SEISMOLOGICAL OBSERVATORY BULLETIN

UNIVERSITY OF PITTSBURGH

1951

PITTSBURGH, PENNSYLVANIA

Seismological Observatory Bulletin

University of Pittsburgh

VOLUME 2

NO. 3

JANUARY - DECEMBER, 1951

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PITTSBURGH, PENNSYLVANIA

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(This Bulletin is issued yearly)

STATION CONSTANTS AND INSTRUMENTS

Latitude—40° 26.7′ North.

Longitude—79° 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.

Instrument 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 thi 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.

MICROSEISMIC ACTIVITY

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 – 2	Slightly above normal
	2 – 4	Above normal
	4 – 6	Slightly above normal
	6 – 8	Above normal
	8 – 18	Station inoperative
	18 – 22	Above normal
	22 – 27	Slightly above normal
	27 – 28	Above normal
	28 – 30	Considerably above normal
	30 – 31	Above normal
	31 – February 4	Slightly above normal
February	4 – 6	Above normal
	6 – 8	Slightly above normal
	8 – 10	Considerably above normal
	10 – 11	Above normal
	11 – 12	Slightly above normal
	12 – 17	Normal
	17 – 20	Slightly above normal
	20 – March 1	Above normal
March	1 – 8	Above normal
	8 – 10	Considerably above normal
	10 – 14	Above normal
	14 – 16	Considerably above normal
	16 – 27	Above normal
	27 – 28	Considerably above normal
	28 – April 1	Above normal

	DATE	EVALUATION
April	1 – 13	Above normal
	13 – 14	Slightly above normal
	14 – 17	Above normal
	17 – 20	Considerably above normal
	20 – 21	Above normal
	21 – 23	Considerably above normal
	23 – 24	Above normal
	24 – 26	Slightly above normal
	26 – 29	Above normal
	29 – May 1	Slightly above normal
May	1 – 4	Slightly above normal
	4 – 8	Above normal
	8 – 10	Slightly below normal
	10 – 18	Normal
	18 – 24	Slightly above normal
	24 – 25	Above normal
	25 – 26	Slightly above normal
	26 – June 1	Normal
June	1 – 2	Normal
	2 – 4	Slightly above normal
	4 – 6	Normal
	6 – 7	Slightly above normal
	7 – 12	Above normal
	12 – 16	Slightly above normal
	16 – 17	Normal
	17 – 22	Below normal
	22 – July 1	Station closed
July	1 – 9	Station closed
	9 – 21	Below normal
	21 – 22	Normal
	22 – 25	Slightly above normal
	25 – 26	Normal
	26 – 29	Below normal
	29 – 30	Normal
	30 – 31	Below normal
	31 – August 1	Normal

	DATE	EVALUATION
August	1 – 8	Normal
	8 – 12	Slightly below normal
	12 – 16	Below normal
	16 – 17	Slightly below normal
	17 – 19	Normal
	19 – 20	Slightly below normal
	20 – 23	Below normal
	23 – September 1	Slightly below normal
September	1 – 6	Slightly below normal
	6 – 8	Normal
	8 – 10	Slightly above normal
	10 – 11	Above normal
	11 – 13	Considerably above normal
	13 – 14	Above normal
	14 – 16	Normal
	16 – 17	Slightly below normal
	17 – 27	Normal
	27 – 28	Above normal
	28 – 29	Normal
	29 – October 1	Above normal
October	1 – 20	Above normal
	20 – 25	Slightly above normal
	25 – 29	Above normal
	29 – 30	Slightly above normal
	30 – 31	Above normal
	31 – November 1	Considerably above normal
November	1 – 13	Above normal
	13 – 16	Slightly above normal
	16 – 28	Above normal
	28 – 30	Considerably above normal
	30 – December 7	Above normal
December	7 – 11	Considerably above normal
	11 – 14	Above normal
	14 – 21	Considerably above normal
	21 – 23	Above Normal
	23 – 27	Slightly above normal
	27 – 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.

	GNWCH DATE	COMPNT.	PHASE	GMT	
	Jan. 3	Seismic activity centering about 12h 55m G.C.T.			
	Jan. 5	Seismic activity centering about 01h 20m G.C.T.			
332	Jan. 6	Z	iP	07-58-02	Δ(S-P) = 32° = 3555 Km
		Z	i	07-59-12	H = 07–51–32
		H	iS	08-03-21	U.S.C.G.S. gives
					H = 07h 51m 31s G.C.T.
					Lat. 7½°N
					Long. 81°W
	Jan. 7-18	Station inoperative			
	Jan. 24	Z	i	07-23-03	
		Z	i	07-32-11	
		H	i	07-32-32	
	Jan. 30	Seismic activity centering about 19h 40m G.C.T.			
	Feb. 12	Z	iP(?)	17-33-21	U.S.C.G.S. gives
		NW	e	17-42-28	H = 17h 22m 02s G.C.T.
					Lat. 66° N
					Long. 136° E
	Feb. 13	H	i	12-19-45	
333	Feb. 13	Z	iP	22-21-58	Δ (S-P) = 48.3° = 5365 Km
		H	iS	22-29-12	H = 22-13-18
		H	iSS	22-31-48	U.S.C.G.S. gives
					H = 22h12m 58s G.C.T.
					Lat. 56° N
					Long. 155½°W
	Feb. 17	Z	i	21-25-54	U.S.C.G.S. gives
		Z	i	21-27-45	H = 21h06m 58s
		H	e	21-29-12	Lat. 7°S
		H	i	21-32-43	Long. 146° E
		H	i	21-34-33	
		H	i	21-37-57	
	Mar. 5	Seismic activity centering about 20h 40m G.C.T.			
	Mar. 10	Z	iP?	22-05-50	U.S.C.G.S. gives
					H = 21h 57m 37s G.C.T.
					Lat. 15½° S
					Long. 167½° E

	GNWCH DATE	COMPNT.	PHASE	GMT	
	Mar. 31	Z	ip?	09-28-47	U.S.C.G.S. gives H = 09h 20 m 34s G.C.T. Lat. 60½° N Long. 154° W
	Apr. 2	H	e	00-24-02	U.S.C.G.S. gives H = 00h 13m 34s G.C.T. Lat. 13° N Long. 90° W
	Apr. 8	Seismic activity centering about 21h 58m G.C.T.			
334	Apr. 14	Z	iP	00-55-43	Δ(S-P) = 61.5° = 6,835 km
		Z	i	00-56-29	H = 00-45-31 G.C.T.
		H	iS	01-04-11	U.S.C.G.S. gives
		H	i	01-05-53	H = 00h 45m 28s G.C.T. Lat. 24° S Long. 66½° W
		Seismic activity centering about 13h 58m G.C.T.			
	Apr. 22	H	i	12-55-15	U.S.C.G.S. gives H = 12h 36m 16s G.C.T. Lat. 76° N Long. 73° W
	Apr. 23	Seismic activity centering about 01h 20m G.C.T.			
	Apr. 30	Seismic activity centering about 16h 30m G.C.T.			
	May 1	Seismic activity centering about 06h 10m G.C.T.			
	May 6	Z	eP	23-08-47?	U.S.C.G.S. gives
		Z	eP	23-13-22?	H = 23h 03m 35s G.C.T. H = 23h 08m 04s G.C.T. Lat. 13½° N Long. 88° W
	May 7	NW	i	20-28-11	
		NW	i	20-33-28	
	May 11	Seismic activity centering about 2h 32m G.C.T.			
	May 15	Z	i	05-29-06	U.S.C.G.S. gives
		Z	i	05-29-20	H = 05h 18m 46s G.C.T.
		H	i	05-37-28	Lat. 21°S Long. 69½°W

	GNWCH DATE	COMPNT.	PHASE	GMT	
	May 21	Seismic activity centering about 9h 40m G.C.T.			
	May 29	Seismic activity centering about 7h 35m G.C.T.			
	May 31	Seismic activity centering about 21h 20m G.C.T.			
	June 5	NW	i	17-22-42	
335	June 6	Z	eP	16-19-22	Δ(S-P) = 45.1° = 5010 Km
		H	i	16-21-21	H = 16-10-46
		H	iS	16-26-07	U.S.C.G.S. gives H = 16h 10m 52s G.C.T. Lat. 71½° N Long. 8° W
	June 8	Seismic activity centering about 23h 50m G.C.T.			
	June 17	H	i	09-53-19	
	June 20	Z	e	18-46-29	Local?
	July 11	H	i	18-39-30	U.S.C.G.S. gives
		H	i	18-41-52	H = 18h 22m 00s G.C.T.
		H	i	18-44-50	Lat. 28½°N
		H	i	18-48-35	Long. 139½° E
	July 16	Seismic activity centering about 11h 30m G.C.T.			
336	July 18	Z	iP	04-16-48	Δ(S-P) = 60.8° = 6755 Km
		H	iS	04-25-12	H = 04-06-40 U.S.C.G.S. gives H = 09h 06m 16s G.C.T. Lat. 1° N Long. 27° W
	July 19	Z	iP?	20-51-51	U.S.C.G.S. gives
		H	i	21-00-27	H = 20h 21m 25s G.C.T.
		H	i	21-01-44	Aftershocks— 21h 07m 07s G.C.T. 23h 47m 50s G.C.T. Lat. 51½° N Long. 177½° W

	GNWCH DATE	COMPNT.	PHASE	GMT	
	July 30	Seismic activity centering about 00h 45m G.C.T.			
	Aug. 6	Seismic activity centering about 08h 40m G.C.T.			
337	Aug. 13	Z	iP	18-45-39	Δ(S-P) = 77.0° = 8555 Km
		H	iPP	18-48-39	H = 18-33-49G.C.T.
		H	eS	18-55-31	U.S.C.G.S. gives
					H = 18h 33m 40s G.C.T.
					Lat. 43° N
					Long. 32½° E
	Aug. 20	H	e	06-00-59	U.S.C.G.S. gives
		H	iS	06-05-45	H = 05h 49m 58s G.C.T.
					Lat. 23½° N
					Long. 108° W
338	Aug. 21	Z	iP	11-07-56	Δ(S-P) = 66.6° = 7400 Km
		H	iS	11-16-53	H = 10-57-10 G.C.T.
		H	i	11-30-59	U.S.C.G.S. gives
					H = 10h 56m 57.5s G.C.T.
					Lat. 19 3/8° N
					Long. 156° W
	Aug. 22	Seismic activity centering about 6h 5m G.C.T,			
	Aug. 26	Z	e	18-50-25	U.S.C.G.S. gives
		H	i	18-54-21	H = 18h 328m 23s
					Lat. 24° N
					Long. 109° W
	Sept. 27	H	i	19-43-55	U.S.C.G.S. gives
					H = 19h 24m 12 G.C.T.
					Lat. 49° N
					Long. 129° W
	Sept 30	Seismic activity centering about 17h 48m G.C.T.			
	Oct. 8	H	e	04-22-43	U.S.C.G.S. gives
					H = 04h10m35s G.C.T.
					Lat. 40° N
					Long. 125° W

	GNWCH DATE	COMPNT.	PHASE	GMT	
339	Oct. 18	Z	iP	08-39-22	Δ(S-P) = 89° = 9890 Km
		H	iS	08-50-12	H = 08-26-29
		H	iPS?	08-50-41	U.S.C.G.S. gives
					H = 08h 26m 25s G.C.T.
					Lat. 42° N
					Long. 142° E
	Oct. 21	NE	e	21-49-18	
		NE	i	21-54-09	
	Oct. 22	NE	e	03-49-00	
		NE	i	03-56-04	
		Seismic activity centering about 07h.10m G.C.T.			
		Seismic activity centering about 11h 20m G.C.T.			
	Oct. 23	Seismic activity centering about 06h 45m G.C.T.			
340	Nov. 6	Z	eP	16-52-15	Δ(S-P) = 80.5° = 8945Km
		Z	i	16-52-18	H = 16-40-05
		H	iS	17-02-23	U.S.C.G.S. gives
					H = 16h 40m 04s G.C.T.
					Lat. 47°N
					Long. 154°E
		Z	iP	19-02-35	Aftershock
		H	iS	19-12-43	
	Nov. 8	H	iL	14-13-12	U.S.C.G.S. gives
					H = 13h 45m 09s G.C.T.
					Lat. 54½°N
					Long. 160° W
341	Nov. 9	Z	iP	22-17-49	Δ (S-P) = 64° = 7110 Km
		Z	i	22-18-19	H = 22-07-20
		H	iS	22-26-32	
		H	i	22-27-23	
	Nov. 15	Z	e	08-37-21	
	Nov. 24	Seismic activity centering about 19h 50m G.C.T.			

	GNWCH DATE	COMPNT.	PHASE	GMT	
	Dec. 8	H	iP(?)	04-33-41	U.S.C.G.S. gives
		H	iPP	04-37-14	H = 04h 14m 20s G.C.T.
					Lat. 34° S
					Long. 56½° E
	Dec. 12	H	iPP	01-43-32	U.S.C.G.S. gives
		H	iS	01-47-40	H = 01h 37m 34s G.C.T.
					Lat. 17° N
					Long. 94½° W
	Dec. 23	Seismic activity centering about 07h 50m G.C.T.			
342	Dec. 28	Z	iP	09-26-20	Δ(S P) = 28.8° = 3200 Km
		Z	i	09-26-29	H = 09 20 18
		H	iS	09-33-27	U.S.C.G.S. gives
					H = 09h 20m 25s G.C.T.
					Lat. 17° N
					Long. 98½° W
	Dec. 28	Seismic activity centering about 18h 55m G.C.T.			