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**SEISMOLOGICAL
OBSERVATORY BULLETIN
UNIVERSITY OF PITTSBURGH**



1958



PITTSBURGH, PENNSYLVANIA



Seismological Observatory Bulletin
University of Pittsburgh

VOLUME 2

No. 10

JANUARY - DECEMBER, 1958

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(This Bulletin is issued yearly)

STATION CONSTANTS AND INSTRUMENTS

Latitude— $40^{\circ} 26.7'$ North

Longitude— $79^{\circ} 57.2'$ West

Lithological foundation—Birmingham Shale—Pennsylvania age.

Elevation—273 meters above sea level.

Instruments

Two Wenner horizontal seismographs (Orientation N 30° W and N 60° E)

One Benioff vertical seismograph (long-period recording only)
(The above instruments operate with photographic recording.)

Time Service and Control

Time marks are given by two Observatory master clocks. One is a special astronomical type (used as stand-by) while the other is a Frodsham astronomical clock (used for routine work).

Time signals are recorded automatically (or manually, depending on weather conditions) several times daily. These signals are transmitted from Washington, D.C. via Stations NSS and WWV.

The average clock drift is one-half second per day.

Instruments Constants

Magnification curves for the Wenner seismographs were given in No. 1, Vol. 1 of this Bulletin. The magnification curve for the Benioff is not yet completed. The "nominal" magnification for this instrument is approximately 24,000.

New Instrument Vault

A new instrument vault has been built in the Cathedral of Learning to house the mechanically recording pendula. Included in this vault will be an interferometer-type tiltmeter and a well-gage recorder.

Visual Recorder

A visual recorder, adapted to the Wenner seismometer, is being used currently on an experimental basis.

MICROSEISMS — 1958

These data have been evaluated according to the following scale:

HORIZONTAL AMPLITUDE	DESIGNATION
Less than 2 microns	Below normal
Between 2 and 3 microns	Normal
More than 3 microns	Above normal

	DATE	EVALUATION
January	1 — 3	Above normal
	3 — 6	Considerably above normal
	6 — 8	Above normal
	8 — 9	Considerably above normal
	9 — 10	Above normal
	10 — 11	Slightly above normal
	11 — February 1	Above normal
February	1 — 4	Considerably above normal
	4 — 10	Above normal
	10 — 13	Slightly above normal
	13 — 18	Above normal
	18 — 21	Slightly above normal
	21 — 22	Above normal
	22 — 28	Slightly above normal
	28 — March 1	Above normal
March	1 — 10	Above normal
	10 — 15	Slightly above normal
	15 — 17	Above normal
	17 — 19	Slightly above normal
	19 — 20	Above normal
	20 — 22	Considerably above normal
	22 — April 1	Above normal
April	1 — 12	Above normal
	12 — 15	Slightly above normal
	15 — 23	Above normal
	23 — 25	Slightly above normal
	25 — 30	Normal
	30 — May 1	Slightly above normal

MICROSEISMS — 1958

	DATE	EVALUATION
May	1 — 6	Normal
	6 — 9	Slightly above normal
	9 — 13	Normal
	13 — 15	Slightly above normal
	15 — 17	Normal
	17 — 22	Below normal
	22 — 24	Normal
	24 — 29	Slightly above normal
	29 — June 1	Normal
June	1 — 5	Below normal
	5 — 9	Normal
	9 — 12	Above normal
	12 — 17	Slightly above normal
	17 — 18	Normal
	18 — 30	Below normal
	30 — July 1	Normal
July	1 — 4	Normal
	4 — 5	Slightly above normal
	5 — 6	Normal
	6 — 17	H records unreadable
	17 — 23	Above normal
	23 — 25	Normal
	25 — August 1	Below normal
August	1 — 4	Slightly above normal
	4 — 5	Normal
	5 — 6	Below normal
	6 — 7	Normal
	7 — 8	Above normal
	8 — 11	Normal
	11 — 14	Slightly above normal
	14 — 17	Normal
	17 — 29	Slightly above normal
	29 — 30	Above normal
	30 — September 1	Slightly above normal

	DATE	EVALUATION
September	1 — 3	Normal
	3 — 4	Slightly above normal
	4 — 11	Normal
	11 — 18	Above normal
	18 — 19	Considerably above normal
	19 — 20	Above normal
	20 — 27	Normal
	27 — 28	Above normal
	28 — October 1	Considerably above normal
October	1 — 3	Above normal
	3 — 4	Slightly above normal
	4 — 6	Normal
	6 — 7	Above normal
	7 — 9	Considerably above normal
	9 — 12	Above normal
	12 — 14	Considerably above normal
	14 — 19	Above normal
	19 — 20	Considerably above normal
	20 — 21	Above normal
	21 — 24	Slightly above normal
	24 — 25	Above normal
	24 — 25	Considerably above normal
27 — November 1	Above normal	
November	1 — 2	Above normal
	2 — 3	Considerably above normal
	3 — 8	Above normal
	8 — 15	Considerably above normal
	15 — 20	Above normal
	20 — 22	Slightly above normal
	22 — 26	Above normal
26 — December 1	Considerably above normal	
December	1 — 22	Above normal
	22 — 23	Considerably above normal
	23 — January 1	Above normal

SECTION ON SEISMIC DATA

Earthquakes for which preliminary phases have been identified or for which preliminary epicenters have been worked out are numbered in the left-hand column as of No. 1, September 8, 1939. It was on this date that our new station was placed in operation.

SEISMIC DATA

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	GNWCH DATE	COMPNT.	PHASE	GMT		
468	Jan. 15	Z	iP	19-19-10	C $\Delta(S-P) = 55.6^\circ = 6180\text{Km}$ H = 19-09-38	
		H	iS?	19-27-01		
		24	Z	i	06-05-17	D
	Feb. 3	Z	i	19-57-39	C	
		6	Z	e	20-16-21	
		13	Z	iP?	23-53-54	C
		19	Z	iP?	19-45-08	C
		22	Z	iP	11-01-00	D
		29	Seismic activity centering about 00h 40m G.C.T. Seismic activity centering about 10h 14m G.C.T.			
	Mar. 3	Z	i	16-29-27	D	
11		H	i	00-45-29		
20		Z	i	01-48-26	C	
469	Apr. 7	Z	eP	15-39-23	$\Delta(S-P) = 49^\circ = 5445\text{Km}$ H = 15-30-38	
		H	is	15-46-32		
		9	Seismic activity centering about 06h 44m G.C.T.			
		10	Seismic activity centering about 27h 46m G.C.T.			
		12	Seismic activity centering about 10h 45m G.C.T. Seismic activity centering about 12h 10m G.C.T.			
	14	Z	i	21-40-02	D	
		H	iPP?	21-41-39		
		H	i	21-45-30		
		H	iS	21-46-05		
		H	i	21-48-59		
15	H	e	01-38-17			
	H	i	01-44-18			
		Z	e	03-59-02		
		H	i	04-00-28		
		H	i	04-04-27		
19	H	i	04-18-55			

GNWCH DATE	COMPNT.	PHASE	GMT
May 1			Seismic activity centering about 01h 25m G.C.T.
2			Seismic activity centering about 20h 54m G.C.T.
6	NE	i	04-14-01
14	Z	e?	17-42-56
	H	iS?	17-45-02
June 5			Seismic activity centering about 05h 45m G.C.T.
6	Z	i	09-17-50? C
	H	i	09-18-58
	H	i	09-23-10
12			Seismic activity centering about 22h 03m G.C.T.
18			Seismic activity centering about 01h 41m G.C.T.
			Seismic activity centering about 07h 02m G.C.T.
19	Z	i	05-29-58 C
	H	e	05-39-43
25			Seismic activity centering about 11h 05m G.C.T.
26	Z	i	04-49-41 C?
	Z	i	04-50-12 D
27	Z	e	05-50-23
July 10	Z	iP	06-23-28? D
			Overlapping trace
			NOTE: Timing difficulties in July
26			Strong seismic activity centering about 19h 06m G.C.T.
Aug. 6			Seismic activity centering about 22h 15m G.C.T.
12	H	i	16-40-01
	Z	eP?	18-09-33
	H	i	19-47-53

GNWCH DATE	COMPNT.	PHASE	GMT
470 Aug. 14	Z	eP	15-05-35
	Z	i	15-05-37
	H	iS	15-14-02
	H	i	15-15-28
471 15	Z	iP	20-07-09
	H	iS	20-16-30
	Z	eP?	22-48-13
	H	i	22-51-40
	H	i	22-57-25
	H	i	23-07-08
16	H	i	19-37-22
	H	i	19-39-04
17			Seismic activity centering about 16h 20m G.C.T.
			Seismic activity centering about 19h 05m G.C.T.
18			Seismic activity centering about 07h 06m G.C.T.
30			Seismic activity centering about 19h 05m G.C.T.
31	H	i	23-25-58
Sept. 2			Seismic activity centering about 20h 28m G.C.T.
3			Seismic activity centering about 04h 33m G.C.T.
4	Z	e	22-02-49
	H	i	22-12-32
14			Seismic activity centering about 15h 20m G.C.T.
15			Seismic activity centering about 20h 25m G.C.T.
22	H	e	19-25-32
	H	i	19-35-26
24	H	i	04-09-53
472 25	Z	iP	07-28-50
	Z	i	07-28-57
	H	iPP?	07-30-46
	H	iS	07-36-12
Oct. 29	Z	e	07-54-56?

$$\Delta(S-P) = 61.2^\circ = 6800\text{Km}$$

$$H = 14-53-25$$

$$C \Delta(S-P) = 71.2^\circ$$

$$H = 19-55-54$$

$$C \Delta(S-P) = 49.4^\circ = 5490\text{Km}$$

$$D \quad H = 07-20-02$$

GNWCH DATE	COMPNT.	PHASE	GMT
472 Nov. 1	Seismic activity centering about 04h 50m G.C.T.		
473	6	Z	iP 23-10-41? C
		Z	i 23-12-09? $\Delta (S-P) = 83.3^\circ = 9255\text{Km}$
		Z	iPP 23-13-59? IT = 22-58-17?
		H	iS 23-21-03?
	Overlapping trace		
	7	Z	i 00-48-56? C
474	12	Z	iP? 20-36-03 D $\Delta (S-P) = 82.7^\circ = 9190\text{Km}$
		H	iS 20-46-22 H = 20-23-42?
Dec. 7	Seismic activity centering about 18h 21m G.C.T.		