthquakes in the Month of April to June, 1959.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
229	April	1 11 13	31 km E. of Tawu.	262	April	6 14 06	129km E. of Hengchun.
230	"	1 15 36	Near Hwalien.	263	"	6 14 19	Faint (d).
231	"	1 20 47	Hengchun district.	264	"	6 21 50	Near Hwalien.
232	"	1 20 58	"	265	"	7 01 09	Hwalien district.
233	"	2 00 20	Near Hwalien.	266	"	7 02 54	"
234	"	2 02 00	"	267	"	7 06 32	"
235	"	2 02 06	Hengchun district.	268	"	7 12 30	Near Hsinkong.
236	"	2 03 34	Near Hwalien.	269	"	7 14 08	Near Hwalien.
237	"	2 03 48	"	270	"	7 21 37	Hengchun district.
238	"	2 03 59	"	271	"	8 04 52	Near Hwalien.
239	"	2 04 03	4°.0 NE. of Taipei. 28.0N, 124.3E.	272	"	8 15 51	Near Hsinkong.
240	"	2 06 42	Near Hwalien.	273	"	8 21 44	Near Hwalien.
241	"	2 09 37	37 km N. of Hsinkong.	274	"	8 22 12	Hwalien district.
242	"	2 19 22	225km SE. of Hengchun.	275	"	9 19 39	Near Hwalien.
243	"	2 23 13	Near Hsinkong.	276	"	10 16 38	45km SSE. of Hwalien.
244	"	3 06 03	Near Hwalien.	277	"	10 18 47	47km SSE. of Ilan.
245	"	3 07 05	"	278	"	11 11 34	Faint (d).
246	"	3 07 53	"	279	"	11 16 56	Near Taitung.
247	"	3 12 40	Hengchun district.	280	"	12 00 33	107km ESE. of Ilan.
248	"	3 14 43	"	281	"	11 03 39	Taitung district.
249	"	3 19 07	Taitung district.	282	"	11 05 05	Taichung district.
250	"	3 22 49	Near Hwalien.	283	"	11 13 54	72km E. of Ilan.
251	"	5 06 51	Taichung district.	284	"	13 13 51	70km ENE. of Ilan.
252	"	5 07 22	70 km E. of Taipei.	285	"	13 15 49	Hwalien district.
253	"	5 10 03	Near Hwalien.	286	"	14 07 27	Taitung district.
254	"	5 10 33	150km SE. of Hengchun.	287	"	14 10 27	Hwalien district.
255	"	5 10 43	Near Hwalien.	288	"	15 00 20	Taitung district.
256	"	5 11 38	100km SSE. of Hengchun.	289	"	15 21 15	Near Hsinkong.
257	"	5 13 46	Near Hwalien.	290	"	16 13 54	Hengchun district.
258	"	6 07 09	Near Hsinkong.	291	"	16 16 19	12.5N 143.0E. (d)
259	"	6 09 08	Hengchun district.	292	"	17 01 02	Near Hsinkong.
260	"	6 09 31	"	293	"	17 06 56	Taitung district.
261	"	6 11 39	Tainan district.	294	"	17 13 57	Near Hsinkong.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
295	April	17 23 20	Taitung district.	329	April	26 22 08	"
296	"	18 14 47	Near Hsinkong.	330	"	26 22 13	"
297	"	19 02 37	"	331	"	26 22 28	"
298	"	19 03 57	"	332	"	26 22 42	"
299	"	19 08 36	Hwalien district.	333	"	26 23 18	85km ESE. of Ilan.
300	"	19 08 38	Hwalien district.	334	"	26 23 54	35km ENE. of Hwalien.
301	"	19 08 54	"	335	"	27 00 37	Hwalien district.
302	"	19 11 45	"	336	"	27 00 54	Northern district.
303	"	19 20 16	47km ESE. of Ilan.	337	"	27 01 03	"
304	"	19 20 55	Near Alishan.	338	"	27 01 07	Hwalien district.
305	"	20 03 45	Hengchun district.	339	"	27 01 12	"
306	"	21 08 51	Northern district.	340	"	27 03 56	Taitung district.
307	"	21 16 12	46km ENE. of Taichung.	341	"	27 05 16	120km ENE. of Hwalien.
308	"	21 19 05	Hengchun district.	342	"	27 05 38	128km ESE. of Ilan.
309	"	21 20 00	Hwalien district.	343	"	27 05 40	Near Hsinkong.
310	"	22 07 33	Taitung district.	344	"	27 06 03	82km ESE. of Ilan.
311	"	22 13 41	Northern district.	345	"	27 08 09	112km ENE. of Hwalien.
312	"	22 14 44	Near Taipei.	346	"	27 13 16	Faint (d).
313	"	22 17 40	Near Hsinkong.	347	"	27 19 10	Northern district.
314	"	22 21 31	Hwalien district.	348	"	27 20 39	Hwalien district.
315	"	23 02 53	"	349	"	27 20 45	"
316	"	23 06 40	Hengchun district.	350	"	27 20 46	Near Hsinkong.
317	"	23 18 41	Near Hsinkong.	351	"	27 22 00	Northern district.
318	"	24 22 09	Hwalien district.	352	"	28 01 09	25km ESE. of Hengchun.
319	"	25 09 54	Hengchun district.	353	"	28 02 54	Northern district.
320	"	26 10 12	Near Hsinkong.	354	"	28 06 43	Near Hwalien.
321	"	26 12 43	Faint (d).	355	"	28 07 22	Near Hsinkong.
322	"	26 21 05	24.1N, 123.0E. (After-shock).	356	"	28 10 17	Hwalien district.
323	"	26 21 13	"	357	"	28 18 00	137km NE. of Taipei
324	"	26 21 31	"	358	"	29 07 18	120km ESE. of Ilan.
325	"	26 21 33	"	359	"	30 07 03	233km ENE. of Hwalien.
326	"	26 21 52	"	360	"	30 09 16	Near Hsinkong.
327	"	26 21 54	"	361	"	30 09 33	Northern district.
328	"	26 22 07	"	362	"	30 10 05	"

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
363	April	30 21 53	Hwalien district.	397	May.	8 05 16	d. h. m. Northern district
364	May	1 05 50	Northern district.	398	"	8 11 42	"
365	"	1 07 53	Taitung district.	399	"	8 15 58	Hwalien district.
366	"	2 01 43	Near Hwalien.	400	"	8 23 02	140km E. of Hwalien.
367	"	2 04 42	Near Hsinkong.	401	"	9 02 07	Northern district.
368	"	2 09 51	"	402	"	9 05 39	Hwalien district.
369	"	2 19 09	Near Kaohsiung.	403	"	9 08 28	"
370	"	2 20 31	"	404	"	9 12 40	Northern district.
371	"	3 07 10	Taitung district.	405	"	9 16 12	Near 100km ESE. of Hwalien.
372	"	4 01 06	Near 44 km. ENE. of Taichung	406	"	9 23 55	Near 40 km NW. of Hsinkong.
373	"	4 03 18	120 km SE. of Hwalien.	407	"	10 03 42	Near Hsinkong.
374	"	4 07 23	Near E. coast of Kamchatka.	408	"	10 12 56	Near 10km N. of Hwalien.
375	"	4 08 49	Near Hsinkong.	409	"	10 12 57	Hwalien district.
376	"	4 12 47	Hwalien district.	410	"	11 03 09	Near 10km SE. of Taipei.
377	"	5 03 05	Taitung district.	411	"	11 04 20	Near Hsinkong.
378	"	5 08 06	Hwalien district.	412	"	11 13 18	"
379	"	5 15 10	"	413	"	12 00 09	Hengchun district.
380	"	5 15 31	Near 80km ESE. of Ilan.	414	"	12 00 42	Northern district.
381	"	5 16 29	Hengchun district.	415	"	12 03 33	Near Hsinkong.
382	"	5 18 04	"	416	"	12 03 44	135km ESE. of Hwalien.
383	"	5 18 43	"	417	"	12 05 16	Komandorskie Islands
384	"	5 21 41	Taitung district.	418	"	12 10 07	Bolivia.
385	"	6 06 34	Northern district.	419	"	13 03 03	Northern district.
386	"	6 12 12	Hwalien district.	420	"	13 06 41	Near Tawu.
387	"	7 00 10	Bismarck Sea.	421	"	13 13 14	Near Alishan.
388	"	7 09 52	Near Hwalien.	422	"	13 19 04	Northern district.
389	"	7 10 01	Hwalien district.	423	"	13 19 52	Near 87km NE. of Taipei
390	"	7 11 18	"	424	"	13 19 59	Northern district.
391	"	7 14 55	"	425	"	14 16 23	36km ENE. of Hwalien.
392	"	7 15 56	Taitung district.	426	"	14 16 36	Near Hsinkong.
393	"	7 18 16	"	427	"	15 06 26	"
394	"	7 20 30	Hwalien district.	428	"	15 12 00	Hengchun district.
395	"	8 00 42	Taitung district.	429	"	15 16 32	Near Hwalien.
396	"	8 02 50	Northern district.	430	"	15 16 40	Near 62 km ESE. of Hwalien.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
431	May	15 16 46	Near Alishan.	465	May	25 01 01	Near 50 km SSE. of Hwalien.
432	"	15 17 23	"	466	"	26 04 14	Ryukyu Islands Region.
433	"	15 18 44	"	467	"	26 10 57	Near Hsinkong.
434	"	15 23 15	30km NE. of Alishan.	468	"	26 17 32	Hengchun district.
435	"	16 00 24	Near Hsinkong.	469	"	26 19 19	Near Hsinkong.
436	"	16 01 56	Near 19km SSE. of Ilan.	470	"	27 08 49	Near 40km SE. of Hwalien.
437	"	16 06 17	29km W. of Hsinkong.	471	"	27 09 09	Near Hwalien.
438	"	16 06 24	"	472	"	27 14 10	Hwalien district.
439	"	16 11 26	Hwalien district.	473	"	28 08 28	117km ESE. of Ilan.
440	"	16 22 17	Near Hwalien.	474	"	28 11 02	Near Hsinkong.
441	"	17 09 56	Hengchun district.	475	"	28 21 13	"
442	"	17 10 27	Near Hsinkong.	476	"	29 10 53	New Hebrides Islands.
443	"	17 14 22	Northern district.	477	"	29 19 40	Near Hsinkong.
444	"	18 07 31	Northern district.	478	"	30 05 38	Near Alishan.
445	"	18 15 11	Near Hwalien	479	"	31 05 17	Hengchun district.
446	"	18 19 50	Near Hsinkong.	480	"	31 07 29	Northern district.
447	"	19 11 53	"	481	"	31 08 12	Hengchun district.
448	"	19 20 35	Hengchun district.	482	"	31 09 12	Near Hsinkong.
449	"	20 02 49	Near Hsinkong.	483	June.	1 05 58	Near 58 km ENE. of Hwalien.
450	"	20 19 08	"	484	"	1 07 22	110km E. of Ilan.
451	"	21 02 24	Near 430 km SE. of Hengchun.	485	"	1 13 28	Near Hsinkong.
452	"	21 09 48	Northern district.	486	"	1 14 10	Near Taichung.
453	"	21 13 21	Hwalien district.	487	"	1 20 53	Taitung district.
454	"	21 16 01	Near 36 km SSE. of Hwalien.	488	"	1 21 03	Near Hsinkong.
455	"	21 16 21	Near 70 km ENE. of Hsinkong.	489	"	1 22 42	"
456	Dec	22 21 23	Near Hsinkong.	490	"	2 06 05	170km SE. of Hengchun.
457	"	22 23 08	"	491	"	2 06 08	"
458	"	23 16 23	"	492	"	2 08 27	Near 125 km SE. of Hengchun.
459	"	23 17 25	65km ESE. of Tainan.	493	"	2 10 58	Hengchun district.
460	"	24 08 21	Near Tawu.	494	"	2 12 17	"
461	"	24 09 58	10 km E. of Tawu.	495	"	2 15 19	Near Hsinkong.
462	"	24 15 07	Near Hsinkong.	496	"	2 16 33	Hengchun district.
463	"	24 17 21	Tainan district.	497	"	2 17 39	Near 120km E. of Taipei.
464	"	25 00 06	Near Hsinkong.	498	"	2 18 42	Near Hsinkong.
465	"	3 01 07	"	499	"	3 00 58	20km E. of Hwalien.
500	"	3 01 07	"	500	"	3 01 07	"

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
		d. h. m.				d. h. m.	
501	June	3 01 16	Hengchun district.	542	June	13 02 13	Hengchun district.
502	"	3 03 33	Hwalien district.	543	"	13 03 35	Near 25 km SSE. of Hsinkong.
503	"	3 03 48	"	544	"	13 06 08	Hengchun district.
504	"	3 05 17	Northern district.	545	"	13 14 27	Near Hsinkong.
505	"	4 12 36	Hengchun district.	546	"	14 00 31	S. $20\frac{1}{2}$ W 680
506	"	4 15 32	"	547	"	14 05 39	Northern district.
507	"	4 16 04	32km ESE. of Hwalien.	548	"	14 12 18	Near Alishan.
508	"	4 19 33	Hwalien district.	549	"	14 17 13	Northern district.
509	"	4 21 33	Near 32km SSE. of Ilan.	550	"	14 19 40	Near Hwalien.
510	"	5 01 41	Hwalien district.	551	"	14 19 48	Near Hsinkong.
511	"	5 02 08	Northern district.	552	"	15 07 00	Near Hwalien.
512	"	5 04 11	Near Hsinkong.	553	"	15 10 46	Near 156 km ESE. of Hwalien.
513	"	5 09 05	Near 87km ESE. of Ilan.	554	"	17 03 13	Near Hsinkong.
514	"	5 10 53	Hengchun district.	555	"	17 06 32	"
515	"	5 16 52	Hwalien district.	556	"	18 15 39	Near E. Coast of Kamchatka.
516	"	6 17 48	Near Hsinkong.	557	"	19 01 18	Northern district.
517	"	7 04 17	"	558	"	19 08 41	Near Hsinkong.
518	"	7 08 25	Hwalien district.	559	"	19 09 08	"
519	"	7 20 58	Near Hsinkong.	560	"	19 12 12	Hwalien district.
520	"	7 21 00	"	561	"	19 23 50	Near Hsinkong.
521	"	8 09 15	Near 75km ESE. of Ilan.	562	"	20 02 11	Hwalien district.
522	"	8 11 29	Near 10 km SSW. of Taitung	563	"	20 11 05	Northern district.
523	"	9 03 56	Near Hengchun.	564	"	21 17 43	Near Hsinkong.
524	"	9 09 30	Near Hwalien.	565	"	21 23 35	Hengchun district.
525	"	9 11 44	Near 125km ESE. of Hengchun.	566	"	24 21 32	Hwalien district.
526	"	9 16 53	Northern district.	567	"	24 21 59	Northern district.
527	"	10 04 15	Near 87km ESE. of Ilan.	568	"	25 17 48	"
528	"	10 15 19	Near Tawu.	569	"	27 11 16	"
529	"	10 15 21	"	570	"	27 12 19	Hwalien district.
530	"	10 17 25	Near Ilan.	571	"	27 16 08	Near Hwalien.
531	"	10 20 31	Near Tawu.	572	"	27 19 16	S. of Kermadec Islands.
532	"	10 23 54	"	573	"	27 22 30	Hwalien district.
533	"	11 00 08	Near Hengchun.	574	"	28 00 04	Near 163 km ESE. of Hwalien.
534	"	11 03 42	Hwalien district.	575	"	28 10 56	Near Hsinkong.
535	"	11 04 46	Hengchun district.	576	"	28 10 57	"
536	"	11 13 20	Near Hwalien.	577	"	28 14 31	Near Hwalien.
537	"	12 06 29	"	578	"	28 19 00	Hengchun district.
538	"	12 16 08	Hengchun district.	579	"	28 19 49	"
539	"	12 20 34	Near 180 km ESE. of Hengchun.	580	"	29 00 21	Near Hsinkong.
540	"	12 21 22	Hengchun district.	581	"	29 02 47	"
541	"	12 23 54	"	582	"	29 07 24	"

## Major Earthquakes which occurred in April, 1959.

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remarks		
					N	E	Z	N	E	Z	N	E	Z					
1	Ilan	2	eP	04 03 24.9	—	—	—	—	—	—	—	—	—	—	55.2	0	4°NE of Taipei.	
	Taipei		eP	27.3	—	—	—	—	—	—	—	—	—	—	—	46.8	0	28.0N, 124.3E.
	Hsinkong		p	31.6	—	—	—	—	—	—	—	—	—	—	—	—	0	U.S.C.G.S.: Rykyu Islands, region.
	Hwalien		p	33.7	—	—	—	—	—	—	—	—	—	—	—	55.1	0	26.0N, 125E. (d)
	Alishan		eP	37.6	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Taitung		p	37.7	—	—	—	—	—	—	—	—	—	—	—	01 08.9	0	
	Hsinchu		eP	50.0	—	—	—	—	—	—	—	—	—	—	—	45.2	0	
	Hengchun		p	56.1	—	—	—	—	—	—	—	—	—	—	—	45.5	0	
	Taichung		eP	56.9	—	—	—	—	—	—	—	—	—	—	—	—	0	
2	Kaohsiung	3	p	05 48 26.0	—	—	—	—	—	—	—	—	—	—	—	13.9?	0	60km NE of Hwalien.
	Hwalien		iP	45.6 + 5.0 + 3.0 - 33.0	500	531	391	2.4	2.4	1.9	7.9	1	—	—	—	24.3N, 122.E.		
	Ilan		iP	45.6 - 38.0 + 40.0	—	667	538	? 2.1	1.6	—	8.2	1	H $\pm$ 10km. (s)	—	—			
	Hsinchu		eP	46.0	—	—	—	587	587	—	1.1	1.2	—	—	—	19.2	I	
	Taipei		iP	51.4 - 15.8 + 9.2	—	514	495	—	1.0	1.4	—	13.1	I	—	—			
	Yu-shan		eP	52.7	—	—	—	—	—	—	—	—	—	—	—	17.6	0	
	Hsinkong		eP	54.8	—	—	—	—	—	—	—	—	—	—	—	18.7	0	
	Taichung		iP	57.4 + 2.0 - 6.0 + 18.0	302	174	94	2.1	1.4	2.4	17.9	1	—	—	—			
	Alishan		eP	57.7	—	—	—	183	139	—	?	?	—	—	—	17.9	0	
	Taitung		eP	49 02.7	—	—	—	—	—	—	—	—	—	—	—	22.6	0	
	Tawu		eP	11.1	—	?	?	—	62	—	—	?	—	—	—	26.1	0	
	Tainan		eP	13.4	—	—	—	—	—	—	—	—	—	—	—	23.2	0	
	Hengchun		eP	14.6	—	—	—	57	—	—	1.2	—	—	—	—	28.1	0	
3	Tawu	6	p	14 19 09.8	—	—	—	—	—	—	—	—	—	—	—	—	0	Faint. (d)
	Hwalien		p	38.6	—	—	—	—	—	—	—	—	—	—	—	—	0	
4	Hengchun	11	P	11 34 09.8	—	—	—	—	—	—	—	—	—	—	—	—	0	Faint (d).
	Tawu		p	17.1	—	—	—	—	—	—	—	—	—	—	—	04 11.0	0	
5	Kaohsiung	12	p	10 59 21.7	—	—	—	—	—	—	—	—	—	—	—	13.3	0	92km E. of Hwalien.
	Hsinchu		eP	39.0	—	—	—	525	675	—	1.2	1.1	—	19.2	I	23.9N, 122.5E.		
	Hwalien		iP	39.1 + 5.0 - 4.0 + 5.5	555	382	—	1.1	1.1	—	10.6	I	H $\pm$ 50km. (s)	—	—			
	Ilan		iP	46.4 - 47.0 - 40.0 + 142.0	458	657	373	1.0	1.5	2.2	12.6	I	—	—	—			

No.	station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remarks		
					N	E	Z	N	E	Z	N	E	Z					
9	Ilan	26	iP	20 41 00.0	h. m. s.	$\mu$	$\mu +$	$\mu$	16.0	93.0	141.0	1355	1000	855	2.5	2.5	3.0	15.8 IV
	Taipei		iP			00.4	+ 4.4	-	-	-	-	9500	10600	5000	2.8	2.0	2.8	20.8 IV
	Hwalien		iP			02.7	- 1000.0	200.0	1700.0	29000	34100	6500	2.3	2.1	2.1	16.2 IV	24.1N, 123.0E. H=30km. (r)	
	Hsinchu		eP			04.0	-	-	-	-	-	-	-	-	-	-	18.5 IV	
	Hsinkong		iP			08.3	- 10.7	- 12.9	+ 15.1	9350	8250	5600	3.2	3.2	2.4	24.9 IV		
	Taichung		iP			09.6	143.0	524.0	234.0	15600	44100	26400	4.4	5.6	4.8	(14.9)? III		
	Taitung		iP			16.1	- 13.3	- 10.0	-	-	-	-	-	-	-	-	(9.5)? III	
	Yu-shan		eP			20.0	-	-	-	-	-	-	-	-	-	-	30.7 IV	
	Alishan		iP			22.0	- 69.0	- 60.0	+ 14.0	-	-	-	-	-	-	-	32.0 IV	
	Tainan		iP			22.7	- 68.5	- 54.7	+ 13.7	38000	29000	1562	3.1	3.1	4.2	(23.9)? III		
	Kaohsiung		p			23.0	-	-	-	5250	8500	6600	3.9	3.9	4.9	35.5 III		
	Hengchun		iP			29.1	161.8	153.9	140.0	22500	21750	-	3.5	3.5	-	-	37.0 IV	
	Penghu		iP			33.0	+ 45.0	+ 25.0	-	-	-	-	-	-	-	-	(33.7)? III	
	Tawu		iP			48.9	145.2	131.2	+ 70.4	810	-	834	3.0	-	?	-	33.7 III	
10	Taichung	27	eP	13 16 10.5	-	-	-	-	-	-	-	-	-	-	-	-	0 Faint (d) P:Faint.	
	Taipei		1	21.0	-	-	-	-	-	-	-	-	-	-	-	-	-0	
	Tawu		eP	21.7	-	-	-	-	-	-	-	-	-	-	-	-	-0	
11	Ilan	28	p	06 28 11.2	-	-	-	244	256	165	1.7	1.7	1.7	7.3 I			50km NE. of Hwalien. 24.3N, 121.9E. H=10km.	
	Hwalien		p			11.8	+	+	-	244	285	-	1.1	1.5	-	-	7.1 I	
	Taipei		iP			18.7	+ 4.5	$\pm$ 0	+ 16.0	141	127	57	1.1	0.9	2.1	10.6 0		
	Hsinchu		eP			19.5	-	-	-	-	-	-	-	-	-	-	15.0 I	
	Taichung		p			23.4	-	-	-	-	-	-	-	-	-	-	16.1 0	
	Hsinkong		eP			24.8	-	-	-	-	-	-	-	-	-	-	16.7 0	
	Alishan		eP			30.0	-	-	-	-	-	-	-	-	-	-	16.8 0	
	Taitung		eP			38.6	-	-	-	-	-	-	-	-	-	-	18.4 0	
	Tawu		p			40.5	-	-	-	-	-	-	-	-	-	-	27.4 0	
	Tainan		eP			44.7	-	-	-	-	-	-	-	-	-	-	28.0 0	
	Hengchun		p			50.7	-	-	-	-	-	-	-	-	-	-	22.6 0	
	Kaohsiung		eP	29 03.3	-	-	-	-	-	-	-	-	-	-	-	-	-0	
12	Ilan	29	eP	14 31 33.7	-	-	-	-	-	-	-	-	-	-	-	-	14.7 0	
	Taipei		eP			36.4	-	-	-	-	-	-	-	-	-	-	14.8 0	
	Hwalien		p			37.6	-	-	16.0	48	95	108	1.1	1.1	0.6	18.2 I	65km. ENE. of Taipei. 25.2N, 122.1E. H=120km.	

### Major Earthquakes Which occurred in May, 1959.

No.	station	Date	Phase (G. M. T.)	P. h. m. s.	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remarks	
					N	E	Z	N	E	Z	N	E	Z				
	Tawu			16.8	μ	μ	μ	μ	μ	μ	μ	s	s	s	m s	24.5 0	
	Hengchun		eP	17.1	—	—	—	—	—	—	—	—	—	—	—	— 0	
	Taitung		eP	19.3	—	—	—	—	—	—	—	—	—	—	—	27.0 0	
	Yushan			57 55.5	—	—	—	—	—	—	—	—	—	—	—	24.0 0	
4	Taipei	12	eP	05 16 09.8	—	—	—	—	—	—	—	—	—	—	—	— 0	Komandorskie Islands
	Tainan		eP	16 19.0	—	—	—	—	—	—	—	—	—	—	—	— 0	54 <sup>1</sup> / <sub>2</sub> N, 168°E.
	Tawu			16 31.1	—	—	—	—	—	—	—	—	—	—	—	— 0	(d)
5	Tawu	12		10 07 14.4	—	—	—	—	—	—	—	—	—	—	—	— 0	Bolivia 20 <sup>1</sup> / <sub>2</sub> S, 63 <sup>1</sup> / <sub>2</sub> W. (d)
6	Tawu	16		06 24 11.3	—	—	—	—	—	—	—	—	—	—	—	— 0	New Britain
	Hsinkong			24 13.8	—	—	—	—	—	—	—	—	—	—	—	— 0	4 <sup>1</sup> / <sub>2</sub> S, 153 <sup>1</sup> / <sub>2</sub> E.
	Hengchun			24 14.0	—	—	—	—	—	—	—	—	—	—	—	— 0	H=60km. Mag. 6 <sup>3</sup> / <sub>4</sub>
	Tainan		eP	24 17.3	—	—	—	—	—	—	—	—	—	—	—	— 0	(Pas).
	Ilan		eP	24 18.1	—	—	—	—	—	—	—	—	—	—	—	— 0	(d)
	Hwalien			24 20.1	—	—	—	—	—	—	—	—	—	—	—	— 0	
	Taipei		eP	24 20.9	—	—	—	—	—	—	—	—	—	—	—	— 0	
7	Taipei	18		08 55 02.3	—	—	—	—	—	—	—	—	—	—	—	15.1 0	114km ENE of Ilan
	Ilan			55 59.0	—	—	—	—	—	—	—	—	—	—	—	13.6 0	25°N. 122°8E.
	Hwalien			56 07.0	—	—	+ 14	46	46	46	81	0.6	1.0	0.9	—	18.0 I	(H=80km.) (s)
	Hsinchu			56 08.0	—	—	—	—	—	—	—	—	—	—	—	19.0 0	
	Taichung			56 10.0	—	—	—	—	—	—	—	—	—	—	—	— 0	
	Hsinkong		eP	56 10.5	—	—	—	—	—	—	—	—	—	—	—	23.0 0	
	Alishan		eP	56 12.3	—	—	—	—	—	—	—	—	—	—	—	25.7 0	
	Taitung			56 20.6	—	—	—	—	—	—	—	—	—	—	—	23.5 0	
	Hengchun			56 46.6	—	—	—	—	—	—	—	—	—	—	—	21.8 0	
8	Hsinchu	26	eP	04 14 10.0	—	—	—	—	—	—	—	—	—	—	—	— 02 00 0	Ryukyu Islands Region
	Ilan		eP	14 29.2	—	—	—	—	—	—	—	—	—	—	—	53.8 0	25.7N. 127.5E.
	Taipei		iP	14 30.3	—	+	2.6	—	6.4	—	—	—	—	—	—	— 01 04.7 0	H=80km.
	Hwalien			14 32.7	—	—	—	—	—	46	36	—	4.5	4.5	—	— 0	(d)
	Hsinkong		eP	14 38.0	—	—	—	—	—	—	—	—	—	—	—	— 01 12.2 0	
	Taichung		eP	14 42.4	—	—	—	—	—	—	—	—	—	—	—	— 0	
	Taitung			14 46.6	—	—	—	—	—	—	—	—	—	—	—	— 01 09.5 0	

### Major Earthquakes Which occurred in June, 1959

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remark	
					N	E	Z	N	E	Z	N	E	Z				
1	Hsinkong	16 06 48.6	iP	h. m. s.	$\mu$	$\mu$	$\mu$	400	338	130	0.6	0.6	0.5	6.1	III	40km NNE of Hsinkong. H=10km. (I)	
	Alishan	06 51.0	iP		7.3	-	11.3	+ 14.6	-	253	-	-	-	-	9.5	II	
	Yushan	06 51.6			-	-	-	-	-	-	-	-	-	-	9.6	II	
	Hwalien	06 54.7	iP		3	-	1	+ 8	131	145	100	1.4	1.0	1.3	8.8	I	
	Taitung	06 56.3			-	-	-	-	-	-	-	-	-	-	10.9	0	

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity	Epicenter & Remarks		
					N	E	Z	N	E	Z	N	E	Z					
	Ilan		eP	h. m. S. 58 23.4	μ	μ	μ	211	187	μ	3.6	3.6	—	40.7	0			
	Penghu			58 34.8	—	—	—	—	—	—	—	—	—	26.7	0			
4	Hengchun	2	iP	05 42 54.1 + 20.1 - 16.1 + 23.1	640	647	325	2.1	2.0	3.3	17.9	I	170km SE. of Hengchun					
	Tawu		eP	42 58.7	—	—	—	—	—	—	—	—	—	20.0	0	21°N.		
	Taitung		eP	43 02.5	—	—	—	—	—	—	—	—	—	—	—	22.1	0	
	Kaohsiung			43 07.9	—	—	—	—	—	—	—	—	—	—	—	16.6	0	
	Hsinkong		eP	43 09.1	—	—	—	51	139	—	2.2	2.6	—	25.1	0	After Shock of No. 2. (s)		
	Tainan		eP	43 20.0	—	—	—	—	—	—	—	—	—	—	—	28.6	0	
	Alishan		eP	43 22.6	—	—	—	—	—	—	—	—	—	—	—	33.1	0	
	Hwalien		iP	43 26.2	—	—	—	—	—	—	—	—	—	—	—	39.6	0	
	Taipei			43 27.5	—	—	—	—	—	—	—	—	—	—	—	60.8	0	
	Taichung		eP	43 27.6	—	—	—	—	—	—	—	—	—	—	—	50.3	0	
	Hsinchu		eP	43 34.0	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Ilan			43 34.4	—	—	—	67	97	—	3.4	3.2	—	48.1	0			
5	Hwalien	2	iP	19 13 49.9 - 4 - 6 - 55	1150	2410	350	0.6	1.0	1.0	5.5	III	20km E. of Hwalien					
	Hsinkong		iP	13 57.2 - 6.1 - ? + ?	250	200	137	1.2	1.2	1.1	11.7	II	23°N.					
	Alishan		iP	13 57.9 + 22.0 + 21.1 - 24.4	549	354	207	—	—	—	10.5	II	121°8E. (H=40km) (s)					
	Yushan			13 58.9	—	—	—	—	—	—	—	—	—	—	—	10.3	II	
	Ilan			13 59.4	—	—	—	183	266	94	2.3	1.9	2.1	14.3	I			
	Taichung		iP	13 59.7 - 11 + 3 - 9	200	573	238	1.4	2.9	1.7	12.3	I						
	Hsinchu		eP	14 02.6	—	—	—	—	—	—	—	—	—	—	—	15.6	II	
	Taipei		iP	14 02.9 + 16.5 - + 5.1	170	210	—	0.7	0.8	—	14.4	I						
	Tawu			14 08.9	—	—	—	51	49	—	1.8	2.4	—	22.5	0			
	Tainan		eP	14 08.9	—	—	—	—	—	—	—	—	—	—	—	21.6	0	
	Hengchun			14 17.4	—	—	—	91	—	—	1.4	—	—	—	—	23.7	0	
	Penghu			14 33.3	—	—	—	—	—	—	—	—	—	—	—	—	19.9	0
6	Taipei	14	eP	00 31 29.7	—	—	—	—	—	—	—	—	—	—	—	—	0	Taipei P.S.: Faint.
	Hengchun		eP	31 52.5	—	—	—	—	—	—	—	—	—	—	—	—	0	Southwestern Bolivia 20°S, 68°W. (d)
	Tawu			32 05.2	—	—	—	—	—	—	—	—	—	—	—	05 21.2	0	
	Taichung		eP	32 07.9	—	—	—	—	—	—	—	—	—	—	—	—	0	(d)
	Hsinkong		eP	32 12.1	—	—	—	—	—	—	—	—	—	—	—	—	04 57.4	0
	Tainan		eP	32 12.6	—	—	—	—	—	—	—	—	—	—	—	—	—	0
	Hwalien		eP	32 15.2	—	—	—	—	—	—	—	—	—	—	—	—	—	0

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			S~P	Intensity	Epicenter & Remarks		
					N	E	Z	N	E	Z	N	E	Z					
7	Ilan	15	iP	02 39 22.9 + 49 + 277 - 707	—	—	—	620	577	300	1.4	1.4	2.0	13.3	II	100km E. of Ilan 24°6N. 122°8E. (H=50km.) (m)		
	Taipei		iP	39 23.5 - 5.7 + 33.0	310.2	470	660	—	0.7	0.8	—	—	—	—	14.1	II		
	Tainan		eP	39 23.6	—	—	—	—	—	—	—	—	—	—	—	53.1	0	
	Hsinchu		eP	39 24.4	—	—	—	250	450	—	0.7	0.8	—	—	—	18.8	II	
	Hwalien		iP	39 26.4 + 19 + 6 - 20	8500	14500	400	1.0	0.6	1.3	14.6	III						
	Taichung			39 34.5	—	—	—	—	—	—	—	—	—	—	—	23.4	0	
	Hsinkong		iP	39 34.7 + 1.1 + 1.4 - 1.4	524	512	418	1.4	1.4	1.4	23.0	II						
	Alishan		iP	39 38.1 + 7.3 + 14.1 - 24.4	—	—	—	—	—	—	—	—	—	—	—	33.2	II	
	Taitung		iP	39 38.2	—	—	—	—	—	—	—	—	—	—	—	31.3	I	
	Yushan			39 38.6	—	—	—	—	—	—	—	—	—	—	—	23.2	II	
	Tawu		eP	39 45.4	—	—	—	149	113	—	2.4	0.9	—	—	—	33.5	0	
	Hengchun		eP	39 53.3	—	—	—	311	183	104	?	3.3	4.0	—	—	40.0	0	
	Penghu			40 09.4	—	—	—	250	270	—	3.3	2.8	—	—	—	32.4	0	
	Kaohsiung		eP	39 53.0	—	—	—	—	—	—	—	—	—	—	—	36.0	0	
8	Hsinkong	18	eP	15 39 22.7	—	—	—	—	—	—	—	—	—	—	—	—	09 37.3	0
	Taitung		eP	39 30.7	—	—	—	—	—	—	—	—	—	—	—	—	0	Near E. Coast of Kamchatka 54N. 160E. Taipei P.S.: Faint. Taichung P.Faint. (d)
	Hengchun		eP	39 40.6	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Tainan		eP	40 02.8	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Hwalien		eP	40 09.3	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Taichung		eP	44 08.1	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Taipei		eP	44 33.0	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Ilan		eP	45 15.0	—	—	—	—	—	—	—	—	—	—	—	—	0	
9	Tawu	27	iP	19 16 25.1	—	—	—	—	—	—	—	—	—	—	—	—	0	S. of Kermadec Islands 33S, 179W. (d)
	Hwalien		iP	16 32.0	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Taipei		eP	16 32.7	—	—	—	—	—	—	—	—	—	—	—	—	09 46.6	0
10	Ilan	27	iP</															





# 地 震 季 報

第六卷 第三號

中華民國四十八年七、八、九月

## THE SEISMOLOGICAL BULLETIN

July to September, 1959.

VOL. VI No. 3

臺灣省氣象所

PUBLISHED QUARTERLY BY

TAIWAN WEATHER BUREAU

64 KUNG YUAN ROAD, TAIPEI, TAIWAN, CHINA

## General Aspect of Earthquakes

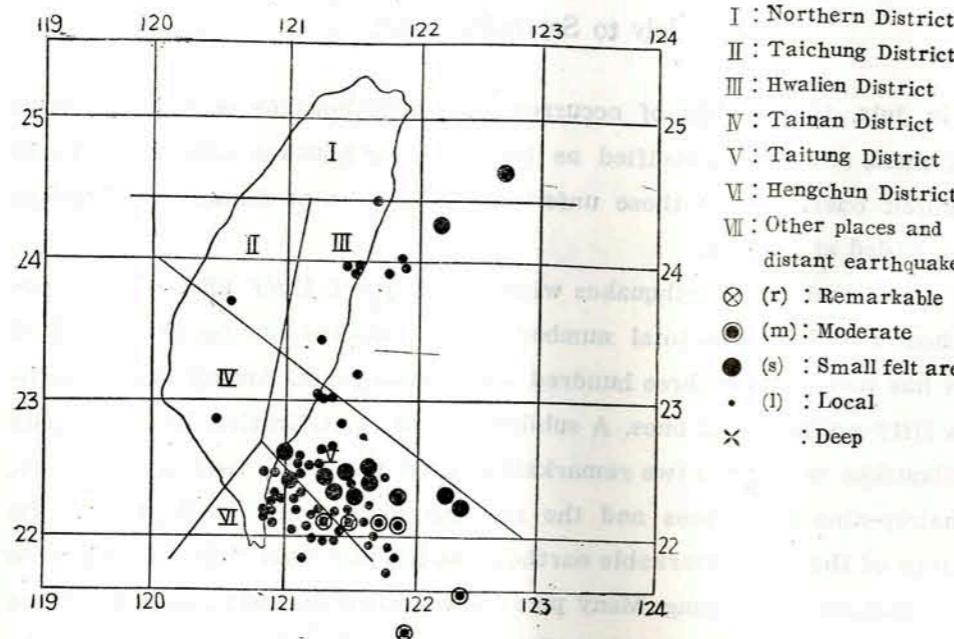
July to September 1959.

7) In July, the number of occurrences of earthquakes was ninety-four. Among them, six were classified as local-felt earthquakes and the remains were unfelt ones. Among these unfelt earthquakes nine distant earthquakes were recorded at Taiwan.

8) Two remarkable earthquakes with hundreds of their after-shocks occurred near Hanchung, the total number of earthquakes during the month of August has increased to three hundred and seventy-six. Among these earthquakes fifty-six were felt ones. A subdivision of classification in this group of earthquakes was found two remarkable, three moderate, twelve small-area, and thirty-nine local ones and the remains were unfelt earthquakes. The epicenters of the two remarkable earthquakes happened on 15th and 17th were both located near Hanchung. Many persons were injured and many houses were destroyed during these earthquakes. Six distant earthquakes were recorded in this month.

9) In September, one hundred and eighty-seven earthquakes were recorded in Taiwan. Fifteen of them were classified as felt earthquakes and the remains were unfelt ones including eight distant earthquakes. According to the magnitudes of these felt earthquakes, they were classified as : one remarkable, one moderate, one small-area and twelve local earthquakes. The remarkable earthquake which happened on 25th was located about 50km east of Hanchung.

## Epicenter of Felt Earthquake in July to September 1959.



Number of earthquakes classified according to its Magnitude and districts July to September, 1959.

Districts	Number of felt earthquakes					Number of unfelt earthquakes	Total
	Magnitudes	Remarkable	Moderate	Small felt area	Local		
Northern District	—	—	—	1	1	2	25
Taichung "	—	—	—	—	1	1	13
Hwalian "	—	—	—	2	11	13	69
Tainan "	—	—	—	—	1	1	3
Taitung "	2	3	10	23	38	200	238
Hengchun "	1	—	—	1	20	22	247
Other places	—	—	—	—	—	24	24
Total	3	3	14	57	77	579	658

## Felt earthquakes in the month of July to September 1959.

No.	Month	(G. M. T.)	Magnitude	Epicenter	Latitude	Longitude	Depth.
54	July	01 10 43	1	About 30km ENE. of Hsinkong.	—	—	—
55	"	09 09 05	"	Near Hwalian.	—	—	—
56	"	09 13 24	"	"	—	—	—
57	"	15 18 15	"	20km SE. of Tainan.	—	—	0
58	"	22 15 58	"	37km N. of Hsinkong.	—	—	0
59	"	29 13 14	"	Near Hsingkong.	—	—	—
60	Aug.	14 05 05	"	15km NE. of Hsinkong.	—	—	0
61	"	15 08 57	r	67km ENE. of Hengchung.	21.45	121.20	20
62	"	15 09 00	1	" (after shock)	—	—	—
63	"	15 09 03	"	" "	—	—	—
64	"	15 09 07	"	" "	—	—	—
65	"	15 09 10	"	" "	—	—	—
66	"	15 09 17	"	" "	—	—	—
67	"	15 09 29	"	" "	—	—	—
68	"	15 10 06	s	120km E. of Hsinkong.	23.0	122.1/2	20
69	"	15 10 15	1	After shock of Hengchung.	—	—	—
70	"	15 10 34	"	29km ENE. of Hengchung.	—	—	0
71	"	15 10 37	"	"	—	—	—
72	"	15 10 45	"	"	—	—	—
73	"	15 10 48	"	"	—	—	60
74	"	15 10 55	s	156km ENE. of Hengchung.	22.4	122.2	40
75	"	15 11 04	"	"	—	—	—
76	"	15 11 22	1	65km ENE. of Hengchung.	—	—	20
77	"	15 11 48	s	97km ESE of Ilan.	24.6	122.7	10
78	"	15 12 09	1	About 88km ESE. of Hengchung.	—	—	30
79	"	15 12 41	"	Near Hengchung.	—	—	—
80	"	15 13 05	"	"	—	—	—
81	"	15 13 35	"	About 75km E. of Hengchung.	—	—	20
82	"	15 14 50	"	Near Hengchung.	—	—	—
83	"	15 15 10	"	70km E. of Hengchung.	—	—	30
84	"	15 15 34	"	Near Hengchung.	—	—	—
85	"	15 16 15	"	24km SE. of Tawu.	—	—	5
86	"	15 16 18	"	50km ESE. of Tawu.	—	—	30
87	"	15 20 50	"	About 44km ENE. of Hengchung.	—	—	10
88	"	15 20 53	"	"	—	—	—
89	"	16 01 21	s	33km NE. of Hengchung.	22.2	122.1	0
90	"	16 03 12	1	31km ENE. of Hengchung.	—	—	10
91	"	16 05 22	"	30km ENE. of Hengchung.	—	—	0
92	"	16 22 20	"	Near Hsinkong.	—	—	—

No.	Month	P. (G. M. T.)	Magni- tude	Epicenter	Latitude	Longitude	Depth.
93	Aug.	17 01 02	s	20km NNE. of Tawu.	N. 22.1/2	E. 120.9	kms. 0
94	"	17 03 04	1	25km ENE. of Hsinkong.	—	—	10
95	"	17 04 27	s	35km E. of Tawu.	22.3	121.3	10
96	"	17 05 26	1	40km ENE. of Tawu.	—	—	0
97	"	17 06 18	"	Near Hsinkong.	—	—	—
98	"	17 07 25	s	44km E. of Tawu.	22.3	121.3	20
99	"	17 07 58	"	70km SE. of Taitung	22.3	121.7	30
100	"	17 08 25	m	35km E. of Tawu.	22.3	121.2	40
101	"	17 08 47	1	32km S. of Taitung.	—	—	10
102	"	17 08 58	s	58km SE. of Taitung.	22.3	121.6	10
103	"	17 09 11	"	53km SE. of Taitung.	22.4	121.1/2	10
104	"	17 09 15	1	30km SSE. of Taitung.	—	—	0
105	"	17 12 32	"	23km ENE. of Tawu.	—	—	0
106	"	17 12 39	s	48km E. of Tawu.	22.2	121.3	20
107	"	17 12 39	1	"	—	—	—
108	"	17 21 10	r	115km SE of Henchung.	21.4	121.6	0
109	"	17 22 34	1	32km SE. of Tawu.	—	—	20
110	"	17 22 57	"	52km SE. of Taitung.	—	—	10
111	"	18 00 34	m	98km E. of Henchung.	22.1	121.7	15
112	"	19 07 08	"	150km ESE. of Henchung.	21.6	122.1	15
113	"	19 15 21	1	18km NNE. of Hwalien.	—	—	40
114	"	20 04 50	"	22km SSW. of Taitung.	—	—	0
115	"	21 13 22	"	74km ESE. of Henchung.	—	—	0
116	Sept.	01 22 29	"	34km NE. of Alishan.	—	—	35
117	"	02 08 51	"	Near Tawu.	—	—	—
118	"	02 08 53	"	"	—	—	—
119	"	06 17 36	"	13km E. of Tawu.	—	—	20
120	"	07 12 28	"	36km E. of Hwalien.	—	—	10
121	"	07 12 36	"	30km ENE. of Hwalien.	—	—	0
122	"	07 18 55	"	17km E. of Hwalien.	—	—	0
123	"	07 20 00	"	Near Hwalien.	—	—	—
124	"	12 04 32	"	28km S. of Ilan.	—	—	10
125	"	15 04 53	s	70km NE. of Hwalien.	24.3	122.1	0
126	"	21 06 40	1	22km E. of Tawu.	—	—	10
127	"	22 03 58	"	26km SSE. of Hsinkong.	—	—	0
128	"	25 02 37	r	50km. E. of Henchung.	22.05	121.2	10
129	"	25 03 01	m	Near Lunyu (Taitung).	22.05	121.1/2	20
130	"	26 15 45	1	37km ESE. of Henchung.	—	—	10

## Unfelt Earthquakes in the Month of July to September, 1959.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
583	July	01 02 30	(Distant)	617	July	13 12 39	(distant)
584	"	01 09 42	Near Hwalien.	618	"	14 19 43	Near Hsinkong.
585	"	01 12 24	92Km E. of Henchung	619	"	15 17 45	Near Hsinkong.
586	"	01 21 04	Hwalien district.	620	"	16 01 09	100Km ESE. of Henchung.
587	"	02 00 03	Taitung district.	621	"	16 05 15	Near Tainan.
588	"	02 00 49	Henchung district.	622	"	17 11 18	Near Hsinkong.
589	"	02 18 39	Taichung district.	623	"	17 12 07	Taitung district.
590	"	02 21 17	Near Taichung.	624	"	17 14 18	Hwalien district.
591	"	02 22 21	Near Taichung.	625	"	18 01 38	"
592	"	03 16 56	Taitung district.	626	"	18 19 56	Philippine.
593	"	03 18 06	New Hebrides Is. region.	627	"	18 21 15	Taitung district.
594	"	04 00 38	Near Hwalien.	628	"	18 22 26	Henchung district.
595	"	04 02 45	28Km E. of Ilan.	629	"	19 00 38	Hwalien district.
596	"	04 16 40	29Km SSW. of Hwalien.	630	"	19 15 26	15°S 70°W
597	"	05 02 50	Near Hsinkong.	631	"	20 02 47	Java Sea.
598	"	05 08 23	55Km SSW. of Henchung.	632	"	20 12 47	Near Tawu.
599	"	05 09 48	45Km ESE. of Tawu.	633	"	20 15 52	Near Hsinkong.
600	"	06 09 29	Chaco Province Argentina.	634	"	21 00 39	"
601	"	07 08 20	Taitung district.	635	"	21 02 54	"
602	"	07 10 56	Near Hsinkong.	636	"	21 03 25	"
603	"	07 20 08	Near Hsinkong.	637	"	21 07 53	Hwalien district.
604	"	08 16 16	Hwalien district.	638	"	21 17 13	"
605	"	08 18 24	70Km E. of Tawu.	639	"	22 11 20	Henchung district.
606	"	10 04 24	Taitung district.	640	"	22 11 25	"
607	"	10 12 16	Northern district.	641	"	22 19 31	(distant)
608	"	10 19 33	Near Hsinkong.	642	"	22 21 49	88km ENE. of Henchung.
609	"	10 21 42	Taitung district.	643	"	22 22 25	263km SE. of Henchung.
610	"	10 22 45	Near Alishan.	644	"	22 23 10	(distant)
611	"	11 01 34	Near Hwalien.	645	"	23 04 32	Near Hsinkong.
612	"	11 04 16	Near Hsinkong.	646	"	23 17 06	"
613	"	11 17 20	Henchung district.	647	"	23 17 36	Hwalien district.
614	"	11 23 34	Northern district.	648	"	23 18 40	67km E. of Henchung.
615	"	12 12 48	Taitung district.	649	"	23 21 27	430km ENE. of Hsinkong.
616	"	13 03 37	Northern district.	650	"	23 22 26	Near Hsinkong.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
651	July	d. h. m. 24 02 37	Hwalien district.	685	Aug.	d. h. m. 12 06 46	Taitung district.
652	"	24 05 24	Henchung district.	686	"	12 08 56	290Km ENE. of Taipei.
653	"	24 23 32	Henchung district.	687	"	12 09 49	Near Hsinkong.
654	"	25 00 25	Hwalien district.	688	"	12 10 10	(distant)
655	"	25 16 37	Near Hsinkong.	689	"	13 15 25	Taitung district.
656	"	26 12 41	Near Hsinkong.	690	"	14 02 16	Near Hsinkong.
657	"	26 23 34	Near Hsinkong.	691	"	14 04 28	Near Hsinkong.
658	"	27 10 55	Near Hsinkong.	692	"	14 10 37	Near Hsinkong.
659	"	27 20 28	Taitung district.	693	"	14 18 47	Near Hsinkong.
660	"	28 06 24	40Km NE. of Hwalien.	694	"	15 00 24	Northern district.
661	"	28 10 28	Near Alishan.	695	"	15 00 49	Northern district.
662	"	28 17 46	33Km E. of Tawu.	696	"	15 03 53	Near Hsinkong.
663	"	29 15 41	Henchung district.	697	"	15 09 22	Taitung district.
664	"	30 07 59	Taitung district.	698	"	15 09 39	Taitung district.
665	"	30 16 50	Henchung district.	699	"	15 09 40	Taitung district.
666	"	30 19 38	103Km ENE. of Hsinkong.	700	"	15 09 42	Near Hsinkong.
667	"	31 01 46	Near Hsinkong.	701	"	15 09 46	Taitung district.
668	"	31 17 25	Near Hsinkong.	702	"	15 09 49	Taitung district.
669	"	31 23 07	Henchung district.	703	"	15 09 51	Near Hsinkong.
670	"	31 23 10	Henchung district.	704	"	15 09 55	Near Hsinkong.
671	Aug.	02 00 39	Near Hsinkong.	705	"	15 09 57	Near Hsinkong.
672	"	02 05 51	Near Hsinkong.	706	"	15 09 58	Near Hsinkong.
673	"	02 10 03	Hwalien district.	707	"	15 10 02	Taitung district.
674	"	03 02 53	Hwalien district.	708	"	15 10 13	Near Alishan.
675	"	03 14 16	Taitung district.	709	"	15 10 14	Near Alishan.
676	"	04 18 39	153Km ENE. of Hsinkong.	710	"	15 10 35	Near Alishan.
677	"	05 18 49	Henchung district.	711	"	15 11 01	Near Henchung (after shock)
678	"	05 18 59	Near Hsinkong.	712	"	15 11 09	99Km ENE. of Hwalien.
679	"	06 07 28	Hwalien district.	713	"	15 11 21	Near Hsinkong.
680	"	08 17 53	76KmNNW. of Taipei.	714	"	15 11 34	Henchung after shock.
681	"	10 05 07	Henchung district.	715	"	15 11 34	Henchung after shock.
682	"	10 23 15	165Km ESE. of Hwalien.	716	"	15 11 38	Near Hsinkong.
683	"	11 02 52	97Km ENE. of Ilan.	717	"	15 11 45	Near Hsinkong.
684	"	11 05 35	Hwalien district.	718	"	15 11 61	Henchung after shock.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
718	Aug.	d. h. m. 15 12 30	Near Hsingkong.	752	Aug.	d. h. m. 15 16 51	Near Tawu.
719	"	15 12 36	Hwalien district.	753	"	15 17 08	"
720	"	15 12 51	Taitung district.	754	"	15 17 14	Near Hsinhong.
721	"	15 12 54	"	755	"	15 17 44	Near Tawu.
722	"	15 13 15	"	756	"	15 17 49	24km SSE. of Nawu.
723	"	15 13 16	"	757	"	15 17 50	"
724	"	15 13 31	75km E. of Henchung.	758	"	15 18 01	"
725	"	15 13 43	Near Alishan.	759	"	15 18 15	Near Hsinkong.
726	"	15 13 48	Tainan district.	760	"	15 18 25	"
727	"	15 13 51	Near Hsinkong.	761	"	15 18 40	Near Tawu.
728	"	15 13 54	"	762	"	15 18 42	Taitung district.
729	"	15 13 58	Taichung district.	763	"	15 18 58	Henchung. district
730	"	15 12 16	Henchung district.	764	"	15 19 03	Near Tawu.
731	"	15 14 20	Near Tawu.	765	"	15 19 09	Henchung district.
732	"	15 14 22	Henchung district.	766	"	15 19 11	Near Tawu.
733	"	15 14 27	Near Tawu.	767	"	15 19 28	22km SSE. of Tawu.
734	"	15 14 33	"	768	"	15 20 36	"
735	"	15 14 35	Henchung district.	769	"	15 20 57	Near Tawu.
736	"	15 14 39	"	770	"	15 21 06	"
737	"	15 14 39	Near Tawu.	771	"	15 21 08	"
738	"	15 14 40	Taitung district.	772	"	15 21 13	32km ESE. of Tawu.
739	"	15 14 43	Near Tawu.	773	"	15 21 20	Near Tawu.
740	"	15 14 43	"	774	"	15 21 51	"
741	"	15 15 04	"	775	"	15 22 36	"
742	"	15 15 14	Near Henchung.	776	"	15 23 00	Near Hsinkong.
743	"	15 15 26	Hwalien district.	777	"	15 23 03	Near Tawu.
744	"	15 15 40	Near Henchung.	778	"	15 23 04	38km ENE. of Tawu.
745	"	15 15 40	"	779	"	15 23 37	Near Tawu.
746	"	15 15 50	23km SSE. of Tawu.	780	"	15 23 48	"
747	"	15 16 02	"	781	"	16 00 30	Near Alishan.
748	"	15 16 22	"	782	"	16 00 44	32Km ESE. of Tawu.
749	"	15 16 33	35km E. of Henchung.	783	"	16 00 50	Near Hsinkong.
750	"	15 16 41	Hwalien district.	784	"	16 01 04	"
751	"	15 16 50	Near Tawu.	785	"	16 01 24	Near Henchung. after shock.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
786	Aug.	d. h. m. 16 01 46	Near Henchung. after shock.	820	Aug.	d. h. m. 17 03 03	Tawu after shock.
787	"	16 01 48	"	821	"	17 05 12	"
788	"	16 01 53	32km E. of Tawu.	822	"	17 05 12	"
789	"	16 01 58	"	823	"	17 05 36	"
790	"	16 02 05	"	824	"	17 07 19	Near Hsinkong.
791	"	16 02 16	"	825	"	17 08 39	Tawu after shock.
792	"	16 02 17	"	826	"	17 08 49	Near Taitung.
793	"	16 02 32	"	827	"	17 08 58	11km NNE. of Tawu.
794	"	16 02 41	"	828	"	17 09 04	Near Taitung.
795	"	16 06 00	Near Tawu.	829	"	17 09 39	"
796	"	16 06 08	Hwalien district.	830	"	17 10 26	"
797	"	16 06 45	Taitung district.	831	"	17 12 29	"
798	"	16 07 07	31km E. of Tawu.	832	"	17 12 47	Near Hsinkong.
799	"	16 07 27	Near Tawu.	833	"	17 12 51	Near Tawu.
800	"	16 08 44	"	834	"	17 12 52	21km NE. of Tawu.
801	"	16 08 49	"	835	"	17 13 13	"
802	"	16 10 23	"	836	"	17 13 49	Near Hsinkong.
803	"	16 10 29	"	837	"	17 13 55	"
804	"	16 10 39	"	838	"	17 11 21	"
805	"	16 10 42	107km ESE. of Hsinkong.	839	"	17 14 22	Near Tawu.
806	"	16 11 13	Henchung district.	840	"	17 16 00	Near Hsinkong.
807	"	16 13 49	"	841	"	17 16 22	Near Tawu.
808	"	16 13 53	Near Hwalien.	842	"	17 16 29	"
809	"	16 14 25	Near Tawu.	843	"	17 16 55	Taitung district.
810	"	16 15 10	Near Hsinkong.	844	"	17 17 20	Near Tawu.
811	"	16 15 42	Taitung district.	845	"	17 17 28	"
812	"	16 16 25	"	846	"	17 21 04	Henchung district.
813	"	16 16 51	"	847	"	17 21 04	Taitung district.
814	"	16 17 54	Near Hwalien.	848	"	17 21 05	Henchung district.
815	"	16 21 19	Taitung district.	849	"	17 22 52	Near Hsinkong.
816	"	16 23 37	"	850	"	17 22 55	"
817	"	17 00 45	"	851	"	17 23 15	Taitung district.
818	"	17 01 16	Tawu after shock.	852	"	17 23 29	Near Tawu.
819	"	17 01 58	"	853	"	17 23 40	45km E. of Tawu.

No.	Mon- th	P. (G. M. T.)	Epicenter	No.	Mon- th	P. (G. M. T.)	Epicenter
854	Aug.	d. h. m. 17 23 41	Near Tawu.	888	Agu.	d. h. m. 19 18 10	Near Tawu.
855	"	17 23 43	Taitung district.	889	"	19 19 55	Taitung district.
856	"	17 23 55	70km SE. of Hwalien.	890	"	19 20 44	Near Tawu.
857	"	18 00 54	Henchung. after shock.	891	"	19 21 56	"
858	"	18 02 59	"	892	"	20 03 17	Near Hsinkong.
859	"	18 04 06	Near Tawu.	893	"	20 05 02	Taichung district.
860	"	18 04 58	"	894	"	20 05 05	26km N. of Tawu.
861	"	18 06 29	"	895	"	20 08 30	Near Tawu.
862	"	18 06 51	Montana U. S. A.	896	"	20 09 55	17km S. of Tawu.
863	"	18 07 13	Taitung district.	897	"	20 10 19	Taitung district.
864	"	18 08 11	Near Tawu.	898	"	20 11 16	Near Tawu.
865	"	18 08 44	Taitung district.	899	"	20 11 38	Near Hsinkong.
866	"	18 09 39	44km SE. of Hwalien.	900	"	20 13 24	Near Tawu.
867	"	18 10 08	16km ESE. of Tawu.	901	"	20 13 25	"
868	"	18 10 09	"	902	"	20 14 24	Henchung district.
869	"	18 10 12	"	903	"	20 18 39	Taitung district.
870	"	18 10 44	Near Tawu.	904	"	20 19 02	32km ESE. of Tawu.
871	"	18 13 51	"	905	"	20 20 30	100km ESE. of Tawu.
872	"	18 14 17	Henchung district.	906	"	20 22 51	30km SE. of Tawu.
873	"	18 16 52	Northern district.	907	"	20 23 20	Near Tawu.
874	"	18 17 12	Near Tawu.	908	"	21 00 39	"
875	"	18 17 54	?	909	"	21 00 55	"
876	"	18 18 57	Henchung district.	910	"	21 04 42	Taiutng district.
877	"	18 20 44	Near Hsinkong.	911	"	21 05 35	Taitung district.
878	"	18 23 13	24km E. of Tawu.	912	"	21 07 24	Northern district.
879	"	19 00 26	Hwalien distritc.	913	"	21 12 43	124km ENE. of Hsinkong.
880	"	19 03 21	Near Tawu.	914	"	21 13 20	Henchung district
881	"	19 13 18	"	915	"	21 18 57	Taitung district.
882	"	19 06 43	Taitung district.	916	"	21 22 17	335km SE. of Tawu.
883	"	19 11 43	45km E. of Tawu.	917	"	21 22 24	30km SE. of Tawu.
884	"	19 12 53	22km ESE of Tawu.	918	"	21 22 29	"
885	"	19 15 09	Near Tawu.	919	"	22 10 57	Hwalien district.
886	"	19 16 23	Near Hsinkong.	920	"	22 11 01	25km ESE. of Tawu.
887	"	19 16 36	Near Tawu.	921	"	22 11 52	Taitung district.

No.	Month	P. (G. M. T.)	Epicentnr	No.	Month	P. (G. M. T.)	Epicenter
922	Agu.	d. h. m. 22 12 01	Near Taitung.	956	Agu.	d. h. m. 26 14 40	Near Henchung.
923	"	22 21 19	Hwalien district.	957	"	26 15 19	Near Tawu.
924	"	23 00 18	22km ENE. of Tawu.	958	"	26 18 22	153Km WNW. of Taichung.
925	"	23 01 58	40km E. of Tawu.	959	"	26 21 06	Henchung district.
926	"	23 04 10	"	960	"	27 01 24	Henchung district.
927	"	23 06 49	Near Hsinkong.	961	"	27 02 13	Henchung district.
928	"	23 07 34	Near Hwalien.	962	"	27 07 06	18Km NNE. of Tawu.
929	"	23 07 38	Near Hsinkong.	963	"	27 08 52	Near Tawu.
930	"	23 08 58	Near Tawu.	964	"	27 09 36	30Km ENE. of Tawu.
931	"	23 09 48	68km ESE. of Tawu.	965	"	27 13 28	Near Tawu.
932	"	23 10 42	"	966	"	27 14 57	Near Henchung.
933	"	23 13 50	Near Henchung.	967	"	27 15 39	Henchung district
934	"	23 14 14	Near Tawu.	968	"	27 17 03	Henchung district.
935	"	23 15 36	"	969	"	27 17 04	Near Tawu.
936	"	23 15 42	Henchung district.	970	"	27 23 58	(distant)
937	"	23 15 48	17km NNE. of Tawu.	971	"	23 01 53	Taitung district.
938	"	23 18 53	Near Tawu.	972	"	28 02 10	Henchung district.
939	"	23 22 55	Near Hsinkong.	973	"	28 05 57	Henchung district.
940	"	23 23 51	Near Henchung.	974	"	28 11 16	Henchung district.
941	"	24 00 51	Henchung district.	975	"	28 12 49	Near Henchung.
942	"	24 12 00	Near Henchung.	976	"	28 18 18	Henchung district.
943	"	24 13 43	Near Hsinkong	977	"	28 18 30	Near Tawu.
944	"	24 13 57	Near Henchung.	978	"	29 17 14	(distant)
945	"	24 16 12	"	979	"	29 18 14	Near Tawu
946	"	24 16 21	Henchung district.	980	"	29 18 23	Near Tawu.
947	"	24 20 10	Near Henchung.	981	"	29 19 20	Near Tawu.
948	"	24 20 36	"	982	"	29 19 34	Near Tawu.
949	"	24 21 40	Solomon Is.	983	"	30 03 31	Henchung district.
950	"	25 06 47	Henchung district.	984	"	30 09 59	Near Tawu.
951	"	25 10 50	Near Henchung.	985	"	31 11 16	Near Tawu.
952	"	25 12 39	"	986	"	31 17 28	Northern district.
953	"	25 17 04	"	987	"	31 20 30	Henchung district.
954	"	25 22 18	Hwalien district.	988	"	31 22 55	Henchung district.
955	"	26 13 43	Near Henchung.	989	"	31 23 13	Hwalien district.

No.	Non- th	P. (G. M. T.)	Epicenter	No.	Mon- th	P. (G. M. T.)	Epicenter
990	Sept.	d. h. m. 01 00 57	Henchung district.	1024	Sept.	d. h. m. 07 20 10	Hwalien djstrict.
991	"	01 05 27	60Km ESE. of Hwalien.	1025	"	07 20 17	Near Hwalien.
992	"	01 18 37	Henchung district.	1026	"	07 22 46	(distant) ?
993	"	01 19 29	Henchung district.	1027	"	08 12 47	Near Henchung.
994	"	01 19 50	Henchung district.	1028	"	08 17 44	50Km E. of Henchung.
995	"	02 21 40	Henchung district.	1029	"	08 19 06	Henchung district.
996	"	01 22 18	Henchung district.	1030	"	08 19 59	Near Hwalien.
997	"	02 02 38	Henchung district.	1031	"	08 21 33	Near Henchung.
998	"	02 06 53	Henchung district.	1032	"	08 22 29	Near Henchung.
999	"	02 10 36	Near Tawu.	1033	"	09 03 48	Near Henchung.
1000	"	02 14 49	30Km SE. of Tawu.	1034	"	09 06 06	30Km ENE. of Henchung
1001	"	02 17 49	Near Tawu.	1035	"	09 07 14	Near Henchung.
1002	"	03 01 55	53Km E. of Henchung.	1036	"	09 08 19	Near Henchung.
1003	"	04 21 42	Near Henchung.	1037	"	09 13 04	Near Henchung.
1004	"	05 06 13	Halmahera Is. region.	1038	"	09 13 18	Near Henchung.
1005	"	05 06 17	Henchung district.	1039	"	09 19 51	Henchung district.
1006	"	05 06 54	Hwalien district.	1040	"	09 20 41	Henchung district.
1007	"	05 12 32	Henchung district.	1041	"	10 02 25	Near Henchung.
1008	"	05 13 00	Near Henchung.	1042	"	10 23 11	Northern district.
1009	"	05 13 11	32Km SSE. of Tawu.	1043	"	11 07 44	Near Henchung.
1010	"	05 13 20	Near Tawu.	1044	"	11 11 26	Henchung district.
1011	"	05 13 22	Near Henchung.	1045	"	12 02 01	Bismarck Sea.
1012	"	05 14 19	16Km NNE. of Henchung.	1046	"	12 02 40	Hwalien district.
1013	"	05 14 21	Henchung district.	1047	"	12 04 27	Near Tawu.
1014	"	05 16 47	Northern district.	1048	"	12 05 48	Near Henchung.
1015	"	05 19 39	Near Tawu.	1049	"	12 06 35	Northern district.
1016	"	06 03 14	Near Hwalien.	1050	"	12 18 12	Near Henchung.
1017	"	06 03 39	Northern district.	1051	"	12 22 36	Near Henchung.
1018	"	06 18 56	Taitung district.	1052	"	12 22 57	72Km ESE. of Hwalien.
1019	"	07 01 30	Near Tawu.	1053	"	12 23 33	Near Taichung
1020	"	07 12 13	Near Henchung.	1054	"	13 02 16	Henchung district.
1021	"	07 13 11	Near Hwalien.	1055	"	13 22 46	Halmahera Is. region.
1022	"	07 17 07	Near Hwalien.	1056	"	14 00 51	Near Henchung.
1023	"	07 18 12	Hwalien district.	1057	"	14 06 52	Near Henchung.

No.	Mon-th	P. (G. M. T.)	Epicenter	No.	Mon-th	P. (G. M. T.)	Epicenter
1058	Sept.	14 10 45	Near Henchung.	1092	Sept.	22 09 41	Near Henchung.
1059	"	14 11 49	Tainan district.	1093	"	22 09 42	Henchung district.
1060	"	14 13 05	Henchung district.	1094	"	23 00 41	"
1061	"	14 14 21	Kermadec Is.	1095	"	23 01 47	70km ESE. of Tawu.
1062	"	14 17 42	Kermadec after shock.	1096	"	23 10 50	Near Henchung.
1063	"	14 18 00	Near Henchung.	1097	"	23 10 59	Near Hsinkong.
1064	"	15 07 32	Hwalien district.	1098	"	23 13 36	Taitung district.
1065	"	15 07 42	Henchung district.	1099	"	24 03 08	"
1066	"	15 11 16	Henchung district.	1100	"	24 04 23	Near Henchung.
1067	"	15 13 33	Hwalien district.	1101	"	24 06 01	"
1068	"	15 14 45	Hwalien district.	1102	"	24 09 37	20km ESE. of Tawu.
1069	"	15 22 26	Hwalien district.	1103	"	24 13 22	Northern district.
1070	"	16 12 51	20Km SSE. of Tawu.	1104	"	24 14 03	Hwalien district.
1071	"	16 15 58	25Km S of Tawu.	1105	"	24 20 48	113km ENE. of Ian.
1072	"	16 17 13	Near Henchung.	1106	"	25 02 05	Near Tawu.
1073	"	16 20 16	Near Henchung.	1107	"	25 02 48	47km ENE. of Tawu.
1074	"	16 20 42	Near Hsinkong.	1108	"	25 02 57	"
1075	"	18 04 30	Near Henchung.	1109	"	25 03 51	121.1/2 E. 22.1 N. after shock.
1076	"	18 05 02	? distant.	1110	"	25 04 20	"
1077	"	18 17 05	Near Taitung.	1111	"	25 04 25	"
1078	"	19 02 45	Taitung district.	1112	"	25 04 30	54 ESE km of Henchung.
1079	"	19 03 19	Near Hsinkong.	1113	"	25 05 40	Henchung district.
1080	"	19 12 46	Hwalien district.	1114	"	25 05 54	Taichung district.
1081	"	19 14 04	Hwalien district.	1115	"	25 06 10	Henchung district.
1082	"	19 14 38	Near Henchung.	1116	"	25 06 20	Near Henchung.
1083	"	19 14 46	Near Henchung.	1117	"	25 09 47	"
1084	"	19 23 41	Near Henchung.	1118	"	25 09 57	24km SSE. of Henchung.
1085	"	20 00 00	Near Hwalien.	1119	"	25 10 00	Henchung district.
1086	"	20 12 00	Henchung district.	1120	"	25 10 41	Near Henchung.
1087	"	20 16 24	Northern district.	1121	"	25 10 42	Henchung district.
1088	"	21 00 50	Hwalien district.	1122	"	25 11 10	Near Henchung.
1089	"	21 06 00	Hwalien district.	1123	"	25 11 52	Henchung district.
1090	"	22 02 52	Near Henchung.	1124	"	25 12 00	22km ESE. of Tawu.
1091	"	22 03 24	Taitung district.	1125	"	25 12 33	Henchung district.

No.	Mon-th	P. (G. M. T.)	Epicenter	No.	Mon-th	P. (G. M. T.)	Epicenter
1126	Sept.	25 13 20	52km ENE. of Henchung.	1144	Sept.	28 04 22	? Distant.
1127	"	25 14 29	"	1145	"	28 05 58	Hwalien district.
1128	"	25 21 59	Hwalien district.	1146	"	28 06 22	"
1129	"	25 22 26	Henchung district.	1147	"	28 08 06	18km S. of Henchung.
1130	"	25 22 59	15km F. of Tawu.	1148	"	28 18 21	40km ENE. of Ilan.
1131	"	26 00 22	Near Henchung.	1149	"	29 05 55	Healien district.
1132	"	26 02 44	48km ESE. of Henchung.	1150	"	29 11 28	Henchung district.
1133	"	26 04 07	Henchung district.	1151	"	29 13 56	15Km S. of Tawu.
1134	"	26 05 38	Hwalien district.	1152	"	29 15 05	15Km S. of Tawu.
1135	"	26 05 52	Near Tawu.	1153	"	29 17 40	Henchung district.
1136	"	26 06 39	60km ESE. of Henchung.	1154	"	29 22 30	Hwalien district.
1137	"	26 16 42	Near Henchung.	1155	"	29 23 43	Hawlien district.
1138	"	26 23 59	"	1156	"	30 03 37	Northern district.
1139	"	27 13 49	Henchung district.	1157	"	30 06 16	23Km ESE. of Henchung.
1140	"	27 16 27	Near Hsinkong.	1158	"	30 13 21	Hwalien district.
1141	"	27 16 47	Northern district.	1159	"	30 15 20	Near Tawu.
1142	"	27 17 46	Near Taepai.	1160	"	30 16 20	Near Hsinkong.
1143	"	27 19 17	Near Hsinkong.	1161	"	30 22 23	Hwalien district.

## Major Earthquakes Which Occurred in July, 1959.

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remarks	
					N	E	Z	N	E	Z	N	E	Z				
1	Taipei	1	e	02 29 59.0	h. m. s.	μ	μ	μ	μ	μ	μ	s	s	s	m s	0	
	Ilan		e	02 31 06.6		—	—	—	—	—	—	—	—	—	—	0	
	Hwalien	iP	02 31 14.1		—	—	—	—	—	—	—	—	—	—	—	0 faint	
	Yushan	e	02 31 16.2		—	—	—	—	—	—	—	—	—	—	—	0	
	Alishan	e	02 31 22.8		—	—	—	—	—	—	—	—	—	—	—	0	
	Tawu	p	02 31 23.7		—	—	—	—	—	—	—	—	—	—	—	0	
	Tainan	e	02 31 29.5		—	—	—	—	—	—	—	—	—	—	—	0	
	Henchung	p	02 31 34.1		—	—	—	—	—	—	—	—	—	—	—	0	
2	Tawu	3	p	18 05 51.4		—	—	—	—	—	—	—	—	—	—	0	(d)
	Hwalien		e	18 06 00.8		—	—	—	—	—	—	—	—	—	—	0 16S. 172 $\frac{1}{2}$ E New Hebrides Is. region.	
3	Hwalien	6	p	09 29 27.0		—	—	—	—	—	—	—	—	—	—	0 26 $\frac{1}{2}$ S. 61 $\frac{1}{2}$ W. Chaco province Argentina.	
4	Hwalien	13	e	12 38 32.3		—	—	—	—	—	—	—	—	—	—	0 (d) faint	
5	Tawu	18	p	19 56 22.0	+ 42.9	— 9.1	?	94	63	—	—	5.3	5.1	—	0	(d)	
	Henchung	iP	19 56 33.3	+ 64.4	— 13.6	+ 20.0		224	124	—	—	4.2	4.21	15.9	0		
	Kaohsiung	e	19 56 38.2	—	—	—		—	—	—	—	—	—	—	—	0 15 $\frac{1}{2}$ N 120 $\frac{1}{2}$ E. Philippine.	
	Taitung	p	19 56 44.3	—	—	—		—	—	—	—	—	—	—	—		
	Tainan	p	19 56 46.5	—	—	—		—	—	—	—	—	—	—	—	0	
	Hsinkong	iP	19 56 46.7	+ 31.8	— 5.5	+ 34.2		—	—	—	—	—	1	34.8	0		
	Penhu	p	19 56 48.2	—	—	—		—	—	—	—	—	—	—	—	0	
	Alishan	p	19 56 57.0	+ 54.0	— 14.0	+ 51.0		—	—	—	—	—	—	—	—	0	
	Hwalien	ip	19 56 58.0	+ 79.3	— 21.1	—		160	143	88	4.0	3.1	4.51	46.3	0		
	Yushan	e	19 57 00.0	—	—	—		—	—	—	—	—	—	—	—	0	
	Taichung	p	19 57 00.4	—	—	—		—	—	—	—	—	—	—	—	0	
	Ilan	p	19 57 11.1	—	—	—		—	—	—	—	—	—	—	—	0	
	Taipei	ip	19 57 14.7	—	—	—		—	—	—	—	—	1	30.0	0		
	Hsinchu	e	19 57 43.0	—	—	—		—	—	—	—	—	—	—	—	0 15 S 70 $\frac{1}{2}$ W	

No.	station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remarks			
					N	E	Z	N	E	Z	N	E	Z						
6	Tawu	19	p	15 25 59.5	h. m. s.	μ	μ	μ	μ	μ	μ	μ	μ	μ	—	0	(d)		
	Hsinkong		p	15 26 02.0	—	—	—	—	—	—	—	—	—	—	—	0			
	Hwalien			15 26 10.4	—	—	—	—	—	—	—	—	—	—	—	0			
7	Henchung	20	p	02 46 32.1	—	—	—	—	—	—	—	—	—	—	—	—	0		
	Tawu	ip	02 46 32.1	+	—	+	—	—	?	—	—	—	—	—	—	—	4 18.7	0 Java sea.	
	Hsinkong	ep	02 46 39.6	—	—	—	—	—	—	—	—	—	—	—	—	—	4 22.0	0	
	Alishan	ep	02 46 45.3	—	—	—	—	—	—	—	—	—	—	—	—	—	4 25.4	0 6 S.	
	Taichung	ep	02 46 48.3	—	—	—	—	—	—	—	—	—	—	—	—	—	0 110 E.		
	Ilan	ep	02 46 54.4	—	—	—	—	—	—	—	—	—	—	—	—	—	4 32.1	0	
	Taipei	p	02 46 56.0	—	—	—	—	—	—	—	—	—	—	—	—	—	4 35.5	0	
	Hwalien	ip	02 47 13.9	—	—	—	—	—	—	—	—	—	—	—	—	—	0		
	Tainan	ep	02 47 50.0	—	—	—	—	—	—	—	—	—	—	—	—	—	0		
8	Tawu	22	p	19 30 55.3	—	—	—	—	—	—	—	—	—	—	—	5 12.0	0 faint (d)		
9	Tawu	22	p	23 10 12.4	—	—	—	—	—	—	—	—	—	—	—	—	0	Ditto	
	Henchung			23 10 14.1	—	—	—	—	—	—	—	—	—	—	—	—	0		
	Hsinkong	e	23 10 15.0	—	—	—	—	—	—	—	—	—	—	—	—	—	0		
	Hwalien	p	23 10 22.0	—	—	—	—	—	—	—	—	—	—	—	—	—	0		
	Ilan	e	23 10 24.4	—	—	—	—	—	—	—	—	—	—	—	—	—	0		

## Major Earthquakes Which Occurred in August, 1959.

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remarks	
					N	E	Z	N	E	Z	N	E	Z				
1	Tawu	12	p	10 09 51.8	h. m. s.	μ	μ	μ	μ	μ	μ	μ	μ	μ	—	0	faint.
	Hwalien		ep	10 10 52.5	—	—	—	—	—	—	—	—	—	—	—	0	(d)
2	Henchung	15	ip	08 57 08.8	+	8.6	+ 83.7	— 4.2	—	> 24000	> 25000	—	1.0	1.0	7.5	V	21 $\frac{1}{2}$ N 121.2 E.
	Tawu	p	08 57 11.3	—	9.7	— 78.0	—	—	—	—	—	—	—	—	—	VI	
	Taitung	p	08 57 17.4	+	70.0	— 6.7	— 2.3	—	—	—	—	—	—	—	—	12.4	VI 16 kille d 63
	Kaohsiung	ip	08 57 21.7	+	10.0	— 17.8	—	> 2000	> 2000	—	—	—	—	—	—	III	injured and
	Hsinkong	ip	08 57 22.8	+	14.3	— 6.5	— 1.3	> 1600	> 1400	—	0.9	0.9	—	—	—	17.2	III 1541 houses

No.	station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remarks	
					N	E	Z	N	E	Z	N	E	Z				
				h, m, s.	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	s	s	s	m s		
Alishan		P 08 57	28.6 +	5.5 -	3.5 +	-	-	4417	12230	6150	5.7	2.7	2.9	23.5	III		
Yushan		ip 08 57	29.5 +	- -	-	-	-	-	-	-	-	-	-	-	20.5	III	
Hwalien		P 08 57	36.2 +	1.9 +	1.8 +	3.7	-	5819	5150	2642	3.5	3.5	2.9	23.5	II		
Penhu		P 08 57	39.0 +	3.7 -	6.3	-	>2025	>2200	-	-	-	-	-	-	31.1	I	
Taichung		P 08 57	39.1 +	3.0 -	- +	1.8	12000	9250	5250	-	-	-	-	-	32.0	I	
Ilan		P 08 57	47.5 +	5.4 +	2.7 +	7.6	3315	2723	1600	2.4	2.9	2.9	38.4	III			
Hsinchu		P 08 57	48.3 +	10.0 +	0	-	> 890	> 1140	-	1.0	1.0	-	40.0	III			
Taipei		P 08 57	51.2 +	4.4 +	0 +	3.2	7575	3940	2500	3.7	3.5	3.4	44.2	II			
3	Penhu	16 p	01 21	04.2	-	-	-	275	325	-	3.7	3.7	-	23.2	0		
	Henchung	ip 01 21	08.9 +	3.8 +	0.8 -	1.0	18250	>127000	>13000	-	-	2.8	5.2	III	22.2N.		
	Tawu	ip 01 21	12.8 -	20.3	-	-	-	-	-	-	-	-	-	-	3.2	III	122.1E.
	Taitung	p 01 21	19.4	-	-	-	-	-	-	-	-	-	-	-	13.8	II	(S)
	Yushan	ep 01 21	20.0	-	-	-	-	-	-	-	-	-	-	-	20.0	0	$h \div 0$
	Hsinkong	ip 01 21	24.6 +	5.8 +	2.8 +	9.5	233	292	189	5.3	6.7	3.8	13.9	1			
	Alishan	ip 01 21	32.5 +	12.2 -	4.3 +	6.1	340	510	220	-	-	-	-	-	23.2	I	
	Kaohsiung	p 01 21	38.1	-	-	-	-	-	-	-	-	-	-	-	19.2	I	
	Taichung	p 01 21	42.3	-	-	-	-	-	-	-	-	-	-	-	23.4	O	
	Hwalien	p 01 21	42.8 +	6.0 -	4.0 +	3.0	254	314	97	4.5	4.5	2.8	11.9	I			
	Ilan	ep 01 21	53.7	-	-	-	191 +	190	93	4.1	2.8	2.0	23.3	O			
	Hsinchu	ep 01 21	58.0	-	-	-	-	-	-	-	-	-	-	-	43.2	O	
	Taipei	ep 01 21	59.5	-	-	-	-	-	-	-	-	-	-	-	44.0	O	
4	Tawu	17 ip	01 02	06.6	-	-	-	-	-	-	-	-	-	-	-	III	
	Tainan	P 01 02	37.4	-	-	+ 146	2200	1800	486	7.0	7.0	7.0	20.2	I	20Km		
	Henchung	ep 01 02	46.5	-	-	-	-	-	-	-	-	-	-	-	8.4	II	NNE of
	Taitung	ip 01 02	47.4	+ 170.0	+ 311.1	+ 456.6	-	-	-	-	-	-	-	-	8.1	III	Tawu.
	Hsinkong	ip 01 02	51.8 +	19.8 +	11.1 +	36.5	358	513	239	3.0	3.5	1.7	9.7	II	22½ N.		
	Kaohsiung	p 01 02	55.4 -	65.0 -	68.0	-	1190	2040	-	1.8	1.2	-	9.2	II	120.9E.		
	Penhu	p 01 03	02.5	-	-	-	200	275	-	2.5	3.7	-	20.8	O	(S)		
	Alishan	ep 01 03	03.7 +	48.8 -	14.1 +	24.4	-	-	-	-	-	-	-	-	20.7	I	$h \div 0$
	Taichung	ip 01 03	09.5 +	11.0 +	0 +	23.0	332	165	205	2.7	1.8	2.5	23.4	I			
	Hwalien	ip 01 03	09.8 -	16.0 -	16.0	-	265	295	144	2.4	3.2	1.8	37.4	I			
	Ilan	p 01 03	21.7	-	-	-	272	257	144	2.6	2.6	1.9	31.8	I			

No.	Station	Date	Phase (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remarks		
				N	E	Z	N	E	Z	N	E	Z					
	Hsinchu		ep 01 03 22.2	h. m. s.	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	s	s	s	m s	32.0 0		
	Taipei		p 01 03 23.8		—	—	—	168	167	—	1.8	1.5	—	—	36.7 0		
	Yushan		ip 01 03 00.0	+ 37.5	—	7.5	—	—	—	—	—	—	—	—	23.1 I		
5	Tawu	17	p 04 27 + ?		—	—	—	—	—	—	—	—	—	—	—	III	
	Henchung		ep 04 27 33.0		—	—	—	—	—	—	—	—	—	—	—	I	35Km E.
	Taitung		ip 04 27 28.9 + 62.5 + 96.3 + 53.3		—	—	—	—	—	—	—	—	—	—	9.3 III	of Tawu.	
	Yushan		ep 04 27 30.0		—	—	—	—	—	—	—	—	—	—	20.0 0	22.3 N.	
	Hsinkong		ip 04 27 35.3 + 16.3 + 7.8 + 23.0		167	222	126	1.7	1.7	1.1	10.2 I	121.2 E.	—	—	—		
	Tainan		p 04 27 41.6	? - 8.0 + 78.0	316	149	—	6.0	6.0	—	16.9 I	(S)	—	—	—		
	Alishan		ip 04 27 42.4 + 18.3 - 7.0 + 6.1	—	—	—	—	—	—	—	—	—	—	—	20.7 I	h 10	
	Penhu		p 04 27 44.7	—	—	—	—	—	—	—	—	—	—	—	20.3 0		
	Hwalien		ip 04 27 49.4	—	—	—	68	82	48	3.0	2.1	1.7	40.1 I	—	—		
	Taichung		p 04 27 55.5	—	—	—	—	—	—	—	—	—	—	—	21.3 0		
	Hsinchu		ep 04 28 05.0	—	—	—	—	—	—	—	—	—	—	—	32.5 0		
	Ilan		ep 04 28 05.2	—	—	—	127	107	—	2.0	2.0	—	30.8 0	—	—		
	Kaohsiung		p 04 28 07.0	—	—	—	—	—	—	—	—	—	—	—	11.2 I		
	Taipei		p 04 28 07.3	—	—	—	—	—	—	—	—	—	—	—	36.4 0		
6	Taitung	17	ip 07 58 11.1 + 2.5 + 6.2 + 33.3	—	—	—	—	—	—	—	—	—	—	—	8.3 III		
	Henchung		ep 07 58 12.3	—	—	—	—	—	—	—	—	—	—	—	11.0 I	70Km SE.	
	Hsinkong		ip 07 58 17.2 + 3.5 + 1.2 + 8.1	186	210	149	1.6	1.6	2.2	9.8 I	of	—	—	—			
	Kaohsiung		p 07 58 22.4	—	—	—	—	—	—	—	—	—	—	—	14.3 I	Taitung.	
	Alishan		ep 07 58 25.9	—	—	—	—	—	—	—	—	—	—	—	20.7 I	22.3 N.	
	Penhu		p 07 58 28.9	—	—	—	—	—	—	—	—	—	—	—	21.6 0	121.7 E.	
	Taichung		p 07 58 35.9	—	—	—	—	—	—	—	—	—	—	—	25.2 0	H 30	
	Hwalien		p 07 58 41.3 - 10.0 + 12.0 - 6.0	123	108	66	2.7	2.6	2.6	22.9 I	—	—	—	—	—		
	Hsinchu		ep 07 58 50.0	—	—	—	—	—	—	—	—	—	—	—	35.5 0	(S)	
	Ilan		ep 07 58 50.7	—	—	—	—	—	—	—	—	—	—	—	29.7 0		
	Taipei		ep 07 58 50.7	—	—	—	—	—	—	—	—	—	—	—	37.8 0		
7	Tawu	17	p 08 25 21.7	—	—	—	—	—	—	—	—	—	—	—	—	III	
	Henchung		ep 08 25 23.9	—	—	—	—	—	—	—	—	—	—	—	3.3 I	22.3 N.	
	Taitung		p 08 25 24.3 + 97.5 + 158.8 + 353.3	—	—	—	—	—	—	—	—	—	—	—	7.1 IV	121.2 E	
	Hsinkong		ip 08 25 28.8 + 53.5 + 34.4 + 47.6	6000	745	311	2.5	2.5	2.2	9.8 II	35km E.	—	—	—	—		

No.	station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity	Epicenter & Remarks			
					N	E	Z	N	E	Z	N	E	Z						
	Yushan		ep	08 25 30.0	h. m. s.	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	s	s	s	20.0	0	of	
	Kaohsiung		p	08 25 36.0	—	—	—	—	—	—	—	—	—	—	—	11.5	I	Tawu.	
	Alishan		ip	08 25 39.3 + 48.8 - 14.1 + 30.5	427	479	—	—	—	—	—	—	—	—	—	20.7	I	3 houses	
	Hwalien		p	08 25 45.5 + — + — + —	256	271	92	2.2	3.0	1.6	23.2	I	destroyed	—	—	—	—	—	
	Taichung		ip	08 25 48.5 + 17.0 - — + 35.0	277	136	188	8.1	2.2	2.2	23.4	I	h 40	—	—	—	—	—	
	Hsinchu		ep	08 25 55.6	—	—	—	—	—	—	—	—	—	—	—	33.6	0	—	
	Ilan		p	08 26 00.0	—	—	—	357	309	—	3.2	2.1	—	—	—	32.0	I	—	
	Taipei		ep	08 26 02.3	—	—	—	—	—	—	—	—	—	—	—	40.7	I	—	
	Penhu		ep	08 25 39.0	—	—	—	—	—	—	—	—	—	—	—	23.6	0	—	
8	Hwalien	17	ep	08 58 30.7	—	—	—	24	20	—	2.2	1.7	—	46.9	I	—	—	—	—
	Taitung		p	08 58 41.8	—	—	+ 60.0	—	—	—	—	—	—	—	—	7.2	II	58km SE.	
	Tawu		ip	08 58 42.9 - 35.4 - 19.0	?	494	491	—	—	—	—	—	—	—	—	2.9	0	of	
	Hsinkong		ep	08 58 50.9	—	—	—	—	—	—	—	—	—	—	—	9.9	0	Taitung.	
	Henchung		ep	08 58 52.0	—	—	—	—	—	—	—	—	—	—	—	I	22.4	N.	
	Kaohsiung		p	08 58 56.8	—	—	—	—	—	—	—	—	—	—	—	11.5	0	121.6 E.	
	Alishan		ep	08 59 00.0	—	—	—	—	—	—	—	—	—	—	—	12.9	0	(s)	
	Taichung		ep	08 59 12.1	—	—	—	—	—	—	—	—	—	—	—	20.1	0	h 10	
	Hsinchu		ep	08 59 20.8	—	—	—	—	—	—	—	—	—	—	—	32.0	0	—	
	Ilan		ep	08 59 24.4	—	—	—	—	—	—	—	—	—	—	—	30.6	0	—	
	Taipei		ep	08 59 25.6	—	—	—	—	—	—	—	—	—	—	—	38.7	0	—	
	Tainan		ep	08 59 55.3	—	—	—	—	—	—	—	—	—	—	—	15.3	0	—	
9	Tawu	17	ip	09 11 25.5 - 21.5 - 16.5	?	401	557	—	—	—	—	—	—	—	—	3.5	0	22.4 N.	
	Taitung		ip	09 11 26.0 + 22.5 + 92.5	+	186.7	—	—	—	—	—	—	—	—	—	6.9	III	121 $\frac{1}{2}$ E.	
	Hsinkong		ip	09 11 33.6 + 9.3 + 5.6 + 20.3	—	156	158	80	1.4	1.4	1.4	9.4	I	53km SE.	of	—	—	—	
	Henchung		ep	09 11 35.4	—	—	—	—	—	—	—	—	—	—	—	3.3	I	Taitung	
	Kaohsiung		p	09 11 36.1	—	—	—	—	—	—	—	—	—	—	—	16.1	I	(s)	
	Tainan		p	09 11 40.1	—	—	—	—	—	—	—	—	—	—	—	—	0	H 10	
	Alishan		ep	09 11 40.7	—	—	—	—	—	—	—	—	—	—	—	14.2	0	—	
	Hwalien		p	09 11 53.6	—	—	—	37	51	17	2.8	2.4	1.7	—	—	20.5	I	—	
	Taichung		ep	09 11 53.9	—	—	—	—	—	—	—	—	—	—	—	21.0	0	—	
	Hsinchu		ep	09 12 04.0	—	—	—	—	—	—	—	—	—	—	—	32.0	0	—	
	Ilan		ep	09 12 07.5	—	—	—	—	—	—	—	—	—	—	—	30.5	0	—	
	Taipei		ep	09 12 10.8	—	—	—	—	—	—	—	—	—	—	—	33.7	0	—	

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity	Epicenter & Remarks		
					N	E	Z	N	E	Z	N	E	Z					
10	Tawu	17	p	12 39 05.9 - 53.1	$\mu$	$\mu$	$\mu$	?	403	—	—	1.4	—	—	4.0	II	48km E.	
	Taitung		ip	12 39 07.7 + 22.5	—	—	—	?	153.3	—	—	—	—	—	—	6.0	III	of Tawu.
	Hsinkong		ip	12 39 12.7 + 13.9	$\mu$	$\mu$	$\mu$	—	—	—	—	—	—	—	—	9.8	0	22.2 E.
	Kaohsiung		p	12 39 19.7	—	—	—	—	—	—	—	—	—	—	—	12.0	I	123. N.
	Tainan		ep	12 39 20.0	—	—	—	—	—	—	—	—	—	—	—	15.7	I	h 20
	Yushan		ep	12 39 20.0	—	—	—	—	—	—	—	—	—	—	—	15.0	0	(s)
	Henchung		ep	12 39 22.3	—	—	—	—	—	—	—	—	—	—	—	4.4	I	—
	Alishan		ip	12 39 23.2 + 12.2	$\mu$	$\mu$	$\mu$	—	—	—	—	—	—	—	—	15.5	0	—
	Hwalien		p	12 39 28.0	—	—	—	—	46	56	37	1.5	1.5	1.3	—	28.9	I	—
	Taichung		ep	12 39 30.5	—	—	—	—	—	—	—	—	—	—	—	23.2	0	—
	Ilan		ep	12 39 45.3	—	—	—	—	—	—	—	—	—	—	—	33.4	0	—
	Hsinchu		ep	12 39 44.8	—	—	—	—	—	—	—	—	—	—	—	30.0	0	—
	Taipei		p	12 39 48.5	—	—	—	—	—	—	—	—	—	—	—	36.7	0	—
11	Henchung	17	ep	21 10 09.6	—	—	—	—	—	—	—	—	—	—	—	9.1	II	115km SE.
	Penhu		P	21 10 11.7	—	—	—	—	—	—	—	—	—	—	—	26.5	0	of
	Tawu		ip	21 10 14.5 - 16.5	$\mu$	$\mu$	$\mu$	?	495	340	—	—	—	—	—	16.0	I	Henchung.
	Taitung		ip	21 10 21.5 + 3.8	$\mu$	$\mu$	$\mu$	+ 2.5 + 11.7	—	—	—	—	—	—	—	10.0	III	21.4 N.
	Hsinkong		ep	21 10 28.5	—	—	—	—	130	149	—	1.7	1.7	—	—	20.5	0	121.4 E.
	Hwalien		ip	21 10 42.7 - 12.0	$\mu$	$\mu$	$\mu$	+ 6.0 - 3.0	190	241	162	3.3	2.2	2.2	—	34.9	I	h o
	Alishan		ip	21 10 44.0 + 6.1	$\mu$	$\mu$	$\mu$	+ 7.0	?	329	408	—	—	—	—	31.6	I	(r)
	Taichung		ep	21 10 45.5	—	—	—	—	—	—	—	—	—	—	—	30.4	0	—
	Taipei	</																

No.	Station	Date*	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			S~P	Intensity	Epicenter & Remark		
					N	E	Z	N	E	Z	N	E	Z					
	Yushan		p	h. m. S. 00 34 40.0 + 37.5	μ	μ	μ	μ	μ	μ	s	s	s	m s	20.0	III		
	Aliahan		ip	00 34 43.2 + 40.2 - 14.1 + 73.2	—	—	—	—	—	—	—	—	—	—	23.2	III		
	Hsinchu		ep	00 34 45.8	—	—	—	—	—	—	—	—	—	—	38.4	O		
	Henchung		ep	00 34 49.7	—	—	—	—	—	—	—	—	—	—	—	III		
	Taipei		ip	00 34 50.0 + 30.0 ± 0 + 51.3	449	350	117	1.2	1.3	3.2	—	—	—	—	—	O		
	Ilan		ip	00 34 52.8 + 41.0 + 26.0 + 59.0 -	565	502	348	2.3	2.3	2.1	35.2	II	—	—	—			
	Penhu		p	00 34 40.0 + 37.5	—	—	—	—	—	—	—	—	—	—	31.7	II		
13	Taipei	18	p	06 50 49.2	—	—	—	—	175	590	17.0	18.0	11	15.0	0	Montana.		
	Hwalien		ep	06 50 53.6	—	—	—	—	—	—	—	—	—	15	47.2	0		
	Tawu		p	06 51 17.1	—	—	—	—	23	48	21.0	21.5	14	13.2	0	U. S. A.		
	Tainan		ep	06 55 06.4	—	—	—	—	—	—	—	—	—	—	—	0		
	Hsinkong		p	06 56 00.0	—	—	—	—	—	—	—	—	—	—	—	0		
	Taichung		e	07 01 36.2	—	—	—	—	—	—	—	—	—	—	—	0		
	Alishan		e	07 13 14.7	—	—	—	—	—	—	—	—	—	—	—	0		
	Taitung		e	07 25 ?	—	—	—	—	—	—	—	—	—	—	—	0		
14	Hsinkong	19	ep	07 08 53.8	—	—	—	—	—	—	—	—	—	—	21.9	0	150km	
	Tawu		ep	07 08 41.8 + ? +	—	308	94	193	—	—	2.1	1.5	2.3	18.6	0	ESE. of		
	Taitung		p	07 08 45.2	—	—	—	—	—	—	—	—	—	—	12.0	0	Henchung	
	Kaohsiung		ep	07 09 00.0	—	—	—	—	—	—	—	—	—	—	—	0	21.6 N.	
	Alishan		ep	07 09 00.7	—	—	—	—	—	—	—	—	—	—	30.0	I	122.1 E.	
	Tainan		ep	07 09 01.9	—	—	—	—	—	—	—	—	—	—	19.5	I	h 15	
	Henchung		ep	07 09 10.4	—	—	—	—	—	—	—	—	—	—	11.6	II	(m)	
	Hwalien		ip	07 09 11.2 - 2.0 + 7.0 - 7.0	47	68	40	2.2	2.2	2.0	33.8	I	—	—	—	0		
	Taichung		ep	07 09 16.0	—	—	—	—	—	—	—	—	—	—	44.4	0	—	
	Taipei		ep	07 09 24.4	—	—	—	—	—	—	—	—	—	—	45.3	0	—	
	Hsinchu		ep	07 09 37.0	—	—	—	—	—	—	—	—	—	—	36.0	0	—	
	Ilan		ep	07 10 05.5	—	—	—	—	—	—	—	—	—	—	36.6	0	—	
15	Hwalien	24	p	21 40 07.6	—	—	—	—	—	—	—	—	—	—	—	—	0	Solomon
	Ilan		ep	21 40 11.1	—	—	—	—	—	—	—	—	—	6	19.1	0	Is.	
	Taipei		ep	21 40 11.9	—	—	—	—	—	—	—	—	—	7	36.0	0	10½ S.	
	Tawu		p	21 41 00.0	—	—	—	—	—	—	—	—	—	—	—	0	161 E.	

No.	station	Date	Phase (G. M. T.)	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period.			P-S	Intensity	Epicenter & Remarks		
					N	E	Z	N	E	Z	N	E	Z					
16	Han	27	ep	23 58 25.8	h. m. s.	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	$\mu$	s	s	s	m s	32.7 0	(d)	
	Taipei		ep	23 58 30.0		—	—	—	—	—	—	—	—	—	—	6	41.0 0	equint
	Taichung		ep	23 58 26.3		—	—	—	—	—	—	—	—	—	—	—	— 0	alluvial
	Hwalien		ep	23 58 11.3		—	—	—	—	—	—	—	—	—	—	8	15.0 0	agitated
17	Taipei	29	ep	17 14 15.0		—	—	—	—	—	—	—	—	—	—	4	— 0	(d)
	Hsinchu		ep	17 15 39.4		—	—	—	—	—	—	—	—	—	—	2	12.0 0	several
	Tainan		ep	17 17 21.2		—	—	—	—	—	—	—	—	—	—	2	30.0 0	starting
	Taichung		ep	17 17 59.4		—	—	—	—	—	—	—	—	—	—	—	— 0	upset
	Alishan		ep	17 17 48.1		—	—	—	—	—	—	—	—	—	—	3	12.0 0	swell
	Tawu		p	17 18 19.0		—	—	—	44	92	—	9.6	6.7	—	—	—	— 0	swell

### Major Earthquakes Which Occurred in September, 1959.

No.	Station	Date	Phase (G.M.T.)	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remarks
				N	E	Z	N	E	Z	N	E	Z			
1	Henchung	05	ep 06 12 44.7	—	—	—	—	—	—	—	—	—	—	0	Halmahera
	Tawu		p 06 12 49.9	—	—	—	—	—	—	—	—	—	4	04.5	Is. region
	Hwalien		ep 06 13 09.1	—	—	—	—	—	—	—	—	—	—	0	(d)
2	Hwalien	12	ep 02 00 46.5	—	—	—	—	—	—	—	—	—	—	0	Bismack Sea
	Tawu		p 02 01 06.8	—	—	—	—	—	—	—	—	—	—	0	(d)
3	Henchung	13	p 22 45 45.5	—	—	—	—	—	—	—	—	—	—	0	Halmahera Is.
	Hwalien		ep 22 46 09.1	—	—	—	—	—	—	—	—	—	—	0	region.
	Taipei		ep 22 46 15.1	—	—	—	—	—	—	—	—	—	4	12.4	(d)
4	Tawu	14	p 14 21 46.5	—	—	—	—	—	—	—	—	—	—	0	Kermadec
	Taipei		p 14 21 48.3	—	—	—	—	—	—	—	—	—	9	23.6	Is. region
	Ilan		eP 14 21 54.9	—	—	—	—	—	—	—	—	—	10	14.1	(d)
	Hwalien		eP 14 22 00.8	—	—	—	—	—	—	—	—	—	—	0	
	Taichung		eP 14 22 31.5	—	—	—	—	—	—	—	—	—	—	0	
	Tainan		eP 14 22 32.6	—	—	—	—	—	—	—	—	—	—	0	
5	Tawu	14	p 17 42 17.5	—	—	—	—	—	—	—	—	—	—	0	ditto.

No.	station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity & Remarks	
					N	E	Z	N	E	Z	N	E	Z			
6	Iilan	15	p	04 53 37.6	h. m. S	μ	μ	μ	μ	μ	μ	—	—	—	12.9 0	70Km NE. of
	Taipei		ip	04 53 39.7	—	—	—	—	—	—	—	—	—	—	14.0 0	
	Hwalien		ep	04 53 44.0	—	—	—	—	61	86	—	1.1	1.1	0.49 I		Hwalien.
	Yushan		ep	04 53 52.6	—	—	—	—	—	—	—	—	—	—	18.4 0	24.3N122.1E
	Taichung		p	04 53 55.3	—	—	—	—	—	—	—	—	—	—	18.9 0	h 0
	Hsinkong		ep	04 53 55.6	—	—	—	—	34	33	—	0.3	0.3	20.0 I	(S)	
	Alishan		ep	04 53 56.0	—	—	—	—	—	—	—	—	—	—	21.4 0	
	Taitung		p	04 53 57.2	—	—	—	—	—	—	—	—	—	—	25.9 0	
	Tawu		p	04 54 08.0	—	—	—	—	—	—	—	—	—	—	27.1 0	
7	Tawu	25	ip	02 37 03.2	—	302.5 +	307.6	?	490	632	422	1.8	4.0	5.1	06.1 III	50Km E of
	Alishan		ip	02 37 05.0	—	5.1 +	2.8 -	3.0	—	—	—	—	—	—	21.2 III	Henchung.
	Henchung		ip	02 37 06.2	+ 74.7	213.6 +	334.6	19300	8250	10600	—	—	—	—	06.6 IV	22.05 N.
	Taitung		ip	02 37 08.0	—	331.1 +	20.0 -	66.7	—	—	—	—	—	—	06.1 III	121.2 E.
	Yushan		p	02 37 10.0	—	—	—	—	—	—	—	—	—	—	20.7 III	h 10
	Hsinkong		ip	02 37 10.5	—	117.5 -	10.0	?	16000	14250	—	—	1.8	1.8	15.3 III	(r)
	Kaohsiung		p	02 37 15.9	—	—	—	—	—	—	—	—	—	—	14.3 III	
	Tainan		p	02 37 18.4	-	45.0 +	24.7	122.4	1000	14000	7200	—	4.0	4.0	21.8 III	
	Hwalien		ip	02 37 25.8	-	62.0 -	21.0 -	47.0	2600	4400	5500	2.5	1.6	2.7	30.4 II	
	Taichung		ip	02 37 28.8	-	6.3 +	3.0 -	49.0	625	662	—	1.5	2.1	—	28.8 II	
	Penghu		p	02 37 29.3	+ 55.0	- 12.5	—	750	555	—	2.3	2.3	—	—	25.9 0	
	Iilan		ip	02 37 37.1	-	26.0 +	27.0	92.0	693	752	555	1.8	1.8	25	35.1 II	
	Taipei		ip	02 37 40.0	-	24.7 +	0	27.0	350	—	—	2.5	—	—	40.0 II	
	Hsinchu		ep	02 37 45.1	—	—	—	—	850	775	—	1.3	1.2	—	24.7 I	
8	Henchung	25	ep	03 01 06.1	—	—	—	—	368	130	—	—	—	—	09.3 I	22.05 N.
	Tawu		ip	03 01 30.7	-	25.3 +	24.1 -	58.5	—	—	—	—	—	—	07.2 0	121½ E.
	Taitung		ep	03 01 36.2	—	—	—	—	—	—	—	—	—	—	10.4 0	h 200
	Tainan		ep	03 01 42.0	—	—	—	—	—	—	—	—	—	—	21.1 0	(m)
	Kaohsiung		p	03 01 45.3	—	—	—	—	—	—	—	—	—	—	14.4 0	
	Alishan		ep	03 01 47.3	—	—	—	—	—	—	—	—	—	—	21.0 0	
	Hwalien		ep	03 01 57.0	—	—	—	—	33	32	28	20	20	04	24.6 I	
	Taichung		ep	03 01 59.8	—	—	—	—	—	—	—	—	—	—	—	0
	Iilan		ep	03 02 03.7	—	—	—	—	—	—	—	—	—	—	35.0 0	

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity & Remarks	
					N	E	Z	N	E	Z	N	E	Z			
	Hsinchu		ep	03 02 07.0	h. m. s.	μ	μ	μ	μ	μ	μ	—	—	—	34.7 0	
	Hsinkong		p	03 ? ?	—	—	—	—	—	—	—	—	—	—	? I	
9	Taipei	28	ep	04 22 18.1	—	—	—	—	—	—	—	—	—	—	—	1 15.5 0 (d)
	Iilan		ep	04 22 26.3	—	—	—	—	—	—	—	—	—	—	—	0
	Taichung		ep	04 22 33.8	—	—	—	—	—	—	—	—	—	—	—	0
	Hwalien		ep	04 22 46.0	—	—	—	—	—	—	—	—	—	—	—	0



# 地震季報

第六卷 第四號

中華民國四十八年十、十一、十二月

## THE SEISMOLOGICAL BULLETIN

October–December 1959.

VOL. VI No. 4

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64 KUNG YUAN ROAD, TAIPEI, TAIWAN, CHINA

## GENERAL ASPECT OF EARTHQUAKES

October to December, 1959

In October, the number of earthquakes was recorded ninety-three. Among them six shocks were classified as felt earthquakes and the remains were unfelt ones. The felt earthquakes in this month were all classified as local earthquakes.

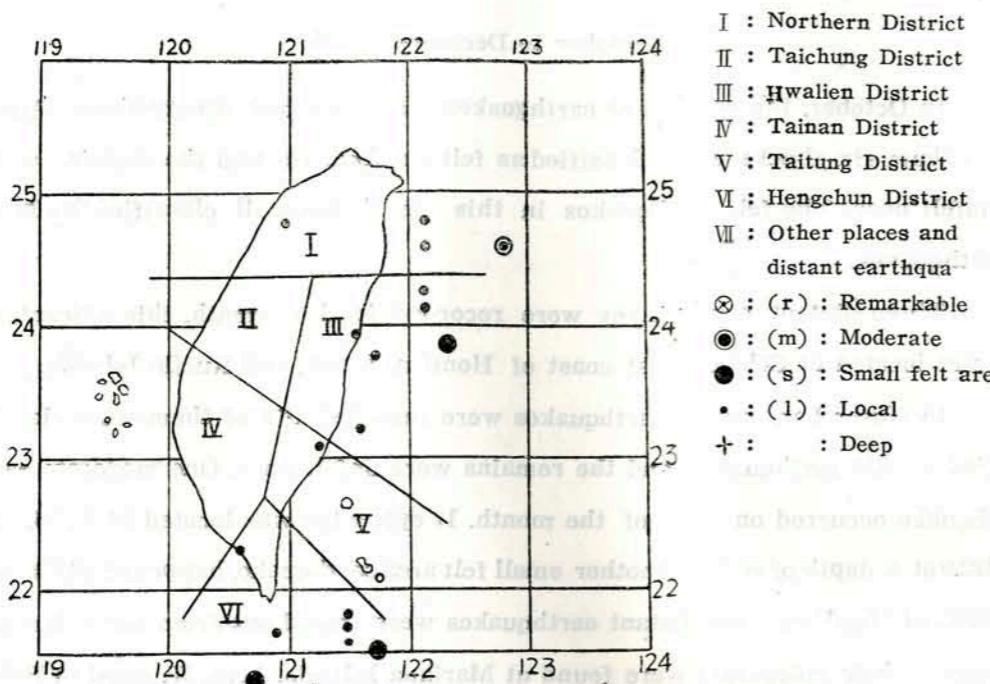
Three distant earthquakes were recorded in this month, their epicenters were located at Celebes, east coast of Honshu, Japan, and Kurile Islands.

In November, ninety earthquakes were recorded. Six of them were classified as felt earthquakes, and the remains were unfelt ones. One moderate earthquake occurred on 23rd of the month. Its epicenter was located at N. 24.6 E. 122.9 at a depth of 60 km. Another small felt area earthquake, happened at 120 km ESE. of Hwalien. Four distant earthquakes were traced out from our seismograms. Their epicenters were found at Mariana Islands, Java, W. coast of Hokkaido, Japan and N. coast of New Guinea.

In December, there were seventy-five earthquakes recorded in Taiwan. Among them seven shocks were classified as felt earthquakes, and the others were unfelt ones.

Two felt earthquakes were classified as small felt area earthquakes, and five earthquakes were classified as local ones. The epicenters of two distant earthquakes, were extrapolated at and S. coast of Mindanao.

## Epicenters of Felt Earthquakes in October to December 1959.



Number of earthquakes classified according to its magnitude and districts October to December 1959.

Classification Magnitudes Districts	Number of felt earthquakes					Number of unfelt earthquakes	Total
	Remarkable	Moderate	Small felt area	Local	Total		
Northern District	—	1	—	2	3	31	34
Taichung "	—	—	—	—	—	16	16
Hualien "	—	—	1	5	6	65	71
Tainan "	—	—	—	—	—	2	2
Taitung "	—	—	1	2	3	40	43
Hengchun "	—	—	1	6	7	67	74
Other places "	—	—	—	—	—	18	18
Total	—	1	3	15	19	239	258

## Felt earthquakes in the month of October to December, 1959

No.	Month	P. (G. M. T.)	Magnitude	Epicenter	Latitude	Longitude	Depth
131	Oct.	d h m 3 15 00	1	Near 50 Kms SE. of Ilan.	—	—	20
132	"	11 00 08	1	52Kms ESE. of Hengchun.	—	—	20
133	"	11 01 02	1	Near Hsingkong.	—	—	—
134	"	11 01 09	1	35 Kms SSE. of Hengchun.	—	—	20
135	"	23 04 50	1	Near 55 Kms ESE. of Hengchun.	—	—	20
136	"	27 08 39	1	Near 18 Kms SSE. of Hsinchu.	—	—	10
137	Nov.	9 01 32	1	30 Kms SSE. of Hualien.	—	—	20
138	"	12 18 32	1	34 Kms ENE. of Ilan.	—	—	60
139	"	13 02 37	1	22 Kms ENE. of Hsinkong.	—	—	40
140	"	23 14 44	s	Near 120 Kms ESE. of Hualien.	23°8	122°2	10
141	"	23 21 05	r	120 kms ESE. of Ilan.	24°6	122°9	60
142	"	25 16 01	1	Near Hsinkong.	—	—	—
143	Dec.	2 06 22	1	52kms ENE. of Hualien.	—	—	20
144	"	16 06 48	1	27 kms W. of Tawu.	—	—	0
145	"	17 02 31	s	Near 63 kms S. of Hengchun.	21°5	120°8	0
146	"	17 02 41	s	105 kms ESE. of Hengchun.	21°8	121°7	70
147	"	17 14 01	1	Near Hualien.	—	—	—
148	"	19 22 24	1	Near 47 kms ESE. of Hengchun.	—	—	20
149	"	20 05 47	1	75 kms SSE. of Hengchun.	—	—	20

## Unfelt Earthquakes in the Month of October to December, 1959.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
1164	Oct.	d. h. m. 1 01 09	Hengchun district.	1175	"	d. h. m. 4 03 33	Near Taitung.
1165	"	1 04 36	Near Taitung.	1176	"	4 13 34	Hengchun district.
1166	"	2 02 26	Near Hengchun.	1177	"	4 15 01	Taichung district.
1167	"	2 10 22	Near Tawu	1178	"	5 00 49	"
1168	"	2 11 48	Northern district.	1179	"	5 02 16	Near Hualien.
1169	"	2 13 24	Near 15kms SW. of Tawu.	1180	"	6 02 50	Hualien district.
1170	"	2 19 26	Northern district.	1181	"	6 11 58	"
1171	"	3 06 42	Near Taitung.	1182	"	6 15 11	110kms ENE. of Ilan.
1172	"	3 22 34	Hengchun district.	1183	"	6 20 02	Near Hengchun.
1173	"	4 00 48	Near 45kms ENE. of Hengchun.	1184	"	6 21 21	Near 83kms NE. of Taipei.
1174	"	4 03 18	Near Alishan.	1185	"	7 00 05	Northern district.

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
1186	Oct.	7 03 28	"	1221	Oct.	23 02 07	Tainan district.
1187	"	7 11 17	"	1222	"	23 04 52	Near Hsinkong.
1188	"	7 12 31	"	1223	"	24 03 44	60kms ESE. of Alishan.
1189	"	8 03 46	Near Hwalien.	1224	"	24 07 35	Taichung district
1190	"	8 07 01	Near 36kms ESE. of Taitung.	1225	"	24 07 46	Near Hsinkong.
1191	"	8 18 49	Hwalien district.	1226	"	25 01 09	About 12kms W. of Hsinkong
1192	"	8 18 27	Near Hwalien.	1227	"	25 03 21	About 66kms S. of Hwalien.
1193	"	9 19 51	26kms NNE. of Hwalien.	1228	"	25 14 23	Northern district.
1194	"	10 01 59	Near Hwalien.	1229	"	26 04 20	About 117kms ESE. of Ilan.
1195	"	10 14 13	Hengchun district.	1230	"	26 07 39	Near E. coast of Honshu Japan.
1196	"	10 23 22	"	1231	"	26 15 07	Near Hsinkong.
1197	"	11 14 01	Near Hengchun	1232	"	27 15 13	"
1198	"	11 17 54	"	1233	"	26 21 04	90kms ESE. of Ilan.
1199	"	12 02 09	"	1234	"	16 23 13	Near Hwalien.
1200	"	13 04 59	Near Hwalien.	1235	"	26 05 50	"
1201	"	13 11 17	Northern district.	1236	"	27 06 59	Kulile Islands.
1202	"	14 08 05	Near Hengchun.	1237	"	27 08 08	Near Hengchun.
1203	"	14 08 43	Near 106kms ENE. of Ilan.	1238	"	27 09 16	Hengchun district.
1204	"	14 09 58	Taichung district.	1239	"	28 03 09	Hwalien district.
1205	"	14 09 59	"	1240	"	28 03 22	Near Hwalien.
1206	"	14 15 00	Hwalien district.	1241	"	28 04 45	Near Tawu.
1207	"	15 06 20	Celebes	1242	"	29 11 09	Hengchun district
1208	"	15 13 52	Hwalien district.	1243	"	29 13 48	"
1209	"	18 03 42	98kms ESE. of Hwalien.	1244	"	29 18 47	Near Hsinkong
1210	"	18 06 38	Taichung district.	1245	"	29 21 03	Near Hwalien.
1211	"	18 07 13	Northern. district	1246	"	31 05 27	"
1212	"	18 18 41	Near Taitung.	1247	"	31 07 28	"
1213	"	19 07 19	Near Hsinkong.	1248	"	31 09 56	"
1214	"	19 08 32	"	1249	"	31 17 38	51Kms SSE. of Ilan
1215	"	20 02 32	Hengchun district.	1250	Nov.	1 05 21	Near Hsinkong
1216	"	20 05 02	"	1251	"	1 07 15	About 20Kms NNE. of Hsinkong
1217	"	20 05 08	"	1252	"	1 07 57	About 38Kms ESE. of Hengchun
1218	"	20 16 42	"	1253	"	1 13 24	Hengchun district
1219	"	22 14 08	Near Taitung	1254	"	1 13 25	About 22Kms WSW. of Hsinkong
1220	"	22 18 03	Near Tawu.	1255	"	2 01 00	Hengchun district

No.	Month	P. (G. M. T.)	Epicenter	No.	Month	P. (G. M. T.)	Epicenter
1256	Nov.	2 05 18	About 14Kms NE. of Tawu.	1291	Nov.	15 10 52	Hengchun district.
1257	"	2 08 48	Mariana Islands	1292	"	15 17 31	faint (d.)
1258	"	2 10 30	Taitung district	1293	"	15 21 12	About 92kms ENE. of Hwalien.
1259	"	2 19 08	Near Hwalien	1294	"	26 01 54	Taichung district.
1260	"	2 19 52	Aohut 66Kms E. of Hongchun	1295	"	16 04 05	Near Hengchun.
1261	"	2 20 11	Northern district	1296	"	16 10 41	Near Hwodien
1292	"	3 01 54	Hengchun district	1297	"	16 11 53	Hengchun district.
1263	"	3 06 38	Northern district	1298	"	19 07 29	Near 40kms SW. of Hwalien.
1264	"	3 09 46	South of Gava	1299	"	19 10 10	Nesa Hwalien.
1265	"	3 09 52	Hwalien district	1300	"	19 11 15	Near N. coast of new Guinea.
1266	"	4 09 37	Near Alishan.	1301	"	19 17 07	Near Hwalien.
1267	"	4 17 34	"	1302	"	20 14 51	Northern district.
1268	"	4 17 36	"	1303	"	21 03 21	Hengchun district.
1269	"	4 18 07	"	1304	"	21 10 53	"
1270	"	4 22 09	About 45kms ENE. of Taitung.	1305	"	22 03 49	Near Hwalien.
1271	"	4 22 59	About 45kms ESE. of Tawu.	1306	"	22 08 39	Near 38kms SSE. of Hwalien.
1272	"	5 15 01	Northern district.	1307	"	22 14 27	About 70kms ENE of Hengchun.
1273	"	6 14 02	About 138kms ENE. of Hwalien.	1308	"	22 21 09	Northern district.
1274	"	6 22 55	Hwalien district.	1309	"	22 21 11	"
1275	"	7 23 47	Northern district.	1310	"	23 11 00	Near Hwalien.
1276	"	8 04 58	Hengchun district.	1311	"	93 16 15	"
1277	"	8 05 01	"	1312	"	23 16 56	"
1278	"	8 05 24	"	1313	"	23 17 38	"
1279	"	8 14 00	Near W. coast of Hokkaido.	1314	"	23 17 43	"
1280	"	8 20 46	Hengchun district.	1315	"	23 18 04	Northern district.
1281	"	9 06 14	"	1316	"	23 18 43	Taichung district.
1282	"	9 12 51	Near Hwalien.	1317	"	23 14 06	Near 113kms SE. of Hwalien.
1283	"	10 20 14	Hengchun district.	1318	"	23 14 14	"
1284	"	11 18 32	Taichung district.	1319	"	23 14 32	"
1285	"	12 06 57	"	1320	"	23 21 20	120kms ESE. of Ilan.
1286	"	13 10 56	Near Hengchun.	1321	"	24 04 27	Northern district.
1287	"	13 11 53	Hengchun district.	1322	"	24 14 59	Hengchun district.
1288	"	14 20 58	Near Hwalien.	1323	"	26 07 27	Uncertain (d.)
1289	"	14 22 00	Near Hsinkong.	1324	"	26 23 27	"
1290	"	15 07 29	Taitung district.	1325	"	27 04 26	Near Hsinkong.

No.	Month	P. (G M. T.)	Epicenter	No.	Month	P. (G M. T.)	Epicenter
1326	Dec.	28 03 19	Uncertain (d.)	1363	Dec.	27 04 43	Hengchun district.
1327	"	29 01 10	Near Hwalien.	1364	"	17 05 26	"
1328	"	29 15 57	110kms E. of Ilan.	1365	"	17 05 45	49kms S. of Hwalien.
1329	"	29 16 39	Near 36kms ESE. of Ilan.	1366	"	17 13 55	Near Tawu.
1330	"	29 22 52	Hwalien district.	1367	"	17 19 04	Hengchun district.
1331	"	30 13 38	Hengchun district.	1368	"	17 21 02	Near Tawu.
1332	"	1 01 42	Near Hwalien.	1369	"	18 13 10	Taitung district.
1333	"	1 16 14	(d.)	1370	"	18 13 41	Hwalien district.
1334	"	1 17 28	Taitung district	1371	"	19 01 18	"
1335	"	2 07 02	Near Hengchun.	1372	"	19 05 41	Near Hengchun.
1336	"	2 08 52	Near Tawu.	1373	"	19 07 49	Hengchun district.
1337	"	2 09 39	Celebes.	1374	"	19 08 04	Taitung district.
1338	"	2 14 47	Near Hsinkong.	1375	"	19 08 20	Hengchun district.
1339	"	2 15 22	Hengchun district.	1376	"	19 10 01	Hwalien district
1340	"	2 16 31	"	1377	"	19 16 24	"
1341	"	5 05 02	Northern district.	1378	"	20 09 56	Hengchun district.
1342	"	5 05 11	Near Hsinkong.	1379	"	21 11 02	Near 82kms ESE. of Taitung.
1343	"	5 10 50	Near Hwalien.	1380	"	21 11 52	(d)
1344	"	7 05 33	"	1381	"	22 08 50	Near Tainan.
1345	"	7 13 51	Hwalien district.	1382	"	22 21 15	Near 24kms SSE. of Hengchun.
1346	"	7 21 53	Near Hsinkong.	1383	"	23 01 08	Near Hsinkong.
1347	"	8 01 13	Near 130kms ENE. of Hwalien.	1384	"	23 07 35	90kms E. Ilan.
1348	"	10 02 35	Near Hwalien.	1385	"	23 09 11	Hengchun district.
1349	"	12 08 14	Near Alishan.	1386	"	23 15 21	Near Hengchun.
1350	"	12 22 23	Near Taitung.	1387	"	24 02 00	Hwalien district.
1351	"	14 05 16	Northern district.	1388	"	24 13 48	70kms NE. of Hsinkong.
1352	"	14 06 48	Taitung district.	1389	"	24 15 44	40kms NE. of Hsinkong.
1353	"	14 06 52	"	1390	"	24 17 12	Hwalien district.
1354	"	14 07 55	Near Lanyu.	1391	"	25 13 43	47kms NNW. of Taitung.
1355	"	14 18 02	Near S. coast of Mindanao.	1392	"	26 03 54	Near Hwalien.
1356	"	14 23 41	(d)	1393	"	27 16 07	(d)
1257	"	15 05 14	Hengchun district.	1394	"	28 05 46	Near Hwalien
1358	"	16 00 15	Near Tawu.	1395	"	28 07 39	faint.
1359	"	16 04 04	Northern district.	1396	"	29 10 29	Near Tawu.
1360	"	16 06 51	27kms W. of Tawu.	1397	"	29 14 45	48kms ESE. of Ilan.
1361	"	16 11 00	16kms WSW. of Tawu.	1398	"	30 05 16	Hengchun district.
1362	"	17 04 29	Hengchun district.	1399	"	31 09 01	"

### Major Earthquakes which occurred in October 1959

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity	Epicenter & Remarks		
					N	E	Z	N	E	Z	N	E	Z					
1	Hengchun	15	ep	06 20 32.6	—	μ	—	μ	—	μ	—	μ	—	—	—	0	Celebes N <sup>1</sup> / <sub>2</sub> E120 <sup>1</sup> / <sub>2</sub>	
	Tawu		P	20 39.1	—	—	—	—	—	—	—	—	—	—	—	04 11.1	0	
	Taitung		ep	20 39.6	—	—	—	—	—	—	—	—	—	—	—	7.0	0	
	Taipei		ep	20 44.3	—	—	—	—	—	—	—	—	—	—	—	04 49.0	0	
	Tainan		ep	20 45.3	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Ilan		ep	20 46.2	—	—	—	—	—	—	—	—	—	—	—	03 51.8	0	
	Hsinkong		P	20 48.5	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Hsinchu		ep	20 49.0	—	—	—	—	—	—	—	—	—	—	—	05 00.0	0	
	Yushan		ep	20 50.6	—	—	—	—	—	—	—	—	—	—	—	04 5.8	0	
	Alishan		ep	20 52.0	—	—	—	—	—	—	—	—	—	—	—	04 17.6	0	
	Taichung		ep	20 52.4	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Hwalien		P	20 54.2	—	—	—	—	—	—	—	—	—	—	—	—	0	
2	Hsinchu	26	ep	07 39 44.0	—	—	—	—	—	—	—	—	—	—	—	07 30.0	0	Near E. coast of Honshu Japan
	Taipei		P	40 07.8	—	—	—	—	—	—	—	—	—	—	—	07 57.3	0	
	Taichung		ep	40 14.0	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Hwalien		P	40 16.6	—	—	—	—	—	—	—	—	—	—	—	04 29.1	0	
	Tainan		ep	40 19.9	—	—	—	—	—	—	—	—	—	—	—	04 36.6	0	
	Taitung		ep	40 24.0	—	—	—	—	—	—	—	—	—	—	—	04 11.8	0	
	Alishan		ep	40 25.0	—	—	—	—	—	—	—	—	—	—	—	04 16.8	0	
	Ilan		ep	40 25.8	—	—	—	—	—	—	—	—	—	—	—	04 1.6	0	
	Tawu		P	40 26.6	—	—	—	—	—	—	—	—	—	—	—	04 18.4	0	
3	Taipei	27	P	06 59 10.5	—	—	—	—	—	—	—	—	—	—	—	09 13.6	0	Kuiale Islands
	Taichung		ep	59 19.1	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Hsinkong		ep	59 25.0	—	—	—	—	—	—	—	—	—	—	—	05 16.4	0	
	Alishan		ep	59 28.0	—	—	—	—	—	—	—	—	—	—	—	05 16.1	0	
	Taitung		ep	59 29.6	—	—	—	—	—	—	—	—	—	—	—	05 3.0	0	
	Hwalien		P	59 32.5	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Tainan		ep	59 32.7	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Tawu		P	59 35.9	—	—	—	—	—	—	—	—	—	—	—	05 21.1	0	
	Hengchun		ep	59 37.0	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Ilan		ep	59 39.2	—	—	—	—	—	—	—	—	—	—	—	—	0	

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity & Remarks	Epicenter & Remarks	
					N	E	Z	N	E	Z	N	E	Z				
1	Hwalien	2	P	08 48 38.2	h. m. s.	μ	μ	μ	μ	μ	μ	s	s	s	m s	0	Mariana Islands region
	Toipei		ep	48 48.8	—	—	—	—	—	—	—	—	—	—	—	0	
	Alishan		ep	48 56.0	—	—	—	—	—	—	—	—	—	—	—	0	
	Ilan		ep	48 58.6	—	—	—	—	—	—	—	—	—	—	03 50.4	0	
	Tainan		ep	49 07.0	—	—	—	—	—	—	—	—	—	—	—	0	
	Hengchun		ep	49 16.2	—	—	—	—	—	—	—	—	—	—	—	0	
2	Hengchun	3	ep	09 46 00	—	—	—	—	—	—	—	—	—	—	—	0	South of gava.
	Tawu		ep	46 58.3	—	—	—	—	—	—	—	—	05 25.9	0			
	Taipei		ep	47 11.0	—	—	—	—	—	—	—	—	05 53.0	0			
	Tainan		ep	47 11.4	—	—	—	—	—	—	—	—	—	—	—	0	
	Hwalien		ep	47 17.0	—	—	—	—	—	—	—	—	—	—	—	0	
	Ilan		ep	47 20.0	—	—	—	—	—	—	—	—	05 42.8	0			
3	Tainan	8	ep	14 00 13.1	—	—	—	—	—	—	—	—	—	—	—	0	Near W. coast of Hokkaido
	Taipei		ep	00 18.9	—	—	—	—	—	—	—	—	08 10.1	0			
	Ilan		ep	00 21.1	—	—	—	—	—	—	—	—	—	—	—	0	
	Hwalien		P	00 32.6	—	—	—	—	—	—	—	—	05 30.2	0			
	Taichung		ep	00 41.1	—	—	—	—	—	—	—	—	—	—	—	0	
	Tawu		P	00 43.8	—	—	—	—	—	—	—	—	—	—	—	0	
	Alishan		ep	01 00	—	—	—	—	—	—	—	—	07 36.4	0			
4	Tawu	15	P	17 31 42.9	—	—	—	—	—	—	—	—	—	—	—	0	faint (d)
5	Taitung	19	ep	11 15 44.6	—	—	—	—	—	—	—	—	—	—	—	0	Near N. coast of newGuinea
	Hengchun		ep	15 51.6	—	—	—	—	—	—	—	—	—	—	—	0	
	Tawu		ep	15 55.7	—	—	—	—	—	—	—	—	05 33.6	0			
	Alishan		ep	16 00	—	—	—	—	—	—	—	—	05 39.6	0			
	Tainan		ep	16 00.4	—	—	—	—	—	—	—	—	—	—	—	0	
	Hwalien		P	16 00.5	—	—	—	—	—	—	—	—	—	—	—	0	
	Taipei		ep	16 05.2	—	—	—	—	—	—	—	—	—	—	—	0	
	Ilan		ep	16 06.3	—	—	—	—	—	—	—	—	04 48.2	0			
6	Yushan	23	ep	14 44 32.4	—	—	—	—	—	—	—	—	—	—	—	16.4	About 120 kms ESE of Hwalien E 122°2 N 23°8
	Hsinchu		ep	44 10.5	—	—	—	—	—	—	—	—	24.2	0			
	Hwalien		ip	44 20.9	—	2.9 +	2.9	—	80	101	—	2.3	2.5	—	9.1	0	

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity & Remarks	Epicenter & Remarks			
					N	E	Z	N	E	Z	N	E	Z						
6	Ilan	23	P	44 27.4	h. m. s.	μ	μ	μ	μ	μ	μ	134	202	107	1.7	2.1	1.7	16.1 I	
	Taipei		ep	44 33.8	—	—	—	—	—	—	—	—	—	—	—	—	19.4 0		
	Taitung		P	44 36.6	—	—	—	—	—	—	—	—	—	—	—	—	20.4 0		
	Taichung		P	44 36.9	—	—	—	—	—	—	—	—	—	—	—	—	—	0	
	Tawu		P	44 45.5	—	—	—	—	—	—	—	—	—	—	—	—	—	28.5 0	
	Alishan		P	44 51.9	—	—	—	—	—	—	—	—	—	—	—	—	—	18.9 0	
	Hengchun		ep	44 54.2	—	—	—	—	—	—	—	—	—	—	—	—	—	16.2 0	
	Tainan		ep	44 55.6	—	—	—	—	—	—	—	—	—	—	—	—	—	0	
7	Ilan	23	ip	21 05 54.5	—	12	—	68 + 158	748	583	234	1.7	1.7	1.8	12.8	II	120 kms ESE. of Ilan E 122°9 N 24°6		
	Hwalien		ip	05 55.7	—	17.8	—	5.4 + 8.1	225	267	—	—	—	—	—	—	17.2 II		
	Taipei		P	05 56.7	—	—	+	440	500	130	1.0	1.2	1.0	10	15.2 I				
	Alishan		ip	06 05.0	—	12.8	—	21.1	?	—	—	—	—	—	—	—	25.3 0		
	Taichung		ip	06 06.7	—	2	—	4 + 11	181	160	126	1.3	1.1	2.2	—	—	23.3 I		
	Yushan		ip	06 08.6	—	13	—	25	—	313	400	—	0.9	1.1	—	—	23.5 0		
	Hengchun		ep	06 24.9	—	—	—	—	—	—	—	—	—	—	—	—	35.1 0		
	Taitung		ip	06 12.4	—	—	—	—	—	—	—	—	—	—	—	—	27.1 0		
	Tawu		P	06 18.1	—	—	—	—	—	—	—	—	—	—	—	—	31.2 0		
	Tainan		ep	06 18.2	—	—	—	—	—	—	—	—	—	—	—	—	32.2 0		
	Penghu		P	06 50.9	—	—	—	—	—	—	—	—	—	—	—	—	35.0 0		
	Hsinchu		ep	07 03.0	—	—	—	—	—	450	533	—	1.1	1.0	—	19.8 I			
8	Tainan	26	ep	07 27 17.3	—	—	—	—	—	—	—	—	—	—	—	—	0	faint (d)	
	Taipei		ep	28 40.7	—	—	—	—	—	—	—	—	—	—	—	—	0		
9	Tainan	26	ep	23 27 40.1	—	—	—	—	—	—	—	—	—	—	—	—	0	uncertain (d)	
	Taipei		ep	17 08.4	—	—	—	—	—	—	—	—	—	—	—	—	0		
	Tawu		P	26 02.8	—	—	—	—	—	—	—	—	—	—	—	—	0		
10	Ilan	28	ep	03 19 50.7	—	—	—	—	—	—	—	—	—	—	—	—	02 50.0 0		
	Taichung		ep	22 50.0	—	—	—	—	—	—	—	—	—	—	—	—	0		
	Hwalien		23	01.2	—	—	—	—	—	—	—	—	—	—	—	—	0		
11	Tawu	1	P																

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P~S	Intensity	Epicenter & Remarks
					N	E	Z	N	E	Z	N	E	Z			
Hengchun	2	ep	h. m. s. 39 15.6	— μ μ μ μ μ μ s s s m s	—	—	—	—	—	—	—	—	—	04 9.1	O	
Tawu		ep	39 16.2 — 9.3 + 10.5 ?	—	—	—	—	—	—	—	—	—	—	04	10.4	O
Taitung		ep	39 18.5 —	—	—	—	—	—	—	—	—	—	—	04	13.6	O
Hsinkong		P	39 23.0 —	—	—	—	—	—	—	—	—	—	—	—	—	O
Tainan		ep	39 24.4 —	—	—	—	—	—	—	—	—	—	—	—	—	O
Yushan		ep	39 31.1 —	—	—	—	—	—	—	—	—	—	—	04	22.6	O
Alishan		ep	39 31.4 —	—	—	—	—	—	—	—	—	—	—	04	25.2	O
Taichung		ep	39 32.3 —	—	—	—	—	—	—	—	—	—	—	—	—	O
Hwalien		P	39 34.2 —	—	—	—	—	—	—	—	—	—	—	—	—	O
Taipei		ep	39 41.8 —	—	—	—	—	—	—	—	—	—	—	04	47.6	O
Ilan		ep	39 45.1 —	—	—	—	—	—	—	—	—	—	—	03	29.3	O
Hsinchu		ep	39 49.4 —	—	—	—	—	—	—	—	—	—	—	04	15.6	O
3	Tawu	14	P 18 02 10.7	—	—	—	—	—	—	—	—	—	—	—	—	O
	Hengchun		ep 02 25.1	—	—	—	—	—	—	—	—	—	—	03	18.7	O
	Alishan		ep 02 43.0	—	—	—	—	—	—	—	—	—	—	—	—	O
	Taipei		ep 02 50.4	—	—	—	—	—	—	—	—	—	—	—	—	O
	Ilan		ep 02 57.0	—	—	—	—	—	—	—	—	—	—	03	17.2	O
	Hwalien		P 03 03.3	—	—	—	—	—	—	—	—	—	—	—	—	O
	Tainan		ep 02 36.8	—	—	—	—	—	—	—	—	—	—	—	—	O
4	Tawu	14	P 23 41 27.9	—	—	—	—	—	—	—	—	—	—	03	28.3	O
																uncertain (d)
5	Hengchun	17	ip 02 31 18.0 - 117.7 + 61.6 - 141.3	—	581.4	640	—	—	1.5	8.3	II	Near 63kms S. of Hengchun				
	Tawu		ep 31 22.2	—	—	224	214	136	2.2	3.1	2.3	14.0	O	E 120°8		
	Kaohsiung		ep 31 37.6	—	—	—	—	—	—	—	—	6.5	I	N 21°5		
	Taitung		P 31 39.5	—	—	—	—	—	—	—	—	14.3	O			
	Yushan		P 31 40.0	—	—	—	—	—	—	—	—	28.3	O			
	Tainan		ep 31 42.7	—	—	—	—	—	—	—	—	27.5	O			
	Alishan		ep 31 45.6	—	—	—	—	—	—	—	—	27.9	O			
	Hwalien		P 31 54.8	—	—	75	93	—	2.9	2.9	—	24.7	O			
	Taichung		ep 31 57.7	—	—	—	—	—	—	—	—	23.0	O			
	Hsinkong		ep 32 05.3	—	—	—	—	—	—	—	—	19.7	O			
	Ilan		ep 32 09.4	—	—	65	81	—	3.2	3.0	—	31.6	O			
	Taipei		ep 32 17.1	—	—	—	—	—	—	—	—	31.0	O			

No.	Station	Date	Phase	P. (G. M. T.)	Initial Motion			Maximum Amplitude			Period			P-S	Intensity	Epicenter & Remarks	
					N	E	Z	N	E	Z	N	E	Z				
5	Hsinchu	17	ep	h. m. s. 32 32.0	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ	—	33.6	O
6	Hengchun	17	P	02 47 14.1	—	—	—	36	365	372	193	2.2	2.2	1.5	12.3	I	105kms ESE. of Hengchun E 121°7 N 21°8
	Tawu		P	47 18.9	—	—	—	—	—	—	—	—	—	—	—	12.6	O
	Taitung		P	47 28.1	—	—	—	—	—	—	—	—	—	—	—	14.0	O
	Kaohsiung		P	47 35.8	—	—	—	—	—	—	—	—	—	—	—	7.1	I
	Tainan		ep	47 37.6	—	—	—	—	—	—	—	—	—	—	—	33.6	O
	Hwalien		P	47 54.0	—	—	—	—	—	—	—	—	—	—	—	24.9	O
	Taichung		ep	48 00.1	—	—	—	—	—	—	—	—	—	—	—	—	O
	Hsinkong		ep	48 07.3	—	—	—	—	—	—	—	—	—	—	—	18.6	O
	Taipei		ep	48 17.1	—	—	—	—	—	—	—	—	—	—	—	36.4	O
	Ilan		ep	48 23.3	—	—	—	—	—	—	—	—	—	—	—	32.2	O
7	Tawu	21	P 11 52 18.9	—	—	—	—	—	—	—	—	—	—	—	—	O faint(d)	
8	Taipei	27	ep 16 07 15.0	—	—	—	—	—	—	—	—	—	—	—	—	05 46.6	O uncertain (d)
	Tainan		ep 07 24.0	—	—	—	—	—	—	—	—	—	—	—	—	O	
9	Taipei	28	P 07 39 43.4	—	—	—	—	—	—	—	—	—	—	—	—	O	
	Tawu		44 07.6	—	—	—	—	—	—	—	—	—	—	—	—	O	