

**BULLETIN
OF THE SLOVAK
SEISMOGRAPHIC
STATIONS**

**BRATISLAVA
ŠROBÁROVÁ
HURBANOV
AND**

**SKALNATÉ PLESO
FOR THE YEAR 1973**

Slovak Academy of Sciences
Geophysical Institute

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Bulletin
of the Slovak Seismographic
Stations Bratislava, Šrobárová
Hurbanovo and Skalnaté Pleso
for the Year 1973

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I n t r o d u c t i o n

The seismological bulletin for the year 1973 contains the results of the interpretation of records from the network of seismograph stations on the territory of Slovakia: Bratislava /central station/, Šrobárová, Hurbanovo and Skalnaté Pleso.

The records from the network are collected at the Geophysical Institute of the Slovak Academy of Sciences in Bratislava, where they are analysed. The preliminary results of the interpretation were published in ten-day preliminary bulletins for stations Bratislava, Šrobárová and Skalnaté Pleso. The ten-day preliminary bulletins were exchanged with about twenty seismological institutions from various parts of the world. The times of the onsets of the important earthquake phases appearing on the Bratislava and Šrobárová seismograms were sent to the seismological centre in Strasbourg twice a week by telex. The earthquake data obtained from the Bratislava and Šrobárová seismograms were also punched on cards which were regularly supplied to the International Seismological Centre in Edinburgh.

This annual bulletin contains the final analysis of the records and the completed and revised parameters of earthquakes and explosions. The sources of information regarding epicentres, origin times, depth of foci and shock magnitudes, frequently quoted are as follows: Bulletin of ISC, Vol. 10, 1973; Bulletin of BCIS, 1973; Quarterly Bulletin of the Academy of Sciences of the USSR, 1973. The time standard used throughout is Greenwich Mean Time.

The epicentres of almost all earthquakes or explosions occurring in Czechoslovakia were determined at the Geophysical Institute of the Czechoslovak Academy of Sciences in Prague or at the Geophysical Institute of the Slovak Academy of Sciences in Bratislava.

The processing of data and numerical calculations were carried out according a program compiled by Mrs. K.Mrázová, using the computer CDC 3300 in the Computing Centre, Bratislava.

For calculating the surface-wave magnitudes the standard calibrating functions [5] were used. Station corrections were ignored, as was the calculation of surface-wave magnitudes at distances less than 6° . Surface wave magnitudes were calculated for earthquakes with focal depths less or equal 80 km. The values of body-wave magnitudes from P waves in the distance interval $[16^\circ, 100^\circ]$ were calculated on the basis of Q-functions [6]. The values of the amplitudes of short period P-waves registered on the vertical component are given in nanometers while the values of AEW and ANS for calculating surface-wave magnitudes are given in micrometers.

An earthquake magnitude formula, giving the closest possible fit to surface-wave magnitudes determined by NEIS had been developed for the station Šrobárová [8]. The value of station correction for Šrobárová is -0.22 and the standard error ± 0.03 . For the determination of magnitudes the station correction was not taken into consideration.

For the measurements of microseisms the records of the Mainka horizontal seismograph at the station Hurbanovo were used. The maximum microseismic trace amplitudes were measured on the NS and EW components four times per day at 0 h, 06 h, 12 h, and 18 h GMT. Using a short computer program the trace amplitudes were converted into ground amplitudes /in micrometers/ and tabulated. The period was determined by measuring the length to 0.1 mm of 2-4 whole periods in a well developed maximum group. The periods are given in whole seconds. The trace amplitudes were measured from peak to peak, halved and the corresponding ground motion given to $0.1\mu\text{m}$.

In preparing this bulletin the author has been in different parts assisted by Mrs. N.Hupková, Mrs. A.Miková, Mrs. Z.Ferechová and Mrs. A.Stranovská. The investigation of macroseismic observations of earthquakes felt on the territory of Slovakia was carried out by Mr. I.Brouček.

The content of this bulletin is in accordance with the recommendations given in [7].

The program has been written in USASI FORTRAN/MASTER [9]. It consists of one main program and 11 procedures. The theoretical travel-time tables /1 - 4/ of important phases /p.11, 12/ are stored on a mass storage file; each phase /except the phases Pg, Pb, Pn and Sg, Sb, Sn/ requires 14 blocks /the block size being 1536 characters/, one block for the case of surface focus and 13 blocks for focal depths expressed in fractions of an Earth's radius / $R = 6338 \text{ km}$ /, measured from the base of the crust /Table 1/. The observed arrival times as well as amplitudes and periods of surface and body waves for all stations were punched on 80 column punched cards. When all punched cards were accumulated for the whole year, they were transferred and stored on a mass storage file.

The program contains the following procedures:

- "DIAZ" for calculating the epicentral distances and azimuths of the observing stations
- "USP" for arranging the epicentral distances into ascending order
- "PAG" for the layout of the Bulletin
- "HL" converts the depth of foci given in km into fraction of Earth's radius and according this value is then determined the number of block on the mass storage file, where the theoretical travel-times are stored
- "QML" for determination of surface-wave magnitudes according the "Prague" formula /Vaněk et al., 1962/. Station corrections are ignored, as are observations at distances less than 6° . MLH is calculated only when the focal depth $h < 80 \text{ km}$.

"QMPV" for calculation of body-wave magnitudes on the basis of Q-functions [6], stored on mass storage file in digital form. Body-wave magnitudes are calculated for the distance range $[16^\circ, 100^\circ]$

Subroutine designated as "PHI", for automatic phase identification. According this subroutine the travel-time for each phase is compared with all possible theoretical travel-times. From all possible phases it is determined and printed that one, which has the minimum value of $|O-C|$. In the case when the minimum value of $|O-C| \geq 20.0$ s the observed phase is printed without phase identification, i.e. only the observed time is printed and designated by letter i or e. A disadvantage of this subroutine is, that in cases when no other phase fits better according $|O-C|$, there are printed two identical phases /except the P-phase/ e.g. two pP-phases. In these cases it should be considered as a real phase that one which has smaller residual $|O-C|$.

"PHI1" distance range $[8^\circ, 105^\circ)$

"PHI2" $[0^\circ, 8^\circ)$ and $h \leq 33$ km, or when there is no depth determination

"PHI3" $\Delta \geq 110^\circ$

"PHI4" $\Delta < 8^\circ$ and $h > 33$ km

"PHI5" $105^\circ \leq \Delta < 110^\circ$

The listing of the whole program may be obtained on request from the author.

List of Seismic Phases

Phase	In Bulletin	Usual	
PN,SN	Pn,Sn		longitudinal and transverse waves refracted below the crust
PG,SG	Pg,Sg		waves in the upper crust
PB,SB	Pb,Sb		waves in the lower crust
P,S	P,S		direct longitudinal or transverse waves propagating in the mantle
PKIKP	PKIKP		direct longitudinal wave propagating through the inner core, travel-time branch DF [1]
PKHKP	PKHKP		direct longitudinal wave refracted in the intermediate zone between the inner and outer core; phase symbol according to Bolt [4], travel-time branch GH
PKP2	PKP2		direct longitudinal wave propagating only through the outer core, travel-time branch AB [1]
PP	PP		P waves reflected once at the Earth's surface
PCP	PoP		P waves reflected at the Earth's core boundary
SCS	ScS		S waves reflected at the Earth's core boundary
SKS	SKS		S waves passing through the core as P waves transformed back into S waves in the mantle;
SKSDE	SKS		

the letter DE designates the branch DE according to [1]

PKSAB	PKS	P wave transformed into S on the refraction when leaving the core; AB, BC and DF
PKSBC	PKS	designates the branches according to [1]
PKSDF	PKS	
SKPAB	SKP	S wave transformed into P on the refraction when leaving the core; AB, BC and DF
SKPBC	SKP	designates the branches according to [1]
SKPDF	SKP	
PS,SP	PS,SP	P and S waves reflected and transformed at the Earth's surface
SS	SS	S waves reflected once at the Earth's surface
AP	pP	P waves reflected from the surface as P waves, supposing deep focus earthquake
XP	sP	S waves reflected from the surface as P waves, supposing deep focus earthquake
XS	sS	S waves reflected from the surface as S waves, supposing deep focus earthquake
PDIF	Pdif	P waves diffracted on the core boundary
PKPEX	-	PKIKP waves /extrapolation of travel-times for the distance range (105, 110) /
LMH.LMV	Lm	waves of maximum amplitude in the surface wave group, on the horizontal or vertical component
APKP	pPKP	PKP waves reflected from the surface, supposing deep focus earthquake

Table 1

Number of blocks on mass storage file	Phase	Distance range	Transformed distance range
1 - 14	P	0 - 105	1 - 106
15 - 28	PKIKP	106 - 180	1 - 75
29 - 42	PKP2	143 - 180	1 - 38
43 - 56	PKHKP	125 - 156	1 - 32
57 - 70	S	0 - 107	1 - 108
71 - 84	SKS	62 - 180	1 - 118
85 - 98	SKSDE	99 - 133	1 - 35
99 - 112	PP	0 - 180	1 - 181
113 - 126	pP	1 - 105	1 - 105
127 - 140	sP	1 - 105	1 - 105
141 - 154	PcP	0 - 100	1 - 101
155 - 168	PS	44 - 147	1 - 104
169 - 182	SP	44 - 147	1 - 104
183 - 196	SKPAB	131 - 148	1 - 18
197 - 210	SKPBC	130 - 140	1 - 11
211 - 224	SKPDF	104 - 180	1 - 77
225 - 238	PKSAB	131 - 148	1 - 18
239 - 252	PKSBC	130 - 140	1 - 11
253 - 266	PKSDF	104 - 180	1 - 77
267 - 280	SS	0 - 180	1 - 181
281 - 294	ScS	0 - 100	1 - 101
295 - 308	sS	19 - 100	1 - 82
309	Pg	0 - 8	1 - 9
310	Pb	0 - 8	1 - 9
311	Pn	0 - 8	1 - 9
312	Sg	0 - 8	1 - 9

Number of blocks on mass storage file	Phase	Distance range	Transformed distance range
313	Sb	0 - 8	1 - 9
314	Sn	0 - 8	1 - 9
315 - 328	Qfu	16 - 100	1 - 85
329	Sigfu	6 - 180	1 - 175
330 - 343	HKPKP	0 - 44	1 - 45 +++
344 - 357	pPKPKP	106 - 180	1 - 75
358 - 371	pPKP2	143 - 180	1 - 38
372 - 385	pPKHKP	125 - 156	1 - 32
386 - 399	Pdif	105 - 110	1 - 6
400 - 413	FKPEX	105 - 110	1 - 6

Remarks:

The line marked +++, here the interval <0-44> is not the distance range but $dt/d\Delta$, as HKPKP means the depth corrections for PKP.

Sigfu ... the calibration functions /Vaněk et al., 1962/.

Qfu ... Q-functions [6].



- A length of recording arm
- Az azimuth of station with respect to the epicentre
- Dc epicentral distance
- Dg damping constant of the galvanometer
- Ds damping constant of the seismometer
- e poorly distinguishable beginning of a phase
- ξ : 1 damping ratio
- H origin time
- h depth of focus in km
- i impulsive beginning of a phase
- K characteristics of microseisms:
 - 1 disturbance showing microseisms in groups
 - 2 continuous disturbance
 - 3 disturbance of a mixed and irregular character
 - 0 no microseismic movement
 - 0.0 very weak microseismic movement, amplitude less than 0.1 micrometer
 - tt disturbance could not be measured because of earthquake
 - v disturbance could not be measured because of gusts of wind
 - ... disturbance could not be measured for other reasons
- Kg moment of inertia of the galvanometer
- Ks moment of inertia of the seismometer
- l reduced pendulum length
- MB body-wave magnitude given by ISC
- MLH surface-wave magnitude
- MPV body-wave magnitude calculated from short period P waves
- r max. deviation due to friction
- σ^2 coupling coefficient

Tg free period of the galvanometer
 Ts free period of the seismometer
 Vo static magnification
 Vm max. dynamic magnification
 + and - compressional or dilatational motion in a longitudinal wave
 NE nuclear explosion

Coordinates of the Seismographic Stations

Station	Latitude	Longitude	Altitude	Lithologic foundation
Bratislava	48°10'06"N	17°06'18"E	270 m	Granite
Šrobárová	47°48'48"N	18°18'48"E	150 m	Bed of sand
Hurbanovo	47°52'25"N	18°11'34"E	115 m	Bed of sand
Skalnaté Pleso	49°11'20"N	20°14'32"E	1772 m	Granite

Constants for the Year 1973

HURBANOVO

"MAINKA", horizontal seismograph, M = 210 kg, air damping, mechanical registration

Month	Component	Ts/s/	Vo	r/mm/	ξ :1	Paper speed
January-April	N-S	8.4	48.6	0.7	4.0	30 mm/min
	E-W	9.9	52.2	1.0	3.7	
May-July	N-S	8.4	48.6	0.7	4.0	30 mm/min
	E-W	9.1	52.2	1.0	3.7	
August	N-S	8.4	48.6	0.7	4.0	30 mm/min
	E-W	9.9	52.2	1.0	3.7	
September-October	N-S	8.2	50.2	1.1	3.5	30 mm/min
	E-W	9.8	53.4	0.8	4.0	
November-December	N-S	8.2	50.2	1.1	3.5	30 mm/min
	E-W	9.8	53.4	0.8	4.0	

BRATISLAVA

"VEGIK", electromagnetic seismograph with galvanometric registration 1973, Jan. 01 - Sept. 30

Component	T_s /s/	T_g /s/	D_s	Dg	σ^2	A /m/	l /m/	K1 /kg m ² /	K2 /kg m ² /.10 ⁻⁸	Paper speed
Z	1.78	1.91	0.87	1.05	0.114	1.12	0.0940	0.0098	1.35	15 mm/md.n
N-S	2.00	1.86	0.91	1.02	0.103	1.03	0.0934	0.0101	3.67	15 mm/md.n
E-W	2.00	1.92	0.90	1.08	0.104	1.03	0.0940	0.0100	3.70	15 mm/md.n

BRATISLAVA

"VEGIK", electromagnetic seismograph with galvanometric registration 1973, Oct. 01 - Dec. 31

Component	T_s /s/	T_g /s/	D_s	Dg	σ^2	A /m/	l /m/	K1 /kg m ² /	K2 /kg m ² /.10 ⁻⁸	Paper speed
Z	1.4	1.27	0.57	1.42	0.25	0.5	0.094	0.01	0.081	15 mm/md.n
N-S	1.27	1.15	0.50	1.52	0.085	0.5	0.0934	0.0101	0.077	15 mm/md.n
E-W	1.27	1.15	0.51	1.51	0.092	0.5	0.0940	0.0098	0.08	15 mm/md.n

ŠROBÁROVÁ

"KIRNOS", electromagnetic seismograph with galvanometric registration, class "C" according [7]
1973, Jan. 01 - Aug. 31

Component	T_s /s/	T_g /s/	D_s	Dg	σ^2	A /m/	l /m/	K1 /kg m ² /	K2 /kg m ² /.10 ⁻⁸	Paper speed
Z	20.4	1.17	0.50	7.83	0.327	0.98	0.488	0.362	0.515	15 mm/min
N-S	23.2	1.19	0.45	7.53	0.266	0.98	0.488	0.358	0.432	15 mm/min
E-W	25.0	1.14	0.45	7.81	0.278	0.98	0.499	0.358	0.419	15 mm/min

ŠROBÁROVÁ

"KIRNOS", electromagnetic seismograph with galvanometric registration, class "C" according [7]
1973, Sept. 01 - Dec. 31

Component	T_s /s/	T_g /s/	D_s	Dg	σ^2	A /m/	l /m/	K1 /kg m ² /	K2 /kg m ² /.10 ⁻⁸	Paper speed
Z	20.5	1.20	0.46	7.27	0.204	0.98	0.488	0.362	0.493	15 mm/md.n
N-S	23.0	1.20	0.41	7.69	0.219	0.98	0.488	0.358	0.502	15 mm/md.n
E-W	25.3	1.16	0.46	7.81	0.293	0.98	0.499	0.358	0.470	15 mm/md.n

SKALNATE PLESO

"VEGIK", electromagnetic seismograph with galvanometric registration

Component	Ts [s]	Tg [s]	Ds	Dg	σ^2	V_m /Tm = 1.3/	Paper speed
Z	1.9	1.9	0.97	0.90	0.12	4851.5	60 mm/min

List of Quoted Agencies Reporting Epicentral Parameters

Code	Agency
ATH	Athens, Seismological Institute, National Observatory, Athens, Greece
BCIS	Bureau Central International de Seismologie, Strasbourg, France
BRA	Bratislava, Geophysical Institute, Slovak Academy of Sciences, Bratislava, Czechoslovakia
ISC	International Seismological Centre, Newbury, United Kingdom
LJU	Ljubljana, Astronomical and Geophysical Observatory, University of Ljubljana, Ljubljana, Yugoslavia
MOS	Academy of Sciences of the USSR, Institute of Physics of the Earth, Moscow, USSR
NEIS	National Earthquake Information Service, Denver, Colorado, USA
PRU	Průhonice, Geophysical Institute, Czechoslovak Academy of Sciences, Prague, Czechoslovakia
UPP	Uppsala, Seismological Institute, Uppsala, Sweden
USAEC	U.S. Atomic Energy Commission, Washington, USA
VIE	Vienna, Zentralanstalt für Meteorologie und Geodynamik, Wien, Austria
WAR	Warsaw, Geophysical Institute of the Polish Academy of Sciences, Warsaw, Poland

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Earthquake Observations

at the Stations B r a t i s l a v a
 Š r o b á r o v á
 H u r b a n o v o a n d
 S k a l n a t é P l e s o

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta Azimuth	Remarks
				h	m s		A	T	A	T	A	T				
1	JAN 1	BRA SRO	EAP LNV	11 55 12 33	32.0 0.0	-2.7								88.32 88.37	206.14 207.06	Tristen da Cunha Region 35.56 S 15.59 W H = 11 42 36.1 DEPTH = 24 km MB = 5.3 /ISC/
2	JAN 3	SPC SRO	EP EPP LNV	14 38 14 39 14 38 14 58 14 38 14 40	20.0 50.0 31.0 0.0 37.0 24.0	1.1 1.1 0.3 -0.0 10.3								37.72 39.14 39.90	85.45 82.46 82.12	Taqzhikistan 39.15 N 71.90 E H = 14 31 6.4 DEPTH = 50 km MB = 5.3 /ISC/
3	JAN 4	SPC BRA	EP EP EXP	8 9 8 9 8 9	20.0 20.0 36.0	2.5 1.9 1.0								25.43 25.71	339.55 342.01	Jan Mayen Island Region 71.12 N 7.20 W H = 8 3 51.7 DEPTH = 38 km MB = 4.9 /ISC/
4	JAN 5	BRA SPC	EP EXP IP	1 50 1 50 1 50	28.0 43.0 47.0	-1.9 1.2 -0.4								29.62 31.25	289.51 289.05	North Atlantic Ridge 49.33 N 28.30 W H = 1 44 25.0 DEPTH = 29 km MB = 5.2 /ISC/
5	JAN 5	SRO	EP E MLH EP E LNH EP	5 52 5 56 5 59 5 52 5 56 5 58 5 52	12.0 48.0 0.0 19.0 42.0 0.0 25.0	-1.1 -1.7 -3.3	100	2.0	9.0	12.0	15.0	12.0	5.3	12.30 12.86	166.15 162.19	Mediterranean Sea 35.80 N 21.91 E H = 5 49 17.6 DEPTH = 34 km MB = 5.3 /ISC/
6	JAN 5	SPC SRO	EPKP2 EPKP2 IAPKP2 IPP EPKP2 IAPKP2 IPP E	14 14 14 14 14 15 14 18 14 14 14 15 14 15 14 18 14 19	54.0 59.0 30.0 51.0 12.0 0.0 42.0 28.0	3.3 1.0 2.2 8.7 -0.1 3.3 2.5								159.45 161.12	69.77 70.74	North Island, New Zealand 39.02 S 175.23 E H = 13 54 29.3 DEPTH = 147 km MB = 6.4 /ISC/
7	JAN 6	CRO BRA	EAPKHP EP EPKP2 IAPKP2 EPKSAE	16 12 16 14 16 12 16 12 16 15	0.0 58.0 5.0 11.0 49.0	0.8 3.9 1.0 -0.9 1.0								137.70 138.07	49.46 47.68	New Hebrides 14.66 S 166.41 E H = 15 52 40.9 DEPTH = 24 km MB = 6.0 /ISC/

8	JAN 6	BRA	EPKIKP	22 35	3.0	0.6								139.32	46.94	New Hebrides 15.49 S 167.50 E H = 22 15 50.2 DEPTH = 126 km MB = 5.4 /ISC/
9	JAN 7	BRA SPC	EP EP	12 25 12 25	35.0 37.0	-0.6 1.2								46.06 46.08	152.24 156.83	Ethiopia 5.14 N 36.78 E H = 12 17 12.0 DEPTH = 25 km MB = 4.8 /ISC/
10	JAN 8	BRA	EPKP2	21 30	7.0	-0.3								153.75	30.67	South of Fiji 24.45 S 177.23 W H = 21 10 14.0 DEPTH = 179 km MB = 4.7 /ISC/
11	JAN 9	BRA	IPG	11 4	2.0											No determination of epicentre
12	JAN 9	SPC	IP	12 8	38.0	2.4								70.28	352.77	Southern Alaska 60.32 N 145.98 W H = 11 57 20.1 DEPTH = 10 km MB = 5.1 /ISC/
13	JAN 10	BRA SPC	EP EP	3 26 3 27	52.0 4.0	3.2 7.3								10.94 11.53	161.66 175.33	Southern Greece 37.69 N 21.42 E H = 3 24 12.0 DEPTH = 45 km MB = 4.8 /ISC/
14	JAN 15	SPC	I	9 14	54.0									96.01	56.78	Bonin Islands Region 16.27 N 140.22 E H = 9 2 59.1 DEPTH = 487 km MB = 5.6 /ISC/
15	JAN 15	SPC	IP	13 4	35.0	0.3								49.33	72.06	Southern Suluang Region 40.36 N 91.05 S H = 12 55 43.0 DEPTH = 1 km MB = 5.0 /ISC/
16	JAN 16	SPC	IP EAP	10 9 10 9	25.0 44.0	0.5 -0.5								77.02	3.46	Fox Islands 54.05 N 165.48 W H = 9 57 38.0 DEPTH = 75 km MB = 5.2 /ISC/
17	JAN 16	SPC	IAP EPKP	21 39 21 41	29.0 25.0	-0.8 9.0								43.71	89.90	Eastern Kashmir 33.29 N 75.93 E H = 21 31 25.9 DEPTH = 39 km MB = 5.1 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T	A	T						
18	JAN 16	SPC	EAP	22	43 44.0	-1.0										14.18	171.83	Mediterranean Sea 35.11 N 22.68 E H = 22 45 17.0 DEPTH = 35 km MB = 4.6 /ISC/		
19	JAN 17	BRA	EPB ISG I E	5 29 33.0 5 30 1.0 5 30 19.0 5 31 52.0														No determination of epicentre		
20	JAN 17	SPC BRA	IPKP2 IPKIKP IPKP2 IAPKIKP IPKIKP	10 3 43.0 10 3 46.0 10 3 52.0 10 4 53.0 10 3 46.0	1.2 1.3 3.6 1.0 1.3											143.93 145.68 145.71	25.41 20.92 23.11	North of New Zealand 15.23 S 174.93 W H = 9 44 36.0 DEPTH = 264 km MB = 5.7 /ISC/		
21	JAN 17	BRA	IPG	11 4 52.0														No determination of epicentre		
22	JAN 18	SPC SRO	IPKIKP ESKSDE EAPKIKP E LJH IPKIKP IAPKIKP ESKSDE E	9 47 3.0 9 54 6.0 9 47 18.0 9 55 38.0 10 41 0.0 9 47 7.0 9 47 16.0 9 54 10.0 9 55 40.0	1.7 -1.8 1.2 1.2 -1.8 -2.1								6.6			120.44 122.23 122.76	62.25 61.17 59.83	New Britain Region 6.88 S 150.03 E H = 9 28 13.7 DEPTH = 38 km MB = 6.3 /ISC/		
23	JAN 18	SRO BRA	E ESN ESG	19 10 46.0 19 9 55.0 19 10 34.0	-9.7 -2.6											5.04 5.53	173.46 164.66	Yugoslavia 42.82 N 19.09 E H = 9 28 13.7 DEPTH = 38 km MB = 6.3 /ISC/		
24	JAN 19	BRA	E	9 27 23.0														No determination of epicentre		
25	JAN 20	BRA	EAPKIKP	5 54 53.0	13.6											144.40	27.45	Fiji Region 15.06 S 179.02 W H = 5 35 1.0 DEPTH = 2 km MB = 5.0 /ISC/		
26	JAN 20	SPC BRA	EP EAP EP	10 26 2.0 10 26 24.0 10 26 14.0	-1.5 7.0 -0.8											81.14 83.33	45.65 43.40	Near East Coast of Honshu 34.89 N 140.99 E H = 10 13 49.6 DEPTH = 31 km MB = 5.0 /ISC/		

27	JAN 20	BRA	EPB EPGP	12 42 33.0 12 44 15.0	0.9 2.5											43.52	95.42	Pakistan 29.32 N 68.69 E H = 12 34 20.1 DEPTH = 19 km MB = 5.1 /ISC/
28	JAN 20	BRA	EP	12 54 51.0	2.1											42.30	95.34	Pakistan 29.74 N 69.52 E H = 12 46 45.5 DEPTH = 18 km MB = 5.0 /ISC/
29	JAN 20	BRA	EP	13 42 20.0	2.3											33.29	43.25	Off East Coast of Honshu 34.95 N 141.02 E H = 16 30 1.1 DEPTH = 34 km MB = 4.9 /ISC/
30	JAN 21	BRA	E	15 37 14.0														No determination of epicentre
31	JAN 21	BRA	EPB2	20 10 18.0	0.0											145.42	10.75	North of New Zealand 15.76 S 176.09 W H = 20 20 51.8 DEPTH = 162 km MB = 5.3 /ISC/
32	JAN 22	BRA SRO	EP EAP EP LJH IPGP IPP	0 51 26.0 0 51 37.0 0 55 21.0 1 35 0.0 0 51 31.0 0 55 27.0	0.1 -0.8 -1.7 0.0 0.0 -2.6													Off Coast of Jalisco, Mexico 15.52 N 106.12 W H = 0 37 59.3 DEPTH = 30 km MB = 5.6 /ISC/
33	JAN 22	SPC BRA	IPKP2 EPKIKP EAPKIKP EAPKIP	13 55 44.0 13 55 41.0 13 55 49.0 13 59 24.0	-6.5 -0.5 7.5 12.0													Fiji Region 21.33 S 170.93 W H = 15 35 57.5 DEPTH = 567 km MB = 5.2 /ISC/
34	JAN 23	SPC	EAPKIKP	0 4 44.0	7.4											119.52	61.96	New Britain Region 5.96 S 149.70 E H = 23 45 35.0 DEPTH = 61 km MB = 5.5 /ISC/
35	JAN 23	SPC SRO BRA	EAPKIKP EP +IPKIKP IPP IPKIKP IAPKIKP IPP IPKSEC	5 0 51.0 5 11 21.0 5 18 58.0 5 11 34.0 5 6 58.0 5 9 24.0 5 11 40.0 5 12 28.0	-0.5 -4.7 4.1 -3.3 3.4 3.2 0.7 0.0												Santa Cruz Islands 12.10 S 155.52 E H = 4 49 45.1 DEPTH = 90 km MB = 6.0 /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
36	JAN 25	BRA	E	10	47	14.0								12.95	161.66		No determination of epicentre
37	JAN 26	BRA	EP	7	53	17.0	2.0										Mediterranean Sea 35.74 N 22.08 E H = 7 50 11.0 DEPTH = 41 km MB = 4.8 /ISC/
38	JAN 26	BRA	EKCP2	13	25	3.0	-1.9							148.39	18.19		Tonga Region 17.53 S 172.77 W H = 13 5 16.5 DEPTH = 33 km MB = 5.1 /ISC/
39	JAN 27	BRA	EPF	13	26	50.0	7.3							101.32	77.38		Molucca Sea 0.14 S 124.00 E H = 13 8 49.9 DEPTH = 112 km MB = 5.9 /ISC/
40	JAN 27	BRA SRO	EKCP2 EKP2	20 57 20 57	44.0 47.0	4.6 7.4								148.43 148.49	18.25 20.58		Tonga Region 17.57 S 172.79 W H = 20 38 0.1 DEPTH = 109 km MB = 5.0 /ISC/
41	JAN 28	BRA	EAPKHP	14	37	43.0	-1.4							147.56	19.16		North of New Zealand 16.83 S 173.49 W H = 14 18 0.0 DEPTH = 18 km MB = 5.0 /ISC/
42	JAN 28	SRO BRA	EKCP2 EAPKHP EAPKHP	17 54 17 55 17 57 17 55	6.0 11.0 4.0 10.0	-3.8 4.7 -4.2 3.5								149.27 149.30	26.72 24.34		North of New Zealand 19.23 S 175.75 W H = 17 34 40.9 DEPTH = 228 km MB = 5.3 /ISC/
43	JAN 28	SPC SRO BRA	IPKIP EPP +IPKIP IAPKHP LMH +IPKIP IAPKHP	18 2 18 5 18 2 18 2 19 2 18 2 18 2	36.0 42.0 39.0 51.0 0.0 40.0 55.0	-2.1 -3.7 -0.8 -0.9 -1.1 2.0		0.9	20.0	1.0	20.0		5.7	141.50 143.36 143.75	51.63 50.53 48.55		New Hebrides 19.82 S 159.02 E H = 17 43 13.5 DEPTH = 58 km MB = 5.7 /ISC/
44	JAN 29	SPC BRA	EAMKIP EAPKIP EKP2	14 46 14 46 14 46	8.0 11.0 20.0	-2.9 -2.7 1.0								150.25 152.10	29.11 24.21		North of New Zealand 21.90 S 174.82 W H = 14 25 16.5 DEPTH = 43 km MB = 5.1 /ISC/

45	JAN 30	BRA SRO SPC	IPCP IPP ISKS LMH IP IPP I LMH IPCP	21 14 21 18 21 25 22 4 21 14 21 18 21 55 22 4 21 14	32.0 29.0 17.0 0.0 35.0 22.0 35.0 0.0 39.0	0.0 6.4 15.7 -0.3 -7.3		130.0	15.0	400.0	15.0		8.0	94.78	304.49		Michoacan Mexico 18.53 N 102.93 W H = 21 1 13.8 DEPTH = 48 km MB = 6.1 /ISC/
46	JAN 31	SPC SRO BRA	EPCP ESKS +PCP IAP ISKS LMH +IP IPCP IAP I ISCS	21 7 21 17 21 7 21 9 21 17 21 42 21 7 21 7 21 9 21 11 21 17	44.0 21.0 51.0 39.0 31.0 0.0 50.0 53.0 42.0 6.0 53.0	1.6 5.6 0.5 -3.1 3.7 -0.6 0.9 -2.0 -0.4		52.5	20.0	47.4	20.0		7.1	95.87	307.03		Bonin Islands Region 29.22 N 139.30 W H = 20 55 54.2 DEPTH = 500 km MB = 5.9 /ISC/
47	FEB 1	BRA SRO	EP IPP IPP	5 27 5 32 5 32	50.0 2.0 7.0	-1.5 -5.2 -6.4								102.17 102.81	249.94 250.71		Jujuy Province, Argentina 22.53 S 65.19 W H = 5 14 19.9 DEPTH = 214 km MB = 5.0 /ISC/
48	FEB 1	SPC BRA SRO	IPKIP2 IAPKIP +IPKIP IAPKIP2 IPKIP2 IAPKIP2	7 47 7 48 7 47 7 40 7 47 7 48	4.0 5.0 2.0 5.0 5.0 3.0	2.8 14.6 2.6 4.6 -3.3 2.6								146.25 148.04 148.05	26.94 22.32 24.64		North of New Zealand 17.72 S 175.07 W H = 7 27 42.1 DEPTH = 207 km MB = 5.4 /ISC/
49	FEB 1	BRA	E	11 20	48.0												No determination of epicentre
50	FEB 1	BRA	E I	11 39 11 41	32.0 26.0												No determination of epicentre
51	FEB 1	SPC BRA	EP IP	17 35 17 36	55.0 2.0	2.3 1.1								77.43 78.92	15.02 13.04		Rat Islands 51.70 N 176.26 E H = 17 24 0.3 DEPTH = 43 km MB = 5.3 /ISC/
52	FEB 6	SRO BRA	+IP LMH IP IFCP	10 47 11 11 10 47 10 48	39.0 0.0 39.0 15.0	4.7 0.3 -0.9		125.0	18.0	56.0	18.0		7.2	62.57 63.23	72.78 72.19		Szechwan Province 31.33 N 100.49 E H = 10 37 7.0 DEPTH = 5 km MB = 5.9 /ISC/

No.	Date	STA Code	Phase	GMT			RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T					
53	FEB 7	BRA	EP/KKP ISP LMH	10 49 10 56 10 13	9.0 21.0 0.0	-6.1			75.0	12.0	245.0	12.0	7.6	148.34	18.36	Tonga Region 17.50 S 172.87 W H = 2 8 16.6 DEPTH = 33 km MB = 5.1 /ISC/		
54	FEB 7	SRO BRA	EP IPP LMH EP	16 16 16 19 16 45 16 16	51.0 11.0 0.0 51.0	3.9 4.6 -0.6	600					6.5	6.5	62.35 63.02	72.74 72.15	Szechwan Province 31.50 N 100.33 E H = 16 6 25.8 DEPTH = 35 km MB = 5.9 /ISC/		
55	FEB 8	BRA	E	14 2	26.0											No determination of epicentre		
56	FEB 8	BRA SRO SPC	EP IP EP	19 15 19 15 19 16	56.0 59.0 10.0	1.0 2.9 1.9	850	2.0				6.6		64.01 64.17 66.04	213.41 214.72 216.28	Ascension Island Region 10.25 S 13.08 W H = 19 5 21.8 DEPTH = 28 km MB = 5.3 /ISC/		
57	FEB 10	BRA SRO	EP IPP	12 6 12 6 12 51	48.0 57.0 0.0	-0.5 4.1			5.0	16.0	3.0	16.0	6.2	95.05 95.91	305.30 306.21	Near Coast of Michoacan, Mexico 18.78 N 103.79 W H = 11 53 29.0 DEPTH = 42 km MB = 5.6 /ISC/		
58	FEB 10	BRA	EP	14 47	54.0	-0.9								61.97	120.95	Carlsberg Ridge 2.61 N 66.37 E H = 14 37 38.0 DEPTH = 52 km MB = 5.3 /ISC/		
59	FEB 10	SRO BRA	EP IP	17 7 17 7	19.0 20.7	-1.6 -0.1								76.23 76.27	26.55 25.87	Kurdle Islands 49.78 N 156.27 E H = 16 55 35.4 DEPTH = 47 km MB = 5.5 /ISC/		
60	FEB 13	SPC SRO BRA	IP/KP2 IP/KP2 IP/KKP IP/KKP IP/KP2 IP/KKP	15 41 15 41 15 43 15 41 15 41 15 41	34.0 41.0 43.0 32.0 33.0 38.0 44.0	0.2 7.2 4.7 0.8 -0.1 -3.5 2.1								145.06 146.90 146.99	32.29 30.28 28.03	Fiji Region 17.63 S 178.47 W H = 15 22 54.8 DEPTH = 543 km MB = 5.7 /ISC/		

61	FEB 14	SPC SRO BRA	EP EP +IP	1 1 1 1 1 1	29.0 37.0 39.4	3.0 2.0 1.4									80.47 82.20 82.79	67.09 65.54 64.73	Taiwan Region 22.27 N 121.52 E H = 0 49 16.9 DEPTH = 42 km MB = 5.9 /ISC/
62	FEB 14	BRA	EP/KKP	16 31	11.0	1.4								159.19	37.44	Kermadec Islands 30.54 S 177.39 W H = 16 11 17.4 DEPTH = 29 km MB = 5.5 /ISC/	
63	FEB 16	BRA	EP	5 14	9.0	-2.1								90.49	95.98	Southern Sumatra 4.39 S 102.98 E H = 5 31 17.5 DEPTH = 92 km MB = 5.2 /ISC/	
64	FEB 15	BRA	EP/KP2	13 35	57.0	11.8								159.15	37.15	Kermadec Islands 30.45 S 177.31 W H = 13 15 4.0 DEPTH = 1 km MB = 5.0 /ISC/	
65	FEB 16	SRO BRA	IP I +IP I	5 10 5 10 5 10 5 10	35.4 50.0 29.5 39.0	11.4 0.7								38.57 39.15	63.91 63.86	Eastern Kazakhstan 49.86 N 78.23 E H = 5 2 57.8 DEPTH = 0 km MB = 5.5 /ISC/	
66	FEB 18	BRA	EP/EP	4 1	52.0	1.7								89.53	207.17	South Atlantic Ridge 36.30 S 17.32 W H = 3 48 53.0 DEPTH = 30 km MB = 5.6 /ISC/	
67	FEB 18	SPC SRO BRA	EP/KKP EP/KP2 EP/KKP	10 29 10 29 10 29 10 29	22.0 52.0 57.0 21.0	5.9 3.1 -0.0 2.2								156.98 158.87 159.10	42.14 40.56 37.44	Kermadec Islands 30.46 S 177.44 W H = 18 9 26.4 DEPTH = 49 km MB = 5.4 /ITC/	
68	FEB 19	BRA	E	13 19	17.0											No determination of epicentre	
69	FEB 19	SPC BRA	EXP EXP	18 13 18 13	18.0 35.0	0.4 1.4								13.14 14.35	127.59 117.15	Turkey 40.28 N 33.86 E H = 18 10 1.5 DEPTH = 22 km MB = 4.7 /ISC/	
70	FEB 23	BRA	EP	4 39	39.0	-2.2								95.23	272.60	Ecuador 2.16 S 78.33 W H = 4 26 21.1 DEPTH = 44 km MB = 5.7 /ISC/	

No.	Date	STA Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
71	FEB 24	BRA	EP	0	9 15.0	-5.5								33.63	112.62	Southern Iran 28.58 N 52.65 E H = 0 2 41.0 DEPTH = 34 km MB = 5.0 /ISC/	
72	FEB 24	BRA	EPKP2	1	25 51.0	0.0								145.97	18.12	North of New Zealand 15.14 S 173.28 W H = 1 6 12.2 DEPTH = 33 km MB = 5.0 /ISC/	
73	FEB 25	BRA	EPKMP	5	54 36.0	-2.7								117.60	206.72	Scotia Sea 61.10 S 38.01 W H = 5 35 57.1 DEPTH = 41 km MB = 6.2 /ISC/	
74	FEB 25	BRA	EPKP	10	44 21.0	-0.7								86.31	96.71	Southern Sumatra 1.75 S 99.65 E H = 10 31 42.0 DEPTH = 58 km MB = 5.5 /ISC/	
75	FEB 28	SRO BRA	+IP IS LMH +IP IS LMH	6 49 26.8 6 59 17.0 7 27 0.0 6 48 35.0 6 59 17.0 7 27 0.0	2.1 7.1 0.1 6.8	980	1.5	439.0	24.0	339.0	24.0	6.6	7.8	75.68 75.71	26.02 25.35	Kurile Islands 50.51 N 156.58 E H = 6 37 54.4 DEPTH = 62 km MB = 6.0 /ISC/	
76	MAR 3	BRA	EP	2	53 51.0	0.0								75.88	25.51	Kurile Islands 50.29 N 156.48 E H = 2 42 10.8 DEPTH = 73 km MB = 5.3 /ISC/	
77	MAR 3	BRA	ISB	10	55 39.0	1.6								3.75	306.44	Germany 50.30 N 12.40 E H = 10 53 42.2 DEPTH = 6 km /ISC/	
78	MAR 4	BRA SRO	+IP ES +IP I LMH	18 9 13.5 18 18 45.0 18 9 16.5 18 19 40.0 18 46 0.0	-0.4 5.6 2.3			4.7	16.0	10.6	16.0		6.3	73.22 73.27	20.55 21.18	Near East Coast of Kamohatka 54.73 N 161.70 E H = 17 57 43.0 DEPTH = 24 km MB = 5.9 /ISC/	
79	MAR 7	BRA	EPKP	3	30 15.0	5.2								89.12	48.29	Bonin Islands Region 27.34 N 140.08 E H = 3 18 1.0 DEPTH = 446 km MB = 4.9 /ISC/	

No.	Date	STA Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
80	MAR 7	BRA	EP	11	2 5.0												Explosion /PRU/
81	MAR 7	SRO BRA	EP EP ISG	15 2 52.0 16 3 6.0 16 3 19.5													No determination of epicentre
82	MAR 7	SRO BRA	EP EP ISG	15 25 26.0 15 25 30.0 15 25 45.4													No determination of epicentre
83	MAR 8	BRA	EPKMP	13 21 52.0	3.4									146.91	28.54	Fiji Region 17.65 S 178.77 W H = 13 3 10.8 DEPTH = 547 km MB = 4.9 /ISC/	
84	MAR 8	BRA	EPKMP	14 55 28.0	2.1									153.27	25.01	Panga Region 23.27 S 175.28 W H = 14 35 17.9 DEPTH = 33 km MB = 5.1 /ISC/	
85	MAR 8	BRA	EP	15 22 30.0	-1.6									85.45	324.15	Southern Nevada, nucl. expl. 37.04 N 116.04 W H = 15 9 58.3 /ISC/	
86	MAR 9	SRO BRA	IP IPP ISKS LMH IP IPP ESKS LMH	10 20 6.4 10 24 14.4 10 30 42.0 10 52 0.0 10 20 11.2 10 27 13.0 10 30 48.0 11 5 0.0	-2.6 3.7 -1.8 -0.7 0.7 0.9			8.0	20.0	8.0	20.0		6.4	97.94 98.59	71.54 70.55	Philippine Islands Region 6.32 N 127.30 E H = 10 6 34.0 DEPTH = 25 km MB = 5.9 /ISC/	
87	MAR 10	BRA SRO	EPKMP EPKMP EPKMP	10 9 45.0 10 9 57.0 10 9 46.0	-1.0 7.1 -0.2									146.04 146.10	18.47 20.68	Tonga 15.25 S 173.26 W H = 9 50 4.0 DEPTH = 30 km MB = 5.4 /ISC/	
88	MAR 10	BRA	EPKP2	14 36 51.0	-0.6									146.18	17.14	Samoa Region 15.23 S 172.68 W H = 14 19 13.1 DEPTH = 42 km MB = 4.9 /ISC/	
89	MAR 11	BRA	ESB	12 19 17.0	-4.0									3.87	316.53	Germany 50.90 N 12.90 E H = 12 17 22.2 DEPTH = 30 km /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
90	MAR 11	BRA	EP EXP	13 49	35.0	-5.7								78.26	38.90	Kokaido Region 41.59 N 142.06 E H = 13 37 45.6 DEPTH = 67 km MB = 5.3 /ISC/	
91	MAR 12	BRA	+IP IFCP	11 25	5.3	-2.7	290	2.5				5.9		75.21	25.44	Kurile Islands 50.02 N 156.80 E H = 11 14 23.5 DEPTH = 52 km MB = 5.6 /ISC/	
92	MAR 12	BRA	IP IAP	16 32	52.5	-1.3							25.73	354.02	Greenland Sea 73.49 N 8.00 E H = 16 27 24.6 DEPTH = 32 km MB = 4.8 /ISC/		
93	MAR 12	SRO BPA	IP ES +IP IXP I IPS LH	19 50 20 0 19 51 19 51 19 52 20 1 20 28	57.5 41.0 0.0 27.2 36.2 42.0 0.0	-4.1 4.6 -1.7 1.3 19.7								75.62 75.64	25.53 24.87	Kurile Islands 50.78 N 157.19 E H = 19 39 21.6 DEPTH = 62 km MB = 6.6 /ISC/	
94	MAR 14	BRA	EP IKP	11 44	39.0	3.5							122.69	56.70	New Britain Region 5.31 S 152.16 E H = 11 25 46.5 DEPTH = 61 km MB = 5.7 /ISC/		
95	MAR 15	BPA	EP KP2	8 49	59.0	-0.7							145.81	21.28	Tonga 15.40 S 175.10 W H = 8 30 16.2 DEPTH = 0 km MB = 5.4 /ISC/		
96	MAR 16	SRO BRA	+IXP I ISKS ESKSDS LH +IXP ESKS	1 5 1 8 1 16 1 17 1 57 1 5 1 16	41.0 28.0 22.0 10.0 0.0 47.0 23.0	0.3 8.6 0.5 3.2 6.3		11.0	20.0	3.1	20.0	6.4	100.60 101.29	74.80 73.80	Molucca Passage 2.18 N 126.65 E H = 0 51 46.5 DEPTH = 11 km MB = 5.9 /ISC/		
97	MAR 16	BRA	EP	22 2	18.0	0.2							81.88	41.75	Near East Coast of Honshu 37.01 N 141.65 E H = 21 50 1.7 DEPTH = 45 km MB = 5.1 /ISC/		

98	MAR 17	SRO BRA	+IP IKP IPP +IP IKP LH +IP ESKS	5 16 5 17 5 19 5 16 5 17 5 19	24.0 10.0 48.0 23.0 16.0 47.0	0.7 2.9 8.2 -0.3 1.6 5.0							143.21 143.59	49.67 47.69	New Hebrides 19.41 S 169.39 E H = 4 57 12.5 DEPTH = 193 km MB = 5.9 /ISC/	
99	MAR 17	SRO BRA	+IP EXS LH IP IPP EXS LH	8 43 8 55 9 35 8 43 8 47 8 55 9 20	48.2 8.0 0.0 50.0 41.0 11.0 0.0	0.2 11.4 0.0 -1.0 13.2 8.6	520	1.5	58.0	22.0	57.0	22.0	7.1 6.6	89.69 90.33	70.37 69.47	Luzon 13.41 N 122.87 E H = 8 30 53.4 DEPTH = 44 km MB = 5.9 /ISC/
100	MAR 17	SRO BRA	IP ICP ISCS +IP	15 53 16 4 15 53	44.0 32.0 47.0	-0.4 -0.7 -0.0							90.37 91.21	97.23 95.33	Southern Sumatra 5.17 S 103.21 E H = 15 40 47.9 DEPTH = 66 km MB = 5.5 /ISC/	
101	MAR 18	SRO BRA	IP ISKS ISKSDS LH IP ISKS	11 20 11 30 11 31 12 8 11 20 11 30	3.8 40.0 36.0 0.0 6.6 42.6	3.2 4.3 4.3 2.9 3.6		9.3	20.0	10.4	24.0	6.4	100.60 101.29	74.94 73.93	Molucca Passage 2.09 N 125.55 E H = 11 6 14.8 DEPTH = 33 km MB = 5.9 /ISC/	
102	MAR 19	BRA	IPG	11 5	18.7											No determination of epicentre
103	MAR 19	BRA SRO	IP IPP ES +IP	11 52 11 55 12 2 11 52	46.2 41.0 41.0 59.0	-0.0 -12.8 1.8 2.0							77.50 77.64	14.22 14.92	Near Islands 52.78 N 173.85 E H = 11 41 7.9 DEPTH = 81 km MB = 5.7 /ISC/	
104	MAR 21	BRA	EP	21 57	51.0	-1.4							76.62	27.97	Kurile Islands 48.53 N 153.75 E H = 21 46 13.5 DEPTH = 121 km MB = 4.9 /ISC/	
105	MAR 22	BRA	IP	14 11	45.0	-1.3							71.02	271.93	Leeward Islands 15.34 N 61.29 W H = 14 0 43.1 DEPTH = 151 km MB = 5.0 /ISC/	
106	MAR 22	BRA	EP CP	21 10	49.0	-1.8							80.08	10.37	Andeanof Islands 51.14 N 179.24 W H = 20 58 35.9 DEPTH = 39 km MB = 5.0 /ISC/	

No.	Date	STA Code	Phase	GMT			RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T					
107	MAR 23	SRC +IP LIH		7 7 7 45	34.0 0.0	-3.3			3.0	16.0	3.0	16.0		5.9	79.14	15.17	Near Islands 51.27 N 174.16 E H = 6 55 32.5 DEPTH = 21 km MB = 5.7 /ISC/	
108	MAR 23	SRO +IP LIH BRA +IP LIH		19 54 20 30 19 54 20 28	59.5 10.0 58.0 0.0	2.3 -1.5	240	1.2					6.1		82.05 82.50	54.81 54.02	Ryukyu Islands 29.30 N 130.40 E H = 19 42 40.9 DEPTH = 51 km MB = 5.9 /ISC/	
109	MAR 23	BRA EPOP		21 53	37.0	6.8									99.84	72.29	Taland Islands 4.26 N 126.86 E H = 21 39 50.0 DEPTH = 52 km MB = 5.5 /ISC/	
110	MAR 24	SRO +IP LIH BRA EPOP		0 47 1 22 0 47	18.0 0.0 16.0	2.1 -1.5			3.0	20.0	5.0	20.0		6.0	84.81 85.16	47.13 46.31	South of Honshu 31.74 N 139.37 E H = 0 34 38.8 DEPTH = 27 km MB = 5.4 /ISC/	
111	MAR 24	BRA IPG		13 0	28.8												No determination of epicentre	
112	MAR 25	BRA IP		9 8	0.0	-0.2									76.09	25.32	Kurile Islands 50.18 N 156.88 E H = 8 56 16.0 DEPTH = 49 km MB = 5.4 /ISC/	
113	MAR 26	BRA EP		2 49	46.0	-3.4								83.33	62.26	62.26	South-Western Ryukyu Islands 23.45 N 123.92 E H = 2 37 20.4 DEPTH = 7 km MB = 5.4 /ISC/	
114	MAR 26	BRA EP IPP I		8 6 8 8 8 8	22.0 0.7 45.0	1.4 -1.0								41.66	81.82	81.82	Tadzikistan-Sinkiang Border Region 38.38 N 73.94 E H = 7 58 41.9 DEPTH = 113 km MB = 5.3 /ISC/	
115	MAR 26	BRA IPG		15 36	25.0												Local shock	
116	MAR 27	BRA IP IAP +IP		12 44 12 44 12 44	0.0 6.0 1.0	1.3 0.1 1.6								77.59 77.71	14.88 15.58	14.88	Near Islands 52.52 N 172.88 E H = 12 32 2.7 DEPTH = 23 km MB = 5.6 /ISC/	

117	MAR 28	BRA EAP		10 53	28.0	-4.5								42.45	140.89	140.89	Ethiopia 11.47 N 42.85 E H = 10 45 29.3 DEPTH = 33 km MB = 4.6 /ISC/
118	MAR 28	SRO BRA IAP		13 43 13 42 13 43	53.0 58.0 1.0	-0.3 -7.9	240	1.2			5.8			41.70 42.49	141.91 140.56	140.56	Ethiopia 11.53 N 43.07 E H = 13 35 5.0 DEPTH = 37 km MB = 4.9 /ISC/
119	MAR 28	SRO BRA +IP IPP		13 48 13 48 13 51	51.0 51.0 46.0	-7.8 -14.2 -0.2	240	1.2			5.8			41.41 42.20	142.00 140.64	140.64	Ethiopia 11.77 N 42.89 E H = 13 42 11.0 DEPTH = 13 km MB = 5.8 /ISC/
120	MAR 28	SRO BRA IP EP		14 26 14 26	44.0 45.0	5.4 -0.1								41.50 42.29	141.99 140.64	140.64	Ethiopia 11.69 N 42.93 E H = 14 18 55.0 DEPTH = 52 km MB = 5.2 /ISC/
121	MAR 28	BRA E		14 44	40.0												No determination of epicentre
122	MAR 28	SRO BRA +IAP IP		15 6 15 5	57.0 59.5	-5.0 2.1								41.38 42.16	142.15 140.79	140.79	Ethiopia 11.76 N 42.78 E H = 14 59 7.0 DEPTH = 39 km MB = 5.1 /ISC/
123	MAR 29	SRO BRA EPOP LIH EP		0 8 0 42 0 8	13.0 0.0 13.0	-2.5 0.0		6.0	20.0	4.3	20.0	6.1		82.74 83.30	63.19 62.38	62.38	South-Western Ryukyu Islands 23.40 N 123.80 E H = 23 55 44.0 DEPTH = 6 km MB = 5.3 /ISC/
124	MAR 29	BRA E		4 38	13.0												No determination of epicentre
125	MAR 29	BRA I		12 20	49.0												No determination of epicentre
126	MAR 29	BRA E		14 49	19.0												No determination of epicentre
127	MAR 30	BRA SRO EP I EP		0 12 0 12 0 13	49.0 55.1 1.0	0.3 8.4								28.70 29.13	355.02 354.51	354.51	Svalbard Region 76.47 N 6.90 E H = 0 6 47.9 DEPTH = 0 km MB = 5.0 /ISC/

No.	Date	STA Code	Phase	h	GMT m s	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
							A	T	A	T	A	T					
128	MAR 31	SPC BRA	IS E E	23 23 23	35 55 36	45.0 40.0 22.0	3.3							5.56 7.00	125.37 105.37	Romania 45.78 N 26.73 E H = 23 34 7.2 DEPTH = 147 km /ISC/	
129	APR 1	SPC BRA	+IP IP IS LH IP I IAP I IPGP	7 7 7 7 7 7 7 7	20 22 26 45 20 21 20 21 22	22.4 4.0 42.0 0.0 30.0 36.0 29.3 43.0 37.0 25.0	-1.6 -0.2 7.0 3.2 -1.1 -3.8 1.7		3.4	20.0	4.0	20.0		41.58 41.93 42.37	141.94 145.45 140.59	Ethiopia 11.63 N 43.00 E H = 7 12 41.0 DEPTH = 65 km MB = 5.0 /ISC/	
130	APR 1	BRA	IP	7	46	34.0	0.9							42.27	140.46	Ethiopia 11.76 N 43.03 E H = 7 38 41.2 DEPTH = 33 km MB = 4.9 /ISC/	
131	APR 1	BRA	IP	7	49	13.0 31.0	-5.6							42.26	140.02	Ethiopia 11.90 N 43.30 E H = 7 41 22.0 DEPTH = 0 km MB = 4.5 /ISC/	
132	APR 2	SPC	EP EXP E	2 2 2	50 51 53	40.0 6.0 21.0	5.3 15.4							37.35	89.37	Afghanistan-USSR Border Region 37.37 N 69.83 E H = 2 43 24.3 DEPTH = 40 km MB = 4.4 /ISC/	
133	APR 2	BRA	EP IAP	19 19	35 35	0.0 6.0	-3.3 -5.6							59.52	244.20	Central Mid-Atlantic Ridge 7.27 N 34.35 W H = 19 25 0.0 DEPTH = 27 km MB = 4.9 /ISC/	
134	APR 3	BRA	-IP IAP IPP ESGS -IP IPGP	14 14 14 14 14 14	6 7 10 17 3 5	38.3 14.0 8.0 11.0 41.1 51.0	0.9 -0.7 -1.4 -1.5 -0.3 3.2	480	1.2			6.5		88.39 89.23 90.34	275.18 276.09 277.52	Colombia 4.70 N 75.67 W H = 13 54 1.0 DEPTH = 146 km MB	
135	APR 3	BRA	IP	20	14	59.0	1.3							60.54	246.15	Central Mid-Atlantic Ridge 7.50 N 36.32 W H = 20 4 51.0 DEPTH = 57 km MB = 4.9 /ISC/	

136	APR 4	BRA	E	10	44	10.0											No determination of epicentre
137	APR 4	BRA	IPG	11	4	33.0											Local shock
138	APR 4	BRA	E	13	11	11.0											No determination of epicentre
139	APR 4	BRA	E	14	31	5.0											No determination of epicentre
140	APR 5	SPC	BP	22	28	53.0	2.5							76.85	36.32	Kurile Islands 43.54 N 147.77 E H = 22 16 58.0 DEPTH = 19 km MB = 5.5 /ISC/	
141	APR 6	SPC	E	1	59	55.0								78.61	11.85	Andeanof Islands 51.31 N 178.46 W H = 1 46 17.9 DEPTH = 50 km MB = 5.0 /ISC/	
142	APR 6	BRA	IAP I	14 14	17 18	33.8 15.0	-2.5							15.01	153.36	Crete 34.41 N 25.18 E H = 14 13 57.3 DEPTH = 37 km MB = 5.1 /ISC/	
143	APR 7	SPC SRO BRA	IP IAP IAXS LH -IP IAP IAP I ES LH	3 3 3 3 3 3 3 3 3 3 3	12 12 12 22 12 12 13 14 22 42 45	27.0 29.7 38.0 12.0 0.0 34.1 43.0 10.0 43.0 10.0 10.0 0.0	3.6 0.0 -3.5 -2.4 -0.5 -3.4 19.0 5.5	500	1.5	14.2	20.0	19.4	20.0	6.3	74.29	97.13	Nicobar Islands Region 7.00 N 91.32 E H = 3 0 59.6 DEPTH = 39 km MB = 5.8 /ISC/
144	APR 7	BRA	EP IPP	12 12	41 42	48.0 9.0	-2.2 18.8							109.32	196.48	South-Western Atlantic Ocean 58.55 S 13.60 W H = 12 22 49.3 DEPTH = 36 km MB = 5.5 /ISC/	
145	APR 7	SPC SPC	EP ISG EP	19 19 19	31 33 32	48.0 48.0 8.0	0.6 6.1 2.6							5.44 7.72	169.31 181.93	Albania 41.47 N 19.90 E H = 19 30 9.0 DEPTH = 20 km MB = 5.4 /ISC/	

No.	Date	STA Code	Phase	h	GMT	RES	Z			E-W			N-S			MLH	Delta	Azimuth	Remarks
							A	T	A	A	T	A	T	A	T				
145	APR 8	SPC SRO	EMPHY SPP SRO EAP IIP I LMH IPI IPI	13 13 13 13 13 13 13 13	0 26.0 3 21.0 3 20.0 3 24.0 10 22.0 51 0.0 0 27.1 3 24.0	3.7 10.2 0.5 1.2 0.8 -1.0													
147	APR 8	SPC SRC	EMPH2 IPI	21 21	8 37.0 8 44.0	1.3 0.4													
148	APR 8	SPC SRO BRA	SP SPP +IP +IP I	21 22 22 22 22	3 25.3 3 15.0 3 47.1 3 45.4 8 42.0	1.2 -12.1 -0.3 0.5 3.0	390	1.5											
149	APR 9	BRA	SP IAP	8 8	6 30.0 6 43.0	-1.4 3.0													
150	APR 10	BRA	EMPH2 SPP	1 1	6 40.0 6 49.0	-5.3 3.7													
151	APR 11	BRA	SP S	8 8	1 11.0 1 12.0	3.0													
152	APR 12	BRA	IPG	11	3 43.0														
153	APR 12	SPC SRO BRA	IP LMH +IP ES LMH +IP ES LMH	14 14 14 14 14 14 14 14	0 49.0 35 0.0 58.4 15 39.0 38 0.0 0 55.1 10 35.0 35 0.0	2.6 1.5 4.9 1.2 1.7	400	2.0											
154	APR 13	SRO BRA	IP SPP I	8 8 8	13 26.0 17 40.0 17 27.0	-0.4													
155	APR 13	BRA	IPG	10	24 32.0														
156	APR 13	BRA	SP	14	11 1.0	0.5													
157	APR 13	BRA	EMPH SPP	10 10	18 43.0	3.0													
158	APR 14	BRA	IPOP I IPP LMH EMPH IPP IXC LMH	8 8 8 8 8 8 8 8	17 0.0 17 33.0 50 21.0 15 0.0 47 5.0 58 49.0 58 6.0 17 0.0	-0.4 -13.7 1.8 -5.8													
159	APR 15	SRO BRA	EMPH2 IPI EMPH IAP	5 5 6 6	29 37.0 29 30.0 29 38.0 32 0.0	-5.3 1.7 -4.8 2.7													
160	APR 16	SRO	EMPH	0	9 30.0	14.2													
161	APR 16	BRA	IP	15	0 8.0	-1.0													
162	APR 17	SPC BRA	EPP S EMPH S LMH	12 12 12 13 13	53 31.0 49 12.0 53 9.0 4 8.0 42 0.0	5.3 1.7													



154	APR 13	Southern Italy	38.97 N 16.92 E H = 12 41 2.8 DEPTH = 38 km	137.22 139.09 139.46	50.54 40.35 47.52	5.8	ISC/
155	APR 13	Local shock					
156	APR 13	Ethiopia	11.03 N 43.03 E H = 17 13 57.0 DEPTH = 33 km	73.82 75.62 75.64	26.65 25.35 24.69	6.1 6.4 6.9	ISC/
157	APR 13	South of Fiji	18.92 S 179.89 E H = 19 54 14.0 DEPTH = 558 km				
158	APR 14	Costa Rica	10.62 N 87.90 W H = 8 34 1.1 DEPTH = 32 km				
159	APR 15	Fiji Region	20.71 S 177.78 W H = 5 10 50.8 DEPTH = 613 km				
160	APR 16	Crete	34.64 N 25.01 E H = 0 5 42.2 DEPTH = 47 km				
161	APR 16	Andeanof Islands	51.08 N 178.81 W H = 14 48 2.5 DEPTH = 51 km				
162	APR 17	West Irian Region	4.32 S 134.25 E H = 12 34 27.3 DEPTH = 28 km				

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
163	APR 17	SPC SRO	EP IP LMV +IPCP IXP	22 21 22 21 22 59 22 21 22 21	24.0 33.6 0.0 30.0 54.0	2.5 1.7 -2.0 -6.8 -3.2	190	1.5				5.9		73.89 75.69 75.72	26.60 25.31 24.64		Kurile Islands 50.81 N 157.55 E H = 22 9 51.8 DEPTH = 65 km MB = 5.5 /ISC/
164	APR 18	ERA	EKCP2	1 22	30.0	-2.3								148.55	23.38		Tonga 18.36 S 175.49 W H = 1 3 10.2 DEPTH = 262 km MB = 5.0 /ISC/
165	APR 18	BRA	EP	3 19	32.0	-1.1								60.53	239.34		Central Mid Atlantic Ridge 3.94 N 31.54 W H = 3 9 23.8 DEPTH = 33 km MB = 4.8 /ISC/
166	APR 19	SPC SRO BRA	EAPKPKP IFKPKP EAKPKP	6 40 6 40 6 40	44.0 45.6 45.6	0.3 1.3 -0.3								144.38 146.24 146.63	52.71 51.38 49.30		Loyalty Islands Region 22.49 S 170.31 E H = 6 21 5.1 DEPTH = 38 km MB = 4.8 /ISC/
167	APR 19	BRA	IPN IPG ISG EPN ISB	17 43 17 43 17 44 17 43 17 44	7.0 38.0 47.0 13.0 40.0	-0.6 4.4 -1.7 1.6 -1.5								5.74 6.01	216.83 225.93		Central Italy 43.47 N 12.38 E H = 17 41 39.0 DEPTH = 11 km /ISC/
168	APR 20	SPC BRA SRO	EKPKP IFKPKP IAPKPKP IFKPKP	0 52 0 52 0 53 0 52	44.0 48.0 1.0 49.1	3.8 1.6 3.8 2.4								144.36 146.02 146.10	22.23 17.56 19.77		Samoa Region 15.13 S 172.95 W H = 0 33 9.1 DEPTH = 47 km MB = 5.1 /ISC/
169	APR 20	BRA SRO APC	ESG E E	12 28 12 27 12 29	18.0 0.0 30.0	-8.3								7.42 8.30 9.29	283.84 285.72 276.80		Germany 49.42 N 6.03 E H = 12 24 21.0 /BCIS/
170	APR 20	BRA	ESG	14 1	45.0	-1.0								3.15	321.49		Czechoslovakia expl. of 15 tons 50.59 N 14.03 E H = 14 0 2.0 /PRU/
171	APR 21	BRA	EKPKP	5 29	47.0	2.0								160.78	44.93		South of Kermadec Islands 33.23 S 179.00 W H = 5 9 47.0 DEPTH = 22 km MB = 5.1 /ISC/

172	APR 21	BRA	EKPKP	14 30	14.0	-1.7								160.91	45.11		South of Kermadec Islands 33.37 S 178.97 W H = 14 10 14.0 DEPTH = 0 km MB = 5.0 /ISC/
173	APR 22	BRA	EP	21 36	4.0	-1.9								30.37	113.09		Western Iran 30.71 N 49.79 E H = 21 29 56.5 DEPTH = 50 km MB = 5.0 /ISC/
174	APR 23	BRA	IPB ISG	13 39 13 41	58.3 31.0	-2.5 11.9								5.09	217.91		Northern Italy 44.07 N 12.77 E H = 13 38 31.0 DEPTH = 0 km /ISC/
175	APR 24	BRA	EPCP E	18 55 18 56	13.0 43.0	0.3								88.09	275.55		Colombia 5.23 N 75.82 W H = 18 42 31.5 DEPTH = 110 km MB = 5.3 /ISC/
176	APR 24	BRA	EPCP	21 29	52.0	0.6								91.41	282.55		South of Panama 7.35 N 83.22 W H = 21 16 41.0 DEPTH = 0 km MB = 5.4 /ISC/
177	APR 24	BRA SRO SPC	-IPCP IXP EPP IXS IPCP IPP ISKS LMH IPCP I	21 43 21 43 21 46 21 54 21 43 21 48 21 53 22 28 21 43 21 48	7.1 19.0 34.0 16.0 11.1 44.0 40.0 0.0 17.0 23.0	0.7 5.3 -5.8 11.3 0.9 -2.6 2.5 2.2								89.82 90.68 91.74	277.17 278.07 279.54		South of Panama 4.96 N 78.12 W H = 21 30 6.2 DEPTH = 20 km MB = 6.4 /ISC/
178	APR 24	BRA	E	22 8	45.0												No determination of epicentre
179	APR 25	SPC SRO BRA	IP IP EP EPP	3 24 3 24 3 24 3 26	8.0 17.1 24.0 8.0	3.7 1.3 1.9 6.8								38.70 40.09 40.86	87.26 84.26 83.88		Tadzhikistan 37.57 N 72.15 E H = 3 16 50.1 DEPTH = 114 km MB = 5.3 /ISC/
180	APR 25	BRA SRO	EAPKPKP E/ PKP2	4 37 4 37	9.0 13.0	3.6 7.3								147.33 147.41	17.44 19.72		Samoa Region 16.40 S 172.60 W H = 4 17 16.0 DEPTH = 0 km MB = 4.7 /ISC/

No.	Date	STA. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T					
181	APR 25	SRO BRA	EP IFCP EAP	14 33 14 33 14 33	40.0 44.1 59.0	1.2 -0.2 1.9								84.15 84.47	45.10 44.28	South of Honshu 33.45 N 140.88 E H = 14 21 12.8 DEPTH = 59 km MB = 5.7 /ISC/	
182	APR 25	BRA	EPKIKP	20 32	53.0	0.1								158.83	44.73	Kermadec Islands Region 31.57 S 179.78 E H = 20 13 44.9 DEPTH = 419 km MB = 4.7 /ISC/	
183	APR 26	BRA SPC	-IP IP	17 27 17 27	40.0 42.0	-0.7 -0.4								85.39 85.74	324.20 326.38	Southern Nevada /n.explosion/ 37.12 N 116.06 W H = 17 15 0.2 /AEC/	
184	APR 26	SPC BRA SRO	EPP EPKIKP EPP	20 45 20 45 20 45	47.0 3.0 0.0	3.7 0.8 7.8								110.95 111.74 112.20	355.37 352.17 353.37	Hawaiian Islands 20.05 N 155.16 W H = 20 26 27.0 DEPTH = 9 km MB = 5.9 /ISC/	
185	APR 29	BRA	+IP	14 42	36.1	-1.4								20.83	237.29	Marocco 34.63 N 4.17 W H = 14 37 56.5 DEPTH = 35 km MB = 4.5 /ISC/	
186	APR 30	BRA	+IPKHKP	8 57	33.0	-2.8								146.41	30.96	Fiji 17.64 S 179.74 E H = 8 39 6.3 DEPTH = 602 km MB = 5.4 /ISC/	
187	MAY 1	BRA	EP E E	4 45 5 46 5 47	54.0 7.0 24.0	-17.6								5.47	179.27	Adriatic Sea 42.70 N 17.20 E H = 5 44 26.0 DEPTH = 58 km /ISC/	
188	MAY 1	BRA	EPKIKP	8 1	48.0	4.7								147.52	27.71	Fiji Region 18.08 S 178.11 W H = 7 43 5.8 DEPTH = 560 km MB = 5.0 /ISC/	
189	MAY 1	BRA	EPKHKP	10 13	18.0	2.1								149.85	20.92	Tonga 19.29 S 173.84 W H = 9 53 33.5 DEPTH = 33 km MB = 4.9 /ISC/	

190	MAY 1	BRA	+IPKIKP EPP	10 59 11 1	47.6 40.0	2.0 -0.2								125.36	61.88	Eastern New Guinea Region 10.00 S 150.20 E H = 10 40 45.0 DEPTH = 15 km MB = 6.0 /ISC/
191	MAY 2	BRA	BEIKP	1 15	20.5	1.5								125.33	61.84	Eastern New Guinea Region 9.96 S 150.21 E H = 1 26 20.7 DEPTH = 29 km MB = 5.7 /ISC/
192	MAY 2	BRA	IPG	11 4	47.5											No determination of epicentre
193	MAY 2	BRA	ESG	14 14	24.0	-0.2								2.00	316.87	Yugoslavia 49.61 N 15.00 E H = 14 13 18.0 DEPTH = 0 km /ISC/
194	MAY 2	BRA	IP EPP	23 22 23 23	29.7 24.0	-0.7 17.5	240	1.2				5.7		24.68	252.46	North Atlantic Ocean 36.40 N 12.46 W H = 23 17 6.7 DEPTH = 0 km MB = 4.7 /ISC/
195	MAY 3	BRA	IPG	11 7	3.0											No determination of epicentre
196	MAY 3	BRA	EPP	23 29	42.0	0.3								105.92	143.11	Kerguelen Islands Region 46.14 S 73.22 E H = 23 11 4.0 DEPTH = 18 km MB = 5.5 /ISC/
197	MAY 4	SPC SRO BRA	EPJP E E IXS EP EPP	11 40 11 45 11 41 11 44 11 53 11 41 11 45	54.0 20.0 16.0 36.0 5.0 28.0	1.4 2.0 12.3 2.4 13.3								99.02 100.61 101.29	75.95 74.69 73.68	Molucca Passage 2.25 N 126.74 E H = 11 27 13.7 DEPTH = 33 km MB = 5.8 /ISC/
198	MAY 5	SPC SRO BRA I	IFCP IAP EP ESKS IP IAP I	0 8 0 8 0 8 0 19 0 8 0 9 0 11	37.0 48.0 40.0 0.0 42.0 0.4 45.0	-1.1 -0.1 0.7 3.0 -1.5 2.7								84.27 85.35 86.20	98.87 97.28 96.41	Southern Sumatra 1.46 S 99.80 E H = 23 56 6.1 DEPTH = 48 km MB = 5.8 /ISC/
199	MAY 5	SPC SRO BRA	BEKFP2 E EAPKIKP EAPKIKP	19 12 19 12 19 12 19 12	55.0 12.0 24.8 52.0	0.6 16.8 -1.8								144.87 146.70 146.73	29.31 27.16 24.92	Fiji Region 16.85 S 176.86 W H = 18 53 19.7 DEPTH = 33 km MB = 5.2 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T					
200	MAY 6	BR	ISN	4	58 29.0	-7.1								1.59	249.85	Austria 47.60 N 14.90 E H = 4 57 45.0 DEPTH = 0 km /ISC/	
201	MAY 5	SPC SRO BR	IP EXP -IP -IP IPCP EXP	14 49 14 52 14 50 14 50 14 50 14 52	55.0 15.0 4.0 5.0 11.0 26.0	3.1 -10.8 1.1 0.3 -8.7 -13.1	260	1.5				5.5		70.22 72.10 72.41	45.72 44.26 43.63	Near East Coast of East.Russia 43.54 N 132.36 E H = 14 39 27.3 DEPTH = 486 km MB = 5.2 /ISC/	
202	MAY 6	BR	E	15	13 7.0											No determination of epicentre	
203	MAY 6	BR	E	21 45 21 45	41.0 38.0											No determination of epicentre	
204	MAY 6	BR	E	22	15 14.0											No determination of epicentre	
205	MAY 7	BR	EP	11	5 2.0	-3.0								74.13	97.12	Nicobar Islands Region 7.13 N 91.22 E H = 10 53 28.0 DEPTH = 19 km MB = 4.9 /ISC/	
206	MAY 8	SPC BR	EPKIKP EPKIKP	1 2 1 2	57.0 59.0	3.6 1.5								137.43 139.66	49.85 46.79	New Hebrides 15.74 S 167.77 E H = 0 43 48.6 DEPTH = 158 km MB = 5.1 /ISC/	
207	MAY 8	SPC SRO BR	EPKIP2 IPKIP2 IPKIP2 IPKIP2 EPKIP2 EPKIP2	5 3 5 3 5 3 5 3 5 3 5 7	35.0 43.0 40.0 10.0 35.0 41.0 8.0	-0.0 8.0 -2.4 0.2 -1.8 -0.5								144.91 146.76 146.85	32.96 30.98 28.74	Fiji Region 17.63 S 178.90 W H = 4 44 55.5 DEPTH = 531 km MB = 5.3 /ISC/	
208	MAY 8	SPC BR	EP IP	8 0 8 0	39.0 47.2	2.1 -0.8								75.82 77.81	34.05 31.98	Kurdle Islands 45.58 N 149.62 E H = 7 49 0.6 DEPTH = 104 km MB = 5.3 /ISC/	
209	MAY 8	BR	E	16	47 18.0											No determination of epicentre	

210	MAY 8	BR	EP IMH	19 10 19 11	9.0 44.0	-12.4								5.73	245.53	Northern Italy 45.55 N 9.68 E H = 19 8 25.2 DEPTH = 64 km /ISC/
211	MAY 10	BR	E	0	14 36.0											No determination of epicentre
212	MAY 10	SRO BR SPC	E E E E	16 31 16 30 16 29 16 30	35.0 38.0 46.0 22.0											No determination of epicentre
213	MAY 10	BR SRO SPC	EPCP EPCP EP	18 4 18 4 18 4	17.0 20.0 9.0	1.3 0.5 -10.8								95.28 96.14 96.31	306.13 307.05 308.70	Near Coast of Jalisco, Mexico 19.07 N 104.65 W H = 17 50 56.6 DEPTH = 59 km MB = 5.1 /ISC/
214	MAY 11	SPC BR	EP EAP EP	0 14 0 14 0 14	40.0 49.0 46.0	1.9 1.4 0.8								30.93 31.74	353.70 354.92	Greenland Sea 79.35 N 2.59 E H = 0 8 22.1 DEPTH = 33 km MB = 4.9 /ISC/
215	MAY 11	BR	EP	13	59 9.0	0.5								33.52	101.12	Iran 33.41 N 57.48 E H = 13 52 28.4 DEPTH = 22 km MB = 5.1 /ISC/
216	MAY 11	BR	E	16	59 7.0											No determination of epicentre
217	MAY 12	BR	EAPKIP	16	39 8.0	-1.1								121.41	55.76	New Ireland Region 3.79 S 152.11 E H = 16 20 10.7 DEPTH = 18 km MB = 5.6 /ISC/
218	MAY 12	BR	EP EXP	22 32 22 33	33.0 12.0	-0.8 5.9								40.36	88.16	Hindu Kush Region 35.63 N 69.72 E H = 22 25 3.5 DEPTH = 90 km MB = 5.0 /ISC/
219	MAY 13	BR	IP EPP	1 42 1 44	8.7 16.0	-3.8 -2.5								55.79	218.52	North of Ascension Islands 0.89 S 13.90 W H = 1 32 36.0 DEPTH = 30 km MB = 5.3 /ISC/
220	MAY 13	SRO BR	EXP IP EXP	11 28 11 28 11 28	0.0 3.0 27.0	-0.5 0.2 19.6								45.17 46.04	124.26 123.21	Arabian Sea 14.67 N 55.59 E H = 11 19 37.3 DEPTH = 11 km MB = 5.1 /ISC/

No.	Date	STA Code	Phase	GMT		RES	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
221	MAY 13	BRA	EFKIKP EPP	13 31 13 33	27.0 59.0	3.3 4.9								133.13	282.88	Easter Island Region 23.65 S 112.01 W H = 13 12 11.3 DEPTH = 34 km MB = 5.3 /ISC/	
222	MAY 14	SRO BRA	EP IP	2 30 2 30	59.0 59.5	4.1 4.8	130	1.5				5.8		77.84 77.99	33.95 33.24	Kurile Islands 44.80 N 148.25 E H = 2 19 0.5 DEPTH = 54 km MB = 5.5 /ISC/	
223	MAY 14	SRO BRA	EFKIKP EAPKIP E	17 30 17 30 17 30	45.0 43.9 52.9	2.0 0.5 1.5								143.83 144.04	38.35 36.27	Fiji Region 16.63 S 175.86 E H = 17 11 12.8 DEPTH = 45 km MB = 5.7 /ISC/	
224	MAY 14	SRO BRA	EFKIKP EKKIKP EAPKIP2	21 34 21 34 21 34	43.0 38.0 44.0	4.7 -0.8 5.2								150.40 150.57	35.75 33.32	Fiji Region 21.98 S 179.80 W H = 21 15 46.8 DEPTH = 486 km MB = 5.3 /ISC/	
225	MAY 15	BRA	EP3 ESB SG	22 51 22 52 22 52	48.0 30.0 39.2	-2.2 -0.1 2.7							3.08	251.69	47.12 N 12.82 E H = 22 50 54.7 DEPTH = 10 km /ISC/		
226	MAY 16	BRA	I	11 4	19.9											No determination of epicentre	
227	MAY 16	BRA	E E E E	12 7 12 7 12 7 12 8	42.0 48.0 54.0 7.9											No determination of epicentre	
228	MAY 16	BRA	I	14 49	12.5											No determination of epicentre	
229	MAY 17	SPO BRA	IP EP E E	9 45 9 45 9 49 9 51	15.0 26.0 19.0 22.0	4.2 -3.0								43.37 45.64	76.71 73.89	Southern Sinkiang Province 40.90 N 82.08 E H = 9 38 16.5 DEPTH = 96 km MB = 5.1 /ISC/	
230	MAY 17	SPO BRA	IP IP E	15 55 15 56 15 59	39.0 44.0 10.0	2.1 -4.0								82.52 84.72	46.77 44.50	South of Honshu 33.12 N 140.83 E H = 15 44 18.7 DEPTH = 55 km MB = 5.4 /ISC/	



231	MAY 17	BRA	EPCP	15 12	10.0	-1.0								77.77	317.20	Colorado n. expl. 39.79 N 103.37 W H = 16 0 0.0 /AEC/
232	MAY 17	BRA	EP	16 13	4.0	0.1								32.25	97.97	Iran 35.54 N 57.50 E H = 16 11 35.7 DEPTH = 29 km MB = 5.0 /ISC/
233	MAY 17	BRA	EPCP	19 34	25.0	9.4								87.47	96.04	Southern Sumatra 2.17 S 100.92 E H = 19 21 34.8 DEPTH = 90 km MB = 4.8 /ISC/
234	MAY 18	BRA	IP IXP E	10 48 10 49 10 51	49.0 4.0 19.0	-1.0 -1.7	260	1.2			6.2			78.56	32.70	Kurile Islands 44.58 N 149.30 E H = 10 36 50.7 DEPTH = 37 km MB = 5.5 ~ /ISC/
235	MAY 18	BRA	EFKIKP EAPKIP	13 39 13 39	4.0 22.0	-0.0 10.8								123.30	57.63	New Britain Region 6.26 S 151.86 E H = 13 20 8.5 DEPTH = 22 km MB = 5.8 /ISC/
236	MAY 19	BRA SPO	EP EPCP EP EPCP	0 43 0 46 0 43 0 46	40.0 34.0 52.0 47.0	0.6 -0.9 3.0 9.2								31.00 32.09	306.54 305.55	North Atlantic Ocean 57.53 N 33.00 W H = 0 37 23.2 DEPTH = 37 km MB = 5.0 /ISC/
237	MAY 19	BRA	EPP EXP	9 18 9 19	46.0 10.0	2.0 -0.9								10.09	148.41	Green Sea 39.35 N 23.90 E H = 9 16 31.7 DEPTH = 42 km /ISC/
238	MAY 19	BRA	E	12 18	22.0											No determination of epicentre
239	MAY 19	BRA	E	12 59	58.0											No determination of epicentre
240	MAY 19	BRA	IP	21 55	19.0	-0.0								20.70	95.16	Eastern Caucasus 42.54 N 45.55 E H = 21 50 38.0 DEPTH = 24 km MB = 4.3 /ISC/
241	MAY 20	BRA	EP	18 29	22.0	-2.1								70.87	354.65	Southern Alaska 60.99 N 152.49 W H = 18 18 17.9 DEPTH = 116 km MB = 4.9 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
242	MAY 21	BRA	EP	23	56	11.0											No determination of epicentre
243	MAY 22	SPC BRA	IPKP2 EAPKP2 EAPKHKP EAPKP2 E	17 25 17 25 17 25 17 25 17 26	17.0 21.0 16.0 22.0 46.0	-1.9 2.1 3.7 -4.4								149.51 151.30	27.05 22.12		Tonga 20.85 S 174.04 W H = 17 5 20.7 DEPTH = 0 km MB = 5.2 /ISC/
244	MAY 23	BRA	B	14	29	23.0											No determination of epicentre
245	MAY 24	SPC BRA	EAP +IP IXP	18 59 18 59 18 59	17.0 18.6 32.1	-3.7 -1.1 1.5								78.94 80.23	8.61 6.62		Andeanof Islands 51.58 N 173.38 W H = 18 47 9.7 DEPTH = 25 km MB = 5.5 /ISC/
246	MAY 24	BRA	EPCP EXP EPP	19 47 19 48 19 50	10.0 8.0 46.5	1.8 14.9 -1.1								91.09	293.35		Guatemala 14.54 N 91.39 W H = 19 34 15.6 DEPTH = 125 km MB = 5.3 /ISC/
247	MAY 25	BRA	EP	13	29	28.0	0.6							78.77	359.01		South of Alaska 53.43 N 161.27 W H = 13 17 26.6 DEPTH = 34 km MB = 4.9 /ISC/
248	MAY 26	BRA	EP	2	27	49.0	-0.5							81.70	41.79		Near East Coast of Honshu 37.14 N 141.50 E H = 2 15 35.5 DEPTH = 55 km MB = 5.1 /ISC/
249	MAY 26	BRA	-IP EPCP EPP ESP LMH	12 31 12 31 12 34 12 42 13 13	38.3 46.0 43.0 25.0 0.0	-2.6 -2.7 -1.0 -0.3	360	1.2		11.0	18.0	22.0	18.0				Andeanof Islands 51.29 N 179.71 W H = 12 19 34.2 DEPTH = 35 km MB = 5.7 /ISC/
250	MAY 27	BRA	I	6	40	34.0											No determination of epicentre
251	MAY 27	BRA	E	10	25	37.0											No determination of epicentre
252	MAY 28	BRA	E	12	15	49.0											No determination of epicentre

253	MAY 28	SPC BRA	IXP IXP EP IXP EPP E	20 39 20 39 20 39 20 39 20 42 20 45	21.0 37.0 17.0 41.0 20.0 23.0	-1.3 14.7 4.4 14.5 7.5								77.87 78.63	136.13 133.32		Mascarene Islands Region 17.80 S 65.58 E H = 20 27 12.3 DEPTH = 32 km MB = 4.8 /ISC/
254	MAY 29	BRA	I	0	12	14.0											No determination of epicentre
255	MAY 29	BRA	IP IPCP IXP I LMH	1 58 1 58 1 59 2 3 2 40	44.0 48.5 6.5 3.5 0.0	-1.7 -6.0 2.4								78.91	13.12		Ret Islands 51.70 N 176.14 E H = 1 46 45.4 DEPTH = 45 km MB = 5.2 /ISC/
256	MAY 29	SPC BRA	EP +IP IPCP I	6 26 6 26 6 26 6 27	19.0 19.8 40.8 28.8	3.8 -1.3 9.8	520	1.5			6.4			77.16 78.24	2.40 0.49		Unimak Islands Region 53.97 N 163.71 W H = 6 14 18.0 DEPTH = 0 km MB = 6.1 /ISC/
257	MAY 30	BRA	EPCP EAP	4 51 4 51	18.0 45.0	2.5 2.8								95.43	272.67		Ecuador 2.26 S 78.51 W H = 4 38 0.9 DEPTH = 101 km MB = 5.6 /ISC/
258	MAY 31	BRA	EP EAP E EPP	5 52 5 52 5 53 5 55	15.0 42.0 36.0 51.0	0.3 -0.3 -4.5								91.34	292.59		Near Coast of Guatemala 13.96 N 90.95 W H = 5 39 19.5 DEPTH = 104 km MB = 5.3 /ISC/
259	MAY 31	SPC BRA	IP E I EPP EP I IPCP I E EPS	23 50 23 50 23 50 23 52 23 50 23 51 23 53 23 54 23 56 23 59	13.0 25.0 28.0 24.0 28.0 38.0 6.0 30.0 50.0 19.0	3.3 -2.8 3.8 5.1 4.1								61.24 63.41	85.39 92.62		Burma-India Border Region 24.31 N 93.52 E H = 23 39 52.0 DEPTH = 9 km MB = 5.8 /ISC/
260	JUN 1	SPC	E	7	43	25.0								118.53	131.18		South-East Indian Ridge 47.92 S 90.69 E H = 7 22 57.5 DEPTH = 33 km MB = 5.5 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
261	JUN 2	SPC	IAP IPP IXS	0 5 0 6 0 11	3.0 47.0 38.0	-1.0 4.8 9.1								42.64	71.79	Northern Sinkiang Province 44.14 N 83.60 E H = 23 57 2.4 DEPTH = 12 km MB = 5.7 /ISC/	
262	JUN 5	SPC BRA	EAPKIKP EPKIKP E	3 31 3 31 3 42	57.0 53.0 2.0	4.0 -2.4								138.70 140.95	50.96 47.92	New Hebrides 17.22 S 167.81 E H = 3 12 24.0 DEPTH = 5 km MB = 5.3 /ISC/	
263	JUN 5	BRA	EP	9 51	32.0												No determination of epicentre
264	JUN 5	BRA	E	12 20 12 20	20.0 33.0												No determination of epicentre
265	JUN 5	BRA	EP E E	13 49 13 50 13 51	20.0 47.0 2.0	2.4								6.33	239.24	Northern Italy 44.67 N 9.48 E H = 13 47 25.4 DEPTH = 50 km /ISC/	
266	JUN 6	BRA	IPG	11 5	8.0												No determination of epicentre
267	JUN 6	BRA	IPGP	13 12	49.0	4.9								85.39	324.47	Southern Nevada n.ex. Almodro 37.25 N 116.35 W H = 13 0 0.1 /AEG/	
268	JUN 6	BRA	E	17 0	6.0												No determination of epicentre
269	JUN 6	BRA	EPN ISG	20 38 20 40	50.0 8.0	-2.8 0.4								4.34	234.96	Northern Italy 45.56 N 12.04 E H = 20 37 44.0 DEPTH = 16 km /ISC/	
270	JUN 6	BRA	IP I I IS EP	21 12 21 12 21 13 21 14 21 13	48.0 53.0 6.0 3.0 6.5	-10.1 4.2 -6.8								5.97 6.96	168.33 189.31	Yugoslavia 42.31 N 18.73 E H = 21 11 22.5 DEPTH = 40 km MB = 4.5 /ISC/	

271	JUN 7	BRA	EPKIP2	3 3 45.0	-5.2									155.79	118.17	Macquarie Island Region 54.00 S 159.35 E H = 2 43 30.9 DEPTH = 33 km /ISC/
272	JUN 7	BRA	EP E LMH	18 45 18 51 19 26	43.0 29.0 0.0	-0.6								91.73	293.58	Guatemala 14.29 N 91.99 W H = 18 32 42.8 DEPTH = 72 km MB = 5.4 /ISC/
273	JUN 7	SPC BRA	IFKIP2 IPKHKP	19 15 19 15	12.0 11.0	-4.0 2.4								149.90 151.83	32.35 27.68	South of Fiji 22.16 S 176.58 W H = 18 55 38.1 DEPTH = 172 km MB = 5.2 /ISC/
274	JUN 8	SPC BRA	EPKIKP EAPKHKP	1 20 1 20	41.0 42.0	4.5 -0.0								138.93 141.18	51.02 47.99	New Hebrides 17.44 S 167.90 E H = 1 1 13.0 DEPTH = 31 km MB = 5.5 /ISC/
275	JUN 9	BRA	EP	1 48 55.0	1.4									73.70	21.58	Near East Coast of Kamchatka 53.89 N 160.49 E H = 1 37 22.7 DEPTH = 45 km MB = 5.3 /ISC/
276	JUN 9	BRA	EP EXP	4 27 33.0 4 27 48.0	-1.0 0.2									45.63	73.60	Southern Sinkiang Province 41.08 N 82.21 E H = 4 19 15.0 DEPTH = 33 km MB = 4.9 /ISC/
277	JUN 9	SPC BRA	EAPKHKP IAPKIKP EPP IPKIKP	8 40 8 40 8 42 8 40	32.0 49.0 43.0 33.0	-2.4 -4.5 -0.7 0.6								129.58 131.85	53.18 50.41	Solomon Islands 10.31 S 161.42 E H = 8 21 29.6 DEPTH = 91 km MB = 6.2 /ISC/
278	JUN 9	SPC BRA	EPGP EP EPGP	22 8 46.0 22 8 47.0 22 9 12.0	-7.0 1.8 10.4									71.41 73.45	93.77 91.07	Andaman Islands Region 11.59 N 95.09 E H = 21 57 10.0 DEPTH = 5 km MB = 4.9 /ISC/
279	JUN 9	SPC BRA	IP EP IPGP IPGP I	22 57 28.0 22 57 38.0 22 58 0.0 22 58 8.0 22 58 50.0	1.9 1.6 8.9 16.9									72.74 74.50	24.17 22.27	Off East Coast of Kamchatka 52.89 N 160.05 E H = 22 45 59.0 DEPTH = 30 km MB = 5.5 /ISC/
280	JUN 11	BRA	IPM IPG ISH ISG IMH	3 16 13.5 3 16 25.5 3 16 37.0 3 16 52.0 3 16 54.0	-4.2 2.4 -8.6 0.6									2.17	201.57	Yugoslavia 46.15 N 15.96 E H = 3 15 39.9 DEPTH = 14 km MB = 4.0 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T					
281	JUN 11	SPC BRA	IP EP EPP EPP ES EXP LMH	8 53 8 53 8 56 8 56 9 3 9 3 9 31	30.6 36.0 19.0 37.0 11.0 31.0 0.0	1.4 -3.3 -7.8 10.2 2.4 4.2	620	2.0		37.0	16.0	13.0	15.0	6.8	72.42 74.14	22.97 21.0	Off East Coast of Kamchatka 53.68 N 161.53 E H = 8.42 4.8 DEPTH = 36 km MB = 5.6 /ISC/
282	JUN 11	BRA	IPG	15 19	22.0												No determination of epicentre
283	JUN 12	SPC BRA	IP IP IPCP	14 32 14 32 14 33	53.0 59.7 14.8	3.9 0.5 0.4									72.45 74.18	23.02 21.13	Off East Coast of Kamchatka 53.63 N 161.49 E H = 14 21 25.2 DEPTH = 42 km MB = 5.4 /ISC/
284	JUN 12	BRA	EPG	15 30	17.0												No determination of epicentre
285	JUN 12	BRA	IPB IPG ESB ESB I	21 3 21 3 21 3 21 3 21 4	20.4 26.0 37.0 39.0 24.0	-2.3 2.2 -3.8 -1.8								1.35	245.20		Austria 47.59 N 15.30 E H = 21 2 56.9 DEPTH = 5 km /ISC/
286	JUN 13	SPC BRA	IP EAP IP IPCP EAP	0 32 0 33 0 32 0 32 0 33	21.0 8.4 27.0 34.0 15.0	3.3 8.1 -1.6 -5.0 3.6									75.21 77.17	32.47 30.42	Kurile Islands 46.90 N 151.05 E H = 0 20 52.8 DEPTH = 175 km MB = 5.4 /ISC/
287	JUN 13	BRA	EPKHKP	10 7	53.0	1.4									143.57	47.07	New Hebrides 19.20 S 169.71 E H = 9 48 26.9 DEPTH = 37 km MB = 5.5 /ISC/
288	JUN 13	BRA	IPG	15 32	42.0												No determination of epicentre
289	JUN 14	SPC BRA	EPKP2 EPKHKP EPKP2	3 50 3 50 3 50	15.0 17.0 27.0	-3.2 5.1 0.5									148.06 150.04	35.07 30.72	Fiji Region 21.00 S 178.74 W H = 3 31 29.1 DEPTH = 565 km MB = 5.1 /ISC/

290	JUN 14	BRA	E E EPP E	11 19 11 19 11 20 11 22	30.0 52.0 2.0 30.0	-15.5								104.25	85.06		Flores Sea 7.34 S 120.32 E H = 11 2 46.9 DEPTH = 628 km MB = 5.7 /ISC/
291	JUN 15	BRA	IPG	11 4	5.0												No determination of epicentre
292	JUN 15	SPC BRA	EAP EP IXP I EPP ESKS LMH	11 32 11 32 11 32 11 33 11 35 11 42 12 10	15.0 26.0 30.0 53.0 28.0 18.0 0.0	-2.2 -0.7 0.2 19.5 -4.4		12.0	18.0	30.0	18.0	6.7			72.56 74.29	23.13 21.24	Off East Coast of Kamchatka 53.49 N 161.40 E H = 11 20 43.1 DEPTH = 21 km MB = 5.4 /ISC/
293	JUN 15	SPC BRA	EP IP	12 23 12 23	3.0 5.0	2.6 -3.1									78.52 79.94	12.43 10.43	Andreanof Islands 51.27 N 179.38 W H = 12 11 2.1 DEPTH = 44 km MB = 5.8 /ISC/
294	JUN 15	SPC BRA	EP EP	13 28 13 28	24.0 32.0	3.0 0.9									72.60 74.32	22.86 20.97	Off East Coast of Kamchatka 53.56 N 161.82 E H = 13 16 56.0 DEPTH = 40 km MB = 5.1 /ISC/
295	JUN 15	BRA	ESG	16 1	31.0	1.4									2.93	327.02	Poland expl. of 11.2 tons 50.60 N 14.60 E H = 15 59 52.7 /PRU/
296	JUN 15	BRA	EPCP	19 31	28.0	-1.5									85.07	332.74	Off Coast of Northern California 41.24 N 125.66 W H = 19 18 47.4 DEPTH = 3 km MB = 4.9 /ISC/
297	JUN 15	SPC BRA	IP IAP IAP IXP	21 21 21 21 21 21 21 21	8.0 17.0 17.0 26.0 38.0	2.4 -1.5 1.3 -2.6 4.3									72.52 74.25	23.07 21.18	Off East Coast of Kamchatka 53.55 N 161.47 E H = 21 9 41.5 DEPTH = 44 km MB = 5.6 /ISC/
298	JUN 15	BRA	EPKHKP IPKP2	23 24 23 25	42.0 8.0	1.5 0.2									155.06	31.64	South of Fiji 25.83 S 177.10 W H = 23 4 56.6 DEPTH = 75 km MB = 5.5 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
299	JUN 16	BRA	EP	7	32	27.0	0.5							56.13	69.52	Chinghai Province 37.67 N 95.67 E H = 14 43 42.8 DEPTH = 0 km MB = 5.8 /ISC/	
300	JUN 16	BRA	IP	14	56	6.0	1.5							81.72	334.41	Off Coast of Oregon 44.98 N 125.87 W H = 14 43 42.8 DEPTH = 0 km MB = 5.8 /ISC/	
301	JUN 16	BRA SPC	EPP EPP	23 23	25 25	42.0 56.0	-3.7 -3.0							111.79 113.56	202.57 204.29	South Sandwich Islands Region 58.36 S 25.43 W H = 23 6 28.0 DEPTH = 41 km MB = 5.4 /ISC/	
302	JUN 17	SPC HRB BRA	EP EP IP ES LH	4 4 4 4 4	6 7 17 7 16	51.0 2.5 2.0 1.0 57.0	2.2 3.3 -3.1 0.8 5.1							76.41 78.28 78.47	37.83 36.36 35.71	Hokkaido Region 43.12 N 145.74 E H = 3 55 1.9 DEPTH = 41 km MB = 6.5 /ISC/	
303	JUN 17	BRA	EP	7	55	6.0	-0.4			747.0	20.0	1971.0	20.0	8.5	21.24	Off East Coast of Kamchatka 53.30 N 161.54 E H = 7 43 30.6 DEPTH = 42 km MB = 5.0 /ISC/	
304	JUN 17	SPC BRA	EPP EAP	9 9	0 0	16.0 33.0	-5.1 -1.5							76.82 78.88	37.53 35.41	Off Coast of Hokkaido 42.93 N 146.39 E H = 8 48 21.0 DEPTH = 46 km MB = 5.1 /ISC/	
305	JUN 17	SPC BRA	P EP	12 12	26 26	17.0 24.0	4.0 -0.4							76.49 78.56	38.11 35.99	Hokkaido Region 42.90 N 145.50 E H = 12 14 26 DEPTH = 47 km MB = 5.4 /ISC/	
306	JUN 17	SPC BRA	EP IP	12 12	36 36	29.0 39.0	2.4 1.1							77.21 79.27	37.69 35.56	Off Coast of Hokkaido 42.52 N 146.50 E H = 12 24 29.7 DEPTH = 4 km MB = 5.4 /ISC/	
307	JUN 17	SPC BRA	IP -IP	13 13	45 45	17.5 27.0	1.2							76.38 78.45	38.14 36.02	Hokkaido Region 42.98 N 145.38 E H = 13 33 28.0 DEPTH = 45 km MB = 5.7 /ISC/	

308	JUN 17	SPC BRA	IP EP	13 13	55 55	1.5 10.0	2.7 -0.1							77.05 79.11	37.34 35.21	Off Coast of Hokkaido 42.84 N 146.77 E H = 13 43 3.0 DEPTH = 5 km MB = 5.4 /ISC/
309	JUN 17	BRA	SP	17	5	24.0	0.3							78.89	12.97	Rat Islands 51.75 N 176.35 E H = 16 53 23.3 DEPTH = 42 km MB = 5.0 /ISC/
310	JUN 17	BRA	S	19	3	24.0										No determination of epicentre
311	JUN 17	SPC BRA	IP IP EXP	19 19 19	7 7 7	32.0 39.0 56.0	3.0 -1.4 3.1							76.93 78.99	37.47 35.35	Off Coast of Hokkaido 42.87 N 146.53 E H = 18 55 37.6 DEPTH = 29 km MB = 5.7 /ISC/
312	JUN 17	SPC BRA	EP EP	19 19	15 15	30.5 38.0	3.8 -0.0							77.14 79.20	37.78 35.65	Off Coast of Hokkaido 42.53 N 145.34 E H = 19 3 37.4 DEPTH = 31 km MB = 5.5 /ISC/
313	JUN 17	SPC BRA	IP EP EP IP IS LH	20 20 20 20 20 21	49 59 48 50 59 28	49.0 39.0 56.0 14.0 19.0 50.0 0.0	2.5 2.8 -1.8 7.3 11.3 -5.4							76.94 79.00	37.83 35.75	Off Coast of Hokkaido 42.55 N 146.08 E H = 20 37 52.0 DEPTH = 10 km MB = 6.0 /ISC/
314	JUN 17	BRA	EP	21	38	11.0	-0.4			55.0	18.0	111.0	18.0	7.3	36.04	Hokkaido Region 42.91 N 145.41 E H = 21 26 13.8 DEPTH = 50 km MB = 5.2 /ISC/
315	JUN 18	BRA	EP	5	49	41.0	1.3							79.18	35.65	Off Coast of Hokkaido 42.55 N 146.33 E H = 5 37 37.3 DEPTH = 42 km MB = 5.4 /ISC/
316	JUN 18	SPC BRA SRO	EP IP EP	10 10 10	29 29 29	30.0 33.0 35.0	-1.3 0.9 -3.0							78.91 80.01 80.34	3.14 1.17 1.92	South of Alaska 52.19 N 164.77 W H = 10 17 26.8 DEPTH = 15 km MB = 5.4 /ISC/
317	JUN 18	SPC SRO	IP IXP IP ISOS	17 17 17 18	57 57 57 8	38.0 48.0 36.0 0.0	2.3 -0.5 -10.0 -2.4							77.07 78.95	38.12 36.71	Hokkaido Region 42.41 N 145.92 E H = 17 45 43.6 DEPTH = 30 km MB = 5.6 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T					
318	JUN 19	BRA	LMH IP IAP	18 31 17 57 17 57	0.0 47.0 58.0	-0.0 1.5		4.7	20.0	6.2	20.0		6.0	79.14	35.99		Off Coast of Hokkaido 42.89 N 146.76 E H = 2 22 DEPTH = 26 km MB = 5.1 /ISC/
319	JUN 19	SPC BRA	EP EP	2 33 2 34	58.0 6.0	2.9 -0.4								77.01 79.06	37.32 35.19		Off Coast of Hokkaido 42.65 N 146.02 E H = 2 54 DEPTH = 37 km MB = 5.5 /ISC/
320	JUN 19	SPC BRA	EP EP	3 6 3 6 3 6 3 6	3.0 14.0 12.0 11.0	4.0 -0.6 2.7 0.6								76.91 78.78 78.98	37.92 36.52 35.79		Hokkaido Region 42.53 N 145.97 E H = 17 10 DEPTH = 32 km MB = 5.2 /ISC/
321	JUN 19	SRO BRA	EP EP	20 17 20 17	53.0 55.0	0.1 1.1								78.82 79.01	36.18 35.45		Off Coast of Hokkaido 42.80 N 146.43 E H = 20 5 DEPTH = 36 km MB = 5.2 /ISC/
322	JUN 20	BRA	E	10 33	19.0												No determination of epicentre
323	JUN 20	BRA	EP	11 3	52.0	-1.1								89.72	276.97		Near West Coast of Columbia 4.90 N 77.90 W H = 10 50 DEPTH = 50 km MB = 4.5 /ISC/
324	JUN 20	SRO BRA	EPKIKP EPP LMH EPKIKP IPKP2 IAPKP2 E EAPKHKH	12 21 12 26 13 43 12 21 12 22 12 22 12 23 12 23	42.0 0.0 0.0 50.0 23.0 37.0 20.0 50.0	-6.0 -2.9 1.7 -0.2 6.1 0.4		39.4	16.0	39.2	16.0	7.4	157.59 157.77	36.62 33.61		Kermadec Islands Region 28.63 S 176.68 W H = 12 1 DEPTH = 24 km MB = 5.5 /ISC/	
325	JUN 22	SRO	IP IXS LMH	6 19 6 29 6 57	38.5 39.0 0.0	1.8 -2.3	4.0	17.2	20.0	12.4	20.0	5.5	78.72	36.19		Off Coast of Hokkaido 42.88 N 146.34 E H = 6 7 DEPTH = 17 km MB = 5.5 /ISC/	



326	JUN 22	SPC SRO	EKP2 EPKHKP	20 11 20 11	30.0 27.0	-4.5 -0.7								149.64 151.44	27.59 25.19		Tonga 21.06 S 174.27 W H = 19 51 DEPTH = 0 km MB = 5.5 /ISC/
327	JUN 23	SPC	IP	2 21	33.0	2.2								77.07	36.82		Kurile Islands 43.09 N 147.36 E H = 2 9 DEPTH = 16 km MB = 5.5 /ISC/
328	JUN 24	SPC HRB SRO BRA	EP EP ES LMH IP IP IS	2 55 2 55 3 5 3 33 2 55 2 55 3 5	15.0 26.0 20.0 0.0 22.8 18.0 18.0	2.5 3.2 4.3 -0.0 -5.8 0.4							76.54 78.41 78.41 78.59	37.30 35.84 35.91 35.19		Kurile Islands 43.29 N 146.43 E H = 2 43 DEPTH = 26 km MB = 6.3 /ISC/	
329	JUN 24	SPC	IP	5 19	38.5	2.7								76.84	37.33		Kurile Islands 43.02 N 146.62 E H = 5 7 DEPTH = 24 km MB = 5.7 /ISC/
330	JUN 24	SPC	IP IAP	20 12 20 12	6.0 18.0	2.1 1.9								76.85	37.09		Kurile Islands 43.14 N 146.90 E H = 20 0 DEPTH = 41 km MB = 5.1 /ISC/
331	JUN 25	SRO	EPCP IPP IS LMH	7 32 7 35 7 42 8 9	18.0 40.0 38.0 0.0	-0.6 8.5 2.5		1.0	18.0	1.0	18.0	5.4	84.36	67.86		Philippine Islands Region 19.11 N 121.19 E H = 7 19 DEPTH = 45 km MB = 5.8 /ISC/	
332	JUN 26	SRO	IP IPP ISKS LMH	18 14 18 17 18 24 18 47	24.6 26.6 26.6 0.0	-0.7 0.4 -6.1	2.0						79.00	35.72		Off Coast of Hokkaido 42.89 N 147.07 E H = 18 2 DEPTH = 38 km MB = 5.6 /ISC/	
333	JUN 26	SRO	IP IS LMH	22 43 22 53 23 17	58.6 54.6 0.0	-0.7 -1.0		3.1	16.0	4.5	16.0	6.0	78.74	35.91		Kurile Islands 43.01 N 146.66 E H = 22 31 DEPTH = 10 km MB = 5.8 /ISC/	
334	JUN 28	SRO	EAP ESCS LMH	11 1 11 12 11 36	59.0 29.0 0.0	0.6 5.2		1.5	20.0	1.9	20.0		82.62	63.25		South Western Ryukyu Islands 23.45 N 123.57 E H = 10 49 DEPTH = 12 km MB = 5.2 /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
335	JUN 28	SPC	IP	22	10	10.0								64.64	74.65	Szechwan Province 28.86 N 103.67 E H = 21 59 29.9 DEPTH = 31 km MB = 5.3 /ISC/	
336	JUN 29	SPC SRO	IP ES LMH	3 38 3 38 3 48 4 16	40.0 50.4 38.0 0.0	1.9 1.9 0.7	200	2.0	3.5	20.0	2.5	20.0	5.8	76.29 78.16	37.69 36.29	Hokkaido Region 43.29 N 145.81 E H = 3 26 53.6 DEPTH = 56 km MB = 5.9 /ISC/	
337	JUL 1	SPC HRB SRO	IP EP EPP EKS +IPP IS LMH	13 44 13 45 13 47 13 54 13 47 13 47 13 54 14 13	58.0 4.0 34.0 38.0 3.0 35.0 32.0 0.0	2.5 2.6 -11.3 -1.0 1.2 -11.0 7.6					38.8	24.0	6.6	71.74 72.72	347.65 346.63	Off Coast of South-East. Alaska 57.86 N 137.42 W H = 13 33 34.4 DEPTH = 30 km MB = 6.2 /ISC/	
338	JUL 2	SRO	E I	12 18 12 20	58.0 17.0									9.02	152.32	Aegean Sea 39.68 N 23.73 E H = 12 14 9.8 DEPTH = 33 km MB = 4.1 /ISC/	
339	JUL 3	SRO	EPP EPP ISKS	4 13 4 16 4 23	9.0 51.0 35.0	6.6 -2.4 9.5								94.61	304.91	Michoacan, Mexico 19.09 N 101.88 W H = 3 59 52.3 DEPTH = 109 km MB = 5.6 /ISC/	
340	JUL 3	SPC SRO	IPCP +IP IPP ISGS LMH	7 16 7 16 7 20 7 27 7 55	44.8 51.0 35.0 55.0 0.0	-0.4 -0.6 0.4 6.4					15.5	20.0	6.5	90.45 92.13	70.77 69.34	Samar 12.21 N 125.29 E H = 7 3 47.1 DEPTH = 56 km MB = 6.0 /ISC/	
341	JUL 3	BRA SRO	+IPN EPG ISB I EPG ISG I	16 11 16 11 16 12 16 13 16 11 16 12 16 14	15.0 55.5 47.0 16.5 51.0 59.0 15.0	-12.5 6.1 4.7 -3.2 -4.2								5.03 5.27	214.23 224.59	Central Italy 43.94 N 13.19 E H = 16 10 9.0 DEPTH = 21 km /ISC/	

342	JUL 3	SPC BRA	EP IPP EPS +IP IPCP IPCP I +IP IPP IS LMH	17 10 17 13 17 20 17 10 17 11 17 11 17 13 17 11 17 13 17 20 17 43	58.0 43.0 31.0 48.0 3.0 27.0 6.0 3.0 43.0 43.0 0.0	1.9 6.0 -14.1 -11.3 -14.7 9.3 0.6 -3.3 15.1	320	2.4					6.4	71.70 72.23	348.02 346.40	South-Eastern Alaska 57.99 N 138.04 W H = 16 59 30.4 DEPTH = 0 km MB = 6.1 /ISC/
343	JUL 4	BRA	IPG	17 0	18.3											No determination of epicentre
344	JUL 4	SRO	EPP	0 5	29.0	-11.9								100.75	177.20	South of Africa 53.24 S 22.90 E H = 23 48 43.9 DEPTH = 33 km MB = 5.3 /ISC/
345	JUL 5	SPC SRO BRA	IP +IP IS LMH IP E	1 10 1 10 1 20 1 54 1 10 1 12	34.0 44.0 36.0 0.0 44.0 17.0	0.6 0.3 -0.3 -0.6			0.8	18.0	0.8	18.0	5.2	76.72 78.59	36.00 34.61	Kurile Islands Region 43.82 N 148.03 E H = 0 58 44.4 DEPTH = 38 km MB = 5.4 /ISC/
346	JUL 5	BRA	EPG ISN	4 47 4 48	30.0 0.0	-3.3 13.8								0.41	285.91	Austria 48.28 N 16.51 E H = 4 47 25.0 /VIE/
347	JUL 5	BRA SRO	IP IAP EKS	8 0 8 0 8 10	28.7 37.8 14.0	0.1 -4.1 3.1								72.31 72.84	346.35 347.02	South-Eastern Alaska 57.90 N 137.99 W H = 7 49 4.4 DEPTH = 32 km MB = 5.4 /ISC/
348	JUL 5	BRA	E	22 24	27.0									6.69	161.09	Albania 41.80 N 20.00 E H = 22 21 19.0 DEPTH = 52 km /ISC/
349	JUL 5	SPC SRO BRA	EAP EPP LMV IXP ISKS LMH EXP	22 59 23 2 23 44 22 59 23 10 23 46 22 59	16.0 28.0 0.0 29.0 1.0 46.0 30.0	-1.4 -16.8 1.7 12.3 0.0 -0.2								89.31 90.99 91.62	70.64 69.20 68.29	Luson 13.18 N 124.65 E H = 22 46 15.0 DEPTH = 18 km MB = 5.5 /ISC/



No.	Date	STA Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
350	JUL 6	SPC BRA	EP EP EXP	22 59 38.0 23 2 48.0 23 10 39.0 23 43 0.0	13 49 47 13 49 57.0 13 50 23.0	8.8 -15.2 10.1		3.3	12.0	6.6	12.0		6.3	77.48 79.61	41.50 39.33	Near East Coast of Honshu 40.23 N 142.59 E H = 13 37 54.0 DEPTH = 49 km MB = 5.0 /ISC/	
351	JUL 7	SPC BRA	EP EP	3 9 19.0 3 9 23.0	1.7 -0.7									78.42 79.60	5.29 3.33	Fox Islands 52.51 N 168.26 W H = 2 57 20.6 DEPTH = 53 km MB = 4.9 /ISC/	
352	JUL 7	BRA	EPKHKP E ESKPDF	19 54 53.0 19 55 40.0 19 58 25.0	-0.0 -3.9									148.35	248.2L	Easter Island Cordillera 49.90 N 114.00 W H = 19 35 19.7 DEPTH = 33 km /ISC/	
353	JUL 8	SPC SRO BRA	EPCP EP EP EPP	0 15 45.0 0 15 52.0 0 15 54.0 0 15 39.0	-0.5 -0.9 -1.8 -2.2									90.57 92.25 92.88	70.36 68.94 68.01	Samar 12.38 N 125.69 E H = 0 2 45.8 DEPTH = 39 km MB = 5.2 /ISC/	
354	JUL 8	BRA	IPCP IAP E	4 15 55.0 4 13 37.0 4 19 46.0	-1.6 3.4									84.90	274.47	Northern Colombia 6.82 N 72.79 W H = 4 3 35.4 DEPTH = 161 km MB = 5.4 /ISC/	
355	JUL 8	BRA	EP	10 11 44.0	1.4									78.60	35.10	Kurile Islands 43.33 N 146.54 E H = 9 59 44.3 DEPTH = 48 km MB = 5.1 /ISC/	
356	JUL 9	BRA SRO	EP I I ES	0 28 26.0 0 29 49.0 0 39 57.0 0 29 16.0	2.8 -17.9									5.27 6.00	256.80 262.71	Switzerland 46.72 N 9.64 E H = 0 27 1.0 DEPTH = 37 km /ISC/	
357	JUL 9	SPC BRA	EPKP2 EPKIKP EPKIBC	11 22 4.0 11 22 4.0 11 25 52.0	2.4 2.4 -3.0									145.42 147.19	25.93 21.33	Tonga 16.75 S 174.77 W H = 11 2 48.5 DEPTH = 44 km MB = 5.6 /ISC/	

No.	Date	STA Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
358	JUL 9	SPC SRO BRA	EP IAP IS +IP IAP ES	16 31 1.0 16 31 20.0 16 40 18.0 16 31 7.3 16 31 18.8 16 40 28.0	2.5 1.6 -2.3 -3.1 -4.6 -1.9		120							70.47 71.62	96.36 94.41	Andaman Islands Region 10.66 N 92.59 E H = 16 19 46.7 DEPTH = 44 km MB = 5.6 /ISC/	
359	JUL 10	SPC SRO BRA	EPKHKP IPKIKP EPKIKP	4 21 57.0 4 21 53.0 4 21 57.0	2.1 -2.3 1.5									151.28 153.14 153.26	34.86 32.85 30.22	South of Fiji 23.92 S 177.22 W H = 4 2 11.0 DEPTH = 51 km MB = 5.1 /ISC/	
360	JUL 10	SPC SRO BRA	EPKHKP EAPKIKP IPKIKP EPKIKP EAPKHKP	7 19 24.0 7 19 49.0 7 19 21.0 7 19 24.0 7 19 54.0	2.5 0.9 -0.8 2.1 -1.5									151.39 153.26 153.38	35.30 33.32 30.68	South of Fiji 24.11 S 177.38 W H = 6 59 44.1 DEPTH = 105 km MB = 5.1 /ISC/	
361	JUL 10	SPC SRO BRA	IP EP IP EPCP E	23 37 36.0 23 37 45.0 23 37 49.0 23 37 58.0 23 38 49.0	-2.2 -3.1 -0.5 2.7									79.92 81.80 82.06	42.53 41.10 40.32	Off East Coast of Honshu 37.64 N 143.27 E H = 23 25 32.1 DEPTH = 42 km MB = 5.2 /ISC/	
362	JUL 11	SPC	EPCP	14 41 16.0	-0.0									84.93	47.17	South of Honshu 30.90 N 142.05 E H = 14 28 40.8 DEPTH = 45 km MB = 5.0 /ISC/	
363	JUL 11	SPC BRA SRO	EAYKHKP EPKP2 IPKP2	23 7 24.0 23 7 28.9 23 7 26.0	-2.7 1.5 -1.6									144.20 145.90 145.96	23.49 18.89 21.09	Tonga 15.17 S 173.73 W H = 22 47 49.0 DEPTH = 34 km MB = 5.3 /ISC/	
364	JUL 13	BRA	EPKP2 EAPKP2	0 38 53.0 0 39 17.0	-5.5 7.4									157.06	32.10	Kermadec Islands Region 27.74 S 176.41 W H = 0 18 34.0 DEPTH = 35 km MB = 4.4 /ISC/	
365	JUL 13	SPC BRA SRO	EP EP EP	3 11 42.0 3 11 35.0 3 11 45.0	3.7 -3.3 2.2									78.45 78.64 79.27	339.34 337.45 338.23	Vancouver Island Region 49.00 N 128.09 W H = 2 59 39.1 DEPTH = 33 km MB = 5.2 /ISC/	
366	JUL 13	SPC	EP	10 10 35.5	2.7									23.55	106.05	Caspian Sea 38.46 N 49.52 E H = 10 5 26.1 DEPTH = 48 km MB = 4.5 /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
367	JUL 14	SPC	EAP	5	0	15.0	2000	4.0					6.4		49.46	80.45	Tibet 35.16 N 86.40 E H = 4 51 20.0 DEPTH = 22 km MB = 5.9 /ISC/
			EPP	5	2	11.0											
			LMV	5	25	0.0											
			-IPP	5	0	23.5											
			IPP	5	2	24.0											
368	JUL 14	SRO	IS	5	7	24.0	260	1.5					6.4		50.98	78.08	Southern Greece 37.93 N 21.21 E H = 12 38 19.2 DEPTH = 42 km MB = 4.6 /ISC/
			LMH	5	26	0.0											
			EPP	5	2	28.0											
			LMH	5	25	0.0											
			IPP	5	0	27.9											
369	JUL 14	SRO	I	5	2	39.9	260	1.5					6.9		51.05	78.05	Tibet 35.21 N 86.54 E H = 13 39 29.4 DEPTH = 29 km MB = 5.7 /ISC/
			IPP	5	2	39.9											
			I	5	3	3.9											
			I	5	4	24.9											
			LMH	5	25	30.0											
370	JUL 14	BRA	IPW	20	27	5.9											No determination of epicentre
			IPW	20	27	5.9											
371	JUL 15	SPC	IP	14	19	39.0									76.54	37.29	Kurile Islands 43.21 N 145.52 E H = 14 6 50.1 DEPTH = 49 km MB = 5.4 /ISC/
			IAP	14	15	51.0											
			IP	14	19	39.0											
372	JUL 15	BRA	EP	15	25	16.0									94.70	302.09	Guerrero, Mexico 17.10 N 100.85 W H = 18 12 55.0 DEPTH = 29 km MB = 5.6 /ISC/
			EPP	15	35	2.7											
			IPCC	13	25	20.4											
			PP	18	30	8.0											
			PS	18	39	0.0											

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
373	JUL 16	BRA	EAP	19	54	51.0								51.84	77.67	Tibet 35.03 N 86.50 E H = 19 45 38.7 DEPTH = 17 km MB = 5.2 /ISC/	
374	JUL 18	BRA	EPP	15	39	0.8									100.91	254.92	Northern Chile 18.23 S 69.13 W H = 15 21 21.8 DEPTH = 139 km /ISC/
			E	15	39	57.0											
			SKKS	15	75	21.0											
375	JUL 18	BRA	E	17	14	19.0											No determination of epicentre
			E	17	15	4.0											
376	JUL 19	SRO	IPKP2	6	3	9.0									147.52	20.23	Fiji Region 18.20 S 178.21 W H = 5 44 25.0 DEPTH = 557 km MB = 5.7 /ISC/
			IPKP2	6	3	7.5											
			IPKP2	6	3	11.0											
			I	6	3	43.0											
377	JUL 19	BRA	ESK2A3	6	3	25.0											No determination of epicentre
			E	11	3	12.4											
378	JUL 19	BRA	E	19	34	12.0									25.75	353.59	Greenland Sea 73.48 N 7.50 E H = 19 28 43.3 DEPTH = 33 km MB = 4.5 /ISC/
			E	19	34	12.0											
379	JUL 20	SPC	EKIKP	8	20	58.0									147.81	123.15	West of Macarria Island 55.26 S 147.19 W H = 8 1 16.5 DEPTH = 33 km MB = 5.3 /ISC/
			IPKIKP	8	20	55.0											
			IPKSAB	8	25	6.0											
380	JUL 20	SRO	IP	8	25	2.0									79.89	44.70	Near East Coast of Honshu 35.45 N 141.05 E H = 8 12 54.0 DEPTH = 49 km MB = 5.6 /ISC/
			IAP	8	25	14.0											
			EPP	8	23	1.0											
			EP	8	25	6.0											
			LMH	9	6	0.0											
381	JUL 21	SRO	+EP	8	25	13.0									81.77	43.26	South of Fiji 24.93 S 179.19 W H = 4 19 13.7 DEPTH = 373 km MB = 5.9 /ISC/
			IPKIKP	4	38	2.0											
			IPKIKP	4	38	8.0											
382	JUL 23	SRO	IP	1	30	14.0									37.34	65.59	Eastern Kazakhstan 49.49 N 78.85 E H = 1 22 57.7 DEPTH = 0 km MB = 6.1 /ISC/
			+IP	1	30	28.0											
			+IP	1	43	30.0											

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
383	JUL 23	SPC	EP	10	14	13.0	3.4							79.59	65.34	Taiwan Region 24.07 N 122.32 E H = 10 2 6.6 DEPTH = 54 km MB = 5.3 /ISC/	
384	JUL 23	BRA SRO	EPB ESG E	23 23 23	26 28 28	39.0 17.0 26.0	2.3 12.5							5.05 5.35	218.84 228.88	Northern Italy 44.15 N 12.71 E H = 23 25 7.6 DEPTH = 0 km /ISC/	
385	JUL 25	SP3 SRO BRA	EPKIKP EAPKIKP EPKIKP	6 6 6	27 27 27	39.0 51.0 42.0	2.2 -5.2 0.8							127.99 129.85 130.25	52.75 51.54 49.99	Solomon Islands 8.77 S 160.85 E H = 6 8 36.6 DEPTH = 53 km MB = 5.5 /ISC/	
386	JUL 26	SPC SRO BRA	EP EP EPP IPP	20 20 20 20	17 17 17 20	53.0 59.0 51.0 46.0	0.2 -0.7 7.2 -14.6 -4.9							71.44 72.61 73.44	95.65 93.72 92.92	Andaman Islands Region 10.38 N 93.75 E H = 20 6 36.5 DEPTH = 56 km MB = 5.0 /ISC/	
387	JUL 27	SPC BRA	EAPKHKP IAPKIKP IAPKIKP I I IAPKHKP	19 19 19 19 19 19	46 46 46 47 56 46	19.0 28.0 32.5 30.5 17.5 27.0	-1.9 -1.0 3.5 1.3							144.72 146.39	22.57 17.88	Tonga 15.53 S 173.05 W H = 19 26 42.0 DEPTH = 33 km MB = 5.4 /ISC/	
388	JUL 27	SRO BRA	EAP EP	20 20	34 34	34.0 30.0	-0.3 7.0							64.01 64.77	83.45 82.77	Burma-India Border Region 23.27 N 94.49 E H = 20 23 48.6 DEPTH = 60 km MB = 5.4 /ISC/	
389	JUL 28	SPC BRA	IP IP IXP	14 14 14	40 40 41	36.0 32.0 20.0	0.3 -15.3 17.0							77.12 79.23	40.72 38.57	Off East Coast of Honshu 40.96 N 143.14 E H = 14 28 44.3 DEPTH = 37 km MB = 5.4 /ISC/	
390	JUL 28	SPC SRO BRA	IP EPP EP EP IPCP E	18 18 18 18 18 18	5 8 5 5 5 8	44.5 56.0 34.0 44.0 53.0 25.0	1.6 7.7 -17.9 -10.9 -7.1							80.55 82.28 82.87	67.23 55.68 64.87	Taiwan Region 22.12 N 121.46 E H = 17 53 32.1 DEPTH = 31 km MB = 5.4 /ISC/	

391	JUL 28	SPC SRO BRA	IP IPCP ISP IP IAP ESKS	20 20 20 20 20 20	17 17 26 16 19 26	2.0 32.0 41.0 59.6 4.6 9.0	3.1 9.4 10.4 -10.4 -6.8 -8.2							71.45 73.29 73.39	31.77 30.45 29.82	Sea of Okhotsk 50.45 N 148.92 E H = 20 6 35.4 DEPTH = 585 km MB = 5.5 /ISC/
392	JUL 29	SPC BRA	EP EP IPCP	15 15 15	2 2 3	55.0 59.0 10.7	3.5 -3.8 -0.9							76.92 78.97	37.16 35.04	Kurile Islands 43.04 N 146.87 E H = 14 51 1.1 DEPTH = 36 km MB = 5.4 /ISC/
393	JUL 29	BRA	EP EPP	16 16	29 33	31.0 43.0	4.0 7.2							100.11	259.83	Peru 14.38 S 72.21 W H = 16 15 50.8 DEPTH = 95 km MB = 5.4 /ISC/
394	JUL 29	SPC SRO BRA	IPKP2 IAPKP2 EPKHKP E	22 22 22 22	2 2 2 3	8.0 27.0 3.0 33.0	-0.3 6.9 -1.2							147.88 148.18 149.05	123.26 124.80 124.18	West of Macquarie Island 56.33 S 147.30 E H = 21 42 22.0 DEPTH = 33 km MB = 5.2 /ISC/
395	JUL 30	BRA	IPG	11	40	56.0										No determination of epicentre
396	JUL 31	SPC SRO BRA	EPKIKP EPP EAPKIKP LKH IPP IPKISAB LKH EPP IPKHKP IAPKIKP IAPKIKP IPKISDF I	21 21 21 21 21 21 21 21 21 21 21 21 21	4 6 4 52 4 4 12 12 50 53 50 51 51 54 57	0.0 17.0 9.0 0.0 3.0 36.0 24.0 22.0 16.0 35.5 18.0 26.0 11.5 0.0 35.3 27.0 22.0 30.0 20.0 12.0 50.0	4.3 13.6 -2.0 3.0 -0.9 -6.0 2.6 4.1 -5.9 0.5 -4.4 3.8 1.4 -2.1 -4.6 5.3							128.09 129.95 130.35	52.61 51.40 49.84	Solomon Islands 8.80 S 161.00 E H = 20 44 53.2 DEPTH = 37 km MB = 5.5 /ISC/
397	AUG 1	SPC SRO HRB BRA	EPKIKP EPP EAPKIKP IPKISAB LKH EPP IPKHKP IAPKIKP IAPKIKP IPKISDF I	1 1 1 1 2 1 1 1 1 1 1 1	50 53 50 51 12 50 53 50 51 54 57	22.0 16.0 35.5 18.0 26.0 11.5 0.0 35.3 27.0 22.0 30.0 20.0 12.0 50.0	-6.0 2.6 4.1 -5.9 0.5 -4.4 3.8 1.4 -2.1 -4.6 5.3							135.99 137.86	49.37 48.13	New Hebrides 14.33 S 167.29 E H = 1 31 31.1 DEPTH = 202 km MB = 6.1 /ISC/
398	AUG 1	BRA	E	15	43	50.0										No determination of epicentre



No.	Date	STA Code	Phase	h	GMT m e	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
							A	T	A	T	A	T					
399	AUG 2	SPC	EP	9	9 3.0	2.2								65.96	74.86	Yunnan Province 27.80 N 104.59 E H = 8 58 15.0 DEPTH = 28 km MB = 5.4 /ISC/	
400	AUG 2	BRA	E	12	3 31.0											No determination of epicentre	
401	AUG	SPC	EP	20	2 21.0	-1.1								28.71	100.57	Iran 37.35 N 56.58 E H = 19 56 26.1 DEPTH = 35 km MB = 5.1 /ISC/	
		SRO	EAP	20	2 38.0	-3.6								29.78	96.36		
402	AUG 3	SPC	EAP	6	36 22.0	-2.0								77.00	38.16	Hokkaido Region 42.45 N 145.82 E H = 6 26 23.5 DEPTH = 27 km MB = 4.9 /ISC/	
				15	56 6.0	-4.0									75.49	283.69	Haiti Region 19.97 N 73.05 W H = 15 44 26.0 DEPTH = 24 km MB = 5.2 /ISC/
403	AUG 3	SRO	EP	15	56 25.0	1.6								77.25	285.68		
				17	35 19.0	0.7									71.70	22.02	Near East Coast of Kamchatka 54.71 N 162.40 E H = 17 23 58.0 DEPTH = 34 km MB = 5.3 /ISC/
404	AUG 3	SRO	LMH	17	35 25.0	-3.4											
				17	35 37.0	-2.1										73.45	20.80
405	AUG 4	BRA	IPCP	0	57 34.0	-8.4								90.47	285.23	Costa Rica 9.84 N 84.64 W H = 0 44 47.1 DEPTH = 69 km MB = 5.1 /ISC/	
				0	57 46.0	2.3											
406	AUG	SRO	IP	10	43 23.0												
				10	43 47.0												
407	AUG 4	SRO	LMH	10	43 12.0												
				10	43 29.0												
407	AUG 4	SPC	ESN	11	18 54.4	4.6								1.38	322.92	Poland 50.28 N 18.95 E H = 11 18 4.1 /WAR/	

No.	Date	STA Code	Phase	h	GMT m e	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks	
							A	T	A	T	A	T						
408	AUG 4	BRA SRO	EP	11	41 47.0	-6.4								107.86	247.91	La Rioja Province Argentina 28.03 S 68.96 W H = 11 22 27.7 DEPTH = 89 km MB = 5.2 /ISC/		
409	AUG 4	SRO	EPP	11	41 10.0													
				22	5 9.5	5.2										99.21	76.06	Molucca Passage 2 03 N 126.78 E H = 21 51 26.6 DEPTH = 50 km MB = 5.5 /ISC/
410	AUG 5	SRO	EPP	16	7 12.0	-1.7												
				16	10 19.0	-12.2												
411	AUG 6	SRO	EPP	16	7 14.1	-1.9												
				16	7 32.1	5.5												
412	AUG 6	SRO	EPP	16	8 17.1													
				16	8 32.1	-2.1												
413	AUG 6	SRO	EPP	16	12 35.0	3.3												
				16	7 30.2													
414	AUG 7	SRO	EPP	16	8 5.2													
				16	9 26.2													
415	AUG 7	SRO	EPP	17	9 0.0	-2.0												
				17	9 0.0													
412	AUG 6	BRA	E	1	13 14.0	0.9										No determination of epicentre		
413	AUG	SRO	EPP	1	16 42.0	-1.7												
				1	13 24.0													
414	AUG 7	SRO	EPP	1	11 9.0													
				1	13 30.0													
415	AUG 7	SRO	EPP	1	13 40.0	-2.0												
				1	13 40.0													
412	AUG 6	BRA	E	1	25 15.0													
413	AUG	SRO	EPP	23	23 45.0	4.5												
				23	23 45.0													
414	AUG 7	SRO	EPP	4	0 19.0	-6.1												
				4	46 0.0	-15.7												
415	AUG 7	SRO	EPP	4	1 26.0	-1.2												
				4	4 50.0													
416	AUG 7	SRO	EPP	4	46 0.0													
				4	46 0.0													

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
						A	T	A	T	A	T					
416	AUG 8	HRB BRA	E EP E	8 27 18.0 8 25 35.0 8 27 35.0	0.9									6.25 6.68	171.45 164.87	Albania 41.69 N 19.43 E H = 8 23 48.7 DEPTH = 39 km MB = 4.5 /ISC/
417	AUG 8	HRB BRA	ESG EP2 ESG ESG	14 40 20.0 14 38 14.0 14 40 11.0 14 40 32.0	6.7 -5.8 -6.3 14.7									7.42 7.54	196.59 189.86	Southern Italy 40.72 N 15.41 E H = 14 36 8.0 DEPTH = 0 km MB = 4.6 /ISC/
418	AUG 9	BRA	EPKIKP	9 57 10.0	-1.5									124.64	54.88	Solomon Islands 6.09 S 154.52 E H = 9 38 59.9 DEPTH = 410 km MB = 5.3 /ISC/
419	AUG 9	SPC SRO BRA	EP IP LMH EP IAP ES	10 56 14.0 10 56 25.0 11 33 0.0 10 56 26.0 10 56 38.0 11 6 20.0	1.9 2.5 2.5 1.5 4.8	2.0	2.0	2.0	20.0	4.2	20.0	6.8	5.8	76.48 78.35 78.53	37.23 35.84 35.12	Kurdle Islands 43.38 N 146.46 E H = 10 44 25.2 DEPTH = 44 km MB = 5.9 /ISC/
420	AUG 9	SPC SRO	EPKIP2 IPKIP2 I LMH EPKIP2	13 25 21.0 13 25 25.0 13 27 13.0 14 44 0.0 13 26 32.0	-3.0 -0.1 3.4									148.11 148.41 149.28	123.29 124.85 124.23	West of Macquarie Island 56.38 S 147.70 E H = 13 6 36.7 DEPTH = 33 km MB = 5.5 /ISC/
421	AUG 10	SPC SRO BRA	EP IP LMH EPCO	0 20 25.0 0 20 30.0 0 51 0.0 0 20 37.0	2.0 -2.6 -1.2			2.0	16.0	4.0	16.0	5.9		82.16 84.04 84.34	45.71 44.25 43.44	Off East Coast of Honshu 34.02 N 141.63 E H = 0 8 4.1 DEPTH = 33 km MB = 5.0 /ISC/
422	AUG 10	BRA	EAPKHKP E	14 46 58.0 14 47 28.0	2.4									149.93	19.19	Tonga Region 19.15 S 172.93 W H = 14 27 6.6 DEPTH = 7 km MB = 5.2 /ISC/
423	AUG 10	BRA	EAPKIKP E	15 3 34.0 15 4 10.0	-0.3									150.02	19.16	Tonga Region 19.24 S 172.89 W H = 14 43 41.5 DEPTH = 33 km MB = 5.3 /ISC/
424	AUG 10	BRA	EAPKIKP E	19 15 11.0 19 15 47.0	-2.0									149.91	19.24	Tonga Region 19.14 S 172.96 W H = 18 55 20.3 DEPTH = 33 km /ISC/

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
						A	T	A	T	A	T					
425	AUG 11	SPC SRO BRA	IP LMV IP ISP LMH IP I IPP LMH	7 26 3.0 7 53 0.0 7 26 13.0 7 34 59.0 7 52 0.0 7 25 16.0 7 27 34.0 7 28 43.0 7 51 0.0	3.1 2.0 -2.9 0.9 4.4			14.0	12.0	19.0	12.0	6.5		62.08 63.76 64.39	71.10 69.22 68.62	Szechwan Province 32.94 N 104.02 E H = 7 15 38.2 DEPTH = 20 km MB = 5.5 /ISC/
426	AUG 12	BRA	EPCP	10 29 55.0	2.7			35.0	15.0	102.0	15.0			92.10	296.53	Near Coast of Oaxaca Mexico 15.86 N 94.61 W H = 10 16 47.1 DEPTH = 57 km MB = 4.9 /ISC/
427	AUG 13	SPC SRO BRA	EPKIKP EAPKIKP IPP I EPKIKP IPP I LMH IPKIKP IAPKIKP I ISKSDI	8 46 49.0 8 47 22.0 8 48 3.0 8 48 24.0 8 46 53.0 8 48 10.8 8 55 40.7 8 9 0.0 8 46 56.5 8 47 35.5 8 48 35.5 8 53 44.5	1.4 4.5 9.7 2.1 5.4 4.5 13.6 -7.3									115.04 116.78 117.35	66.03 64.94 63.70	Near North Coast of New Guinea 4.50 S 144.10 E H = 8 28 19.4 DEPTH = 109 km MB = 5.9 /ISC/
428	AUG 14	BRA SRO	EPP EPP LMH	2 15 51.0 2 15 49.0 2 59 0.0	-2.2 -9.4			1.0	20.0	0.7	20.0		5.5	108.14 108.78	250.17 250.86	Near Coast of Northern Chile 26.71 S 70.90 W H = 1 57 0.5 DEPTH = 29 km MB = 5.5 /ISC/
429	AUG 14	BRA	EPKHKP	4 38 9.0	5.8									150.91	33.12	South of Fiji 22.26 S 179.56 W H = 4 19 18.8 DEPTH = 572 km MB = 5.1 /ISC/
430	AUG 14	SPC	E	13 3 41.0												No determination of epicentre
431	AUG 14	BRA	E	14 24 15.0												No determination of epicentre
432	AUG 14	SPC BRA	IFG ISL EPH ESG	17 43 29.0 17 43 49.5 17 43 36.0 17 44 15.0	1.1 3.3 -0.1 7.3									1.40 2.05	306.23 26.05	Poland 50.00 N 18.50 E H = 17 43 0.0 /BCIS/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
451	AUG 21	SRO BRA	EP ESKS IP IAP I EPP	14 15 14 26 14 15 14 15 14 16 14 19	41.0 13.0 44.5 52.0 25.0 34.0	-0.6 5.2 -1.1 -4.3 10.0								90.00 90.85	97.84 96.94	Southern Sumatra 5.31 S 102.51 E H = 14 2 44.3 DEPTH = 34 km MB = 5.4 /ISC/	
452	AUG 21	SRO BRA	ESN EPB ESB	17 29 17 28 17 29	9.0 55.0 31.0	-12.5 1.9 0.5								2.75 2.88	204.47 185.69	Yugoslavia 45.30 N 16.70 E H = 17 28 1.0 DEPTH = 0 km /ISC/	
453	AUG 22	SPC SRO BRA	EPKIKP EPKIKP LMH IPKIKP	6 59 6 59 8 11 6 59	17.0 16.0 0.0 16.3	2.3 -0.8 0.7 -0.9		3.0	20.0	2.0	20.0		6.1	158.16 160.04 160.37	48.65 47.64 44.47	Kermadec Islands 32.81 S 179.12 W H = 6 39 23.7 DEPTH = 51 km MB = 5.6 /ISC/	
454	AUG 22	SRO	E	10 4	38.0											No determination of epicentre	
455	AUG 22	SPC BRA	IP IXP IP IAP IPOP I EPP ES ISCS IP ES	18 26 18 26 18 26 18 26 18 26 18 26 18 29 18 35 18 35 18 26 18 35	14.0 23.5 14.7 26.7 29.7 51.6 6.0 51.0 20.5 16.6 57.0	3.5 -1.3 -0.9 0.7 -0.1 0.7 2.0 -1.0 -1.4 3.4							73.99 74.86 75.28	356.80 355.05 355.74	Kodiak Island Region 57.09 N 154.12 W H = 18 14 36.6 DEPTH = 33 km MB = 5.8 /ISC/		
456	AUG 22	BRA	EP E	22 25 22 36	23.0 21.0	-0.3								59.98	231.40	Central Mid Atlantic Ridge 0.58 N 25.48 W H = 22 15 15.0 DEPTH = 15 km MB = 5.0 /ISC/	
457	AUG 23	BRA	E	8 32	18.0											No determination of epicentre	
458	AUG 23	SRO SPC BRA	IS IS LMH ES I IS LMH	14 53 14 54 14 55 14 53 14 53 14 54 14 56	28.4 16.4 0.0 38.0 38.5 38.5 0.0	-16.2 14.8 -19.6 16.0		3.0	4.0	2.0	4.0			2.87 3.53 3.70	136.14 169.66 130.10	Romania 45.71 N 21.15 E H = 14 52 43.2 DEPTH = 65 km /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
459	AUG 23	BRA	EPN EPB	16 26 16 27	55.0 18.3												No determination of epicentre
460	AUG 23	SRO SPC BRA	ES EP EP E	16 57 16 57 16 57 16 58	35.4 14.0 20.0 38.0	-1.9 -18.7 -17.7								2.80 3.37 3.66	131.95 167.36 126.79	Romania 45.90 N 21.30 E H = 16 56 30.0 DEPTH = 51 km /ISC/	
461	AUG 23	SPC SRO BRA	EPKIKP EAPKIKP LMH EPKIKP EAPKIKP	17 14 17 14 18 4 17 14 17 14	13.0 48.0 0.0 18.0 26.0	5.4 15.2 5.9 -7.7		1.0	24.0	0.7	24.0		5.5	120.06 121.86 122.37	59.89 58.77 57.41	New Britain Region 5.38 S 151.48 E H = 16 55 25.6 DEPTH = 76 km MB = 5.6 /ISC/	
462	AUG 23	SRO SPC BRA	EP I ES ES E	18 24 18 25 18 24 18 25 18 25	44.0 24.4 45.0 38.0 53.0 20.0	-9.9 4.4 -7.7								2.74 3.27 3.59	130.44 165.99 125.57	Romania 46.00 N 21.30 E H = 18 23 44.0 DEPTH = 86 km /ISC/	
463	AUG 24	SPC SRO BRA	IP IXP IP IS I IAP E ES	0 2 0 3 0 2 0 12 0 3 0 3 0 12	42.0 55.0 2.0 48.4 56.4 22.0 1.0 31.0 45.0	3.1 0.4 7.4 -0.5 -0.8 -0.6 -14.0								79.78 81.65 81.93	43.50 42.06 41.29	Off East Coast of Honshu 37.22 N 142.18 E H = 23 50 33.0 DEPTH = 37 km MB = 5.6 /ISC/	
464	AUG 24	BRA	E	9 10	13.0												No determination of epicentre
465	AUG 24	SPC BRA	IPKIKP IPKIKP IAPKIKP EPP	20 37 20 37 20 37 20 39	17.0 18.7 34.2 31.0	3.9 1.2 0.4 13.4								124.14 126.43	56.63 54.04	Solomon Islands 7.22 S 155.08 E H = 20 18 20.5 DEPTH = 55 km MB = 5.9 /ISC/	
466	AUG 25	SRO	EP E E LMH	3 58 4 4 4 10 4 40	24.0 5.0 29.0 0.0	-0.2		1.7	20.0	3.0	20.0		5.9	101.46	60.13	Western Caroline Islands 10.57 N 138.51 E H = 3 41 31.0 DEPTH = 11 km MB = 5.5 /ISC/	
467	AUG 25	SPC BRA SRO	EP IP EPCP E EP	12 27 12 27 12 27 12 28 12 27	12.0 19.2 27.0 34.0 19.0	3.2 0.4 -9.8 -0.2								70.79 72.46 72.53	20.80 18.98 19.60	Near East Coast of Kamohatka 56.02 N 163.58 E H = 12 15 50.0 DEPTH = 9 km MB = 5.2 /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
468	AUG 25	SPC SRO BRA	EPOP IP IP IXP	14 51 14 51 14 51 14 52	39.0 44.6 45.7 6.0	-2.0 -0.1 -1.5 4.4	107	1.5				5.9		82.47 84.29 84.78	59.03 57.53 56.70	Ryukyu Islands Region 25.85 N 129.53 E H = 14 39 15.0 DEPTH = 33 km MB = 5.5 /ISC/	
469	AUG 25	SRO BRA	IP LMH IP IXP EPP	15 5 15 31 15 5 15 5 15 6	4.6 0.0 12.7 33.7 19.0	-0.8 -0.2 -0.6 -19.4	104	1.2	1.5	20.0	1.0	20.0	4.8 5.5	35.63 36.52	109.45 108.66	Southern Iran 28.17 N 56.79 E H = 14 58 11.2 DEPTH = 57 km MB = 5.3 /ISC/	
470	AUG 25	BRA	EP	15 27	40.0	-0.3								78.77	34.81	Kurile Islands 43.33 N 146.99 E H = 15 15 40.5 DEPTH = 43 km MB = 4.9 /ISC/	
471	AUG 26	BRA	EPG	6 22	7.0											No determination of epicentre	
472	AUG 26	BRA	EPKP2	18 19	14.0	-3.3								147.19	28.39	Fiji Region 17.89 S 178.59 W H = 18 0 36.1 DEPTH = 614 km MB = 4.5 /ISC/	
473	AUG 26	SPC SRO BRA	EPKIKP IAPKIKP EPKIKP IPKIKP IPKIP2	21 47 21 47 21 47 21 47 21 48	26.5 37.0 27.0 26.5 0.0	5.1 -0.3 3.1 2.4 -1.8								156.48 158.36 158.57	40.93 39.26 36.19	Kermadec Islands 29.78 S 177.26 W H = 21 27 32.9 DEPTH = 53 km MB = 5.3 /ISC/	
474	AUG 26	SPC BRA	EP EP	21 59 21 59	12.0 18.0	1.6 -0.0								78.64 80.05	12.38 10.38	Andeanof Islands 51.17 N 179.26 W H = 21 47 10.0 DEPTH = 32 km MB = 5.2 /ISC/	
475	AUG 27	BRA	E	9 59	41.0											No determination of epicentre	
476	AUG 27	BRA	EPG	11 27	2.0											No determination of epicentre	
477	AUG 27	SRO BRA	EPKHKP EAPKIKP ESKPDF LMH EAPKIKP	14 7 14 8 14 11 14 15 14 8	44.0 5.0 29.0 0.0 10.0	-5.7 1.8 -3.9 6.1			0.4	20.0	0.5	20.0	5.3	139.64 140.00	48.38 46.52	New Hebrides 15.94 S 168.10 E H = 13 48 31.6 DEPTH = 11 km MB = 5.7 /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
478	AUG 28	HRB SRO	EPOP ESCS IPCP I	10 3 10 14 10 3 10 7	43.8 43.0 44.2 4.2	1.3 6.2 1.3								92.17 92.27	300.29 300.38	Veracruz State Mexico 18.25 N 96.58 W H = 9 50 39.1 DEPTH = 75 km MB = 6.6 /ISC/	
479	AUG 28	SPC BRA	ISKS LMH IPCP EPP	10 14 10 51 10 3 10 7	12.2 0.0 47.0 22.0	5.4 2.4 -6.8			36.0	16.0	42.0	16.0	7.1	92.66	301.90	North of Ascension Island 0.15 S 17.97 W H = 15 2 4.3 DEPTH = 77 km MB = 5.8 /ISC/	
480	AUG 30	SPC SRO BRA	IP IAP IPCP IPCP LMH EP	15 11 15 12 15 12 15 14 15 39 15 11 15 19 15 48 15 12	43.2 1.2 43.2 1.8 0.0 48.1 52.1 0.0 1.0	-0.5 -2.2 5.2 9.2 2.3 6.1 2.1						7.4	6.9	56.91 57.22 59.10	223.30 224.74 226.13	Turkey 37.96 N 42.75 E H = 7 36 25.2 DEPTH = 45 km MB = 4.7 /ISC/	
481	AUG 30	BRA BRA	EP IP IPCP LMH EP	7 40 7 41 7 45 7 50 7 41	58.0 3.7 7.7 0.0 7.0	4.4 3.3 -4.3 -2.5			29.0	10.0	40.0	10.0	5.0	19.72 20.36 21.24	116.25 109.96 109.23	No determination of epicentre	
482	AUG 30	SPC SRO BRA	EPKIKP EPKIKP EPKIKP	9 14 9 14 9 14	31.0 28.0 31.0	2.9 -1.9 0.6								160.72 162.53 163.03	59.66 58.85 56.60	Off East Coast of North Island 37.27 S 179.32 E H = 8 54 33.5 DEPTH = 45 km MB = 5.9 /ISC/	
483	AUG 30	BRA	I	9 22	34.0											No determination of epicentre	
484	AUG 30	BRA	IPG	10 9	36.8											No determination of epicentre	
485	AUG 30	BRA	EPN	10 52	6.0											No determination of epicentre	
486	AUG 30	BRA	EPN	11 9	34.0											No determination of epicentre	
487	AUG 30	BRA	E	13 26	10.0											No determination of epicentre	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T					
488	AUG 30	BR4	IP IPCP IAP IXP IIP IS	18 37 18 38 18 38 18 39 18 41 18 43	56.7 0.8 0.8 0.8 10.2 7.8	-0.2 0.4 -1.5 0.5 -0.4 0.6								84.53	274.80	Northern Colombia 7.24 N 72.85 W H = 18 25 42.4 DEPTH = 179 km MB = 5.7 /ISC/	
489	AUG 30	SR0	IXS EKP2 ISKS IXS EPCP EAP	18 49 18 49 18 49 18 49 18 49 18 49	24.8 5.0 9.8 27.8 10.0 52.0	1.6 -1.0 2.4 -0.1 -0.7 0.9								85.47 86.60	275.71 277.05	Bay of Bengal 7.15 N 84.33 E H = 19 50 3.9 DEPTH = 43 km MB = 5.8 /ISC/	
490	AUG 30	BR4	IP	20 29	16.3												No determination of epicentre
491	AUG 30	BR4	EAP	21 25	37.3	1.6								85.56	44.29	South of Honshu 32.54 N 141.60 E H = 21 13 48.4 DEPTH = 39 km MB = 4.8 /ISC/	
492	AUG 30	SR0 BR4	EKP2 EKP2	23 27 23 27	22.0 25.4	-3.5 0.5								148.10 150.09	35.01 30.66	Fiji Islands Region 21.03 S 178.69 W H = 23 8 39.6 DEPTH = 603 km MB = 5.0 /ISC/	
493	AUG 31	SR0 BR4	IAP IAP	2 42 2 42	15.5 15.8	-1.5 -5.0								59.63 70.39	353.62 352.06	Southern Alaska 61.08 N 147.37 W H = 2 30 57.5 DEPTH = 43 km MB = 5.0 /ISC/	
494	AUG 31	BR4	IP	5 1	49.7	-1.4								20.24	93.44	Eastern Caucasus 43.28 N 45.32 E H = 4 57 16.1 DEPTH = 33 km MB = 4.7 /ISC/	
495	AUG 31	BR4	IPG	8 55	45.9												No determination of epicentre

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T					
496	AUG 31	BR4	E	9 11	11.0												No determination of epicentre
497	AUG 31	BR4	IPG	13 9	5.6												No determination of epicentre
498	AUG 31	BR4	EKP2	23 49	31.0	-1.6								147.23	16.82	149.97	Samoa Island Region 16.23 S 172.28 W H = 23 29 47.9 DEPTH = 27 km MB = 5.0 /ISC/
499	SEP 3	BR4	EKP2 IPKHP EAPK2	3 42 3 42 3 45	23.0 26.5 11.0	0.3 3.8 15.1								149.97	30.81	149.97	Fiji Region 20.95 S 178.81 W H = 3 23 46.6 DEPTH = 634 km MB = 5.3 /ISC/
500	SEP 4	SR0	EAP EXS LMH	17 38 17 49 18 26	26.0 32.0 0.0	1.1 -4.0								93.48	296.92	296.92	Near Coast of Oaxaca Mexico 15.15 N 94.52 W H = 17 24 59.8 DEPTH = 42 km MB = 5.3 /ISC/
501	SEP 5	SR0	EP EPP IP IPS LMH	13 15 13 18 13 15 13 26 13 54	14.0 13.0 25.5 31.5 0.0	1.9 1.9 3.2 18.5								78.27 80.15	41.51 40.08	41.51	Off East Coast of Honshu 39.57 N 143.16 E H = 13 3 14.1 DEPTH = 35 km MB = 5.4 /ISC/
502	SEP 6	SR0	E	9 16	12.0												No determination of epicentre
503	SEP 6	SR0	EXP EXP EXP	11 10 11 11 11 20	57.0 6.0 24.0	3.9 5.6 9.1								69.63 70.84	353.34 352.42	353.34	Southern Alaska 61.04 N 146.85 W H = 10 59 35.2 DEPTH = 17 km MB = 5.5 /ISC/
504	SEP 7	SR0	E	12 27	24.0												No determination of epicentre
505	SEP 7	SR0	E IS I	19 39 19 39 19 40 19 41	15.0 23.7 37.7 23.7	8.8								5.50 6.06	125.56 106.25	125.56	Romania 45.81 N 26.64 E H = 19 37 51.8 DEPTH = 127 km MB = 4.6 /ISC/
506	SEP 8	SR0	IXP IP ESP I LMH	7 34 7 34 7 42 7 46 7 59	48.5 55.6 27.3 47.6 0.0	-0.3 0.2 -1.1								50.89 52.38	82.07 79.71	82.07	Tibet 33.29 N 86.82 E H = 7 25 41.0 DEPTH = 11 km MB = 5.5 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
507	SEP 9	SRO SPC	EP ESP LMH EP	8 42 8 51 9 9 8 42	32.0 0.0 0.0 44.0	2.5 0.1 2.0		1.5 16.0		1.8 16.0		5.4	61.10 62.97	215.84 217.39		Ascension Inland Region 7.02 S 12.78 W H = 8 32 16.0 MB = 5.1 /ISC/ DEPTH = 31 km	
508	SEP 9	SRO	IP IPP IS LMI	18 38 18 41 18 48 19 27	1.3 1.3 7.0 0.0	0.0 -3.4 3.6	1500	2.0				6.6	80.22	40.05		Off East Coast of Honshu 39.53 N 143.24 E H = 18 25 49.6 MB = 5.6 /ISC/ DEPTH = 19 km	
509	SEP 10	SRO	EP	3 5 3 15	17.0 32.0	2.0							18.09	113.21		Turkey 38.48 N 39.64 E H = 3 2 5.0 DEPTH = 39 km MB = 4.7 /ISC/	
510	SEP 10	SPC	IP IAP IPP IS IP IAP IPP IS EKS ISC	7 53 7 55 7 56 8 2 7 54 7 55 7 56 8 2 8 6 8 7	51.7 51.0 29.5 24.0 3.0 59.0 55.0 43.0 15.0 22.0	-0.7 3.7 -9.8 2.5 -0.3 -0.1 0.7 9.5 -14.9	4000	2.0				6.5	70.40 72.28	47.23 45.75		E. Russia N.E. China Border Region 42.48 N 131.05 E H = 7 43 32.3 DEPTH = 552 km MB = 5.8 /ISC/	
511	SEP 11	BRA		15 45 15 46	15.0 35.0											No determination of epicentre	
512	SEP 11	SRO	IP IPP ISKS IPG EPSP	23 30 23 34 23 40 23 42 23 31	55.0 3.0 55.0 3.0 3.0	1.1 -1.0 -0.0 2.5 0.9						7.3	61.51 62.05	61.17 60.38		North East of Taiwan 25.65 N 124.58 E H = 23 19 50.4 DEPTH = 137 km MB = 5.7 /ISC/	
513	SEP 12	BRA	EP LMH IP I LMI	7 6 8 2 7 5 7 11 8 23	11.0 0.0 11.8 54.0 0.0	1.5 2.1	9500	2.0	30.0	8.0	46.0	2.0				Novaya Zemlya 73.32 N 54.97 E H = 6 59 54.6 DEPTH = 0 km MB = 6.8 /ISC/	
514	SEP 14	BRA		0 54	10.0	0.5										No determination of epicentre	
515	SEP 15	BRA	EP	1 5	31.0	0.5							32.86	96.21		Southern Sumatra 4.07 S 102.39 E H = 0 53 42.5 DEPTH = 106 km MB = 4.9 /ISC/	

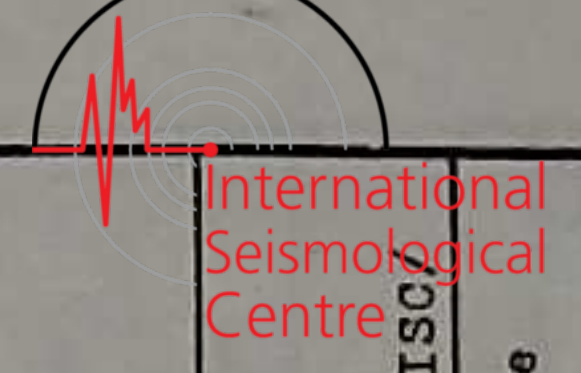
516	SEP 15	BRA SPC SRO	EP E LMH EP EP ES LMH	1 51 1 54 2 5 1 51 1 51 1 53 2 5	35.0 9.0 0.0 43.5 31.0 15.0 0.0	1.0 3.3 -17.3 -4.5		16.0	16.0	40.0	16.0		6.1	26.44 27.01 27.23	320.91 318.90 321.01		Iceland Region 63.86 N 22.23 W H = 1 45 57.9 DEPTH = 1 km MB = 5.3 /ISC/
517	SEP 15	BRA	E	12 56	40.0											No determination of epicentre	
518	SEP 15	BRA	EPK2 EPK2	17 19 17 19	16.0 25.0	0.2 5.2							145.11	20.47		Tonga 15.53 S 174.57 W H = 16 59 32.0 DEPTH = 5 km MB = 4.5 /ISC/	
519	SEP 16	BRA	EP	5 5	46.0	-0.5							99.92	277.28		Near West Coast of Columbia 5.26 N 77.99 W H = 4 52 50.7 DEPTH = 29 km MB = 5.5 /ISC/	
520	SEP 16	BRA SPC SRO	EP E LMH EP LMV EP ES LMH	21 32 21 33 21 38 21 46 21 32 21 43 21 32 21 37 21 43	36.0 15.0 48.0 0.0 37.0 0.0 43.0 15.0 0.0	1.5 -2.7 -2.6 1.3 -5.2		8.0	16.0	15.0	16.0		5.7	26.51 27.07 27.29	320.92 318.81 321.01		Iceland Region 63.86 N 22.35 W H = 21 26 53.9 DEPTH = 2 km MB = 5.2 /ISC/
521	SEP 17	BRA	EP	4 11	45.0	-1.8							27.49	102.24		Iran 36.59 N 51.19 E H = 4 6 3.2 DEPTH = 40 km MB = 4.7 /ISC/	
522	SEP 17	SFC BRA	EPK2 IPK2 IPK2 IAPKHP EPP IPK2	7 41 7 41 7 41 7 41 7 44 7 41	15.0 18.0 22.5 33.0 49.0 21.0	1.7 -3.3 1.2 -8.8 0.9 -0.4							145.99 147.77	25.41 20.74		Tonga 17.21 S 174.30 W H = 7 21 27.9 DEPTH = 110 km MB = 5.4 /ISC/	
523	SEP 17	BRA	E	12 46 12 46	20.0 52.0											No determination of epicentre	
524	SEP 17	BRA	E	13 59	47.0											No determination of epicentre	

No.	Date	STA Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
525	SEP 17	SRO BRA	E E E	14 53 14 54 14 53	26.0 22.0 56.0												No determination of epicentre
526	SEP 17	SRO	E	15 44	34.0												No determination of epicentre
527	SEP 17	SPC BRA	EAPKIP EAPKP2 EAPKP2	15 51 15 51 15 52	30.0 56.0 2.0	-1.5 -0.7 5.3							151.68 153.57	30.59 25.62			Tonga Region 23.50 S 175.00 W H = 15 31 36.2 DEPTH = 33 km /ISC/
528	SEP 17	BRA	EXP	23 13	17.0	3.9							82.97	336.40			Off Coast of Oregon 44.60 N 129.10 W H = 23 0 41.0 DEPTH = 14 km MB = 4.2 /ISC/
529	SEP 17	BRA	EXP	23 46	5.0	1.4							82.97	336.40			Off Coast of Oregon 44.60 N 129.10 W H = 23 33 31.5 DEPTH = 14 km MB = 4.2 /ISC/
530	SEP 18	SPC BRA	EXP EXP	8 51 8 51	25.0 28.0	4.3 0.0							14.36 14.92	145.40 134.43			Turkey 36.85 N 30.36 E H = 8 47 45.2 DEPTH = 35 km MB = 4.5 /ISC/
531	SEP 18	BRA	EPKIKP EPKP2	13 52 13 53	47.0 26.0	-0.2 -3.6							160.10	239.82			South Pacific Cordillera 54.58 S 132.53 W H = 13 32 51.7 DEPTH = 33 km MB = 5.3 /ISC/
532	SEP 19	BRA	IPG	11 4	10.7												No determination of epicentre
533	SEP 19	BRA SPC	I I I	11 50 11 49 11 49	22.5 0.0 12.5												No determination of epicentre
534	SEP 20	BRA	E	9 14	32.0												No determination of epicentre
535	SEP 20	BRA	E	13 15	15.0												No determination of epicentre

536	SEP 20	SRO BRA	EPKP2 EPKP2 E	14 17 14 17 14 18 14 19	22.0 24.0 1.0 24.0	-0.1 1.5							144.53 144.64	31.61 29.48			Fiji 15.68 S 179.91 E H = 13 57 49.0 DEPTH = 36 km MB = 5.2 /ISC/
537	SEP 20	BRA	E E	17 25 17 25	7.0 16.0												No determination of epicentre
538	SEP 20	SPC SRO BRA	EP IFCP ISKS ISCS IP IPP IPP ISKS	20 55 20 56 21 1 21 5 21 6 20 56 20 59 20 59 21 0 21 5	45.5 0.0 36.0 42.0 20.0 0.0 17.0 56.0 17.0 44.0	-4.2 2.5 2.8 2.6 -0.2 -3.2 17.8 1.3							91.88 93.51 94.18	73.69 72.29 71.36			Neegros 9.23 N 123.92 E H = 20 43 38.5 DEPTH = 542 km MB = 5.9 /ISC/
539	SEP 21	BRA SPC	IPN ISG EPG	1 39 1 40 1 40	12.0 29.0 13.0	-3.3 6.7 12.9							3.93 5.40	179.84 204.62			Yugoslavia 44.24 N 17.12 E H = 1 38 12.4 DEPTH = 33 km /ISC/
540	SEP 21	SRO	EAPKIP EPS E	7 32 7 42 7 48	18.0 54.0 2.0	-1.2 18.8							113.36	290.50			Northern Easter I. Cordillera 4.40 S 102.10 W H = 7 13 34.0 DEPTH = 33 km MB = 6.0 /ISC/
541	SEP 21	BRA	EPP IPP E	7 48 7 50 7 50 7 52	46.0 13.0 25.0 25.0	-13.4 -1.4							112.42	289.60			Northern Easter I. Cordillera 4.37 S 102.04 W H = 7 31 3.1 DEPTH = 33 km MB = 6.0 /ISC/
542	SEP 21	BRA	EPKP2 E	9 38 9 39	14.0 14.0	4.6							145.71	18.55			Samoa Region 14.94 S 173.58 W H = 9 18 26.3 DEPTH = 0 km MB = 4.6 /ISC/
543	SEP 21	BRA	IP IAP E	10 47 10 47 10 48	23.0 33.5 32.0	-10.3 -6.8							74.71	354.98			Kodink Island Region 57.23 N 153.96 W H = 10 35 53.5 DEPTH = 22 km MB = 5.0 /ISC/
544	SEP 21	SPC SRO	IPKHKP IPKHKP IPKP2 ISKPDF IPKIKP IPKP2	19 47 19 47 19 47 19 49 19 47 19 47	7.8 16.0 37.0 36.0 6.0 34.0	0.1 7.3 12.0 -2.0 -C.8 1.0							151.39 153.27	44.47 43.08			South of Fiji 26.15 S 178.33 E H = 19 28 28.7 DEPTH = 543 km MB = 5.5 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T					
545	SEP 22	BRA	E E E	0 0 0	6 8 15	14.0 50.0 37.0									153.55	40.50	No determination of epicentre
546	SEP 22	BRA	EP IAP IAP IPOP	3 3 3 3	6 6 7 9	29.0 35.0 53.4 23.4								52.07	268.84	270.01	North Atlantic Ridge 26.64 N 44.66 W H = 2 57 20.1 /ISC/ DEPTH = 28 km MB = 5.1
547	SEP 22	SRO	EAP ISP LMH	3 3 3	6 14 23	32.4 39.9 6.9 0.0		2.0	20.0		1.0	20.0	5.2				No determination of epicentre
548	SEP 22	BRA	E E	9 9	9 9	45.0 58.0											No determination of epicentre
549	SEP 22	BRA	EAPKIKP EAPKIKP	17 17	55 55	33.0 48.0								145.92	18.62		Tonga 15.16 S 173.57 W H = 17 35 47.5 DEPTH = 10 km MB = 5.0 /ISC/
550	SEP 23	BRA	IP	19	39	57.0								80.24	6.78		Andreas of Islands 51.55 N 173.63 W H = 19 27 47.7 DEPTH = 33 km MB = 5.3 /ISC/
551	SEP 24	BRA	EPCP	12	39	10.0								94.19	69.58		Leyte 10.36 N 125.31 E H = 12 25 51.8 DEPTH = 39 km MB = 5.6 /ISC/
552	SEP 25	BRA	EP	9	15	59.0								38.26	1.46		North of Svalbard 86.15 N 30.60 E H = 9 8 39.3 DEPTH = 33 km MB = 5.0 /ISC/
553	SEP 25	BRA	E	0	24	38.0											No determination of epicentre

554	SEP 25	BRA	E	10	20	26.0											No determination of epicentre
555	SEP 25	BRA	EP EPP	13 13	7 9	55.0 20.0	15.3 0.2							40.65	86.31		Hindu Kush Region 36.46 N 70.85 E H = 13 0 17.4 DEPTH = 197 km MB = 4.8 /ISC/
556	SEP 25	SRO	IAPKIKP IAPKIP I LMH	16 16 16 16	37 37 40 52	14.7 37.0 1.0 0.0	0.5 14.1							147.40	122.42		West of Macquarie Island 54.97 S 146.25 E H = 16 17 27.9 DEPTH = 33 km MB = 5.8 /ISC/
557	SEP 26	BRA	EAPKIP EAPKIP	16 16	47 47	42.0 35.0	-0.8 1.1							147.07 148.29	121.68 122.44		West of Macquarie Island 55.34 S 146.17 E H = 16 27 48.0 DEPTH = 42 km MB = 5.2 /ISC/
558	SEP 27	BRA	IPG	1	5	34.0											No determination of epicentre
559	SEP 27	SRO	EP I I	7 7 7	6 15 5	16.0 12.0 58.6	19.4							28.41	23.57		Novaya Zemlya n. expl. 70.80 N 53.42 E H = 6 59 58.4 DEPTH = 0 km MB = 5.9 /ISC/
560	SEP 27	BRA	IP I IPP IPP E	7 7 7 7 7	6 6 15 15 41	22.6 40.6 55.6 41.0	1.9 -7.2 7.8							28.42	24.31		No determination of epicentre
561	SEP 27	BRA	E	10	20	47.0											No determination of epicentre
562	SEP 27	BRA	E	11	45	38.0											No determination of epicentre
563	SEP 27	SRO	EP IP EAP EXP E E	12 12 12 12 12 12	34 34 34 35 34 49	46.0 41.0 51.0 52.0 34.0 0.0	3.0 -4.1 -3.7 4.2 -16.6							26.81 27.04	338.44 340.63		Jan Mayen Island Region 71.70 N 11.40 W H = 12 29 4.0 DEPTH = 34 km MB = 5.1 /ISC/
564	SEP 27	SRO	EP E E	12 12 12	34 34 49	34.0 34.0 0.0	-16.6	1.9	12.0	2.0	12.0	5.1		27.65	340.28		No determination of epicentre



No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
562	SEP 27	BRA	E	19	23	16.0											No determination of epicentre
563	SEP 28	BRA	IPG	10	0	3.9											No determination of epicentre
564	SEP 28	SFC SRO BRA	EP EP IP EPP	11 40 11 40 11 40 11 42	35.0 29.0 33.5 26.0	8.0 1.9 -0.4 6.0								43.77 43.78 44.63	134.43 131.02 129.86	Eastern Gulf of Aden 13.22 N 50.73 E H = 11 32 26.0 DEPTH = 63 km MB = 5.3 /ISC/	
565	SEP 29	SFC SRO :R3 BRA	EP IP IS EP ES IP IAP IS	0 54 0 54 1 3 0 54 1 3 0 54 0 55 1 3	25.0 33.0 17.0 35.0 11.0 29.3 29.3 11.3	3.5 0.7 4.6 2.6 -1.6 -4.9 -3.3 -4.8						6.1		70.79 72.67 72.69 73.01	47.64 46.16 46.10 45.52	North Korea 41.93 N 130.99 E H = 0 44 0.3 DEPTH = 567 km MB = 6.3 /ISC/	
566	SEP 29	BRA	EPKP2	3	24	23.0	1.8						150.79	131.96		West of Macquarie Island 60.26 S 150.40 E H = 3 4 23.0 DEPTH = 33 km /ISC/	
567	SEP 29	BRA	E	10	51	45.0											No determination of epicentre
568	SEP 29	BRA	E	11	50	47.0											No determination of epicentre
569	SEP 29	BRA	ESB ESG	12 19 12 19	42.0 48.0	2.8 2.3							3.14	321.67		Czechoslovakia expl. of 34.1 T 50.59 N 14.05 E H = 12 18 2.0 /FRU/	
570	SEP 29	BRA	EPG EPN ISG ISN ISN ISG	21 8 21 8 21 8 21 8 21 8 21 9	24.0 30.0 36.0 42.0 50.0 5.0	-1.1 3.3 -1.0 1.2 9.2 4.4							0.92	242.56		Austria 47.74 N 15.90 E H = 21 8 6.8 DEPTH = 8 km /ISC/	
571	SEP 30	BRA	IP I I	5 5 5 5 5 6	18.4 25.9 17.4	1.7							24.18	67.57		Western Russia 51.66 N 54.54 E H = 4 59 57.8 DEPTH = 0 km MB = 5.2 /ISC/	

572	SEP 30	SRO BRA	IP IPP ISKS LMH IP IPCP IPCP IPP	6 30 6 33 6 40 7 4 6 29 6 30 6 30 6 33	9.5 20.0 25.0 0.0 58.5 5.5 11.5 28.0	0.8 0.3 4.9 -11.8 -10.2 -4.2 5.9	2.0	4.0	20.0	5.0	20.0	6.8	82.22	43.98		Near East Coast of Honshu 35.67 N 140.64 E H = 6 17 52.2 DEPTH = 56 km MB = 5.9 /ISC/	
573	SEP 30	BRA	EP EPCP	20 38 20 38	5.0 20.0	5.9 7.1							75.20	269.30		Near Coast of Venezuela 10.55 N 62.36 W H = 20 26 13.0 DEPTH = 0 km MB = 4.8 /ISC/	
574	OCT 1	SFC SRO BRA	EP IP IPP ISCS I LMH IP IAP I EPP ES	14 28 14 28 14 31 14 39 14 45 15 2 14 28 14 28 14 29 14 31 14 38	32.0 39.7 51.7 7.2 3.7 0.0 41.3 57.8 33.8 58.0 50.0	2.4 0.3 1.5 4.6 0.3 1.2 5.4 -1.7	2.0	3.0	16.0	4.2	16.0	6.4	80.29 82.18	45.34 43.89		Near East Coast of Honshu 35.76 N 140.70 E H = 14 16 23.0 DEPTH = 55 km MB = 5.6 /ISC/	
575	OCT 2	BRA	EPKIKP	0	2	41.0	2.0						121.64	56.87		New Britain Region 4.52 S 151.45 E H = 23 44 12.0 DEPTH = 224 km MB = 5.6 /ISC/	
576	OCT 2	SRO	IPG	11	7	0.0											No determination of epicentre
577	OCT 2	BRA	EPN E	12 16 12 16	22.0 32.0												No determination of epicentre
578	OCT 2	BRA	EPP	12	41	21.0	-1.4						101.93	89.69		Bali Region 8.68 S 115.38 E H = 12 23 23.4 DEPTH = 92 km MB = 5.6 /ISC/	
579	OCT 3	BRA	EPKIKP	8	58	22.0	-0.5						151.92	27.38		South of Fiji Islands 22.20 S 176.40 W H = 8 38 33.7 DEPTH = 9 km MB = 4.8 /ISC/	
580	OCT 3	SRO BRA	IP IP	10 47 10 47	50.0 52.0	-1.0 0.4							78.53 78.63	31.45 30.73		Kurdle Islands 45.46 N 151.72 E H = 0 35 51.9 DEPTH = 38 km MB = 5.2 /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
581	OCT 3	SPC	EPKIKP EAPKIP EPKIKP IFKIKP IFKP2	11 28 11 29 11 28 11 28 11 29	22.0 34.0 11.3 21.0 3.0	2.8 -3.2 -10.1 -0.7 -2.2								158.16 160.04 160.38	48.79 47.80 44.63	South of Kermadec Islands. 32.84 S 179.17 W H = 11 8 29.5 DEPTH = 61 km MB = 5.4 /ISC/	
582	OCT 4	BRA	IPG	11 2	26.0												No determination of epicentre
583	OCT 4	BRA	EP	13 50	45.0	1.1								78.51	30.63	Kurile Islands 45.63 N 151.75 E H = 13 38 44.9 DEPTH = 37 km MB = 4.8 /ISC/	
584	OCT 5	BRA	E I LMH E IAPKIP I	6 3 6 4 6 53 6 3 6 6 6 14	42.0 54.0 0.0 39.0 51.0 51.2			29.0	15.0	45.0	15.0		7.3	112.55 113.15	246.16 246.78	Near Coast of Central Chile 32.50 S 71.50 W H = 5 47 51.1 DEPTH = 33 km MB = 5.8 /NEIS/	
585	OCT 5	BRA	ESB	10 20	46.0	-0.3								3.58	220.57	Northern Italy 45.40 N 13.80 E H = 10 26 56.0 DEPTH = 18 km /ISC/	
586	OCT 5	BRA	EP ISG E	11 31 11 32 11 33	46.0 42.7 51.7	-1.1 0.1								3.33	217.14	Yugoslavia 45.48 N 14.25 E H = 11 30 52.7 DEPTH = 22 km /ISC/	
587	OCT 5	BRA	E	12 6	38.0												No determination of epicentre
588	OCT 5	BRA	E	14 4	30.0												No determination of epicentre
589	OCT 5	BRA	EYKP2	19 49	53.0	-0.5								148.13	18.32	Tonga Region 17.29 S 172.90 W H = 19 30 6.2 DEPTH = 33 km MB = 4.7 /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
590	OCT 6	SRO	I EPKIKP EPP LMH E IPP I LMH	15 22 15 26 15 27 16 11 15 22 15 27 15 30 16 16	25.0 12.0 3.0 0.0 39.0 21.3 0.0	-0.6 -5.0 0.9		24.0	16.0	11.0	16.0		6.9	113.28	199.39	South-Western Atlantic Ocean 61.05 S 21.70 W H = 15 7 38.5 DEPTH = 33 km MB = 6.2 /ISC/	
591	OCT 7	BRA	IFKP2	7 55	28.5	0.8								146.75	17.42	Samoa Region 15.83 S 172.71 W H = 7 36 45.9 DEPTH = 33 km MB = 4.9 /ISC/	
592	OCT 7	BRA	EP	9 39	9.0	1.1								79.38	35.50	Off Coast of Hokkaido 42.46 N 145.53 E H = 9 27 0.0 DEPTH = 9 km MB = 5.1 /ISC/	
593	OCT 8	BRA	EPKIKP EAPK2	4 4 4 7	52.0 4.0	4.4								147.21	27.79	Fiji Region 17.90 S 178.26 W H = 3 46 8.8 DEPTH = 542 km MB = 5.3 /ISC/	
594	OCT 8	BRA	E	6 4	46.0												No determination of epicentre
595	OCT 9	SRO	EPKIP IPKAB LMH EAPKIP EAPKIP	8 17 8 20 9 9 8 17 8 17	0.0 43.1 0.0 11.0 23.0	3.0 2.8 4.5 16.5		5.8	20.0	7.0	20.0		6.5	137.76 138.12	48.42 46.62	New Hebrides 14.34 S 167.06 E H = 7 57 35.0 DEPTH = 27 km MB = 5.9 /ISC/	
596	OCT 9	BRA SRO	EP EAP	19 16 19 16	10.0 22.0	2.3 -0.9								59.94 60.53	244.98 246.25	Central Mid-Atlantic Ridge 7.35 N 35.14 W H = 19 6 3.0 DEPTH = 38 km MB = 4.8 /ISC/	
597	OCT 10	BRA	EPG	11 5	8.0												No determination of epicentre
598	OCT 11	BRA	EP IAP IXP E +IAP IXP IPP I IPS LMH	2 18 2 18 2 18 2 19 2 18 2 18 2 22 2 26 2 45	1.0 11.8 19.9 18.0 13.8 27.8 37.8 55.8 0.0	2.5 2.0 5.6 0.9 10.4 16.9 9.9		4.0	16.0	8.0	16.0			61.84 62.31	235.24 236.53	Central Mid-Atlantic Ridge 0.81 N 29.31 W H = 2 7 40.9 DEPTH = 38 km MB = 5.3 /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
599	OCT 11	BRA	EPG	11	8	15.0											No determination of epicentre
600	OCT 12	SPC SRO BRA	EP EP EP	3 3 3	1 1 1	35.0 44.0 51.0	3.1 0.7 1.3							38.52 39.89 40.67	87.45 84.44 84.05		Afghanistan-USSR Border Region H = 2 54 11.2 DEPTH = 35 km MB = 5.1 /ISC/
601	OCT 13	BRA	EP EAP	21 21	20 21	57.0 4.0	-1.4 -4.5						60.47	240.85			Central Mid-Atlantic Ridge H = 4.76 N 32.58 W H = 21 10 49.5 DEPTH = 33 km /ISC/
602	OCT 14	SRO BRA	EP E EXP	18 18 18	10 15 10	32.0 0.0 55.0	2.9 0.0						14.42 15.12	152.59 149.65			Crete H = 34.68 N 26.31 E H = 18 7 6.4 DEPTH = 51 km MB = 4.7 /ISC/
603	OCT 14	BRA SRO	EP EXP EAP EPP LMH	22 22 22 22 22	15 15 15 17 30	34.0 42.0 40.0 12.0 0.0	0.6 -1.0 -2.3 -3.9				2.0	5.2	41.63 41.88	7.48 7.42			Severnaya Zemlya H = 85.03 N 99.80 E H = 22 7 45.3 DEPTH = 23 km MB = 5.2 /ISC/
604	OCT 17	SRO	+IP IAP IXP I ISS	3 3 3 3 3	23 24 24 26 32	34.9 23.0 42.9 9.1 34.9	1.0 4.3 0.4 11.1	3000				6.3	40.08	86.65			Afghanistan-USSR Border Region H = 36.38 N 71.11 E H = 3 16 17.6 DEPTH = 211 km MB = 5.4 /ISC/
605	OCT 18	SRO	+IP IAP IPP ISKS LMH EPOP	11 11 11 11 11 11	3 3 6 13 50 3	0.7 13.0 51.0 39.0 0.0 5.0	-0.9 -4.9 -6.0 7.2 2.3	1600			2.0	7.2	96.03	307.51			Near Coast of Jalisco, Mexico H = 19.42 N 104.98 W H = 10 49 39.3 DEPTH = 56 km MB = 6.0 /ISC/
606	OCT 23	BRA	EP	10 10 10 10	52 52 53 55	38.0 45.0 22.5 36.0	-13.8						6.87	107.41			Romania H = 45.72 N 26.48 E H = 10 50 58.9 DEPTH = 171 km MB = 4.9 /ISC/
607	OCT 23	BRA	E	12 12	24 25	11.0 11.0											No determination of epicentre
608	OCT 23	BRA	E	12 12	38 38	10.0 12.0											No determination of epicentre

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
609	OCT 23	BRA	E	12 12	42 42	0.0 14.0											No determination of epicentre
610	OCT 23	BRA	E	16 16	3 3	37.0 42.0											No determination of epicentre
611	OCT 24	BRA	EP E EPP	5 5 5	32 33 34	12.0 3.0 8.0	-0.6 7.4						45.96	86.68			Eastern Kashmir H = 33.15 N 75.92 E H = 5 23 51.3 DEPTH = 37 km MB = 5.3 /ISC/
612	OCT 25	SRO BRA	IP IPP IS LMH EP EPP	6 6 7 7 6 6	53 57 4 39 53 57	55.2 27.0 24.0 0.0 57.0 30.0	1.0 4.5 -6.1 -0.4 2.3				5.9		87.66 88.32	72.02 71.14			Mindoro H = 13.86 N 120.22 E H = 6 41 10.3 DEPTH = 53 km MB = 5.7 /ISC/
613	OCT 25	BRA SRO	EP EAP EPP E IP E ISKS LMH	14 14 14 14 14 14 14	21 23 25 27 21 22 40	50.0 47.0 49.0 49.0 51.2 40.0 39.2 0.0	0.5 1.5 -17.2 -1.1 -1.6				2.0		100.16 100.79	248.57 249.35			Southern Bolivia H = 21.96 S 63.65 W H = 14 8 58.5 DEPTH = 517 km MB = 6.1 /ISC/
614	OCT 27	SPC SRO BRA	EPP IP LMH IP	7 7 7 7	6 6 18 5	9.0 0.0 0.0 57.8	-16.4 3.0 0.7	5260 840			7.0 6.5		26.77 28.55 28.56	24.04 23.77 24.50			Novaya Zemlya n. expl. H = 70.80 N 53.92 E H = 6 59 57.6 DEPTH = 0 km MB = 6.9 /ISC/
615	OCT 27	BRA	E	7	38	12.0											No determination of epicentre
616	OCT 27	BRA	EPP LMH IP	8 8 8	13 13 13	12.0	0.7						142.16	46.93			New Hebrides H = 17.94 S 169.02 E H = 7 53 38.0 DEPTH = 6 km MB = 5.3 /ISC/
617	OCT 27	BRA	E	11 11	1 1	8.0 25.0											No determination of epicentre
618	OCT 27	BRA	EP	15	50	5.0	-7.4						45.13	126.00			Arabian Sea H = 14.29 N 53.36 E H = 15 41 55.0 DEPTH = 17 km MB = 4.5 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T	A	T						
619	OCT 28	BRA HRB SRO	IPB ISB EPN ISG IPN IPN	3 56 3 56 3 56 3 56 3 56 3 56	20.0 22.0 35.0 44.0 36.6 41.0	0.9 0.6 1.0 0.4 1.2 5.6											0.09 0.87 0.97	318.48 295.24 296.50	Czechoslovakia 48.24 N 17.01 E H = 3 56 14.7 DEPTH = 2 km /ISC/	
620	OCT 28	BRA SPC	EP EP	11 37 11 37	21.0 26.0	1.1 3.8											26.48 26.73	328.84 326.59	Iceland Region 67.12 N 19.05 W H = 11 31 43.9 DEPTH = 33 km MB = 5.2 /ISC/	
621	OCT 29	BRA	IPG	11 4	42.0														No determination of epicentre	
622	OCT 29	BRA	EP ES	21 13 21 14	8.0 14.0	-8.6 7.4											6.60	165.42	Albania 41.76 N 19.32 E H = 21 11 15.1 DEPTH = 54 km /ISC/	
623	OCT 30	BRA	EPN	1 15	46.0	-1.4											6.86	200.77	Southern Italy 41.70 N 13.86 E H = 1 14 3.0 DEPTH = 0 km /ISC/	
624	OCT 30	BRA	EP	3 8	51.0	0.9											34.24	354.18	North of Svalbard 81.49 N 5.40 W H = 3 2 5.4 DEPTH = 33 km MB = 4.5 /ISC/	
625	OCT 31	BRA	IPG	11 53	19.8														No determination of epicentre	
626	OCT 31	BRA	E E	11 55 11 55	21.0 39.0														No determination of epicentre	
627	OCT 31	BRA	E E	12 19 12 20	0.0 23.0														No determination of epicentre	
628	NOV 1	SPC SRO BRA	IPKHKP IPKP2 EPKHKP IPKP2 IPKHKP IPKP2	6 58 6 59 6 58 6 59 6 58 6 59	42.5 2.0 49.0 5.0 46.0 7.0	1.0 5.2 2.7 0.5 -0.5 2.1										152.05 153.89 153.99	33.07 30.92 28.22	South of Fiji 24.28 S 176.03 W H = 6 38 53.5 DEPTH = 35 km MB = 5.6 /ISC/		

629	NOV 1	BRA	E	9 52	36.0														No determination of epicentre
630	NOV 1	BRA SRO	IPB ISG ISG E EPN ESG	11 23 11 24 11 24 11 25 11 23 11 24	20.3 5.3 15.3 21.0 21.0 13.0	-1.5 5.8 15.8 -2.6 9.4										2.38 2.50	200.73 222.34	Yugoslavia 45.94 N 15.90 E H = 11 22 41.0 DEPTH = 0 km /ISC/	
631	NOV 1	BRA	E	13 38	10.0														No determination of epicentre
632	NOV 1	BRA	I	14 53	5.0														No determination of epicentre
633	NOV 2	SPC SRO BRA	EP EP LMH EP EXP	6 3 6 3 6 6 6 3 6 3	0.0 0.0 0.0 46.0 46.0	-8.4 -13.7 0.3 2.1		2.0	12.0							26.68 27.25 28.13	117.87 112.90 112.04	Western Iran 32.63 N 48.30 E H = 5 57 33.3 DEPTH = 61 km MB = 4.7 /ISC/	
634	NOV 2	SRO	E	8 1	24.0														No determination of epicentre
635	NOV 3	BRA	EP E	0 31 0 32	20.0 3.0	1.5										73.41	20.76	Near East Coast of Kamchatka 54.48 N 161.51 E H = 0 19 49.8 DEPTH = 49 km MB = 5.3 /ISC/	
636	NOV 3	BRA	EP EAP EXP	8 38 8 38 8 39	37.0 47.0 26.0	-1.0 -13.7 14.4										51.21	124.48	Carlsberg Ridge 9.85 N 57.80 E H = 8 29 42.0 DEPTH = 93 km MB = 5.0 /ISC/	
637	NOV 3	SRO	EPDIFF LMH	14 31 15 15	50.0 0.0	-3.3		3.0	20.0							106.25	249.28	Patagonia Province, Argentina 25.98 S 67.72 W H = 14 17 38.0 DEPTH = 6 km MB = 5.8 /ISC/	
638	NOV 4	SRO HRB BRA	IP ISS LMH EXP LMH IP IXP I I I LMH	15 54 15 54 16 0 15 54 15 59 15 54 15 54 15 55 15 55 15 56	24.6 47.6 0.0 39.0 0.0 32.0 42.0 4.0 11.0 37.0 0.0	-2.0 -6.8 6.7 -2.0 3.3		49.0	12.0							9.08 9.16 9.62	168.93 168.41 163.75	Greece 38.87 N 20.54 E H = 15 52 12.6 DEPTH = 13 km MB = 5.6 /ISC/	

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
						A	T	A	T	A	T					
639	NOV 4	BRA	EP	16 13 55.0	-3.0								9.63	164.01	Greece 38.85 N 20.49 E H = 16 11 38.7 DEPTH = 35 km MB = 4.8 /ISC/	
640	NOV 6	BRA	IP IXP E E IP IXS LMH	9 48 11.0 9 48 30.0 9 49 8.0 9 50 28.0 9 48 13.0 9 58 41.0 10 21 0.0	1.6 0.7 -0.9 5.5	1000	4.0	5.0	20.0	13.0	20.0	6.1	79.99	7.93	Andreasof Islands 51.64 N 175.48 W H = 9 36 5.9 DEPTH = 40 km MB = 5.7 /ISC/	
641	NOV 6	BRA	IPG	11 20 31.0											No determination of epicentre	
642	NOV 6	SPC BRA	EP IP IAP IXP E EP EXS LMH	18 38 38.0 18 38 42.0 18 38 45.0 18 39 8.0 18 40 28.0 18 38 40.0 18 49 1.0 19 12 0.0	2.6 -0.6 -3.3 17.6 -3.8 3.6								78.80 80.13	9.81 7.81	Andreasof Islands 51.52 N 175.27 W H = 18 26 32.0 DEPTH = 18 km MB = 5.8 /ISC/	
643	NOV 6	BRA	IPG	22 6 37.0 22 7 27.0											No determination of epicentre	
644	NOV 7	BRA	IP	11 2 45.5											No determination of epicentre	
645	NOV 8	SRO BRA	+IP IS LMH IP	9 10 56.0 9 20 30.5 9 46 0.0 9 10 57.0	0.3 -2.5 1.1	4210	2.0	9.0	20.0	22.0	20.0	7.1	76.07	26.41	Kurile Islands 49.99 N 156.33 E H = 8 59 12.9 DEPTH = 60 km MB = 5.9 /ISC/	
646	NOV 9	BRA SRO I LMH	EP EP I LMH	13 50 2.0 13 49 50.0 13 51 8.0 14 5 0.0	-0.1 -14.8			4.0	16.0	7.0	20.0	5.6	38.21 38.54	1.74 1.60	North of Svalbard 86.05 N 32.80 E H = 13 42 41.4 DEPTH = 17 km MB = 5.4 /ISC/	
647	NOV 10	BRA	EPN ESW ESG	3 2 24.0 3 3 22.0 3 3 47.0	-0.4 -2.9 -6.4								5.10	211.31	Central Italy 43.75 N 13.45 E H = 3 1 4.9 DEPTH = 0 km /ISC/	

648	NOV 11	HRB SRO BRA	EP IP LMH EP	2 54 44.0 2 54 51.0 3 31 0.0 2 54 50.0	-5.8 1.1 -0.1	2100	2.0	4.0	20.0	9.0	20.0	6.8	6.1	76.04 76.06	26.36 26.43	Kurile Islands 49.99 N 156.31 E H = 2 43 7.4 DEPTH = 62 km MB = 5.9 /ISC/
649	NOV 11	SRO	EP LMH	7 21 15.0 7 38 0.0	-1.4			6.0	16.0	3.3	12.0	5.5	31.61	110.48	Iran 30.53 N 53.00 E H = 7 14 52.4 DEPTH = 19 km MB = 5.4 /ISC/	
650	NOV 11	SRO BRA	IPKP2 EPKHP	22 14 33.0 22 14 32.0	-5.8 5.7								149.69 149.74	28.23 25.82	Fiji Region 19.88 S 176.38 W H = 21 55 12.0 DEPTH = 262 km MB = 5.4 /ISC/	
651	NOV 12	SRO BRA	IAP I LMH EAP	0 10 37.0 0 15 19.0 0 23 0.0 0 10 49.0	-4.3 -2.2			14.0	12.0	22.0	12.0	5.6	14.30 15.05	147.17 144.47	Dodecanese Islands 35.35 N 27.74 E H = 0 7 11.3 DEPTH = 47 km MB = 4.7 /ISC/	
652	NOV 12	BRA	EAP	0 15 27.0	0.7								14.97	144.63	Dodecanese Islands 35.40 N 27.65 E H = 0 11 49.4 DEPTH = 21 km MB = 5.1 /ISC/	
653	NOV 12	SRO	E	4 15 0.0											No determination of epicentre	
654	NOV 13	BRA	EP	1 24 19.0	0.8								80.80	40.45	Near East Coast of Honshu 38.62 N 142.26 E H = 1 12 10.5 DEPTH = 69 km MB = 5.3 /ISC/	
655	NOV 13	SRO BRA	IPKP2 EPKHP	16 29 43.3 16 29 38.0	-2.4 2.3								147.62 147.70	30.13 27.84	Fiji Region 18.27 S 178.12 W H = 16 10 58.4 DEPTH = 565 km MB = 5.6 /ISC/	
656	NOV 15	BRA SRO	EP EAP IP LMH	6 15 44.0 6 15 50.0 6 15 46.0 6 38 0.0	0.8 0.7 0.9			2.0	14.0	2.0	14.0	5.5	57.08 57.34	220.43 221.87	North of Ascension Island 1.38 S 15.89 W H = 6 5 55.9 DEPTH = 20 km MB = 5.2 /ISC/	
657	NOV 15	BRA	EP EPCP	8 31 42.0 8 31 54.0	0.1 -3.8								73.61	93.18	Andaman Islands Region 10.09 N 93.69 E H = 8 20 12.9 DEPTH = 57 km MB = 5.0 /ISC/	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
658	NOV 15	BRA	ESB ESG	8 35	48.0	0.9								2.20	253.42	Austria 47.50 N 14.00 E H = 8 34 38.0 DEPTH = 0 km /ISC/	
659	NOV 15	BRA	IP IAP EPCP	15 16 15 16 15 17	21.0 28.0 22.0	0.0 0.9 6.4								57.04	220.35	North of Ascension Island 1.38 S 15.81 W H = 15 6 33.9 DEPTH = 20 km MB = 5.3 /ISC/	
660	NOV 16	BRA	LMH	15 38	0.0	1.2			1.0	16.0	2.0	16.0	5.4	57.31	221.79	No determination of epicentre	
661	NOV 16	BRA	E	9 1	16.0											No determination of epicentre	
662	NOV 17	BRA	IPG	12 10 12 11	46.0 0.0											No determination of epicentre	
663	NOV 17	BRA	E E	9 0 9 1	55.0 19.0											No determination of epicentre	
664	NOV 17	BRA	IPG	10 16	26.0											No determination of epicentre	
665	NOV 18	SRO	IAP	11 2	16.0	0.3								66.50	121.41	Carlsberg Ridge 1.59 S 69.85 E H = 10 51 19.6 DEPTH = 16 km MB = 5.4 /ISC/	
666	NOV 19	BRA	IP	12 19	34.0	0.2								78.55	33.04	Kurile Islands 44.42 N 148.88 E H = 12 7 35.7 DEPTH = 47 km MB = 5.1 /ISC/	
667	NOV 19	SRO	IP IXS LMH	13 14 13 24 13 53	2.7 28.7 0.0	0.7 0.7								80.09	41.21	Near East Coast of Honshu 38.99 N 141.93 E H = 13 1 56.6 DEPTH = 56 km MB = 6.1 /ISC/	
668	NOV 19	BRA	IP I IPP	13 14 13 15 13 17	4.6 13.0 9.0	1.2 0.4	190	1.0	18.0	20.0	19.0	20.0	6.6	80.35	40.46	Central Chile 28.35 S 70.93 W H = 18 40 4.6 DEPTH = 47 km MB = 5.7 /ISC/	



668	NOV 19	BRA	EP	21 23	25.0	0.3								80.47	40.45	Near East Coast of Honshu 38.90 N 142.02 E H = 21 11 17.0 DEPTH = 58 km MB = 5.2 /ISC/
669	NOV 19	BRA	E E	22 21 22 22	42.0 1.0											No determination of epicentre
670	NOV 19	BRA	E	23 6	53.0											No determination of epicentre
671	NOV 19	BRA	E	23 37	35.6											No determination of epicentre
672	NOV 20	BRA	E	5 7	46.0											No determination of epicentre
673	NOV 20	SRO	E	13 5	53.0									9.38	152.94	Aegean Sea 39.31 N 23.80 S H = 13 2 34.2 DEPTH = 0 km MB = 4.6 /ISC/
674	NOV 21	BRA	E	3 35	56.0									104.07	250.55	Northern Chile 23.52 S 68.07 W H = 3 23 8.9 DEPTH = 105 km MB = 4.6 /ISC/
675	NOV 21	BRA	E E	8 9 8 10	58.0 18.0											No determination of epicentre
676	NOV 21	BRA	E E	8 26 8 26	2.0 59.0											No determination of epicentre
677	NOV 21	BRA	E E	11 2 11 2	14.0 16.0											No determination of epicentre
678	NOV 21	BRA	IEKHKP IEKHKP IEKHP2 ESKPD	15 20 15 20 15 20 15 23	28.0 23.0 41.0 3.0	-0.3 4.7 -1.1 -0.7								149.27	29.44	Philippine 20.04 S 170.39 W H = 1 1 52.2 DEPTH = 613 km MB = 5.2 /ISC/
679	NOV 21	SRO	EP	19 56	37.0	1.6								47.73	32.2	Tibet 34.63 N 81.11 E H = 19 47 56.0 DEPTH = 10 km MB = 5.1 /ISC/
680	NOV 21	SRO BRA IP IPCP EPP	EP IP IPCP EPP	21 17 21 17 21 17 21 18 21 20	11.6 11.0 26.0 11.0 16.0	1.1 -0.1 5.2 -4.8								77.88 77.99	31.31 30.60	Kurile Islands 46.10 N 151.42 E H = 21 5 22.3 DEPTH = 100 km MB = 5.5 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
681	NOV 23	BRA SRO	3P IP LMH	13 43 13 43 13 57	19.0 18.2 0.0	12.2 4.3			2.0	8.0	3.4	8.0		34.02 34.84	270.50 271.89		Azores 38.43 N 20.32 W H = 13 36 19.9 DEPTH = 5 km MB = 4.9 /ISC/
682	NOV 24	BRA SRO	IXP IPP I IP I I LMH	14 3 14 9 14 10 14 8 14 10 14 11 14 14	31.6 40.6 0.6 28.7 13.7 29.0 0.0	3.1 5.3 1.6			6.0	16.0	13.0	16.0	5.2	15.23 15.55	222.55 226.55		Algeria 36.16 N 4.40 E H = 14 5 45.7 DEPTH = 15 km MB = 4.9 /ISC/
683	NOV 24	BRA SRO	EPP IPP I IP IS I LMH	15 25 15 26 15 26 15 25 15 26 15 28 15 29 15 31	54.0 3.6 39.6 50.7 34.7 50.0 46.7 0.0	-2.1 6.5 1.9 7.7								15.28 15.59	222.26 226.16		Algeria 36.06 N 4.47 E H = 15 22 7.0 DEPTH = 8 km MB = 4.9 /ISC/
684	NOV 25	BRA SRO	EXP IPP ES EXP	4 24 4 24 4 26 4 24	3.0 22.0 43.0 7.0	-0.6 -2.5 -0.7								15.21 15.53	222.43 226.34		Algeria 36.14 N 4.47 E H = 4 20 21.0 DEPTH = 19 km MB = 4.7 /ISC/
685	NOV 25	BRA	IXP E	4 37 4 38	21.2 19.0	-3.0								81.53	47.90		Near South Coast of S. Honshu 33.83 N 135.43 E H = 4 24 48.1 DEPTH = 60 km MB = 5.6 /ISC/
686	NOV 25	BRA	IAP IXP E	9 31 9 32 9 32	46.6 1.6 46.0	2.3 10.5								81.51	47.01		Near South Coast of S. Honshu 33.84 N 135.41 E H = 9 19 15.1 DEPTH = 60 km MB = 5.6 /ISC/
687	NOV 25	SRO	E	18 2	47.0												No determination of epicentre
688	NOV 26	BRA	E	13 56	13.0												No determination of epicentre
689	NOV 27	BRA	E	9 21 9 23	24.0 15.0												No determination of epicentre

690	NOV 27	BRA SRO	+IP IXP E +IP IXP	14 4 14 4 14 5 14 3 14 4	5.4 20.0 22.0 59.5 21.5	5.0 1.3 -1.0 2.6								73.95 73.98	21.70 22.34		Near East Coast of Kamohetke 53.61 N 160.49 E H = 13 52 28.0 DEPTH = 45 km MB = 5.9 /ISC/
691	NOV 27	SRO	IPG ISG	14 35 14 35	39.5 41.5												No determination of epicentre
692	NOV 27	BRA	E	14 37	27.0												No determination of epicentre
693	NOV 28	BRA	EP	7 17	51.0	0.7								80.68	95.03		Northern Sumatra 2.94 N 96.41 E H = 7 5 38.0 DEPTH = 26 km MB = 4.9 /ISC/
694	NOV 28	SRO BRA	EPP LMH EP EXP E	8 25 9 7 8 25 8 26 8 27	40.0 0.0 37.0 3.0 2.0	2.4 -2.3 10.2		2.0	16.0	3.2	15.0		5.9	91.94 92.53	162.51 161.64		Prince Edward Islands Region 42.07 S 42.10 E H = 8 12 29.8 DEPTH = 31 km MB = 5.7 /ISC/
695	NOV 29	SRO	E	1 28	40.0												No determination of epicentre
696	NOV 29	SRO HRB BRA	IP ISS LMH EPP LMH EP IXP I IS LMH	11 0 11 2 11 3 11 5 11 0 11 7 11 1 11 1 11 2 11 3 11 7	54.7 36.7 12.7 0.0 50.0 0.0 3.7 11.7 54.7 0.0	2.0 -0.9 -2.3 2.8 1.6 19.7		42.0	12.0	25.0	12.0		5.8	13.27 13.36 13.90	160.01 159.69 156.54		Crete 35.18 N 23.81 E H = 10 57 44.3 DEPTH = 37 km MB = 5.6 /ISC/
697	NOV 29	BRA	ZSB	15 2	31.8	-1.5								3.21	310.24		Czechoslovakia expl. 50.18 N 13.29 E H = 15 0 54.0 DEPTH = 0 km /PRU/
698	NOV 29	SRO BRA	EP IS I I IP IS	16 48 16 49 16 49 16 50 16 48 16 48 16 50	21.0 1.0 41.0 36.5 21.5 24.5 57.5	4.1 13.2 -1.6 -1.2								2.66 3.09	183.26 166.81		Yugoslavia 45.16 N 18.10 E H = 16 47 35.0 DEPTH = 34 km /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
699	NOV 29	BRA	IP EAP	18 9	58.0	-0.1								72.38	25.82	Sea of Okhotsk 53.24 N 153.43 E H = 17 59 20.8 DEPTH = 485 km MB = 5.1 /ISC/	
700	NOV 30	BRA	E E	1 1	8.0											No determination of epicentre	
701	NOV 30	BRA	E	1 56	44.0											No determination of epicentre	
702	NOV 30	SRO	IPKHKP IPP LMH IPKHKP I IPP E	8 29 8 32 9 1 8 29 8 29 8 30 8 32 8 33 8 39	1.4 1.4 0.0 6.6 12.6 14.6 6.6 41.8 6.6	5.4 -2.0 -0.8 5.2 1.0			3.0	20.0	2.0	20.0		138.66 139.02	48.61 46.79	New Hebrides 15.18 S 167.43 E H = 8 9 55.5 DEPTH = 124 km MB = 6.2 /ISC/	
703	DEC 1	BRA	EP	7 0	47.0											No determination of epicentre	
704	DEC 1	SRO BRA	EPCP IP EXP	10 50 10 50 10 51	56.0 48.0 27.0	-3.6 -3.2 18.0								78.47 78.66	36.26 35.54	Kurile Islands 43.05 N 146.07 E H = 10 38 52.1 DEPTH = 43 km MB = 5.4 /ISC/	
705	DEC 1	SRO	EPN LMH	11 12 11 28	36.0 0.0				2.0	16.0	2.0	16.0	5.4			No determination of epicentre	
706	DEC 1	SRO BRA	IP I I LMH EP I I E	23 28 23 30 23 40 0 9 23 28 23 30 23 30 23 32	58.0 10.0 2.0 0.0 58.0 6.0 24.0 25.0	1.8 0.8		6.0	12.0	9.0	12.0	6.4	78.78 78.96	35.65 34.93	Kurile Islands 43.11 N 146.99 E H = 23 16 53.7 DEPTH = 23 km MB = 5.2 /ISC/		
707	DEC 2	BRA SRO I	IP IP I	22 22 22 22 22 23	2.0 2.0 30.0	1.5 -0.1	180	1.0				6.0	79.81 80.11	3.61 4.35	Fox Islands 52.28 N 168.68 W H = 22 9 55.1 DEPTH = 43 km MB = 5.6 /ISC/		

708	DEC 4	SRO BRA	IPKHKP EAPKIKP EAPKIKP	15 50 15 50 15 50	17.0 17.0 27.0	5.3 4.3 14.5								139.68 140.07	50.35 48.51	New Hebrides 16.66 S 167.00 E H = 15 30 40.3 DEPTH = 9 km MB = 5.3 /ISC/
709	DEC 5	SRO BRA	IAP IP IAP EAP	3 54 3 54 3 54 3 55	13.0 14.0 34.0 18.0	-2.2 0.2 -1.2 -17.3								13.83 14.55	151.17 148.22	Crete 35.36 N 26.42 E H = 3 50 50.4 DEPTH = 70 km MB = 5.0 /ISC/
710	DEC 5	BRA	IPG	11 2	46.0											No determination of epicentre
711	DEC 5	BRA	E	12 51	27.0											No determination of epicentre
712	DEC 5	BRA	EP	18 3	26.0	-1.6								30.76	296.80	North Atlantic Ridge 52.63 N 31.94 W H = 17 57 11.0 DEPTH = 18 km MB = 4.7 /ISC/
713	DEC 6	BRA	EXP	8 2	17.0	2.3								45.27	125.66	Arabian Sea 14.31 N 53.65 E H = 7 53 44.8 DEPTH = 33 km MB = 4.6 /ISC/
714	DEC 6	BRA	ESG	8 23	33.0	5.6								2.68	203.22	Yugoslavia 45.70 N 15.60 E H = 8 21 59.0 DEPTH = 0 km /ISC/
715	DEC 6	SRO	EXP	19 55	33.0	-3.8								14.36	147.26	Dodecanese Islands 35.28 N 27.75 E H = 19 51 57.4 DEPTH = 55 km MB = 4.1 /ISC/
716	DEC 8	BRA	IPG	2 45	50.0											No determination of epicentre
717	DEC 8	SRO	IAP IS	6 22 6 32	37.0 49.0	0.3 0.5								83.45	97.56	Southern Sumatra 0.22 S 98.32 E H = 6 10 2.5 DEPTH = 22 km MB = 5.4 /ISC/
718	DEC 8	BRA	IPG	7 53	22.0											No determination of epicentre
719	DEC 9	SRO BRA	IPKIP2 LMH EAPKIKP I E EAPKIP2	20 15 21 33 20 15 20 15 20 16 20 17 20 19	18.0 0.0 16.0 32.0 41.0 19.0 4.0	0.1 2.1 4.1 10.3		8.0	16.0	10.0	16.0		6.7	143.76 144.14	49.74 47.74	New Hebrides 19.90 S 169.67 E H = 19 55 46.0 DEPTH = 26 km MB = 5.9 /ISC/

No.	Date	STA Code	Phase	GMT			RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T					
720	DEC 9	BRA	EPKHKP E	21 17 28.0 21 18 17.0		2.4									144.10	47.53	New Hebrides 19.80 S 169.76 E H = 20 57 59.4 DEPTH = 37 km MB = 5.4 /ISC/	
721	DEC 10	BRA	EP	19 41 11.0		-2.0									94.25	272.66	Ecuador 1.39 S 77.71 W H = 19 28 13.0 DEPTH = 177 km MB = 5.4 /ISC/	
722	DEC 12	BRA	EPN IPN ISN ISB ETH ESG ESG	0 3 13.0 0 3 17.0 0 3 42.0 0 3 48.0 0 3 27.0 0 4 23.0 0 4 31.0		-3.9 0.1 -4.0 -1.0 0.8 8.8 16.8									2.27	243.34	Austria 47.11 N 14.13 E H = 0 2 37.6 DEPTH = 5 km /ISC/	
723	DEC 12	BRA	E	14 46 5.0													No determination of epicentre	
724	DEC 13	BRA	E	8 15 20.0											13.20	254.28	Pyrenees 43.18 N 0.38 W H = 8 8 40.0 DEPTH = 5 km /ISC/	
725	DEC 13	BRA	IPG	11 3 16.0													No determination of epicentre	
726	DEC 13	BRA	EPKP2 IAPKIKP IAPKHKP IAPKIKP	20 13 8.0 20 13 21.0 20 13 13.0 20 13 29.0		-1.2 4.8 0.5 12.7									146.00	18.65	Tonga 15.24 S 173.57 W H = 19 53 30.1 DEPTH = 32 km MB = 5.3 /ISC/	
727	DEC 14	BRA	EP	3 56 47.0		-2.2									80.03	9.73	Andeanof Islands 51.31 N 178.27 W H = 3 44 43.5 DEPTH = 51 km MB = 5.1 /ISC/	
728	DEC 14	BRA	+IP E E E	7 54 30.0 7 59 58.0 8 2 53.0 8 3 52.0		-1.5	70	1.0					5.2		39.56	63.31	Eastern Kazakhstan n.expl. 50.03 N 79.02 E H = 7 46 57.1 DEPTH = 0 km MB = 5.8 /ISC/	

729	DEC 14	BRA	EP EPP	9 16 48.0 9 17 26.0		0.1 3.5									23.31	93.74	Caspian Sea 41.87 N 49.02 E H = 9 11 46.3 DEPTH = 78 km MB = 5.0 /ISC/
730	DEC 14	BRA	E E	12 3 22.0 12 4 16.0													No determination of epicentre
731	DEC 14	BRA	HP I E E	17 49 40.0 17 50 25.0 17 51 20.0 17 52 20.0		-0.7 -0.8									80.01	9.45	Andeanof Islands 51.38 N 177.85 W H = 17 37 35.3 DEPTH = 52 km MB = 5.8 /ISC/
732	DEC 15	SRO	IPKIKP IPKIKP IPKP2	11 13 34.0 11 13 35.0 11 13 40.0		4.6 5.1 -1.4									80.22	10.20	South of Fiji 21.59 S 175.17 E H = 10 54 52.2 DEPTH = 569 km MB = 5.2 /ISC/
733	DEC 15	BRA	E	13 19 11.0													No determination of epicentre
734	DEC 15	BRA	E	13 31 20.0													No determination of epicentre
735	DEC 15	BRA	EP	13 44 20.0		-1.2									80.26	10.22	Andeanof Islands 50.99 N 178.95 W H = 13 32 7.1 DEPTH = 0 km MB = 4.3 /ISC/
736	DEC 15	BRA	E	14 9 10.0													No determination of epicentre
737	DEC 15	BRA	EPKIKP EAPKIKP	23 16 34.0 23 16 37.0		0.5 1.2									140.82	46.99	New Hebrides 16.81 S 168.27 E H = 22 57 2.7 DEPTH = 7 km MB = 5.4 /ISC/
738	DEC 16	BRA	IPG	0 59 29.0													No determination of epicentre
739	DEC 16	BRA	IPG	1 42 50.0													No determination of epicentre
740	DEC 16	BRA	EP	8 31 39.0		-2.3									33.80	112.69	Southern Iran 28.43 N 52.75 E H = 8 25 1.6 DEPTH = 46 km MB = 4.8 /ISC/

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T					
741	DEC 17	BRA E	E	11	24 10.0												No determination of epicentre
742	DEC 17	BRA E	E	13	54 13.0												No determination of epicentre
743	DEC 17	SPC SRC BRA E	IP IPP IP E	22 5 45.0 22 5 59.0 22 5 47.0 22 6 42.0	0.4 4.0 -8.4								75.40 77.23 77.30	29.76 28.43 27.73			Kurile Islands 48.04 N 154.54 E H = 21 54 3.7 DEPTH = 43 km MB = 5.6 /ISC/
744	DEC 19	SPC SRO BRA E	EP IPP I LMH E	4 56 59.0 5 1 13.0 5 0 40.0 5 47 0.0 5 0 10.0	3.3 -0.6								103.11 104.43 105.22	89.38 88.27 87.27			Sumba Region 9.52 S 119.39 E H = 4 42 59.8 DEPTH = 42 km MB = 6.0 /ISC/
745	DEC 19	SPC SRO BRA E	IPKIKP EAPKP2 IPKHKP +IPKHKP IPKHKP IAPKP2 ISKPDF	13 15 15.0 13 16 22.0 13 15 17.0 13 15 15.0 13 15 21.0 13 16 15.0 13 18 32.0	3.8 12.5 1.5 -0.6 5.4 -2.3 3.9							148.55 150.38 150.44	30.79 28.61 26.16			Fiji Region 20.60 S 176.32 W H = 12 55 51.1 DEPTH = 191 km MB = 5.9 /ISC/	
746	DEC 20	SRO BRA IP	IP IP	17 46 38.0 17 46 37.0	0.8 -2.1								9.40 9.55	197.05 190.92			Sicily 38.76 N 14.80 E H = 17 44 25.5 DEPTH = 267 km MB = 4.9 /ISC/
747	DEC 21	BRA EPN ESG	EPN ESG	8 18 37.0 8 19 27.0	-1.8 1.3								2.87	225.43			Yugoslavia 46.12 N 14.17 E H = 8 17 51.0 DEPTH = 5 km /ISC/
748	DEC 21	BRA E	E	11 49 17.0													No determination of epicentre
749	DEC 21	BRA EP	EP	15 40 23.0	-1.0								79.72	4.11			Fox Islands 52.33 N 169.49 W H = 15 28 18.2 DEPTH = 36 km MB = 5.0 /ISC/
750	DEC 21	BRA EPCP	EPCP	19 25 37.0	13.8								85.23	331.75			Near Coast of North. California 40.69 N 124.56 W H = 19 12 41.0 DEPTH = 7 km MB = 4.6 /ISC/

751	DEC 24	SPC BAP	BAP	13 57 33.0	-3.1									15.13	155.97		Dodecanese Islands 35.08 N 27.69 E H = 13 53 54.8 DEPTH = 53 km MB = 4.3 /ISC/
752	DEC 26	SPC BRA IP IAP EP EAP	IP IAP EP EAP	20 42 24.0 20 42 33.0 20 42 30.0 20 42 47.0	1.3 0.4 -3.8 -1.8								82.31 84.51	46.48 44.21			South of Honshu 33.46 N 140.98 E H = 20 30 5.2 DEPTH = 52 km MB = 5.6 /ISC/
753	DEC 28	SPC SRO BRA EPN ESG	EPKIKP IAPKIKP IPKHKP IPKP2 IAPKIKP E ESS EPKIKP IAPKHKP	5 49 50.0 5 51 56.0 5 49 56.0 5 50 12.0 5 51 56.0 6 3 12.0 6 12 24.0 5 49 52.0 5 52 1.0	0.2 2.7 -0.4 -1.9 0.0 -9.3 -0.8 2.4								150.14 152.02 152.22	39.52 37.81 35.29			South of Fiji 23.88 S 180.00 E H = 5 31 3.8 DEPTH = 517 km MB = 6.2 /ISC/
754	DEC 28	SRO BRA EPN ESG	IAPKIKP EPKIKP IAPKIKP EPP	14 1 26.0 14 1 10.0 14 1 17.0 14 4 17.0	11.3 -1.1 1.7 12.9								137.81 138.18	48.91 47.12			New Hebrides 14.56 S 166.80 E H = 13 41 46.0 DEPTH = 13 km MB = 6.3 /ISC/
755	DEC 29	SRO BRA IPP	IPKHKP EPKHKP IAPKHKP IPP	0 38 26.0 0 38 43.0 0 39 0.0 0 41 43.0	-14.5 1.4 5.3 -5.0								138.35 138.72	49.21 47.40			New Hebrides 15.13 S 166.92 E H = 0 19 30.8 DEPTH = 43 km MB = 6.2 /ISC/
756	DEC 29	SRO BRA EPN ESG	EAPKIKP LMH EPKIKP	7 3 49.0 8 4 0.0 7 3 40.0	-4.1 -1.0		6.0	16.0					137.95 138.33	49.58 47.79			New Hebrides 14.92 S 166.48 E H = 6 44 19.9 DEPTH = 41 km MB = 5.8 /ISC/
757	DEC 29	SPC IP IAP	IP IAP	8 31 49.0 8 31 56.0	3.4 0.3								73.17	18.55			Komandovsky Islands Region 54.66 N 168.63 E H = 8 20 16.3 DEPTH = 32 km MB = 5.4 /ISC/
758	DEC 30	BRA EPN ESH E	EPN ESH E	6 32 3.0 6 33 13.0 6 36 6.0	-5.3 -4.3								5.88	212.96			Central Italy 43.15 N 12.74 E H = 6 30 37.8 DEPTH = 33 km /ISC/



Observations of Microseisms
at the Station H u r b a n o v o

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
759	DEC 30	BRA	EPKIKP	16	41	7.0	1.8								146.28	17.75	Tonga 15.40 S 173.00 W H = 16 21 32.0 DEPTH = 55 km MB = 5.3 /ISC/
			EAPKHKP	16	41	19.0	1.0										
			EAFKIKP	16	41	34.0	12.5										
			EAPKHKP	16	41	17.0	-1.2										
760	DEC 30	BRA	EPKIKP	16	58	55.0	-2.5								138.74	48.06	New Hebrides 15.37 S 166.54 E H = 16 39 30.9 DEPTH = 10 km MB = 5.8 /ISC/
			EAFKIKP	16	59	15.0	14.2										
761	DEC 31	BRA	IPKIKP	3	19	42.0	1.3								157.42	38.07	Kermadec Islands 29.08 S 179.59 W H = 3 0 9.6 DEPTH = 204 km MB = 5.6 /ISC/
			IPKP2	3	20	14.0	-1.7										
			EAPKP2	3	21	11.0	4.2										
			EPP	3	24	2.0	5.8										
762	DEC 31	BRA	IPKP2	4	1	19.0	-0.1							146.07	16.98	Samoa Region 15.11 S 172.61 W H = 3 41 39.9 DEPTH = 33 km MB = 5.0 /ISC/	

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			3	4	11.4	2	4	9.1
2	2	4	5.7	3	6	4.8	2	6	4.8	2	6	4.8
3	2	6	9.6	2	6	9.6	2	4	5.7	2	4	5.7
4	2	4	5.7	2	4	5.7	2	4	11.4	2	4	5.7
5	2	4	3.4	TT			2	6	9.6	2	6	9.6
6	2	4	5.7	2	4	2.3	2	4	2.3	2	4	2.3
7	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
8	2	4	5.7	2	4	2.3	0.0			0.0		
9	2	4	2.3	2	4	5.7	2	4	2.3	0.0		
10	0.0			0.0			2	4	5.7	2	4	5.7
11	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
12	0.0			2	4	5.7	2	4	2.3	2	4	5.7
13	0.0			2	4	2.3	2	4	2.3	0.0		
14	0.0			0.0			0.0			2	4	2.3
15	0.0			2	4	5.7	2	4	11.4	2	4	9.1
16	2	4	2.3	2	4	5.7	2	6	4.8	2	6	4.8
17	2	6	4.8	2	6	4.8	2	6	9.6	2	6	9.6
18	2	6	1.9	2	4	2.3	2	4	5.7	2	4	5.7
19	2	4	2.3	2	4	5.7	2	6	1.9	2	6	1.9
20	2	4	2.3	2	4	5.7	2	4	5.7	2	4	5.7
21	2	4	2.3	2	4	2.3	2	4	5.7	0.0		
22	0.0			0.0			2	4	2.3	2	4	2.3
23	0.0			2	4	2.3	2	4	2.3	2	4	2.3
24	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
25	2	6	4.8	2	6	4.8	2	6	11.6	2	6	11.6
26	2	6	11.6	2	6	9.6	2	6	9.6	2	6	9.6
27	2	4	5.7	2	4	5.7	2	4	6.8	2	4	2.3
28	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
29	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
30	2	4	5.7	2	4	3.4	2	4	2.3	2	4	2.3
31	2	4	5.7	2	4	2.3	2	4	2.3	2	4	2.3



GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			2	6	8.8	2	6	8.8
2	2	4	5.1	2	6	4.4	2	6	8.8	2	6	8.8
3	2	6	8.8	2	6	8.8	2	6	8.8	2	6	8.8
4	2	6	4.4	2	6	4.4	2	6	4.4	2	6	4.4
5	2	4	2.0	TT			2	6	8.8	2	6	7.0
6	2	4	3.1	2	4	2.0	2	4	3.1	2	4	2.0
7	0.0			0.0			2	4	3.1	2	4	2.0
8	2	4	2.0	2	4	2.0	2	4	2.0	2	4	2.0
9	0.0			0.0			0.0			0.0		
10	0.0			0.0			2	6	1.8	2	6	2.6
11	2	4	2.0	2	4	2.0	0.0			0.0		
12	0.0			0.0			2	6	2.6	2	6	2.6
13	2	4	2.0	2	4	2.0	2	4	5.1	2	4	2.0
14	0.0			0.0			2	4	5.1	2	4	5.1
15	2	4	2.0	2	6	4.4	2	6	1.8	2	6	1.8
16	2	6	1.8	2	6	1.8	2	6	4.4	2	6	4.4
17	2	6	4.4	2	6	4.4	2	6	8.8	2	6	4.4
18	2	4	2.0	2	4	2.0	2	4	3.1	2	4	3.1
19	2	4	5.1	2	4	5.1	2	4	5.1	2	4	5.1
20	2	4	2.0	2	4	2.0	2	4	5.1	2	4	2.0
21	2	4	2.0	2	4	2.0	2	4	2.0	2	4	2.0
22	2	4	2.0	2	4	3.1	0.0			0.0		
23	0.0			2	4	2.0	0.0			0.0		
24	0.0			0.0			2	4	2.0	2	4	2.0
25	2	4	2.0	2	6	4.4	2	6	10.6	2	6	8.8
26	2	6	8.8	2	6	10.6	2	6	8.8	2	6	8.8
27	2	4	5.1	2	4	2.0	2	4	5.1	2	4	5.1
28	2	4	2.0	2	4	2.0	2	4	2.0	2	4	2.0
29	2	4	2.0	2	4	2.0	0.0			0.0		
30	0.0			0.0			0.0			0.0		
31	0.0			0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	6	9.6	3	4	5.7	0.0			0.0		
2	0.0			0.0			3	4	5.7	3	4	5.7
3	1	6	9.6	1	6	9.6	3	6	9.6	3	6	9.6
4	3	6	9.6	0.0			0.0			0.0		
5	0.0			0.0			1	4	5.7	3	4	5.7
6	3	4	11.4	3	4	11.4	2	6	9.6	2	4	11.4
7	2	4	11.4	2	6	9.6	2	6	4.8	2	4	11.4
8	2	4	5.7	2	4	5.7	3	4	3.4	3	4	3.4
9	3	4	3.4	3	4	5.7	2	4	5.7	0.0		
10	0.0			3	4	3.4	3	4	3.4	0.0		
11	0.0			0.0			3	4	5.7	3	6	9.6
12	3	4	5.7	3	4	5.7	2	6	9.6	0.0		
13	0.0			3	4	5.7	2	6	4.8	0.0		
14	0.0			3	4	5.7	2	4	5.7	2	4	5.7
15	0.0			3	4	5.7	2	6	9.6	3	4	5.7
16	0.0			0.0			0.0			0.0		
17	0.0			0.0			0.0			0.0		
18	0.0			0.0			0.0			0.0		
19	0.0			0.0			3	4	5.7	0.0		
20	0.0			0.0			3	4	5.7	0.0		
21	0.0			3	4	5.7	3	4	5.7	0.0		
22	0.0			3	4	5.7	0.0			0.0		
23	0.0			0.0			3	4	5.7	0.0		
24	0.0			0.0			3	4	5.7	3	4	5.7
25	3	4	5.7	3	4	5.7	3	4	5.7	3	6	4.8
26	3	4	11.4	3	4	5.7	2	6	4.8	2	6	4.8
27	0.0			3	4	5.7	3	4	5.7	0.0		
28	0.0			3	4	5.7	2	4	5.7	3	4	5.7



GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	4	5.1	3	4	5.1	0.0			0.0		
2	0.0			0.0			3	4	5.1	3	4	5.1
3	2	6	8.8	2	4	10.2	0.0			2	6	8.8
4			3	4	5.1	0.0		
5	0.0			2	4	5.1	2	4	5.1	3	4	5.1
6	0.0			3	4	5.1	2	4	10.2	0.0		
7	0.0			3	4	5.1	2	6	4.4	2	4	3.1
8	2	4	3.1	3	4	3.1	2	4	5.1	2	4	3.1
9	3	4	3.1	3	4	5.1	3	4	5.1	0.0		
10	0.0			3	4	3.1	3	4	3.1	3	4	3.1
11	0.0			3	4	3.1	3	4	3.1	3	4	5.1
12	0.0			3	4	5.1	2	6	8.8	0.0		
13	0.0			2	6	8.8	2	6	4.4	0.0		
14	0.0			3	4	5.1	2	4	5.1	2	4	5.1
15	0.0			3	4	5.1		
16			0.0			0.0		
17	0.0			0.0			0.0			0.0		
18	0.0			0.0			0.0			0.0		
19	0.0			0.0			3	4	5.1	0.0		
20	0.0			0.0			3	4	5.1	0.0		
21	0.0			0.0			3	4	5.1	0.0		
22	0.0			0.0			0.0			0.0		
23	0.0			0.0			3	4	5.1	0.0		
24	0.0			0.0			0.0			0.0		
25	0.0			0.0			3	4	5.1	3	4	5.1
26	0.0			3	4	5.1	3	4	5.1	0.0		
27	0.0			3	4	5.1	2	4	5.1	0.0		
28	0.0			3	4	5.1	3	4	5.1	3	4	5.1

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	3	6	4.8	3	4	5.7	2	6	4.8	3	4	5.7
2	3	4	2.3	3	4	5.7	1	4	2.3	1	6	2.9
3	1	6	4.8	3	6	4.8	3	6	2.9	1	4	5.7
4	1	4	2.3	3	4	2.3	3	4	5.7	3	6	1.9
5	3	4	3.4	3	4	2.3	3	6	4.8	3	6	9.6
6	3	4	5.7	3	4	3.4	2	4	3.4	2	4	5.7
7	0.0			3	4	3.4	3	4	2.3	3	4	3.4
8	0.0			3	4	5.7	2	4	3.4	3	4	2.3
9	0.0			3	4	5.7	2	4	5.7	3	4	2.3
10	3	4	2.3	3	4	3.4	3	4	5.7	3	4	5.7
11	3	4	2.3	3	4	3.4	3	6	2.9	3	4	2.3
12	0.0			3	4	2.3	3	6	4.8	3	6	4.8
13	3	2	2.5	3	4	2.3	2	4	3.4	2	4	3.4
14	3	4	2.3	3	4	2.3	3	4	2.3	3	4	2.3
15	3	4	2.3	3	4	2.3	3	4	2.3	3	4	2.3
16	3	4	1.1	3	4	2.3	2	4	3.4	2	4	3.4
17	3	4	2.3	3	4	2.3	3	4	2.3	3	4	3.4
18	0.0			3	4	2.3	3	4	3.4	3	4	2.3
19	3	4	2.3	3	4	2.3	3	4	2.3	0.0		
20	0.0			0.0			2	4	2.3	3	4	2.3
21	3	4	2.3	3	4	3.4	2	4	3.4	2	4	2.3
22	3	4	2.3	2	4	3.4	2	6	4.8	3	4	3.4
23	3	4	3.4	3	4	3.4	2	4	5.7	2	4	3.4
24	3	4	2.3	3	4	3.4	2	4	5.7	2	4	3.4
25	3	4	2.3	3	4	2.3	3	4	5.7	3	4	3.4
26	3	4	3.4	3	4	3.4	2	4	3.4	2	4	3.4
27	0.0			3	4	2.3	2	4	2.3	2	4	2.3
28	3	4	2.3	3	4	2.3	1	4	3.4	1	4	3.4
29	3	4	2.3	3	4	2.3	1	4	5.7	1	4	5.7
30	1	4	3.4	1	4	3.4	2	4	3.4	2	4	5.7
31	2	4	5.7	2	6	4.8	2	4	2.3	2	4	2.3



GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	3	6	4.4	3	4	5.1	0.0			0.0		
2	0.0			0.0			2	4	10.2	1	4	7.2
3	3	6	6.2	3	4	3.1	2	6	4.4	2	6	4.4
4	2	6	2.6	1	6	2.6	3	6	4.4	...		
5			2	6	4.4	2	4	3.1
6	2	6	2.6	2	6	2.6	3	4	2.0	3	6	2.6
7	0.0			3	4	2.0	3	6	1.8	3	4	2.0
8	3	4	2.0	3	6	1.8	2	6	2.6	3	4	3.1
9	3	4	2.0	3	6	1.8	2	6	4.4	3	4	2.0
10	3	4	2.0	3	4	3.1	2	6	6.2	3	6	4.4
11	3	4	3.1	3	6	2.6	2	6	7.0	3	4	2.0
12	3	6	4.4	3	4	2.0	3	4	5.1	3	4	3.1
13	3	4	3.1	3	4	3.1	2	4	3.1	2	4	3.1
14	3	4	2.0	3	4	2.0	3	4	2.0	3	4	2.0
15	0.0			0.0			3	6	4.4	3	4	2.0
16	3	6	1.8	3	4	2.0	2	4	2.0	2	4	2.0
17	3	4	2.0	0.0			0.0			0.0		
18	0.0			0.0			3	4	2.0	3	4	2.0
19	0.0			3	4	3.1	3	4	3.1	3	4	3.1
20	3	4	3.1	0.0			3	4	2.0	3	4	3.1
21	3	4	2.0	3	4	2.0	3	4	2.0	3	4	2.0
22	3	4	3.1	3	6	2.6	2	6	4.4	3	4	2.0
23	3	4	2.0	3	6	1.8	2	4	3.1	2	4	3.1
24	2	4	2.0	2	4	2.0	2	4	3.1	2	4	3.1
25	2	4	2.0	2	4	2.0	2	6	1.8	2	6	1.8
26	2	4	2.0	2	4	2.0	2	6	4.4	2	6	2.6
27	3	4	2.0	3	4	3.1	2	4	3.1	2	4	2.0
28	2	4	2.0	2	4	3.1	2	4	3.1	2	6	2.6
29	2	4	2.0	2	4	2.0	2	4	2.0	2	4	2.0
30	3	4	2.0	1	6	4.4	2	4	5.1	2	4	5.1
31	3	4	3.1	3	6	4.4	2	4	3.1	2	4	3.1

MICROSEISMIC ACTIVITY

APRIL 1973

COMPONENT NS

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			0.0			0.0		
2	0.0			0.0			2	4	5.7	2	4	5.7
3	2	4	5.7	2	4	5.7	2	4	5.7	2	4	5.7
4	2	4	2.3	2	4	5.7	2	6	4.8	2	6	4.8
5	2	6	4.8	2	6	4.8	2	4	5.7	2	4	5.7
6	2	4	5.7	2	4	5.7	2	4	5.7	2	4	5.7
7	0.0			0.0			0.0			0.0		
8	0.0			0.0			0.0			0.0		
9	0.0			0.0			2	4	2.3	2	4	2.3
10	0.0			2	4	2.3	2	4	11.4	2	4	9.1
11	2	4	2.3	2	4	5.7	2	4	2.3	2	4	2.3
12	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
13	0.0			0.0			2	4	2.3	0.0		
14	0.0			0.0			2	4	2.3	2	4	2.3
15	0.0			0.0			2	4	2.3	0.0		
16	0.0			0.0			2	4	2.3	0.0		
17	0.0			0.0			2	4	2.3	2	4	2.3
18	0.0			0.0			2	4	2.3	0.0		
19	0.0			0.0			2	4	2.3	2	4	2.3
20	0.0			0.0			2	4	2.3	2	4	2.3
21	0.0			0.0			0.0			0.0		
22	0.0			0.0			0.0			0.0		
23	0.0			0.0			0.0			0.0		
24	0.0			0.0			2	4	2.3	2	4	2.3
25	0.0			0.0			2	4	2.3	2	4	2.3
26	2	4	2.3	2	4	2.3	0.0			0.0		
27	0.0			0.0			0.0			0.0		
28	0.0			2	4	2.3	2	4	2.3	0.0		
29	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
30	0.0			0.0			0.0			0.0		

MICROSEISMIC ACTIVITY

APRIL 1973

COMPONENT EW



GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			0.0			0.0		
2	0.0			0.0			0.0			0.0		
3	0.0			0.0			2	4	2.0	2	4	5.1
4	2	6	1.8	2	6	1.8	2	6	4.4	2	6	4.4
5	2	6	1.8	2	6	4.4	2	4	8.2	2	4	5.1
6	2	4	2.0	2	6	1.8	2	4	5.1	2	4	5.1
7	2	4	2.0	2	4	5.1	2	4	5.1	0.0		
8	0.0			0.0			0.0			0.0		
9	0.0			0.0			0.0			0.0		
10	0.0			0.0			2	4	5.1	2	4	2.0
11	0.0			2	4	2.0	0.0			0.0		
12	0.0			0.0			0.0			0.0		
13	0.0			0.0			0.0			0.0		
14	0.0			0.0			2	4	2.0	0.0		
15	0.0			0.0			0.0			0.0		
16	0.0			0.0			0.0			0.0		
17	0.0			0.0			2	4	2.0	0.0		
18	0.0			0.0			0.0			0.0		
19	0.0			0.0			0.0			0.0		
20	0.0			0.0			0.0			0.0		
21	0.0			0.0			0.0			0.0		
22	0.0			0.0			0.0			0.0		
23	0.0			0.0			0.0			...		
24			0.0			0.0		
25	0.0			0.0			0.0			0.0		
26	0.0			0.0			0.0			0.0		
27	0.0			0.0			0.0			0.0		
28	0.0			0.0			0.0			0.0		
29	2	4	2.0	2	4	2.0	2	4	2.0	2	4	2.0
30	0.0			0.0			0.0			0.0		

MICROSEISMIC ACTIVITY

MAY 1973

COMPONENT NS

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	3	4	5.7	3	4	5.7	3	4	5.7	3	4	5.7
2	3	2	2.5	3	4	5.7	3	4	5.7	3	4	3.4
3	0.0			3	4	3.4	2	4	3.4	2	4	3.4
4	3	4	2.3	3	4	2.3	2	4	5.7	3	2	2.5
5	3	4	2.3	3	4	2.3	3	4	3.4	0.0		
6	0.0			0.0			3	4	3.4	3	4	3.4
7	0.0			3	4	2.3	2	4	3.4	2	4	3.4
8	0.0			3	4	3.4	2	4	5.7	3	4	5.7
9	3	4	2.3	3	4	3.4	2	4	3.4	2	4	3.4
10	2	4	2.3	2	4	3.4	2	4	5.7	2	4	3.4
11	2	2	2.5	2	4	3.4	2	4	3.4	2	4	3.4
12	2	2	2.5	2	4	3.4	2	4	5.7	3	4	3.4
13	3	4	2.3	3	4	3.4	2	4	2.3	2	4	2.3
14	2	4	2.3	2	4	5.7	2	4	3.4	2	4	3.4
15	2	4	3.4	2	4	3.4	2	4	3.4	2	4	3.4
16	0.0			2	4	3.4	2	4	3.4	2	4	3.4
17	0.0			2	4	3.4	2	4	2.3	2	4	2.3
18	2	4	2.3	2	4	3.4	2	4	2.3	2	4	2.3
19	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
20	2	4	2.3	2	4	2.3	2	6	1.9	2	4	2.3
21	2	4	2.3	2	4	3.4	2	4	2.3	2	4	2.3
22	0.0			2	4	3.4	2	4	3.4	2	4	3.4
23	2	4	3.4	2	4	3.4	2	4	3.4	2	4	2.3
24	0.0			2	4	3.4	2	4	3.4	2	4	2.3
25	0.0			2	4	3.4	2	4	3.4	2	4	2.3
26	0.0			2	4	2.3	2	4	3.4	2	4	3.4
27	2	6	2.9	2	4	3.4	2	4	3.4	2	4	3.4
28	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
29	2	4	3.4	2	4	2.3	2	4	2.3	2	4	2.3
30	0.0			2	4	2.3	2	4	2.3	2	4	2.3
31	2	4	2.3	2	4	2.3	2	4	2.3	2	4	3.4



International
Seismological
Centre MAY 1973

MICROSEISMIC ACTIVITY

COMPONENT EW

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			3	4	5.1	3	4	5.1	3	4	5.1
2	3	2	2.2	3	4	5.1	3	4	5.1	3	4	5.1
3	0.0			3	4	3.1	2	4	3.1	2	4	3.1
4	3	4	2.0	3	4	2.0	3	4	3.1	...		
5			3	4	5.1	...		
6			2	4	2.0	2	4	3.1
7	3	4	2.0	3	4	2.0	2	4	3.1	2	4	3.1
8	3	4	2.0	3	4	3.1	2	4	5.1	3	4	5.1
9	0.0			3	4	2.0	2	4	3.1	2	4	2.0
10	2	4	2.0	2	4	3.1	2	4	5.1	2	4	5.1
11	2	4	3.1	2	4	3.1	2	4	3.1	2	4	3.1
12	2	4	2.0	2	4	3.1	2	4	3.1	2	4	5.1
13	2	4	2.0	2	4	2.0	2	4	3.1	2	4	3.1
14	0.0			3	4	3.1	2	4	3.1	2	4	3.1
15	2	2	2.2	2	4	3.1	2	4	3.1	2	4	3.1
16	0.0			2	4	2.0	2	6	4.4	2	6	4.4
17	2	6	1.8	2	4	2.0	2	6	2.6	2	6	2.6
18	0.0			0.0			2	4	2.0	2	4	2.0
19	2	4	2.0	2	4	2.0	0.0			0.0		
20	0.0			3	4	2.0	0.0			0.0		
21	0.0			3	4	3.1	2	6	2.6	2	6	2.6
22	0.0			2	6	1.8	2	4	2.0	2	4	2.0
23	0.0			0.0			0.0			0.0		
24	0.0			0.0			2	4	3.1	2	4	3.1
25	0.0			2	4	3.1	0.0			0.0		
26	0.0			2	4	2.0	2	4	3.1	2	4	2.0
27	2	4	3.1	2	4	3.1	0.0			0.0		
28	0.0			0.0			0.0			0.0		
29	0.0			0.0			0.0			0.0		
30	0.0			0.0			0.0			0.0		
31	0.0			0.0			0.0			0.0		

MICROSEISMIC ACTIVITY

JUNE 1973

COMPONENT NS



MICROSEISMIC ACTIVITY

JUNE 1973

COMPONENT EW

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			0.0			0.0		
2	0.0			0.0			2	4	2.3	2	4	2.3
3	0.0			0.0			0.0			0.0		
4	0.0			0.0			0.0			0.0		
5	0.0			0.0			2	4	2.3	2	4	2.3
6	2	4	2.3	2	4	2.3	2	4	2.3	0.0		
7	0.0			2	4	2.3	2	4	2.3	0.0		
8	0.0			0.0			0.0			0.0		
9	0.0			0.0			0.0			0.0		
10	0.0			0.0			2	4	2.3	2	4	2.3
11	2	4	2.3	2	4	2.3	2	4	3.4	2	4	3.4
12	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
13	0.0			2	4	2.3	2	4	2.3	2	4	2.3
14	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
15	2	4	3.4	2	5	3.2	2	4	2.3	2	4	2.3
16	2	4	2.3	2	4	2.3	0.0			0.0		
17	TT			0.0			0.0			0.0		
18	0.0			0.0			0.0			0.0		
19	0.0			0.0			0.0			0.0		
20	0.0			0.0			0.0			2	4	2.3
21	0.0			0.0			0.0			0.0		
22	0.0			0.0			0.0			0.0		
23	0.0			0.0			2	4	2.3	0.0		
24	0.0			0.0			0.0			0.0		
25	0.0			0.0			2	4	2.3	0.0		
26	0.0			2	4	2.3	2	4	2.3	0.0		
27	0.0			0.0			0.0			0.0		
28	0.0			2	4	2.3	0.0			0.0		
29	0.0			0.0			0.0			0.0		
30	0.0			2	4	2.3	0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			0.0			0.0		
2	0.0			0.0			2	4	2.0	0.0		
3	0.0			0.0			2	4	2.0	0.0		
4	2	4	2.0	2	4	2.0	2	4	2.0	2	4	2.0
5	2	4	2.0	2	4	2.0	2	4	2.0	0.0		
6	0.0			0.0			0.0			0.0		
7	0.0			2	4	2.0	2	4	2.0	2	4	2.0
8	0.0			2	4	2.0	2	4	5.1	2	4	2.0
9	2	4	2.0	2	4	2.0	0.0			0.0		
10	0.0			0.0			0.0			0.0		
11	0.0			2	4	2.0	2	6	2.6	2	6	4.4
12	2	4	2.0	2	4	2.0	2	4	2.0	2	4	2.0
13	2	4	2.0	2	4	2.0	2	4	5.1	2	4	5.1
14	2	4	2.0	2	4	2.0	2	4	2.0	2	4	2.0
15	0.0			0.0			2	4	2.0	2	4	2.0
16	0.0			2	4	2.0	0.0			0.0		
17	TT			0.0			0.0			0.0		
18	0.0			0.0			0.0			0.0		
19	0.0			0.0			0.0			0.0		
20	0.0			0.0			0.0			0.0		
21	0.0			0.0			0.0			0.0		
22	0.0			2	6	1.8	0.0			0.0		
23	0.0			2	6	1.8	0.0			0.0		
24	0.0			0.0			0.0			0.0		
25	0.0			0.0			0.0			0.0		
26	0.0			0.0			0.0			0.0		
27	0.0			0.0			0.0			0.0		
28	2	6	1.8	2	4	2.0	0.0			0.0		
29	0.0			0.0			0.0			0.0		
30	0.0			0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			TT			0.0		
2	2	6	1.7	2	6	1.7	2	4	2.1	2	4	2.1
3	0.0			2	4	2.1	2	4	2.1	0.0		
4	0.0			0.0			2	4	2.1	2	4	2.1
5	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
6	2	4	2.1	2	6	1.7	2	5	1.9	2	4	2.1
7	0.0			2	4	2.1	0.0			0.0		
8	0.0			0.0			0.0			0.0		
9	0.0			0.0			2	4	2.1	2	4	2.1
10	0.0			2	4	3.2	2	4	2.1	2	4	2.1
11	0.0			2	4	2.1	0.0			0.0		
12	0.0			0.0			0.0			0.0		
13	2	4	2.1	2	4	2.1	0.0			0.0		
14	0.0			TT			0.0			0.0		
15	0.0			0.0			0.0			0.0		
16	0.0			0.0			0.0			0.0		
17	0.0			0.0			2	4	2.1	2	4	2.1
18	2	4	2.1	2	4	2.1	2	4	2.1	0.0		
19	0.0			0.0			0.0			...		
20			0.0			0.0		
21	0.0			0.0			2	4	2.1	0.0		
22	0.0			0.0			2	4	2.1	0.0		
23	0.0			0.0			2	4	2.1	2	4	2.1
24	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
25	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
26	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
27	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
28	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
29	0.0			0.0			2	4	2.1	2	4	2.1
30	2	4	2.1	2	4	2.1	0.0			0.0		
31	0.0			0.0			0.0			0.0		



GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			TT			0.0		
2	0.0			0.0			2	4	2.2	2	4	2.2
3	0.0			2	4	2.2	0.0			0.0		
4	0.0			0.0			0.0			0.0		
5	0.0			0.0			2	4	2.2	2	4	2.2
6	2	4	2.2	2	4	2.2	2	5	2.1	2	4	2.2
7	2	4	2.2	2	4	2.2	1	6	2.9	1	6	1.9
8	0.0			0.0			1	4	2.2	1	4	2.2
9	0.0			0.0			1	6	1.9	1	6	1.9
10	0.0			2	6	1.9	2	4	2.2	2	4	2.2
11	2	4	2.2	2	4	2.2	0.0			0.0		
12	0.0			TT			0.0			0.0		
13	0.0			0.0			0.0			0.0		
14	0.0			0.0			0.0			0.0		
15	0.0			0.0			0.0			0.0		
16	0.0			0.0			0.0			0.0		
17	0.0			0.0			2	4	2.2	2	4	2.2
18	2	4	2.2	2	4	2.2	2	4	2.2	0.0		
19	0.0			0.0			2	4	2.2	0.0		
20	0.0			0.0			0.0			0.0		
21	2	4	2.2	0.0			2	4	2.2	2	4	2.2
22	0.0			0.0			2	4	2.2	2	4	2.2
23	0.0			0.0			2	4	2.2	2	4	2.2
24	0.0			0.0			2	4	2.2	2	4	2.2
25	2	4	2.2	2	4	2.2	2	4	2.2	0.0		
26	0.0			0.0			2	4	2.2	2	4	2.2
27	0.0			0.0			2	4	2.2	0.0		
28	0.0			0.0			2	4	2.2	2	4	2.2
29	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
30	2	4	2.2	2	4	2.2	0.0			0.0		
31	0.0			0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	TT			2	4	2.1	2	4	2.1	2	4	2.1
2	0.0			0.0			2	4	2.1	2	4	2.1
3	2	4	2.1	0.0			0.0			0.0		
4	0.0			0.0			0.0			0.0		
5	0.0			0.0			0.0			0.0		
6	0.0			0.0			0.0			0.0		
7	0.0			0.0			0.0			0.0		
8	0.0			0.0			2	4	2.1	2	4	2.1
9	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
10	2	4	2.1	2	6	1.7	2	4	2.1	2	4	2.1
11	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
12	2	4	2.1	2	4	2.1	0.0			0.0		
13	0.0			0.0			2	4	2.1	2	4	2.1
14	0.0			2	4	2.1	2	4	2.1	2	4	2.1
15	2	4	2.1	2	5	2.9	2	4	2.1	2	4	2.1
16	0.0			0.0			2	4	2.1	2	4	2.1
17	2	4	2.1	2	4	5.3	2	4	2.1	2	4	2.1
18	0.0			0.0			2	4	2.1	2	4	2.1
19	2	4	2.1	2	4	2.1	2	4	2.1	2	4	3.2
20	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
21	2	6	1.7	2	6	1.7	2	4	2.1	2	4	2.1
22	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
23	2	4	2.1	2	4	2.1	2	6	1.7	2	6	1.7
24	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
25	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
26	2	4	2.1	0.0			0.0			0.0		
27	0.0			0.0			0.0			0.0		
28	0.0			0.0			0.0			0.0		
29	0.0			0.0			2	4	2.1	0.0		
30	0.0			0.0			2	4	2.1	2	4	2.1
31	2	4	2.1	0.0			2	4	2.1	2	4	2.1



GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	TT			2	4	2.2	2	4	2.2	2	4	2.2
2	0.0			2	4	2.2	2	4	2.2	0.0		
3	0.0			0.0			2	6	1.9	2	6	1.9
4	2	6	1.9	0.0			2	4	2.2	0.0		
5	0.0			0.0			0.0			0.0		
6	0.0			0.0			0.0			0.0		
7	0.0			0.0			0.0			0.0		
8	0.0			0.0			0.0			0.0		
9			2	4	2.2	2	4	2.2
10	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
11	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
12	0.0			0.0			2	6	1.9	2	4	2.2
13	0.0			2	6	1.9	2	4	2.2	0.0		
14	0.0			2	6	1.9	2	6	1.9	2	6	1.9
15	0.0			0.0			2	4	2.2	2	6	1.9
16	0.0			0.0			2	6	1.9	2	6	1.9
17	0.0			0.0			2	4	2.2	2	4	2.2
18	0.0			0.0			2	6	2.9	2	4	2.2
19	0.0			2	4	2.2	2	4	2.2	2	4	2.2
20	0.0			0.0			0.0			0.0		
21	0.0			0.0			0.0			0.0		
22	0.0			0.0			0.0			0.0		
23	0.0			0.0			0.0			0.0		
24	0.0			0.0			0.0			0.0		
25	2	4	2.2	2	4	2.2	0.0			0.0		
26	0.0			0.0			0.0			0.0		
27	0.0			0.0			0.0			0.0		
28	0.0			0.0			0.0			0.0		
29	0.0			0.0			0.0			0.0		
30	0.0			0.0			0.0			0.0		
31	1	0	0.0	0	0.0		0	0.0		0	0.0	

MICROSEIMIS ACTIVITY

SEPTEMBER 1973

COMPONENT NS

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
2	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
3	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
4	2	4	2.1	2	4	2.1	0.0			0.0		
5	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
6	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
7	2	4	2.1	2	4	2.1	0.0			0.0		
8	0.0			0.0			2	4	2.1	2	4	2.1
9	0.0			0.0			2	4	2.1	2	6	1.7
10	0.0			2	4	2.1	2	4	2.1	2	4	2.1
11	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
12	2	4	3.2	2	4	2.1	2	4	2.1	2	4	2.1
13	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
14	2	4	2.1	2	4	2.1	2	4	2.1	0.0		
15	0.0			2	4	2.1	2	4	2.1	2	4	2.1
16	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
17	0.0			2	4	2.1	2	4	2.1	2	6	1.7
18	2	6	1.7	2	4	2.1	2	4	2.1	2	4	2.1
19	2	4	3.2	2	6	1.7	2	4	2.1	2	4	2.1
20	2	4	2.1	2	4	2.1	2	6	1.7	2	6	1.7
21	0.0			0.0			0.0			0.0		
22	0.0			0.0			2	4	2.1	2	4	2.1
23	0.0			0.0			2	4	2.1	0.0		
24	0.0			2	4	2.1	2	4	2.1	2	4	2.1
25	2	4	2.1	2	4	2.1	2	6	1.7	2	6	1.7
26	2	6	1.7	2	6	1.7	2	6	1.7	2	4	2.1
27	2	4	2.1	2	6	1.7	0.0			2	4	2.1
28	0.0			0.0			0.0			0.0		
29	TT			2	4	5.3	2	4	3.2	2	4	2.1
30	0.0			0.0			2	4	2.1	2	4	2.1

MICROSEIMIC ACTIVITY

SEPTEMBER 1973

COMPONENT EW



GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
2	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
3	2	6	1.9	2	6	1.9	2	4	2.2	2	4	2.2
4	0.0			2	6	1.9	0.0			0.0		
5	0.0			0.0			0.0			0.0		
6	0.0			0.0			0.0			0.0		
7	0.0			0.0			2	4	2.2	2	4	2.2
8	2	4	2.2	2	4	2.2	2	4	2.2	0.0		
9	0.0			0.0			2	4	2.2	0.0		
10	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
11	0.0			0.0			2	4	2.2	2	4	2.2
12	0.0			0.0			2	4	2.2	0.0		
13	0.0			0.0			2	4	2.2	2	4	2.2
14	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
15	0.0			0.0			0.0			0.0		
16	0.0			0.0			0.0			0.0		
17	0.0			0.0			0.0			0.0		
18	0.0			0.0			0.0			0.0		
19	2	4	2.2	2	4	2.2	2	6	1.9	2	6	1.9
20	2	4	2.2	2	4	2.2	0.0			0.0		
21	0.0			...			2	4	2.2	2	4	2.2
22	0.0			0.0			0.0			0.0		
23	0.0			0.0			0.0			2	4	2.2
24	2	4	2.2	2	4	3.3	2	4	2.2	2	4	2.2
25	0.0			2	4	2.2	2	4	2.2	2	4	2.2
26	0.0			2	6	1.9	2	4	2.2	2	4	2.2
27	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
28	2	4	2.2	2	4	2.2	0.0			0.0		
29	TT			2	6	1.9	2	4	2.2	2	4	2.2
30	0.0			0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
2	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
3	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
4	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
5	0.0			0.0			0.0			0.0		
6	0.0			0.0			2	4	2.1	2	4	2.1
7	0.0			0.0			2	4	2.1	2	4	2.1
8	0.0			2	4	2.1	2	4	2.1	2	4	2.1
9	0.0			2	4	2.1	2	4	2.1	2	4	2.1
10	0.0			2	4	3.2	2	4	3.2	2	4	3.2
11	0.0			0.0			2	4	2.1	2	4	2.1
12	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
13	0.0			2	4	2.1	2	4	2.1	2	4	2.1
14	2	4	2.1	0.0			2	4	2.1	2	4	2.1
15	0.0			2	4	2.1	2	4	2.1	2	4	2.1
16	0.0			0.0			2	4	2.1	2	4	2.1
17	0.0			2	4	2.1	2	6	1.7	2	6	1.7
18	0.0			0.0			0.0			0.0		
19	0.0			2	6	1.7	2	6	1.7	2	6	1.7
20	0.0			2	6	1.7	2	4	2.1	0.0		
21	0.0			0.0			2	4	2.1	0.0		
22	0.0			0.0			2	6	2.6	2	6	2.6
23	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
24	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
25	2	4	2.1	2	4	2.1	2	6	1.7	2	6	1.7
26	2	6	2.6	2	6	2.6	2	6	4.4	2	6	4.4
27	0.0			2	6	2.6	2	4	2.1	0.0		
28	0.0			0.0			0.0			0.0		
29	0.0			0.0			2	4	3.2	2	4	3.2
30	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
31	2	4	2.1	0.0			0.0			0.0		



GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			2	4	2.2	0.0		
2	0.0			0.0			0.0			0.0		
3	0.0			2	4	2.2	2	4	2.2	2	4	2.2
4	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
5	2	4	2.2	2	4	2.2	0.0			0.0		
6	0.0			0.0			2	4	2.2	0.0		
7	2	4	2.2	2	4	2.2	0.0			0.0		
8	0.0			0.0			0.0			2	4	2.2
9	0.0			0.0			2	4	2.2	2	6	2.9
10	2	6	1.9	2	6	1.9	2	4	2.2	2	4	2.2
11	0.0			0.0			2	4	2.2	0.0		
12	0.0			0.0			2	6	1.9	2	6	1.9
13	2	6	1.9	2	4	2.2	2	6	2.9	2	6	2.9
14	2	6	1.9	2	6	1.9	2	6	1.9	2	6	1.9
15	2	6	1.9	2	4	2.2	2	6	1.9	2	6	1.9
16	0.0			0.0			0.0			2	4	2.2
17	0.0			2	4	2.2	2	4	2.2	2	4	2.2
18	0.0			2	4	2.2	0.0			0.0		
19	0.0			0.0			0.0			0.0		
20	0.0			0.0			0.0			0.0		
21	0.0			0.0			0.0			0.0		
22	0.0			0.0			2	6	4.8	2	6	4.8
23	0.0			0.0			2	4	2.2	2	4	2.2
24	2	6	1.9	2	6	2.9	2	6	1.9	2	6	2.9
25	2	6	1.9	2	4	2.2	2	6	4.8	2	6	4.8
26	2	6	9.6	2	6	9.6	2	4	2.2	2	6	2.9
27	2	4	3.3	2	4	2.2	0.0			0.0		
28	0.0			0.0			0.0			0.0		
29	0.0			0.0			2	4	2.2	2	4	2.2
30	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
31	0.0			0.0			0.0			0.0		



GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
2	2	4	2.1	2	4	2.1	2	4	5.3	2	6	1.7
3	0.0			2	4	2.1	2	6	4.4	2	6	1.7
4	2	4	2.1	2	4	2.1	2	4	2.1	2	4	3.2
5	2	6	4.4	2	6	4.4	2	4	5.3	2	4	5.3
6	2	6	1.7	2	6	2.6	2	6	2.6	2	6	4.4
7	2	4	2.1	2	4	3.2	2	6	4.4	2	6	2.6
8	2	4	2.1	2	4	2.1	2	6	4.4	2	6	4.4
9	2	6	4.4	2	4	3.2	2	6	8.7	2	6	10.5
10	2	6	8.7	2	6	8.7	2	7	7.9	2	7	7.9
11	2	7	7.9	2	6	7.0	2	6	8.7	2	6	8.7
12	2	4	5.3	2	6	4.4	2	6	4.4	2	6	4.4
13	2	6	4.4	2	6	8.7	2	6	4.4	2	6	8.7
14	2	4	3.2	2	4	2.1	2	4	5.3	2	4	5.3
15	0.0			2	4	2.1	2	4	2.1	2	4	2.1
16	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
17	2	4	2.1	2	4	2.1	2	4	2.1	2	4	3.2
18	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
19	2	4	2.1	2	4	2.1	2	6	4.4	2	6	4.4
20	2	4	2.1	2	4	2.1	2	6	4.4	2	6	4.4
21	0.0			2	4	2.1	2	4	2.1	2	4	2.1
22	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
23	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
24	2	4	2.1	2	4	2.1	2	6	1.7	2	6	1.7
25	0.0			0.0			0.0			0.0		
26	2	4	2.1	2	4	2.1	2	4	3.2	2	4	3.2
27	2	4	2.1	2	4	2.1	2	4	3.2	2	4	3.2
28	2	4	2.1	2	4	2.1	2	6	1.7	2	6	1.7
29	0.0			0.0			2	4	2.1	0.0		
30	0.0			0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
2	2	4	2.2	2	4	2.2	0.0			2	4	2.2
3	2	6	1.9	2	6	1.9	2	6	1.9	2	6	1.9
4	2	6	1.9	2	6	1.9	2	6	2.9	2	6	2.9
5	2	6	4.8	2	6	4.8	2	6	4.8	2	6	4.8
6	2	6	4.8	2	6	4.8	2	6	4.8	2	7	4.4
7	2	7	7.1	2	6	1.9	2	6	4.8	2	6	4.8
8	2	6	4.8	2	6	4.8	2	6	4.8	2	6	4.8
9	2	6	1.9	2	6	1.9	2	7	8.8	2	7	8.8
10	2	6	11.5	2	6	11.5	2	6	11.5	2	6	9.6
11	2	6	4.8	2	6	9.6	2	6	9.6	2	6	9.6
12	2	6	4.8	2	6	9.6	2	6	9.6	2	6	9.6
13	2	6	9.6	2	6	9.6	2	6	9.6	2	6	9.6
14	2	6	9.6	2	6	9.6	2	4	5.4	2	6	2.9
15	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
16	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
17	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
18	0.0			2	4	2.2	2	4	2.2	2	4	2.2
19	2	6	1.9	2	6	4.8	2	6	9.6	2	6	14.3
20	2	6	1.9	2	4	2.2	2	6	4.8	2	6	1.9
21	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
22	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
23	2	4	2.2	2	4	2.2	2	6	1.9	2	6	1.9
24	2	4	2.2	2	6	2.9	2	6	9.6	2	6	4.8
25	2	6	1.9	2	4	2.2	2	4	2.2	2	4	2.2
26	2	4	2.2	2	4	2.2	2	6	4.8	2	6	1.9
27	2	6	1.9	2	6	4.8	2	6	4.8	2	6	4.8
28	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
29	0.0			0.0			0.0			0.0		
30	0.0			0.0			0.0			0.0		

MICROSEISMIC ACTIVITY

DECEMBER 1973

COMPONENT NS

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
2	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
3	2	4	3.2	2	4	3.2	2	4	3.2	2	4	3.2
4	2	4	3.2	2	4	3.2	2	6	4.4	2	6	8.7
5	2	4	5.3	2	4	5.3	2	4	3.2	2	4	3.2
6	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
7	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
8	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
9	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
10	2	4	2.1	2	4	2.1	2	4	5.3	2	4	5.3
11	2	4	3.2	2	4	3.2	2	6	8.7	2	4	10.6
12	2	4	2.1	2	4	2.1	2	6	10.5	2	6	10.5
13	2	6	7.0	2	6	4.4	2	6	8.7	2	6	8.7
14	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
15	2	4	5.3	2	4	5.3	2	4	2.1	2	4	2.1
16	2	4	2.1	2	4	2.1	2	4	2.1	2	4	5.3
17	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
18	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
19	2	4	2.1	2	4	2.1	2	4	10.6	2	4	10.6
20	2	4	2.1	2	4	5.3	2	6	2.6	2	6	2.6
21		
22			2	4	2.1	2	4	2.1
23	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
24	2	4	2.1	2	4	2.1	2	4	2.1	0.0		
25	0.0			0.0			0.0			0.0		
26	0.0			0.0			2	4	2.1	2	4	2.1
27	2	4	2.1	2	4	2.1	2	6	7.0	2	6	8.7
28	2	6	8.7	2	4	5.3	2	4	10.6	2	4	10.6
29	2	4	5.3	2	4	5.3	2	6	10.5	2	6	10.5
30	2	6	8.7	2	6	8.7	2	6	8.7	2	6	8.7
31	0	0.0		0	0.0		0	0.0		0	0.0	



MICROSEISMIC ACTIVITY

DECEMBER 1973

COMPONENT EW

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
2	2	4	2.2	0.0			2	4	2.2	2	4	2.2
3	2	4	2.2	2	4	2.2	2	6	2.9	2	6	2.9
4	2	6	2.9	2	6	2.9	2	6	7.6	2	6	9.6
5	2	6	2.9	2	6	2.9	2	6	2.9	2	4	2.2
6	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
7	2	4	2.2	2	4	2.2	2	6	2.9	2	6	2.9
8	2	4	2.2	2	6	1.9	2	6	1.9	2	6	1.9
9	2	4	2.2	2	4	2.2	2	6	2.9	2	4	2.2
10	2	4	2.2	2	4	2.2	2	6	2.9	2	6	2.9
11	2	6	4.8	2	6	4.8	2	6	4.8	2	6	4.8
12	2	6	4.8	2	4	6.5	2	6	9.6	2	6	9.6
13	2	6	9.6	2	6	9.6	2	6	9.6	2	6	4.8
14	2	6	9.6	2	6	4.8	2	6	4.8	2	6	4.8
15	2	6	4.8	2	6	9.6	2	6	4.8	2	6	4.8
16	2	6	4.8	2	6	4.8	2	6	4.8	2	6	9.6
17	2	6	4.8	2	6	4.8	2	6	4.8	2	4	2.2
18	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
19	2	4	2.2	2	4	2.2	2	6	9.6	2	6	9.6
20	2	6	9.6	2	6	9.6	2	4	2.2	2	4	2.2
21	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
22	2	4	2.2	2	4	2.2	2	4	2.2	2	4	2.2
23	2	4	2.2	2	4	2.2	0.0			0.0		
24	0.0			0.0			0.0			0.0		
25	0.0			0.0			0.0			0.0		
26	0.0			0.0			0.0			0.0		
27	0.0			0.0			2	4	2.2	2	4	2.2
28	2	4	2.2	2	4	2.2	2	4	5.4	2	4	10.9
29	2	4	5.4	2	4	5.4	2	4	5.4	2	4	5.4
30	2	4	2.2	2	4	2.2	2	6	11.5	2	6	11.5
31	2	6	9.6	2	4	5.4	2	4	5.4	2	4	5.4



Macroseismic Observations
of Earthquakes on the Territory
of Slovakia in the Year 1973

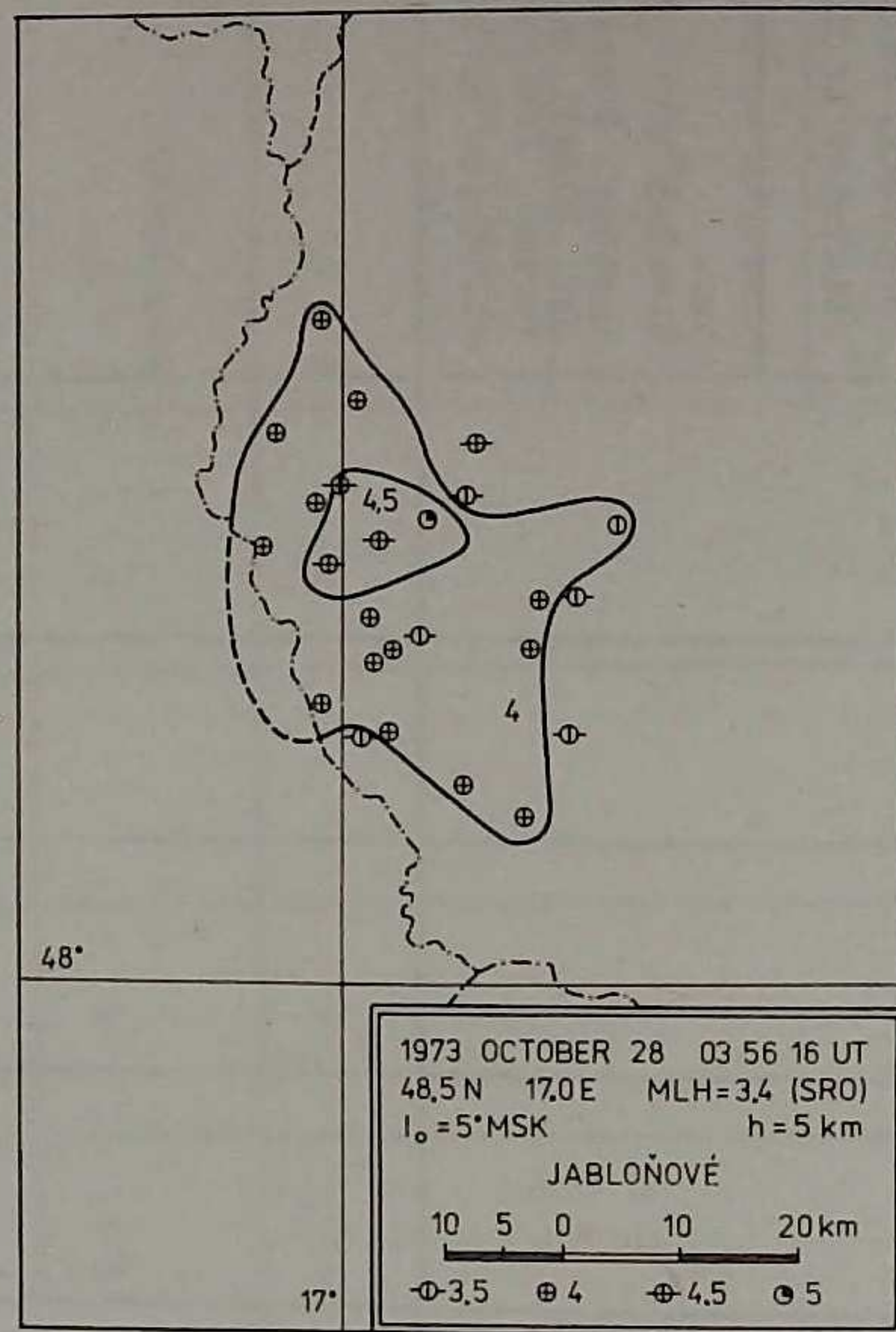
Macroseismic Observations 1973

Date	Origin time	Location	Latitude North	Longitude East	Focal depth/km	Shaken area/km ²	Epicentral Int. /MCS/	Felt at
March 5	13 05 /BRA/	West Slovakia	48.1°	17.0°			3°	I = 3° Bratislava
June 12	21 03 /BRA/	Austria	47.6°	15.3°	5		6°	I = 3° Bratislava
October 28	03 56 /BRA/	Little Carpat-hians	48.5°	17.0°	5		5°	I = 5° Jabloňové /District of Bratislava/
								I = 4.5° Lozorno, Plav.Štvrtok, Zohor /District of Bratislava/
								I = 4° Bratislava, Dev. Nová Ves, Jakubov, Jur pri Bratislave, Láb, Lamač, Limbach, Malacky, Marianka, Modra, Podunajské Biskupice, Stupava, Viničné

									Vysoká pri Morave, Záhorská Bystrica /District of Bratislava/ Košariská, Malé Leváre /District of Senica/
									I = 3.5° Borinka, Dúbravka, Ivánka pri Dunaji, Kuchyňa, Pernek, Pezinok /District of Bratislava/



International
Seismological
Centre



MAP OF ISOSEISMALS

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