DEPARTMENT OF MINES AND TECHNICAL SURVEYS

DOMINION OBSERVATORIES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

March and April

1950

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DOMINION OBSERVATORY

OTTAWA - CANADA

000

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
Ernest A. Hodgson, Chief, Seismological Division

S T A T I O N S

OTTAWA

$\varphi = 45°23'38''$ N. $\lambda = 75°42'57''$ W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, respectively, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

$\varphi = 44°38'$ N. $\lambda = 63°36'$ W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200 g.

SEVEN FALLS

Quebec Power Company

$\varphi = 47°07'.4$ N. $\lambda = 70°49'.6$ W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15g., SM a paper speed of 8 mm. per min. and mass 1 lb.

VICTORIA

Dominion Astrophysical Observatory

φ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Benioff Vertical, short-period, designated B 5705, photographic registration, paper speed of 60 mm. per min., mass 235 lbs., installed June, 1948.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

φ = 46°33'1 N. λ = 72°45'8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument: Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15g.

SASKATOON

University of Saskatchewan

φ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instrument: Milne-Shaw NE and NW components, designated 18 and 22, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

DETERMINED CONSTANTS

INSTRUMENT	Ts	Tg	V	ε	DISPLACEMENT FOR 1" ARC TILT
17 (Ottawa)	12.0		300	20:1	50 mm.
23 (Ottawa)	12.0		300	20:1	50 mm.
BS (Ottawa)	1.0	0.1			
BL (Ottawa)	1.0	48			
HN (Halifax)	5.0		125	20:1	
HE (Halifax)	5.0		125	20:1	
SA (Shawinigan)	1.0		2200		
B 5705 (Victoria)	1.0	0.1			
20 (Victoria)	12.0		300	20:1	50 mm.
21 (Victoria)	12.0		300	20:1	50 mm.
SF (Seven Falls)	1.0		2200		
SM (Seven Falls)	12.0		300	20:1	50 mm.
18 (Saskatoon)	10.0		150	20:1	18 mm.
22 (Saskatoon)	10.0		150	20:1	18 mm.

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa
V - Victoria
S - Saskatoon
H = Halifax
SF - Seven Falls
SH = Shawinigan Falls
R - Rolphton
L - La Cave

March, 1950 No. 11

DATE	STN.	PHASE	h m s	REMARKS
1	O	eL	09 47.0	
	S	e	09 46	
	SF	e	09 44	
2	V	iP	14 17 39.8 d	Δ = 70 km.
		S	14 17 44.3	
		e	14 17 47	
2	O	e	18 58 53	USCGS: 59 1/2S, 34W; 18:39:47
		eL	19 32.0	Sandwich Islands
	V	i	18 58 55 c	
2	V	P	20 11 30 c	Δ = 140 km.
3	O	iP_1	05 11 25 d	Δ = 64 km.
		P_2	05 11 27	
		iS_2	05 11 34	
		S_n	05 11 38	
3	O	iP	11 14 30	USCGS: 23S, 175 1/2W; 10:43:52
		e	11 41.5	Tonga Islands
		eL	11 47.0	
	V	e	10 56 28	
	S	e	11 34.5	
3	V	P_n	14 03 40	
		S_n	14 04 02	
3	O	eL	16 39.0	Sandwich Is.
4	O	eP	16 07 09	USCGS: 59 1/2S, 34W; 15:48:40
		iP	16 07 54	Sandwich Is.
		eP	16 08 34	
	V	i	16 07 50 d	
5	V	i	14 52 24.3 d	Δ = 25 km.
		i	14 52 28.2	
		i	14 52 28.6	
5	V	i	15 13 53.4 d	Δ = 25 km.
		i	15 13 57.2	
		i	15 13 57.6	
5	V	i	15 18 26.4	Δ = 25 km.
		i	15 18 30.5	
		i	15 18 31.1	
5	O	P	18 12 01	Northern Chile
	V	e	18 13 45	
	R	e	18 12 07	

DATE	STN.	PHASE	h	m	s		REMARKS
6	SF	P_n	16	15	00		Δ = 360 km.
		i	16	15	03		St. Agathe, Quebec, Canada
		S_n	16	15	37		(felt)
		i	16	15	39		
		e	16	15	44		
	SH	P_n	16	14	17.2		Δ = 170 km.
		S_n	16	14	56		
		S_1	16	14	59.7		
7	O	eP'	02	26	44		Δ = 122°5
		ePP	02	28	17		
		eSKS	02	33	47		
		ePS	02	38	10		
		eL	03	02.3			
	V	e	02	21	26		
		e	02	32	09		
		L	02	56.7			
	S	e	02	32	41		
		e	02	35	55		
		L	03	00			
	H	e	03	14.5			
	SF	e	02	28	48		
		iL	02	44	44		
9	O	eP	10	10	10		Δ = 32°5
		ePP	10	11	18		
		e	10	11	34		
		eS	10	15.4			
		SSS	10	17	38		
	V	i	10	13	49	c	
	SH	e	10	10	13		
9	O	iP	17	46	07	d	USCGS: 61N, 151W; 17:38:02
	V	e	17	42	27		d = 150 km., S. Alaska
11	V	e	01	01			USCGS: 20N, 99W; 00:42:51
	S	e	01	00	09		Central Mexico
		L	01	01	37		
11	V	i	23	37	39	c	
		i	23	37	43		
		i	23	37	57.5		
		i	23	38	13		
		i	23	38	31		
12	SF	L	07	35			
13	O	eP	09	57	23		
		e	10	00	38		
		e	10	07	04		
13	O	P	19	44	26		
		L	19	44	49		
14	O	iP	03	19	10	d	USCGS: 8S, 74W; 03:10:02
		i	03	19	46		d = 150 km. Eastern Peru
		e	03	26	36		
		e	03	28	48		
		e	03	33	43		
	V	iP	03	21	08	d	
		e	03	30	18		

DATE	STN.	PHASE	h	m	s		REMARKS
14 (cont'd)	S	iP	03	20	38		Δ = 65°
		iS	03	29	15		
		i	03	30	12		
	SF	iP	03	19	24		
		iS	03	26	54		
		isS	03	27	49		
		L	03	34			
	SH	e	03	19	20	d	
		e	03	26	49		
	R	e	03	19	16	d	
		i	03	19	17		
14	O	P_n	16	18	42		Δ = 250 km.
		P_2	16	18	45		
		S_2	16	19	15		
		S_1	16	19	20		
14	O	P	20	29	30		
		eL	20	29	53		
15	O	eP	20	08	20		
		eL	20	08	50		
16	O	eP	10	20	23		
	L	e	10	20	25		
16	V	iP	19	36	18	d	Fiji Islands
		e	19	38	22		
18	O	eP	18	29	21		SW Bolivia
19	O	P_1	16	34	19		Δ = 75 km.
		S	16	34	30		
20	V	iP	15	24	20	c	California
		i	15	24	33		
		S_n	15	25	53		
		L	15	27.3			
20	O	P_n	22	56	10		Δ = 560 km.
		S_n	22	57	06		
		e	22	57	12		
		S_2	22	57	28		
		S_1	22	57	36		
21	V	P	21	26	14.5		Δ = 80 km.
		S	21	26	23.7		
21	V	P	21	27	17.0		
		S	21	27	26.0		
23	O	P	20	23	10		
		L	20	23	36		
25	V	P_n	07	39	03		
		e	07	39	10.5		
		S_n	07	39	16.6		
		i	07	39	19.5		
		e	07	39	22		
25	O	eP	09	07	04		
	S	e	09	03	06		
	SF	e	09	06	28		
	SH	e	09	06	46		

DATE	STN.	PHASE	h m s	REMARKS
25	V	eP_n	20 13 39	Δ = 880 km.
		e	20 13 55	
		eS_n	20 15 26	
		e	20 15 41	
26	V	P_n	06 45 49 c	Δ = 620 km.
		e	06 46 00.5	USCGS: 45N, 129 1/2W; 06:44:22
		S_2	06 46 57	Pacific Ocean off coast of Oregon
27	O	iP	13 14 48 c	USCGS: 53 1/2N, 173E; 13:04:04
		S	13 23 33	Aleutian Islands
		eSS	13 27.8	
		L	13 36.0	
	V	iP	13 11 37 c	Δ = 40°5
		i	13 11 49	
		S	13 17 45	
		L	13 21.2	
		M	13 27	
	S	P	13 12 26	Δ = 47°
		S	13 19 22	
		ScS	13 22 28	
		e	13 23 08	
		L	13 26	
	H	4	13 24 40	
		L	13 32.8	
	SF	P	13 14 59	Δ = 67°8
		e	13 19 00	
		S	13 23 44	
		e	13 28 08	
		e	13 31 06	
		L	13 37.3	
	SH	4	13 14 55	
	R	e	13 41 21	
27	O	eP	21 37 55	USCGS: 5 1/2S, 103E; 21:18:32
		e	21 38 05	South coast of Sumatra
		e	21 41 01	
		e	21 41 38	
		L	22 28	
	V	e	21 36 53 d	
	SF	L	22 19.7	
	SH	e	21 38 17	
29	V	e	13 05 47	USCGS: 27S, 177W; 12:52:53 Kermadec Is. region
29	O	P	18 00 19 d	USCGS: 3S, 137 1/2E; 17:41:07
		eL	18 42	Northern New Guinea
	V	e	17 54 42	
	SF	e	18 00 21	
		e	18 03 41	
		e	18 19.7	
		L	18 39	
31	V	e	15 28 10	
31	O	P	20 08 55	Δ = 175 km.
		S	20 09 14	
		L	20 09 21	

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Assistant Seismologist

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

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O - Ottawa
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April, 1950 No. 15

DATE	STN.	PHASE	h m s	REMARKS
2	O	e	02 13 02	
2	SF	e	19 14.0	
		L	19 24.5	
2	O	e	23 17 53	
3	SF	e	11 47	
4	O	e	02 31 19	USCGS: 51 1/2N,173W; 2:21:11
	V	e	02 27 37.5	Aleutians
4	O	e	02 34 57	USCGS: 51 1/2N, 173W; 2:24:47
		i	02 31 14.5	Aleutians
4	V	i	03 54 45.5	Off coast of Japan
4	O	eP	18 56 38	Δ = 84°5
		i	18 56 45	USCGS: 52N, 101E; 18:44:10
		PP	18 59 37	Near border of USSR and outer
		S	19 06 54	Mongolia
		L	19 20.5	
	V	e	18 55 48.5	
		e	19 05 24.5	
		L	19 18	
	S	i	19 05 22	
		e	19 10 14	
		L	19 15.5	
	H	e	19 07.0	
		L	19 19.5	
	SF	P	18 56 40	Δ = 80°8
		S	19 06 38	
		L	19 17	
5	O	e	01 36.0	USCGS: 52N, 177W; 01:17:15
		L	01 46	Aleutians
	V	e	01 24 05.	
	S	e	01 31 29	
		L	01 36.5	
	H	L	01 48.7	
	SF	e	01 37.4	
		e	01 50.4	
5	O	e	18 28 05	USCGS: 54N, 36W; 18:13:53
		L	18 29.2	North Atlantic Ocean
7	V	i	05 02 54 c	
			05 03 58	
			05 06	
10	V	i	16 58 40 d	USCGS: 5N, 76 1/2W; 16:48:38
				Western Columbia

DATE	STN.	PHASE	h m s	REMARKS
10	S	L	07 05.4	
11	V	i	17 56 24 c	
		e	17 56 28	
		i	17 56 58	
		e	17 57 00.8	
12	V	P	18 45 04.5	Δ = 210 km.
		S	18 45 28.0	
		P	18 46 02.5	
		S	18 46 26.5	
12	V	e	20 08 57.5	
13	O	P_n	14 55 19.0	Δ = 150 km.
		e	14 55 21.5	
		e	14 55 37	
		e	14 55 40.5	
		e	14 55 45	
13	V	e	21 40 08.5	
		e	21 40 10.5	
		e	21 40 41.5	
14	V	iP	11 04 02.5 d	Δ = 97 km.
		iS	11 04 14.5	USCGS: 48N, 122 1/2W; 11:03:48 Puget Sound
14	O	eP	18 21 30.8	Δ = 315 km.
		i	18 21 33	Bourmont, Quebec
		P_1	18 21 38.5	
		e	18 21 40	
		iS_n	18 22 03.5	
		i	18 22 6.5	
		S_2	18 22 12.5	
	SF	P_n	18 21 43	Δ = 441 km.
		P_1	18 21 55	
		S_n	18 22 27	
		e	18 22 48.5	
		S_1	18 22 52.5	
	SH	P_n	18 21 27.5	Δ = 304 km.
		i	18 21 30.2	
		P_1	18 21 34	
		e	18 21 54	
		iS_n	18 21 59.4	
		e	18 22 03.4	
14	O	e	20 12 33	USCGS: 36S, 103W; 19:59:58 Pacific Ocean 600 mi. south of Easter Islands
		e	20 23 03	
		L	20 36	
	V	e	20 12 41	
	S	i	20 23 33	
		L	20 36.5	
	SF	e	20 23 22	
		L	20 36	
15	O	P	14 58 05	Δ = 34°5
		e	14 58 28	USCGS: 14N, 91W; 14:51:25;
		S	15 03 32	d = 100 km. Near coast of
		e	15 03 58	Guatemala
		L	15 06 00	
		L	15 10.8	
	V	iP	14 59 27 c	
		L	15 17.6	

DATE	STN.	PHASE	h m s	REMARKS
15 (cont'd)	S	e	15 08 26	
		L	15 15.5	
	H	L	15 18.9	
	SF	P	14 58 33	Δ = 37°0
		S	15 04 16	
		e	15 07 36	
		L	15 12.5	
	R	e	14 58 07	
15	O	P	21 32 16.5	Δ = 150 km.
		e	21 32 18	
		S	21 32 34.5	
		L	21 32 42	
16	V	e	16 29 59	E. coast of Honshu, Japan
16	O	e	21 55 04	USCGS: 49N, 129W; 21:48:02
		L	22 03	Off coast of Vancouver
	V	iP	21 48 59 c	Δ = 392 km.
		i	21 49 05.5	
		i	21 49 15	
		S	21 49 36.5	
		i	21 49 42.0	
		i	21 49 48.0	
		i	21 49 56.0	
	S	i	21 54 34	
		L	21 56.0	
	H	L	22 11.0	
	SF	e	22 07.9	
17	V	P	17 13 42.0 c	
		S	17 13 50.5	
17	V	P	17 21 12.5 c	
		S	17 21 16.5	
17	V	P	17 28 41.0 c	
		S	17 28 44.5	
17	V	P	18 10 36.5 c	
		S	18 10 40.5	
18	V	e	14 41 19	S. Pacific Ocean
19	V	e	16 19 49 d	Fiji Islands
20	O	P	10 03 03	USCGS: 45N, 150E; 09:50:44
		S	10 13 04	Kurile Islands
		L	10 36	
	V	e	10 00 30	
	S	e	10 09 45	
		e	10 11 00	
		e	10 17 15	
		L	10 22.5	
	SF	e	10 13 08	
		L	10 31.0	
	SH	e	10 03 04	
20	O	e	17 29 14	
	V	e	17 31 50	
	SH	e	17 29 01	
23	V	e	10 28 23	Fiji Islands

DATE	STN.	PHASE	h m s	REMARKS
25	O	e	22 57	USCGS: 43 1/2N, 127 1/2W;
	V	e	22 39 31.5	22:38:27. Pacific Ocean 150 mi.
		e	22 39 40.0	off coast of Oregon
		e	22 39 50.5	
		e	22 40 37.5	
26	O	eP	07 18 20	Δ = 87°
		i	07 18 34	USCGS: 34N, 135E; 07:04:48
		iS	07 28 47	d > n. Near coast of Japan
		i	07 29 34	
		PS	07 30 47	
		SS	07 35.6	
		L	07 44	
	V	P	07 16 18 d	
		i	07 16 31	
		S	07 25 38	
		i	07 26 22	
	S	P	07 17 11	Δ = 76°5
		e	07 23 16	
		S	07 26 49	
		SS	07 32 02	
		L	07 39	
	SF	e	07 28 45	
		L	07 49.6	
	SH	e	07 18 26	
		e	07 28 51	
26	O	e	12 28 18	USCGS: 53N, 170W; 12:18:28
	V	e	12 24 33	d = 60 k. Aleutians
	SF	e	12 48.6	
	SH	e	12 28 23	
27	V	e	14 28 18	USCGS: 14:18:30 Kurile Is.
28	V	iP	20 38 26.4 c	Δ = 30 km.
		iS	20 38 30.7	
		i	20 38 32.5	
28	V	e	20 39 32.3 c	Δ = 15 km.
		e	20 39 35.6	
		e	20 39 38.5	
		e	20 39 41.0	
28	V	e	20 42 59.0 c	Δ = 27 km.
		e	20 43 03.1	
		e	20 43 06.0	
28	V	e	20 46 33.5	Δ = 25 km.
		e	20 46 37.4	
		e	20 46 40.0	
28	V	e	20 53 14.8 c	Δ = 17 km.
		e	20 53 15.0	
		e	20 53 18.0	
		e	20 53 20.5	
28	V	e	20 56 00.6	Δ = 24 km.
		e	20 56 04.3	
		e	20 56 07.4	
29	V	e	20 34 43	New Hebrides Is.
		e	20 35 03	

April, 1950 No. 19

DATE	STN.	PHASE	h	m	s	REMARKS
30	O	P	10	41	04	USCGS: 24 1/2S, 112 1/2W;
		S	10	50	56	10:29:03. South Pacific Ocean
		e	10	55	50	NW of Easter Is.
		L	11	07		
	V	e	10	40	37	
	S	e	10	50	40	
		L	11	02		
	SF	e	10	41	29	
		i	10	51	29	
		L	11	08		
30	O	P	18	31	16	USCGS: 10 1/2S, 75 1/2W;
		S	18	39	02	18:21:36. Central Peru
		L	18	53		
30	O	e	23	56	52	USCGS: 4 1/2N, 82 1/2W;
		i	23	58	36	23:49:22. Pacific Ocean off
		e	00	03.0		South coast of Panama
		L	00	08.5		
	V	e	23	58	50	
	S	e	00	05	30	
		L	00	09.5		
	SF	e	00	03.7		
		L	00	06.4		

W. G. Milne
Assistant Seismologist

SEISMOLOGICAL BULLETINS RECEIVED

March, 1950

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATION	BULLETINS
Bureau Central	December, 1949
Strasbourg	October, 1949; 1-10 January, 1950
Helwan	August, December, 1949
Tortosa	December, 1949
Cleveland	January, 1950
Wellington	September, October, 1949
Suva	1944-1946
Apia	October, December, 1949
Nanking	1949
Santa Clara	February, 1950
Pittsburg	1949
Toledo	November, 1949, January, 1950
Saint Louis and Auxiliary Stations	Supplementary - July, 1949
South Africa	December, 1949
Malaga	September, 1949
Richmond	January, 1950
Athens	October - December, 1949
Bucarest	January, February, 1950
Port-au-Prince	1935-1947
Copenhagen	1941, 1948
Saint Louis and Auxiliary Stations	Preliminaries - October 19, 20, 27. 28, 29, 31, Nov. 3
Budapest	January, 1950
Kalocsa	January, 1950
Cheb	January, 1950
Stara Dala	January, 1950
Hautes Tatra	January, 1950
Prague	January, 1950
Weston	March-October, 1949, February, 1950
India	January-March, 1944
Japan	November, 1949
Bucarest	December, 1949
Beograd	January, 1950
Tacubaya	January, 1950
Pasadena	Locals July-September, 1949
South Africa	January, 1950
Zurich	January, February, 1950
Tortosa	January, February, 1950
India	October-December, 1946
Prague and Cheb	1948
Cleveland	February, 1950
Saint Louis and Auxiliary Stations	November 4, 7, 13, 20, 27, December 17
Rome	January, 1950
Tacubaya	February, 1950

April, 1950

Richmond	February, 1950
De Bilt	February, 1950
Cleveland	November, December, 1949
Wellington	November, 1949
Suva	1947
Bureau Central	January, 1950
Strasbourg	February, March, 1950; November, 1949

SEISMOLOGICAL BULLETINS RECEIVED

April, 1950
(cont'd)

Kalocsa	February, 1950
Budapest	February, 1950
Almeria	July, August, 1949
Japan	December, 1949
Santa Clara	March, 1950
Brisbane	December, 1949
India	November, 1949
Weston	March, 1950
Tortosa	January-June, 1947
Helwan	February, 1950
Toledo	December, 1949, February, 1950
Tananarive	1949
Belgrade	February, 1950
Stara Dala	February, 1950
Hautes Tatra	February, 1950
Cheb	February, 1950
Prague	February, 1950
Buenos Aires	February, 1950
Helwan	January, 1950
Lisbon	December, 1949
Wellington	December, 1949
Cleveland	March, 1950
Perth	1949
Pennsylvania	January-June, 1949
Bureau Central	February, 1950
Strasbourg	March 11-20, 1950
Tortosa	March, 1950
Athens	January, February, 1950

Dominion Observatory,
Ottawa - Canada,
August 16, 1950.

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

DOMINION OBSERVATORIES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

May and June

1950

000

DOMINION OBSERVATORY

OTTAWA - CANADA

000

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
Ernest A. Hodgson, Chief, Seismological Division

S T A T I O N S

OTTAWA

φ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, respectively, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

φ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200 g.

SEVEN FALLS

Quebec Power Company

φ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15g., SM a paper speed of 8 mm. per min. and mass 1 lb.

S T A T I O N S (Cont'd)

VICTORIA

Dominion Astrophysical Observatory

φ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Benioff Vertical, short-period, designated B 5705, photographic registration, paper speed of 60 mm. per min., mass 235 lbs., installed June, 1948.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

φ = 46°33!1 N. λ = 72°45!8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument: Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15g.

SASKATOON

University of Saskatchewan

φ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instrument: Milne-Shaw NE and NW components, designated 18 and 22, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

DETERMINED CONSTANTS

INSTRUMENT	Ts	Tg	V	ε	DISPLACEMENT FOR 1" ARC TILT
17 (Ottawa)	12.0		300	20:1	50 mm.
23 (Ottawa)	12.0		300	20:1	50 mm.
BS (Ottawa)	1.0	0.1			
BL (Ottawa)	1.0	48			
HN (Halifax)	5.0		125	20:1	
HE (Halifax)	5.0		125	20:1	
SA (Shawinigan)	1.0		2200		
B 5705 (Victoria)	1.0	0.1			
20 (Victoria)	12.0		300	20:1	50 mm.
21 (Victoria)	12.0		300	20:1	50 mm.
SF (Seven Falls)	1.0		2200		
SM (Seven Falls)	12.0		300	20:1	50 mm.
18 (Saskatoon)	10.0		150	20:1	18 mm.
22 (Saskatoon)	10.0		150	20:1	18 mm.

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CAN...

DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa
V - Victoria
S - Saskatoon
H - Halifax
SF - Seven Falls
SH - Shawinigan Falls
R - Rolphton
L - La Cave

May, 1950 No. 20

DATE	STN.	PHASE	h m s	REMARKS
1	V	e_Z	13 39 47	Sumatra
1	V	e_Z	20 17 35	
2	V	e	14 44 51.5	Kurile Is.
3	V	e	11 21 50	
4	V	iP	04 58 00.5	
		iS	04 58 12	
		i	04 58 14.5	
		i	04 58 19	
5	SF	e	16 47 44.5	Baie St. Paul area?
		e	16 47 50.0	
6	V	e	20 44 36	
7	O	e	06 55 58	Macquicine Is. region
8	V	e	14 08 06	
9	O	e	11 29 44	USCGS: 41N, 58E; 11:17:10
		i	11 40 22	Turkman
		L	11 59	
	V	e	11 30 22	
		L	12 08	
	S	e	11 40 24	
		L	11 58.5	
	SF	e	11 39 43	
		L	11 55.6	
10	V	e	10 33 02	New Britain
10	O	L	00 33	USCGS: 15S, 43E; 23:39:25
	V	e	23 59 04.5	Madagascar
		L	00 50	
	S	L	00 49.5	
	H	L	00 34.5	
	SF	e	00 09 07	
		L	00 32.1	
13	O	P_n	19 22 26.0	Δ = 166 km.
		S_n	19 22 45.3	
		e	19 22 53	
15	O	L	03 50	USCGS: 03:32:41. Gulf of
	S	L	03 47 50	California
	H	L	03 55	
15	O	P_1	15 59 33.2	
		S_1	15 59 43.7	

DATE	STN.	PHASE	h m s	REMARKS
17	V	iP	07 35 52.5	Δ = 66 km.
		i	07 35 00.5	
17	O	e	12 01 09	USCGS: 39N, 130 1/2E; 11:46:46
		i	12 08 38	d = 600 km. Sea of Japan
		i	12 09 14	
	V	iP	11 57 11	Δ = 71°
		e	11 57 48	
		epP	11 59 11	
		i	12 03 08	
		iS	12 05 44	
		isS	12 06 27	
		e	12 10 07	
	S	i	12 05 42	
		i	12 05 56	
		e	12 10 19	
	SH	e	12 08 35	
17	O	i	18 32 07	USCGS: 20S, 169E; 18:13:13
		e	18 39 02	New Hebrides region
		e	18 43.3	
		L	18 53.5	
	V	eP	18 26 20	Δ = 92°
		i	18 26 23	
		SKS	18 36 48	
		PPS	18 38 48	
		SS	18 43 44	
		L	18 55.1	
	S	L	18 54	
	H	E	18 35 48	
		L	19 01	
	SF	i	18 34 03	
		e	18 35 27	
		e	18 43 58	
		e	18 51 28	
		L	19 11	
19	O	iP'	02 57 07	Δ = 123°
		ePP	02 58 41	USCGS: 20 1/2S, 169E; 02:38:10
		eSKS	03 04 05	New Hebrides
		eSKKS	03 05 38	
		ePS	03 08.3	
		eSS	03 15.7	
		L	03 34	
	V	P	02 51 20	Δ = 95°
		SKS	03 01 57	
		S	03 02 27	
		SS	03 08.9	
		L	03 23	
	S	L	03 29	
	H	e	03 00 48	
		L	03 41.2	
	SF	e	02 59 01	
		e	03 00 09	
		e	03 09 02	
		e	03 16 16	
		L	03 39	

DATE	STN.	PHASE	h m s	REMARKS
19	O	L	08 05	USCGS: 20 1/2S, 169E; 07:05:31 New Hebrides
	V	P	07 18 42.5	Δ = 95°
		e	07 29 13	
		e	07 29 47	
		L	07 51.1	
	S	e	07 30 15	
		e	07 32 50	
		L	07 56.5	
	H	e	07 28 08	
		L	08 12	
	SF	e	07 26 24	
		e	07 36 21	
		L	08 06	
19	V	e	09 54 29.5	Mariana Is.
20	O	e	03 25.5	
20	O	e	09 48 46	USCGS: 29N, 43 1/2W; 09:37:27
		L	09 53	
	SF	e	09 43 27	
		L	09 47.8	
	SH	e	09 43 28	
21	V	e	03 27 19	
21	V	P	08 40 28	Δ = 87 km.
		S	08 40 38.1	
		F	08 42	
22	V	P_n	19 51 05.5	Δ = 58.5 km.
		P_2	19 51 15	
		e	19 51 42.5	
		S_n	19 52 04	
		S_2	19 52 29	
		S_1	19 52 43.5	
22	O	e	20 09	
23	V	e	00 09 06	East coast of Formosa
24	O	e	04 14 49	USCGS: 20S, 169E; 03:55:55 New Hebrides
		L	04 56	
	V	e	04 09 02	
	SF	e	04 59	
24	V	e	09 18 24.5	
24	O	e	13 01 06	USCGS: 16 1/2N, 58 1/2W; 12:54:40. Off Dominican Republican
	V	e	13 04 56.5	
	SH	e	13 01 13	
25	O	iP	08 42 43 d	USCGS: 65 1/2N, 15 1/2W; 08:34:32. 100 mi. NW of Fairbanks
		e	08 49 18	
		e	08 52.5	
		L	08 57.5	
	V	P	08 39 32.5 d	
		S	08 43 42.5	
		L	08 46.2	
	S	e	08 44 50	
		L	08 47.1	
	H	e	08 58 36	

DATE	STN.	PHASE	h	m	s	REMARKS
25 (cont'd)	SF	P	08	42	54	
		PS	08	52	00	
		SS	08	52	.8	
		L	08	57	.9	
	SH	e	08	42	44	
25	O	e	18	53	33	USCGS: 13N, 142 1/2E; 18:35:00
		e	19	00	02	d = 100 km. 150 mi. W. of Guam
		e	19	03	37	
		e	19	09	.7	
		L	19	25		
	V	iP	18	47	20.5 c	Δ = 82°5
		e	18	47	45.5	
		iS	18	57	27.5	
		L	19	09		
	S	i	18	58	27	
		i	18	58	52	
		L	19	11		
	H	e	19	00	25	
		L	19	29		
	SF	e	19	04	.7	
		e	19	14	.6	
		L	19	25		
26	O	eP'	01	36	00	Δ = 118°
		PP	01	37	24	
		PPP	01	40	38	
		SKS	01	43	22	
		PS	01	47	10	
		e	01	49	55	
		SS	01	54	48	
		L	02	08		
	V	P	01	30	11	Δ = 93°5
		i	01	30	33	
		PP	01	33	37	
		eS	01	41	04	
		e	01	41	39	
		PS	01	42	37	
		SS	01	47	42	
		SSS	01	54	.3	
		L	01	59	.3	
	S	P	01	31	22	Δ = 103°5
		PP	01	35	42	
		SKS	01	42	02	
		PS	01	44	38	
		SS	01	50	15	
		SSS	01	54	05	
		L	02	05		
	H	P'	01	36	35	Δ = 130°
		e	01	39	41	
		PKS	01	39	59	
		SKKS	01	45	41	
		PS	01	48	55	
		PPS	01	50	41	
		SS	01	56	13	
		L	02	12	.5	
	SF	P'	01	36	27	Δ = 121°
		PP	01	38	10	
		e	01	39	28	
		PS	01	48	48	
		e	01	48	24	
		PPS	01	49	27	
		SS	01	55	16	
		L	02	18		
	SH	e	01	36	16	

DATE	STN.	PHASE	h	m	s	REMARKS
26	V	e	02	08	42	
26	V	e	14	45	02	Marianas
27	SF	e	13	42		
27	V	e	14	38	34	Fiji Is.
28	O	e	01	55	40	USCGS: 20S, 169E; 01:36:44
		e	01	59	14	New Hebrides
		L	02	35		
	V	i	01	49	52.5	
		e	02	00	53	
		L	02	22		
	S	e	02	04	02	
		L	02	23		
	H	e	01	59	20	
		L	02	43.5		
	SF	e	02	37		
28	V	e	16	23	04 c	
30	V	e	01	23	46	
		e	01	30		
30	V	e	15	15	38	Tonga Is.
		e	15	25.1		
	SF	e	15	27	39	
		L	15	43.5		
31	O	i	09	30	53 d	USCGS: 84S, 74W; 09:21:45
	V	e	09	32	51.5	d = 150. East Central Peru
	SH	e	09	31	01	
31	V	e	13	25	09	
		e	13	34.4		
31	SF	P_1	21	46	48.3	
		S^1	21	46	51.5	

W. G. Milne
Assistant Seismologist

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa
V - Victoria
S - Saskatoon
H - Halifax
SF - Seven Falls
SH - Shawinigan Falls
R - Rolphton
L - La Cave

June, 1950 — No. 25

DATE	STN.	PHASE	h m s	REMARKS
1	V	eZ	19 08 42	
2	V	eZ	19 04 16	
2	V	eZ	19 37 00	
2	V	eZ	23 55 20	
3	V	eZ	13 18 43	
5	O	ePZ	11 24 41	Δ = 47°
		eS	11 31 30	USCGS: 87N, 45E; 11:16:12
		L	11 35.2	North Polar region
	V	eE	11 41.0	
	S	ePP	11 25 22	
		i	11 30 12	
		LNE	11 36.1	
6	V	eZ	19 30 20	
6	V	eZ	21 30 33	
7	O	iP	17 01 17 d	Δ = 47°8
		e	17 03 08	USCGS: 4S, 76 1/2W; 16:52:34
		SE	17 08 13	d = 100. North Peru
		SN	17 08 14	
		e	17 09 06	
		L	17 11.9	
	V	P	17 03 25 d	Δ = 66°0
		S	17 12 02	
		sSE	17 12 55	
		LE	17 25	
	S	i	17 10 59	
		i	17 11 49	
	SF	P	17 01 32	Δ = 52°0
		S	17 08 45	
		sS	17 09 36	
	SH	iP	17 01 27	
		e	17 04 29	
		e	17 06 38	
		S	17 08 36	
8	O	iPP	16 26 09	Δ = 105°
		iSKS	16 32 24	USCGS: 45 1/2S, 15W; 16:07:33
		iS	16 35 22	d > N. S. of Tristan da Cunha
		L	16 58	
	V	eP'Z	16 26 51	
		ePPZ	16 29 17	
		PKS	16 30 27	
		SKP	16 31 30	
		SS	16 46 54	
		L	17 07	

DATE	STN.	PHASE	h m s	REMARKS
8 (cont'd)	H	PP	16 25 27	Δ = 99°5
		SKS	16 32 00	
		PS	16 34 20	
		LE	16 53.5	
	SF	PP	16 26 01	Δ = 102°
		SKS	16 32 24	
		L	16 56	
9	V	eZ	08 32 11	Marianas Islands
9	V	eZ	09 29 23	Guatemala d = 100
		eZ	09 30 02	
9	V	eZ	13 09 32	California
		eZ	13 09 48	
11	V	eZ	03 50 29	
11	V	eZ	13 47 15	Chile d = 100
		eZ	13 47 46	
		eN	13 57 30	
	SH	e	13 45 36	
11	V	eZ	17 31 08	Japan
11	V	eZ	20 28 43	Chile
11	O	iZ	22 31 00	South Pacific Ocean
		L	23 25	
	V	e	23 12	
	SF	e	23 27	
13	V	iZ	18 48 43 c	
13	V	iZ	18 49 56 c	
14	V	eZ	03 56 26	Tonga Islands
14	SF	e	04 39	
14	V	eZ	04 54 53	New Hebrides
14	V	eZ	05 55 16	Hawaii
14	O	eZ	08 09 00	
	V	iZ	08 10 55	
		eZ	08 13 56	
14	V	iZ	15 47 09 d	
14	V	iZ	15 48 09 d	
14	V	iZ	16 43 46 d	
14	V	iZ	16 44 46 d	
14	V	iZ	17 54 28 d	
14	V	iZ	17 55 28 d	
15	V	eZ	00 59 57	
15	V	eZ	23 58 55	Fiji Islands
		i	00 08 38	

DATE	STN.	PHASE	h m s	REMARKS
17	V	eZ	11 52 23	Northern California
17	V	eZ	12 05 53	Northern California
17	O	iZ	16 15 14	
17	V	eZ	22 28 43 d	Argentina d = 200
17	V	eZ	22 48 28	Japan
19	O	P'Z	12 56 39	Δ = 148°
		iZ	12 59 38	USCGS: 8S,112E; 12:36:58
		SKKS	13 05 58	Eastern Java
	V	PZ	12 55 43	Δ = 116°
		eZ	12 55 54	
		PP	12 56 46	
		SKS	13 02 41	
		SKKS	13 03 20	
		iPSE	13 06 43	
		SS	13 11.5	
		L	13 31.3	
	S	eN	13 02 37	
		L	13 15	
	SF	eE	13 17.7	
		L	13 42	
19	V	eZ	13 06 03	
19	V	iPZ	18 31 40.0 d	Δ = 685 km.
		iZ	18 31 53.0	USCGS: 44N, 127W; 18:30:15
		iZ	18 31 59.5	Off coast of Oregon
		iZ	18 32 13.5	
		iS	18 32 44.0	
		iZ	18 33 03.0	
		iZ	18 33 14	
20	O	eZ	20 16 37	
21	O	P'Z	07 14 34	Δ = 121°0
		PP	07 16 09	USCGS: 21S, 169E; 6:55:39
		SKS	07 21 31	New Hebrides
		e	07 21 46	
		PS	07 25.5	
		L	07 53	
	V	P	07 08 48	Δ = 93°8
		SKS	07 19 17	
		S	07 20 03	
		PS	07 21 06	
		SS	07 26 00	
		G	07 33.0	
		L	07 37.0	
	S	ePNW	07 09 34	Δ = 105°
		ePP	07 13 52	
		SKS	07 20 10	
		PS	07 23 00	
		PPS	07 24 00	
		e	07 29 15	
		SSS	07 32 30	
		G	07 38 40	
		L	07 43.5	
	H	e	07 18 20	
		L	07 59.9	

DATE	STN.	PHASE	h	m	s		REMARKS
21 (cont'd)	SF	PPE	07	16	27		Δ = 128°
		PKSE	07	17	51		
		PSE	07	26	26		
		PPSE	07	27	33		
		SSE	07	33	37		
		L	07	56			
21	V	eZ	10	09	19		
21	S	eNW	10	23	20		
		e	10	29	30		
		L	10	39.5			
22	S	i	08	45	56		
		e	08	47	45		
		L	08	49	00		
22	V	eZ	20	53	22		Equador
23	O	eZ	01	51	19		
23	V	eZ	03	56	18		Guatemala
	SF	eZ	03	55	37		
		L	04	08			
23	SH	e	21	07	37		
24	SH	e	11	24	51		
24	O	P'Z	22	44	24		Δ = 122°
		PPZ	22	45	58		USCGS: 19 1/2S, 168 1/2E;
		eZ	22	47	57		22:25:31. New Hebrides
		SKSZ	22	51	18		
		PSZ	22	55	44		
		LZ	23	53			
	V	P	22	38	38	c	Δ = 90°1
		PP	22	42	16		
		SKS	22	49	09		
		S	22	49	50		
		PS	22	50	51		
		SS	22	56.0			
		L	23	07.6			
	H	e	22	48	13		
		L	23	28			
	S	ePNW	22	39	30		Δ = 103°
		ePPNW	22	43	45		
		SKS	22	50	15		
		PS	22	52	49		
		PPS	22	53	50		
		SS	22	58	45		
		SSS	23	02	24		
		GNE	23	08.5			
		LNW	23	13.5			
	SF	PPE	22	46	16		Δ = 127°
		PKSE	22	47	44		
		SKKSE	22	53	30		
		eE	22	55	07		
		PSE	22	56	12		
		PPSE	22	57	28		
		eE	22	58	36		
		SSE	23	03	25		
		LE	23	26			

DATE	STN.	PHASE	h	m	s	REMARKS
25	O	PZ	11	24	54	
		eZ	11	28	24	
		LE	12	07		
	V	PZ	11	19	33	Δ = 90°1
		S	11	29	44	
		L	11	46		
	S	e	11	30	43	
		LNW	11	47.5		
25	V	eZ	21	10	40	
25	V	eZ	21	39	19	
25	V	eZ	22	40	16	
26	O	eZ	02	32	18	
		iZ	02	35	52	
	V	eZ	02	31	28	
26	V	eZ	21	21	20	
27	V	eZ	04	42	27	Japan
27	O	PZ	15	54	28	USCGS: 45 1/2N, 140E; 15:41:54
		LZ	16	25		Off NE coast of Japan
	V	iP	15	52	15 c	Δ = 64°5
		S	16	00	47	
		GN	16	08.4		
		LN	16	19.9		
	S	e	16	02	02	
		L	16	17		
	H	L	16	21		
	SF	PZ	15	54	28	Δ = 88°
		SE	16	04	56	
		LE	16	24		
	SH	eN	15	54	27	
27	V	eZ	21	04	30	
28	V	eZ	04	33	22	
		eZ	04	35	58	
28	V	eZ	23	40	50	
29	O	eZ	00	26	39.5	
		eZ	00	26	45	
		lZ	00	28		
	V	eZ	00	28	16	
		eZ	00	28	31	
		LZ	00	33		
29	O	PnZ	09	16	14	
		P_2Z	09	16	24.0	
		iZ	09	16	31.5	
		eZ	09	16	37.5	
		SnZ	09	17	10	
	SF	Pn	09	14	24.5	Δ = 337 km.
		P_1	09	14	32.5	
		Sn	09	14	59	
		S_2	09	15	09.4	
		S_1	09	15	16.5	
		e	09	15	20.5	
		e	09	15	31	

DATE	STN.	PHASE	h	m	s	REMARKS
29 (cont'd)	SH	g	09	15	16	
		e	09	15	30.5	
		e	09	15	46.5	
		e	09	15	56.0	
		e	09	16	00	
		e	09	16	04.5	
30	O	iZ	11	03	07.5	
		eZ	11	03	41	
	V	eZ	11	05	08	
30	SF	P_1Z	16	32	14.8	Baie St. Paul?
		S_1Z	16	32	21.2	
30	V	P_1Z	20	29	09.0	Δ = 50 km.
		S_1Z	20	29	16.0	
		S_2Z	20	29	17.4	
30	V	eZ	22	57	16	

W. G. Milne
Assistant Seismologist

SEISMOLOGICAL BULLETINS RECEIVED

May, 1950

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATION	BULLETINS
Kalocsa	March, 1950
Budapest	March, 1950
Japan	January, 1950
Tacubaya	March, 1950
Trieste	January, February, 1950
De Bilt	March, 1950
Rome	February, 1950
Santa Clara	April, 1950
Saint Louis and Auxiliary Stations	Preliminaries - December 17, 18, 21, 22, 25
Prague	March, 1950
Eger	March, 1950
Stara Dala	March, 1950
Hautes Tatra	March, 1950
Stuttgart	October-December, 1949
Richmond	March, 1950
Lisbon	January-March, 1950
India	December, 1949
Cartuja	April-June, 1947
Helsinki	January-March, 1950
South Africa	February, 1950
Weston	April, 1950
Tokyo	1940-1942
Beograd	March, 1950
Athens	March, 1950
Tortosa	April, 1950
Ksara	January-March, 1950
Japan	February, 1950
Tananarive	July, 1949
Ireland	January-March, 1950
Helwan	March, 1950
Santa Clara	April, 1950
Weston	April, 1950
Belgrade	March, 1950
Perth	September-December, 1949
Budapest	April, 1950
Kalocsa	April, 1950
Toledo	January, 1950
Brisbane	February, 1950
De Bilt	April, 1950
Japan	1940-1942

June, 1950

Prague	April, 1950
Zagreb	January-June, 1949
Harvard	July-December, 1949
Budapest	May, 1950
Kalocsa	May, 1950
South Africa	March, April, 1950
Rome	March, 1950
Athens	April, 1950
Mexico	April, 1950
Malaga	November, 1949
Japan	March, 1950
Stuttgart	January-March, 1950
Istanbul	July-December, 1949
	January-March, 1950

SEISMOLOGICAL BULLETINS RECEIVED
June, 1950
(cont'd)

Almeria	September, October, 1949
Santiago	July-December, 1949
India	January-March, 1947
Istanbul	1944
Helwan	April, 1950
India	January, 1949; January, 1950
Lisbon	1946
Hautes Tatra	April, 1950
Stara Dala	April, 1950
Eger	April, 1950
Richmond	April, 1950
Batavia	July-September, 1949
Pasadena	Locals October-December, 1949
Wellington	January, 1950; January-March, 1948
Belgrade	April, 1950
Brisbane	January, 1950
Zurich	March, April, 1950

Dominion Observatory,
Ottawa - Canada,
August 16, 1950.

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

DOMINION OBSERVATORIES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

July and August

1950

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DOMINION OBSERVATORY

OTTAWA - CANADA

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SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
Ernest A. Hodgson, Chief, Seismological Division

S T A T I O N S

OTTAWA

φ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, respectively, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

φ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200 g.

SEVEN FALLS

Quebec Power Company

φ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15g., SM a paper speed of 8 mm. per min. and mass 1 lb.

S T A T I O N S (Cont'd)

VICTORIA

Dominion Astrophysical Observatory

φ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Benioff Vertical, short-period, designated B 5705, photographic registration, paper speed of 60 mm. per min., mass 235 lbs., installed June, 1948.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

φ = 46°33'1 N. λ = 72°45'8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument: Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15g.

SASKATOON

University of Saskatchewan

φ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instrument: Milne-Shaw NE and NW components, designated 18 and 22, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

DETERMINED CONSTANTS

INSTRUMENT	Ts	Tg	V	ε	DISPLACEMENT FOR 1" ARC TILT
17 (Ottawa)	12.0		300	20:1	50 mm.
23 (Ottawa)	12.0		300	20:1	50 mm.
BS (Ottawa)	1.0	0.1			
BL (Ottawa)	1.0	48			
HN (Halifax)	5.0		125	20:1	
HE (Halifax)	5.0		125	20:1	
SA (Shawinigan)	1.0		2200		
B 5705 (Victoria)	1.0	0.1			
20 (Victoria)	12.0		300	20:1	50 mm.
21 (Victoria)	12.0		300	20:1	50 mm.
SF (Seven Falls)	1.0		2200		
SM (Seven Falls)	12.0		300	20:1	50 mm.
18 (Saskatoon)	10.0		150	20:1	18 mm.
22 (Saskatoon)	10.0		150	20:1	18 mm.

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATIONS:

O – Ottawa
V – Victoria
S – Saskatoon
H – Halifax
SF – Seven Falls
SH – Shawinigan Falls
R – Rolphton
L – La Cave

July, 1950 — No. 31

DATE	STN.	PHASE	h m s	REMARKS
2	O	eZ	22 57 14.5	Central Columbia
	V	eZ	23 59 43	H = 22 49 24
	SF	e	23 03 53	
3	O	eZ	10 22 27	Caroline Islands region
		eZ	10 23 34	H = 10 03 36
	V	iPZ	10 16 25 d	Δ = 85°3
		SKS	10 27 04	
		SE	10 27 14	
		PS	10 28 34	
	S	e	10 28 28	
	SF	eE	10 23 44	
3	V	eZ	12 41 58	
4	O	eZ	16 34 17	
4	V	iPnZ	20 02 51.4	Δ = 120 km.
		iSnZ	20 03 06.0	
5	O	eZ	03 53 54	
5	S	e	18 45 04	
6	O	eZ	04 15 26	
7	O	eZ	17 13 02	Solomon Islands
		L	17 53	H = 16 46 55
	V	ePZ	16 59 42	Δ = 89°5
		PP	17 03 07	
		S	17 10 16	
		PS	17 11 31	
		SS	17 16.4	
	S	e	17 13 30	
		e	17 20 50	
		L	17 26.5	
	H	L	17 51.8	
	SF	eE	17 07 23	
		e	17 14 19	
		L	17 42.4	
7	V	eZ	17 06 19	Solomon Islands
8	O	eZ	16 05 23	
9	V	e	00 26.7	Solomon Islands
	SF	L	01 04.2	
9	O	iPZ	01 52 05 d	Δ = 85°7
		PP	01 55 18	South west of Easter Islands
		SKSN	02 02 24	H = 01 39 29
		S	02 02 33	
		SS	02 07 58	
		L	02 16.1	

DATE	STN.	PHASE	h	m	s		REMARKS
9 (cont'd)	V	ePZ	01	51	51	c	Δ = 82°0
		SKS	02	01	28		
		SS	02	06	45		
		L	02	18			
	SF	P	01	52	20		
		S	02	02	51		
		e	02	04	01		
		L	02	16	.2		
9	O	iPZ	02	42	47	d	USCGS: φ = 8°N, λ = 73°W
		pP	02	44	06		Northern Columbia
		S	02	48	43		
		L	02	56			
	V	iPZ	02	45	32	c	Δ = 58°5
		i	02	45	37		
		i	02	45	42		
	SH	iP_N	02	42	56		
		e	02	43	03		
	SF	eE	02	43	00		
9	O	iP_{ZEN}	04	48	29.5	d	Δ = 50°3
		PcP	04	49	29		h = 600+ km.
		pP	04	50	25		USCGS: φ = 8 1/2°S, λ = 71°W;
		PP	04	50	46		H = 4 39 56
		sP	04	51	33		Western Brazil
		PcS	04	53	02		
		sPP	04	53	37		
		S	04	55	15		
		i	04	55	21		
		e	04	56	04		
		ScS	04	57	11		
		sS	04	58	52		
		$P'_2P'_2Z$	05	18	04		
	V	iP_{ZEN}	04	50	33.5	d	Δ = 8300 km.
		iZ	04	51	28		
		pP	04	52	45		
		PP	04	53	.7		
		e	04	55	04		
		S	04	59	12		
		i	04	59	18		
		PKKP	05	09	18		
	H	P_{EN}	04	48	28		Δ = 50°3
		PP	04	50	26		
		e	04	51	36		
		e	04	53	26		
		S	04	55	12		
		i	04	57	10		
		SS	04	58	48		
	SH	P_N	04	48	37		
		S	04	55	33		
		e	04	57	21		
	SF	P	04	48	40		Δ = 6270 km.
		e	04	48	50		
		iS	04	55	38		
		ScS	04	57	20		
		sS	04	59	09		

DATE	STN.	PHASE	h m s	REMARKS
9	O	iPZ	04 58 31 d	Same epicentre as previous earthquake
		PcP	04 59 27	
		pP	05 00 30	H = 04 49 58
		PP	05 01 24	
		S	05 05 16	
		eZ	05 05 27	
		ScS	05 07 12	
		sS	05 08 51	
		$P'_2P'_2Z$	05 28 05	
	V	iPZ	05 00 34 d	
		S	05 09 14	
		sS	05 12 48	
	H	PPP	05 01 24	
		S	05 05 10	
		e	05 07 08	
		SS	05 08 44	
	SH	P	04 58 39	
	SF	P	04 58 42	
		sP	05 01 23	
		S	05 05 35	
		e	05 05 41	
		ScS	05 07 15	
		sS	05 09 10	
9	O	ePZ	09 53 27 d	Same epicentre as previous earthquake
		PcP	09 54 27	
		pP	09 55 26	H = 09 44 55
		PP	09 56 32	
		S	10 00 12	
		ScS	10 02 11	
		sS	10 03.6	
	V	iPZ	09 55 30 c	
		ipP	09 57 41	
		iS	10 04 10	
	H	e	10 00 08	
		e	10 02 06	
	SH	P	09 53 37	
		e	09 55 33	
		S	10 00 25	
	SF	P	09 53 39	
		PcP	09 54 30	
		S	10 00 34	
		ScS	10 02 21	
		sS	10 04 09	
9	V	iP_nZ	08 04 48.5 d	Δ = 685 km.
		P_2	08 04 59.5	
		P_1	08 05 09.5	
		S_n	08 05 55	
9	V	ePZ	12 44 14	
9	O	iPZ	16 23 11 c	Pakistan
		ipP	16 24 07	H = 16 09 53
		e	16 26 54	
		i	16 28 06	
		L	16 36	
	V	i	16 23 16	
		e	16 24 11	
		e	16 24 44	
	SF	e	16 22 57	
		e	16 33 29	
		e	16 34 43	
		e	16 35 09	

July, 1950

DATE	STN.	PHASE	h	m	s		REMARKS
9	O	eZ	19	29	47		Easter Islands
	V	eZ	19	30	55		
10	V	eZ	05	53	07		
		eZ	05	53	53		
		eZ	05	56	18		
	SF	e	05	56	13		
		L	06	37			
11	O	eZ	16	26	23		
12	O	iZ	01	45	28	d	Galapagos Islands
	V	PZ	01	45	33		
		S	01	52	52		
		L	02	02			
12	O	PZ	11	18	56		Δ = 57°.6
		S	11	26	46		USCGS: φ = 53°N, λ = 166°W;
		L	11	33			H = 11 09 15, Aleutian Islands
	V	iPZ	11	15	03	d	Δ = 29°
		S	11	19	50		
		L	11	23			
	S	e	11	21	56		
		L	11	26	.5		
	SH	e	11	19	00		
	SF	eP	11	19	04		Δ = 59°
		S	11	27	00		
		SS	11	31	17		
		SSS	11	33	24		
		L	11	36			
12	V	eZ	12	00	17		
12	V	eZ	15	54	46		
12	O	eZ	16	57	35		
12	V	$ePnZ$	20	41	37.5		Δ = 120 km.
		eSn	20	41	52		
12	V	iZ	21	34	51	c	Karafuto H = 21 26 25 h = 500 km.
13	O	PZ	04	16	49		Δ = 11,020 km.
		pP	04	18	45		USCGS: φ = 27 1/2 N, λ = 139 1/2E
		PP	04	21	00		h = 500 km., H = 04 03 50
		SKS	04	26	35		Bonin Islands
		SP	04	29	06		
	V	PZ	04	14	42		Δ = 8200 km.
		pP	04	16	27		
		i	04	17	29		
		PP	04	17	34		
		S	04	23	28		
		i	04	23	32		
	S	P	04	15	23		Δ = 73°.5
		S	04	24	50		
		i	04	25	04		
	SF	PP	04	21	01		Δ = 11,200 km.
		SKS	04	26	35		
		S	04	27	35		
		SP	04	29	11		

DATE	STN.	PHASE	h m s	REMARKS
13	V	P_nZ	07 49 48.0	Δ = 175 km.
		P_l	07 49 50.0	
		S_n	07 50 07.5	
		S_l	07 50 11.5	
14	V	L_{EN}	12 20.0	
15	O	iZ	13 47 54.0	May not be seismic
		i	13 47 57.0	
		i	13 48 10.5	
		i	13 48 15.0	
15	V	eZ	23 27 24	
16	V	eP_lZ	04 56 23.6	Δ = 60 km.
		e	04 56 29.0	
		S_l	04 56 31.4	
		i	04 56 43.9	
16	O	eZ	12 07 32	
17	V	iP_Z	20 30 53 c	Δ = 91°.4
		PP	20 35 05	New Hebrides Islands
		S	20 41 46	H = 20 17 50
		PS	20 42 35	
		PPS	20 43 37	
	SF	L	21 16	
17	V	eP	21 22 00	
19	O	eP	11 02 31	Aleutians region
		L	11 26	H = 10 51 54
	V	P_Z	10 59 01	Δ = 37°.6
		PcP	11 01 26	
		S	11 04 46	
	S	e	11 10 03	
		L	11 15.3	
20	O	iP_Z	03 14 57 d	Northern Chile
				H = 3 03 45
				L = 100 km.
20	O	$eP'Z$	09 49 36	111°.5
		PP	09 50 42	USCGS: φ = 17°S, λ = 174°E
		S	09 58 34	
		PS	09 59 43	
		SSS	10 06 48	
		L	10 14.5	
	V	P	09 43 31	Δ = 87°.5
		SKS	09 53 52	
		S	09 54 11	
		SS	09 59 28	
	S	PP	09 48 30	Δ = 97°.5
		SKS	09 55 00	
		S	09 55 48	
		PS	09 57 09	
		SS	10 02 34	
		SSS	10 06 08	
	H	L	10 06	
	SF	iPP	09 51 03	Δ = 120°
		PS	10 00 49	
		SS	10 07.7	

DATE	STN.	PHASE	h m s	REMARKS
20	O	eP_nZ	18 38 02	Δ = 150 km.
		S_n	18 38 21	
		L	18 38 29	
21	O	e_Z	07 37 43	Kermadec Islands
21	O	e_Z	08 24 54	
		e	08 25 48	
	V	i_Z	08 26 57 d	
21	V	e_Z	17 42 40	
		e	17 42 42	
21	O	e_Z	18 20 40	
21	O	eP_n	18 49 20.5	Δ = 150 km.
		S_n	18 49 38	
		L	18 49 45	
21	O	eP'Z	20 50 50	Δ = 117°
		PP	20 52 14	USCGS: φ = 15 1/2° S
		SKS	20 57 56	λ = 168 1/2° E
		S	20 59 41	H = 20 32 01
		e	21 00 14	New Hebrides
		PS	21 01 50	
		e	21 04 14	
		SS	21 08 36	
		L	21 25.5	
	V	PZ	20 44 52	Δ = 85°0
		i	20 44 57	
		PP	20 48 23	
		S	20 55 14	
		e	20 55 43	
		PS	20 56 50	
	H	e	20 54 32	
		L	21 38	
	SF	P'	20 51 04	Δ = 121°4
		PP	20 52 36	
		PS	21 02 24	
		L	21 31	
22	O	eZ	19 45 28	
22	O	P'	23 26 48	New Hebrides
		PKKP?	23 37 05	H = 23 07 45
	V	eZ	23 20 43	
		e	23 22 42	
		L	23 49	
	S	L	23 58	
	SF	L	00 08	
23	O	P'	16 09 11	New Hebrides
		PKKP?	16 19 28	H = 15 50 31
	SF	L	16 50	
23	O	P	23 38 08	Puerto Rico
25	O	eZ	18 12 32	Atlantic Ocean
		e	18 21 14	
		L	18 26 18	

DATE	STN.	PHASE	h m s	REMARKS
27	O	e	11 40 30	
		L	11 46.7	
	V	L	11 38.7	
	S	e	11 40 26	
	SF	L	11 49.2	
27	V	iPZ	17 41 52 d	Fiji Islands H = 17 30 29
		i	17 51 12	L = 600 km.
28	O	e	03 43 05	
	V	e	03 29 30	
		L	03 35.6	
	S	e	03 36.5	
28	O	L	05 36.1	Santa Cruz Islands
	V	iPZ	05 07 59	
		i	05 08 20	
		i	05 18 43	
		L	05 35	
	S	L	05 39	
	H	L	06 09	
	SF	L	05 53	
28	V	eZ	05 36 10	
28	O	L	17 44.5	
28	O	eP	17 57 27	
		L	18 08.2	
	V	eP	17 54 46	$\Delta = 18°.5$
		S	17 58 07	
		L	17 59.7	
	S	e	17 55 45	
		S	17 59 18	
		L	18 01.6	
	H	L	18 12	
	SH	L	18 09	
	SF	L	18 10	
29	O	ePZ	14 43 10	
		L	14 53.8	
	V	ePZ	14 40 30	
		S	14 43 57	
		L	14 45.7	
	S	S	14 44 59	
		L	14 46.9	
	H	L	14 57.9	
	SH	L	14 54.7	
	SF	L	14 56	
29	O	eP'	17 04 48	$\Delta = 14,530$ km.
		i	17 05 02	USCGS: $\varphi = 2\ 1/2°$ N, $\lambda = 127\ 1/2$E
		pP'	17 05 40	Molucca Passage
		PP	17 07 10	
		sPP	17 08 24	
		SKS	17 11 54	
		SKKS	17 13 55	
		SKKP	17 18 00	
	V	iPZ	16 59 47 d	$\Delta = 101°.4$
		SKS	17 10 19	
		PS	17 12 57	
		L	17 32	

DATE	STN.	PHASE	h m s	REMARKS
29 (cont'd)	S	PP	17 04 56	Δ = 108°.5
		SKS	17 10 59	
		SKKS	17 11 49	
		PS	17 14 24	
		SS	17 20 04	
		L	17 37.5	
	H	e	17 08 39	
	SH	e	17 05 02	
	SF	e	17 07 10	
		L	17 34	
29	O	L	19 03	
	V	L	18 52	
	SF	L	19 02.7	
29-30	O	iP'Z	00 07 52 c	USCGS: φ = 6°S, λ = 155°E
		PP	00 09 17	H = 23 48 58
		PPP	00 11 50	Solomon Islands
		SKS	00 14 44	
		SKKS	00 16 20	
		PS	00 19 10	
		PPS	00 21.1	
		SS	00 25.9	
		L	00 45	
	V	iPZ	00 01 56 c	Δ = 91°
		SKS	00 12 00	
		SKKS	00 12 46	
		S	00 13 54	
		PS	00 18 56	
		PPS	00 22 10	
		SS	00 25.5	
		L	00 29.4	
	S	P	00 02 46	
		PP	00 06 51	
		SKS	00 13 20	
		PS	00 15 48	
		SS	00 21 18	
		SSS	00 25 07	
		L	00 32.5	
	H	e	00 11 32	
		e	00 20 26	
		e	00 27 12	
		L	00 46.7	
	SF	P	00 08 00	Δ = 122°.4
		e	00 09 40	
		e	00 14 49	
		e	00 16 33	
		e	00 21 01	
		e	00 26 16	
		L	00 49	
30	O	iZ	00 41 27 c	
		i	00 41 43	
31	O	eZ	19 04 23	

W. G. Milne
Assistant Seismologist

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa
S - Saskatoon
V - Victoria
H - Halifax
SF - Seven Falls
SH - Shawinigan Falls
R - Rolphton
L - La Cave

August, 1950 No. 39

DATE	STN.	PHASE	h m s	REMARKS
1	V	eZ	02 14 55	Japan
		e	02 15 04	
1	O	L	08 54.5	
	V	e	08 41 18	
		L	08 47	
	S	L	08 48.0	
	H	L	08 56.4	
	SH	L	08 55.8	
	SF	L	08 57	
1	O	eZ	09 24 18	Northern Japan
	V	eZ	09 21 56	H = 09 11 39
	S	e	09 31 36	
		L	09 45	
	SF	e	09 34 46	
1	O	eZ	10 55 39	
2	O	L	11 40	Marianas Islands
	V	iPZ	11 02 37 c	H = 10 50 07
		i	11 12 59	
		L	11 29	
	S	e	11 13 58	
		L	11 30.5	
	SF	e	11 15.7	
		L	11 39	
2	SF	eP	14 03 11	
		L	14 34	
2	O	ePnZ	17 33 05	Δ = 150 km.
		eSnZ	17 33 23	
3	O	iPZ	06 21 28 d	South Mexico
		iZ	06 22 47	H = 06 14 54
		iNE	06 23 09	
		iZ	06 24 07	
		iNE	06 26 46	
	V	iPZ	06 21 44 d	
		e	06 30 33	
		L	06 34.8	
	S	e	06 31 24	
		i	06 33 23	
		L	06 35.5	
	SH	e	06 21 48	
	SF	P	06 21 59	
		PP	06 23 41	

DATE	STN.	PHASE	h m s	REMARKS
3	O	P_nZ	09 34 07.0	Δ = 280 km.?
		P_2	09 34 10.0	
		S_n	09 34 36.2	
		i	09 34 38.6	
		S_1	09 34 48.0	
	SF	P_n	10 32 05.5	Δ = 265 km.
		e	10 32 13.8	
		S_n	10 32 34	
		e	10 32 43	
3	V	eZ	15 09 19	Honshu, Japan
3	O	ePZEN	22 25 29	Δ = 35°.4
		PP	22 26 32	USCGS: φ = 10°N, λ = 69 1/2°W
		PcP	22 27 48	H = 22 18 18
		eZ	22 29 38	Northern Venezuala
		S	22 31 02	
		SS	22 33 22	
	V	iPZ	22 28 20 c	
		S	22 36 25	
		e	22 43.6	
	S	iP	22 27 31	Δ = 52°
		PcP	22 28 48	
		PP	22 29 28	
		PPP	22 30 34	
		iS	22 34 50	
		PS	22 35 13	
		ScS	22 37 17	
		SS	22 38 25	
		SSS	22 40.3	
	H	P	22 25 20	
		PP	22 26 36	
		S	22 30 53	
		SS	22 33 23	
	SH	P	22 25 28	
		PP	22 26 48	
	SF	P	22 25 34	Δ = 37°.5
		PP	22 27 09	
		S	22 31 22	
		SS	22 34.8	
4	SF	P_1	06 45 29.5	Baie St. Paul?
		S_1	06 45 36	Δ = 52 km.
	O	P	06 47 31	
4	O	iP_1Z	14 29 41.5 c	Cornwall-Massena aftershock
		P_2	14 29 43.2	Δ = 82 km.
		i	14 29 45.6	H = 14 29 28
		iS_1	14 29 51.6	
	SH	P_n	14 30 05.0	Δ = 236 km.
		S_n	14 30 30.8	
		e	14 30 33.4	
	SF	P_n	14 30 26	Δ = 355 km.
		S_n	14 31 03	
		e	14 31 12	
5	O	iP'Z	09 36 14	Δ = 146°
		PP	09 39 20	USCGS: φ = 50°S, λ = 164°E
		PKS	09 43 04	H = 09 16 48
		SKKS	09 46	Auckland Islands
		iPS	09 49	
		PPS	09 52	
		SS	09 58	

DATE	STN.	PHASE	h	m	s		REMARKS
5 (cont'd)	V	P'Z	09	35	26		Δ ÷ 120°
		PP	09	36	37		
		e	09	37	53		
		PPP	09	39	56		
		SKS	09	42	28		
		PS	09	46	25		
		PPS	09	48	11		
	S	PP	09	37	51		Δ = 126°
		SKS	09	43	01		
		PS	09	47	47		
	H	P'	09	36	39		Δ = 151°5
		PP	09	40	06		
		i	09	50	14		
		SS	09	59	27		
		e	10	01	06		
	SF	P'	09	36	24		Δ = 146°
		PP	09	39	44		
		SKKS	09	45	44		
		PS	09	49	55		
		PPS	09	53	48		
		SS	09	59	04		
5	V	eZ	10	55	17		
5	SF	e	13	59	01		
5	O	iP_1Z	23	59	21.2		Cornwall-Massena
		S_1Z	23	59	31.6		
	SH	e	23	59	43.0		
		e	00	00	09.8		
	SF	eS	00	00	53		
7	O	P'Z	03	03	47		Δ = 123°
		PP	03	05	28		USCGS: φ = 6°N, λ = 126°E
		e	03	06	06		H = 02 44 44
		SKS	03	10	25		Philippine Islands
		PS	03	15	10		
		SS	03	21	44		
	V	iPZ	02	58	29	c	Δ = 94°
		PP	03	02	04		
		e	03	06	02		
		SKS	03	08	57		
		S	03	09	46		
		PS	03	11	15		
		SS	03	16	6		
	S	SKS	03	09	36		Δ = 107°5
		S	03	10	55		
		PS	03	12	31		
		PPS	03	13	25		
		SS	03	18	28		
		SSS	03	23	44		
	H	PP	03	06	59		
		PS	03	16	15		
		SS	03	25	07		
	SH	e	03	03	49		
	SF	P	03	03	47		
		e	03	05	34		
		e	03	22	09		
7	O	iPZ	16	06	37	d	Molucca Passage
		e	16	08	41		
		e	16	10	10		
	V	iPZ	16	01	23	c	
	SH	e	16	09	08		
	SF	e	16	09	58		

August, 1950 No. 42

DATE	STN.	PHASE	h m s	REMARKS
8	O	ePZ	05 19 18	South-east Alaska
		L	05 31.5	
	V	L	05 15.5	
	S	e	05 20 32	
		i	05 20 58	
	H	L	05 35.2	
	SH	L	05 31.9	
	SF	L	05 32.3	
8	V	eZ	20 40 33	
8	V	eZ	21 06 47	
10	SF	iP_1	06 01 50.0	Δ = 65 km.
		iS_1	06 01 55.0	
10	SF	i	13 20 12	Same as above
10	SF	L	20 25	
11	SF	L	21 24	
12	V	ePZ	18 29 52	Local origin?
13	O	P	16 48 58	Δ = 26°5
		S	16 53 26	USCGS: φ = 19 1/2 N, λ = 70 1/2 W
		L	16 57.3	H = 16 43 20
		T?	17 10 27	Santo Domingo
	V	L	17 09	
	S	e	17 01 13	
		L	17 05.5	
	SH	e	16 49 04	
	SF	P	16 49 59	
		e	16 54 28	
13	V	ePZ	18 45 58	Aleutians region
		e	18 46 09	L = 100 km.
14	O	iPZ	23 01 58 c	Δ = 7720 km.
		pPZ	23 02 04	h = 300 km.
		sPZ	23 03 45	USCGS: φ = 27°S, λ = 62 1/2°W
		PP	23 04 46	H = 22 51 28
		PPP	23 06.3	L = 700 km.
		iS_{NEZ}	23 10 38	Northern Argentina
		ScS	23 11 05	
		sS	23 12 38	
		i	23 14 18	
		SS	23 15 05	
		$P'P'Z$	23 28 56	
	V	iPZ	23 03 35 c	Δ = 10,000 km.
		pP	23 05 47	
		PP	23 07 22	
		SKS	23 13 14	
		S	23 13 40	
		sS	23 17 43	
		SS	23 20 40	
		sSS	23 23.4	
	S	P	23 03 12	
		PP	23 05 30	
		SKS	23 12 42	
		e	23 13 01	
		e	23 16 57	
		e	23 22.2	

DATE	STN.	PHASE	h	m	s		REMARKS
14 (cont'd)	H	P	23	01	46		Δ = 64°
		S	23	10	18		
		PS	23	10	42		
		PPS	23	10	54		
		ScS	23	11	26		
		SS	23	14	22		
	SH	P	23	02	02		Δ = 8500 km.
		pP	23	02	25		
		PP	23	03	25		
		S	23	10	49		
	SF	P	23	02	05		Δ = 8240 km.
		e	23	02	35		
		pP	23	03	32		
		sP	23	04	30		
		S	23	10	53		
		SP	23	11	44		
		sS	23	13	21		
		i	23	14	29		
		SS	23	15	49		
15	O	P	14	23	44	c	Δ = 104°
		iPP	14	28	09		USCGS: φ = 28 1/2°N, λ = 97°E
		SKS 1.	14	34	28		H = 14 09 30
		SKS 2.	14	35	15		China-Burma-India border
		PS	14	37	18		M = 8 1/2
		PPS	14	38	12		
		PKKP	14	39	36		
	V	eP	14	22	57	c	Δ = 94.0°
		i	14	23	51		
		PP	14	26	42		
		i	14	32	22		
		iS	14	33	35		
		PKKP	14	39	53		
		SS	14	49	.3		
	S	P	14	23	06		Δ = 100°
		PP	14	27	13		
		SKS	14	33	38		
	H	P	14	23	38		Δ = 105°
		PP	14	28	06		
		SKS	14	34	18		
		S	14	35	28		
		PS	14	37	26		
		PPS	14	38	18		
	SH	P	14	23	44		Δ = 104°7
		iPP	14	28	09		
		PPP	14	30	14		
		SKS	14	34	15		
		S	14	35	22		
		PS	14	37	09		
		SS	14	43	.1		
	SF	eP	14	23	40		
		iPP	14	27	54		
		i	14	28	41		
		PPP	14	30	24		
		e	14	33	15		
		SKS 1.	14	34	08		
		SKS 2.	14	34	28		
		SKKS	14	35	31		
		PS	14	36	.5		
		PPS	14	38	.1		
		SS	14	43	.7		
15	V	eZ	21	56	07		North Assam
	SF	L	22	28			

August, 1950 No. 44

DATE	STN.	PHASE	h	m	s	REMARKS
16	V	eZ	05	46	33	North Assam
	SF	L	06	33		
16	V	eZ	06	55	30	North Assam
16	V	eZ	09	26	01	Mariana Islands
16	V	eZ	15	31	08	
16	V	eZ	16	50	12	
17	V	eZ	05	42	39	
17	O	ePZ	16	32	56	USCGS: φ = 21°S, λ = 180°
		e	16	38	51	h = 600 km.
		e	16	40	06	H = 16 15 22
		e	16	41	02	Tonga Islands
		e	16	42	52	
		e	16	44	14	
	V	iPZ	16	27	03 d	
		i	16	29	16	
		SKS	16	36	44	
		S	16	36	53	
		i	16	37	50	
	S	S	16	37	32	
		i	16	38	32	
	SH	e	16	33	02	
		e	16	38	55	
	SF	e	16	33	03	
		e	16	39	03	
		e	16	40	29	
17	O	eZ	16	43	37	
	V	eZ	16	44	58	
18	O	iZ	01	32	39	North Assam
	V	P	01	21	17	
		PP	01	25	03	
		S	01	31	52	
		PS	01	32	36	
	S	PP	01	25	18	Δ = 97°
		SKS	01	31	59	
		SKKS	01	32	13	
		S	01	32	44	
		PS	01	34	07	
		SS	01	39	23	
		SSS	01	43	14	
	H	e	01	25.0		
	SH	e	01	32	34	
	SF	e	01	32	28	
18	O	L	17	36		North Assam
	V	eZ	17	21	11	
	SF	L	17	35		
19	O	iPnZ	18	43	04	Δ = 150 km.
		i	18	43	06	
		eSn	18	43	23	
		L	18	43	29	
19	O	eZ	23	54	18	

August, 1950 No. 45

DATE	STN.	PHASE	h	m	s	REMARKS
20	O	eZ	01	55	30	USCGS: φ = 47 1/2°N, λ = 113 1/2°
		eZ	01	58	15	H = 01 44 55 W
						Montana
	V	ePnZ	01	46	37	Δ = 790 km.
		e	01	47	02	
		P_1	01	47	54	
		Sn	01	48	32	
	S	P	01	46	48	Δ = 7.5° = 832 km.
		S	01	48	12	
	SH	e	01	55	18	
		e	01	58	21	
20	O	iZ	23	53	10	
		i	23	53	20	
	V	eZ	23	47	11	
21	O	P	07	01	37	
	V	eZ	06	56	40	
21	O	eZ	07	51	29	Kamchatka
	V	eZ	07	48	40	
22	SF	L	03	18		
22	SF	L	07	46		
23	O	eZ	03	27	46	South-east Tibet
	V	eZ	03	22	48	
23	V	eZ	19	00	25	
		e	19	04	17	
	SF	L	19	47		
23	O	PnZ	20	16	16.5	
		Sn	20	16	41.0	
24	V	eZ	06	16	07	
24	V	eP_Z	10	25	56.0	Local?
		eZ	10	25	58.7	
24	V	eP_{1Z}	10	30	30.2	Local?
			10	30	33.2	
24	O	L	18	06		USCGS: φ = 42 1/2°N, λ = 126°W
						H = 17 45 34. Off coast Oregon
	V	ePnZ	17	47	11	
		eSn	17	48	21	
		S_2	17	48	46	
		S_1	17	49	10	
	SF	L	18	06		
24	O	ePnZ	20	02	23.5	Δ = 150 km.
		Sn	20	02	40.5	
25	V	ePnZ	02	16	13	Δ = 465 km.
		e	02	16	30	
		Sn	02	17	01	
		e	02	17	05	
25	SF	L	02	36.0		
25	O	PnZ	18	06	20	Δ = 150 km.
		Sn	18	06	37	

August, 1950

DATE	STN.	PHASE	h m s	REMARKS
25	O	PnZ	18 13 59	
		Sn	18 13 26.5	
26	O	iPZ	04 48 12 c	Δ = 49°3
		i	04 48 15	USCGS: φ = 65°N, λ = 162°W
		S	04 55 13	H = 04 39 27
		SS	04 58 35	Northwest of Nome, Alaska
	V	iPZ	04 45 05 d	Δ = 27°8
		S	04 49 43	
	S	S	04 50 47	
	H	e	05 00 46	
		e	05 05 34	
	SH	P	04 48 14	
		e	04 54 17	
	SF	P	04 48 19	Δ = 49°5
		S	04 54 25	
		SS	04 58 52	
26	O	eZ	07 31 11	
	SF	L	07 20	
26	O	eZ	09 30 28	
26	O	PnZ	15 07 45.5	
		Sn	15 08 06.5	
26	V	P_1Z	17 47 43.2	Δ = 66 km.
		S_1Z	17 47 51.1	
27	O	eZ	00 46 16	
	V	eZ	00 43 09	
	S	e	00 50 44	
27	SF	e	03 00.1	
		i	03 03 44	
27	V	eZ	18 57 53	
27	O	eZ	22 15 08	Turkey
28	V	eZ	13 04 20	
29	SF	L	23 49	
30	O	eZ	07 10 21	
		i	07 13 55	
	SF	L	07 54	
30	O	PnZ	15 22 29	Δ = 150 km.
		Sn	15 22 46	
		L	15 22 54	
31	O	eP'Z	07 24 28	Δ = 123°5
		i	07 24 37	USCGS: φ = 6°N, λ = 126°E
		PP	07 26 16	H = 07 05 35
		i	07 26 27	Philippine Islands
		e	07 34 24	
		PS	07 36 13	
		SS	07 43.4	
	V	ePZ	07 19 19	
		e	07 29 59	
		e	07 30 44	

DATE	STN.	PHASE	h	m	s	REMARKS
31 (cont'd)	S	PP	07	24	24	Δ = 107°5
		SKS	07	30	30	
		SKKS	07	31	18	
		S	07	31	52	
		PS	07	33	42	
		PPS	07	34	30	
		SS	07	39	24	
		SSS	07	43	40	
	SF	P	07	24	41	
		e	07	26	25	
		i	07	43	18	
31	V	PnZ	08	03	17.5	Δ = 180 km.
		e	08	03	20.0	
		Sn	08	03	37.5	
31	V	PnZ	18	49	11.0	Δ = 732 km.
		SnZ	18	50	23.0	H = 18 47 43
						Off coast of Oregon

W. G. Milne
Assistant Seismologist

SEISMOLOGICAL BULLETINS RECEIVED

July, 1950

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATION	BULLETINS
Strasbourg	June, 1950
Bureau Central	March, April, 1950
New Zealand	1947
Japan	1943; April, 1950
Bogota	April - July, 1949
Belgrade	May, 1950
Tacubaya	May, 1950
India	April - September 1947
DeBilt	June, 1950
Rome	April, 1950
Barcelona	1947
Tortosa	May, 1950
Pasadena	July-September 1949
Saint Louis and Auxiliary Stations	Supplement - October, Nov., Sept., 1949; Prelim. Nov. 22, Dec., 1949
Cleveland	April, May, 1950
Wellington	April-September, 1948; February, 1950
Toldeo	March, May, 1950
Athens	May, 1950
Almeria	November, 1949
Apia	January-March, 1950
Weston	May, June, 1950
Santa Clara	May, 1950
Trieste	May 23-29, 1950
Mexico	1946
Malaga	October, 1949
Strasbourg	May 11-31, 1950; February, 1950

August, 1950

Denmark	1942, 1944, 1945, 1946, 1947
Rome	May, 1950
Brisbane	April, 1950
Almeria	1943
India	October-December, 1947
Saint Louis and Auxiliary Stations	Preliminaries - Jan. 10, 21, 24, 27, May 21, 1950
Wellington	March, 1950
Beograd	June, 1950
De Bilt	July, 1950
Ksara	April-June, 1950
South Africa	June, 1950
Japan	May, 1950
Berkeley	1942, Jan.-Sept., 1943, Oct. - Dec., 1948, Jan.-July, 1949.

Dominion Observatory
Ottawa - Canada
January 11, 1951.

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

DOMINION OBSERVATORIES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

September and October

1950

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DOMINION OBSERVATORY

OTTAWA - CANADA

00000

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer
Ernest A. Hodgson, Chief, Seismological Division

S T A T I O N S

OTTAWA

φ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, respectively, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

φ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200 g.

SEVEN FALLS

Quebec Power Company

φ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15g., SM a paper speed of 8 mm. per min. and mass 1 lb.

S T A T I O N S (Cont'd)

VICTORIA

Dominion Astrophysical Observatory

φ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Benioff Vertical, short-period, designated B 5705, photographic registration, paper speed of 60 mm. per min., mass 235 lbs., installed June, 1948.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

φ = 46°33'1 N. λ = 72°45'8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument: Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15g.

SASKATOON

University of Saskatchewan

φ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instrument: Milne-Shaw NE and NW components, designated 18 and 22, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

DETERMINED CONSTANTS

INSTRUMENT	Ts	Tg	V	ε	DISPLACEMENT FOR 1" ARC TILT
17 (Ottawa)	12.0		300	20:1	50 mm.
23 (Ottawa)	12.0		300	20:1	50 mm.
BS (Ottawa)	1.0	0.1			
BL (Ottawa)	1.0	48			
HN (Halifax)	5.0		125	20:1	
HE (Halifax)	5.0		125	20:1	
SA (Shawinigan)	1.0		2200		
B 5705 (Victoria)	1.0	0.1			
20 (Victoria)	12.0		300	20:1	50 mm.
21 (Victoria)	12.0		300	20:1	50 mm.
SF (Seven Falls)	1.0		2200		
SM (Seven Falls)	12.0		300	20:1	50 mm.
18 (Saskatoon)	10.0		150	20:1	18 mm.
22 (Saskatoon)	10.0		150	20:1	18 mm.

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa
V - Victoria
S - Saskatoon
H - Halifax
SF - Seven Falls
SH - Shawinigan Falls
R - Rolphton
L - La Cave

September, 1950 No. 48

DATE	STN.	PHASE	h m s	REMARKS
1	V	iZ	03 06 02 d	Indian Ocean
	SF	L	03 56	
1	V	iZ	07 10 01 c	Kurile Islands
2	O	PZ	02 57 06	$\Delta = 59°.4$
		PP	02 59 13	USCGS: $\varphi = 52\ 1/2°N$, $\lambda = 169°W$
		e	03 03 12	h = 100 km.
		S	03 05 04	H = 02 47 23
		ScS	03 06 56	Aleutian Islands
	V	PZ	02 53 19	
		S	02 58 14	
	S	P	02 54 29	$\Delta = 37°.5$
		PP	02 56 00	
		S	03 00 15	
		SS	03 03 00	
		ScS	03 04 38	
	H	e	03 06 27	
	SH	e	02 57 12	
	SF	P	02 57 17	
		S	03 05 18	
2	V	eZ	12 33 18	
2	V	eZ	13 37 34	
	SF	L	14 31	
3	V	eZ	00 45 35	
3	SF	L	19 39	
4	O	PnZ	01 32 32	Δ = 290 km.
		SnZ	01 33 01	H = 01 31 50
4	O	eZ	12 28 44	Turkey
	V	eZ	12 30 04	
4	O	PnZ	15 48 49	Δ = 150 km.
		Sn	15 49 08	
		L	15 49 13	
5	V	eZ	04 19 33	Central Italy
	SF	L	04 40	
7	O	PnZ	17 24 21.5	Δ = 150 km.
		Sn	17 24 39.5	
		L	17 24 48	
8	O	iZ	07 21 48 c	South Mexico
	V	e	07 10 10	
9	O	eZ	05 49 05	Northern Chile

DATE	STN.	PHASE	h	m	s		REMARKS
9	O	eZ	10	40	34		USCGS: φ = 4°S, λ = 153°E
		e	10	53	17		New Britain
		e	10	58	.2		
	V	eZ	10	33	36		
		e	10	45	.7		
	S	e	10	47	15		
	H	L	11	22	.3		
	SF	e	10	59	.1		
9	V	eZ	14	40	51		New Hebrides
10	O	eZ	03	34	47		Honshu, Japan
	V	iZ	03	34	24	c	
	SF	L	04	08			
10	O	P'Z	15	34	43		△ = 118°.5
		i	15	34	49		USCGS: φ = 14°S, λ = 167°E
		e	15	35	31		H = 15 15 57
		PP	15	36	05		New Hebrides Islands
		PPPZ	15	38	11		
		SKS_N	15	41	32		
		PS	15	45	43		
		SS	15	52	.3		
	V	eP	15	28	53		△ = 86°.0
		PP	15	32	22		
		S	15	39	03		
		SKS	15	39	22		
		PS	15	40	23		
		SS	15	45	08		
	H	PP	15	37	15		△ = 130°
		PKS	15	38	30		
		PPS	15	48	42		
		SS	15	54	00		
	SF	PP	15	36	36		△ = 123°
		e	15	42	37		
		PS	15	46	28		
		SS	15	53	04		
14	V	iPZ	07	38	05	c	
14	O	iZ	08	02	15	d	Southern Bolivia h = 600 km.
	V	iZ	08	04	08	c	
	SH	e	08	02	19		
	SF	i	08	02	22		
		i	08	10	25		
14	O	eZ	09	24	45		Halmahera Islands
		e	09	28	07		h = 200 km.
	SH	e	09	27	40		
	SF	e	09	28	26		
14	V	eZ	19	48	34		
14	V	eZ	22	04	55		
15	V	eZ	13	03	30		
15	V	eZ	14	27	05		Tonga Islands
15	V	eZ	19	16	47		Tonga Islands

DATE	STN.	PHASE	h	m	s		REMARKS
16	O	eZ	01	05	13		South of Galapagos Island
		S	01	13	08		
	V	eZ	01	05	07		
		S	01	12	58		
	S	e	01	13	08		
		e	01	19	36		
	SF	e	01	13	53		
16	V	eZ	12	39	48		Kurile Islands
16	O	eZ	12	51	05		
	V	eZ	12	48	20		
16	V	eZ	12	58	12		Kyushu, Japan
16	V	eZ	14	27	45		
16	O	iPZ	22	08	43	d	Aleutians h = 100 km.
		i	22	09	08		H = 21 58 15
		e	22	17	09		
	V	iPZ	22	05	19	c	
		i	22	07	39		
		e	22	11	16		
		e	22	15	25		
	SF	i	22	08	54		
		i	22	17	18		
		i	22	19	03		
17	V	eZ	21	46	34		
18	O	iPZ	19	45	10	d	Western Brazil
	V	iPZ	19	47	13		
	SH	e	19	45	15		
19	O	PnZ	17	26	13		Δ = 150 km.
		Sn	17	26	31		
		L	17	26	39		
19	O	PZ	20	43	53		New Guinea
		i	21	03	03		
	V	PZ	20	43	20		Δ = 100°
		S	20	54	41		
		SS	21	01	23		
	S	e	20	56	07		
	H	L	21	24			
	SF	e	20	58	49		
		i	21	08	09		
19	O	iZ	21	24	06		
		iZ	21	24	18		
20	V	eZ	00	36	38		
20	V	eZ	00	48	40		
20	O	eZ	03	10	37		South Mexico
	V	eZ	03	11	45		
20	V	eZ	03	22	04		
20	V	eZ	12	39	47		

DATE	STN.	PHASE	h m s	REMARKS
20	V	ePnZ	13 21 08.5	Δ = 660 km.
		Sn	13 22 13	
20	V	eZ	14 09 28	
		eZ	14 12 51	
21	SF	i	01 57 21	
		i	02 04 19	
21	V	ePnZ	22 25 09	Δ = 122 km.
		Sn	22 25 23.5	
		Sl	22 25 28.5	
21	V	eZ	23 10 23	
22	O	eZ	01 48 22	Kurile Islands
	V	eZ	01 45 43	
22	O	ePZ	08 04 08	Δ = 81.6
		PP	08 07 05	USCGS: φ = 25°S, λ = 114°W
		S	08 14 04	H = 07 52 07
		SKS	08 14 38	Easter Islands
		SS	08 18 58	
	V	iZ	08 03 43	
		i	08 13 21	
	S	P	08 04 03	Δ = 80°
		S	08 14 00	
		SS	08 19 12	
	SF	i	08 04 29	
		i	08 14 42	
		i	08 15 32	
23	O	P'Z	00 11 17	Δ = 110°
		PP	00 12 02	Fiji Islands
		SKS	00 17 18	
		SKKS	00 18 23	
		iS	00 19 04	
		PS	00 21 08	
		SS	00 26 56	
	V	ePZ	00 05 05 c	
		PP	00 06 39	
		S	00 14 49	
		sS	00 17 23	
	S	SKS	00 15 54	Δ = 102°
		SKKS	00 16 26	
		PPS	00 19 15	
	SF	e	00 12 25	
		i	00 17 36	
		i	00 18 45	
		i	00 21 26	
23	V	eZ	06 36 53	Eastern Crete
24	V	ePnZ	01 58 57	Δ = 290 km.
		eSnZ	01 59 28	
24	O	eZ	22 21 22	West Central Alaska
	V	eZ	22 18 07	
	S	e	22 26 30	
	SF	e	22 36 03	
25	O	eZ	18 21 26	Central Chile

DATE	STN.	PHASE	h	m	s	REMARKS
25	O	ePnZ	19	22	42	Δ = 150 km.
		P_2	19	22	43.5	
		Sn	19	23	02	
		L	19	23	08	
27	O	ePZ	03	44	14	West coast of Mexico
		S	03	50	00	
	V	e	03	48	.5	
	S	e	03	51	31	
	H	L	04	01		
	SF	e	03	54	01	
27	O	PZ	08	42	42	South of Fiji Islands
	V	iZ	08	36	44 c	
28	O	eZ	03	48	40	Off Formosa
	V	iZ	03	42	29 c	
28	SF	P_1	10	59	35.5	Δ = 70 km.
		S_1	10	59	44.5	
28	O	eZ	22	06	02	USCGS: φ = 54 1/2N, λ = 134 1/2W
		e	22	06	30	Queen Charlotte Islands
						H = 21 47 01
	V	ePnZ	21	49	15.0	Δ = 9°5
		i	21	49	20.5	
		e	21	50	48.5	
		eSn	21	51	05.0	
		i	21	51	38.0	
		i	21	51	50	
	S	i	21	55	42	
		i	21	55	57	
	SH	L	22	06	.8	
	SF	e	22	07	17	
		e	22	07	48	
29	V	P_1Z	04	35	24.2	Δ = 33 km.
		S_1Z	04	35	28.0	
29	O	eP	06	39	25	Δ = 27°5
		i	06	39	30	Colima, Mexico
		e	06	40	52	
		S	06	45	04	
		i	06	45	16	
		SS	06	47	.5	
	V	iPZ	06	38	44 d	Δ = 32°2
		PP	06	39	37	
		S	06	43	56	
	S	P	06	38	54	Δ = 34°
		PP	06	40	15	
		PPP	06	40	38	
		S	06	44	14	
		SS	06	46	30	
		e	06	46	45	
		e	06	49	15	
	H	P	06	40	32	Δ = 45°
		PP	06	41	22	
		S	06	47	.0	
		SS	06	50	32	
	SH	P	06	39	51	
		PP	06	41	15	
		S	06	45	45	
	SF	P	06	39	59	Δ = 42°0
		PP	06	41	39	
		S	06	46	16	
		SS	06	49	08	

DATE	STN.	PHASE	h	m	s	REMARKS
29	O	eZ	08	01	40	Colima, Mexico
	V	eZ	08	01	06	
29	V	eZ	19	41	44	
30	V	P_1Z	02	58	41.5	Δ = 33 km.
		S_1Z	02	58	45.5	
30	V	P_1Z	03	20	33.8	Δ = 25 km.
		S_1Z	03	20	36.6	
30	V	P_1Z	03	21	31.0	Δ = 25 km.
		S_1Z	03	21	34.0	
30	O	eZ	07	47	20	Northern Assam
	V	eZ	07	42	25	
		e	07	53	05	
		e	07	53	45	
	S	e	07	53	03	
	H	e	07	53	33	
	SF	e	07	47	10	
		e	07	53	31	
30	O	eZ	08	56	28	
30	V	P_1Z	09	20	14.5	Δ = 25 km.
		S_1Z	09	20	17.5	

W. G. Milne
Assistant Seismologist

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATIONS:

O – Ottawa
V – Victoria
S – Saskatoon
H – Halifax
SF – Seven Falls
SH – Shawinigan Falls
R – Rolphton
L – La Cave

October, 1950 No. 54

DATE	STN.	PHASE	h	m	s	REMARKS
1	V	eZ	01	47	15	
1	V	ePnZ	13	08	01.5	Δ = 9°5
		e	13	08	18	Queen Charlotte Islands
		eSn	13	09	52	
1	V	ePnZ	14	13	11.5	Δ = 9°5
		Sn	14	15	10	
2	O	eZ	11	50	40	
	S	L	12	01		
3	O	iZ	09	12	46	
		e	09	29	9	
	S	e	09	20	15	
	SF	L	09	29	8	
3	O	P	12	47	00	Δ = 34°
		SS	12	54	13	Western Yukon, Canada
		ScS	12	57	21	H = 12 40 08
	V	P	12	44	07.5	
		e	12	49	06	
	S	i	12	47	08	
		i	12	47	28	
	SH	e	12	54	05	
	SF	e	12	54	15	
4	SF	L	19	06		
5	O	eZ	01	00	00	New Hebrides
	V	PZ	00	54	21	
		e	01	05	03	
	SF	e	01	18	47	
5	O	iPZ	16	16	29 c	Δ = 4170 km.
		pP	16	16	45	USCGS: φ = 10 1/2°n, λ = 85°W
		PP	16	17	50	h = 100 km.
		eS	16	22	19	H = 16 09 34
		PcS	16	22	27	North west Costa Rica
		isS	16	22	39	
		ScS	16	26	33	
	V	iPZ	16	18	22 d	Δ = 5670 km.
		pP	16	19	00	
		PP	16	20	23	
		S	16	25	26	
		sS	16	26	08	
		SS	16	27	50	
	S	P	16	17	48	Δ = 48°
		PP	16	19	44	
		S	16	24	47	
		i	16	28	00	

DATE	STN.	PHASE	h m s	REMARKS
5 (cont'd)	H	P	16 17 01	Δ = 38°5
		PP	16 18 34	
		PPP	16 19 01	
		S	16 22 55	
		SS	16 25 45	
	SH	P	16 16 44	
		PP	16 18 18	
		S	16 22 24	
		SS	16 25.0	
	SF	iP	16 16 54	Δ = 37°5
		pP	16 17 08	
		PP	16 18 26	
		S	16 22 51	
		SS	16 25 58	
5	O	iPZ	16 55 22 d	
5	O	eZ	19 55 03	
5	O	iZ	20 16 17 c	
	V	eZ	20 18 05	
		e	20 19 30	
	SF	e	20 16 40	
5	O	eZ	22 26 12	
5	O	eZ	23 16 36	
	V	eZ	23 18 23	
6	O	eZ	08 21 39	Puerto Rico
		i	08 22 18	
		i	08 27 07	
6	O	eZ	11 32 19	Puerto Rico
	V	eZ	11 29 35	
6	O	eZ	12 49 30	
6	V	eZ	14 37 02	
6	V	iP_1Z	18 18 57	Δ = 95 km.
		iS_1Z	18 19 09	
		iSn	19 19 12	
7	V	iPnZ	19 59 20 d	Δ = 525 km.
		eSn	20 00 13	
		eS_2	20 00 35	
		eS_1	20 00 44	
8	O	P'	03 42 20	Δ = 134°2
		e	03 42 28	USCGS: φ = 4°S, λ = 128°E
		PP	03 44 52	H = 03 23 09
		PKS	03 46 00	Molucca Is.
		PPP	03 47 43	
		PS	03 54 51	
		PPS	03 57.3	
		SS	04 02.5	
		SSS	04 08.0	
	V	PZ	03 37 23	Δ = 108°5
		P'Z	03 41 35	
		PP	03 41 49	
		SKS	03 48 09	
		S	03 49 23	
		PS	03 50 59	
		SSS	04 00.6	

DATE	STN.	PHASE	h	m	s		REMARKS
8 (cont'd)	S	PP	03	42	44		Δ = 115°
		PPP	03	45	15		
		SKS	03	48	33		
		SKKS	03	49	50		
		PS	03	52	24		
		SS	03	58	46		
		SSS	04	03			
	H	P'	03	42	35		Δ = 135°
		e	03	42	59		
		PP	03	45	15		
		PKS	03	46	07		
		PS	03	55	39		
		SS	04	03			
	SH	P'	03	42	25		
		e	03	44	55		
		e	03	45	54		
	SF	P'	03	42	26		Δ = 134°5
		PP	03	45	04		
		PKS	03	46	00		
		SKKS	03	51	32		
		PS	03	54.7			
		SS	04	03.0			
8	V	eZ	05	03	45		South Tibet
8	O	eZ	12	31	19	;	California
	V	eZ	12	26	21		
			12	27	45		
8	O	iZ	15	08	34	c	
	SF	L	15	49			
8	SF	L	16	51			
10	O	iZ	16	27	15	d	
10	O	PnZ	16	49	14.0		Δ = 182 km.
		i	16	49	17.4		
		i	16	49	18.4		
		Sn	16	49	34.5		
		e	16	49	36.3		
11	V	eZ	14	06	04		
11	O	PnZ	22	44	36.0		Δ = 138 km.
		Sn	22	44	52.0		
13	V	iP_1Z	09	48	50.5	c	Δ = 25 km.
		S_1	09	48	53.4		
14	V	ePZ	05	12	33		New Britain
14	V	eZ	13	36	02		Costa Rica
14	V	iP_1Z	15	39	46	c	Δ = 22 km.
		S_1	15	39	48.8		
14	V	iP_1Z	17	16	32.3		Δ = 25 km.
		S_1	17	16	35.2		
14	O	iPZ	17	48	29	d	
	V	eZ	17	50	20		

DATE	STN.	PHASE	h	m	s	REMARKS
14	V	eZ	18	36	15	Local?
15	O	iP_1Z	06	42	35.0	Δ = 85 km.
		S_1	06	42	45.7	
		e	06	42	48.0	
15	V	eZ	16	12	56	
		e	16	23	31	
15	O	ePZ	16	32	49.4	Δ = 150 km.
		S	16	33	06.5	
		L	16	33	16	
15	SH	ePn	16	49	29.5	Δ = 90 km.
		i	16	49	33.4	
		Sn	16	49	40.5	
15	O	iPZ	05	34	14 d	
16	V	iP_1Z	19	27	54.0	Δ = 76 km.
		iS_1	19	28	03.7	
		Sn	19	28	05	
16	V	iP_1Z	19	29	20.2	Δ = 84 km.
		iS_1	19	29	30.7	
		Sn	19	29	33.4	
16	V	iP_1	19	32	53.2	Δ = 90 km.
		S_1	19	33	04.8	
		Sn	19	33	07.2	
16	V	iP_1Z	19	35	44	Δ = 80 km.
		iS_1	19	35	54	
		Sn	19	35	56.5	
16	V	iP_1Z	20	04	47	Δ = 63 km.
		S_1	20	04	55.2	
		i	20	04	57.7	
16	O	ePZ	21	53	20	
		e	22	04	50	
		e	22	07	06	
	SF	L	22	08	.6	
17	O	eZ	15	03	14.5	Costa Rica
	V	eZ	15	06	06	
17	O	eP	15	14	39	Costa Rica
	V	eZ	15	15	13	
17	O	eZ	22	14	27	Costa Rica
	V	eZ	22	16	21	
18	V	eZ	06	46	08	
18	O	eZ	08	05	11	
19	O	ePZ	03	54	20	Puerto Rica
		PP	03	54	52	
		S	03	59	36.5	
	V	eZ	03	58	01	
19	O	eZ	09	53	36.5	

DATE	STN.	PHASE	h m s	REMARKS
19	O	eZ	10 10 07.4	Kermadec Islands
	V	eZ	10 04 40	
20	O	eZ	07 50 30.5	
		e	07 51 01.0	
		e	07 55 32.5	
		e	07 55 50	
	V	eZ	07 54 09	
20	O	ePnZ	15 59 13.4	Δ = 145 km.
		i	15 59 15.1	
		Sn	15 59 30.0	
		i	15 59 34	
21	V	iPZ	04 25 04 c	Δ = 84°.5
		i	04 25 23	Tonga Islands
		S	04 35 14	
	S	i	04 36 31	
		e	04 43 00	
	SF	e	04 39 06	
21	O	eZ	09 04 23	Colima, Mexico
	V	eZ	09 03 57	
21	O	iPZ	09 50 12	Δ = 39°
		PPP	09 52 12	USCGS: φ = 17 1/2°N, λ = 106°W
		PcP	09 52 23	H = 09 42 58
		S	09 56 00	Colima, Mexico
	V	PZ	09 45 44	Δ = 36°.2
		PP	09 51 02	
		S	09 55 23	
		SS	09 57 59	
	S	P	09 51 15	Δ = 36°.5
		S	09 55 22	
		L	09 58 00	
	H	e	09 57 45	
	SH	e	09 50 35	
	SF	eP	09 50 43	Δ = 42°.5
		S	09 57 00	
		SS	10 00 04	
21	V	eP	13 43 47	Equador
22	O	eZ	06 03 38	South of Crete
22	V	eZ	14 39 59	
22	O	eZ	15 22 34	Kurile Islands
23	V	ePnZ	05 52 49	Δ = 177 km.
		e	05 52 53	
		Sn	05 53 06.5	
		S_1	05 53 10	
23	V	eZ	15 03 28	Guatemala
23	V	eZ	15 11 32	Guatemala
23	O	iPZ	16 20 03	Δ = 39°.5
		iPP	16 21 33	USCGS: φ = 14 1/2°N, λ = 92°W
		e	16 25 19	L = 100 km.
		S	16 25 29	H = 16 13 24
		SS	16 27 49	

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DATE	STN.	PHASE	h	m	s		REMARKS
23 (cont'd)	V	iPZ	16	21	17	c	Δ = 45°2
		e	16	23	08		
		S	16	27	54		
		SS	16	31	07		
	S	P	16	21	00		Δ = 38°5
		PP	16	22	31		
		PPP	16	22	50		
		S	16	27	00		
		SS	16	29	40		
	H	P	16	20	41		Δ = 40°
		PP	16	22	23		
		S	16	26	41		
		SS	16	29	27		
	SH	eP	16	20	26		
		e	16	21	58		
		e	16	25	58		
		iS	16	26	33		
	SF	P	16	20	33		Δ = 38°0
		e	16	22	16		
		e	16	25	57		
		S	16	26	19		
		e	16	29	18		
23	V	eZ	16	34	55		
23	V	eZ	16	35	19		
23	V	eZ	16	44	59		
23	V	eZ	17	04	32		
23	O	iZ	17	12	08	c	
	V	iZ	17	13	24	c	
23	V	eZ	17	50	27		
23	O	iPZ	17	54	36	c	Δ = 34°5
		S	18	00	02		Guatemala
		SS	18	02	27		
	V	iPZ	17	55	52	c	Δ = 45°2
		S	18	02	21		
23	V	eZ	18	07	35	c	
23	V	eZ	18	09	40	c	
23	V	eZ	19	34	03		
23	O	eZ	19	57	32		
	V	eZ	19	58	51		
23	V	eZ	20	52	31		
23	O	eZ	21	38	45		
	V	eZ	21	39	59		
23	O	eZ	23	45	29		
	V	eZ	23	46	45	c	
23	V	eZ	23	57	03		
24	V	eZ	00	31	22		
24	V	eZ	00	34	15		

DATE	STN.	PHASE	h	m	s		REMARKS
24	O	eZ	00	58	47		
		e	01	04	20		
	V	eZ	01	00	01		
		S	01	07	33		
	SF	e	01	01	48		
24	V	eZ	05	07	55		
24	V	eZ	05	20	09		
24	O	eZ	05	57	03		
	V	eZ	05	58	16	c	
24	V	eZ	06	24	42		
24	V	eZ	06	53	45		
24	O	eZ	09	35	34		
	V	eZ	09	36	50		
24	V	eZ	12	24	38		
24	O	eZ	16	01	48		
	V	eZ	16	03	06		
		e	16	03	15		
25	O	eZ	05	11	48		
25	V	eZ	07	15	43		Ryuku Islands
	S	e	07	26	33		
		e	07	26	53		
25	O	iZ	09	03	03		
25	O	PnZ	21	55	35.5		Δ = 165 km.
		i	21	55	38.0		
		Sn	21	56	53.5		
		S_1	21	56	56.6		
26	O	eZ	02	51	34		
26	O	eZ	04	08	51		
	V	L	04	36			
	S	L	04	41			
26	O	eZ	07	29	33		
26	O	eZ	09	09	16		
26	O	L	16	43			
	V	L	16	23			
27	O	eZ	21	47	33		
28	O	eZ	06	12	24		
28	O	eP	22	22	25	d	
		i	22	25	02		Guatemala
		e	22	30	.8		
29	V	eZ	02	37	57		

October, 1950 No. 61

DATE	STN.	PHASE	h	m	s	REMARKS
29	O	P_1Z(1)	05	59	48.7	Pembroke, Ontario
		Pn	05	59	50.7	△ = 115 km.
		Pn(2)	05	59	53.7	Possibly two quakes
		S_1	06	00	03.5	
		Sn	06	00	04.7	
		Sn(2)	06	00	08.5	
30	V	eZ	05	13	07	
30	O	eZ	10	32	48	
31	O	eZ	11	51	38	
		e	11	51	43	
31	O	eZ	16	38	12.5	
		e	16	38	19	
31	O	eZ	19	44	22	
31	O	L	19	53.5		
31	O	eZ	20	29	17	
		e	20	29	23	
		e	20	29	45	
		e	20	40	22	
	V	eZ	20	33	12	
	S	L	20	38	.3	
	H	e	20	44	48	

W. G. Milne
Assistant Seismologist

SEISMOLOGICAL BULLETINS RECEIVED

September, 1950

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATION	BULLETINS
Reykjavik	1948, 1949
Dublin	April 1 - July 31, 1950
Zurich	May-July, 1950
Tacubaya	July, 1950
Budapest	July, 1950
Kalocsa	June, 1950, July, 1950
Cleveland	July, 1950
Saint Louis and Auxiliary Stations	Preliminaries - Jan. 30, May 25, 28, June 5, 7, 8, 1950
Brisbane	May, 1950
Toledo	February, April, 1950
Strasbourg	July, 1950
Bureau Central	April, May, 1950
Istanbul	April, 1950
Tortosa	June, 1950
Pasadena	Sept.-Dec., 1947
Saint Louis and Auxiliary Stations	Preliminaries - Jan. 2, 3, 12, 1950
Toledo	April, June, 1950
South Africa	May, 1950
Prague	May, June, 1950
Hautes Tatra	May, 1950
Lima	1948
Jena	1949
Wellington	April, 1950
Santa Clara	June, July, 1950
Richmond	June, July, 1950
Tananarive	1949
Tacubaya	June, 1950
Cleveland	June, 1950
Budapest	June, 1950
Weston	July, 1950
Beograd	July, 1950
Tortosa	July, 1950
Weston	August, 1950
Lisbon	April - June, 1950
Almeria	December, 1949
Bogota	August-December, 1949
Prague	July, 1950
De Bilt	August, 1950
Strasbourg	August, 1950
Bureau Central	May, 1950, June, 1950
La Paz	July-September, 1949
South Africa	July, 1950
Saint Louis and Auxiliary Stations	June 11, 19, 21, 22, 23, 24
Batavia	October-December, 1949
Tortosa	August, 1950
Japan	June, 1950
Stuttgart	April-June, 1950

October, 1950

Columbia	October 1-14, 1950
Santa Clara	August, September, 1950
La Plata	1948
India	Jan., Feb., 1948; Feb., 1950
Perth	April-June, 1950
Toldeo	May - August, 1950

SEISMOLOGICAL BULLETINS RECEIVED
October, 1950
(cont'd)

Brisbane	March, June, 1950
Richmond	May, August, 1950
Beograd	August, 1950
Barcelona	1948
Malaga	December, 1949
Prague	August, 1950
Almeria	January, 1950
Apia	April-June, 1950
Weston	September, 1950
Wellington	February, 1950
De Bilt	May, 1950
Saint Louis and Auxiliary Stations	June 25, 27, July 2, 3, 7, 9, 12, 17, 20, 21, 25, 29
Rome	June, 1950
Tacubaya	May-August, 1950
Strasbourg	June, August 1-10, September 11-30, 1950, October 1-10, 1950
Bureau Central	June, 1950
Japan	July, 1950
Columbia	October 14-26, 1950
South Africa	August, 1950
Pasadena	Locals - April-June, 1950
Reykjavik	1948, 1949
Saint Louis University	April - September, 1950
Wellington	June, 1950

Dominion Observatory,
Ottawa - Canada
January 11, 1950.

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

DOMINION OBSERVATORIES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

SEISMOLOGICAL BULLETIN

November and December

1950

000

DOMINION OBSERVATORY

OTTAWA / CANADA

000

SEISMOLOGICAL SERVICE OF CANADA
DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer

Ernest A. Hodgson, Chief, Seismological Division

S T A T I O N S

OTTAWA

φ = 45°23'38" N. λ = 75°42'57" W. h = 83m.

Time correction within 0.10s.

Foundation: boulder clay over limestone

Instruments: Milne-Shaw NS and EW components, designated 23 and 17, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 1 lb.

Benioff Vertical, short and long period, designated BS and BL, respectively, photographic registration, BS a paper speed of 60 mm. per min., BL a paper speed of 30 mm. per min., mass 235 lbs.

HALIFAX

Dalhousie University

φ = 44°38' N. λ = 63°36' W. h = 46m.

Time correction from recorded radio time signals

Foundation: Carbonaceous slate

Instruments: Bosch NS and EW components, designated HN and HE, respectively, each with photographic registration, magnetic damping, paper speed of 15 mm. per min., mass 200 g.

SEVEN FALLS

Quebec Power Company

φ = 47°07!4 N. λ = 70°49!6 W. h = 232m. ca.

Time correction from recorded radio time signals

Foundation: Solid granite of Canadian Shield

Instruments: Wood-Anderson and Milne-Shaw, both EW component, designated SF and SM, respectively, each with photographic registration, magnetic damping, SF a paper speed of 60 mm. per min. and mass 15g., SM a paper speed of 8 mm. per min. and mass 1 lb.

S T A T I O N S (Cont'd)

VICTORIA

Dominion Astrophysical Observatory

φ = 48°31'14" N. λ = 123°24'56" W. h = 197m.

Time correction from recorded radio time signals

Foundation: rock

Instruments: Milne-Shaw NS and EW components, designated 21 and 20, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

Benioff Vertical, short-period, designated B 5705, photographic registration, paper speed of 60 mm. per min., mass 235 lbs., installed June, 1948.

SHAWINIGAN FALLS

Shawinigan Water and Power Company

φ = 46°33.1 N. λ = 72°45.8 W. h = 60m. ca.

Time correction from recorded radio time signals

Foundation: solid granite of Canadian Shield

Instrument: Wood-Anderson NS component, designated SA, photographic registration, magnetic damping, paper speed of 60 mm. per min., mass 15g.

SASKATOON

University of Saskatchewan

φ = 52°08' N. λ = 106°38' W. h = 515m.

Time correction from radio time signals

Foundation: clay and sand

Instrument: Milne-Shaw NE and NW components, designated 18 and 22, respectively, each with photographic registration, magnetic damping, paper speed of 8 mm. per min., mass 1 lb.

DETERMINED CONSTANTS

INSTRUMENT	Ts	Tg	V	ε	DISPLACEMENT FOR 1" ARC TILT
17 (Ottawa)	12.0		300	20:1	50 mm.
23 (Ottawa)	12.0		300	20:1	50 mm.
BS (Ottawa)	1.0	0.1			
BL (Ottawa)	1.0	48			
HN (Halifax)	5.0		125	20:1	
HE (Halifax)	5.0		125	20:1	
SA (Shawinigan)	1.0		2200		
B 5705 (Victoria)	1.0	0.1			
20 (Victoria)	12.0		300	20:1	50 mm.
21 (Victoria)	12.0		300	20:1	50 mm.
SF (Seven Falls)	1.0		2200		
SM (Seven Falls)	12.0		300	20:1	50 mm.
18 (Saskatoon)	10.0		150	20:1	18 mm.
22 (Saskatoon)	10.0		150	20:1	18 mm.

NOTE:- Universal Time used throughout

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa
V - Victoria
S - Saskatoon
H - Halifax
SF - Seven Falls
SH - Shawinigan Falls
R - Rolphton
L - La Cave

November, 1950 No. 62

DATE	STN.	PHASE	h	m	s	REMARKS
1	O	iPZ	01	29	44 d	H = 01 22 57 Guatemala
		e	01	29	53	
1	O	ePZ	12	52	28	H = 12 45 32
		i	12	52	30	L = 100 km.
		i	12	52	41	Off Costa Rica
1	O	iPnZ	16	59	56.7	Δ = 150 km.
		i	16	59	58.5	
		S_1	17	00	22.5	
2	V	ePZ	07	20	20	
2	V	ePZ	07	42	33	H = 07 30 56 L = 600 km.
	SF	L	08	10		Fiji Islands
2	O	eP'Z	15	47	00	Δ = 138°.5
		i	15	47	09	USCGS: φ = 6°S, λ 129 1/2°E
		i	15	47	17	Banda Sea region
		i	15	47	51	H = 15 27 49
		$PP_{NE}Z$	15	49	51	
		PKSZ	15	50	25	
		SKP	15	50	44	
		SKKS	15	56	22	
		S?	15	57	45	
		PS	16	00	20	
		PPS	16	01	44	
		SS	16	07	29	
		L	16	31	.3	
	V	eP_EZ	15	42	06	Δ = 115°
		eP'	15	45	59	
		e	15	46	15	
		iPP	15	46	40	
		SKS	15	52	27	
		S	15	53	45	
		PS	15	56	11	
		SS	16	02	08	
	S	PP	15	47	38	Δ = 117°
		SKS	15	53	12	
		SKKS	15	54	18	
		PPS	15	58	22	
		SS	16	04	36	
		SSS	16	08	48	
	H	P'	15	47	25	Δ = 139°
		i	15	48	17	
		PP	15	50	21	
		PKS	15	51	00	
		SKS	15	54	32	
		PS	16	00	36	
		PPS	16	02	35	
		SS	16	09	.6	
		SSS	16	14	.7	

DATE	STN.	PHASE	h	m	s	REMARKS
2 (cont'd)	SF	P'	15	47	03	Δ = 144°
		i	15	47	21	
		PP	15	50	23	
		PKS	15	50	46	
		e	15	56	30	
		SKKS	15	57	24	
		PS	16	01	12	
		PPS	16	03	09	
		e	16	07	40	
		SS	16	08	50	
2	O	eZ	18	33	15	Banda Sea region
2	O	eZ	18	36	43	
4	O	eZ	07	41	20	H = 07 22 50 L = 200 km. New Hebrides
4	V	eZ	09	35	22	Fiji Islands
4	O	iPnZ	14	57	58.4	Δ = 170 km.
		P_2	14	57	59.8	
		Sn	14	58	17.8	
		e	14	58	24.5	
4	O	eZ	18	05	38	
5	O	iPZ	16	42	05 c	Δ = 34°
		i	16	42	12	USCGS: φ = 14 1/2°N, λ = 92°W
		eS	16	47	32	H = 16 35 20
		SSS	16	50	13	Near Guatemala
	V	iPZ	16	43	19 c	
		e	16	53	15	
	H	e	16	44	22	
		e	16	51	42	
	SF	e	16	48	21	
		e	16	51	18	
5	O	eNE	18	01.3		Off coast of Japan
	V	ePZ	17	48	57	H = 17 37 25
		iS	17	58	22	
		SKS	17	59.1		
	S	L	17	01		
	H	e	18	01.9		
		e	18	09.9		
	SF	i	18	02	14	
			18	09	15	
			18	12	19	
			18	16	17	
5	V	eZ	21	38	01	
		e	21	38	05	
6	O	PnZ	18	27	46	Δ = 170 km.
		P_2	18	27	47.6	
		S_1	18	28	08.0	
		e	18	28	12.5	
6	O	eZ	20	07	50.4	Local?
		i	20	07	52.5	
		i	20	07	54.5	

DATE	STN.	PHASE	h m s	REMARKS
6	O	ePZ	22 41 01	H = 22 22 05
		eS	22 52 32	Solomon Islands region
	V	eE	22 46 12	
		e	23 04.5	
	SF	L	23 22	
7	SF	iP_1	02 51 55.5	Local
		iS_1	02 51 57.2	
8	V	eZ	02 12 12	H = 01 59 06 New Hebrides
8	O	eP'Z	02 37 04	Δ = 121°
		PP	02 38 24	USCGS: φ 9 1/2°S,. = 159 1/2E
		SKS	02 44 06	Solomon Islands
		SKKS	02 45 35	H = 02 18 09
		PS	02 48 28	
		SS	02 55.1	
	V	ePZ	02 31 07	Δ = 84°0
		e	02 32 34	
		S	02 41 43	
		PS	02 43 17	
		SS	02 47.7	
	S	SKS	02 42 37	Δ = 102°
		S	02 43 24	
		PS	02 45 02	
		SS	02 50 38	
	H	PKS	02 40 46	
		SKKS	02 46 22	
		SS	02 56.7	
	SH	e	02 37 12	
		e	02 38 49	
	SF	P'	02 37 12	Δ = 121°
		PP	02 38.8	
		SKS	02 44 07	
		SKKS	02 45 52	
		PS	02 48 54	
		SS	02 56 33	
9	O	iPZ	11 10 19 d	H = 11 00 22
				Aleutian Islands
9	O	eZ	12 06 45	H = 11 54 53
				Kurile Islands
10	O	ePZ	02 21 30	Δ = 38°5
		eS	02 27 26	USCGS: φ = 19 1/2°N, λ = 110°W
		SSS	02 30 06	Mexico
		ScS	02 31 46	H = 02 14 12
	V	L	02 25	
	S	S	02 26 06	
		L	02 31.5	
	SF	e	02 31 16	
10	V	eZ	05 13 36	H = 05 02 05
	S	e	05 24 55	Samoa Islands
10	O	ePnZ	19 36 50.5	Δ = 155 km.
		Sn	19 37 08.0	
		L	19 37 16	
11	O	eZ	03 57 11 c	H = 03 38 07
	SF	L	04 40	New Guinea

DATE	STN.	PHASE	h m s	REMARKS
11	O	eP	09 35 03	Δ = 37°.5
		e	09 35 46	H = 09 28 23
		S	09 41 40	Off west coast of Mexico
		SS	09 44 13	
		e	09 48 12	
	V	PZ	09 34 42	
	S	L	09 46.8	
	SF	e	09 45 35	
11	O	eZ	13 58 10	H = 13 51 04
	V	eZ	14 00 00	Off Costa Rica
11	V	eZ	14 39 15	Kamchatka
11	SF	eP_1	15 54 54.4	Local
		iS_1	15 54 55.4	
11	O	ePn	16 32 16	
		e	16 32 32.5	
		i	16 32 39.8	
		e	16 32 41.0	
12	O	eZ	13 16 58	
13	O	iZ	00 09 33 d	
14	O	ePZ	01 19 07.5	Δ = 87 km.
		e	01 19 18.5	
14	O	eZ	04 50 54	Solomon Islands
	S	L	05 10	
	SF	L	05 23	
15	O	eZ	12 45 06	
15	O	eZ	13 31 01	
15	O	ePn	14 25 31.7	Δ = 173 km.
		eSn	14 25 53.4	
		L	14 25 57.5	
16	O	eZ	05 39 26	H = 05 26 46 Japan
16	O	eZ	13 31 01	H = 13 12 11 Kermadec Islands
16	V	eP_1Z	17 28 47.4	Δ = 115 km.
		S_1	17 29 02.0	
		i	17 29 07.0	
		i	17 29 10.0	
17	O	eZ	17 33 13	
17	O	iP	19 35 11 d	Δ = 35°
		PP	19 36 31	USCGS: φ = 17°N, λ = 100 1/2°N
		PPP	19 36 51	West coast of Mexico
		PcP	19 37 44	H = 19 28 18
		S	19 40 44	
		SSS	19 43 32	
	V	iPZ	19 35 26 d	Δ = 37°.2
		PP	19 36 57	
		S	19 41 13	
	S	P	19 35 15	Δ = 37°.1
		S	19 40 49	
	H	P	19 36 08	
		S	19 42 20	
		SSS	19 46 10	

DATE	STN.	PHASE	h m s	REMARKS
17 (cont'd)	SH	e	19 35 31	
	SF	iP	19 35 43	Δ = 39°5
		PP	19 37 08	
		S	19 41 42	
		SS	19 44 33	
17	V	iP_1Z	23 49 30.0	Δ = 63 km.
		iS_1Z	23 49 38.5	
18	V	iP_1Z	20 07 10.6	Δ = 60 km.
		iS_1Z	20 07 19.6	
20	O	ePnZ	16 10 58.5	Δ = 175 km.
		P_2	16 11 01.1	
		Sn	16 11 18.8	
		e	16 11 25.0	
22	O	iPZ	10 26 45 d	H = 10 16 26
		e	10 35 10	Aleutians
		e	10 36 35	
	V	iPZ	10 23 10 d	
		S	10 28 34	
	S	S	10 30 35	
	H	L	10 50.8	
	SH	e	10 26 59	
	SF	e	10 35 20	
24	O	L	21 07.3	Samoa Islands
27	O	e	18 18 58	H = 18 08 19 Aleutians
28	O	iPZ	17 07 40	
29	V	eZ	01 49 44	H = 01 37 52 Mariana Islands
29	O	eZ	10 38 42	
30	O	eZ	18 12 51	

W. G. Milne
Assistant Seismologist

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATIONS:

O - Ottawa
V - Victoria
S - Saskatoon
H - Halifax
SF - Seven Falls
SH - Shawinigan Falls
R - Rolphton
L - La Cave

December, 1950 No. 67

DATE	STN.	PHASE	h m s	REMARKS
1	O	ePZ	14 58 22.5	Δ = 41°
		pP	14 58 49	USCGS = H = 14 51 00 L = 100 km,
		PP	14 59 56	φ = 14°N, λ = 47°W
		S	15 04 29	Mid-Atlantic Ocean
		SS	15 07 10	
		i	15 07 40	
	S	iP	15 01 05	Δ = 59°5
		PP	15 04 47	
		eNW	15 12 19	
		eEN	15 12 38	
	V	ePZ	15 02 10	Δ = 74°5
		S	15 10 31	
		sS	15 10 48	
		PS	15 11 22	
		SS	15 18.0	
	H	P	14 57 34	Δ = 33°
		PP	14 58 38	
		S	15 02 56	
	SH	iP	14 58 14	
		ePP	14 59 33	
		eS	15 04 12	
	SF	iP	14 58 15	Δ = 43°5
		i	14 59 49	
		iS	15 04 43	
1	O	iZ	17 38 58 d	Aleutian Islands
		e	17 39 10	H = 17 31 13
1	V	eZ	19 09 07	
2	O	iZ	08 41 55 d	Northern Argentina h = 100 km.
				H = 08 30 40
2	O	iPZ	15 27 43 d	Δ = 46°5
		pP	15 28 42	USCGS: H = 15 19 20
		iS	15 34 29	h = 650 km.
		i	15 36 26	φ = 8°S
		e	15 38 22	λ = 71 1/2°W
	V	iP	15 29 46 d	Western Brazil
		PP	15 31 56	
		iS	15 38 26	
	S	iP	15 29 20	
		iS	15 37 19	
	H	i	15 34 25	
		i	15 36 24	
	SH	e	15 27 47	
	SF	iP	15 27 55	
		iS	15 34 49	
		i	15 36 47	
		i	15 38 25	
		e	15 42.0	

DATE	STN.	PHASE	h	m	s		REMARKS
2	O	iP'Z	20	10	40		Δ = 123°.5
		PP	20	12	29		USCGS: φ = 18°S, λ = 167°E
		e	20	14	18		H = 19 51 45
		SKS	20	17	42		New Hebrides Islands
		SKKS	20	19	10		
		PS	20	22	10		
		SS	20	29	10		
	V	iPZ	20	04	50	c	Δ = 91°
		ipP	20	05	15		
		PP	20	08	27		
		e	20	14	20		
		iS	20	15	24		
		e	20	15	54		
		e	20	16	26		
		PS	20	17	29		
		SS	20	24	.1		
	S	P	20	05	50		Δ = 105°
		PP	20	10	24		
		SKS	20	16	18		
		PS	20	19	.2		
		SS	20	28	.5		
	H	PP	20	13	25		
		PKS	20	14	21		
		i	20	14	34		
		PKP	20	16	26		
		SKKS	20	20	13		
		SS	22	31	.4		
	SH	i	20	10	50		
		e	20	12	20		
	SF	P'	20	10	42		Δ = 110°
		PP	20	10	57		
		SKS	20	17	.2		
		PS	20	19	27		
		e	20	22	44		
		SSS	20	29	.9		
3	O	eZ	08	06	26		New Hebrides Islands
	V	eZ	08	00	34		
	SF	L	08	51			
4	V	eZ	10	31	04		New Hebrides
4	O	iPZ	16	46	48	d	Δ = 121°.5
		PP	16	48	20		USCGS: φ = 5°S, λ = 153 1/2°E
		PS	16	58	13		H = 16 28 01
		SS	17	04	49		L = 100 km.
	V	iPZ	16	40	53		New Britain
		i	16	41	18		
		e	16	44	25		
		iS	16	51	37		
		i	16	52	16		
	S	P	16	45	48		Δ = 99°
		SKS	16	52	.2		
		PPS	16	55	15		
		SS	17	00	.1		
	H	e	16	50	22		
	SH	e	16	46	49		
		e	16	47	16		
	SF	P'	16	45	55		
		PP	16	47	40		
		PPP	16	50	52		
		PS	16	57	20		
		SS	17	04	15		

DATE	STN.	PHASE	h	m	s	REMARKS
4	O	eZ	16	56	51	Virgin Islands
		e	16	57	21	
		e	17	00	47	
4	O	eZ	20	21	57	
4	V	eZ	21	47	22	
5	O	e	17	11	09	
5	V	eZ	22	06	41	
6	V	eZ	17	08	09	
6	V	eZ	17	56	49	
7	V	ePnZ	20	30	29.2	Δ = 118 km.
		eSnZ	20	30	44.0	
		e	20	30	53.8	
8	O	iPnZ	15	11	08.5	Δ = 153 km.
		S_2	15	11	27.3	
		S_1	15	11	29.5	
		L	15	11	34	
9	O	iPZ	21	49	46 d	Δ = 70°
		iS	21	58	46	USCGS: φ = 24°S, λ = 67 1/2°W
		iScS	21	59	44	h = 200 km.
		SS	22	03	30	H = 21 38 56
	V	iPZ	21	51	26 d	Argentina-Chile border
		i	21	52	50	
		e	21	56	27	
		eS	22	01	52	
		iS	22	02	02	
		i	22	03	02	
		e	22	09	04	
		iZ	22	09	16	
	S	iP	21	51	04	Δ = 83°5
		iS	22	01	15	
		PS	22	02	12	
		SS	22	07	21	
	H	P	21	49	41	Δ = 69°
		S	21	58	33	
		SSS	22	06	13	
	SH	iP	21	49	53	
		e	21	51	22	
		e	21	53	22	
		iS	21	58	57	
		e	22	03	14	
	SF	P	21	48	58	
		iS	21	58	03	
		SS	22	03	.1	
10	O	ePZ	03	00	41	Δ = 59°5
		PcP	03	01	29	USCGS: φ = 14 1/2°S, λ = 76 1/2°W
		PPP	03	04	20	H = 02 50 40
		iS	03	08	42	L = 60 km.
		PS	03	09	10	South Coast of Peru
		ScS	03	10	24	
	V	e	03	02	26	
		i	03	12	06	
	S	iS	03	11	09	

DATE	STN.	PHASE	h	m	s		REMARKS
10 (cont'd)	H	P	03	00	46		Δ = 60°
		PPP	03	04	35		
		S	03	08	51		
		PS	03	09	17		
		ScS	03	10	29		
		SSS	03	15	25		
	SH	eP	03	00	49		
		eS	03	09	.0		
	SF	e	03	00	54		
		iS	03	08	10		
10	O	iP'Z	13	41	25		USCGS: φ = 28 1/2°S, λ = 179°W
		PP	13	42	47		h = 300 km.
		eNE	13	50	19		H = 13 23 10
		eNE	13	51	20		Kermadec Islands
		iZ	13	51	44		
		iPS_{NS}	13	52	26		
		SS_{MS}	13	58	41		
	V	iPZ	13	35	48	d	
		i	13	37	06		
		eS	13	45	56		
		iS	13	46	31		
		e	13	52	.7		
	S	PP	13	40	52		
		i	13	46	44		
		iS	13	47	57		
		PPS	13	50	12		
		SS	13	55	03		
	SH	eP	13	41	32		
		eS	13	50	33		
	SF	e	13	40	32		
		i	13	42	14		
		i	13	43	38		
	H	PP	13	45	01		
		PKS	13	46	17		
		PPP	13	48	11		
		e	13	50	12		
		e	13	51	29		
		e	14	00	26		
		e	14	03	11		
10	O	eZ	17	14	54		
11	O	iPZ	03	43	43	c	Δ = 68°.5
		eS	03	52	37		USCGS: φ = 24°S, λ = 68°W
		e	03	53	32		h = 200 km.
	V	iP	03	45	25		H = 03 32 56
	SH	e	03	43	47		Argentina-Chili border
	SF	iS	03	51	55		
11	O	eZ	11	45	08		
11	O	eP	14	55	06	c	Western Brazil
	V	iPZ	14	58	09	d	
		S	15	05	46		
	SH	e	14	55	09		
	SF	iP	14	54	18		
		S	15	01	10		
11	V	iPnZ	23	24	25.5		Δ = 102 km.
		Sn	23	24	38.5		
12	V	eP_1	10	25	20.4		Δ = 87 km.
		S_1	15	25	30.0		

DATE	STN.	PHASE	h	m	s		REMARKS
14	O	ePZ	02	07	04		USCGS: φ = 19 1/2°S, 176°W
		pP	02	07	52		h = 200 km.
		P'Z	02	11	02		H = 01 52 47
		PP	02	11	40		Tonga Islands
		e	02	14	50		
		S	02	19	05		
		PS	02	20	56		
		PKKPZ	02	22	02		
		SS	02	26	38		
	V	iP	02	04	51	c	
		i	02	05	42		
		e	02	08	50		
		iS	02	14	55		
		i	02	15	02		
		e	02	16	14		
		e	02	22	09		
		i	02	31	27		
	S	P	02	05	46		Δ = 82°5
		pP	02	06	37		
		PP	02	09	29		
		S	02	15	57		
		sS	02	16	33		
		PS	02	17	37		
		PPS	02	18	17		
		SS	02	22	.7		
	H	PP	02	12	38		
		SKS	02	17	33		
		SKKS	02	19	18		
		i	02	20	19		
		PS	02	22	14		
		SS	02	28	44		
	SH	e	02	11	10		
		e	02	19	15		
		e	02	22	05		
		e	02	31	21		
	SF	iP	02	07	14		
		eP'	02	10	10		
		pP'	02	10	46		
		PP	02	11	50		
		SKS	02	16	31		
		SKKS	02	17	44		
		S	02	18	56		
		sS	02	20	30		
14	V	eZ	03	12	30		
14	V	eZ	11	29	52		
14	O	eZ	13	30	54		Northern California
	V	P	13	26	29		
		e	13	28	09		
		S	13	28	54		
	S	P	13	27	55		
	H	L	13	46	.0		
	SH	e	13	42	31		
14	O	eP	14	22	34	c	Southern Mexico
	V	iPZ	14	23	05	c	
		S	14	28	56		
	S	P	14	22	50		
		e	14	24	23		
		iS_{NW}	14	28	36		
		iS_{NE}	14	28	46		

DATE	STN.	PHASE	h m s	REMARKS
14 (cont'd)	H	P	14 23 27	Δ = 42°.5
		PP	14 25 10	
		PPP	14 25 49	
		S	14 29 51	
		PPS	14 30 16	
	SH	P	14 22 54	
		e	14 23 47	
		e	14 24 10	
		S	14 28 50	
	SF	P	14 22 06	Δ = 40°
		PP	14 23 46	
		i	14 27 34	
		iS	14 28 09	
		SS	14 30 55	
15	V	eZ	01 49 41	Bonin Islands
16	O	iP	10 56 08	Off coast of Oregon
		e	10 57 32	
	V	PnZ	10 50 27	Δ = 660 km.
		P_2	10 50 40	
		Sn	10 51 32	
		i	10 51 43	
16	O	iPn	20 09 02.7	Δ = 145 km.
		P_1	20 09 03.4	
		Sn	20 09 19.7	
		S_1	20 09 21.5	
		L	20 09 27.4	
17	O	P	01 14 50	South Mexico
	V	P	01 15 18	
18	O	iPZ	08 11 09.2 c	Guatemala
		e	08 12 27	h = 200 km.
		S	08 16 16	H = 08 04 46
		SSS	08 18 41	
	V	iP	08 12 34	
		S	08 18 52	
	SH	e	08 11 23	
	SF	P	08 10 36	
19	O	Pn	19 16 25.6	Δ = 174 km.
		Sn	19 16 45.0	
		L	19 16 49.5	
19	O	eZ	21 33 08	Atlantic Ocean
20	O	eZ	02 19 53	South Mexico
21	O	eZ	11 48 21	Central Chile
21	O	PnZ	16 45 45.8	Δ = 200 km.
		P_1	16 45 47.7	
		Sn	16 46 07.4	
		L	16 46 11	
22	O	eP	00 04 07	Southern Mexico
22	O	eZ	09 29 49	Nicobar Islands
23	O	eZ	09 06 05	Honshu, Japan
	V	eZ	09 03 50	
23	V	iZ	17 57 50 d	

DATE	STN.	PHASE	h	m	s	REMARKS
26	O	ePZ	13	58	28	USCGS: φ = 17°N, λ = 98°W
		S	14	04	08	H = 13 51 43
	V	iP	13	58	59 d	Southern Mexico
	S	e	14	11	21	
	SH	e	13	59	47	
	SF	e	13	59	58	
27	O	eZ	23	16	22	Leward Islands
	V	eZ	23	20	00	
28	V	e	14	27	54	Western Brazil
28	O	eZ	18	38	16.3	Local?
		i	18	38	18.0	
		L	18	38	24.0	
28	V	eZ	22	52	50	
29	O	ePZ	20	22	42.5	Leeward Islands
		SN	20	27	42	
	V	e	20	27	16	
30	O	iPZ	13	10	30 c	Central Ecuador
	SH	i	13	10	40	
31	V	P_1Z	23	19	09.0	Δ = 45 km.
		S_1Z	23	19	14.8	

W. G. Milne
Assistant Seismologist

SEISMOLOGICAL BULLETINS RECEIVED

November, 1950

We acknowledge, with thanks, the receipt of the following seismological publications and bulletins:-

STATION	BULLETINS
Prague	September, 1950
Belgrade	September, 1950
Wellington	May, June, 1950
Reykjavik	1945, 1946
Santa Clara	October, 1950
Wellington	October-December, 1948, January-March, 1949
China	January-June, 1950
Rome	July, 1950
Columbia	October 28-November 10, 1950
Harvard	January-June, 1950
Brisbane	July, 1950
Athens	June-August, 1950
Malaga	January, February, 1950
De Bilt	September, 1950
Tortosa	September, October, 1950
Richmond	September, 1950
Toledo	July-September, 1950
Columbia	November 10-17, 1950
Almeria	1944
Istanbul	May, 1950
Pasadena	Preliminaries - July-November, 1950, January-April, 1950; 1950
Zurich	August-October, 1950
Ksara	July-September, 1950
Lisbon	July-September, 1950
Tacubaya	September, 1950
Rome	August, 1950
Kalocsa	August-October, 1950
Budapest	August-October, 1950
Beograd	October, 1950

December, 1950

Leipzig	1945, 1946
Japan	August, 1950
Helsinki	April-September, 1950
Helwan	May, June, 1950
Apia	July-September, 1950
Lamont	November 17-December 1, 1950
Richmond	October, 1950
South Africa	September, 1950
Strasbourg	1942-1943
Saint Louis and Auxiliary Stations	Preliminaries - July 29, August 1, 3, 5, 1950
Dublin	July 1-September 30, 1950
Columbia	December 1-11, 1950
Bogota	January-May, 1950
De Bilt	October, 1950
Brisbane	August, September, 1950
South Africa	October, 1950
Weston	October, 1950
India	March, April, 1950
Prague	October, 1950
South Africa	November, 1950
Columbia	December 14, 15, 1950
Toledo	August, October, 1950

SEISMOLOGICAL BULLETINS RECEIVED
December, 1950
(cont'd)

Strasbourg	October 11 - November 30, 1950
Bureau Central	July, August, 1950
Riverview	1949
Stuttgart	July-September, 1950
Weston	November, 1950
Saint Louis and Auxiliary Stations	Preliminaries - August 7, 13, 14, 15, 17, 20, 22, 24, 26, 30, 31, September 2, 9
Wellington	July, 1950

Dominion Observatory,
Ottawa - Canada,
January 29, 1951.

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

DOMINION OBSERVATORIES BRANCH

SEISMOLOGICAL SERVICE OF CANADA

Resolute Bay, N.W.T.

SEISMOLOGICAL BULLETIN

August - December

1950

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DOMINION OBSERVATORY

OTTAWA - CANADA

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

C. S. Beals, Dominion Astronomer

Ernest A. Hodgson, Chief, Seismological Division

The Dominion Observatory seismograph station at RESOLUTE BAY, N. W. T.

$\varphi = 74^{\circ}41'$ N. $\lambda = 94^{\circ}54'$ W.

Time corrections daily from W.W.V. G.M.T. used throughout.

Foundation: early Palaeozoic limestone

Instruments: Sprengnether short-period Z
Sprengnether long-period NS-EW
Willmore short-period Horizontal
Paper speed 60 mm. per minute.

The Dominion Observatory seismograph station at Resolute Bay, N.W.T., was installed during the summer of 1950 and began operations about August 18, 1950. The station was installed and has been maintained to date by P. C. Bremner. The initial year of operation has been devoted to research aimed at discovering the best operating procedures. The Sprengnether short-period Z has been operated as a standard instrument with a 1.8 sec. galvanometer and critical damping during part of the time, and at other times has been operated with a Micro-Moll galvanometer or a Turner galvanometer. The long-period horizontals have been operated at various times with 6 second, 15 second and 20 second galvanometers. These various instrumental changes have not been indicated in this bulletin. It is expected that a standard operating procedure will be adopted in the near future and the constants of the instrument can then be published.

Bulletins from this station will be issued separately from the main Ottawa bulletins because of the variable delay in receiving mail from Resolute Bay. The records are on file in Ottawa.

A paper by P. C. Bremner, giving the details of the installation and the results of the first year's research, is in preparation.

J.H.H.

Dominion Observatory,
Ottawa, Canada,
June 29, 1951.

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATION: Resolute Bay, North-West Territories

August, 1950 No. 1

DATE	PHASE	h m s	REMARKS
18	P_Z	17 10 37	$\Delta = 76°$
	e	17 10 56	
	e	17 17 54	
	S	17 20 16	
	e	17 21 17	
	L	17 23 12	
20	L	01 59.5	W. Montana
20	e	09 15 20	S.E. Tibet
21	e	18 55 44	
22	e	06 54 04	S.E. Tibet
22	P_Z	07 43 40	East coast of Kamchatka
	e_Z	07 43 50	H = 07 40 09
	e_E	07 54 49	
23	e_Z	18 58 53	China-Burma-India
	e N	18 08 44	
	e_N	18 23 32	
24	e_E	17 58 14	Coast of Oregon
	L_E	18 47	H = 17 45 34
25	L_E	02 30.8	West coast of Vancouver Island
26	e	04 44 45	$\Delta = 24°.5$
	e	04 45 23	150 miles N.W. of Nome, Alaska
	e	04 48 56	H = 04 39 27
	L	04 51 12	
27	e_Z	00 42 51	$\Delta = 24°.5$
	e	00 47 08	
27	e_Z	11 11 54	China-Burma-India
28	e_Z	13 05 33	Mariana Islands
31	e_Z	07 19 06	S.E. coast of Mindanao Philipine Islands

P. C. Bremner
Seismologist in Charge
Resolute Bay, N.W.T.

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, ~~OTTAWA~~

STATION: Resolute Bay, North-West Territories

September, 1950 No. 2

DATE	PHASE	h m s	REMARKS
2	P_Z	02 24 50	Aleutian Islands
2	P_Z	12 33 05	
2	e_Z	13 37 35	
	e	13 38 30	
	e_E	13 49 11	
	L_E	14 23.7	
2	e_Z	16 26 26	
	L_E	16 46 11	
2	L_E	19 43.5	
7	e_Z	15 17 39	Kermadec Islands
8	P_nZ	03 43 13	Δ = 280 km.
	P_2	03 43 17	
	P_1E	03 43 19	
	e_E	03 43 40	
	S_N	03 43 43	
9	e_E	10 40 51	New Britain
	e_E	10 46 43	H = 10 21 40
	L_E	10 54.8	
10	iP_Z	03 32 00	Δ = 67°5
	ePP_Z	03 36 11	Coast of Honshu, Japan
	i_N	03 36 21	H = 03 21 20
	e	03 40 25	
	eS	03 40 48	
	PS_N	03 41 22	
	ScS	03 41 53	
	SS_N	03 45.8	
10	eP	15 30 15	New Hebrides Islands
	P_1	15 34 27	H = 15 15 57
	PP	15 35 12	
	iSKS	15 40 43	
	SKKS	15 41 30	
	S	15 41 48	
	PS	15 43 49	
	PPS	15 44 30	
	$PKKP_2$	15 45 48	
	SS_E	15 49 27	
11	L	01 22.8	Samoa Islands
11	L	10 21 48	
13	P	12 04 44	400 miles east of Greenland
	S_Z	12 08 35	

DATE	PHASE	h	m	s	REMARKS
14	eZ	07	40	53	Aleutian Islands
14	eZ	08	04	57	S.E. Bolivia
14	eZ	09	19	24	Halmahera Island
	L	09	31	.0	
16	PZ	01	07	49	Δ = 80°
	S	01	17	43	1000 miles west of Galapagos
	PS_E	01	19	55	Islands. H = 00:55:36
	SS_E	01	22	54	
	L	01	31	.4	
16	PZ	12	48	07	Δ = 51°
	S	12	55	11	Kurile Islands
16	eZ	12	59	36	Δ = 63°
					Kyushu, Japan
16	iP	22	05	48	Δ = 39°5
	e	22	07	49	Aleutian Islands
	S	22	11	48	H = 21:58:15
	e_E	22	12	19	
	L	22	14	39	
19	eZ	20	43	43	North coast of New Guinea
					H = 20:29:48
21	i_E	23	18	31	Indian Ocean
	e_E	23	20	17	
22	e	01	45	21	Kurile Islands
22	PZ	08	05	56	Δ = 103°5
	iSKS	08	16	43	Easter Islands
	iS_E	08	17	39	H = 07:52:07
	PS_E	08	19	19	
	PPS_E	08	19	52	
	SS	08	24	43	
22	P'Z	08	14	58	Kurile Islands
23	PZ	00	06	52	Δ = 97°
	PPZ	00	11	03	
	i	00	16	55	
	SKS	00	17	43	
	S	00	18	12	
	PS	00	19	55	
	PPS	00	20	32	
	iE	00	22	36	
23	iZ	06	34	13	Eastern Crete
24	PZ	22	18	07	West central Alaska
	iE	22	22	14	
25	eZ	23	29	15	North coast of Mindanao
27	iE	03	54	15	Off west coast of Mexico
	L	04	04	.9	H = 03:36:55

September, 1950 No. 4

DATE	PHASE	h	m	s	REMARKS
28	PZ	03	41	46	East coast of Formosa
	SE	03	51	48	H = 03:29:36
	SKS	03	52	03	
	PPS	03	53	08	
28	PZ	21	52	41	Queen Charlotte Islands
	PS	21	57	09	
	L	21	60.	4	
29	P	06	41	56	Δ = 57°
	PcP	06	43	12	Off coast of Colima, Mexico
	PPP	06	45	19	H = 06:32:14
	S	06	49	48	
	PS	06	50	20	
	e	06	51	05	
	eE	06	52	11	
	iSS	06	53	35	
30	P	07	40	49	Δ = 78°
	PP	07	43	43	N. Assam, India
	PPP	07	45	22	
	S	07	50	33	
	PS	07	51	12	
	SS	07	55.	6	

P. C. Bremner
Seismologist in Charge
Resolute Bay, N.W.T.

SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATION: Resolute Bay, North-West Territories

October, 1950 No. 5

DATE	PHASE	h	m	s	REMARKS
2	L	12	11	.8	
3	PZ	09	09	20	Western Alaska
	eN	09	19	34	
3	PZ	12	43	31	$\Delta = 14^{o}$
	S	12	46	02	W. Yukon, Canada
	LN	12	47	26	H = 12:40:08
3	e	23	23	54	China-Burma, India
4	LE	14	01	24	
5	eE	01	09	33	
	L	01	15	.6	
5	P	16	20	09	$\Delta = 64^{o}$
	PcP	16	20	42	N.W. Costa Rica
	PP	16	22	31	H = 16:09:34
	PPP	16	24	18	
	PS	16	29	15	
8	PZ	03	37	21	Molucca Islands
					H = 03 23 09
8	PZ	05	02	06	S. Tibet
8	eZ	16	49	32	Mid-Atlantic Ocean
10	eZ	04	12	55	
13	eZ	21	35	07	
14	LE	18	02	12	
16	LE	22	14	23	
17	PZ	15	17	13	$\Delta = 61^{o}.5$
	S	15	25	30	Costa Rica
	PS	15	25	.9	
17	eE	22	33	58	W. coast Costa Rica
19	eZ	10	10	07	Kermadec Islands
	eE	10	10	43	
	eE	10	21	21	
	eE	10	23	.5	
20	e	08	02	22	
	L	08	11	.7	

DATE	PHASE	h	m	s	REMARKS
21	ePE	04	31	26	Tonga Islands Region
	iE	04	31	43	H = 04:12:59
	iE	04	40	36	
21	LE	08	56	46	
21	LE	09	27	46	
21	PZ	09	52	50	Δ = 57°
	eE	09	56	09	Colima, Mexico
	SE	(10	02	09)	H = 09:42:58
	iE	10	03	17	
	SSE	10	04	46	
22	eZ	15	18	33	Kurile Islands
23	P	16	23	30	Δ = 62°
	PcP	16	24	29	Near coast of Guatemala
	iPP	16	25	49	H = 16:13:24
	i	16	27	29	
	iS	16	31	47	
23	eZ	17	58	04	Guatemala
23	L	22	03	00	
23	e	23	52	51	Guatemala
	e	23	57	26	
	L	00	08.1		
24	e	01	10	39	Guatemala
	e	01	12	06	
	L	01	25	01	
24	e	06	10	00	Guatemala
	L	06	21.5		
24	e	09	59	23	Guatemala
	eL	10	04	03	
24	eL	16	25.3		
25	iPZ	07	15	01	Δ = 75°
	e	07	15	43	Ryuku Islands
	S	07	24	33	H = 07:03:17
	e	07	24	58	
	PS	07	25	10	
	PPS	07	25	53	
	SSS	07	32	36	
26	e	04	18	03	
	e	04	18	36	
	e	04	19	49	
	e	04	20	55	
	e	04	23	33	
	e	04	24	24	
	e	04	26	22	

October, 1950 No. 7

DATE	PHASE	h	m	s	REMARKS
26	e	16	05	55	
	e	16	06	57	
	e	16	08	36	
	e	16	09	15	
	e	16	14	24	
	e	16	14	43	
	e_N	16	17	50	
27	P_1	01	51	19	$\Delta = 65°$
	S_1	01	51	27	
	i_Z	01	51	29	
28	P_Z	22	25	47	$\Delta = 62°$
	PcP	22	26	38	W. Guatemala
	e	22	26	33	H = 22:15:48
	S	22	34	12	
	ScS	22	35	46	
	e	22	40	38	
30	eL	03	14	45	
31	P_Z	19	27	51	Mid-Atlantic Ocean
	S	19	38	07	$\Delta = 83°.5$
	e	19	41	15	
	e	19	42	52	
31	iP_Z	20	29	31	Gulf of California
	eL	20	39	04	H = 20:22:30
	iL	20	42	47	

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SEISMOLOGICAL SERVICE OF CANADA

DOMINION OBSERVATORY, OTTAWA

STATION: Resolute Bay, North-West Territories

November, 1950

DATE	PHASE	h	m	s	REMARKS
1	eN	13	05	08	W. coast of Costa Rica.
	eE	13	11	49	H = 12:45:32
	eE	13	17	23	
	e	13	20	10	
2	P	15	41	56	Banda Sea Region
					H = 15:27:49
2	P_Z	20	29	12	
	e_E	20	37	15	
5	eN	17	48	24	Shikoku, Japan
	eN	17	52	37	
	S	17	57	13	
	e	18	01	33	
	eL	18	04	09	
6	PP	22	39	58	Δ = 95°
	e	22	42	26	Solomon Islands
	e	22	43	20	H = 22:22:05
	S	22	46	50	
	e	22	47	22	
	e	22	49	23	
	eE	22	50	28	
	eE	22	51	41	
	SS	22	53	27	
	e	22	54	30	
	G	23	01	45	
8	PP	02	36	37	Δ = 100°
	PPP	02	38	27	Solomon Islands
	eE	02	38	42	H = 02:18:09
	eE	02	41	27	
	SKS	02	42	57	
	S	02	43	39	
	PS	02	45	37	
	eN	02	46	34	
10	S_E	02	31	30	Pacific Ocean off west coast of
	eN	02	31	47	Mexico
	eE	02	31	57	
	eE	02	35	27	
	eE	02	38	12	
	eN	02	41	38	
	eE	02	42	36	
	L_N	02	43	18	
	eE	02	43	38	
10	eE	04	05	22	
	eN	04	05	38	
	eE	04	06	36	
	eE	04	11	38	
	eN	04	11	44	
	eN	04	18	18	
	eE	04	21	38	
	eL_N	04	25	38	

November, 1950 No. 9

DATE	PHASE	h	m	s	REMARKS
11	eP_Z	09	38	04	$\Delta = 56°.5$
	S	09	45	50	Pacific Ocean off west coast of
	PS_E	09	46	15	Mexico
	SS	09	49	50	
	SSS	09	52	38	
	eE	09	55	27	
	L	09	57	20	
11	eP_Z	14	01	57	W. coast of Costa Rica
	eL	14	24	46	
11	eP_Z	14	27	54	East coast of Kamchatka
	eP_Z	14	29	39	
14	eE	04	48	34	Solomon Islands
	eE	04	49	17	
	eN	04	49	42	
	eE	04	51	30	
	eE	04	56	30	
	eN	04	57	00	
14	e	22	10	16	
	eE	22	16	47	
	eE	22	18	01	
	eE	22	20	54	
	eE	22	23	13	
	eL_E	22	46	35	
16	eP_Z	01	09	18	$\Delta = 78°.5$
	S	01	19	06	Mariana Islands
	ScS	01	19	28	
	PS	01	20	01	
	SS	01	24	25	
16	P_Z	05	36	36	$\Delta = 58°.5$
	eZ	05	37	50	Hokkaido, Japan
	SE	05	44	33	H = 05:26:46
	eE	05	47	10	
	eE	05	50	22	
	SSS	05	51	06	
	e	05	57	18	
17	eP_Z	16	09	.5	$\Delta = 75°$
	S	16	18	57	Mid Atlantic Ocean
	PPS	16	20	09	
	SS	16	23	45	
	SSS	16	27	11	
17	P_Z	19	38	11	$\Delta = 58°$
	PcP	19	39	07	West coast of Mexico
	SE	19	46	01	H = 19:28:18
	ScS	19	48	01	
	SS	19	50	07	
	eE	19	52	22	
19	eP_Z	21	45	.8	
	eL	22	10	.2	
	e	22	11	.4	

November, 1950 No. 10

DATE	PHASE	h	m	s	REMARKS
20	ePZ	11	40	35	
	eL	12	10	.6	
	eN	12	12	.6	
20	ePZ	12	46	.0	
	e	13	07	.3	
	e	13	13	.3	
	eE	13	14	.2	
22	P	10	23	05	Δ = 38°.5
	PP	10	25	38	Aleutian Islands
	PPP	10	26	00	H = 10:16:26
	$PcPZ$	10	26	10	
	S	10	29	48	
	SS	10	32	42	
	SSS	10	33	20	
	ScS	10	34	10	
	eL	10	35	20	
24	eN	13	29	.3	Samoa Islands
	eE	13	37	.2	H = 13:03:43
	eN	13	48	05	
24	eZ	20	30	26	Samoa Islands
	eN	20	44	28	H = 20:18:48
	e	20	51	13	
	e	20	22	.5	
28	PZ	00	53	01	Δ = 60 km.
	i	00	53	05	
	S	00	53	08	
	i	00	53	09	
	i	00	53	12	
	i	00	53	14	
	i	00	53	17	
29	PZ	01	49	46	Mariana Islands
	eE	02	00	20	
	eL	02	23	.6	

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STATION: Resolute Bay, North-West Territories

December, 1950 No. 11

DATE	PHASE	h	m	s	REMARKS
1	P	15	01	41	Δ = 67°5
	e_E	15	03	30	Mid Atlantic Ocean
	PP	15	04	20	800 miles off Brazil
	PPP	15	05	48	H = 14:51:00
	e	15	08	10	
	S	15	10	32	
	e	15	10	51	
	PS	15	11	00	
	e	15	11	.6	
	ScS	15	11	.7	
2	P	15	30	40	W. Brazil
	P'P'	15	59	17	H = 15:19:20
2	e_Z	20	06	.2	New Hebrides
	e_Z	20	09	.8	H = 19:51:45
	e	20	10	.6	
	e	20	11	07	
	e	20	12	56	
	e_N	20	25	41	
	e_N	20	29	48	
3	P_Z	06	38	44	
3	P_Z	06	41	16	
	e	06	51	.0	
	e	06	53	.5	
	e	06	55	.5	
4	P_Z	06	52	18	
	e_Z	06	56	.9	
	e_Z	06	59	16	
4	P_Z	16	41	45	Δ = 98°5
	PP	16	45	43	New Britain
	PPP	16	47	.9	H = 16:28:01
	SKS	16	52	16	
	SKKS	16	52	.7	
	S	16	53	04	
	PS	16	54	50	
	PPS	16	55	.5	
	SS	16	10	.1	
	SSS	17	03	.8	
4	e_Z	11	57	58	New Hebrides Islands
	e_Z	11	58	24	Aftershock
	e_Z	12	02	.2	

December, 1950 No. 12

DATE	PHASE	h m s	REMARKS
5	P_Z	00 17 51	Δ = 97°5
	PP	00 22 19	
	SKS	00 28 24	
	SKKS	00 28 55	
	S	00 29 09	
	e	00 32.5	
	e_E	00 35.7	
	SS	00 36.2	
	SSS	00 40.1	
	eL	00 44.8	
5	P_Z	21 52 53	Ryukyu Islands
	e_Z	21 53 03	
5	P_Z	22 04 56	
	e	22 14 13	
	e	22 15 01	
	e_E	22 15 13	
	e	22 19.1	
	e_E	22 22.2	
	eL	22 24 49	
9	P	21 52 24	Δ = 80°3
	PP_Z	21 56 34	N. Argentina-Chile
	PP_E	21 58 48	H = 21:38:56
	SKS	22 02 39	
9	P_Z	22 08 46	
10	eP_Z	03 03 34	Δ = 90°5
	PP_E	03 04 01	S. coast of Peru
	e_E	03 08 44	H = 02:50:40
	S	03 14 15	
	PS	03 15 33	
	SS_N	03 20 28	
	e	03 23 51	
10	iP	13 41 29	Δ = 12,700 km. 114°3
	PP	13 42.5	Kermadec Islands
	e_E	13 43 39	H = 13:23:10
	PP_Z	13 44 59	
	SKS	13 47.3	
	e	13 48 59	
	e_N	13 53 41	
	SS_N	13 57.8	
	e	13 60.6	
	e	14 10 21	
11	iP_Z	14 57 39	W. Brazil
			H = 14:46:41
12	e	02 18.8	
14	eP	02 06 45	Δ = 105°
	e	02 10 46	Tonga Islands
	e	02 12.9	H = 01:52:47
	e	02 15.8	
	e	02 16.6	
	SKS	02 17 01	
	S	02 18 23	
	PS	02 20 01	

DATE	PHASE	h	m	s	REMARKS
14	eP	13	32	27	Δ = 36°
	PP_Z	13	32	54	N. California
	eS	13	37	13	H = 13:24:21
	e	13	41	05	
	eN	13	43	01	
	eN	13	43	33	
14	P_Z	14	25	40	Δ = 58°
	PPP	14	29	24	S. Mexico
	S	14	33	45	H = 14:15:50
	PS	14	34	02	
	PPS	14	34	13	
	e	14	38	.4	
15	iP_Z	01	49	40	Δ = 71°
	e_Z	01	50	09	Bonin Islands
	PPP_E	01	54	04	
	e_E	01	59	13	
	PS	01	59	30	
	e	01	59	39	
	SS	02	03	36	
17	eP_Z	01	17	54	S. Mexico
	e	01	38	.1	Aftershock
18	e_E	03	24	.7	
	e_E	03	28	.8	
18	iP_Z	08	14	36	Δ = 58°
	e_Z	08	15	.3	Guatemala
	S_E	08	22	32	H = 08:04:46
	PS_E	08	22	56	
	e_E	08	23	45	
	e_E	08	25	27	
	SS_E	08	26	21	
	SSS_E	08	28	39	
18	ePZ	15	58	.9	Flores Sea
	e_E	16	04	.5	
	e_E	16	09	.9	
19	ePZ	21	33	.6	No. Atlantic Ocean
	e_N	21	41	.1	
	e	21	42	.8	
	e	21	44	.6	
	e	21	46	.1	
22	P_Z	09	24	13	Δ = 96°
	PP_Z	09	29	22	Nicobar Islands
	SKS_E	09	35	04	
	S_E	09	35	18	
	e_E	09	35	47	
	e_N	09	35	50	
	e_E	09	35	53	
	PS_E	09	36	55	
	e_N	09	41	57	
	SS_E	09	42	03	
	e	09	44	.6	

December, 1950 No. 14

DATE	PHASE	h	m	s	REMARKS
23	P_Z	09	03	23	$\Delta = 60°$
	S_E	09	11	31	N. Honshu, Japan
	ePPS	09	12	08	
	eScS	09	13	19	
	SS	09	15.5		
	L	09	25	52	
24	P_Z	05	21	26	Off south coast of Kyushu, Japan
	e_N	05	35.3		
26	eP_Z	14	01	33	$\Delta = 59°$
	S	14	09	31	S. Mexico
	ScS	14	11.5		Aftershock
	SS	14	13.9		H = 13:51:43
	e_N	14	20.5		
28	iP_Z	22	52	53	Bonin Islands
	e_Z	22	53	18	
29	P_Z	12	07	35	$\Delta = 72°$
	S_N	12	16	46	
	e	12	17	06	
	PS_E	12	17	22	
	e	12	17	40	
	e_E	12	21	36	
29	P_Z	20	26	31	$\Delta = 58°$
	S_N	20	34	16	Leeward Islands
	e_N	20	34	32	
	e	20	34	54	
	e	20	39	03	
	e_N	20	39	44	
	e_N	20	43	52	

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