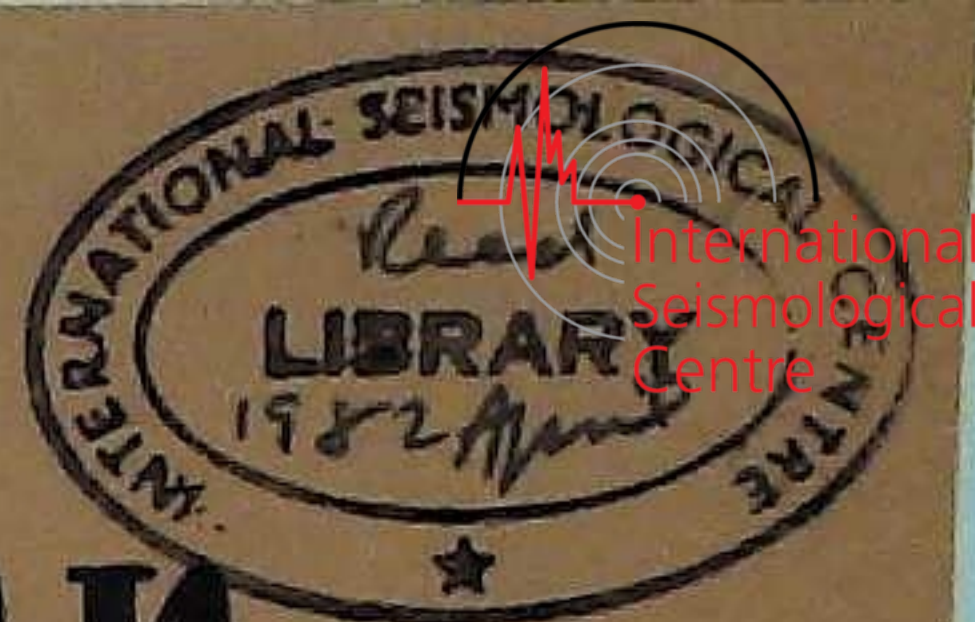


**BULLETIN  
OF THE SLOVAK  
SEISMOGRAPHIC  
STATIONS**



**BRATISLAVA  
ŠROBÁROVÁ  
HURBANOV  
AND  
SKALNATÉ PLESO  
FOR THE YEAR 1974**



**Bulletin**  
of the Slovak Seismographic  
Stations Bratislava, Šrobárová  
Hurbanovo and Skalnaté Pleso  
for the Year 1974

Editor  
Klára Mrázová

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

The seismological bulletin for the year 1974 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. 11, 1974; Bulletin of BCIS, 1974; Quarterly Bulletin of the Academy of Sciences of the U.S.S.R., 1974. 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 to 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 were the calculations of surface-wave magnitudes at distances less than  $6^\circ$ . 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 was developed for the station Šrobárová [8]. The value of station correction for Šrobárová is -0.22 and the standard error  $\pm 0.03$ . 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 G.M.T. 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. Z. Ferechová, Mrs. A. Stranovská and Mrs. J. Šajgalíková. 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.12, 13/ 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 to 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  $6^\circ$ . 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 to  $|O-C|$ , 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	PcP	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 P waves
SKSDE	SKS	transformed back into S waves in the mantle;



		the letter DE designates the branch DE according to [1]
PKSAB	PKS	P wave transformed into S on the refraction
PKSBC	PKS	when leaving the core; AB, BC and DF
PKSDF	PKS	designate the branches according to [1]
SKPAB	SKP	S wave transformed into P on the refraction
SKPBC	SKP	when leaving the core; AB, BC and DF
SKPDF	SKP	designate the branches according to [1]
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
APKP	pPKP	PKP waves reflected from the surface, supposing deep-focus earthquake
APKIKP	pPKIKP	PKIKP waves reflected from the surface, supposing deep-focus earthquake
APKIKP	pPKP2	PKP2 waves reflected from the surface, supposing deep-focus earthquake
APKIKP	pPKHKP	PKHKP waves reflected from the surface, supposing deep-focus earthquake
PDIFP	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

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 - 108	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 - 32
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	pPKIKP	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	PKPEX	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/ [5].

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
- $\xi$  :1 damping ratio
- H origin time
- DEPTH 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



$\zeta^2$  coupling coefficient  
 $T_g$  free period of the galvanometer  
 $T_s$  free period of the seismometer  
 $V_0$  static magnification  
 $V_m$  max. dynamic magnification  
+ and - compressional or dilatational motion in a longitudinal wave  
NE nuclear explosion

Station Instrumentation



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 1974

HURBANOVOC

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

Month	Component	$T_s$ [s]	$V_0$	$r$ [mm]	$\xi:1$	Paper speed
January-June	N-S	8.1	50.0	0.9	3.6	30 mm/min
	E-W	9.8	51.0	2.0	3.2	
June-December	N-S	8.1	47.1	0.7	3.6	30 mm/min
	E-W	9.2	56.0	1.7	3.4	



"VEGIK", electromagnetic seismograph with galvanometric registration  
1974, Jan. 01-Dec. 31

Component	$T_s$ [s]	$T_G$ [s]	$D_s$	$D_G$	$\sigma^2$	A [m]	l [m]	$K_1$ [kg m <sup>2</sup> ]	$K_2$ [kg m <sup>2</sup> · 10 <sup>-8</sup> ]	Paper speed
Z	1.4	1.27	0.57	1.42	0.25	0.5	0.094	0.01	0.081	15 mm/min
N-S	1.27	1.15	0.50	1.52	0.085	0.5	0.0934	0.0101	0.077	15 mm/min
E-W	1.27	1.15	0.51	1.51	0.092	0.5	0.0940	0.0098	0.08	15 mm/min

## ŠROBÁROVÁ

"KIPNOS", electromagnetic seismograph with galvanometric registration, class "C"  
according to [7]

1974, Jan. 01-Oct. 31

Component	$T_s$ [s]	$T_G$ [s]	$D_s$	$D_G$	$\sigma^2$	A [m]	l [m]	$K_1$ [kg m <sup>2</sup> ]	$K_2$ [kg m <sup>2</sup> · 10 <sup>-8</sup> ]	Paper speed
Z	20.5	1.20	0.46	7.27	0.204	0.93	0.488	0.362	0.493	15 mm/min
N-S	23.0	1.20	0.41	7.69	0.219	0.98	0.488	0.358	0.502	15 mm/min
E-W	25.3	1.16	0.46	7.21	0.293	0.98	0.499	0.353	0.470	15 mm/min

## ŠROBÁROVÁ

"KIRMOS", electromagnetic seismograph with galvanometric registration, class "C"  
according to [7]

1974, Nov. 01-Dec. 31

Component	$T_s$ [s]	$T_G$ [s]	$D_s$	$D_G$	$\sigma^2$	A [m]	l [m]	$K_1$ [kg m <sup>2</sup> ]	$K_2$ [kg m <sup>2</sup> · 10 <sup>-8</sup> ]	Paper speed
Z	20.9	1.16	0.43	7.85	0.234	0.93	0.488	0.362	0.425	15 mm/min
N-S	21.7	1.20	0.42	7.41	0.245	0.98	0.488	0.358	0.409	15 mm/min
E-W	24.8	1.16	0.50	7.75	0.264	0.98	0.499	0.358	0.406	15 mm/min

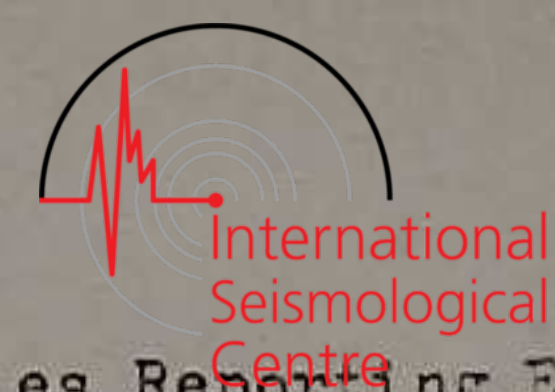


SKALNATE PLESO

"VEGIK", electromagnetic seismograph with galvanometric registration

1974, Jan.01-Dec.31

Component	Ts [ s ]	Tg [ s ]	Ds	Dg	$\sigma^2$	Vm [ 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 U.S.S.R., Institute of Physics of the Earth, Moscow, U.S.S.R.
NEIS	National Earthquake Information Service, Denver, Colorado, U.S.A.
PRU	Práhonice, Geophysical Institute, Czechoslovak Academy of Sciences, Prague, Czechoslovakia
UPP	Uppsala, Seismological Institute, Uppsala, Sweden
USAEC	U.S. Atomic Energy Commission, Washington, U.S.A.
VIE	Vienna, Zentralanstalt für Meteorologie und Geodynamik, Wien, Austria
WAR	Warsaw, Geophysical Institute of the Polish Academy of Sciences, Warsaw, Poland

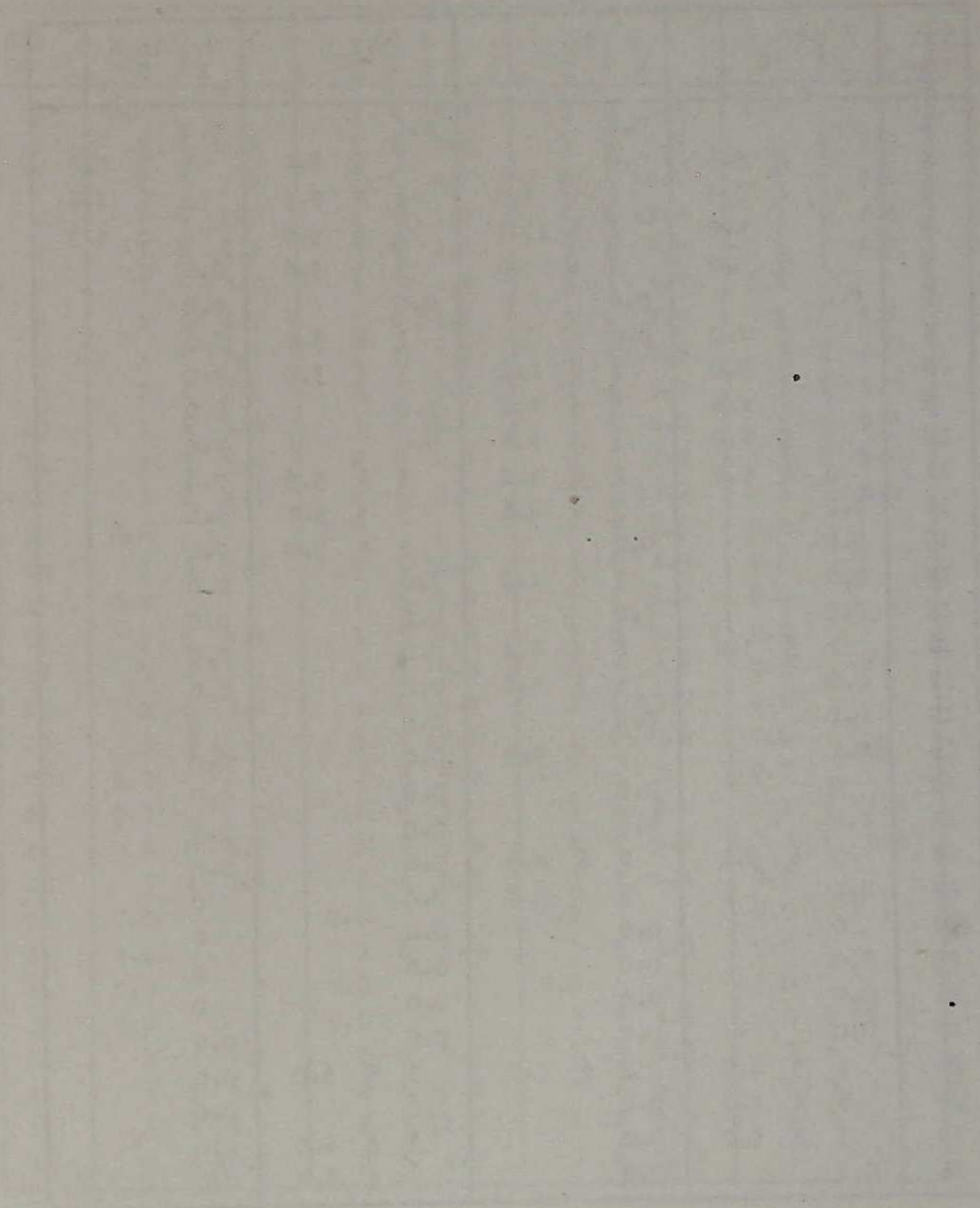


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Observations of Microseisms  
at the Station H u r b a n o v o





MICROSEISMIC ACTIVITY  
COMPONENT EW

JANUARY 1974

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	3	4	5.3	0.0			3	5	5.0	3	5	5.0
3	3	4	8.5	2	6	5.5	2	7	8.3	3	6	4.6
4	3	5	5.0	2	6	13.7	3	5	5.0	3	4	5.3
5	3	5	5.0	3	6	4.6	3	5	5.0	0.0		
6	0.0			0.0			0.0			0.0		
7	3	5	4.0	0.0			3	6	9.2	0.0		
8	3	5	5.0	2	6	8.2	3	5	3.0	0.0		
9	3	6	4.6	3	6	9.2	0.0			0.0		
10	3	5	6.0	3	5	9.9	0.0			0.0		
11	3	6	9.2	2	6	9.2	3	6	5.5	0.0		
12	0.0			3	6	4.6	3	5	5.0	0.0		
13	0.0			0.0			3	5	5.0	0.0		
14	0.0			3	6	4.6	0.0			0.0		
15	0.0			0.0			0.0			0.0		
16	3	5	5.0	2	4	6.4	0.0			0.0		
17	0.0			3	6	9.2	0.0			0.0		
18	0.0			0.0			0.0			0		
19	0.0			3	5	9.9	0.0			0.0		
20	0			0.0			0.0			0.0		
21	0.0			0.0			0.0			0.0		
22	3	6	9.2	2	6	4.6	0.0			0.0		
23	0.0			3	4	5.3	0.0			0		
24	0			0.0			0.0			0		
25	0.0			0.0			0.0			0		
26	0.0			0.0			0.0			0		
27	0.0			0.0			0.0			0		
28	1	5	6.0	3	6	9.2	3	5	5.0	0.0		
29	3	4	4.3	0.0			0.0			0.0		
30	3	5	5.0	0.0			3	5	6.0	0.0		
31	0.0			0.0			3	6	9.2	0.0		



MICROSEISMIC ACTIVITY  
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			3	6	4.4	3	5	5.9	0.0		
2	3	6	8.8	2	6	5.3	3	6	5.3	3	5	4.9
3	2	6	7.9	2	6	9.7	2	5	10.7	2	7	4.8
4	2	6	8.8	2	5	9.8	2	6	13.2	3	5	4.9
5	3	6	6.2	3	6	4.4	3	5	9.8	3	3	5.7
6	3	6	4.4	3	5	4.9	3	3	5.7	0.0		
7	3	5	4.9	3	6	13.2	3	6	5.3	3	6	9.7
8	3	6	7.9	2	7	7.2	2	4	8.5	3	5	2.9
9	2	4	7.5	1	5	9.8	3	4	5.3	3	7	8.0
10	1	6	5.3	3	4	10.7	3	6	8.8	3	5	9.8
11	3	5	9.8	2	7	8.8	2	5	7.8	3	5	9.8
12	3	6	4.4	2	5	4.9	3	5	13.7	3	7	8.0
13	0.0			0.0			3	5	5.9	0.0		
14	3	5	9.8	1	4	10.7	3	5	4.9	0.0		
15	0.0			1	5	5.9	3	4	6.4	0.0		
16	3	5	9.8	1	5	9.8	3	5	9.8	0.0		
17	3	4	10.7	1	5	9.8	3	5	5.9	0.0		
18	3	6	4.4	1	6	5.3	3	6	13.2	0.0		
19	3	5	10.7	1	4	10.7	3	6	8.8	0.0		
20	0.0			3	5	9.8	0.0			0.0		
21	0.0			2	6	5.3	2	6	8.8	3	5	4.9
22	3	5	5.9	2	5	9.8	1	5	9.8	3	6	8.8
23	3	4	6.4	2	5	8.8	3	4	6.4	0.0		
24	0.0			0.0			0.0			0.0		
25	0.0			3	6	8.8	3	5	4.9	0.0		
26	0.0			0.0			0.0			0		
27	0.0			0.0			3	5	4.9	3	6	8.8
28	1	4	6.4	2	6	9.7	1	5	9.8	3	6	8.8
29	3	5	9.8	2	5	10.7	3	4	6.4	3	5	9.8
30	3	5	4.9	2	5	14.6	1	6	9.7	3	5	9.8
31	3	4	10.7	3	5	4.9	3	6	0.0	3	5	5.9



MICROSEISMIC ACTIVITY

FEBRUARY 1974

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	5	6.0	3	5	8.0	0.0		
2	0.0			0.0			0.0			0.0		
3	0.0			0.0			0.0			0.0		
4	0.0			0.0			0.0			0.0		
5	0.0			0.0			0.0			0		
6	0.0			3	5	14.9	3	6	5.5	0.0		
7	0.0			3	4	4.3	0.0			0.0		
8	0.0			0.0			3	6	9.2	0.0		
9	0.0			3	6	5.5	3	5	5.0	0.0		
10	0.0			3	5	5.0	3	4	10.6	3	5	6.0
11	3	5	9.9	3	6	14.7	3	6	9.2	0.0		
12	3	5	8.0	0.0			0.0			0		
13	0.0			0.0			0.0			0.0		
14	0.0			0.0			0.0			0		
15	0.0			3	6	5.5	0.0			0		
16	0.0			0.0			0.0			0.0		
17	0			0.0			0.0			0.0		
18	0.0			0.0			0.0			0		
19	0.0			0.0			0.0			0		
20	0.0			0.0			0.0			0		
21	0.0			0.0			0.0			0.0		
22	0.0			0.0			0.0			0		
23	0.0			0.0			0.0			0		
24	0			0.0			0			0		
25	0			0.0			0.0			0		
26	0.0			0.0			3	6	9.2	0.0		
27	0			0.0			0.0			0		
28	0.0			0.0			0.0			0.0		



International  
Seismological  
Centre

MICROSEISMIC ACTIVITY

FEBRUARY 1974

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	5.3	1	6	8.8	3	5	5.9	0.0		
2	0.0			0.0			0.0			0.0		
3	0.0			0.0			0.0			0.0		
4	0.0			3	5	4.9	0.0			0.0		
5	0.0			3	5	4.9	0.0			0.0		
6	3	6	8.8	1	7	6.0	1	6	6.8	3	6	8.8
7	3	6	8.8	3	6	8.8	3	5	5.9	0.0		
8	0.0			3	5	8.8	3	6	7.0	0.0		
9	3	6	8.8	1	6	7.9	1	6	16.7	2	5	9.8
10	3	6	8.8	3	6	13.2	3	5	9.8	3	5	4.9
11	3	6	8.8	2	6	13.2	1	6	9.8	3	6	10.6
12	3	6	7.9	3	6	9.7	3	5	9.8	0.0		
13	3	6	8.8	1	6	5.3	3	5	9.8	0.0		
14	3	5	9.3	3	6	13.2	3	6	13.2	3	6	7.8
15	3	5	9.8	1	6	5.3	3	6	7.9	0.0		
16	3	5	9.8	3	6	5.3	3	6	8.8	0.0		
17	0.0			0.0			0.0			0		
18	0.0			3	5	4.9	3	5	4.9	0.0		
19	0.0			0.0			0.0			0.0		
20	0.0			0.0			0.0			0		
21	0			0.0			0.0			0		
22	0.0			3	5	4.9	0.0			0.0		
23	0.0			3	6	5.3	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			3	6	5.3	3	5	5.9	0.0		
27	0.0			0.0			3	4	10.7	0.0		
28	0.0			0.0			0.0			0.0		



MICROSEISMIC ACTIVITY  
COMPONENT EW

MARCH 1974

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			0.0			0.0		
4	0			0.0			0.0			0.0		
5	0.0			3 4 5.3			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	0.0			0.0			0.0			0.0		
10	0.0			0.0			0.0			0.0		
11	0.0			0.0			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			0.0			0.0		
15	0.0			3 4 6.4			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	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			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	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  
COMPONENT NS

MARCH 1974

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1		3	5 5.9	1	5	15.6	3	6	4.4	...		
2	...			0.0			0.0			0		
3	0.0			0			0			0		
4	0.0			3	4	5.3	0.0			0.0		
5		3	4 5.3	3	5	7.8	3	5	7.8	0.0		
6	0.0			0.0			0.0			0		
7	0.0			0.0			0.0			0		
8	0.0			3	5	5.9	3	4	4.3	0.0		
9	0.0			0.0			0.0			0.0		
10	0.0			0.0			0			0.0		
11	0.0			0.0			3	5	11.7	0		
12	0.0			0.0			0.0			0.0		
13	0			0.0			0.0			0		
14	0			0.0			0.0			0.0		
15	0.0			0.0			0.0			0.0		
16		3	4 5.3	3	5	7.8	3	4	5.3	0.0		
17	0			0.0			3	5	4.9	0.0		
18	0.0			3	5	4.9	3	6	5.3	0.0		
19		3	6 4.4	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			3	4	10.7	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		
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  
COMPONENT EW

APRIL 1974

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			0.0			0.0		
4	0.0			0.0			0.0			0		
5	0.0			0.0			0.0			0.0		
6	0.0			0.0			0.0			0		
7	0.0			0.0			0			0		
8	0.0			3	4	6.4	0.0			0.0		
9	0.0			3	4	5.3	0.0			0		
10	0.0			0.0			0.0			0.0		
11	0.0			0.0			0.0			0		
12	0.0			0.0			0.0			0		
13	0.0			3	6	4.6	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		
17	0.0			0.0			0.0			0		
18	0.0			0.0			0.0			0		
19	0.0			0.0			0.0			0.0		
20	0			0.0			0			0		
21	0.0			0			0.0			0.0		
22	0.0			0.0			0.0			0		
23	0.0			0.0			0.0			0.0		
24	0.0			0.0			0.0			0		
25	0.0			0.0			0.0			0		
26	0			0.0			0.0			0		
27	0.0			0.0			0.0			0.0		
28	0.0			0			0.0			0.0		
29	0.0			0.0			0.0			0		
30	0.0			0.0			0.0			0.0		



MICROSEISMIC ACTIVITY  
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			0.0			0		
3	0.0			0.0			0.0			0.0		
4	0.0			0.0			0.0			0.0		
5	0.0			0.0			0.0			0		
6	0.0			0.0			0.0			0.0		
7	0.0			0			0.0			0		
8	0.0			1	5	4.9	3	4	6.4	0.0		
9	0.0			3	4	4.3	0.0			0.0		
10	0.0			0.0			0.0			3	4	4.3
11	0.0			3	4	6.4	0.0			0		
12	0.0			0.0			3	5	4.9	0.0		
13	0.0			0.0			0.0			0.0		
14	0			0.0			0			0.0		
15	0.0			0.0			0.0			0.0		
16	0.0			0.0			0.0			0		
17	0.0			0.0			0.0			0		
18	0.0			0.0			0.0			0		
19	0.0			0.0			0.0			0		
20	0.0			0.0			0.0			0		
21	0			0			0.0			0.0		
22	0.0			0.0			0.0			0.0		
23	0.0			0.0			0.0			0		
24	0			0.0			0.0			0.0		
25	0.0			0.0			0.0			0.0		
26	0.0			0.0			0.0			0		
27	0			0.0			0.0			0.0		
28	0.0			0			0.0			0.0		
29	0			0.0			0.0			0		
30	0.0			0.0			0.0			0.0		



MICROSEISMIC ACTIVITY  
COMPONENT EW

MAY 1974

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	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
3	2	2	2.3	2	4	2.1	2	4	2.1	2	6	1.8
4	2	4	2.1	2	4	2.1	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	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	2	2.3	2	2	2.3	2	2	2.3	2	2	2.3
9	0.0			0.0			0.0			0.0		
10	0.0			0.0			0.0			0.0		
11	2	4	2.1	2	4	3.2	2	4	3.2	2	4	2.1
12	2	4	2.1	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	2	2.3	2	2	2.3	2	4	2.1
15	2	4	2.1	2	4	2.1	2	2	2.3	2	4	2.1
16	0.0			0.0			0.0			0.0		
17	2	2	2.3	2	4	5.3	2	4	2.1	2	4	2.1
18	0.0			0.0			0.0			2	4	2.1
19	2	4	2.1	2	4	3.2	2	4	2.1	2	4	2.1
20	2	4	3.2	2	4	3.2	2	4	3.2	2	4	2.1
21	2	2	2.3	2	4	2.1	2	4	3.2	2	2	2.3
22	2	2	2.3	2	4	3.2	2	4	3.2	2	2	2.3
23	0.0			2	2	2.3	2	4	3.2	2	2	2.3
24	0.0			2	2	2.3	2	4	3.2	2	2	2.3
25	0.0			2	2	2.3	2	2	2.3	2	4	2.1
26	2	2	2.3	2	4	3.2	2	4	2.1	2	2	2.3
27	2	2	2.3	2	4	2.1	2	4	2.1	2	2	2.3
28	2	2	3.5	2	2	2.3	2	4	3.2	2	2	2.3
29	2	2	2.3	2	2	2.3	2	2	3.5	2	2	2.3
30	0.0			2	2	2.3	2	4	3.2	2	2	2.3
31	2	2	2.3	2	4	2.1	2	6	4.6	2	2	2.3



MICROSEISMIC ACTIVITY  
COMPONENT NS

MAY 1974

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	2	3	2.3	2	2	2.4	2	4	2.1	2	3	2.3
3	2	4	2.1	2	4	2.1	2	4	2.1	2	2	2.4
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	2	2	2.4	2	2	2.4	2	2	2.4	2	2	2.4
9	0.0			0.0			0.0			0.0		
10	0.0			0.0			0.0			0.0		
11	2	4	2.1	2	6	2.6	2	4	2.1	2	2	2.4
12	0.0			0.0			0.0			0.0		
13	2	4	2.1	2	4	2.1	2	2	2.4	2	2	2.4
14	0.0			0.0			0.0			0.0		
15	2	4	2.1	2	4	2.1	2	4	2.1	2	4	2.1
16	2	4	3.2	2	4	2.1	2	4	2.1	2	2	2.4
17	0.0			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			2	4	2.1	2	4	2.1	2	4	2.1
21	0.0			0.0			0.0			0.0		
22	0.0			0.0			0.0			0.0		
23	2	2	2.4	2	2	3.6	2	2	2.4	2	2	2.4
24	0.0			2	2	2.4	2	2	2.4	0.0		
25	...			...			...			...		
26	2	2	2.4	2	4	2.1	2	4	2.1	2	4	3.2
27	0.0			2	2	2.4	2	2	2.4	0.0		
28	0.0			2	2	2.4	2	4	2.1	2	2	2.4
29	...			0.0			...			...		
30	0.0			2	2	2.4	2	2	2.4	0.0		
31	0.0			0.0			0.0			0.0		



MICROSEISMIC ACTIVITY  
COMPONENT EW

JUNE 1974

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	2	4	1.9	2	4	1.9	2	2	2.1	2	2	2.1
3	2	4	1.9	2	4	1.9	2	4	1.9	2	2	2.1
4	2	2	2.1	2	2	2.1	2	2	2.1	2	2	2.1
5	2	2	2.1	2	4	1.9	2	4	1.9	2	2	2.1
6	0.0			2	4	1.9	2	4	1.9	2	2	2.1
7	2	2	2.1	2	4	1.9	2	4	1.9	2	2	2.1
8	2	2	2.1	2	2	2.1	2	2	2.1	2	2	2.1
9	0.0			2	2	2.1	2	4	2.9	2	4	1.9
10	0.0			2	2	2.1	2	2	2.1	2	2	2.1
11	0.0			2	4	2.9	2	4	2.9	2	2	2.1
12	0.0			2	2	2.1	2	2	2.1	2	2	2.1
13	0.0			2	4	2.9	2	4	2.9	2	2	2.1
14	0.0			2	2	2.1	2	4	2.9	0.0		
15	0.0			0.0			0.0			0.0		
16	...			2	2	2.1	2	2	2.1	...		
17	0.0			2	4	1.9	2	2	2.1	2	2	2.1
18	0.0			2	2	2.1	2	4	2.9	2	2	2.1
19	2	2	2.1	2	4	2.9	2	4	2.9	2	2	2.1
20	2	2	2.1	2	2	2.1	2	4	2.9	2	2	2.1
21	0.0			2	2	2.1	2	2	2.1	2	2	2.1
22	2	4	1.9	2	2	2.1	2	2	2.1	2	4	1.9
23	2	2	2.1	2	2	2.1	2	2	2.1	2	4	1.9
24	0.0			2	2	2.1	2	4	1.9	0.0		
25	0.0			2	4	2.9	2	4	2.9	0.0		
26	2	2	2.1	2	4	2.9	2	4	2.9	2	2	2.1
27	2	2	2.1	2	2	2.1	2	4	2.9	2	4	1.9
28	2	2	2.1	2	4	1.9	2	4	2.9	2	2	2.1
29	2	2	2.1	2	6	4.1	2	6	4.1	2	2	2.1
30	2	2	2.1	2	2	2.1	2	6	2.5	2	4	1.9



MICROSEISMIC ACTIVITY  
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	2	2	2.6	2	2	2.6	2	2	2.6	2	2	2.6
3	2	2	2.6	2	4	2.3	2	4	2.3	2	2	2.6
4	0.0			2	2	2.6	2	4	2.3	2	2	2.6
5	2	2	2.6	2	4	2.3	2	4	2.3	2	2	2.6
6	0.0			2	2	2.6	2	2	2.6	2	2	2.6
7	0.0			0.0			0.0			0.0		
8	0.0			0.0			0.0			0.0		
9	0.0			2	2	2.6	2	2	2.6	0.0		
10	0.0			2	2	2.6	2	4	2.3	2	2	2.6
11	0.0			2	2	2.6	2	2	2.6	2	2	2.6
12	0.0			2	2	2.6	2	2	2.6	2	2	2.6
13	0.0			2	2	2.6	2	2	2.6	0.0		
14	0.0			2	2	2.6	2	4	3.4	0.0		
15	0.0			0.0			0.0			0.0		
16	0.0			0.0			0.0			0.0		
17	0.0			2	2	2.6	2	2	2.6	0.0		
18	0.0			2	4	2.3	2	2	2.6	0.0		
19	0.0			2	2	2.6	2	4	3.4	2	2	2.6
20	0.0			2	4	3.4	2	2	2.6	2	2	2.6
21	0.0			2	2	2.6	2	2	2.6	0.0		
22	0.0			2	2	2.6	2	2	2.6	0.0		
23	0.0			0.0			0.0			0.0		
24	0.0			0.0			2	2	2.6	0.0		
25	0.0			2	2	2.6	2	2	2.6	2	4	3.4
26	0.0			2	2	2.6	2	4	2.3	0.0		
27	0.0			2	2	2.6	2	2	2.6	0.0		
28	0.0			2	2	2.6	2	2	2.6	2	2	2.6
29	0.0			2	2	2.6	2	2	2.6	2	2	2.6
30	0.0			2	2	2.6	2	2	2.6	2	2	2.6



MICROSEISMIC ACTIVITY  
COMPONENT EW

JULY 1974

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	2	2.1	2	4	1.9	2	4	2.9	2	6	2.5
2	2	9	7.1	2	2	2.1	2	4	0.0	2	6	8.3
3	0.0			2	2	3.2	2	2	3.2	2	4	9.7
4	2	2	2.1	2	2	3.2	2	4	10.7	2	2	2.1
5	2	2	2.1	2	4	2.9	2	4	5.8	2	2	2.1
6	TT			2	4	2.9	2	4	5.8	2	4	2.9
7	2	4	2.9	2	6	6.6	2	2	4.3	2	4	1.9
8	0.0			2	4	2.9	2	4	4.9	2	2	2.1
9	2	4	1.9	2	2	3.2	2	4	4.9	2	4	7.8
10	2	4	2.9	2	4	2.9	2	4	4.9	2	4	4.9
11	2	2	2.1	2	4	1.9	2	4	4.9	2	2	3.2
12	0.0			2	4	1.9	2	4	4.9	2	2	2.1
13	TT			2	2	2.1	2	2	3.2	2	2	3.2
14	0.0			0.0			2	2	2.1	2	4	2.9
15	2	2	2.1	2	4	4.9	2	2	3.2	2	4	4.9
16	TT			2	2	3.2	2	2	3.2	2	2	2.1
17	TT			2	2	3.2	2	2	3.2	0.0		
18	0.0			2	4	4.9	2	6	4.1	2	4	1.9
19	2	2	2.1	2	4	4.9	2	4	2.9	2	2	3.2
20	2	2	2.1	2	4	1.9	2	4	4.9	2	4	1.9
21	2	4	2.9	2	4	2.9	2	4	2.9	2	4	1.9
22	TT			2	4	2.9	2	4	4.9	TT		
23	2	5	2.9	2	4	1.9	2	2	2.1	2	2	2.1
24	2	2	3.2	2	4	2.9	2	4	2.9	2	2	2.1
25	2	2	3.2	2	2	3.2	2	4	4.9	2	4	2.9
26	2	2	2.1	2	2	3.2	2	4	2.9	2	4	2.9
27	2	2	3.2	2	4	2.9	2	4	4.9	2	2	2.1
28	2	2	3.2	2	2	2.1	2	2	3.2	2	2	3.2
29	0.0			2	4	1.9	2	4	1.9	2	2	2.1
30	2	4	2.9	2	4	1.9	2	2	2.1	2	4	1.9
31	2	2	2.1	2	4	2.9	2	4	1.9	2	4	2.9



MICROSEISMIC ACTIVITY  
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	2	2.6	2	2	2.6	2	2	3.8	2	2	3.8
2	2	2	3.8	2	2	3.8	2	2	2.6	2	2	2.6
3	0.0			0.0			0.0			0.0		
4	0.0			2	4	3.4	2	2	2.6	2	2	2.6
5	0.0			2	2	2.6	2	2	3.8	2	2	2.6
6	2	2	2.6	2	2	2.6	2	2	2.6	2	3	2.4
7	0.0			2	2	2.6	2	2	2.6	2	2	2.6
8	2	2	2.6	2	2	2.6	2	2	2.6	2	2	5.1
9	2	2	2.6	2	2	3.8	2	2	3.8	2	2	3.8
10	2	2	2.6	2	4	2.3	2	4	2.3	2	3	3.7
11	0.0			2	2	2.6	2	2	2.6	2	2	2.6
12	0.0			2	2	2.6	2	4	3.4	2	2	2.6
13	0.0			2	2	2.6	2	4	3.4	2	2	2.6
14	2	2	2.6	2	2	2.6	2	2	2.6	2	2	2.6
15	2	2	2.6	2	2	3.8	2	4	5.7	2	2	3.8
16	2	2	2.6	2	2	3.8	2	2	3.8	2	2	3.8
17	0.0			2	4	2.3	2	4	3.4	2	2	2.6
18	2	2	2.6	2	4	2.3	2	4	2.3	2	4	2.3
19	2	2	2.6	2	3	2.4	2	4	3.4	2	2	2.6
20	2	4	2.3	2	2	2.6	2	2	2.6	2	2	3.8
21	2	2	2.6	2	2	3.8	2	2	3.8	2	2	2.6
22	0.0			2	2	3.8	2	2	3.8	2	2	2.6
23	2	2	2.6	2	2	3.8	2	2	2.6	2	2	2.6
24	2	2	2.6	2	4	2.3	2	2	3.8	2	2	2.6
25	2	2	2.6	2	4	2.3	2	4	2.3	2	2	2.6
26	0.0			2	2	2.6	2	2	2.6	2	2	2.6
27	0.0			2	2	2.6	2	2	3.8	0.0		
28	2	2	2.6	2	2	2.6	2	2	3.8	0.0		
29	0.0			2	2	2.6	2	2	2.6	0.0		
30	2	2	2.6	2	2	2.6	2	2	2.6	2	2	2.6
31	0.0			2	3	2.6	2	2	2.6	2	2	2.6



MICROSEISMIC ACTIVITY  
COMPONENT EW

AUGUST 1974

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	2	2	2.1	2	4	1.9	2	2	2.1	2	2	2.1
2	2	2	3.2	2	4	1.9	2	4	2.9	2	2	2.1
3	0.0			0.0			2	4	1.9	2	4	2.9
4	0.0			2	2	2.1	2	2	3.2	2	4	2.9
5	2	2	2.1	2	2	2.1	2	2	2.1	2	2	2.1
6	0.0			2	2	2.1	2	2	2.1	2	2	2.1
7	0.0			2	2	2.1	2	2	3.2	2	2	2.1
8	0.0			2	2	2.1	2	4	1.9	2	4	1.9
9	0.0			0.0			2	4	1.9	2	2	2.1
10	0.0			0.0			0.0			2	2	2.1
11	0.0			0.0			0.0			0.0		
12	0.0			2	2	2.1	2	2	2.1	0.0		
13	2	2	2.1	2	2	2.1	2	2	2.1	2	4	2.9
14	2	2	2.1	2	2	2.1	2	2	2.1	0.0		
15	2	4	3.9	2	4	1.9	2	2	2.1	2	2	3.2
16	2	4	1.9	2	2	2.1	2	4	1.9	2	2	2.1
17	0.0			2	2	2.1	2	4	2.9	2	5	3.6
18	0.0			0.0			2	4	1.9	0.0		
19	0.0			2	4	2.9	2	2	2.1	0.0		
20	0.0			2	2	2.1	2	2	2.1	2	2	2.1
21	0.0			2	4	1.9	2	2	2.1	2	2	2.1
22	0.0			2	2	2.1	2	2	2.1	0.0		
23	0.0			2	2	2.1	2	2	2.1	2	2	2.1
24	0.0			0.0			2	2	2.1	2	2	3.2
25	0.0			2	2	2.1	2	2	2.1	0.0		
26	2	4	1.9	2	4	1.9	2	2	2.1	2	4	2.9
27	TT			2	2	2.1	2	2	2.1	TT		
28	2	2	2.1	2	4	1.9	2	4	1.9	2	2	2.1
29	0.0			0.0			0.0			0.0		
30	2	2	2.1	0.0			2	2	2.1	0.0		
31	0.0			2	4	1.9	2	4	2.9	0.0		



MICROSEISMIC ACTIVITY  
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			2	4	2.3	2	4	2.3	2	2	2.6
2	2	2	2.6	2	2	2.6	2	2	2.6	2	2	2.6
3	TT			2	2	2.6	2	2	2.6	TT		
4	0.0			0.0			0.0			0.0		
5	0.0			2	2	2.6	2	2	2.6	0.0		
6	0.0			2	2	2.6	2	2	2.6	0.0		
7	0.0			2	2	2.6	2	2	2.6	2	2	2.6
8	0.0			0.0			2	2	2.6	2	2	3.8
9	0.0			0.0			2	2	2.6	0.0		
10	0.0			0.0			0.0			0.0		
11	2	2	2.6	2	2	2.6	2	2	2.6	2	2	2.6
12	0.0			2	2	2.6	2	2	2.6	0.0		
13	0.0			2	2	2.6	2	2	2.6	0.0		
14	2	2	2.6	2	2	2.6	2	2	2.6	2	4	3.4
15	2	2	2.6	2	2	2.6	2	4	2.3	2	4	2.3
16	2	2	2.6	2	4	3.4	2	4	2.3	2	4	2.3
17	0.0			0.0			2	2	2.6	0.0		
18	0.0			0.0			2	9	10.9	0.0		
19	0.0			2	2	2.6	2	2	2.6	2	2	2.6
20	0.0			2	2	2.6	2	4	2.3	2	2	2.6
21	0.0			2	2	2.6	2	2	2.6	2	2	2.6
22	0.0			2	2	2.6	2	2	2.6	0.0		
23	0.0			2	2	2.6	2	2	2.6	2	2	2.6
24	2	2	2.6	2	2	2.6	2	2	2.6	2	2	2.6
25	0.0			0.0			2	2	2.6	2	2	2.6
26	0.0			2	2	2.6	2	2	2.6	2	2	2.6
27	0.0			2	2	2.6	2	4	2.3	0.0		
28	2	2	2.6	2	2	3.8	2	2	3.8	2	2	3.8
29	0.0			0.0			2	2	2.6	0.0		
30	0.0			0.0			0.0			0.0		
31	0.0			2	2	2.6	2	2	2.6	2	2	2.6



MICROSEISMIC ACTIVITY  
COMPONENT EW

SEPTEMBER 1974

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	2.9	2	4	2.9
2	...			2	4	1.9	2	4	3.9	0.0		
3	2	2	2.1	2	2	2.1	2	4	3.9	0.0		
4	0.0			2	4	4.9	2	4	2.9	0.0		
5	0.0			2	2	2.1	2	4	3.9	0.0		
6	2	2	3.2	2	2	2.1	2	2	3.2	2	2	3.2
7	2	2	2.1	2	4	1.9	2	4	1.9	2	4	1.9
8	0.0			2	2	2.1	2	2	3.2	2	2	3.2
9	2	2	2.1	2	2	2.1	2	2	3.2	0.0		
10	2	2	2.1	2	2	3.2	2	4	2.9	2	2	2.1
11	0.0			2	4	1.9	2	4	2.9	2	2	2.1
12	2	3	2.1	0.0			0.0			2	3	3.1
13	0.0			2	2	2.1	2	2	2.1	0.0		
14	0.0			0.0			0.0			0.0		
15	0.0			2	3	3.1	2	2	3.2	0.0		
16	0.0			2	2	2.1	2	2	2.1	0.0		
17	0.0			2	2	2.1	2	2	2.1	0.0		
18	2	2	2.1	2	2	3.2	2	4	2.9	2	2	2.1
19	2	2	2.1	2	3	3.1	2	3	3.1	2	2	2.1
20	2	2	2.1	2	2	4.3	2	2	3.2	2	2	3.2
21	2	2	2.1	2	2	2.1	2	2	2.1	2	2	2.1
22	0.0			2	2	2.1	2	2	2.1	2	2	2.1
23	2	2	2.1	2	2	2.1	2	4	2.9	2	4	1.9
24	2	2	2.1	2	4	2.9	2	4	4.9	2	4	2.9
25	2	2	3.2	2	2	3.2	2	2	3.2	2	2	3.2
26	0.0			2	3	2.1	2	4	2.9	0.0		
27	2	4	2.9	2	4	1.9	2	4	2.9	2	2	2.1
28	2	4	2.9	2	4	2.9	2	4	3.9	2	4	1.9
29	0.0			2	4	4.9	2	4	7.8	2	2	2.1
30	0.0			2	2	2.1	2	2	2.1	0.0		

MICROSEISMIC ACTIVITY  
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	2	2.6	2	2	2.6	2	2	2.6	2	2	3.8
2	0.0			2	2	2.6	2	2	3.8	0.0		
3	0.0			0.0			2	2	3.8	0.0		
4	2	2	2.6	2	2	2.6	2	2	3.8	0.0		
5	0.0			2	2	2.6	2	2	2.6	0.0		
6	0.0			2	2	2.6	2	2	2.6	2	2	2.6
7	0.0			2	2	2.6	2	2	2.6	2	2	2.6
8	2	2	2.6	2	2	2.6	2	2	2.6	2	2	2.6
9	2	2	2.6	2	2	2.6	2	2	2.6	2	2	2.6
10	2	2	2.6	2	2	3.8	2	4	2.3	2	2	2.6
11	2	3	2.6	2	4	2.3	2	2	2.6	2	2	2.6
12	0.0			2	2	2.6	2	2	2.6	0.0		
13	0.0			2	2	2.6	2	2	2.6	2	2	2.6
14	0.0			0.0			0.0			0.0		
15	0.0			2	2	2.6	2	2	2.6	0.0		
16	0.0			2	2	2.6	2	2	2.6	2	2	2.6
17	0.0			2	2	2.6	2	2	2.6	2	2	3.8
18	2	2	2.6	2	2	2.6	2	2	3.8	2	2	2.6
19	2	2	3.8	2	4	4.5	2	4	4.5	2	2	3.8
20	2	2	2.6	2	2	3.8	2	2	5.1	2	2	5.1
21	2	2	2.6	2	3	4.9	2	3	3.7	2	2	2.6
22	0.0			2	4	2.3	2	4	2.3	0.0		
23	2	2	2.6	2	4	4.5	2	4	5.7	2	2	3.8
24	0.0			2	4	4.5	2	4	5.7	2	4	4.5
25	2	2	3.8	2	4	2.3	2	4	5.7	2	3	3.7
26	0.0			2	4	3.4	2	4	3.4	0.0		
27	2	2	2.6	2	2	2.6	2	2	2.6	2	4	3.4
28	2	4	3.4	2	4	3.4	2	4	4.5	2	2	2.6
29	0.0			2	4	3.4	2	4	5.7	2	2	2.6
30	0.0			2	2	2.6	2	2	2.6	0.0		



MICROSEISMIC ACTIVITY  
COMPONENT EW

OCTOBER 1974

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			2	2	2.1	2	2	2.1	0.0		
2	0.0			2	2	2.1	2	2	2.1	0.0		
3	0.0			2	2	2.1	2	2	2.1	0.0		
4	0.0			2	2	2.1	2	2	2.1	0.0		
5	0.0			0.0			2	4	1.9	0.0		
6	0.0			0.0			0.0			0.0		
7	0.0			2	4	1.9	2	4	1.9	0.0		
8	0.0			2	4	1.9	2	4	1.9	0.0		
9	0.0			2	4	1.9	2	4	1.9	0.0		
10	2	4	2.9	2	4	1.9	2	4	1.9	2	4	1.9
11	2	4	2.9	2	4	1.9	2	4	2.9	2	2	2.1
12	0.0			2	4	2.9	2	4	2.9	2	2	2.1
13	0.0			2	4	2.9	2	4	2.9	0.0		
14	2	4	1.9	2	4	2.9	2	4	2.9	2	4	1.9
15	2	2	2.1	2	4	2.9	2	4	2.9	2	2	2.1
16	2	4	2.9	2	4	2.9	2	4	2.9	2	2	2.1
17	2	4	1.9	2	4	3.9	2	4	1.9	2	4	1.9
18	0.0			2	4	1.9	2	4	1.9	2	2	2.1
19	2	4	1.9	...			...			2	4	2.9
20	2	5	1.9	2	2	2.1	2	4	1.9	2	2	2.1
21	2	2	3.2	2	4	2.9	2	4	1.9	2	2	2.1
22	0.0			2	4	1.9	2	4	2.9	2	4	2.9
23	2	2	2.1	TT			2	4	2.9	2	4	1.9
24	2	4	1.9	2	4	4.9	2	4	4.9	2	4	2.9
25	2	4	1.9	2	4	2.9	2	4	3.9	2	4	1.9
26	2	4	1.9	2	4	3.9	2	4	3.9	2	4	2.9
27	2	4	1.9	2	4	2.9	2	4	1.9	2	4	1.9
28	2	4	1.9	2	4	2.9	2	4	1.9	2	4	1.9
29	2	2	2.1	2	2	3.2	2	2	2.1	2	2	2.1
30	2	2	2.1	2	2	2.1	2	4	2.9	2	2	2.1
31	2	2	2.1	2	4	1.9	2	4	1.9	2	2	2.1

MICROSEISMIC ACTIVITY  
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			2	2	2.6	2	2	2.6	0.0		
2	0.0			0.0			2	2	2.6	0.0		
3	0.0			2	2	2.6	2	2	2.6	0.0		
4	0.0			2	2	2.6	2	2	2.6	0.0		
5	0.0			0.0			0.0			0.0		
6	0.0			0.0			2	2	2.6	2	2	2.6
7	0.0			2	4	2.3	2	4	2.3	0.0		
8	0.0			2	4	2.3	2	4	2.3	0.0		
9	0.0			2	2	2.6	2	2	2.6	0.0		
10	0.0			2	4	3.4	2	4	3.4	0.0		
11	0.0			2	2	2.6	2	2	2.6	0.0		
12	0.0			2	2	2.6	2	2	2.6	0.0		
13	0.0			2	2	2.6	2	2	2.6	0.0		
14	0.0			2	4	2.3	2	4	2.3	0.0		
15	2	2	2.6	2	4	2.3	2	4	3.4	2	2	2.6
16	2	2	2.6	2	4	2.3	2	4	2.3	2	2	2.6
17	2	2	3.8	2	4	3.4	2	4	3.4	2	4	2.3
18	0.0			2	4	2.3	2	2	2.6	2	2	2.6
19	2	2	2.6	...			...			2	2	2.6
20	0.0			2	2	2.6	2	2	2.6	0.0		
21	2	2	3.8	2	2	2.6	2	4	2.3	2	2	2.6
22	2	2	2.6	2	4	2.3	2	4	3.4	2	4	2.3
23	0.0			TT			2	4	3.4	2	4	2.3
24	0.0			2	2	2.6	2	2	2.6	0.0		
25	2	4	2.3	2	4	5.7	2	4	5.7	2	4	2.3
26	2	4	2.3	2	4	3.4	2	4	3.4	2	4	3.4
27	2	4	2.3	2	4	3.4	2	4	5.7	2	4	3.4
28	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
29	0.0			2	4	3.4	2	4	4.5	0.0		
30	2	2	2.6	2	2	2.6	2	4	3.4	2	2	2.6
31	2	2	2.6	2	4	3.4	2	4	2.3	2	4	2.3



MICROSEISMIC ACTIVITY  
COMPONENT EW

NOVEMBER 1974

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	...			...			...			...		
2	0.0			2	4	1.9	2	4	1.9	0.0		
3	0.0			2	4	1.9	2	4	1.9	0.0		
4	2	4	2.9	2	4	4.9	2	4	2.9	2	4	2.9
5	2	4	2.9	2	4	2.9	2	2	2.1	2	2	2.1
6	2	2	2.1	2	4	2.9	2	2	2.1	2	2	2.1
7	2	4	2.9	2	4	1.9	2	4	2.9	2	2	2.1
8	2	2	3.2	2	4	4.9	2	4	4.9	2	2	2.1
9	2	2	2.1	2	4	4.9	2	2	3.2	2	4	2.9
10	2	2	2.1	2	4	2.9	2	4	2.9	2	4	2.9
11	2	2	2.1	2	4	2.9	2	4	4.9	2	4	1.9
12	2	4	1.9	2	4	2.9	2	4	2.9	2	4	1.9
13	2	4	2.9	2	4	4.9	2	4	4.9	2	4	2.9
14	2	4	1.9	2	4	2.9	2	4	2.9	2	4	1.9
15	2	4	1.9	2	4	1.9	2	4	2.9	2	4	1.9
16	0.0			2	4	1.9	2	4	1.9	0.0		
17	0.0			2	4	1.9	2	2	2.1	0.0		
18	0.0			2	2	2.1	2	4	1.9	0.0		
19	0.0			2	2	2.1	2	2	2.1	0.0		
20	0.0			2	2	2.1	2	4	1.9	2	2	2.1
21	0.0			2	4	2.9	2	4	2.9	0.0		
22	0.0			2	2	2.1	2	4	2.9	0.0		
23	2	4	1.9	2	4	2.9	2	4	2.9	2	4	1.9
24	2	2	2.1	2	2	3.2	2	2	3.2	2	2	2.1
25	2	4	1.9	2	4	1.9	2	4	1.9	2	2	2.1
26	2	4	2.9	2	4	2.9	2	4	2.9	2	2	2.1
27	2	2	2.1	2	2	3.2	2	4	2.9	2	2	2.1
28	0.0			2	4	2.9	2	4	2.9	0.0		
29	0.0			2	4	1.9	2	4	2.9	0.0		
30	0.0			2	2	2.1	2	4	4.9	0.0		

MICROSEISMIC ACTIVITY  
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			2	2	3.8	2	2	2.6	0.0		
2	2	2	2.6	2	4	2.3	2	2	2.6	2	2	2.6
3	0.0			0.0			2	2	2.6	0.0		
4	0.0			2	4	3.4	2	4	2.3	2	2	2.6
5	0.0			2	2	3.8	2	4	2.3	0.0		
6	2	2	2.6	2	4	2.3	2	4	3.4	2	4	4.5
7	2	2	2.6	2	4	2.3	2	4	2.3	2	2	2.6
8	0.0			2	4	2.3	2	4	3.4	2	2	2.6
9	2	2	2.6	2	4	3.4	2	4	5.7	2	4	3.4
10	2	2	3.8	2	2	3.8	2	2	2.6	2	2	2.6
11	2	4	3.4	2	4	5.7	2	4	5.7	2	4	3.4
12	2	4	2.3	2	4	3.4	2	4	5.7	2	4	2.3
13	2	4	3.4	2	4	5.7	2	4	6.8	2	4	3.4
14	2	4	2.3	2	4	5.7	2	4	3.4	2	4	3.4
15	2	4	2.3	2	4	5.7	2	4	5.7	2	4	3.4
16	0.0			2	4	3.4	2	4	3.4	0.0		
17	0.0			0.0			0.0			0.0		
18	0.0			2	4	3.4	2	4	5.7	0.0		
19	2	2	2.6	2	4	2.3	2	4	2.3	2	2	2.6
20	0.0			2	4	3.4	2	4	3.4	0.0		
21	2	2	2.6	2	2	2.6	2	4	2.3	2	2	2.6
22	0.0			2	4	2.3	2	4	2.3	2	4	2.3
23	2	2	2.6	2	4	2.3	2	4	2.3	2	4	3.4
24	2	2	3.8	2	4	3.4	2	2	2.6	2	2	2.6
25	2	2	3.8	2	2	3.8	2	2	3.8	2	2	2.6
26	0.0			2	4	3.4	2	4	3.4	0.0		
27	2	4	2.3	2	4	3.4	2	4	3.4	0.0		
28	0.0			2	4	3.4	2	4	3.4	0.0		
29	0.0			2	2	2.6	2	4	2.3	0.0		
30	2	2	3.8	2	4	3.4	2	4	3.4	2	2	2.6



MICROSEISMIC ACTIVITY  
COMPONENT EW

DECEMBER 1974

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	1.9	2	4	1.9	2	4	1.9	2	4	1.9
2	2	4	1.9	2	4	1.9	2	4	1.9	2	4	1.9
3	0.0			2	4	1.9	2	4	1.9	0.0		
4	0.0			2	4	1.9	2	4	1.9	0.0		
5	2	4	1.9	2	4	2.9	2	4	2.9	2	4	1.9
6	0.0			2	4	2.9	2	4	2.9	0.0		
7	0.0			2	4	1.9	2	2	2.1	0.0		
8	2	4	1.9	2	4	2.9	2	4	1.9	2	4	1.9
9	2	4	1.9	2	4	1.9	2	4	1.9	2	4	1.9
10	2	4	1.9	2	4	2.9	2	4	2.9	2	4	1.9
11	2	4	1.9	2	4	2.9	2	4	2.9	2	4	1.9
12	2	4	1.9	2	4	2.9	2	4	4.9	2	4	1.9
13	2	4	1.9	2	4	2.9	2	4	1.9	2	4	1.9
14	0.0			2	4	1.9	2	4	1.9	0.0		
15	0.0			2	2	2.1	2	2	2.1	0.0		
16	2	4	1.9	2	4	1.9	2	4	1.9	2	4	1.9
17	2	4	1.9	2	4	2.9	2	4	2.9	2	4	1.9
18	0.0			2	4	2.9	2	4	2.9	0.0		
19	2	4	2.9	2	4	4.9	2	4	4.9	2	4	2.9
20	2	4	2.9	2	4	4.9	2	4	4.9	2	4	2.9
21	2	4	2.9	2	4	4.9	2	4	4.9	2	4	2.9
22	2	4	2.9	2	4	2.9	2	4	2.9	2	4	2.9
23	2	4	1.9	2	4	4.9	2	4	4.9	2	4	1.9
24	2	4	2.9	2	4	4.9	2	4	4.9	2	4	2.9
25	2	2	2.1	2	4	1.9	2	4	1.9	2	2	2.1
26	2	4	1.9	2	4	2.9	2	4	2.9	2	4	1.9
27	2	2	2.1	2	4	2.9	2	4	2.9	2	2	2.1
28	2	2	2.1	2	4	1.9	2	4	1.9	2	4	1.9
29	0.0			0.0			2	2	2.1	0.0		
30	0.0			2	4	1.9	2	4	1.9	0.0		
31	2	4	1.9	2	2	2.1	2	2	2.1	2	4	2.9

MICROSEISMIC ACTIVITY  
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	2.3	2	4	2.3	2	4	2.3	2	4	2.3
2	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
3	0.0			2	4	2.3	2	4	2.3	0.0		
4	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
5	2	4	2.3	2	4	3.4	2	4	3.4	2	4	2.3
6	0.0			2	4	2.3	2	4	3.4	0.0		
7	0.0			2	4	2.3	2	4	2.3	0.0		
8	2	4	2.3	2	4	2.3	2	4	2.3	2	4	2.3
9	2	4	2.3	2	4	3.4	2	4	5.7	2	4	2.3
10	2	4	2.3	2	4	3.4	2	4	3.4	2	4	2.3
11	2	4	2.3	2	4	5.7	2	4	3.4	2	4	2.3
12	2	4	2.3	2	4	3.4	2	4	5.7	2	4	2.3
13	2	4	2.3	2	4	2.3	2	4	3.4	2	4	2.3
14	0.0			2	4	2.3	2	4	2.3	0.0		
15	0.0			0.0			0.0			0.0		
16	2	2	2.6	2	4	3.4	2	4	3.4	2	4	2.3
17	2	4	2.3	2	4	3.4	2	4	3.4	2	4	2.3
18	2	4	2.3	2	4	3.4	2	4	3.4	2	4	2.3
19	2	4	3.4	2	4	5.7	2	4	5.7	2	4	3.4
20	2	4	3.4	2	4	5.7	2	4	5.7	2	4	3.4
21	2	4	3.4	2	4	5.7	2	4	5.7	2	4	3.4
22	2	4	3.4	2	4	5.7	2	4	5.7	2	4	3.4
23	2	4	2.3	2	4	3.4	2	4	3.4	2	4	2.3
24	2	4	3.4	2	4	5.7	2	4	5.7	2	4	3.4
25	2	4	2.3	2	4	3.4	2	4	3.4	2	4	2.3
26	2	4	2.3	2	4	5.7	2	4	5.7	2	4	2.3
27	2	4	2.3	2	4	5.7	2	4	5.7	2	4	2.3
28	2	4	2.3	2	4	3.4	2	4	3.4	2	4	2.3
29	0.0			2	2	2.6	2	4	3.4	0.0		
30	2	2	2.6	2	4	2.3	2	4	3.4	2	2	2.6
31	0.0			2	4	2.3	2	4	3.4	0.0		



Macroseismic Observations  
of Earthquakes on the Territory  
of Slovakia in the Year 1974



Date	Origin time	Location	Latitude North	Longitude East	Focal depth /km/	Shaken area /km/	Epiceutral Int./MCS/	Felt at
December 9	12 15 /BRA/	Czecho-slovakia-Austrian Border Region	48.2°	17.0°			5.5°	I = 4.5° Dev. Nová Ves, Vysoká pri Morave, Záhorská Bystřica /District of Bratislava/
								I = 4° Devín, Stupava /District of Bratislava/
								I = 3.5° Bratislava, Galanta
								I = 3° Podunajské Biskupice, Vajnory /District of Bratislava/

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  
                           S k a l n a t é    P l e s o



No.	Date	St. Code	Phase	GMT		RES	Z		E-W		N-S		MPV	MLH	Delta Azimuth	Remarks	
				h	m		A	T	A	T	A	T					
1	JAN 1	BRA	EPKIKP	13	2	7.0								152.30	35.08	South of Fiji Islands 23.91 S 179.87 W H = 12.43 km MB = 5.2 Depth = 527 km /ISC/	
2	JAN 1	ERA	IP IAP	14 19 14 20	39.0 4.0	-0.5 4.0								79.06	95.29	Northern Sumatra 4.64 N 95.87 E H = 14.74 km MB = 5.1 Depth = 76 km /ISC/	
3	JAN 2	BRA	EP IPP ISK ES EPS I IXP IPP ISK IPS LMV EPP EPP LMV	10 56 11 0 11 6 11 8 11 9 10 56 10 56 11 0 11 6 11 9 11 45 10 56 11 0 11 45	20.0 34.0 49.0 4.0 49.0 25.0 53.0 42.0 57.0 53.0 0.0 32.7 55.0 0.0	-0.1 -5.3 -1.9 6.7 1.1 -1.9 -2.0 3.1 -1.5 2.3 -1.3										No determination of epicentre	
4	JAN 2	BRA	E	13	51	53.0											No determination of epicentre
5	JAN 2	SPC	IP IPP EP EP	14 53 14 56 14 53 14 53	29.8 35.0 41.0 47.0	-2.5 -1.4 -0.7 2.5	243	1.4				5.7		79.33	62.61	Northeast of Taiwan 26.02 N 124.38 E H = 14.41 km MB = 5.5 Depth = 203 km /ISC/	
6	JAN 3	SRO BRA	EXP EAP	7 42 7 42	45.0 29.0	19.8 -3.0								10.14 10.95	139.62 136.75	Turkey 39.74 N 26.82 E H = 7.39 km MB = 4.2 Depth = 29 km /ISC/	
7	JAN 3	BRA	EAPKHP	11 34	48.0	-1.4								137.95	47.86	New Hebrides 14.62 S 166.24 E H = 11.15 km MB = 5.5 Depth = 33 km /ISC/	
8	JAN 3	BRA	EPG	22	28	12.0											No determination of epicentre

9	JAN 5	BRA	EP EAP EPP EPP	8 47 8 47 8 51 8 52	32.0 57.0 39.0 4.0	-0.0 0.1 -5.7 19.3	44	1.0						101.29	264.24	Near Coast of Peru 12.28 S 76.30 W H = 8.33 km MB = 6.1 Depth = 92 km /ISC/
10	JAN 5	BRA	EP EXP	14 13 14 13	3.0 38.0	0.1 19.5								79.89	5.36	Fox Islands, Aleutian Islands 52.05 N 171.46 W H = 14.05 km MB = 5.4 Depth = 37 km /ISC/
11	JAN 5	BRA	EP	16 6	32.0	-1.3	42	1.5				5.4		84.30	334.02	Off Coast of Oregon 42.46 N 126.80 W H = 15.54 km MB = 5.0 Depth = 11 km /ISO/
12	JAN 5	BRA	EP	23 41	49.0	-0.9								84.27	333.97	Off Coast of Oregon 42.47 N 126.73 W H = 23.29 km MB = 5.0 Depth = 25 km /ISC/
13	JAN 6	BRA SPC	EP EP	14 42 14 42	23.0 41.0	-2.4 0.6								56.96 59.10	219.92 222.83	North of Ascension Island 1.46 S 15.45 W H = 14.32 km MB = 5.2 Depth = 27 km /ISC/
14	JAN 6	SPC BRA	EAPKHP EPKIKP	17 59 17 59	15.4 0.0	3.9 3.7								136.40 138.63	49.90 46.87	New Hebrides 14.87 S 167.18 E H = 17.39 km MB = 5.5 Depth = 119 km /ISC/
15	JAN 7	SPC BRA	EP IAP EP	15 30 15 30 15 30	16.0 24.3 25.0	5.7 1.1 1.1								26.02	117.38	Western Iran 33.26 N 47.95 E H = 15.24 km MB = 5.0 Depth = 52 km /ISC/
16	JAN 8	SRO BRA SPC	IP IS +IP IPCP EPP	22 0 22 10 22 0 22 0 22 3	19.0 59.0 18.1 24.8 56.0	0.0 -8.5 -3.8 0.6 -4.6	36	1.0				5.6		89.83	158.40	Atlantio-Indian Ridge 38.84 S 46.43 E H = 21.47 km MB = 5.9 Depth = 24 km /ISC/
17	JAN 9	SPC BRA IXP	+IP +IP IXP	3 1 3 1 3 1	20.8 29.0 45.0	1.6 -0.4 -1.1	51	1.0						73.65 75.43	24.95 23.01	Off East Coast of Kamohatka 51.75 N 159.62 E H = 2.49 km MB = 5.3 Depth = 40 km /ISC/
18	JAN 9	BRA IS	E IS	13 11 13 12	31.0 38.0	-2.6								6.32	166.93	Albania 41.99 N 19.02 E H = 13.9 km MB = 5.8 Depth = 54 km /ISC/



No.	Date	St. Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
19	JAN 10	SPC BRA	EP EP	2 48	35.0	0.5								73.69 75.47	25.10 23.15	Off East Coast of Kamohatka 51.65 N 159.45 E H = 2 37 3.2 Depth = 41 km MB = 4.9 /ISC/	
20	JAN 10	BRA	IP	5 30	38.1	0.2	40	1.0				5.5		75.64	23.04	Off East Coast of Kamohatka 51.54 N 159.72 E H = 5 18 53.0 Depth = 24 km MB = 5.2 /ISC/	
21	JAN 10	SPC	IPKIKP IPP LMV	9 10 9 13 10 9	34.7 10.0 0.0	3.7 -3.8								135.88	49.96	New Hebrides 14.45 S 166.87 E H = 8 51 13.8 Depth = 36 km MB = 6.3 /ISC/	
		SRO	EPKIKP IPP E	9 10 9 13 9 25	36.0 38.0 40.0	1.5 12.3		32.8	22.0	39.4	22.0	7.2		137.75	48.74		
		BRA	LMV EAPKHKP EPKIKP	9 10 9 10 9 10	30.0 38.0	-5.0 2.9								138.12	46.95		
		BRA	EAPKIKP EPP ESKPAB LMV	9 11 9 13 9 14 10 13	3.0 27.0 15.0 0.0	16.3 -1.2 -0.1										No determination of epicentre	
22	JAN 10	BRA	IPG	11 2	39.0												
23	JAN 11	SPO BRA	EP EPP	2 11 2 12	1.0 55.0	1.7 -1.0								38.55 40.67	89.87 86.37	Hindu Kush Region 36.42 N 70.84 E H = 2 3 48.9 Depth = 141 km MB = 4.8 /ISC/	
24	JAN 11	BRA	EPKIKP EPKSAB	5 55 5 59	55.0 37.0	0.2 -1.0								137.73	47.16	New Hebrides 14.19 S 166.54 E H = 5 36 34.3 Depth = 37 km MB = 5.7 /ISC/	
25	JAN 11	BRA	EPCP	15 12	6.0	-4.0								78.90	207.90	South Atlantic Ridge 26.10 S 13.60 W H = 14 59 59.4 Depth = 33 km MB = 4.5 /ISC/	
26	JAN 13	BRA SRO	EP EP	21 41 21 41	50.0 57.0	-0.1 3.4								60.85 61.37	238.99 240.28	Central Mid-Atlantic Ridge 3.50 N 31.48 W H = 21 31 42.0 Depth = 64 km MB = 5.2 /ISC/	

27	JAN 14	BRA	IP	20 43	34.0	-1.3	40	1.0				5.5		76.75	27.15	Kurile Islands 48.79 N 154.92 E H = 20 31 46.6 Depth = 42 km MB = 5.4 /ISC/
28	JAN 14	BRA	EPKIKP	23 51	17.0	0.2								131.40	49.99	Solomon Islands 9.76 S 161.45 E H = 23 32 11.3 Depth = 63 km MB = 5.5 /ISC/
29	JAN 15	BRA	EPKIKP EPKP2	8 51 8 52	57.0 36.0	-0.1 -1.1								159.22	41.22	Kermadec Islands Region 31.23 S 178.73 W H = 8 32 10.1 Depth = 92 km MB = 5.6 /ISC/
30	JAN 15	BRA	EP	19 52	57.0	1.5								24.86	323.90	Iceland 64.50 N 17.80 W H = 19 47 34.6 Depth = 33 km MB = 4.6 /ISC/
31	JAN 17	BRA	E	17 9	13.0											No determination of epicentre
32	JAN 18	BRA	EP	17 4	11.0	-0.2								73.89	280.25	Dominican Republic Region 18.82 N 69.34 W H = 16 52 43.4 Depth = 82 km MB = 5.1 /ISC/
33	JAN 18	BRA	EP	21 27	40.0	-1.0								88.40	210.18	South Atlantic Ridge 34.08 S 20.15 W H = 21 14 51.2 Depth = 33 km MB = 5.4 /ISC/
34	JAN 19	BRA	ES E E E	2 51 2 52 2 53 2 54	39.0 4.0 28.0 3.0	-5.2								6.71	260.76	Switzerland 46.68 N 7.46 E H = 2 49 50.3 Depth = 83 km /ISC/
35	JAN 21	SRO BRA	ESN EPN EPB ESB	10 6 10 5 10 5 10 6	24.0 38.0 52.0 37.0	-5.1 -10.8 -2.2 -0.6								3.33 3.36	209.64 193.54	Yugoslavia 44.90 N 16.00 E H = 10 4 54.0 Depth = 0 km /ISC/
36	JAN 21	BRA	EP	20 14	11.0	-2.7								9.36	188.89	Stolly 38.90 N 15.26 E H = 20 11 56.0 Depth = 14 km /ISC/



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
37	JAN 22	BRA SRO	IP EP	13 39	47.1	-0.4	69	1.2				5.7		72.92 72.97	20.14 20.77	Near East Coast of Kamohatka 55.16 N 162.10 E H = 13 28 19.0 Depth = 28 km MB = 5.6 /ISC/	
38	JAN 23	BRA	IPG	11 2	10.0											No determination of epicentre	
39	JAN 23	SPC SRO BRA	IPKP2 EPKP2 -IPKIKP EPKIKP EPKP2 EAPKP2	14 10 14 10 14 10 14 10 14 10 14 11	12.0 30.0 6.0 13.0 24.0 57.0	-4.0 6.2 0.9 4.6 -0.5 -4.0							149.54 151.40 151.56	37.04 35.20 32.70	South of Fiji 22.78 S 179.08 W H = 13 51 5.9 Depth = 411 km MB = 5.3 /ISC/		
40	JAN 23	BRA	IPG	15 6	13.0											No determination of epicentre	
41	JAN 24	BRA	ESG	18 24	19.0											No determination of epicentre	
42	JAN 24	BRA	EXP	18 54	46.0	2.2							70.07	352.35	Southern Alaska 61.44 N 147.80 W H = 18 43 26.0 MB = 4.8 /ISC/		
43	JAN 24	SPC SRO BRA	IP IXP ESCS LMV +IP EPP IXS LMV IP	19 24 19 24 19 34 20 3 19 24 19 27 19 34 20 3 19 24	39.2 50.0 52.0 0.0 49.0 45.0 50.0 0.0 50.1	0.1 -0.7 2.4 -0.5 -3.8 -6.8 -0.6	436	1.2		10.0	20.0	20.0	6.5	76.55 78.43 78.65	39.62 38.21 37.49	Hokkaido, Japan Region 42.03 N 143.89 E H = 19 12 49.5 Depth = 27 km MB = 5.8 /ISC/	
44	JAN 24	BRA	EP	23 50	10.0	1.1							78.77	37.43	Hokkaido, Japan Region 41.96 N 144.04 E H = 23 38 9.0 Depth = 42 km MB = 5.1 /ISC/		
45	JAN 25	SRO BRA E EPP	EPCP EPP EP E EPP	20 41 20 45 20 41 20 44 20 45	45.0 41.0 36.0 49.0 41.0	8.2 -0.9 -2.5 -3.6							98.60 98.98	49.60 48.58	Mariana Islands 18.87 N 145.64 E H = 20 28 13.7 Depth = 149 km MB = 5.7 /ISC/		

46	JAN 25	BRA BRA	EPKIKP EAPKP2	22 59 23 0	57.0 9.0	-0.6 2.0							147.27	17.45	Samoa Islands Region 16.34 S 172.62 W H = 22 40 16.2 Depth = 10 km MB = 5.0 /ISC/	
47	JAN 26	BRA SRO	EP EAP EAP EPP LMV	5 48 5 49 5 49 5 52 6 32	51.0 9.0 9.0 57.0 0.0	-6.2 -2.2 -6.2 1.2							94.99 95.86	304.88 305.70	Near Coast of Michoacan, Mexico 18.58 N 103.40 W H = 5 35 38.5 Depth = 47 km MB = 5.2 /ISC/	
48	JAN 27	BRA	EP	8 57	42.0	-1.7							43.49	271.80	North Atlantic Ridge 33.78 N 38.58 W H = 8 49 40.3 Depth = 23 km MB = 5.0 /ISC/	
49	JAN 28	BRA SRO	EP IAP EP	3 42 3 42 3 42	39.0 43.0 41.0	0.4 -2.0 -1.7							15.30 15.61	222.36 226.26	Algeria 36.06 N 4.43 E H = 3 39 3.0 Depth = 28 km MB = 4.7 /ISC/	
50	JAN 29	BRA	IPG	11 2	24.0											No determination of epicentre
51	JAN 29	BRA	E	19 15	28.0								109.65	78.80	Banda Sea 7.36 S 128.45 E H = 18 57 10.3 Depth = 127 km MB = 5.7 /ISC/	
52	JAN 30	BRA	IP	5 4	33.1	0.2							39.06	63.86	Eastern Kazakh SSR 49.89 N 78.11 E H = 4 57 2.6 Depth = 0 km MB = 5.4 /ISC/	
53	JAN 30	BRA	EPKIKP EPP	10 11 10 12	50.0 44.0	7.2 14.3							111.68	72.67	Arcs Islands Region 5.15 S 134.15 E H = 9 53 13.9 Depth = 51 km MB = 5.9 /ISC/	
54	JAN 30	BRA	EPH EPG ESB ESG	22 57 22 57 22 57 22 57	13.0 23.0 32.0 35.0	-0.5 8.1 -0.9 1.1							1.45	131.37	Hungary 47.20 N 18.70 E H = 22 56 46.0 Depth = 0 km /ISC/	
55	JAN 31	BRA	EP	7 16	12.0	0.2							81.22	51.51	Kyushu, Japan 31.85 N 131.74 E H = 7 3 58.9 Depth = 43 km MB = 5.5 /ISC/	



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta Azimuth	Remarks
				h	m		A	T	A	T	A	T				
56	JAN 31	BRA	E	10	34	13.0										No determination of epicentre
57	JAN 31	BRA	EAPKP2	15	31	26.0	4.4							147.17	28.39	Fiji Islands Region 17.87 S 178.60 W H = 15 10 28.4 Depth = 580 km MB = 5.1 /ISC/
58	JAN 31	BRA	IP	20	7	33.1	0.7							79.71	3.61	Fox Islands, Aleutian Islands 52.38 N 168.69 W H = 19 55 27.4 Depth = 42 km MB = 5.6 /ISC/
59	JAN 31	BRA	EP	20	28	0.0	-0.1							79.76	3.60	Fox Islands, Aleutian Islands 52.33 N 168.67 W H = 20 15 55.1 Depth = 44 km MB = 5.0 /ISC/
60	JAN 31	BRA	EPKIKP	20	35	22.0	2.8							126.62	54.29	Solomon Islands 7.49 S 156.01 E H = 20 16 20.1 Depth = 41 km MB = 5.6 /ISC/
61	JAN 31	SRO BRA	EAPKIKP IPP EPKIKP	23 49 23 51 23 49	20.0 12.0 6.0	5.4 9.7 1.0								126.02 126.48	55.77 54.32	Solomon Islands 7.39 S 155.92 E H = 23 30 5.0 Depth = 32 km MB = 5.9 /ISC/
62	FEB 1	BRA	EP IAP IS LAV	0 3 0 4 0 6 0 9	41.0 2.0 9.0 0.0	-15.0 0.8 -2.3		5.3	7.0	5.2	7.0		5.1	12.10	138.92	Turkey 38.55 N 27.22 E H = 0 1 2.1 Depth = 24 km MB = 5.2 /ISC/
63	FEB 1	SRO BRA	IPKIKP EPKIKP IAPKIKP I IPP	3 31 3 31 3 31 3 32 3 33	34.0 33.0 45.0 24.0 40.0	1.1 -0.8 7.3 7.4								125.78 126.23	56.00 54.55	Solomon Islands 7.28 S 155.62 E H = 3 12 31.0 Depth = 12 km MB = 6.2 /ISC/
64	FEB 1	BRA	IPG	11	49	43.0										No determination of epicentre
65	FEB 1	BRA	IP EXP	15 16 15 16	21.0 38.0	0.6 -0.5								73.62	20.52	Near East Coast of Kamohatka 54.38 N 162.02 E H = 15 4 49.9 Depth = 44 km MB = 5.3 /ISC/

66	FEB 1	BRA	EPKIKP	15 43	6.0	4.5								125.81	55.05	Solomon Islands 7.15 S 155.05 E H = 15 24 4.3 Depth = 44 km MB = 5.6 /ISC/
67	FEB 2	BRA	EP	3 44	55.0	-3.1								39.68	271.14	Azores Islands Region 35.65 N 34.51 W H = 3 37 26.0 Depth = 23 km MB = 4.9 /ISC/
68	FEB 2	BRA	EPKIKP EPP	12 3 12 4	7.0 20.0	-16.7 10.7								111.46	72.71	Aroe Islands Region 5.00 S 133.98 E H = 11 44 54.0 Depth = 41 km MB = 5.6 /ISC/
69	FEB 2	BRA	EP IAP EPCP	16 6 16 6 16 7	36.0 47.0 10.0	-0.6 -2.8 11.1								69.95	352.29	Southern Alaska 61.55 N 147.53 W H = 15 55 28.1 Depth = 45 km MB = 5.2 /ISC/
70	FEB 2	BRA	IAP E EPP	20 9 20 10 20 13	36.0 14.0 16.0	-3.1 10.2								92.56	96.25	Sunda Strait 6.12 S 104.17 E H = 19 56 15.7 Depth = 63 km MB = 5.3 /ISC/
71	FEB 3	BRA	EAP	9 2	41.0	-0.1								46.71	122.70	Arabian Sea 14.34 N 56.30 E H = 8 54 6.4 Depth = 15 km MB = 4.8 /ISC/
72	FEB 3	SRO BRA	IPCP LAV IP IXP I IPP	10 21 11 0 10 21 10 21 10 22 10 24	21.0 0.0 19.0 29.0 7.0 42.0	-0.2 0.0 -0.8 -0.0 7.0 5.2	80	2.0	1.9	12.0	2.7	12.0	5.6	83.83 84.45	68.74 67.91	Luzon, Philippine Islands 18.93 N 120.13 E H = 10 8 47.4 Depth = 21 km MB = 5.8 /ISC/
73	FEB 4	BRA	ESH ISG	14 3 14 3	5.0 18.0	-8.1 -0.6								2.12	256.45	Austria 47.63 N 14.05 E H = 14 2 8.4 Depth = 5 km /ISC/
74	FEB 4	SRO BRA	EPKIKP E IAPKIKP EAPKIKP EPP	20 29 20 32 20 29 20 29 20 30 20 31	34.0 42.0 43.0 51.0 4.0 26.0	-5.1 3.0 -3.1 9.9 -13.9								125.93 126.40	55.84 54.40	Solomon Islands 7.35 S 155.82 E H = 20 10 42.0 Depth = 46 km MB = 5.8 /ISC/



No.	Date	St. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T						
75	FEB 5	SPO BRA	EPG ISG EYN ESB ESG E	15 26 15 26 15 26 15 27 15 28	22 23 43 6 42 0 20 0 39 0 4 0	0.5 2.3 1.8 -1.8 11.4											1.49 2.89	341.45 31.84	Poland 50.60 N 19.50 E H = 15 25 52.0 Depth = 0 km /ISC/	
76	FEB 5	SRO BRA	EPKP2 EPKP2	22 47 22 47	9 0 6 0	2.8 -0.4								6.0			78.45	1.09	Fiji Islands Region 16.31 S 177.50 W H = 22 27 23.3 Depth = 8 km MB = 5.1 /ISC/	
77	FEB 6	BRA	+IP IPCP I I EPP +IP LMV	4 16 4 16 4 17 4 17 4 19 4 16 4 52	12 0 21 0 5 0 7 0 3 0 13 0 0 0	-0.2 -0.8 -8.5 -1.0	140	1.0		16.4	20.0	18.3	20.0		6.5		78.78	1.82	Unimak Islands Region 53.75 N 164.70 W H = 4 4 9.0 Depth = 7 km MB = 5.9 /ISC/	
78	FEB 6	BRA	IPG	21 5	12 0														No determination of epicentre	
79	FEB 8	BRA	EP EXP E	14 33 14 33 14 34	18 0 28 0 15 0	-0.1 -0.1											74.89	17.38	Komandorsky Islands Region 54.32 N 167.61 E H = 14 21 37.4 Depth = 23 km MB = 5.4 /ISC/	
80	FEB 8	BRA	IPKP2 IAPKIKP I E	18 44 18 44 18 44 18 45	10 0 19 0 44 0 30 0	0.2 1.1												145.66	48.32	Loyalty Islands Region 21.37 S 170.23 E H = 18 24 32.2 Depth = 33 km MB = 5.2 /ISC/
81	FEB 8	BRA	ES E	20 16 20 17	3 0 27 0	10.2											8.32	245.59	France 44.22 N 6.54 E H = 20 12 17.7 Depth = 33 km /ISC/	
82	FEB 10	BRA	EPG E ESN	22 36 22 36 22 37	31 0 51 0 7 0	7.3 -5.2											7.10	261.03	Switzerland 46.60 N 6.90 E H = 22 34 2.0 Depth = 0 km /ISC/	
83	FEB 11	BRA	EP EAP	1 53 1 54	54 0 10 0	-1.1 0.8											92.41	96.35	Sunda Strait 6.08 S 104.00 E H = 1 40 48.3 Depth = 48 km MB = 5.5 /ISC/	

84	FEB 13	BRA	EPP EPP	23 55 23 56	53 0 9 0	0.3 16.3											100.58	78.21	Northern Sulawesi 0.11 S 122.90 E H = 23 38 8.5 Depth = 143 km MB = 5.5 /ISC/
85	FEB 14	BRA	+EP	12 10	37 0	-0.1											54.97	264.26	North Atlantic Ridge 21.95 N 44.25 W H = 12 1 5.9 Depth = 26 km MB = 5.3 /ISC/
86	FEB 15	BRA	IPG	11 51	33 0														No determination of epicentre
87	FEB 16	BRA	EP EXP EPP E	2 2 2 2 2 5 2 7	33 0 40 0 12 0 13 0	0.2 -1.1 -1.8											71.69	93.24	Andaman Islands Region 11.47 N 92.32 E H = 1 51 10.2 Depth = 19 km MB = 5.2 /ISC/
88	FEB 16	BRA	EPKIKP	5 58	55 0	-0.3											158.51	45.90	Kermadec Islands Region 31.54 S 179.16 E H = 5 39 56.2 Depth = 499 km MB = 5.3 /ISC/
89	FEB 19	SRO BRA	EPOP EP EPP	3 43 3 43 3 46	19 0 19 0 47 0	1.1 -0.1 -5.8											88.82 89.46	70.51 69.63	Iuzon, Philippine Islands 13.98 N 122.17 E H = 3 30 22.0 Depth = 19 km MB = 5.7 /ISC/
90	FEB 20	BRA	EP EAP E	16 23 16 23 16 24	4 0 14 0 30 0	1.6 0.5											73.85	281.26	Dominican Republic Region 19.52 N 70.05 W H = 16 13 29.6 Depth = 36 km MB = 4.8 /ISC/
91	FEB 21	BRA	IPG	14 0	28 0														No determination of epicentre
92	FEB 22	SRO BRA	IPCP IAP ISCS I EP IPOP IAP IPP ISCS	0 48 0 50 0 52 0 58 1 6 0 48 0 48 0 50 0 52 0 58	38 0 10 0 22 0 26 0 54 0 38 0 44 0 7 0 14 0 28 0	-2.0 5.1 -3.0 0.7 2.5 0.2 18.3 -3.9											82.47	47.93	Near S. Coast of Southern Honshu 33.17 N 136.98 E H = 0 36 54.6 Depth = 391 km MB = 5.9 /ISC/
																	82.83	47.14	



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
93	FEB 22	BRA	EP EAP EPP	3 41 3 41 3 42	1.0 23.0 40.0	1.3 2.0 1.3								41.02	85.75	Afghanistan-USSR Border Region 36.56 N 71.48 E H = 3 33 23.9 Depth = 89 km MB = 5.4 /ISC/	
94	FEB 25	SRO BRA	+IPCP LMH IP IAP E	5 58 6 34 5 58 6 0	34.0 0.0 28.0 17.0	-2.3 0.3 -1.1	40	1.0	1.5	16.0	2.0	16.0	5.4	78.32 78.49	34.67 33.95	Kurile Islands 44.01 N 147.77 E H = 5 46 29.8 Depth = 46 km MB = 5.8 /ISC/	
95	FEB 25	BRA	EPB E	15 16 15 17	27.0 19.0	-3.0								1.18	15.95	Czechoslovakia 49.30 N 17.60 E H = 15 16 7.0 Depth = 0 km /ISC/	
96	FEB 25	BRA	IP IPCP	6 35 6 35	19.0 28.0	1.1 -5.0								74.09	22.27	Near East Coast of Kamohatka 53.26 N 159.75 E H = 6 23 47.5 Depth = 69 km MB = 5.5 /ISC/	
97	FEB 27	BRA	IPG	11 2	37.0											No determination of epicentre	
98	FEB 27	BRA SRO	IP EXP	17 12 17 12	39.0 45.0	-1.6 0.6	70	1.0				5.8		85.41 86.17	324.19 325.05	Southern Nevada N.E. Letlr 37.10 N 116.05 W H = 17 0 0.1 /ASC/	
99	FEB 27	SRO BRA	IP IAP -IP IAP I EPP E	18 14 18 14 18 14 18 14 18 15 18 17 18 18	9.0 19.0 11.0 22.0 25.0 9.0 17.0	2.9 1.5 0.5 0.1 -13.6						6.5		81.88 82.73	97.08 95.22	Northern Sumatra 1.27 N 97.63 E H = 18 1 49.1 Depth = 37 km MB = 6.0 /ISC/	
100	FEB 28	SPC	EPKIKP IAFKP2 EPP IPKP2 I IPP LMH EPKIKP EPP	14 19 14 19 14 23 14 20 14 20 14 24 15 30 14 18 14 23	14.5 56.0 40.0 0.0 48.0 4.0 0.0 18.0 45.0	-0.3 -1.4 4.7 -1.3 19.0 0.7 -2.9								159.00 160.78 161.32	62.30 62.57 59.63	Off E. Coast of N. Island, N.Z. 36.72 S 176.99 E H = 13 59 17.1 Depth = 12 km MB = 5.7 /ISC/	

101	FEB 28	BRA	ES I E	17 25 17 26 17 27	35.0 32.0 30.0	5.2								7.18	190.97	Italy 41.10 N 15.30 E H = 17 22 49.0 Depth = 178 km /ISC/
102	FEB 28	BRA	IP	19 31	26.0	0.8								79.26	2.38	Fox Islands, Aleutian Islands 52.90 N 166.76 W H = 19 19 17.0 Depth = 3 km MB = 5.1 /ISC/
103	FEB 28	BRA	EPCP	20 28	37.0	1.3								90.58	284.45	Costa Rica 9.24 N 84.12 W H = 20 15 36.8 Depth = 54 km MB = 5.3 /ISC/
104	FEB 28	BRA SRO	IPCP IXP I EPP IPCP I	20 33 20 33 20 34 20 36 20 33 20 37	10.0 27.0 12.0 30.0 16.0 54.0	-0.4 3.2 -15.4 1.8						6.1		90.27 91.14 92.00	284.50 285.39 286.88	Costa Rica 9.51 N 83.95 W H = 20 20 10.4 Depth = 34 km MB = 5.8 /ISC/
105	FEB 28	SPC BRA	LMH EPCP EPP	21 7 20 33 20 37	0.0 19.8 8.5	1.8 9.2			7.0	24.0	6.0	24.0		34.06	354.44	North of Svalbard 81.39 N 4.00 W H = 22 18 48.7 Depth = 33 km MB = 4.0 /ISC/
106	MAR 1	BRA	IPG	0 14	44.0											No determination of epicentre
107	MAR 1	BRA	EPH EPB EPG	3 8 3 9 3 9	42.0 5.0 34.0	-9.7 -5.7 3.5								7.92	163.60	Greece-Albania Border Region 40.53 N 20.03 E H = 3 6 52.5 Depth = 33 km /ISC/
108	MAR 2	BRA	IPKP2	5 6	43.0	-1.2								161.37	59.81	Off East Coast of North Island 36.80 S 175.99 E H = 4 45 59.0 Depth = 22 km MB = 5.4 /ISC/
109	MAR 2	BRA	IPG	10 47	15.0											No determination of epicentre
110	MAR 2	BRA	IPG	15 11	40.0											No determination of epicentre



No.	Date	St. Code	Phase	GMT		RES O-G	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
111	MAR 3	SRO BRA	IAP IAP	5 2	47.0	-0.1								53.63 54.38	82.53 81.97	Tibet 30.74 N 86.32 E H = 4 53 17.3 Depth = 29 km MB = 5.4 /ISC/	
112	MAR 3	SRO BRA	IPCP IPP ISKS LMH IP IPCP I EPP	5 3 5 6 5 13 5 34 5 3 5 3 5 4 5 6	11.0 19.0 23.0 0.0 10.0 13.0 28.0 30.0	-1.7 0.6 3.6 1.3 -1.0 9.2		3.3	24.0	2.5	24.0		5.7	82.35 82.66	43.97 43.18	Near East Coast of Honshu 35.57 N 140.75 E H = 4 50 49.1 Depth = 49 km MB = 5.6 /ISC/	
113	MAR 3	BRA	EFKIKP EFPK2	13 11 13 12	46.0 33.0	-0.8 -0.3								161.38	59.49	Off East Coast of North Island 36.73 S 177.08 E H = 12 51 45.6 Depth = 6 km /ISC/	
114	MAR 3	SRO	IAPKIKP IPP IPS LMH IPKP2 IAPKHKP I EPP	14 42 14 45 14 56 15 39 14 42 14 42 14 43 14 45	17.0 29.0 11.0 0.0 13.0 14.0 13.0 37.0	-1.5 -0.7 4.5 0.1 0.4 5.1		2.0	20.0	3.0	20.0		6.1	143.91 144.28	49.71 47.70	New Hebrides 20.01 S 169.77 E H = 14 22 38.1 Depth = 19 km MB = 6.0 /ISC/	
115	MAR 4	BRA	EP E E E	2 19 2 19 2 20 2 21	0.0 19.0 38.0 8.0	7.0								5.45	236.40	Northern Italy 44.97 N 10.71 E H = 2 17 21.0 Depth = 44 km /ISC/	
116	MAR 4	SPC BRA	EPKP2 IAPKIKP EPKP2 EPKP2 E EAPKP2	12 57 12 59 12 57 12 57 12 58 12 59	38.0 8.5 37.0 47.0 27.0 8.0	3.9 8.2 -4.9 5.1 -2.0								146.43 148.35	31.69 27.29	P1J1 Region 18.79 S 177.61 W H = 12 38 32.5 Depth = 371 km MB = 5.4 /ISC/	
117	MAR 5	BRA	IPG	12 31	46.0												No determination of epicentre
118	MAR 6	BRA	IP IPCP IAP I	1 53 1 53 1 53 1 56	14.0 21.0 43.0 26.0	-0.1 5.5 -6.6								89.74	288.17	Nicaragua 12.33 N 86.42 W H = 1 40 30.4 Depth = 138 km MB = 5.7 /ISC/	

119	MAR 6	BRA	E	10 46	48.0												No determination of epicentre
120	MAR 6	SRO BRA	IPP IP IPP ISCS LMH	1 56 1 58 1 53 1 57 2 4 2 28	46.0 33.0 18.0 2.0 2.0 0.0	-4.4 -0.2 4.6 0.0	4.0	20.0	5.0	20.0				90.62	289.06		No determination of epicentre
121	MAR 7	BRA	IPG	11 1	46.0												No determination of epicentre
122	MAR 7	SPC SRO BRA	EAP EP EP EKP EPP EPCP	11 42 11 42 11 42 11 42 11 43 11 45	1.0 6.0 13.0 26.0 8.0 11.0	-0.1 1.4 0.8 5.2 -2.3 -3.0								28.13 29.19 30.04	100.68 96.40 95.97	Banda Sea 6.47 S 129.10 E H = 19 29 9.8 Depth = 26 km MB = 5.7 /ISC/	
123	MAR 8	BRA	EP EAP E	2 37 2 37 2 38	22.0 25.0 13.0	3.3 -2.5								14.65	154.34	Croze 34.66 N 24.74 E H = 2 33 52.8 Depth = 47 km MB = 4.7 /ISC/	
124	MAR 9	BRA	E	9 1	29.0												No determination of epicentre
125	MAR 9	BRA	EPKP2 EAPKHKP	18 0 18 1	18.0 20.0	-2.0 -4.6								143.40	46.99	New Hebrides 19.03 S 169.66 E H = 17 41 19.6 Depth = 278 km MB = 5.4 /ISC/	
126	MAR 9	SRO BRA	IAPKIKP IPP I ISKSD EPS LMH IAPKIKP	20 33 20 35 20 39 20 40 20 45 21 24 20 33 20 33	22.0 24.0 4.0 32.0 32.0 0.0 27.0 36.0	-3.6 -1.0 1.1 8.1 0.5 -4.9	9.0	20.0	12.0	20.0			6.7	126.25	55.55	Solomon Islands 7.48 S 156.20 E H = 20 14 28.0 Depth = 47 km MB = 5.8 /ISC/	



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
127	MAR 10	BRA	IPP IPKSDP E	20 35 20 37 20 39	38.0 8.0 16.0	10.3 6.2								7.82	157.17	Greece 40.88 N 21.10 E H = 21 51 6.0 Depth = 32 km MB = 4.3 /ISC/	
128	MAR 11	SPC SRO BRA	IP IAP IP IAP IPP IS +IP IAP IPP ESP E	11 48 11 49 11 49 11 49 11 52 11 58 11 49 11 49 11 52 11 59 12 0	58.5 38.0 7.0 43.0 8.0 39.0 8.0 48.0 11.0 21.0 25.0	2.5 4.1 0.7 -1.4 6.1 1.0 1.2 3.2 8.4 2.5							74.71 76.55 76.63	30.45 29.12 28.44	Kurile Islands 48.31 N 153.16 E H = 11 37 31.6 Depth = 154 km MB = 5.8 /ISC/		
129	MAR 13	BRA	EP E	17 24 17 25	16.0 27.0	4.1								14.71	154.39	Crete 34.60 N 24.75 E H = 17 20 45.2 Depth = 46 km MB = 4.6 /ISC/	
130	MAR 14	BRA	EPKP2	10 32	8.0	1.6								144.64	47.63	New Hebrides 20.29 S 170.01 E H = 10 12 32.8 Depth = 35 km MB = 5.2 /ISC/	
131	MAR 14	SRO BRA	EAPKHP IPP LMH EAPKHP EPP	21 18 21 21 22 19 21 18 21 21	18.0 6.0 0.0 20.0 9.0	-0.0 0.2 1.0 0.7		1.0	16.0	1.8	16.0		5.9	137.13 137.49	48.62 46.85	New Hebrides 13.87 S 166.60 E H = 20 58 58.8 Depth = 41 km MB = 5.5 /ISC/	
132	MAR 14	BRA	EPKP2 EPKP2	23 12 23 13	59.0 21.0	-3.8 18.2								148.67	27.66	Fiji Region 19.16 S 177.69 W H = 22 54 6.6 Depth = 515 km MB = 4.9 /ISC/	
133	MAR 15	BRA	IPG	7 11	10.0	3.6								2.17	36.40	Poland 49.90 N 19.10 E H = 7 10 23.0 Depth = 0 km /ISC/	

134	MAR 15	BRA	EP E	22 23 22 24	23.0 8.0	1.6								77.21	24.78	Kurile Islands Region 49.41 N 158.37 E H = 22 11 29.9 Depth = 40 km MB = 5.0 /ISC/
135	MAR 16	BRA	EPKP2	.1 23	4.0	2.6								146.18	18.10	Tonga 15.35 S 173.22 W H = 1 3 24.0 Depth = 51 km MB = 4.7 /ISC/
136	MAR 17	BRA	-IP LPCP E E	4 9 4 9 4 10 4 11	29.0 36.0 37.0 14.0	0.5 2.8	1.1	1.0			6.0			83.35	95.56	Northern Sumatra 1.25 N 98.53 E H = 3 57 7.2 Depth = 64 km MB = 5.7 /ISC/
137	MAR 18	BRA SRO	+IPKHP IAPKIKP I ESKPDF +IAPKHP IAPKIKP I LMH	11 15 11 16 11 16 11 19 11 15 11 16 11 16 12 26	42.0 7.0 40.0 19.0 55.0 16.0 40.0 0.0	-2.9 10.0 -1.0 1.8 18.9								145.83	17.28	Samoa 14.91 S 172.83 W H = 10 56 12.3 Depth = 25 km MB = 5.9 /ISC/
138	MAR 21	BRA	EP	13 52	16.0	-1.8								57.05	223.61	Central Mid-Atlantic Ridge 0.16 S 18.26 W H = 13 42 32.6 Depth = 33 km MB = 4.8 /ISC/
139	MAR 22	BRA	EP EAP	7 16 7 16	6.0 17.0	0.1 -0.0								78.54	0.33	Unimak Islands Region 53.67 N 163.44 W H = 7 4 6.6 Depth = 36 km MB = 5.0 /ISC/
140	MAR 22	SRO BRA	EPB ISG I EPH EPB EPG ESG E	17 4 17 6 17 7 17 9 17 4 17 4 17 5 17 6 17 7	27.0 27.0 7.0 3.0 19.0 46.0 9.0 32.0 11.0	-1.3 4.5 -0.0 7.9 11.2 -9.3								7.34	166.56	Greece-Albania Border Region 40.65 N 20.55 E H = 17 2 20.0 Depth = 27 km MB = 4.5 /ISC/
141	MAR 22	SRO BRA	EP IP IPP	18 22 18 22 18 23	5.0 8.0 54.0	1.9 0.9 -2.4								46.08 46.59	59.05 59.85	USSR-Mongolia Border Region 49.84 N 90.88 E H = 18 13 40.5 Depth = 33 km MB = 5.4 /ISC/





No.	Date	St. 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					
142	MAR 22	BRA SRO	EP EP	19 16	12.0 19.0	0.5 1.7								27.17 27.81	337.83 337.54		Jan Mayen Island Region 70.85 N 14.37 W H = 19 10 27.4 Depth = 20 km /ISC/
143	MAR 22	BRA	ISG ISN ISN	21 31	48.9 57.0 6.0	-0.3 -2.2 6.8								0.10	225.85		Austria-Czechoslovakia 48.10 N 17.00 E H = 21 31 46.0 /ISC/
144	MAR 23	SRO BRA	+IPKIKP IPKP2 IPKSAB I +IPKIKP IPKHKP IAPKHKP IAPKP2 I	14 47 14 47 14 49 14 57 14 47 14 47 14 49 14 49 14 54	23.0 37.0 23.0 19.0 24.0 26.0 26.0 43.0 50.0	-0.0 -7.3 0.5 0.7 8.6 -0.5 3.0								152.02 152.22	38.07 35.54		South of Fiji Islands 23.93 S 179.88 E H = 14 28 33.0 Depth = 504 km MB = 6.0 /ISC/
145	MAR 23	BRA	EPKHKP IAPKHKP	15 13 15 15	2.0 9.0	3.6 6.0								151.85	37.06		South of Fiji 23.91 S 179.01 E H = 14 54 7.7 Depth = 531 km MB = 5.5 /ISC/
146	MAR 23	SPC	EPKIKP	15 31	6.0	-1.2								152.70	40.17		South of Fiji 26.30 S 179.00 W H = 15 11 56.0 Depth = 320 km /ISC/
147	MAR 23	SPC BRA	IPG EPB ESN E	18 8 18 9 18 8 18 9 18 10	33.8 18.5 54.0 25.0 25.0	2.5 -1.1 0.0								1.21 2.65	336.80 35.44		Poland 50.30 N 19.50 E H = 18 8 7.0 Depth = 0 km /ISC/
148	MAR 23	SPC SRO BRA	EAPKHKP IAPKIKP IPKP2 I EPKP2 IAPKHKP I I EPP	20 45 20 45 20 45 20 46 20 45 20 45 20 46 20 47 20 49	32.0 36.4 35.0 19.0 35.0 39.0 14.0 29.0 20.0	-1.2 -1.2 -1.6 -2.8 -0.3 15.4								145.56 147.44 147.76	47.17 45.90 43.70		New Hebrides Region 21.86 S 173.73 E H = 20 25 52.0 Depth = 33 km MB = 5.7 /ISC/

No.	Date	St. 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					
149	MAR 24	SPC BRA	EPKP2 EPKP2 IAPKIKP	0 31 0 31 0 33	21.0 26.0 41.0	-1.9 -5.7 2.0								145.93 148.07	43.62 39.93		South of Fiji 21.17 S 175.78 E H = 0 12 45.2 Depth = 595 km MB = 5.2 /ISC/
150	MAR 24	BRA	IP IXP I IPP E	4 35 4 35 4 35 4 39 4 41	1.0 36.0 25.0 18.0 43.0	2.1 8.3 -0.3								103.53	53.18		South of Marianas 12.57 N 144.24 E H = 4 21 5.1 Depth = 74 km MB = 5.8 /ISC/
151	MAR 24	SPC SRO BRA	EAP IP IPP LMH IP IXP IXP EPCP EPP	14 25 14 25 14 27 14 35 14 25 14 25 14 26 14 27	32.0 39.0 55.0 0.0 43.0 56.0 7.0 51.0 43.0	-0.4 2.8 13.5 1.2 5.7 16.7 11.6 -5.5								54.02 55.38 56.16	88.01 85.65 85.04		Nepal 27.66 N 86.00 E H = 14 16 1.1 Depth = 20 km MB = 5.4 /ISC/
152	MAR 25	BRA	EYKP2	4 28	5.0	1.8								149.60	24.91		Tonga 19.60 S 175.96 W H = 4 8 9.9 Depth = 33 km MB = 4.8 /ISC/
153	MAR 25	BRA	EPCP EAP	7 50 7 50	38.0 43.0	7.4 -3.3								95.33	904.78		Near Coast of Michoacan, Mexico 18.25 N 103.52 W H = 7 37 11.0 Depth = 56 km MB = 4.7 /ISC/
154	MAR 27	BRA	EPKIKP EPKP2 EAPKP2	3 27 3 27 3 28	15.0 46.0 12.0	2.4 0.5 14.7								157.05	29.45		Kermadec Islands Region 27.34 S 175.34 W H = 3 7 21.4 Depth = 38 km MB = 5.7 /ISC/
155	MAR 27	BRA SRO	IP IXP EPP IP	16 41 16 41 16 44 16 41	2.0 19.0 5.0 2.0	1.4 4.6 -2.9 0.4						5.7		81.10 81.29	10.81 11.57		Andeanof Islands 50.06 N 179.60 W H = 16 28 47.0 Depth = 32 km MB = 5.6 /ISC/
156	MAR 28	BRA SPC	EAP EPP EPP	21 35 21 35 21 35	12.0 31.0 38.7	-2.4 3.7 1.8								10.56 12.07	188.76 199.93		Stoilly 37.71 N 15.09 E H = 21 32 42.8 Depth = 36 km /ISC/



No.	Date	St. Code	Phase	GMT		RES O-C	E-W		N-S		MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T				
157	MAR 29	SPC BRA	IP IP IXP	22 2 22 2 22 2	2 7.5 2 10.0 2 23.0	2.0 -0.6 2.5						73.51 74.38	356.72 354.99	Kodiak Islands Region 57.56 N 153.92 W H = 21 50 32.8 Depth = 23 km MB = 5.8 /ISC/
158	APR 1	SRO BRA	EP IS LMH IP EXP	22 3 22 14 22 39 22 3 22 11	3 36.0 14 12.0 39 0.0 3 39.0 11 49.0	-1.0 2.7 0.6 1.0 1.9		1.5	2.0	20.0	5.6	86.69 87.02	45.75 44.90	South of Honshu 30.98 N 141.95 E H = 21 50 49.9 Depth = 16 km MB = 5.2 /ISC/
159	APR 2	BRA	IP IAP EAP	4 21 4 21 4 22	35.7 45.0 4.0	4.6 0.3 19.3						125.81	54.65	Solomon Islands 6.97 S 155.32 E H = 4 2 34.0 Depth = 44 km MB = 5.4 /ISC/
160	APR 2	BRA	E	12 32	15.0									No determination of epicentre
161	APR 2	BRA	E	15 57	27.0									No determination of epicentre
162	APR 3	BRA	E	8 54	0.0									No determination of epicentre
163	APR 3	BRA	I	11 3	55.5									No determination of epicentre
164	APR 3	BRA	E	16 24	31.2									No determination of epicentre
165	APR 4	BRA	EP	7 49	7.0	-0.4						80.93	41.93	Honshu 37.70 N 140.81 E H = 7 37 2.7 Depth = 100 km MB = 5.2 /ISC/
166	APR 4	BRA	EP	8 53	36.0									No determination of epicentre
167	APR 4	BRA	E	13 24	4.0									No determination of epicentre
168	APR 4	BRA	E	13 50 13 51	54.0 9.0									No determination of epicentre

No.	Date	St. Code	Phase	GMT		RES O-C	E-W		N-S		MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T				
169	APR 4	BRA	EAP	15 1	2.0	-0.8						66.70	214.02	South Atlantic Ridge 12.54 S 14.65 W H = 14 50 4.6 Depth = 21 km MB = 5.1 /ISC/
170	APR 6	BRA SRO	+IP IP EP EPP +IP	2 5 2 5 2 6 2 8 2 5	40.4 52.0 9.0 40.0 49.0	0.1 0.4 17.4 4.9 -4.2						77.04 77.41	358.63 359.34	Alaska Peninsula 55.15 N 160.57 W H = 1 53 45.0 Depth = 8 km MB = 5.8 /ISC/
171	APR 6	BRA	E	3 2	51.0							138.10	47.23	New Hebrides 14.53 S 166.69 E H = 2 11 44.0 Depth = 16 km MB = 5.3 /ISC/
172	APR 6	BRA SRO	+IP IP E +IP I	4 7 4 8 4 9 4 7 4 4	52.6 10.6 19.6 55.0 11.0	-0.5 6.3 -0.2 5.1						77.14 77.51	358.59 359.31	Alaska Peninsula 55.05 N 160.51 W H = 3 55 57.0 Depth = 6 km MB = 6.0 /ISC/
173	APR 6	BRA	EPP EPP	8 10 8 10	47.0 50.0	2.4 5.4						111.81	31.92	New Hebrides 14.66 N 166.63 E H = 7 51 23.0 Depth = 14 km MB = 5.2 /ISC/
174	APR 6	BRA	E	12 15	44.0									No determination of epicentre
175	APR 6	SRO BRA	EP EP	20 27 20 27	11.0 17.0	0.5 0.2						40.61 41.39	84.62 84.23	Tadzhikistan 37.19 N 72.56 E H = 20 19 33.4 Depth = 45 km MB = 5.2 /ISC/
176	APR 6	BRA	E	22 4	11.0									No determination of epicentre
177	APR 7	BRA	EAP	1 0	32.0	-3.5						14.77	225.04	Algeria 36.89 N 4.10 E H = 0 57 0.0 Depth = 31 km MB = 4.6 /ISC/
178	APR 7	SRO BRA	EP E EAP IAP E	14 26 14 30 14 30 14 26 14 27 14 29 14 32	8.0 11.0 42.0 19.0 24.0 24.0 24.0	2.8 -2.7 2.3						13.90 14.55	157.58 154.34	Crete 34.75 N 24.79 E H = 14 22 48.0 Depth = 38 km MB = 4.7 /ISC/



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta Azimuth	Remarks
				h	m		A	T	A	T	A	T				
179	APR 9	BRA	EPG	10	1 32.0	11.5								2.53	297.82	Czechoslovakia 49.30 N 13.68 E H = 10 0 30.0 /KHC/
180	APR 9	BRA	IPG	11	0 42.5											No determination of epicentre
181	APR 9	BRA	IPG	11	11 30.5											No determination of epicentre
182	APR 9	BRA	E	11	29 42.0											No determination of epicentre
183	APR 9	BRA	E	11	35 42.0											No determination of epicentre
184	APR 9	SPC SRO BRA	IP +IP +IP IPCP EXP	13 22 54.0 13 23 2.0 13 23 4.3 13 23 19.3 13 24 14.0	1.9 -0.5 1.0 6.0 14.2	1.40	1.0				5.6		75.54 77.40 77.55	34.91 33.53 32.83	Kurile Islands 45.38 N 149.41 E H = 13 11 23.6 Depth = 159 km MB = 5.4 /ISC/	
185	APR 9	BRA	E	21	29 27.0											No determination of epicentre
186	APR 10	BRA	EP	1	40 25.0	0.7							79.56	3.63	Fox Islands 52.53 N 168.75 W H = 1 28 16.3 Depth = 15 km MB = 4.6 /ISC/	
187	APR 10	BRA	IPG	4	35 0.0											No determination of epicentre
188	APR 10	BRA	IPG I ISG I	9 30 7.0 9 30 12.0 9 30 14.0 9 30 20.0												No determination of epicentre
189	APR 10	BRA	IPG	12	37 11.0											No determination of epicentre
190	APR 10	BRA	EPCP EXP E EPP	22 55 57.0 22 56 36.0 22 57 10.0 22 59 34.0	0.5 1.2 -2.4							91.33	293.46		Guatemala 14.52 N 91.64 W H = 22 43 0.5 Depth = 105 km MB = 5.4 /ISC/	

No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta Azimuth	Remarks
				h	m		A	T	A	T	A	T				
191	APR 11	BRA	E	11	59 50.0											No determination of epicentre
192	APR 11	SFC BRA	EPCP EP EAP	21 49 43.0 21 49 48.0 21 50 9.0	-4.8 0.3 1.8								76.50 78.59	39.10 36.97	Hokkaido region 42.36 N 144.42 E H = 21 37 52.3 Depth = 72 km MB = 5.2 /ISC/	
193	APR 12	BRA	IPG	12	28 49.4											No determination of epicentre
194	APR 12	BRA	EP	17	58 45.0	-0.9							96.63	60.18	Philippine Sea 14.27 N 134.37 E H = 17 45 18.7 Depth = 38 km MB = 5.5 /ISC/	
195	APR 14	BRA	EPCP2 EAPKIKP	1 30 55.0 1 31 7.0	0.6 11.4								144.37	50.17	Loyalty Islands 20.86 S 168.53 E H = 1 11 16.9 Depth = 4 km /ISC/	
196	APR 14	BRA	EPB SG	7 16 12.0 7 17 22.0	2.1 0.3								4.68	237.31	Northern Italy 45.50 N 11.50 E H = 7 14 47.0 Depth = 0 km /ISC/	
197	APR 14	SRO BRA	LMH EP EXP	11 32 0.0 10 56 0.0 10 56 15.0	0.5 0.4			0.8	12.0	0.9	12.0		5.5	58.30 57.49	Ryukyu Islands 26.04 N 128.35 E H = 10 43 31.9 Depth = 35 km MB = 5.1 /ISC/	
198	APR 14	SRO BRA	LMH EPCP EXP	12 27 0.0 11 50 52.0 11 51 12.0	-2.1 11.4			0.4	16.0	0.6	12.0		5.2	58.29 57.48	Ryukyu Islands 25.98 N 128.42 E H = 11 38 20.2 Depth = 25 km MB = 4.9 /ISC/	
199	APR 14	BRA	EAPKIKP E	18 44 34.0 18 45 53.0	-1.4								144.48	50.17	Loyalty Islands 20.95 S 168.59 E H = 18 24 54.0 Depth = 19 km /ISC/	
200	APR 14	BRA	E	22	8 28.0											Loyalty Islands 20.79 S 168.62 E H = 21 48 22.5 Depth = 4 km /ISC/
201	APR 15	BRA	E	0	53 45.0											No determination of epicentre



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
202	APR 15	BRA	EPCP EXP	3 56	26.0	-1.7								84.96	67.39	Luzon 18.88 N 120.89 E H = 3 43 54.0 Depth = 59 km MB = 5.2 /ISC/	
203	APR 15	BRA SRO	ESG ESG E	21 30 21 30 21 53	14.0 26.0 10.0	2.7 14.7								4.97 5.31	220.59 230.63	Northern Italy 44.30 N 12.60 E H = 21 27 27.0 Depth = 0 km /ISC/	
204	APR 16	SPC	IPCP IAP E	11 35 11 35 11 38	30.0 58.0 0.0	5.0 3.7								86.38 88.68	73.19 70.82	Mindoro 13.80 N 120.71 E H = 11 22 52.9 Depth = 124 km MB = 5.3 /ISC/	
205	APR 16	BRA	E	16 44	38.0											No determination of epicentre	
206	APR 17	BRA	EP	0 40	1.0	1.4								40.52	271.20	North Atlantic Ridge 35.20 N 35.37 W H = 0 32 21.4 Depth = 28 km MB = 5.0 /ISC/	
207	APR 17	BRA	EP	0 51	46.0	-1.7								80.14	6.64	Andreas of Islands 51.66 N 173.44 W H = 0 39 40.9 Depth = 46 km MB = 4.8 /ISC/	
208	APR 17	SPC BRA	EP I I IP I IS E E	1 32 1 32 1 33 1 32 1 32 1 33 1 35 1 36	26.7 40.6 31.0 28.4 38.4 27.4 6.0 12.0	-6.4 -8.9 17.0								3.31 3.57	168.51 127.09	Romania 45.94 N 21.19 E H = 1 31 34.4 Depth = 46 km /ISC/	
209	APR 17	BRA	E	8 54	34.0											No determination of epicentre	
210	APR 17	SPC BRA	IP IXP IXP I	18 34 18 34 18 34 18 35	34.0 43.2 36.3 35.3	-0.5 3.7 -1.9 0.1	160	2.0				5.5		35.73 36.16	145.87 140.38	Red Sea 17.30 N 40.30 E H = 18 27 34.0 Depth = 12 km MB = 5.1 /ISO/	

No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
211	APR 18	BRA	E	8 24	27.0											No determination of epicentre	
212	APR 18	BRA	E	11 6	33.0											No determination of epicentre	
213	APR 18	BRA	EPKP2 EAPKIKP	14 35 14 35	20.0 41.0	-0.3 9.7							144.23	50.14	Loyalty Islands 20.73 S 168.46 E H = 14 15 48.0 Depth = 34 km /ISC/		
214	APR 18	BRA	IPG	15 33	14.0											No determination of epicentre	
215	APR 18	BRA	EAPKHKP EAPKIKP	16 23 16 23	6.0 20.0	0.5 9.2							144.51	49.88	Loyalty Islands 20.89 S 168.76 E H = 16 3 29.0 Depth = 21 km /ISC/		
216	APR 19	SRO BRA	EPKHKP I I I I EPP	7 23 7 23 7 23 7 26 7 27	57.0 50.8 58.8 13.8 46.0	4.3 1.4 5.5 3.9 -0.3							151.60 151.84	40.43 37.95	South of Fiji 24.08 S 178.59 E H = 7 5 8.6 Depth = 594 km MB = 5.6 /ISC/		
217	APR 19	BRA	E	8 1	25.0									3.13	326.98	Czechoslovakia 50.76 E 14.42 E H = 7 59 7.0 /PRU/	
218	APR 19	BRA	E E E	11 17 11 17 11 17	30.0 44.0 52.0											No determination of epicentre	
219	APR 20	SRO	EPKIKP E	2 20 2 29	39.0 51.0	0.2								147.28	49.71	Loyalty Islands Region 22.84 S 171.77 E H = 2 1 3.0 Depth = 48 km MB = 5.1 /ISC/	
220	APR 20	BRA	EP	8 0	48.0	-1.5								76.72	94.42	Niobar Islands Region 6.96 N 94.92 E H = 7 49 5.0 Depth = 77 km MB = 4.4 /ISC/	
221	APR 20	SPC SRO BRA	EPKP2 IAPKHKP EPKIKP EAPKIP2 E	8 46 8 47 8 46 8 47 8 48	54.7 5.0 56.0 26.0 11.0	2.1 0.7 2.0 11.6							145.47 147.34 147.71	50.74 49.65 47.50	Loyalty Islands Region 22.87 S 171.83 E H = 8 27 16.9 Depth = 43 km MB = 5.1 /ISC/		



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		a	A	T	A	T	A					
222	APR 20	BRA	ESG E	9	0	18.0											No determination of epicentre
223	APR 21	SRO BRA	IPKP2 LMH IPKP2 IAPKIKP E	1 13 1 24 1 13 1 13 1 14	13.0 0.0 14.0 21.0 48.0	-0.5 -1.0 -1.0			0.4	16.0	0.9	16.0	5.6	147.23 147.61	49.83 47.68		Loyalty Islands Region 22.83 S 171.68 E H = 0 53 31.4 Depth = 46 km MB = 5.4 /ISC/
224	APR 21	BRA	IP IPCP E	2 19 2 20 2 23	50.0 5.0 6.0	1.6 3.6							75.77	34.20			Sea of Okhotsk 46.19 N 145.45 E H = 2 8 0.0 Depth = 6 km MB = 5.2 /ISC/
225	APR 21	BRA	ES E	4 4 4 6	14.0 12.0	4.7							9.31	177.95			Southern Italy 38.86 N 17.53 E H = 4 0 4.1 Depth = 0 km /ISC/
226	APR 22	SRO	LMH	1 10	0.0				0.6	16.0	0.9	16.0	5.2	73.97	60.63		Eastern China 31.62 N 119.26 E H = 0 29 15.0 Depth = 3 km MB = 5.0 /ISC/
227	APR 22	BRA	EP EAP	1 50 1 50	10.0 21.0	3.0 -0.7							70.86	89.95			Andaman Islands 14.22 N 94.05 E H = 1 38 53.7 Depth = 52 km MB = 4.8 /ISC/
228	APR 22	SRO BRA	EKP2 EKP2 EAPKHKP E EPKSDP	2 25 2 25 2 25 2 26 2 28	4.0 8.0 11.0 23.0 31.0	-1.3 1.2 -2.3 -2.1								147.36 147.74	49.79 47.63		Loyalty Islands Region 22.93 S 171.78 E H = 2 5 23.5 Depth = 53 km MB = 5.2 /ISC/
229	APR 22	BRA	EPB ISB ISN ISN ESB	12 26 12 26 12 26 12 27 12 26	31.0 44.4 49.4 4.0 48.0	0.5 1.2 3.4 18.0 -3.7							0.92	197.03			Austria 47.29 N 16.71 E H = 12 26 12.0 Depth = 33 km /ISC/
230	APR 22	BRA	EP	14 42	40.0	3.6							62.02	252.16			Central Mid-Atlantic Ridge 9.70 N 41.40 W H = 14 32 12.0 Depth = 0 km MB = 4.4 /ISC/

231	APR 23	BRA	EP EXP	15 36 15 37	44.5 3.0	-6.4 2.7								60.46	259.43			North Atlantic Ridge 15.13 N 45.22 W H = 15 26 40.4 Depth = 22 km MB = 4.5
232	APR 23	BRA	EP EXP	17 48 17 49	35.8 9.2	-9.7 9.0								60.05	245.15			Central Mid-Atlantic Ridge 7.35 N 35.33 W H = 17 38 39.7 Depth = 35 km MB = 4.6 /ISC/
233	APR 24	BRA	IPN ISN	6 58 6 59	37.0 4.0	-3.3 -3.9							2.14	35.03				Czechoslovakia 49.90 N 19.00 E H = 6 58 3.0 /ISC/
234	APR 24	BRA SPC	I E	11 3 11 4	9.0 5.0													No determination of epicentre
235	APR 25	BRA SPC	EP EAP	0 12 0 12	29.0 35.5	-0.5 -0.6								48.19 48.63	162.51 166.89			Uganda 1.11 N 30.05 E H = 0 3 47.0 Depth = 11 km MB = 4.9 /ISC/
236	APR 25	BRA	E	8 53	36.0													No determination of epicentre
237	APR 25	BRA	EP	16 1	1.0	0.6								82.96	52.60			Ryukyu Islands 29.81 N 131.99 E H = 15 48 38.2 Depth = 40 km MB = 4.8 /ISC/
238	APR 26	BRA	E	7 3	12.0													No determination of epicentre
239	APR 26	BRA	ESB	7 24	40.0	0.0								6.80	266.38			Switzerland 47.30 N 7.10 E H = 7 21 14.0 Depth = 33 km /ISC/
240	APR 26	BRA	EPG ISG	13 0 13 0	3.0 12.0													No determination of epicentre
241	APR 26	BRA	EP	18 15	21.0	1.4								36.40	140.33			Red Sea 17.10 N 40.44 E H = 18 8 18.0 Depth = 46 km MB = 4.4 /ISC/



No.	Date	St. 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	APR 27	SRO I I I I	IPKIKP IPKIP2 I I I	7 44 7 45 7 49 7 52 7 44	44.1 10.1 46.1 18.1 41.0	1.7 -1.6 -1.5			2.0	20.0	2.0	20.0	6.0	155.82 155.93	32.25 29.40		South of Tonga 26.28 S 175.78 W H = 7 24 53.6 Depth = 44 km MB = 6.1 /ISC/
243	APR 27	SPO BRA	EP EP	10 12 10 12	20.5 27.0	2.6 -0.9								70.73 72.41	21.25 19.43		Near East Coast of Kamchatka 55.90 N 162.84 E H = 10 1 5.6 Depth = 54 km MB = 5.0 /ISC/
244	APR 29	SPC I	E I	17 38 17 39	41.0 4.0												No determination of epicentre
245	APR 29	SRO BRA	IP IPP EP IXP E	20 9 20 9 20 9 20 9 20 10	13.3 49.3 20.0 33.0 10.0	0.3 17.1 -1.0 7.2								20.01 20.78	144.49 142.41		Egypt 30.59 N 31.64 E H = 20 4 37.5 Depth = 12 km MB = 4.8 /ISC/
246	APR 29	BRA	EPCP	22 33	38.0	-0.8								88.58	275.60		Colombia 4.83 N 76.11 W H = 22 20 54.6 Depth = 103 km MB = 4.9 /ISC/
247	MAY 3	BRA	IPG	11 59	10.3												No determination of epicentre
248	MAY 4	SPC BRA	EKP2 IPKIP EPKIP EPKIP2 EPKIP2	9 28 9 29 9 28 9 29 9 29	56.0 6.5 50.0 12.0 30.0	-7.2 3.3 1.2 -0.1 17.9								150.55 152.67	41.91 37.82		South of Fiji 24.80 S 179.06 E H = 9 10 0.5 Depth = 530 km MB = 5.4 /ISC/
249	MAY 4	SRO BRA	IPKHKP IAPKIKP EPKIP IPIKIP EAPKHKP ESKPCB EPKSDP	13 5 13 8 13 5 13 5 13 7 13 8 13 9	44.4 8.4 46.0 52.0 44.0 35.0 13.0	4.0 -0.0 -3.5 2.5 -14.3 -0.7 -10.9								140.04 140.29	40.90 38.99		New Hebrides Region 13.92 S 172.65 E H = 12 47 28.1 Depth = 599 km MB = 5.4 /ISC/
250	MAY 4	BRA	EPCP EAP	18 7 18 7	10.0 20.0	-0.4 1.6								90.87	282.37		South of Panama 7.64 N 82.73 W H = 17 54 7.0 Depth = 29 km MB = 5.0 /ISC/

No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
251	MAY 4	SPC ERA	EP EP EXP	22 8 22 8 22 9	46.5 55.0 9.0	3.6 1.8 1.1								73.61 75.40	25.09 23.15		Off East Coast of Kamchatka 51.72 N 159.40 E H = 21 57 11.3 Depth = 34 km MB = 4.7 /ISC/
252	MAY 5	SPC BRA	EPCP EPCP EXP	6 9 6 10 6 10	51.0 4.0 20.0	-2.7 0.2 6.8								80.41 82.73	67.14 64.77		Taiwan Region 22.29 N 121.44 E H = 5 57 36.8 Depth = 34 km MB = 5.5 /ISC/
253	MAY 5	BRA	EAPKIP EAPKIP E ESKPCB	8 37 8 37 8 38 8 40	19.0 37.0 9.0 34.0	-1.8 16.2 -11.0								138.62	45.70		New Hebrides 14.47 S 167.87 E H = 8 17 49.0 Depth = 23 km MB = 5.0 /ISC/
254	MAY 5	SRO BRA	EP E IP	14 31 14 32 14 31	24.0 24.0 26.0	0.7 1.3								81.01 81.29	42.01 41.25		Near East Coast of Honshu 37.78 N 141.77 E H = 14 19 12.3 Depth = 50 km MB = 5.7 /ISC/
255	MAY 5	BRA	EP EXP	19 22 19 23	20.0 31.0	-0.1 18.6								77.40	31.94		Kurile Islands 45.96 N 149.37 E H = 19 10 39.8 Depth = 146 km MB = 4.9 /ISC/
256	MAY 6	BRA	IP I IS	7 51 7 51 7 52	14.0 25.0 9.0	-18.5 17.7								3.15	239.43		Austria 46.50 N 13.18 E H = 7 50 26.0 Depth = 64 km /ISC/
257	MAY 6	SPC BRA	IAP EP EAP	10 44 10 44 10 44	50.0 33.0 58.0	0.3 -13.8 -2.2								78.73 80.67	98.07 95.49		Northern Sumatra 3.30 N 96.80 E H = 10 32 37.1 Depth = 46 km MB = 4.8 /ISC/
258	MAY 6	SPC BRA SRO	EAPKHKP IFKP2 IAPKIKP IAPKHKP IAPKIKP	11 58 11 58 11 58 11 58 11 58	0.0 2.0 26.0 4.0 28.0	-0.4 0.3 17.3 -1.2 19.2								144.49 146.18 146.25	22.93 18.28 20.49		Tonga 15.37 S 173.32 W H = 11 38 22.1 Depth = 33 km MB = 5.6 /ISC/
259	MAY 7	SPC BRA	IAPKHKP IAPKIKP IFKP2 IAPKIKP E E	2 44 2 45 2 44 2 45 2 46 2 54	48.5 10.0 52.0 17.6 30.0 13.0	-1.9 14.3 -0.4 18.7								144.54 146.42	30.00 25.67		Fiji Region 16.67 S 177.37 W H = 2 25 11.9 Depth = 33 km MB = 5.4 /ISC/
260	MAY 8	BRA	E E	14 43 14 43	0.0 46.0												No determination of epicentre



No.	Date	St. 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	MAY 8	SRO	IP IPP ISKS LMH IP IPOP IPP ESCS LMH	23 45 23 49 23 56 0 27 23 45 23 46 23 49 23 56 0 29	52.0 8.0 8.0 0.0 50.7 14.7 5.7 18.0 0.0	1.8 7.4 1.4	3000	4.0		32.0 36.0	20.0 20.0	6.8	6.9	82.21 82.54	45.90 45.11	Near South Coast of Honshu 34.57 N 138.75 E H = 23 33 27.4 Depth = 10 km MB = 5.8 /ISC/	
262	MAY 9	SRO BRA	IPKP2 IPKIKP IAPKIKP E	16 27 16 27 16 27 16 29	20.0 19.2 40.2 10.2	0.9 1.2 8.1								145.22 145.62	51.42 49.38	Loyalty Islands Region 21.66 S 169.67 E H = 16 7 44.8 Depth = 46 km MB = 5.2 /ISC/	
263	MAY 10	SRO	EAP EPP IPS LMH EAP EPP	0 10 0 13 0 22 0 52 0 10 0 13	4.0 56.0 40.0 0.0 11.0 48.0	-4.0 8.1 10.3				5.0	16.0		6.2	94.55 95.07	168.34 167.51	Prince Edward Islands Region 45.97 S 35.10 E H = 23 56 39.1 Depth = 33 km MB = 5.5 /ISC/	
264	MAY 10	BRA	IPKIKP IPKP2 EAPKIKP	2 23 2 23 2 24	15.7 53.7 10.0	0.6 -0.5 -0.6								158.68	42.15	Kermadec Islands Region 30.94 S 179.39 W H = 2 3 46.5 Depth = 238 km MB = 5.3 /ISC/	
265	MAY 10	BRA	EPCP EXP	5 38 5 38	7.0 16.0	-0.9 -0.7								83.45	55.75	Ryukyu Islands 27.48 N 129.54 E H = 5 25 37.3 Depth = 31 km MB = 5.0 /ISC/	
266	MAY 10	SRO	EPP E	8 31 8 42	28.0 16.0	-7.5								113.26	290.54	Northern Easter I. Cordillera 4.30 S 102.07 W H = 8 12 5.6 Depth = 33 km MB = 5.9 /ISC/	
267	MAY 10	SRO	EPN	11 24	32.0											No determination of epicentre	
268	MAY 10	SPC SRO SRO BRA	IP EPP LMV +IP IS LMH IP	19 36 19 38 20 6 19 36 19 45 20 7 19 36	2.3 42.0 0.0 12.0 0.0 0.0 15.0	2.0 15.9 1.4 -1.4 0.2		31.0	12.0	39.0	12.0		6.9	65.30 66.92 67.59	74.97 73.10 72.44	Szechwan Province 28.19 N 103.98 E H = 19 25 17.0 Depth = 17 km MB = 5.8 /ISC/	

No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
269	MAY 11	SPC SRO SRO BRA	IXP IPCP ESP LMH	19 36 19 36 19 45 20 6	24.0 46.0 31.0 0.0	1.8 4.1 -2.1		33.0	12.0	33.0	12.0		6.9				Molucca Passage 1.87 N 126.48 E H = 0 43 45.9 Depth = 43 km MB = 6.1 /ISC/
270	MAY 11	SPC SRO BRA	EPCP EP IPP EPS LMH EPCP IPP	6 27 6 27 6 31 6 40 7 8 6 27 6 31	45.0 46.0 52.0 56.0 0.0 53.0 56.0	2.7 -4.3 -2.1 7.8 0.8 0.8 -0.7		6.0	20.0	4.0	20.0		6.2	96.86 98.74 99.09	49.18 47.77 46.74	Marianas Region 19.73 N 147.34 E H = 6 14 11.9 Depth = 26 km MB = 6.2 /ISC/	
271	MAY 11	SPC SRO BRA	EAP EXP ESKS LMH EXP	21 7 21 7 21 17 21 55 21 7	4.0 16.0 40.0 0.0 27.0	0.6 2.4 1.9 10.3		0.8	20.0	1.0	20.0		5.4	99.08 100.67 101.35	76.36 75.10 74.09	Molucca Passage 1.94 N 126.47 E H = 20 53 15.0 Depth = 26 km MB = 5.5 /ISC/	
272	MAY 12	BRA	EPG	10 17	36.0												No determination of epicentre
273	MAY 12	BRA SRO	E EPP ESKS	10 23 10 23 10 30	18.0 42.0 19.7	-9.4 11.5								101.83 102.52	253.99 254.77	Northern Chile 19.57 S 69.05 W H = 10 5 54.6 Depth = 107 km MB = 5.6 /ISC/	
274	MAY 12	BRA	ESN ISG E	19 50 19 51 19 52	36.0 6.5 36.0	-5.5 -6.2 -1.2								5.44	274.10	Germany 48.27 N 8.97 E H = 19 48 13.0 Depth = 7 km /ISC/	
275	MAY 13	BRA	IPG ISG	11 15 11 15	4.8 5.8												No determination of epicentre
276	MAY 13	SPC SRO	IP IAP IXP +IP IAP I ISS	17 47 17 48 17 48 17 47 17 48 17 50 17 56	36.0 19.0 40.0 45.6 27.6 9.6 39.6	3.3 4.4 3.0 1.9 1.8 7.8								38.56 39.89	89.62 86.55	Hindu Kush Region 36.54 N 70.96 E H = 17 40 27.6 Depth = 197 km MB = 5.3 /ISC/	

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No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
277	MAY 13	SPC SRO BRA	IP IAP IXS LMH EPCP	17 47 17 49 17 50	50.5 29.5 31.5	0.4 -0.8			1.0	12.0	2.0	12.0		5.8	90.03 91.08 91.93	100.05 98.62 97.72	South West of Sumatra 6.64 S 102.65 E H = 18 54 29.0 Depth = 15 km MB = 5.3 /ISC/
278	MAY 13	SPC BRA	IXP EAP	19 43 19 43	50.0 56.0	-0.4 -0.2								90.03 91.93	99.84 97.51	South West of Sumatra 6.50 S 102.81 E H = 19 30 40.6 Depth = 25 km MB = 5.1 /ISC/	
279	MAY 13	SPC	EPCP	20 16	11.5	5.1								98.54	75.64	Molucca Passage 2.82 N 126.67 E H = 20 2 32.7 Depth = 58 km MB = 5.3 /ISC/	
280	MAY 13	BRA	EPN ESN	20 30 20 30	26.0 45.0	0.2 0.5								1.33	240.43	Austria 47.50 N 15.40 E H = 20 30 0.0 Depth = 8 km /VIE/	
281	MAY 14	BRA SPC	E E	7 31 7 31	3.0 34.5												No determination of epicentre
282	MAY 15	BRA	EP	10 14	48.0	-4.2								51.46	269.50	North Atlantic Ridge 27.43 N 44.54 W H = 10 5 46.5 Depth = 23 km MB = 4.6 /ISC/	
283	MAY 15	BRA SPC	EP EP	10 43 10 43	2.0 18.0	-0.1 0.3								51.32 53.40	269.25 270.81	North Atlantic Ridge 27.38 N 44.27 W H = 10 33 58.0 Depth = 26 km MB = 5.1 /ISC/	
284	MAY 15	SPC BRA	EPCP EP	12 26 12 26	3.0 1.0	0.5 -0.4								88.72 88.88	151.29 148.89	Atlantic Indian Ridge 34.13 S 55.62 E H = 12 13 9.1 Depth = 32 km MB = 4.8 /ISC/	
285	MAY 15	SPC BRA	IP +IP	13 16 13 16	6.0 10.0	3.4 1.0	70	1.0				5.6		78.47 79.66	5.62 3.65	Fox Islands 52.43 N 168.77 W H = 13 4 4.7 Depth = 45 km MB = 5.2 /ISC/	

No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
286	MAY 15	BRA	EP	13 53	15.0	0.9								51.38	269.33		North Atlantic Ridge 27.39 N 44.37 W H = 13 44 10.6 Depth = 33 km MB = 4.5 /ISC/
287	MAY 15	BRA	EP	14 8	19.0	-0.7								51.45	269.38		North Atlantic Ridge 27.37 N 44.46 W H = 13 59 15.7 Depth = 34 km MB = 4.7 /ISC/
288	MAY 15	SPC SRO BRA	IP EXS LMV EPCP IS LMH +IP LMH	19 11 19 21 19 47 19 11 19 21 19 49 19 11 19 41	29.6 21.5 0.0 47.3 27.3 0.0 38.9 0.0	1.0 -2.1 -4.0 10.9 -0.3			15.0	20.0	39.0	20.0			74.23 76.04 76.08	27.79 26.48 25.81	Kurile Islands 49.98 N 156.22 E H = 18 59 56.1 Depth = 58 km MB = 6.0 /ISC/
289	MAY 15	BRA	EP	19 38	38.0	2.1								51.40	269.34		North Atlantic Ridge 27.38 N 44.39 W H = 19 29 32.2 Depth = 33 km MB = 5.2 /ISC/
290	MAY 15	BRA	E	23 30	43.0												No determination of epicentre
291	MAY 16	BRA	IPG ISG I LMH	15 34 15 34 15 34 15 34	48.3 49.8 50.5 51.7												No determination of epicentre
292	MAY 16	BRA	E E	17 24 17 25	11.0 6.0												No determination of epicentre
293	MAY 16	SPC SRO BRA	IP EPP +IP I +IP IPP	20 11 20 12 20 15 20 12 20 22 20 12 20 15	57.4 46.0 31.0 3.8 52.2 6.9 47.0	0.4 -0.3 -1.9 -0.6 -2.1						5.3		87.09 88.96 89.33	50.64 49.19 48.31	Bonin Islands Region 27.15 N 140.18 E H = 20 0 3.1 Depth = 489 km MB = 5.3 /ISC/	
294	MAY 16	BRA SRO	EXP EXP LMH	23 21 23 21 23 55	10.0 20.8 0.0	-1.3 5.4								90.41 91.29	287.33 288.23	Near Coast of Nicaragua 11.27 N 86.22 W H = 23 7 50.3 Depth = 65 km MB = 5.4 /ISC/	



No.	Date	St. Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
295	MAY 17	BRA	EP EAP IYP	13 52 13 53 13 54	29.0 20.0 16.0	-6.3 0.4 0.3								40.68	86.17	Hindu Kush Region 36.52 N 70.95 E H = 13 45 13.8 Depth = 208 km MB = 5.2 /ISC/	
296	MAY 17	BRA	IP	14 33	6.0	-0.2								26.29	322.90	Iceland 64.64 N 21.23 W H = 14 27 31.8 Depth = 32 km MB = 5.0 /ISC/	
297	MAY 17	BRA	IPOP IAP I EP IYP ISKS	15 35 15 36 15 39 15 39 15 39 15 46	41.0 10.0 15.0 48.0 44.0 16.0	1.1 3.3 0.0 4.6 -9.4 4.5							99.63 100.40	264.07 264.88	Peru 11.17 S 75.01W H = 15 22 6.5 Depth = 100 km MB = 5.9 /ISC/		
298	MAY 17	SRO BRA	IP ESCS LMH EP E	17 24 17 34 18 6 17 24 17 25	16.0 40.0 0.0 17.0 39.0	2.4 1.9 0.0 0.7		3.0	16.0	7.0	16.0		82.50 83.03	60.87 60.07	South Western Ryukyu Islands 25.09 N 125.54 E H = 17 11 55.0 Depth = 51 km MB = 5.7 /ISC/		
299	MAY 17	SRO BRA	IPOP IAP IYP E ISKS LMH IPOP IAP E E	21 8 21 8 21 12 21 15 21 18 22 1 21 8 21 8 21 11 21 13	16.0 44.0 4.0 5.0 46.0 0.0 19.0 54.0 3.0 8.0	1.3 -6.3 0.0 12.3 0.6 -0.2		1.0	20.0	2.0	20.0		93.77 94.61	95.53 94.61	Java 6.55 S 106.77 E H = 20 55 12.1 Depth = 141 km MB = 5.8 /ISC/		
300	MAY 18	BRA	E E	9 0 9 0	6.0 18.0											No determination of epicentre	
301	MAY 18	BRA	IPKIKP	12 17	50.0	1.7							159.81	41.43	Kermadec Islands Region 31.77 S 178.45 W H = 11 57 55.0 Depth = 48 km /ISC/		
302	MAY 19	BRA	E	0 23	45.0											No determination of epicentre	
303	MAY	BRA	EPG ISG	14 59 14 59	25.0 39.0											No determination of epicentre	



304	MAY 19	SRO BRA SPC	IP IPOP EP EXP IXP EPCP ESS	22 4 22 7 22 9 22 4 22 5 22 9 22 4	21.9 16.0 44.0 30.0 50.0 14.0 30.0 37.5	0.5 3.0 -0.6 -5.4 18.6 -11.9 1.9	2.0							13.69 14.41 14.42	151.34 148.35 159.73	Crete 35.47 N 26.31 E H = 22 1 9.7 Depth = 84 km MB = 4.8 /ISC/
305	MAY 20	BRA	EXP	0 26	20.0	-2.1							75.44	23.24	Off East Coast of Kamohatka 51.64 N 159.30 E H = 0 14 23.0 Depth = 44 km MB = 4.5 /ISC/	
306	MAY 20	SPC BRA	EP EP	10 50 10 50	14.8 15.0	6.8 0.3							43.73 44.57	135.02 130.44	Eastern Gulf of Aden 13.06 N 50.34 E H = 10 42 7.0 Depth = 60 km MB = 5.1 /ISC/	
307	MAY 21	BRA	EPG ISG ISG E	7 44 7 46 7 46 7 47	35.0 5.0 15.0 6.0	-7.2 -1.3 8.7							6.43	268.46	Switzerland 47.60 N 7.59 E H = 7 42 34.0 Depth = 5 km /ISC/	
308	MAY 21	BRA	IPG	11 5	17.3											No determination of epicentre
309	MAY 21	BRA	IPG	15 45	3.0											No determination of epicentre
310	MAY 22	BRA	E	16 31	7.0											No determination of epicentre
311	MAY 22	BRA SPC	E I I I E	18 50 18 50 18 50 18 50	20.0 34.2 38.2 6.0											No determination of epicentre
312	MAY 23	BRA	EP IAP	11 17 11 17	28.0 35.4	-7.8 -4.9							51.46	269.32	North Atlantic Ridge 27.33 N 44.43 W H = 11 8 29.0 Depth = 15 km MB = 5.1 /ISC/	
313	MAY 23	SRO BRA	EP I I I I I E	19 52 19 54 19 55 19 52 19 52 19 53 19 54	52.0 0.0 28.0 41.3 56.3 10.3 25.3	9.0 -5.8							4.48 4.75	191.59 180.22	Yugoslavia 43.42 N 17.08 E H = 19 51 30.9 Depth = 39 km /ISC/	



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
314	MAY 24	SPC BRA	EAP EP	20 38	11.0	-3.6								72.56 74.32	24.22 22.32	Near East Coast of Kamohatka 53.03 N 159.85 E Depth = 20 26 36.8 MB = 5.0 /ISC/	
315	MAY 25	BRA	EP EAP	0 43 9 43	39.0 50.0	2.3 -1.7								83.43	55.63	Ryukyu Islands 27.57 N 129.63 E H = 9 31 13.5 Depth = 52 km MB = 4.8 /ISC/	
316	MAY 26	SRO	IPKIKP IPP ISS LMH EAPKIKP	1 51 1 54 2 3 2 13 2 43 1 51	40.0 48.0 40.0 24.0 0.0 45.0	-1.7 1.6 13.5 -1.6				3.0	20.0		6.1	140.96 141.34	50.21 48.32	New Hebrides 17.69 S 167.80 E H = 1 32 11.6 Depth = 13 km MB = 5.8 /ISC/	
317	MAY 26	BRA	EAPKIKP E	8 56 8 56	4.0 40.0	0.2								141.26	48.42	New Hebrides 17.65 S 167.70 E H = 8 36 29.8 Depth = 8 km MB = 4.9 /ISC/	
318	MAY 26	SRO BRA	EXP I EP E	13 9 13 13 13 9 13 10	32.0 0.0 34.0 34.0	0.6 -0.8								10.78 11.32	168.24 163.75	Southern Greece 37.22 N 21.05 E H = 13 6 50.0 Depth = 11 km MB = 4.1 /ISC/	
319	MAY 27	SRO BRA	+IXP I LMH EP	4 53 5 5 5 29 4 53	28.0 52.0 0.0 8.0	-1.1 2.2								75.67 75.69	25.42 24.75	Kurile Islands 50.78 N 157.38 E H = 4 41 25.1 Depth = 60 km MB = 5.6 /ISC/	
320	MAY 27	BRA	IPG IPG IPG IPN IPN ISG	11 23 11 23 11 23 11 23 11 23 11 23	32.9 33.9 36.4 37.9 43.0 44.5	-3.8 -2.8 -0.3 -0.3 4.8 -4.4								0.94	240.40	Austria 47.70 N 15.90 E H = 11 23 18.0 Depth = 1 km /ISC/	
321	MAY 27	BRA	EP IPOP E	14 13 14 13 14 14 14 13	2.0 6.6 18.0 4.0	0.1 -15.7 -0.7								71.06 71.53	351.19 351.83	Southern Alaska 60.26 N 146.00 W H = 14 1 41.6 Depth = 10 km MB = 5.4 /ISC/	
322	MAY 28	BRA	E E E	7 23 7 25 7 25	52.0 11.0 45.0											No determination of epicentre	

No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
323	MAY 28	BRA	E E	8 1 8 1	37.0 48.0												No determination of epicentre
324	MAY 28	BRA	E	11 53	30.0												No determination of epicentre
325	MAY 29	SRO BRA	EP EP EXP	4 26 4 26 4 27	40.0 45.0 11.0	1.1 -0.1 11.2								54.98 55.85	125.15 124.13	Carlsberg Ridge 6.13 N 60.65 E H = 4 17 8.8 Depth = 35 km MB = 5.1 /ISC/	
326	MAY 29	BRA	E	8 53	26.0												No determination of epicentre
327	MAY 29	BRA	ESG	11 1	55.0	8.9								3.21	310.24	Czechoslovakia 50.18 N 13.29 E H = 11 0 0.0 /PRU/	
328	MAY 29	BRA SPC	IPG E	12 1 12 1	6.7 33.0												No determination of epicentre
329	MAY 29	BRA	E E	12 11 12 12	56.0 6.0												No determination of epicentre
330	MAY 30	SRO	E	15 45	16.0												No determination of epicentre
331	MAY 31	BRA	EP	3 25	8.0	-3.1								78.59	0.56	Undmak Island Region 53.62 N 163.81 W H = 3 13 11.3 Depth = 34 km MB = 4.8 /ISC/	
332	MAY 31	SPC BRA	IP IPP +IP I IPP	3 34 3 35 3 34 3 35 3 36	13.4 38.0 30.8 8.8 5.8	1.2 -1.0 -0.9 -0.5	1.40						5.5	37.22 39.54	65.92 63.53	Eastern Kazakhstan 49.91 N 78.91 E H = 3 26 57.4 Depth = 0 km MB = 5.9 /ISC/	
333	MAY 31	BRA SRO	EAPKIP2 EAPKIP2 E	8 0 8 0 8 1	31.0 28.0 28.0	11.2 7.9								148.25 148.32	17.44 19.77	Tonga Region 17.30 S 172.40 W H = 7 40 19.0 Depth = 53 km /ISC/	
334	MAY 31	BRA	EP E	9 0 9 1	36.5 32.0												No determination of epicentre





No.	Date	St. Code	Phase	GMT		RES	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
335	MAY 31	BRA	EP EPCP	9 22	15.0	0.5								74.49	22.24	Off East Coast of Kamchatka 52.91 N 160.08 E H = 9 10 39.1 Depth = 46 km MB = 5.0 /ISC/	
336	MAY 31	BRA	EP EAP	11 24	34.0	-1.2								86.51	140.04	Atlantic Indian Ridge 28.00 S 63.57 E H = 11 11 53.0 Depth = 24 km MB = 5.1 /ISC/	
337	MAY 31	BRA	*IP	13 0	37.0											No determination of epicentre	
338	MAY 31	BRA	EPCP EAP	14 18	12.0	2.8								91.66	315.66	Gulf of California 27.36 N 111.13 W H = 14 5 1.9 Depth = 26 km MB = 5.4 /ISC/	
339	JUN 1	BRA	E	2 2	30.0											No determination of epicentre	
340	JUN 1	BRA	EP	3 38	14.0											No determination of epicentre	
341	JUN 1	BRA	EPB IPG IPN ISB ISG ISN	11 4	32.4											No determination of epicentre	
342	JUN 1	BRA	E	22 49	31.0											No determination of epicentre	
343	JUN 2	BRA	E	1 13	23.0											No determination of epicentre	
344	JUN 2	BRA	E	1 19	47.0											No determination of epicentre	
345	JUN 2	BRA	IPN IPB ISN E	5 27	4.6	0.3								5.58	184.60	Adriatic Sea 42.60 N 16.50 E H = 5 25 38.0 Depth = 0 km /ISC/	

No.	Date	St. Code	Phase	GMT		RES	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
346	JUN 2	BRA	IAPKIKP IPK2 I E	12 37	9.8	-0.2								147.56	18.32	Tonga 16.73 S 173.03 W H = 12 17 24.0 Depth = 15 km MB = 5.2 /ISC/	
347	JUN 2	BRA	EP	23 16	34.0	-0.5								147.63	20.61	Colombia 5.51 N 76.83 W H = 23 3 44.4 Depth = 37 km MB = 5.2 /ISC/	
348	JUN 3	SPC	EP IPP	11 52	57.0	5.7								38.62	88.88	Afghanistan-USSR Border Region 36.89 N 71.35 E H = 11 45 36.9 Depth = 105 km MB = 5.2 /ISC/	
349	JUN 3	BRA	E	15 41	50.0											No determination of epicentre	
350	JUN 3	BRA	EPP	23 44	25.0	-4.8								39.68	82.22	Tadzikistan 39.21 N 71.62 E H = 23 35 23.8 Depth = 38 km MB = 4.9 /ISC/	
351	JUN 4	SPC	IPK2 IAPKIKP IPP *IPKIKP IPK2 IAPKIKP I IPP E *IPKIKP I ISKPDF I I I	4 33	22.0	1.3								144.52	25.92	Tonga 15.89 S 175.04 W H = 4 14 13.8 Depth = 256 km MB = 6.1 /ISC/	
352	JUN 4	BRA	EP	15 24	23.0	0.3								61.92	253.96	North Atlantic Ridge 10.82 N 42.56 W H = 15 14 6.0 Depth = 51 km MB = 4.9 /ISC/	



No.	Date	St. Code	Phase	GMT			RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T					
353	JUN 4	BRA SPC	E E E	19 37 19 37 19 37	20.0 32.0 40.0												No determination of epicentre	
354	JUN 5	SPC BRA	EAPKHKP EAPKHKP EAPKP2	0 0 0 0 0 0	23.5 30.0 52.0	-0.5 1.3 15.0									145.42 147.10	22.46 17.71	Samoa Region 16.20 S 172.80 W H = 23 40 43.2 Depth = 33 km /ISC/	
355	JUN 5	BRA	E	3 48	6.0												No determination of epicentre	
356	JUN 5	BRA	E	11 21 11 22	45.0 3.0										70.27	34.43	Czechoslovakia expl. of 30.2t 50.59 N 140.50 E H = 11 20 0.0 /ISC/	
357	JUN 5	SPC BRA	EAPKHKP EAPKP2 IAPKHKP	22 20 22 20 22 20	34.0 29.0 42.0	-0.2 1.6 4.8									144.22 145.92	23.28 18.67	Tonga 15.16 S 173.60 W H = 22 0 49.9 Depth = 42 km MB = 4.9 /ISC/	
358	JUN 6	BRA	E	16 14	40.0												No determination of epicentre	
359	JUN 6	SPC	EP	17 13	35.0	2.5									76.79	33.62	Kurile Islands Region 44.97 N 150.83 E H = 17 1 40.0 Depth = 17 km MB = 4.7 /ISC/	
360	JUN 6	BRA	E	18 10 18 12	46.0 26.0												No determination of epicentre	
361	JUN 6	SPC SRO	IP IAP EP I	19 10 19 11 19 10 19 13	32.2 18.5 40.0 25.0	2.9 4.4 -0.2									38.51 39.84	89.94 86.85	Hindu Kush Region 36.41 N 70.77 E H = 19 3 26.0 Depth = 212 km MB = 5.1 /ISC/	
362	JUN 7	BRA	E	2 8 2 8	22.0 26.0												No determination of epicentre	
363	JUN 7	BRA SRO	EAPKHKP EAPKHKP I LMH	7 7 7 7 7 7 8 7	30.0 18.3 50.3 0.0	7.6 0.0			5.0 24.0					6.2	145.75 145.77	21.59 23.78	Tonga 15.39 S 175.29 W H = 6 47 37.0 Depth = 30 km MB = 5.2 /ISC/	

No.	Date	St. Code	Phase	GMT			RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T					
364	JUN 7	BRA	E E I I	11 39 11 40 11 41 11 42	42.0 55.5 56.5 5.0												No determination of epicentre	
365	JUN 7	BRA	EP E	13 12 13 13	57.0 16.0													No determination of epicentre
366	JUN 7	SRO BRA	EXP I EP E E E	14 48 14 52 14 48 14 49 14 50 14 52	54.0 44.7 56.0 43.0 5.0 13.0	-5.6 5.4									9.09 9.62	169.13 163.95	Greece 38.86 N 20.50 E H = 14 46 32.0 Depth = 53 km MB = 4.3 /ISC/	
367	JUN 7	BRA	EP EXP	18 2 18 2	24.0 43.0	1.2 5.6									81.15	4.94	Aleutian Islands Region 50.84 N 170.60 W H = 17 50 9.2 Depth = 34 km MB = 5.0 /ISC/	
368	JUN 7	BRA	EAP EXP E	23 2 23 2 23 3	7.0 15.0 8.0	-3.3 0.8									92.41	281.17	South of Panama 5.68 N 82.84 W H = 22 48 51.2 Depth = 33 km MB = 5.4 /ISC/	
369	JUN 8	BRA	E E	8 54 8 54	5.0 25.0				2.9 24.0					5.8	93.27 94.22	282.05 283.60	No determination of epicentre	
370	JUN 8	SRO BRA	I E E E	11 53 11 53 11 53 11 54	6.0 15.0 31.0 30.0												No determination of epicentre	
371	JUN 8	BRA	E	16 54	28.0												No determination of epicentre	
372	JUN 8	SRO BRA	EPKHKP EPP LMH EAPKHKP	17 34 17 36 18 21 17 34 17 36	30.0 30.0 0.0 30.0 53.0	6.5 11.7 5.6 13.5			1.5 24.0					5.6	125.33 125.80	56.52 55.09	Solomon Islands 7.16 S 155.02 E H = 17 15 27.0 Depth = 42 km MB = 5.2 /ISC/	
373	JUN 8	BRA	EPKHKP	22 15	15.0	1.3									130.84	50.69	Solomon Islands 9.56 S 160.70 E H = 21 56 5.0 Depth = 30 km MB = 5.4 /ISC/	



No.	Date	St. 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						
374	JUN 9	SPC	EKP2 EAPK1KP I	3 21 13.0			1.3								145.72	22.22	Samoa Region 16.45 S 172.58 W H = 3 1 33.9 Depth = 33 km MB = 5.0 /ISC/		
				3 22 9.0			10.3									147.38	17.43		
				3 21 18.0			-0.2										147.46	19.70	
375	JUN 9	BRA	EPCF EAP E	14 29 44.0			0.2								99.68	272.17	Near Coast of Northern Peru 5.77 S 81.00 W H = 14 16 2.4 Depth = 36 km MB = 5.6 /ISC/		
				14 29 54.0			-1.0												
				14 30 45.0															
376	JUN 9	BRA	E	16 43 15.0															
				16 44 21.0															
377	JUN 9	BRA	E	20 18 12.0															
				20 19 27.0															
378	JUN 10	BRA	E	11 13 15.0															
				11 13 17.8															
				11 13 24.0															
379	JUN 10	BRA	E	11 23 22.0													No determination of epicentre		
380	JUN 10	BRA	EPN ISG E	11 53 9.0			0.5								2.77	321.29	Czechoslovakia 50.30 N 14.40 E H = 11 52 22.0 /ISC/		
				11 53 53.0			-0.5												
				11 54 18.0															
381	JUN 10	BRA	E	16 57 17.0															
				16 57 19.0															
382	JUN 11	BRA	E	11 11 55.0															
				11 11 57.0															
383	JUN 11	BRA	EAPK1KP	22 35 27.0			12.7							158.15	39.47	Kermadec Islands 29.98 S 178.72 W H = 22 15 13.7 Depth = 12 km MB = 4.9 /ISC/			

No.	Date	St. 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						
384	JUN 12	BRA	EPP	10 24 45.0			-8.4								20.61	125.62	Jordan Syria Region 34.10 N 37.28 E H = 10 19 48.8 MB = 4.6 /ISC/		
385	JUN 12	BRA	IXP IFCP IFCP I I I	16 37 40.0			1.7									75.90	270.17	Near Coast of Venezuela 10.61 N 63.47 W H = 16 25 45.2 Depth = 11 km MB = 5.7 /ISC/	
				16 37 43.0			-3.4												
				16 38 0.0			13.6												
386	JUN 12	BRA	IFCP E	16 38 33.0															
				16 39 24.0			-0.6	2600	4.0										
				16 37 37.6			-0.9												
387	JUN 12	BRA	+IP I ISP LMH	16 38 57.6															
				16 48 1.6			-0.7												
388	JUN 12	BRA	IFCP E	16 58 46.0			-0.7												
				16 59 43.0															
389	JUN 12	BRA	+IXP I I I	18 0 52.0			0.5												
				18 1 59.0															
				18 2 29.0															
390	JUN 14	BRA	+AP	18 3 27.0			-1.3												
				18 0 55.6															
391	JUN 14	BRA	E	18 2 39.6															
				18 14 0.0															
392	JUN 14	BRA	E	7 11 11.0															
				7 11 28.0															
393	JUN 15	BRA	E	8 53 43.0															
				8 54 52.0															
394	JUN 15	BRA	E	11 24 21.0															
				11 42 13.0															
395	JUN 15	BRA	E	0 32 16.0															
				0 34 7.0															
396	JUN 15	BRA	E	0 56 27.0			-3.6												
				0 56 41.4			0.4	70	1.0										
397	JUN 15	BRA	E	0 57 34.0															
				0 58 24.0															



No.	Date	St. Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta Azimuth	Remarks
				h	m		A	T	A	T	A	T				
394	JUN 15	SPC BRA	EAP EP I E E	2 49 2 48 2 49 2 50 2 51 2 53	29.0 58.0 46.0 24.0 29.0 3 00	-3.2 -2.5 5.7								77.33 78.77	13.30 11.33	Rat Islands 52.23 N 178.85 E H = 2 37 14.3 Depth = 160 km MB = 5.5 /ISC/
395	JUN 15	SPC BRA	EP EP EXP	3 40 3 40 3 41	47.5 54.0 16.0	-1.1 -1.6 -3.8								43.62 44.49	134.05 129.48	Eastern Gulf of Aden 13.48 N 50.89 E H = 3 32 49.0 Depth = 65 km MB = 5.1 /ISC/
396	JUN 17	BRA	EP	2 30	22.0	0.7								77.18	27.73	Kurile Islands 48.15 N 154.46 E H = 2 18 31.6 Depth = 54 km MB = 5.1 /ISC/
397	JUN 17	BRA	EP	16 48	36.0	0.7								78.59	38.72	Hokaido Region 41.41 N 142.51 E H = 16 36 38.0 Depth = 56 km MB = 5.0 /ISC/
398	JUN 17	BRA	EXP E	19 28 19 31	36.0 52.0	14.7								9.22	176.52	Southern Italy 38.96 N 17.82 E H = 19 25 55.8 Depth = 33 km MB = 3.8 /ISC/
399	JUN 17	BRA	ESG	21 28	46.0	7.4								4.53	258.75	Austria 47.10 N 10.60 E H = 21 26 9.0 Depth = 9 km /ISC/
400	JUN 18	BRA	E E	7 44 7 44	8.0 28.0											No determination of epicentre
401	JUN 18	SRO BRA	EXP ES I I EP I I I E E	8 28 8 30 8 31 8 36 8 28 8 29 8 29 8 31 8 32 8 36	48.0 12.0 48.0 8.0 36.0 28.0 51.0 49.0 41.0 36.0	9.7 -4.8 -0.9								9.49 10.01	169.86 164.81	Greece 38.45 N 20.43 E H = 8 26 11.4 Depth = 24 km MB = 4.7 /ISC/

No.	Date	St. Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta Azimuth	Remarks
				h	m		A	T	A	T	A	T				
402	JUN 18	BRA	E	13 20 13 21	57.0 19.0											No determination of epicentre
403	JUN 19	SRO SPC BRA	IPCP ISK LMH EP EP EXP E	3 18 3 45 3 8 3 8 3 8 3 9	12.4 36.4 13.0 12.0 27.0 30.0	1.8 5.1 0.0 0.0 -2.3		1.0	20.0	2.0	20.0		5.6	88.07 88.60 88.80	148.64 150.13 147.73	Atlantic-Indian Ridge 33.57 S 56.85 E H = 2 55 21.2 Depth = 41 km MB = 4.8 /ISC/
404	JUN 19	BRA	EP	16 12	40.0	0.1								85.39	324.34	Southern Nevada 37.19 N 116.21 W H = 16 0 0.2 Depth = 5 km MB = 4.8 /ISC/
405	JUN 19	BRA	E	16 53	44.0											No determination of epicentre
406	JUN 19	BRA	E	17 32 17 33	55.0 12.0											No determination of epicentre
407	JUN 19	SPC BRA	EXS ESCS	19 34 19 34	23.0 22.0	-3.7 4.0								85.02 85.06	335.76 333.60	Off Coast of North. California 41.60 N 126.70 W H = 19 11 10.0 Depth = 33 km /ISC/
408	JUN 19	BRA	E	22 6 22 7	23.0 34.0											No determination of epicentre
409	JUN 20	BRA	EP	2 54	33.0	0.4								61.05	238.54	Central Mid-Atlantic Ridge 3.11 N 31.27 W H = 2 44 19.8 Depth = 33 km MB = 4.8 /ISC/
410	JUN 20	SRO HPE BRA	IPN IPB IPG ISB LMH EPN IPN IPB ISN ISN ISB	9 29 9 29 9 29 9 30 9 31 9 30 9 29 9 30 9 30 9 30 9 30 9 31	27.8 33.2 48.2 19.8 0.0 38.3 30.8 38.8 13.2 22.8 26.3 35.0 50.4 40.0	-2.3 -2.7 5.2 -1.2 1.5 -5.8 -4.5 -3.4 -8.9 0.7 -1.7 -2.9 -3.1 -14.1		17.8	4.0	17.6	4.0		3.49 3.54 3.86	185.82 184.33 172.36	Yugoslavia 44.34 N 18.82 E H = 9 28 33.4 Depth = 33 km MB = 4.8 /ISC/	
		SPC	EPN IPG ISN	9 28 9 30	50.4 40.0	-2.9 -3.1								5.13	199.86	





No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
411	JUN 20	BRA	IPN IPB IPG ISN ISN	17 9 17 9 17 9 17 9 17 9	5.7 10.7 12.7 31.7 36.2	-1.0 1.5 -0.2 -4.5 0.0								2.30	210.37	Yugoslavia 46.17 N 15.43 E H = 17 8 27.0 Depth = 6 km /ISC/	
412	JUN 20	BRA	IS IS LMH IS EP E ES ES ES LMH EP LMV	17 9 17 9 17 10 17 9 17 9 17 9 17 9 17 9 17 11 17 10 17 12	40.1 43.2 0.0 39.2 9.7 19.9 29.9 50.1 0.0 1.0 30.0	5.6 8.7 6.5 -5.9 -10.1 10.1 14.4		2.0	1.0	0.9	1.0			2.43	207.41	Yugoslavia 46.00 N 15.50 E H = 17 8 27.3 Depth = 47 km MB = 4.5 /ISC/	
413	JUN 20	BRA	EPG ESG E	18 34 18 35 18 35	32.0 3.0 9.0												No determination of epicentre
414	JUN 20	BRA	EPN ESG	18 58 18 59	33.0 6.0												No determination of epicentre
415	JUN 20	BRA	+IPN IPB IPG IPG ISN ISB ISG LMH IPN IPG ISN ISN ISG ISG EPG	22 27 22 27 22 27 22 27 22 27 22 27 22 27 22 29 22 27 22 27 22 27 22 27 22 28 22 28 22 28	10.0 14.1 22.1 27.1 30.1 42.1 47.1 10.1 11.9 27.9 43.9 47.9 0.0 12.0 1.0	0.1 1.5 5.6 10.6 -10.1 -1.5 -0.5 -1.6 6.4 -2.6 1.4 4.2 16.2 2.1							2.37	209.43	Yugoslavia 46.09 N 15.43 E H = 22 26 29.2 Depth = 0 km MB = 4.2 /ISC/		
416	JUN 21	SPC	EPG ESG	1 1 1 1	2.1 23.5	-0.1 2.7								1.42	320.88	Poland 50.28 N 18.85 E H = 1 0 33.9 MB = 2.9 /WAR/	

No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
417	JUN 21	SPC BRA	EP EP	21 6 21 6	17.2 30.0	2.9 0.1											East of Lake Baykal 56.44 N 117.36 E H = 20 56 45.0 Depth = 10 km MB = 5.2 /ISC/
418	JUN 22	BRA SRO	IAFKHKP IAFKIKP IPP +IPKIKP I I IPP I EAFKHKP E EPP	8 32 8 32 8 34 8 32 8 32 8 34 8 34 8 36 8 32 8 33 8 34	12.3 19.3 25.3 4.0 54.0 12.0 36.0 52.0 7.4 4.4 28.5	5.7 -3.4 -4.1 3.6 0.4 -3.8 -11.9								54.38 56.53	42.69 40.94	Eastern Island Region 22.07 S 113.58 W H = 8 12 53.0 Depth = 85 km MB = 5.7 /ISC/	
419	JUN 22	BRA	EAFKIKP	10 19	45.0	-2.1								151.34	22.06	Tonga 20.88 S 174.00 W H = 9 59 52.3 Depth = 33 km MB = 5.0 /ISC/	
420	JUN 22	BRA	EP EAP	10 42 10 42	0.0 13.0	2.7 2.3								79.87	39.30	Near East Coast of Honshu 40.03 N 142.81 E H = 10 29 51.9 Depth = 46 km MB = 5.1 /ISC/	
421	JUN 22	SRO BRA	IPN IPB IPG ISB ISG LMH IP I I W	23 32 23 32 23 32 23 33 23 34 23 35 23 32 23 32 23 34 23 34 23 37 23 32	6.0 22.0 48.0 58.0 24.0 0.0 12.0 21.2 17.2 48.2 9.2 20.3	2.3 0.9 8.7 2.8 8.0 -1.0 6.2		4.5	12.0	3.8	12.0	4.4		7.38	151.01	Greece-Bulgaria Border Region 41.25 N 23.05 E H = 23 30 12.1 Depth = 8 km MB = 5.0 /ISC/	
422	JUN 24	BRA	EP EAP	19 13 19 14	25.0 55.0	0.8 -0.8								83.16	47.26	South of Honshu 32.83 N 137.10 E H = 19 1 40.8 Depth = 401 km MB = 5.2 /ISC/	
423	JUN 24	BRA SRO	EAFKIKP EPP E IPKIKP EPS	20 53 20 53 21 4 21 53 21 3	13.0 36.0 11.0 4.0 8.0	-1.6 -3.1 4.9 4.5								110.31	214.84	South Sandwich Islands Region 56.03 S 27.47 W H = 20 34 33.0 Depth = 52 km MB = 5.9 /ISC/	



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
424	JUN 25	BRA	IP	5 14	10.4	-0.6								92.68	296.86	Near Coast of Oaxaca, Mexico 15.61 N 95.26 W H = 5 1 1.2 Depth = 33 km MB = 5.2 /ISC/	
425	JUN 25	BRA	EAPKIKP EKP2 IPKIKP E	5 25 5 25 5 25 5 33	19.0 54.0 0.0 0.0	3.0 -1.3 -15.2								159.58 160.09	239.62 238.55	South Pacific Cordillera 54.70 S 131.66 W H = 5 5 15.0 Depth = 4 km MB = 5.5 /ISC/ No determination of epicentre	
426	JUN 25	BRA	IPG	11 3	7.5											No determination of epicentre	
427	JUN 25	SPC	EPCP LMV +IP	17 35 18 22 17 35	38.0 0.0 36.0	1.1 -1.3 2.2								94.07 94.33	125.79 124.48	South Indian Ocean 26.02 S 84.30 E H = 17 22 17.9 Depth = 20 km MB = 6.1 /ISC/	
428	JUN 25	BRA	EPCP E	17 52 17 53	25.0 9.0	-2.0								84.16	42.98	Off East Coast of Honshu 34.43 N 141.97 E H = 17 39 49.0 Depth = 4 km MB = 4.7 /ISC/	
429	JUN 25	BRA	+IP IXP	22 29 22 29 22 31	7.8 25.8 10.0	1.3 6.4	70	1.0				5.3		24.79 25.22 25.55	324.41 321.87 324.34	Iceland 64.66 N 17.44 W H = 22 23 46.2 Depth = 32 km MB = 5.1 /ISC/	
430	JUN 26	BRA	EP	1 27	54.0	-0.8								28.25	256.03	Svalbard Region 76.13 N 9.30 E H = 1 21 58.1 Depth = 0 km MB = 4.3 /ISC/ No determination of epicentre	
431	JUN 26	BRA	E	8 59	56.0											No determination of epicentre	

No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
432	JUN 26	BRA	EP E	18 53 18 54	40.0 41.0	-2.2								62.89	254.68	North Atlantic Ridge 10.50 N 43.70 W H = 18 43 19.0 Depth = 51 km MB = 4.7 /ISC/	
433	JUN 26	SRO BRA	EPKHKP +IPKIKP IPKHKP IAPK2	23 52 23 52 23 52 23 54	16.0 15.0 22.5 30.0	-1.5 0.8 4.5 -4.5								151.71 151.93	38.99 36.49	South of Fiji 23.86 S 179.31 E H = 23 33 26.8 Depth = 528 km MB = 5.3 /ISC/	
434	JUN 27	SRO BRA	EP IAP IS LMH +IP IPCP IXP E E E	2 1 2 1 2 11 2 36 2 1 2 1 2 2 2 5 2 8	36.0 44.0 56.0 0.0 36.5 42.5 49.5 12.5 40.0 55.5	0.9 1.3 4.5 -0.2 0.9 2.3			25.5	20.0	29.9	20.0		83.01 83.34	46.01 45.21	South of Honshu 33.86 N 139.20 E H = 1 49 10.4 Depth = 24 km MB = 5.6 /ISC/	
435	JUN 27	SRO BRA	EP EP E	5 1 5 1 5 2	28.0 27.0 17.0	2.3 -0.9								80.64 81.05	51.81 51.04	Shikoku 32.27 N 132.05 E H = 4 49 17.2 Depth = 54 km MB = 4.9 /ISC/	
436	JUN 27	SRO BRA	EPKIKP IPP LMH EPKIKP IAPKIKP E	8 5 8 6 8 50 8 5 8 5 8 9	0.0 36.0 0.0 3.0 18.8 11.0	1.7 -1.4 -0.4 3.8 -0.0			2.3	24.0	2.1	24.0		121.95 122.43	57.28 55.92	New Britain Region 4 72 S 152.56 E H = 7 46 11.6 Depth = 68 km MB = 5.9 /ISC/	
437	JUN 28	BRA	E	5 18	25.0											No determination of epicentre	
438	JUN 28	BRA SRO SPC	IXP IPP IXP LMH EAP IPP	11 13 11 13 11 13 11 19 11 13 11 13	12.7 28.7 15.6 0.0 38.8 56.6	0.6 12.2 -0.4 1.3 9.8			1.5	16.0	2.7	16.0		14.50 14.80 16.68	221.29 225.37 226.48	Algeria 36.57 N 5.26 E H = 11 9 38.5 Depth = 20 km MB = 5.0 /ISC/	
439	JUN 28	BRA	IPKIKP	18 26	6.0	0.5								141.60	48.46	New Hebrides 17.98 S 167.87 E H = 18 6 35.0 Depth = 17 km /ISC/	



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
440	JUN 29	BRA	IAP E E EAP	1 10 1 11 1 12 1 10	32.2 27.0 7.0 57.0	1.3 -2.1								14.57 16.75	221.31 226.49		Algeria 36.52 N 5.21 E H = 1 6 58.0 Depth = 32 km MB = 4.7 /ISC/ No determination of epicentre
441	JUN 29	BRA	EPN ISG I	1 37 1 38 1 38	30.0 2.2 8.2												No determination of epicentre
442	JUN 29	BRA	E I	12 5 12 5	30.0 42.9												No determination of epicentre
443	JUN 29	BRA	EP	15 27	53.0	0.4								78.40	208.33		South Atlantic Ridge 25.48 S 13.85 W H = 15 15 53.7 Depth = 33 km MB = 4.8 /ISC/
444	JUN 29	BRA	ES	21 33	16.0	-7.5								8.84	171.93		Southern Italy 39.40 N 18.70 E H = 21 29 30.0 Depth = 0 km /ISC/
445	JUN 29	BRA	EXS EXS E	22 34 22 34 22 37	36.1 41.0 10.0	9.8 14.7								8.61	171.07		Southern Italy 39.65 N 18.83 E H = 22 32 2.9 Depth = 39 km MB = 4.0 /ISC/
446	JUN 30	SRO BRA	EPIKIP EPP EPIKIP IPIKIP E I ESKPDF E	8 53 8 56 8 53 8 53 8 54 8 55 8 56 8 58	15.0 15.0 10.0 13.0 17.7 8.7 42.7 23.7	4.0 -3.4 -1.7 1.3 3.2								141.44 141.81	49.87 47.97		New Hebrides 17.98 S 168.26 E H = 8 33 46.8 Depth = 60 km MB = 5.7 /ISC/
447	JUN 30	BRA	EP	33 38.8	4.4									37.06	142.34		Ethiopia 15.97 N 39.61 E H = 13 26 25.7 Depth = 33 km MB = 4.5 /ISC/
448	JUN 30	BRA	EP	17 21	11.9	0.7								67.60	146.33		Malagasy 13.50 S 48.90 E H = 17 10 15.9 Depth = 33 km MB = 4.0 /ISC/

No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
449	JUN 30	BRA	IPIKIP	18 14	42.9	2.0								126.18	54.29		Solomon Islands 7.12 S 155.77 E H = 17 55 45.3 Depth = 62 km MB = 5.3 /ISC/
450	JUN 30	BRA	EP	19 6	51.0	-8.8								5.95	229.59		Northern Italy 44.13 N 10.81 E H = 19 5 23.4 Depth = 41 km /ISC/
451	JUL 1	BRA	EPN ISG I I	1 28 1 30 1 31 1 32	30.0 35.1 43.1 23.1	0.8 -8.0								7.47	283.65		France 49.40 N 5.96 E H = 1 26 36.4 Depth = 0 km /ISC/
452	JUL 1	BRA	E	2 26	53.0												No determination of epicentre
453	JUL 1	BRA	EP	5 18	34.0	0.6								32.48	354.35		Greenland Sea 79.94 N 0.40 W H = 5 12 2.5 Depth = 24 km MB = 4.4 /ISC/
454	JUL 1	BRA	EP	7 34	25.0	3.3								28.05	354.83		Greenland Sea 75.82 N 7.20 E H = 7 28 31.3 Depth = 33 km MB = 4.3 /ISC/
455	JUL 1	BRA	E	12 38	37.0												No determination of epicentre
456	JUL 1	BRA SRO	EP EPP E E EP E ISKS ISKS LMBH	17 5 17 9 17 10 17 11 17 5 17 9 17 16 17 16 17 17 17 52	39.0 53.0 21.0 16.0 35.0 7.0 19.0 40.0 0.0	-3.9 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0		5.0	16.0	5.0	16.0	6.3		100.97 101.61	249.21 249.98		Salta Province, Argentina 22.14 S 64.74 W H = 16 51 52.7 Depth = 16 km MB = 5.5 /ISC/
457	JUL 1	BRA SRO	IP I I EPP E E E IP IS	23 22 23 23 23 24 23 24 23 25 23 26 23 27 23 33 23 32	53.0 31.0 6.0 6.0 35.0 12.0 47.0 56.0 54.5 30.5	-0.2 -7.4 1.0 3.8								74.70 74.75	206.53 207.67		South Atlantic Ridge 22.57 S 10.68 W H = 23 11 14.5 Depth = 29 km MB = 5.5 /ISC/



No.	Date	St. Code	Phase	h	GMT	RES	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks	
							A	T	A	T	A	T						
		SPC	LMH EP I E	23 56 23 23 23 23 23 25	0.0 1.0 42.5 33.0	-2.9			2.0	16.0	3.0	16.0	5.8	76.57	209.23			
458	JUL 2	BRA	IPKIKP IAPKIKP E	7 35 7 35 7 36	21.4 30.4 52.0	0.1 -1.7								144.66	121.13		West of Macquarie Island 53.91 S 140.30 E H = 7 15 48.1 Depth = 33 km MB = 5.2 /ISC/	
459	JUL 2	BRA	EP I I	8 2 8 3 8 3	41.0 15.4 23.4												No determination of epicentre	
460	JUL 2	BRA	IPG	11 4	15.4												No determination of epicentre	
461	JUL 2	BRA	EAF E	16 48 16 49	52.0 32.0	-2.5								40.63	76.03		Alma-Ata Region 42.18 N 75.34 E H = 16 41 7.3 Depth = 26 km MB = 4.6 /ISC/	
462	JUL 2	SPC	EPKIKP LMV IPKIKP IPKSDP LMH IPKIKP IAPKIKP I IPP I I LMV	23 46 0 53 23 46 23 50 0 52 23 46 23 46 23 47 23 50 23 54 23 59 0 46	22.7 0.0 22.6 10.6 0.0 23.3 34.3 38.3 49.3 44.3 24.3 0.0	4.8 3.4 -10.9 18.0 2.7 2.9 9.6											Kermadec Islands Region 29.22 S 175.94 W H = 23 26 26.8 Depth = 33 km MB = 6.5 /ISC/	
463	JUL 3	BRA	IP	3 13	38.3												No determination of epicentre	
464	JUL 3	SPC	IPKIKP IPP IPKIKP IPP E LMH IPKIKP IPKIP2 E	23 45 23 48 23 45 23 49 0 8 23 45 23 45 23 48 23 54	3.0 59.5 2.7 14.7 51.0 3.5 40.5 34.5 35.3	3.4 0.7 -6.1 1.3 12.6												Kermadec Islands Region 29.37 S 176.13 W H = 23 25 14.0 Depth = 77 km MB = 6.0 /ISC/

No.	Date	St. Code	Phase	h	GMT	RES	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
							A	T	A	T	A	T					
465	JUL 4	BRA	IP	12 58	18.6												No determination of epicentre
466	JUL 4	SPC	EAP IP I LMH LMH IP IXP IPP IS LMH	19 39 19 39 19 47 20 12 20 1 19 39 19 39 19 41 19 46 20 3	26.5 39.0 39.0 0.0 0.0 40.6 47.6 41.6 49.0 0.0	-2.3 1.5	2.0										Mongolia 45.20 N 93.86 E H = 19 30 41.1 Depth = 16 km MB = 5.9 /ISC/
467	JUL 5	BRA	E E	0 54 0 54	17.0 42.0												No determination of epicentre
468	JUL 5	BRA	IPG	13 3	3.4												No determination of epicentre
469	JUL 5	BRA	E	15 50	15.0												No determination of epicentre
470	JUL 5	BRA	E	15 0	46.0												No determination of epicentre
471	JUL 5	BRA	EPKIKP IAPKIP2 IAPKIP2 EPKIP2	18 24 18 24 18 25 18 27	9.0 57.0 5.0 7.0	0.1 9.2 17.2 5.7								158.76	33.38		Kermadec Islands Region 29.50 S 176.11 W H = 18 4 10.0 Depth = 3 km MB = 5.4 /ISC/
472	JUL 5	BRA	EP EXP E	20 22 20 22 20 23	11.0 26.0 26.0	1.2 7.0								85.07	286.28		Caribbean Sea 14.62 N 81.81 W H = 20 9 34.3 Depth = 21 km MB = 5.0 /ISC/
473	JUL 6	BRA	EPKIP2	23 39	54.0	-1.1								155.59	35.18		South of Fiji 26.92 S 178.36 W H = 23 20 9.7 Depth = 320 km MB = 4.6 /ISC/
474	JUL 7	BRA	IP EPOP	13 5 13 5	14.3 26.0	0.1 1.9								78.01	29.53		Kurile Islands 46.59 N 152.75 E H = 12 53 20.3 Depth = 57 km MB = 5.1 /ISC/
475	JUL 8	BRA	EPG IPG ISG E	0 18 0 18 0 19 0 20	6.0 10.0 39.0 15.0	4.2 18.3 16.3								1.59	211.28		Yugoslavia 46.80 N 15.90 E H = 0 17 30.0 Depth = 0 km /ISC/

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Centre



No.	Date	St. 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						
476	JUL 8	SPC	EPP	5	57	45.0											79.96	44.63	Near East Coast of Honshu 36.44 N 141.17 E H = 5 45 38.3 MB = 6.0 /ISC/ Depth = 45 km		
				6	0	31.4															
				6	8	11.0															
				6	37	0.0															
		SRO	LMV	5	57	53.9															
				6	8	4.0															
				6	31	0.0															
				6	31	0.0															
		BRA	IP	5	57	56.0															
				5	58	8.0															
				5	58	32.0															
				6	1	5.0															
		I	ESS	6	2	23.0															
				6	8	40.0															
				7	39	0.0															
				7	39	0.0															
477	JUL 8	BRA	IPG	11	5	19.0												No determination of epicentre			
478	JUL 9	SRO	IP	2	35	7.7															
				2	35	33.7															
				2	36	9.7															
				2	36	51.7															
		SPC	EP	2	40	0.0															
				2	35	36.0															
				2	35	36.5															
				2	35	43.5															
		I	ESS	2	36	15.5															
				2	37	34.0															
				2	40	16.0															
				2	40	16.0															
479	JUL 9	BRA	E	10	57	53.0												No determination of epicentre			
480	JUL 9	BRA	EP	16	31	24.0															
481	JUL 9	BRA	EXP	17	50	7.0															
482	JUL 10	BRA	EP	3	4	30.0															

483	JUL 10	BRA	EP	4	42	3.0															
484	JUL 10	BRA	IP	16	12	40.3															
				16	13	11.0															
				16	16	12.0															
				18	1	46.8															
485	JUL 11	SRO	EPP	18	1	49.7															
				18	2	5.7															
				18	3	25.0															
				18	1	53.4															
		I	IXS	18	1	58.4															
				18	6	37.0															
				18	14	0.0															
				18	14	0.0															
486	JUL 12	BRA	E	3	40	4.0												No determination of epicentre			
487	JUL 12	BRA	TPG	16	40	3.5															
488	JUL 13	SRO	IP	1	31	11.3															
				1	31	31.3															
				1	32	20.3															
				1	33	13.3															
		I	ISCS	1	33	44.3															
				1	35	12.3															
				1	41	53.3															
				2	17	0.0															
		SRO	IPCP	1	33	49.2															
				1	41	45.2															
				2	11	0.0															
				1	31	26.3															
		SRO	LMV	2	10	0.0															
489	JUL 13	BRA	IP	2	33	7.4															
				2	33	13.4															
		I	IPCP	2	34	10.4															
490	JUL 13	BRA	EP	4	3	49.0															
				4	4	35.0															



No.	Date	St. 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				
491	JUL 13	BRA SFC	E E	10 23 10 22	27.0 57.0													No determination of epicentre	
492	JUL 13	BRA	EP	10 34	11.0	-1.9									87.21	278.68	Panama-Colombia Border Region 7.93 N 77.49 W H = 10 21 25.3 Depth = 11 km MB = 4.8 /ISC/		
493	JUL 13	BRA	E	12 32	49.0													No determination of epicentre	
494	JUL 13	BRA	EP EXP	13 13 13 14	40.0 6.0	-0.3 11.2									87.65	278.48	Panama-Colombia Border Region 7.47 N 77.64 W H = 13 0 54.1 Depth = 33 km MB = 4.7 /ISC/		
495	JUL 13	BRA	E	13 21	29.0													No determination of epicentre	
496	JUL 13	BRA	IP IPP IPP E EP E LMH IP	16 1 16 1 16 1 16 2 16 1 16 2 16 7 16 1	3.4 18.4 29.4 26.0 5.0 9.0 0.0 32.5	4.4 7.1 18.1 2.1 5.7									15.23	221.33	Algeria 35.97 N 4.76 E H = 15 57 22.1 Depth = 9 km MB = 4.8 /ISC/		
497	JUL 13	BRA	EP	16 28	43.0	-0.1									87.28	278.58	Panama-Colombia Border Region 7.81 N 77.46 W H = 16 15 56.3 Depth = 18 km MB = 4.8 /ISC/		
498	JUL 13	BRA	EP	16 46	7.0	0.3									87.75	278.49	Panama-Colombia Border Region 7.40 N 77.71 W H = 16 35 20.5 Depth = 37 km MB = 4.6 /ISC/		
499	JUL 13	BRA	EP	18 1	40.0	0.2									87.15	278.69	Panama-Colombia Border Region 7.98 N 77.46 W H = 17 48 53.9 Depth = 20 km MB = 4.7 /ISC/		
500	JUL 13	BRA SRO SFC	IP IPCP ISCS IPCP	18 11 18 11 18 22 18 11	30.0 38.0 33.0 43.5	-1.3 0.4 9.5 1.4									87.30 88.16 89.18	278.60 279.50 280.91	Panama-Colombia Border Region 7.81 N 77.49 W H = 17 58 42.3 Depth = 5 km MB = 5.4 /ISC/		

501	JUL 13	BRA	EFP2	19 3	56.0	-0.9									147.90	18.41	Tonga Region 17.07 S 173.00 W H = 18 44 12.0 Depth = 45 km MB = 4.7 /ISC/	
502	JUL 13	BRA	EP	19 28	33.0	-0.3									87.28	278.62	Panama-Colombia Border Region 7.84 N 77.49 W H = 19 15 46.5 Depth = 18 km MB = 4.5 /ISC/	
503	JUL 13	BRA SFC	IP IPCP EPCP	23 21 23 21 23 21	32.0 34.0 42.0	1.1 0.8 0.5									87.75 89.64	278.27 280.59	Panama-Colombia Border Region 7.25 N 77.55 W H = 23 8 42.6 Depth = 23 km MB = 5.3 /ISC/	
504	JUL 14	BRA SFC	IP E EPCP	2 1 2 2 2 1	30.4 10.0 42.5	0.7 2.1									87.34 89.22	278.69 281.00	Panama-Colombia Border Region 7.84 N 77.59 W H = 1 48 43.8 Depth = 26 km MB = 5.3 /ISC/	
505	JUL 14	BRA	IP IPCP I E EPP IPCP EPCP	2 26 2 27 2 27 2 28 2 30 2 26 2 26	39.4 41.4 13.4 11.0 22.0 46.0 49.8	1.2 0.7 16.9 1.5 0.9									87.38 88.24 89.26	278.59 279.49 280.90	Panama-Colombia Border Region 7.74 N 77.54 W H = 2 13 49.6 Depth = 10 km MB = 5.8 /ISC/	
506	JUL 14	BRA	E	8 15	23.0													No determination of epicentre
507	JUL 14	SRO BRA	EPKKP IPKIP EAP2	19 8 19 8 19 9	17.0 17.1 38.1	2.1 1.8 1.0									155.82 157.01	38.93 36.02	Kermadec Islands Region 28.35 S 178.00 W H = 18 48 43.1 Depth = 191 km MB = 5.3 /ISC/	
508	JUL 14	BRA	E	20 47	27.0													No determination of epicentre
509	JUL 14	BRA	E	20 52	17.0													No determination of epicentre
510	JUL 14	BRA	EAP	21 35	0.0	-0.7									25.75	353.89	Greenland Sea 73.50 N 7.80 E H = 21 29 22.1 Depth = 33 km MB = 4.4 /ISC/	
511	JUL 15	BRA	E	1 39	45.0													No determination of epicentre



No.	Date	St. 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					
512	JUL 15	BRA	E	1	49	18.0											87.56	278.46	No determination of epicentre	
513	JUL 15	BRA	IPCP	23	24	16.4	-0.8												Panama-Colombia Border Region H = 7.52 N 77.56 W H = 23 11 27.4 Depth = 23 km MB = 5.3 /ISC/	
514	JUL 16	BRA	E	14	53	43.0													No determination of epicentre	
515	JUL 16	BRA	E	14	53	53.0													No determination of epicentre	
516	JUL 17	BRA	E	16	11	37.0													No determination of epicentre	
517	JUL 17	BRA	I	16	11	48.0													No determination of epicentre	
518	JUL 17	BRA	EP	0	5	19.0	13.6												Southern Sumatra 4.78 S 103.20 E H = 23 52 35.8 Depth = 74 km MB = 5.0 /ISC/	
519	JUL 18	BRA	IPCP	0	5	34.0	0.2												Romania 45.76 N 26.61 E H = 5 9 21.9 Depth = 135 km MB = 5.0 /ISC/	
520	JUL 18	BRA	E	5	10	46.3													No determination of epicentre	
521	JUL 18	BRA	I	5	10	52.7													No determination of epicentre	
522	JUL 18	BRA	I	5	11	12.7													No determination of epicentre	
523	JUL 18	BRA	I	5	12	7.7	8.7												Tonga 15.18 S 173.56 W H = 11 4 48.0 Depth = 70 km MB = 5.7 /ISC/	
524	JUL 18	BRA	I	5	12	44.7													No determination of epicentre	
525	JUL 18	BRA	I	5	11	2.6													No determination of epicentre	
526	JUL 18	BRA	I	5	11	31.6													No determination of epicentre	
527	JUL 19	BRA	I	5	12	16.6	-3.6												No determination of epicentre	
528	JUL 19	BRA	I	5	13	32.6													No determination of epicentre	
529	JUL 21	SRO	E	7	39	39.0													No determination of epicentre	
530	JUL 21	SRO	ES	7	49	1.0													No determination of epicentre	
531	JUL 21	SRO	IPKP2	11	24	23.2	1.1												No determination of epicentre	
532	JUL 21	SRO	IAPKHKP	11	24	35.2	0.2												No determination of epicentre	
533	JUL 21	SRO	IAPKIKP	11	24	47.2	8.3												No determination of epicentre	
534	JUL 21	SRO	I	11	25	9.2													No determination of epicentre	
535	JUL 21	SRO	E	11	26	24.1													No determination of epicentre	
536	JUL 21	SRO	E	11	28	50.0													No determination of epicentre	
537	JUL 21	SRO	IPKP2	11	24	23.8	1.4												No determination of epicentre	
538	JUL 21	SRO	IAPKHKP	11	24	35.8	0.7												No determination of epicentre	
539	JUL 21	SRO	I	11	26	23.8													No determination of epicentre	
540	JUL 21	SRO	I	11	26	23.8													No determination of epicentre	
541	JUL 21	SRO	I	11	38	11.8	-8.1												No determination of epicentre	
542	JUL 21	SRO	LMH	12	3	0.0													No determination of epicentre	
543	JUL 21	SRO	E	2.0	20.0	3.0	20.0	6.1											No determination of epicentre	
544	JUL 21	SRO	ES	2.0	20.0	3.0	20.0	6.1											No determination of epicentre	
545	JUL 21	SRO	IPKP2	145.95	18.61														No determination of epicentre	
546	JUL 21	SRO	IAPKHKP	146.01	20.81														No determination of epicentre	
547	JUL 21	SRO	I	146.01	20.81														No determination of epicentre	

No.	Date	St. 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					
520	JUL 18	BRA	ESW	16	58	48.0	-2.4												No determination of epicentre	
521	JUL 18	BRA	ESB	16	59	15.0	-0.5												No determination of epicentre	
522	JUL 18	BRA	E	17	12	32.0													No determination of epicentre	
523	JUL 18	BRA	E	17	14	25.6													No determination of epicentre	
524	JUL 18	BRA	E	17	18	14.1													No determination of epicentre	
525	JUL 18	BRA	IP	19	34	36.0	0.2												No determination of epicentre	
526	JUL 18	BRA	IAP	19	34	50.0	-3.6												No determination of epicentre	
527	JUL 18	BRA	EPP	19	38	19.0	-4.2												No determination of epicentre	
528	JUL 18	BRA	EP	19	34	40.0	0.2												No determination of epicentre	
529	JUL 18	BRA	IP	22	24	50.0	0.9												No determination of epicentre	
530	JUL 18	BRA	EPKP2	23	19	38.0	0.1												No determination of epicentre	
531	JUL 18	BRA	EPKHKP	23	31	4.0	6.7												No determination of epicentre	
532	JUL 19	BRA	EPKIKP	18	4	26.0	1.1												No determination of epicentre	
533	JUL 19	BRA	EPKP2	18	53	6.0	0.5												No determination of epicentre	
534	JUL 19	BRA	EPKHKP	19	5	17.0	0.1												No determination of epicentre	
535	JUL 19	BRA	EPPOP	19	5	24.0	0.8												No determination of epicentre	
536	JUL 19	BRA	E	19	6	24.0													No determination of epicentre	
537	JUL 21	SRO	E	0	3	8.0	-2.2												No determination of epicentre	
538	JUL 21	SRO	EPPOP	0	5	4.0													No determination of epicentre	
539	JUL 21	SRO	E	0	3	8.0	-2.2												No determination of epicentre	
540	JUL 21	SRO	EPPOP	0	5	4.0													No determination of epicentre	



No.	Date	St. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T						
530	JUL 21	SRO BRA	I EXP	5 29 5 26	0.0 39.0	2.5											7.81 8.32	171.80 165.78	Albania 40.07 N 19.76 E H = 5 24 22.9 Depth = 36 km MB = 4.0 /ISC/	
531	JUL 21	BRA	I I E	8 41 8 41 8 42	39.0 43.0 42.0	1.4 5.4											91.78	293.69	Near Coast of Chiapas, Mexico 14.32 N 92.11 W H = 8 28 33.7 Depth = 56 km MB = 5.2 /ISC/	
532	JUL 21	BRA	E	18 50	27.0														No determination of epicentre	
533	JUL 22	BRA	EP ES	7 21 7 23	39.0 9.0	-0.5 -9.9											9.00	188.59	Southern Italy 39.25 N 15.38 E H = 7 19 32.7 Depth = 257 km MB = 4.5 /ISC/	
534	JUL 22	BRA	E	15 38	29.0														No determination of epicentre	
535	JUL 23	BRA	E E E	0 48 0 48 0 49	6.0 13.0 41.0	-2.3 -0.2											151.04	22.15	Tonga 20.60 S 174.13 W H = 0 28 13.9 Depth = 33 km MB = 5.0 /ISC/	
536	JUL 23	BRA	I I E E	11 18 11 18 11 21	1.7 22.7 29.7	-1.0 -13.5 7.1											143.70	47.84	New Hebrides 19.55 S 169.37 E H = 10 58 46.0 Depth = 146 km MB = 5.7 /ISC/	
537	JUL 23	BRA	EP	22 2	46.0	-0.6											76.72	26.38	Kurile Islands 49.16 N 155.90 E H = 21 50 57.0 Depth = 33 km MB = 4.5 /ISC/	
538	JUL 24	BRA	ISB ESG	0 26 0 26	14.4 39.0	2.6 13.3											5.35	275.46	Germany 48.40 N 9.10 E H = 0 23 29.0 Depth = 31 km /ISC/	
539	JUL 24	SRO BRA	I E E E E	8 47 8 58 10 7 8 47 8 48 8 50	32.5 54.0 0.0 33.0 11.0 15.0	0.8 1.0 -2.5 -7.5											159.59 159.85	42.40 39.21	Kermadec Islands Region 31.42 S 177.65 W H = 8 27 33.0 Depth = 10 km MB = 5.4 /ISC/	

No.	Date	St. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T						
540	JUL 24	BRA	E	10 24	6.0														No determination of epicentre	
541	JUL 24	BRA	E	14 23	44.0														No determination of epicentre	
542	JUL 24	BRA	EP E E	14 33 14 34	52.0 4.0	1.2 1.6											148.89	21.31	Tonga 18.40 S 174.30 W H = 14 14 11.0 Depth = 36 km MB = 5.2 /ISC/	
543	JUL 24	BRA	E	22 30	24.0														No determination of epicentre	
544	JUL 25	BRA	IPN ISG E	1 2 1 3 1 4	22.3 14.3 13.0	-5.1 3.1											2.70	198.27	Yugoslavia 45.60 N 15.90 E H = 1 1 42.0 Depth = 0 km /ISC/?	
545	JUL 25	BRA	E E	13 40 13 40	20.0 34.0														No determination of epicentre	
546	JUL 25	BRA	E	13 50	28.0														No determination of epicentre	
547	JUL 25	SRO BRA	EP E E	17 36 17 38 17 36	29.0 17.0 35.0	-3.8 -1.4 1.2											123.34 123.83	57.76 56.37	New Britain Region 6.10 S 153.03 E H = 17 17 39.0 Depth = 33 km MB = 5.4 /ISC/	
548	JUL 25	BRA	ESB	19 14	53.0	7.9											7.50	296.34	Germany 51.02 N 6.13 E H = 19 10 58.4 Depth = 12 km /ISC/	
549	JUL 26	BRA	E	3 25	48.0														No determination of epicentre	
550	JUL 26	BRA	IPN IPB IPG	11 30 11 30 11 31	41.2 54.2 7.2	-0.9 -0.4 -1.0											5.77	141.34	Yugoslavia 43.55 N 22.06 E H = 11 29 13.1 Depth = 0 km /ISC/	
551	JUL 26	BRA	IPG I	11 51 11 51	36.2 39.0														No determination of epicentre	
552	JUL 26	SRO BRA	EP E E	13 19 13 19 13 19	41.0 16.0 49.0	-2.3 0.1											106.37 107.08	76.86 75.80	Soram 3.53 S 128.91 E H = 13 1 3.0 Depth = 24 km MB = 5.6 /ISC/	



No.	Date	St. 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					
553	JUL 26	BRA	EPN IPG	20 15 49.0 2L 15 51.0													No determination of epicentre
554	JUL 26	BRA	EAPKHP	20 29 38.0	-1.0									151.24	21.40		Tonga 20.70 S 173.70 W H = 20 9 42.3 Depth = 33 km MB = 4.5 /ISC/
555	JUL 26	BRA	EP EAP	20 49 32.0 20 49 48.0	1.1 1.3									80.84	4.64		Fox Islands 51.17 N 170.19 W H = 20 37 21.5 Depth = 56 km MB = 4.9 /ISC/
556	JUL 27	BRA	EP IPCP E EPP IPCP I IXS LMH	4 38 8.0 4 38 26.0 4 39 24.0 4 40 45.0 4 42 49.0 4 47 53.0 5 10 0.0	2.8 4.7 -6.3 -0.7 3.2									73.60	17.58		Komandorsky Islands Region 55.46 N 166.52 E H = 4 26 33.5 Depth = 33 km MB = 4.8 /ISC/
557	JUL 27	BRA	E E	9 0 9.0 9 0 27.0									5.5				No determination of epicentre
558	JUL 27	BRA	E E	18 12 25.0 18 13 23.0													No determination of epicentre
559	JUL 28	SPC	IP EAP EPP LMV IP IS LMH IP IXP I I EXS LMH	11 46 47.7 11 47 3.0 11 49 32.0 12 23 0.0 11 46 57.4 11 56 49.4 12 20 0.0 11 46 56.6 11 47 15.6 11 48 8.6 11 49 24.6 11 57 11.0 12 24 0.0	1.9 2.9 -7.9 1.4 3.1 0.1 -1.1 -1.0												Kurile Islands 46.22 N 153.14 E H = 11 34 59.3 Depth = 50 km MB = 6.0 /ISC/
560	JUL 28	BRA	IP IXP E	12 19 48.6 12 20 5.6 12 21 17.0	0.1 -1.6									78.54	29.46		Kurile Islands 46.15 N 153.21 E H = 12 7 50.3 Depth = 46 km MB = 5.3 /ISC/

No.	Date	St. 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						
561	JUL 28	SPC BRA	EP IP I EPP	13 43 28.4 13 43 35.6 13 44 32.6 13 46 42.0	4.1 0.6 7.4												Kurile Islands 46.31 N 152.35 E H = 13 31 36.9 Depth = 42 km MB = 5.4 /ISC/	
562	JUL 28	SRO BRA	IP IP IPCP I E	13 53 37.6 13 53 36.5 13 53 41.5 13 54 27.5 13 55 19.5	1.5 -0.1 -4.6												Kurile Islands 46.33 N 153.32 E H = 13 41 37.4 Depth = 32 km MB = 5.4 /ISC/	
563	JUL 28	BRA	EP	15 22 33.0	-0.3													Kurile Islands 46.10 N 153.13 E H = 15 10 31.0 Depth = 17 km MB = 4.6 /ISC/
564	JUL 28	BRA	EP E E E	16 34 58.0 16 35 29.0 16 39 32.0 16 39 46.0	1.1													Kurile Islands 46.03 N 153.26 E H = 16 22 55.0 Depth = 23 km MB = 4.7 /ISC/
565	JUL 28	SRO BRA	IP EP EXP E	16 45 53.6 16 45 53.0 16 46 19.0 16 47 31.0	0.8 -0.3 6.6													Kurile Islands 46.12 N 153.16 E H = 16 33 55.2 Depth = 47 km MB = 5.0 /ISC/
566	JUL 28	BRA	EP	18 12 46.0	3.2													Kurile Islands 46.28 N 153.39 E H = 18 0 42.0 Depth = 24 km MB = 4.9 /ISC/
567	JUL 29	SPC BRA	EAP EAP EPOP	2 25 38.2 2 25 48.0 2 26 14.0	-0.7 -1.6 18.4													Kurile Islands 46.13 N 153.18 E H = 2 13 43.0 Depth = 11 km MB = 4.8 /ISC/
568	JUL 29	SPC SRO BRA	IP EAP LMV IP ISKS LMH IP IXP I EPP	3 27 5.0 3 27 21.0 4 1 0.0 3 27 13.6 3 37 13.6 3 59 0.0 3 27 16.1 3 27 33.1 3 28 50.1 3 30 20.0	0.7 2.3 -0.9 -6.3 1.1 -0.7 5.4												Kurile Islands 46.20 N 152.83 E H = 3 15 17.8 Depth = 46 km MB = 5.7 /ISC/	



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
569	JUL 29	SIC SRO	I IP IPP IS	7 27	16.7	0.6 -5.1 3.4	7840	8.0	12.0	16.0	15.0	16.0	6.8	76.62 78.46	31.81 30.45	Kurile Islands 46.01 N 152.88 E H = 7 16 27.3 Depth = 46 km MB = 5.9 /ISC/	
				7 28	25.6												
				7 31	19.6												
				7 38	19.6												
570	JUL 29	BRA	E I	12 11	55.0	-3.2							148.40	22.40	Tonga 18.08 S 175.01 W H = 11 52 33.2 Depth = 231 km MB = 4.8 /ISC/ No determination of epicentre		
				12 39	15.0												
				12 39	17.0												
				17 56	27.0												
571	JUL 29	BRA	E I	23 32	50.0	2.1 3.2 2.2 0.9	2000	4.0					6.1	38.50 39.82 39.90 40.61	89.93 86.84 86.83 86.42	Hindu Kush Region 36.42 N 70.75 E H = 5 12 40.4 Depth = 209 km MB = 6.3 /ISC/ No determination of epicentre	
				23 32	53.0												
				23 33	27.0												
				5 19	46.0												
572	JUL 29	SPO SRO HRU BRA	IP IP EP IP I I IXP IFCP I ISCS	5 19	46.0	-0.1 -0.1 18.7 -0.4	2300	2.0					6.5	145.47 147.13	22.31 17.55	Samoa Region 16.22 S 172.70 W H = 10 27 25.5 Depth = 33 km MB = 4.7 /ISC/ No determination of epicentre	
				5 19	58.0												
				5 19	57.6												
				5 20	2.2												
573	JUL 29	BRA	E I E	10 47	6.4	-0.1											
				10 47	44.0												
				10 47	44.0												
				10 47	44.0												

576	JUL 30	SPO SRO BRA	EP EP E EP EPP E E	11 48	56.0	3.2 3.4 1.9 0.1								39.51 40.82	90.61 87.56	Pakistan 35.48 N 71.46 E H = 11 41 30.2 Depth = 97 km MB = 5.0 /ISC/ Kurile Islands 46.17 N 153.20 E H = 22 39 40.0 Depth = 8 km MB = 5.1 /ISC/ No determination of epicentre No determination of epicentre Loyalty Islands Region 22.40 S 170.58 E H = 4 59 7.3 Depth = 39 km /ISC/ Kodiak Island Region 56.59 N 152.22 W H = 5 55 36.9 Depth = 23 km MB = 5.7 /ISC/ Kodiak Island Region 56.52 N 152.43 W H = 7 59 55.4 Depth = 22 km MB = 5.1 /ISC/ Zambia 16.67 S 28.17 E H = 9 36 26.8 Depth = 14 km MB = 5.0 /ISC/ Kurile Islands 49.63 N 156.07 E H = 22 39 22.4 Depth = 56 km MB = 5.3 /ISC/	
				11 49	7.0												
				11 51	30.0												
				11 49	12.0												
577	JUL 30	SPO SRO BRA	IP EP E E	22 51	33.5	0.8 0.6 14.0								76.59 78.52	31.53 29.46		
				22 51	44.0												
				22 52	7.0												
				22 52	37.0												
578	JUL 31	BRA	E E	11 50	3.0												
				11 50	20.0												
				14 59	48.0												
				14 59	59.0												
579	JUL 31	BRA	E E	5 18	48.0	1.8 -0.5 -0.4								144.44 146.30	51.97 50.92	Loyalty Islands Region 22.40 S 170.58 E H = 4 59 7.3 Depth = 39 km /ISC/ Kodiak Island Region 56.59 N 152.22 W H = 5 55 36.9 Depth = 23 km MB = 5.7 /ISC/ Kodiak Island Region 56.52 N 152.43 W H = 7 59 55.4 Depth = 22 km MB = 5.1 /ISC/ Zambia 16.67 S 28.17 E H = 9 36 26.8 Depth = 14 km MB = 5.0 /ISC/ Kurile Islands 49.63 N 156.07 E H = 22 39 22.4 Depth = 56 km MB = 5.3 /ISC/	
				5 18	46.2												
				5 29	38.0												
				5 57	0.0												
580	AUG 1	SPO SRO BRA	E E E	5 18	48.0	3.0 1.4 -0.4								74.48 75.32	355.79 354.03		
				5 18	46.2												
				5 29	38.0												
				5 57	0.0												
581	AUG 1	SPO SRO BRA	IP EP E	6 7	17.8	2.2 1.3								64.78 65.28 65.93	169.66 168.42 171.78		
				6 7	21.0												
				6 8	10.0												
				8 11	36.1												
582	AUG 1	SPO SRO BRA	IP IP	8 11	36.1	-1.2 -0.4 -1.0								74.49 76.31	28.05 26.74		
				8 11	40.0												
				9 47	6.0												
				9 47	10.0												
583	AUG 1	SPO SRO BRA	EP EP EAP	9 47	6.0	4.4 3.0 1.5 -4.5								74.49 76.31	28.05 26.74		
				9 47	18.0												
				22 51	1.0												
				22 51	0.0												
584	AUG 1	SPO SRO BRA	EP EP IP IPOP I E	22 51	1.0	8.0								74.49 76.31	28.05 26.74		
				22 51	0.0												
				22 51	8.7												
				22 52	10.7												



No.	Date	St. Code	Phase	GMT		RBS O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T						
585	AUG 2	SPC SRO	EP IAP IPP I I	8 29 8 30 8 31 8 31 8 32	53.6 2.0 10.4 30.4 16.4	5.5 -4.6 17.1										29.64 30.21	117.75 113.19	Iran 30.49 N 50.71 E H = 8 23 45.5 Depth = 53 km MB = 4.8 /ISC/		
586	AUG 3	SPC SRO	IP IPP ISCS LMH IAP IAP IPP IPP E	18 28 18 28 18 31 18 39 19 9 18 28 18 29 18 32 18 34	40.9 50.4 58.4 6.4 0.0 51.6 25.6 0.6 43.0	2.6 2.1 0.8 -3.2 1.7 13.2 0.6			2.3	12.0	3.6	12.0	6.0	6.0	81.92	45.71 44.26 43.49	Honshu 36.01 N 139.93 E H = 18 16 35.0 Depth = 57 km MB = 5.7 /ISC/			
587	AUG 4	SPC SRO	IP IPP IXS I IP IAP IPP IPP I EPOP	15 10 15 10 15 11 15 14 15 16 15 11 15 11 15 11 15 11 15 12 15 15	43.0 54.4 28.4 46.4 20.4 0.2 8.2 20.2 40.2 32.2 6.0	2.7 2.4 16.2 1.4 -0.5 -1.5 -3.7 16.3 -0.8									19.14 20.22	101.16 95.39	Eastern Caucasus 42.36 N 45.97 E H = 15 6 17.2 Depth = 33 km MB = 5.4 /ISC/			
588	AUG 5	SPC BRA	EP IP E EPP	13 26 13 26 13 27 13 28	20.0 30.2 15.0 7.0	1.7 -0.7 18.9									33.16 34.62	117.25 112.22	Southern Iran 28.03 N 53.62 E H = 13 19 43.3 Depth = 38 km MB = 5.2 /ISC/			
589	AUG 5	BRA	EPG ESQ	18 40 18 42	15.0 16.0	-2.0 19.8									7.58	244.85	Northern Italy 44.53 N 7.50 E H = 18 37 45.9 Depth = 9 km /ISC/			
590	AUG 6	BRA	EP EAP	11 17 11 17	25.0 33.0	0.0 0.6									31.25	354.95	Greenland Sea 78.89 N 3.50 E H = 11 11 5.2 Depth = 26 km MB = 4.5 /ISC/			
591	AUG 6	BRA	E E	14 45 14 45	21.0 37.0													No determination of epicentre		

No.	Date	St. Code	Phase	GMT		RBS O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T						
592	AUG 6	BRA	E I	16 0 16 0	12.0 14.0														No determination of epicentre	
593	AUG 6	SPC SRO BRA	EP EP EP EAP	17 0 17 0 17 1 17 1	49.6 52.0 0.0 45.0	1.2 -6.7 0.7 4.0										75.26 77.11 77.23	32.88 31.52 30.83	Kurle Islands 46.65 N 150.60 E H = 16 49 22.8 Depth = 170 km MB = 5.3 /ISC/		
594	AUG 6	SPC SRO BRA	EPKHP EAPK2 EPP IPKHP IAPK2 LMH IPKHP IPK2 I E EPP	18 57 18 58 19 1 18 57 18 58 20 9 18 58 18 58 18 59 19 2	56.0 18.5 34.5 58.6 32.6 0.0 0.0 20.0 47.0 28.0 7.0	2.0 0.2 -2.4 -0.2 6.7 1.1 5.8 20.0		1.7	20.0	2.0	20.0	6.0			150.21	29.12	Tonga 21.86 S 174.84 W H = 18 38 11.3 Depth = 38 km MB = 5.7 /ISC/			
595	AUG 7	SPC BRA	EAP EP	0 57 0 57	41.4 45.0	-4.1 1.3									24.92 25.65	351.04 353.35	Greenland Sea 73.34 N 7.10 E H = 0 52 15.1 Depth = 31 km MB = 4.4 /ISC/			
596	AUG 7	SPC BRA	EP EP EPP	1 53 1 53 1 53	13.0 16.0 47.0	3.6 -0.3 -9.6									24.94 24.67	351.28 353.57	Greenland Sea 73.39 N 7.40 E H = 1 47 47.8 Depth = 33 km MB = 4.4 /ISC/			
597	AUG 7	BRA	IPG	7 20	27.0													No determination of epicentre		
598	AUG 7	SPC BRA	EP EP	8 32 8 32	41.0 43.0	3.3 0.5									74.20 75.03	355.73 353.97	Kodiak Island Region 56.80 N 152.27 W H = 8 21 2.4 Depth = 32 km MB = 4.5 /ISC/			
599	AUG 7	SPC BRA	EAP EP E	8 35 8 35 8 36	20.8 20.0 7.0	-3.9 1.3									74.38 75.21	355.73 353.97	Kodiak Island Region 56.62 N 152.31 W H = 8 23 37.9 Depth = 35 km MB = 5.0 /ISC/			
600	AUG 7	SRO	E	8 42	51.0													No determination of epicentre		



No.	Date	St. 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					
601	AUG 7	SRO BRA	EPG I EPG E I I E	15 39 15 40 15 39 15 40 15 40 15 41	22.0 22.7 29.0 41.0 6.0 10.0 23.0												No determination of epicentre	
602	AUG 8	SPC BRA	IP +IP IXP IPP IP I I IXS LMH	1 30 1 30 1 30 1 31 1 30 1 32 1 33 1 35 1 41	39.3 44.0 52.0 12.0 46.7 50.7 23.0 30.7 0.0	2.7 0.7 0.6 -10.9 -0.9 5.8	50	1.0		3.0	20.0	5.0	20.0	5.1	24.86 25.57 26.03	350.40 352.74 352.07	Greenland Sea 73.19 N 6.30 E H = 1 25 13.9 Depth = 20 km MB = 5.0 /ISC/	
603	AUG 8	SPC BRA	IAP IP IXP IXP IAP	19 10 19 10 19 10 19 10 19 10	24.0 28.0 35.0 48.0 36.0	-2.1 0.2 -0.1 12.9 -1.1									24.87 25.59 26.04	350.77 353.10 352.42	Greenland Sea 73.25 N 6.80 E H = 19 4 58.0 Depth = 18 km MB = 5.0 /ISC/	
604	AUG 8	SPC SRO BRA	EPCP LMV EPCP ISCS LMH EP	19 28 20 4 19 29 19 39 20 4 19 29	59.7 0.0 28.0 35.6 0.0 4.0	-1.4 19.3 7.4 -0.9		17.0	16.0		23.0	16.0	6.7	79.49 81.25 81.81	64.79 63.24 62.44	Taiwan Region 24.50 N 122.69 E H = 19 16 43.0 Depth = 2 km MB = 5.3 /ISC/		
605	AUG 8	SPC BRA	IAP IP IPP	23 30 23 30 23 30	10.1 12.0 44.0	-1.4 0.7 -7.6								25.00 25.72 26.18	350.97 353.26 352.59	Greenland Sea 73.40 N 6.90 E H = 23 24 41.2 Depth = 25 km MB = 4.7 /ISC/		
606	AUG 9	BRA	E	15 45	29.0												No determination of epicentre	
607	AUG 9	SRO BRA	E E E	17 3 17 3 17 3	33.0 33.0 41.0												No determination of epicentre	
608	AUG 9	SRO BRA	I E E	20 20 20 18 20 21	36.0 36.0 23.0												No determination of epicentre	

609	AUG 9	BRA	BSG	22 23	6.0	4.0									7.27	700.41	Germany 51.43 N 7.06 E H = 22 19 1.7 Depth = 0 km /ISC/
610	AUG 11	SPC SRO HRB BRA	EP IP EP EPP LMH +IP IPP	1 21 1 21 1 21 1 23 1 27 1 21 1 23	23.0 37.0 41.0 23.0 0.0 40.0 16.0	0.7 2.6 6.0 11.3 -0.5 -2.4	320	2.0	14.0	21.0	12.0	12.0	5.7	6.0	38.83 40.28 40.35 41.03	83.94 81.04 81.04 80.71	Tadzhikistan - Sinkiang 39.34 N 73.76 E H = 1 13 55.0 Depth = 7 km MB = 6.2 /ISC/
611	AUG 11	SRO BRA	EP EAP ESS E	5 20 5 20 5 29 5 31	9.0 23.0 9.0 40.0	-0.1 -5.1 -14.1								40.28 41.03	81.06 80.73	Tadzhikistan - Sinkiang 38.33 N 73.75 E H = 5 12 35.1 Depth = 48 km MB = 5.3 /ISC/	
612	AUG 11	SPC SRO	EXP IPP LMV LMH	7 9 7 11 7 28 7 28	43.0 11.8 0.0 0.0	2.6 5.7			4.2	16.0	4.5	16.0		38.86 40.31	83.91 81.02	Tadzhikistan - Sinkiang 39.34 N 73.80 E H = 7 2 7.0 Depth = 18 km MB = 5.1 /ISC/	
613	AUG 11	SPC SRO BRA	EP +IP IPP ISS LMH +IP IXP IPP E ESCS	20 12 20 14 20 13 20 14 20 22 20 31 20 13 20 13 20 14 20 18 20 23	55.6 14.0 5.0 49.0 9.0 0.0 11.0 32.0 47.0 2.0 11.0	3.0 -11.9 0.3 7.2 7.4 0.1 4.8 -2.2 0.9	160	2.0	10.8	16.0	9.8	16.0	5.4	40.92 80.63	83.86 60.97 80.63	Tadzhikistan - Sinkiang 39.44 N 73.67 E H = 20 5 30.9 Depth = 41 km MB = 5.7 /ISC/	
614	AUG 11	SPC SRO BRA	EXP MLV +IP ISS LMH IP IPP I LMH	21 29 21 47 21 29 21 38 21 48 21 29 21 31 21 33 21 49	12.0 0.0 15.0 21.0 0.0 18.0 2.0 10.0 0.0	0.8 2.6 11.8 -0.6 5.5					14.7	16.0	18.7	16.0	38.67 40.13 40.87	83.87 80.97 80.64	Tadzhikistan - Sinkiang 39.46 N 73.62 E H = 21 21 37.1 Depth = 26 km MB = 5.8 /ISC/
615	AUG 11	BRA	EP EPP	23 26 23 28	38.0 11.0	-0.7 -5.9			7.8	8.0	7.8	8.0		40.85	80.64	Tadzhikistan - Sinkiang 39.47 N 73.59 E H = 23 18 59.9 Depth = 47 km MB = 4.9 /ISC/	



No.	Date	St. Code	Phase	h	GMT	RES	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
							A	T	A	T	A	T					
616	AUG 12	SRO ERA	IPKIKP IPKIKP IPKIP2 I	3 12 13.3 3 12 14.0 3 12 16.0 3 13 34.0		0.0 0.6 0.8								145.18 145.27	30.38 28.21	Fiji Region 16.03 S 179.16 W H = 2 52 38.0 Depth = 26 km MB = 5.6 /ISC/ No determination of epicentre	
617	AUG 12	ERA	IPG	12 25 42.0													No determination of epicentre
618	AUG 12	ERA	EAP EPP E	14 22 48.0 14 24 20.0 14 26 43.0		-5.4 -1.2								41.17	80.29	Southern Sinkiang Province 39.50 N 74.10 E H = 14.15 0.1 Depth = 39 km MB = 4.7 /ISC/	
619	AUG 12	SRO	21 40 52.0 LMH	-1.9 21 44 0.0				1.5	16.0	1.8	16.0		5.7	95.16	302.97	Guerrero, Mexico 17.50 N 100.57 W H = 21 27 15.8 Depth = 44 km MB = 5.0 /ISC/ No determination of epicentre	
620	AUG 12	SRO	E	22 22 2.0													No determination of epicentre
621	AUG 13	ERA SRO	-IP IP I ISCS LMH	3 58 24.8 3 58 25.5 4 2 53.5 4 8 41.5 4 36 0.0		-0.4 -0.8 -2.5		5.2	20.0	8.2	20.0		6.1	79.87 80.08	9.60 10.34	Andeanof Islands 51.49 N 178.11 W H = 3 46 19.9 Depth = 47 km MB = 5.7 /ISC/	
622	AUG 13	SRO	IAPKHKP I	6 12 45.5 6 13 45.5		0.4							145.07	30.59		Fiji Region 15.97 S 179.32 W H = 5 53 7.0 Depth = 22 km MB = 5.2 /ISC/	
623	AUG 13	SRO	IAPKHKP E	7 39 53.5 7 41 37.5		-1.8							144.88	30.39		Fiji Region 15.75 S 179.28 W H = 7 20 15.9 Depth = 33 km MB = 4.8 /ISC/	
624	AUG 13	SPC SRO ERA	EAPKHKP IAPKHKP I LMH EKP2 EAPKHKP IAPKIKP E	13 12 23.4 13 12 25.5 13 21 37.8 14 8 0.0 13 12 20.0 13 12 26.0 13 12 42.0 13 13 33.0		1.9 -1.0 -0.5 -0.7 10.4		2.0	24.0	3.0	24.0		6.0	143.09 144.94 145.03	32.67 30.72 28.56	Fiji Region 15.87 S 179.44 W H = 12 52 46.1 Depth = 40 km MB = 5.5 /ISC/	

No.	Date	St. Code	Phase	h	GMT	RES	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
							A	T	A	T	A	T					
625	AUG 13	SRO	IAPKHKP IAPKIKP	14 1 9.5 14 1 23.5		10.1							145.06	30.53		Fiji Region 15.95 S 179.29 W H = 13 41 29.0 Depth = 31 km MB = 4.9 /ISC/ No determination of epicentre	
626	AUG 13	ERA	IP I I	14 16 4.0 14 16 30.0 14 17 6.0													No determination of epicentre
627	AUG 13	SPC SRO ERA	EKP2 IAPKHKP EKP2 IPKIP2 E E E	5 27.0 5 29.5 5 27.0 5 30.0 5 6 10.0 5 6 35.0 5 7 5.0		0.9 0.3 -4.0 -1.0								147.20 147.55 148.42	121.80 123.25 122.58	West of Macquarie Island 55.43 S 146.38 E H = 14 45 42.5 Depth = 33 km MB = 5.4 /ISC/	
628	AUG 14	ERA	IP I I I I I I	5 46 57.0 5 46 25.0 5 48 9.0 5 48 25.0 5 50 27.0 5 47 1.6 5 58 9.6 6 24 0.0		-1.7 1.8 18.9		1.0	20.0	2.0	20.0		5.5	79.86	9.63 10.38	Andeanof Islands 51.49 N 178.17 W H = 5 34 53.9 Depth = 51 km MB = 5.6 /ISC/ No determination of epicentre	
629	AUG 14	ERA	IP E	11 4 32.0 11 4 43.0													No determination of epicentre
630	AUG 14	SPC ERA	EAPKHKP EAPKIKP EAPKIKP	21 34 15.7 21 34 26.3 21 34 28.0		-1.9 4.1 3.0								145.32 146.99	22.09 17.33	Samoa Region 16.05 S 172.61 W H = 21 14 37.0 Depth = 33 km MB = 4.5 /ISC/ No determination of epicentre	
631	AUG 15	SRO	E	22 30 33.5													No determination of epicentre
632	AUG 16	ERA SRO	IP I IS LMH	9 53 38.0 9 54 23.0 9 53 38.0 10 3 38.0 10 31 0.0		0.6 -0.5 -0.7	2000	4.0				6.4		79.97 80.18	9.44 10.19	Andeanof Islands 51.42 N 177.85 W H = 9 41 31.1 Depth = 43 km MB = 5.6 /ISC/ No determination of epicentre	
633	AUG 16	ERA	E E	12 34 25.0 12 34 50.0													No determination of epicentre
634	AUG 16	ERA	E I	13 12 4.0 13 12 24.0													No determination of epicentre



No.	Date	St. Code	Phase	h	m	s	GMT	RES	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
									A	T	A	T	A	T					
635	AUG 17	BR	EP IAP E	5 24 5 24 5 25	11.0 17.0 18.0		-0.6 -3.7									68.06	29.84	Sea of Okhotsk 54.89 N 144.09 E H = 5 13 12.7 Depth = 29 km MB = 5.4 /ISC/	
636	AUG 17	BR	E	11 23	6.0													No determination of epicentre	
637	AUG 17	SP	EP	23 58	25.8		0.2									38.88	84.04	Tadzhikistan - Sinkiang 39.26 N 73.77 E H = 23 50 59.0 Depth = 15 km MB = 4.8 /ISC/	
638	AUG 18	BR SRO	EPP IPP I LMH	11 4 11 4 11 13 11 49	17.0 9.8 25.8 0.0		4.1 -7.0												Near Coast of Central Chile 38.34 S 73.27 W H = 10 44 11.0 Depth = 19 km MB = 5.9 /ISC/
		SP	EPKIKP LMV	11 3 11 49	1.5 0.0		1.1												
639	AUG 18	SP	EPN ESB E EPG ESG	13 33 13 34 13 34 13 34 13 35	57.3 18.1 44.6 20.0 6.0		-0.0 -0.6 -0.1 11.7												Poland 50.50 N 18.90 E H = 13 33 28.0 Depth = 0 km /ISC/
640	AUG 19	SRO	E IPCP LMH EPCP	12 29 12 30 13 4 12 30	26.0 2.0 0.0 8.0		-3.4 1.1												South of Honshu 33.25 N 139.50 E H = 12 17 30.0 Depth = 6 km MB = 5.1 /ISC/
641	AUG 20	SP BR SRO	IP IXP IP IPCP E E IP IPS LMH	20 56 20 57 20 56 20 57 20 58 20 59 20 56 21 7 21 31	51.7 10.6 57.2 7.4 26.0 31.0 57.8 49.8 0.0		3.4 5.0 0.5 1.1 0.3 13.4												Near Islands 52.17 N 174.95 E H = 20 44 59.8 Depth = 42 km MB = 5.7 /ISC/
642	AUG 21	SRO	E	8 45	37.8														No determination of epicentre
643	AUG 21	SRO	E	10 0	50.0														No determination of epicentre

No.	Date	St. Code	Phase	h	m	s	GMT	RES	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
									A	T	A	T	A	T					
644	AUG 21	SRO	E	13 8	59.0											9.98	171.82	Ionian Sea 37.91 N 20.10 E H = 13 2 54.0 Depth = 38 km MB = 4.1 /ISC/	
645	AUG 22	BR	IPG	11 4	32.0														No determination of epicentre
646	AUG 22	SP BR	EKPK2 EKPK2	12 7 12 8	58.8 10.0		-2.7 0.3												P.I.JI Region 20.70 S 178.42 W H = 11 49 15.8 Depth = 596 km MB = 5.1 /ISC/
647	AUG 23	SP BR	EPP E ESKPDF	5 9 5 8 5 12	5.5 52.0 13.0		-1.4 3.8												Banda Sea 7.53 S 127.48 E H = 4 50 35.1 Depth = 139 km MB = 5.6 /ISC/
648	AUG 24	BR	IP IAP I EPP	10 53 10 53 10 54 10 56	16.5 27.5 25.5 38.0		0.0 -1.0 18.8												Fox Islands 52.44 N 168.27 W H = 10 41 11.5 Depth = 40 km MB = 5.7 /ISC/
		SRO	IP ISCS LMH	10 53 11 3 11 32	21.2 37.2 0.0		3.1 1.0												
649	AUG 24	BR	EPP EPP	11 31 11 31	1.0 14.0		-5.8 7.2												Tadzhikistan - Sinkiang 39.38 N 73.69 E H = 11 21 48.9 Depth = 50 km MB = 4.8 /ISC/
650	AUG 24	BR	E	15 7	41.0														No determination of epicentre
651	AUG 24	BR	E	16 57	53.0														No determination of epicentre
652	AUG 24	BR	EAPKIKP EKPK2	18 52 18 52	15.0 24.0		1.3 2.7												Tonga 21.60 S 173.90 W H = 18 32 17.8 Depth = 33 km MB = 4.8 /ISC/
653	AUG 24	SRO	E	22 14	41.0														Greece 38.00 N 20.30 E H = 22 8 43.0 Depth = 11 km MB = 4.1 /ISC/



No.	Date	St. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T						
654	AUG 24	BRA	IP EAP E	22 31 22 31 22 33	3.0 12.0 1.0	1.4 0.0										79.79	3.36	Fox Islands 52.31 N 168.29 W H = 22 18 55.1 Depth = 33 km MB = 5.3 /ISC/		
655	AUG 25	SRO	-IPCP IPCP ISCS LMH EPCP EPP	1 31 1 34 1 41 2 5 1 31 1 34	21.1 21.1 57.1 0.0 21.0 51.0	-0.0 -18.5 3.2 0.0 -1.5 8.7		4.3	20.0		6.0	20.0			6.1	85.90	44.78	South of Honshu 32.18 N 142.37 E H = 1 18 41.6 Depth = 45 km MB = 5.9 /ISC/		
656	AUG 25	SPG BRA	EPOP EP EXP	10 7 10 7 10 8	38.0 48.0 14.0	-1.9 1.4 10.9										84.17 86.36	46.24 43.95	South of Honshu 32.05 N 142.45 E H = 9 55 7.3 Depth = 39 km MB = 5.2 /ISC/		
657	AUG 25	BRA	EPKHKP	12 10	54.0	5.9										149.33	28.46	Fiji Region 19.92 S 177.87 W H = 11 51 52.5 Depth = 420 km MB = 4.6 /ISC/		
658	AUG 25	SPC	EPKHKP IAPK2 IAPK2 EPKHKP IAPKHKP -IPKIKP IPKHKP IAPK2 EPKSDP	14 53 14 53 14 55 14 53 14 55 14 53 14 55 14 55 14 56	33.0 40.0 42.0 41.0 45.0 33.5 41.5 48.5 46.0	1.7 -5.5 -3.9 4.7 4.0 0.6 4.8 -5.5 -19.9										149.86	38.99	South of Fiji 23.51 S 179.88 W H = 14 34 45.9 Depth = 532 km MB = 5.3 /ISC/		
659	AUG 25	SRO	E	19 49	17.0											10.08	172.35	Ionian Sea 37.80 N 20.00 E H = 19 43 2.2 Depth = 0 km MB = 4.2 /ISC/		
660	AUG 26	BRA	IPG	14 4	28.8													No determination of epicentre		
661	AUG 27	SPC SRO	EP +IP IPP ISS LMH EP IAP	13 3 13 3 13 5 13 12 13 22 13 3 13 3	28.6 41.0 15.0 53.0 0.0 44.0 48.0	2.5 2.8 0.0 16.4 -0.3 -2.0		9.3	16.0		15.3	12.0			6.1	38.77 40.23	83.65 80.77	Tadzhikistan - Sinkiang 39.52 N 73.82 E H = 12 56 1.0 Depth = 19 km MB = 5.7 /ISC/		

No.	Date	St. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T						
662	AUG 27	BRA	IPP IFOP E LMH	13 5 13 5 13 17 13 34	18.0 40.0 15.0 0.0	-4.3 -5.0										106.33	246.50	Catamarca Province, Argentina 27.87 S 66.67 W H = 15 20 50.4 Depth = 149 km MB = 5.5 /ISC/		
663	AUG 27	SPC SRO BRA	EP IPP EAP I LMH EP IPP	17 41 17 42 17 41 17 53 18 0 17 41 17 43	26.0 52.6 41.0 49.0 0.0 43.0 18.0	3.8 -3.4 -3.9 2.5 -1.1		0.7	12.0		0.9	12.0			4.9	38.90 40.35 41.09	83.87 80.98 80.65	Tadzhikistan - Sinkiang 39.34 N 73.86 E H = 17 33 58.6 Depth = 37 km MB = 5.1 /ISC/		
664	AUG 28	SRO BRA	E EPKIKP	10 38 10 38	29.0 3.0	3.8										147.11 147.20	30.43 28.17	Fiji Region 17.85 S 178.47 W H = 10 19 26.6 Depth = 606 km MB = 5.0 /ISC/		
665	AUG 28	SRO	E	19 36	33.0													No determination of epicentre		
666	AUG 29	BRA	E	5 7	27.0													No determination of epicentre		
667	AUG 29	SPC BRA	EP +IP IPP I I I ISS +IP IPP I LMH	10 5 10 6 10 6 10 7 10 7 10 8 10 12 10 15 10 6 10 6 10 7 10 12 10 21	59.0 11.0 20.0 14.0 46.0 24.0 33.0 27.0 12.7 24.7 8.7 14.7 0.0	3.2 0.1 4.4 -15.5 1.4 -1.6	350	1.0						6.2	28.61 30.29	19.96 20.44	Novaya Zemlya 73.41 N 54.93 E H = 9 59 55.8 Depth = 0 km MB = 6.4 /ISC/			
668	AUG 29	SPC BRA	EP EP EPP	15 5 15 6 15 7	55.6 10.0 5.0	4.8 1.1 -0.2		6.4	8.0		11.4	8.0		6.8	27.70 29.71	33.97 33.73	Ural Mountain Region 67.23 N 62.10 E H = 14 59 59.0 Depth = 0 km MB = 5.0 /ISC/			



No.	Date	St. Code	Phase	h	GMT	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
							A	T	A	T	A	T					
669	AUG 29	SPC BRA	EPKIKP EPKP2	17 18 17 18	44.5 48.0	2.3 -0.4								144.10 145.81	23.74 19.16	Tonga 15.12 S 173.90 W H = 18 59 17.0 Depth = 88 km MB = 4.9 /ISC/	
670	AUG 30	BRA SPO SRO	-IP E IXP IP	15 12 15 12 15 12 15 12	40.3 9.0 43.0 44.3	-0.3 0.7 -0.1	70	1.0				5.8		85.37 85.72 86.13	324.23 326.41 325.09	Nevada N.E. 37.15 N 116.08 W H = 15 0 0.2 Yugoslavia 44.37 N 20.67 E H = 17 43 0.9 Depth = 33 km /ISC/	
671	AUG 30	SRO BRA SPC	EPG E LMH EPW ESG E EPG EPG ESG	17 44 17 52 18 16 17 44 17 45 17 46 17 44 17 44 17 45	24.9 40.3 0.0 7.0 38.0 36.0 33.7 38.0 50.8	7.9 0.5 4.5 -0.7 1.2			3.4	24.0	4.4	24.0		3.81 4.53 4.53	153.68 145.64 145.64		
672	AUG 30	SPC BRA	EPGP EPP EP EPP	23 42 23 45 23 42 23 45	4.0 23.6 10.0 39.0	0.5 4.5 -0.7 1.2								85.22 87.43	47.36 45.05	South of Honshu 30.55 N 142.06 E H = 23 29 23.1 Depth = 18 km MB = 5.3 /ISC/	
673	AUG 31	SRO BRA	IPKP2 EPKIKP E	1 33 1 33 1 34	44.5 42.0 25.0	-0.5 1.0								146.58 146.97	50.67 48.56	Loyalty Islands Region 22.55 S 170.87 E H = 1 14 3.0 Depth = 28 km /ISC/	
674	AUG 31	BRA	EP EXP	18 17 18 18	30.0 4.0	0.2 9.5								83.43	96.41	Northern Sumatra 0.62 N 97.95 E H = 18 5 8.0 Depth = 63 km MB = 4.5 /ISC/	
675	AUG 31	BRA	E E E	23 50 23 50 23 51	3.0 24.0 29.0											No determination of epicentre	
676	SEP 2	SPC BRA	IPCP EPP EPCP	4 45 4 49 4 46	56.6 18.6 6.0	0.3 2.3 1.2								86.19 88.12	98.65 96.24	Southern Sumatra 2.79 S 101.21 E H = 4 33 17.4 Depth = 8 km MB = 5.2 /ISC/	

No.	Date	St. Code	Phase	h	GMT	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
							A	T	A	T	A	T					
677	SEP 3	SPC SRO BRA	EPGP IPCP EP I	1 52 1 52 1 52 1 53	19.5 30.2 28.0 34.0	-0.5 2.0 1.4								84.08 85.96 86.27	46.23 44.78 43.94	South of Honshu 32.13 N 142.41 E H = 1 39 43.0 Depth = 8 km MB = 5.2 /ISC/	
678	SEP 3	SPC SRO BRA	IP EPP IP IXP EPP	6 7 6 10 6 7 6 7 6 8 6 11	30.5 21.5 36.2 40.2 5.2 11.0	2.5 -16.7 -0.3 0.5 10.7 14.4								82.07 83.74 84.37	71.40 69.85 69.02	Philippine Islands Region 18.26 N 119.20 E H = 5 55 9.7 Depth = 34 km MB = 5.9 /ISC/	
679	SEP 3	SPC SRO BRA	IP IPP I IPP ISCS LMH EP IPP EPCP	19 48 19 50 19 48 19 50 19 59 20 7 19 49 19 50 19 51	45.6 3.0 0.2 32.2 4.2 0.0 0.0 34.0 3.0	2.5 -13.6 -0.2 8.4 -1.3 -5.7 1.4			1.5	12.0	1.8	12.0		38.77 40.23 40.97	83.84 80.95 80.62	Tadzhikistan - Sinkiang 39.42 N 73.74 E H = 19 41 21.1 Depth = 43 km MB = 5.3 /ISC/	
680	SEP 4	BRA	E	4 9	48.0											No determination of epicentre	
681	SEP 4	SRO BRA	IP I LMH IP I I E	6 32 6 36 6 38 6 32 6 33 6 35 6 37	52.2 36.2 0.0 50.4 27.4 2.4 23.0	1.2 -2.6			15.0	12.0	8.0	12.0		15.15 15.31	195.64 191.53	Mediterranean Sea 33.09 N 13.50 E H = 6 29 14.0 Depth = 0 km MB = 5.2 /ISC/	
682	SEP 4	BRA	E	8 54	0.0											No determination of epicentre	
683	SEP 4	BRA	IP E	9 32 9 33	3.0 14.0	-0.8								79.25	39.86	Near East Coast of Honshu 40.24 N 141.76 E H = 9 20 2.5 Depth = 52 km MB = 5.2 /ISC/	
684	SEP 4	BRA	E	9 40	28.0											No determination of epicentre	
685	SEP 4	BRA	IPN IPG I	11 7 11 7 11 7	2.6 6.6 22.6											No determination of epicentre	
686	SEP 4	BRA	E	12 42	22.0											No determination of epicentre	



No.	Date	St. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T						
687	SEP 4	BRA	E	16	48	44.0													No determination of epicentre	
688	SEP 5	BRA	E	0	5	12.0													No determination of epicentre	
689	SEP 5	BRA	EAP	8	0	39.0	-1.2									85.09	274.68	Northern Colombia 6.82 N 73.07 W H = 7 47 41.1 Depth = 160 km MB = 5.3 /ISC/		
690	SEP 5	BRA	E	8	42	2.0													No determination of epicentre	
691	SEP 5	BRA	E	11	2	40.0													No determination of epicentre	
692	SEP 5	SRO	E	11	40	52.0										13.01	156.08	Crete 35.71 N 24.75 E H = 11 34 37.4 Depth = 53 km MB = 4.4 /ISC/		
693	SEP 5	SPC BRA	EPCP EP	18 33 18 34	56.0 5.0	-2.6 1.8										80.31 82.60	56.20 53.90	Ryukyu Island 29.29 N 130.57 E H = 18 21 43.5 Depth = 46 km MB = 5.0 /ISC/		
694	SEP 6	SPC BRA	EAP EPP E	15 31 15 33 15 34	29.7 11.0 16.0	-4.1 -7.4										38.77 40.97	83.96 80.73	Tadzhikistan - Sinkiang 39.36 N 73.69 E H = 15 23 59.9 Depth = 44 km MB = 4.8 /ISC/		
695	SEP 6	SPC BRA	EAPKHP EKP2 E	20 55 20 55 20 56	30.3 31.0 9.0	-1.0 -1.7										144.87 146.55	22.69 18.00	Tonga 15.70 S 173.08 W H = 20 35 51.8 Depth = 34 km MB = 4.9 /ISC/		
696	SEP 6	SPC SRO BRA	EAPKHP EPKHP IPKHP IAPKHP E	23 45 23 45 23 45 23 45 23 48	43.5 28.0 29.0 43.0 25.0	0.3 1.5 1.6 -4.5										123.89 125.72 126.18	56.70 55.55 54.10	Solomon Islands 7.04 S 155.90 E H = 23 26 32.8 Depth = 70 km MB = 5.5 /ISC/		

697	SEP 7	BRA SRO SPC	EP IAP E I EP	19 52 19 52 19 53 19 53 19 52	9.3 21.3 33.0 28.2 20.7	4.9 1.2 4.1										70.73	271.32	Leeward Islands 15.15 N 60.65 W H = 19 40 52.4 Depth = 56 km MB = 5.5 /ISC/	
698	SEP 7	SPC SRO BRA	EPCP EPP IKP IPP IMH IPCP IKP IPP I E	20 56 21 0 20 57 21 0 21 48 20 56 20 57 21 0 21 3 21 6	44.0 40.0 4.2 40.2 0.0 50.3 15.3 47.3 2.3 17.0	6.0 6.5 -2.3 -2.2 3.7 5.0 -1.7		10.4	24.0	10.2	24.0				6.4	96.19 97.29 98.14	97.73 96.47 95.54	South of Java 9.80 S 108.49 E H = 20 43 15.0 Depth = 60 km MB = 6.0 /ISC/	
699	SEP 8	BRA	EPKHP	5 35	30.0	-0.8										122.30	53.83	New Ireland Region 3.64 S 153.97 E H = 5 17 27.2 Depth = 442 km MB = 5.7 /ISC/	
700	SEP 8	SRO BRA	EP I EPP ESS E	19 12 19 15 19 12 19 14 19 16	10.0 12.2 29.0 39.0 15.0	-4.5 -3.6 7.5										9.26 9.99	149.47 145.66	Aegean Sea 39.66 N 24.39 E H = 19 9 56.7 Depth = 0 km MB = 4.3 /ISC/	
701	SEP 9	BRA	EPB ESG	12 51 12 52	23.0 15.0	1.7 -3.3										3.75	242.07	Northern Italy 46.31 N 12.32 E H = 12 50 14.3 Depth = 0 km /ISC/	
702	SEP 9	BRA	EPN	22 58	9.0	0.7										7.21	149.35	Yugoslavia 41.85 N 22.02 E H = 22 56 19.0 Depth = 27 km /ISC/	
703	SEP 10	BRA	E I	13 0 13 0	3.0 50.0														No determination of epicentre
704	SEP 10	BRA	IPG	13 54	20.0														No determination of epicentre
705	SEP 10	BRA	IPKHP IFKP2 E	21 26 21 26 21 27	5.0 41.0 15.0	2.6 -0.7										159.14	37.96	Kermadec Islands 30.58 S 177.61 W H = 21 6 9.0 Depth = 41 km MB = 5.7 /ISC/	



No.	Date	St. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T					
706	SEP 11	BRA	EFKIKP EAPKIKP	1 36	52.0	-3.1 9.4										159.12	37.86	Kermadec Islands 30.55 S 177.58 W H = 1 16 58.0 Depth = 17 km MB = 5.3 /ISC/	
707	SEP 11	SRO BRA	ESG EXP ES E	5 17 5 15 5 16 5 17 5 18	24.0 19.0 22.0 25.0 29.0	8.0 10.0 11.3										7.84 8.34	172.51 166.46	Albania 40.03 N 19.64 E H = 5 12 57.0 Depth = 28 km MB = 4.5 /ISC/	
708	SEP 11	BRA	EFKP2 EAPKIKP E E	16 37 16 38 16 38 16 39	27.0 32.0 32.0 17.0	-1.3										146.09	17.59	Samoa Region 15.20 S 172.95 W H = 16 17 49.0 Depth = 33 km MB = 5.1 /ISC/	
709	SEP 12	BRA	EP	5 32	9.0	0.8										84.93	333.86	Off Coast of Northern California 41.82 N 126.95 W H = 5 19 30.5 Depth = 3 km MB = 5.0 /ISC/	
710	SEP 12	BRA	EPP	6 12	26.0	2.2										41.30	80.65	Southern Sinkiang Province 39.23 N 74.09 E H = 6 3 1.1 Depth = 37 km MB = 4.9 /ISC/	
711	SEP 12	BRA	E	17 42	12.0													No determination of epicentre	
712	SEP 12	BRA	EPCP	20 27	34.0	-0.2										91.04	291.43	El Salvador 13.45 N 89.84 W H = 20 14 34.3 Depth = 62 km MB = 4.9 /ISC/	
713	SEP 12	BRA	EFKP2	20 37	33.0	0.6										146.03	17.30	Samoa Region 15.10 S 172.80 W H = 20 17 48.1 Depth = 0 km MB = 4.7 /ISC/	
714	SEP 12	BRA	ESG	20 53	29.0	11.8										5.16	316.33	Czechoslovakia 50.40 N 13.70 E H = 20 51 33.0 Depth = 0 km /ISC/	
715	SEP 13	SRO BRA	EP EXS EAP	8 1 5 5 4 59	10.0 37.0 19.0	-7.4 -0.6										16.66 17.54	122.16 120.87	Turkey 37.48 N 36.06 E H = 4 55 6.8 Depth = 59 km MB = 4.2 /ISC/	

716	SEP 13	BRA	EP E	8 1 8 1	10.0 25.0													No determination of epicentre
717	SEP 13	BRA SRO	IP IAP EPP IP IXS LMH	8 4 8 4 8 7 8 4 8 14 8 40	28.0 38.0 27.0 29.0 1.0 0.0	0.6 -1.4 15.2 1.3 -8.6	250	1.0							6.3	72.82 72.86	20.16 20.78	Near East Coast of Kamohatka 55.25 N 162.00 E H = 7 53 1.1 Depth = 40 km MB = 5.8 /ISC/
718	SEP 13	BRA	EP I	10 0 10 0	28.0 33.0													No determination of epicentre
719	SEP 13	BRA	IPG	11 59	23.0													No determination of epicentre
720	SEP 13	SRO	E	12 15	29.0											10.02	130.86	Turkey 40.79 N 28.29 E H = 12 10 3.0 Depth = 8 km /ISC/
721	SEP 13	BRA	E I	12 54 12 54	2.0 54.0													No determination of epicentre
722	SEP 13	SRO BRA	ISS IP I E E	18 27 18 29 18 27 18 27 18 30	33.5 25.5 9.0 18.0 25.0 30.1	-17.9 -0.4										8.19 8.91	151.71 147.36	Greece 40.48 N 23.39 E H = 18 24 57.4 Depth = 8 km MB = 4.4 /ISC/
723	SEP 14	BRA	IPG	11 33	48.0													No determination of epicentre
724	SEP 14	BRA	E	23 49	48.0													No determination of epicentre
725	SEP 16	SFC BRA	EP EP	16 53 16 53	19.0 36.0	3.6 2.3										38.59 40.79	83.89 80.66	Tadzhikistan - Sinkiang 39.48 N 73.52 E H = 16 45 54.3 Depth = 37 km MB = 5.0 /ISC/
726	SEP 16	SFC BRA	EP IP	21 8 21 9	52.6 1.0	3.1 0.3										76.61 70.62	35.29 33.19	Kurile Islands 44.28 N 148.76 E H = 20 57 2.4 Depth = 49 km MB = 5.3 /ISC/
727	SEP 16	SFC BRA	EP IP E	22 7 22 7 22 8	26.8 38.8 28.0	1.4 -8.8 -6.8										74.44 76.30	28.15 26.16	Kurile Islands 49.61 N 155.90 E H = 21 55 51.7 Depth = 55 km MB = 5.5 /ISC/



No.	Date	St. Code	Phase	GMT		RES		Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	o	c	A	T	A	T	A	T					
728	SEP 17	SPC BRA	EAP IP	2 13 2 13	6.0 5.7	0.1 0.4									74.31 75.13	355.60 353.84		Kodiak Island Region 56.68 N 152.06 W H = 2 1 22.2 Depth = 17 km MB = 5.0 /ISC/
729	SEP 17	BRA	EXP	4 20	27.0	-0.4									8.33	161.16		Greece-Albania Border Region 40.22 N 20.61 E H = 4 18 11.1 Depth = 49 km /ISC/
730	SEP 17	SRO BRA	IPN ISM LMH IP IXP I IS I EAP	5 12 5 13 5 16 5 12 5 12 5 13 5 14 5 16 5 12	31.4 55.4 0.0 32.6 46.6 28.6 23.6 29.6 46.5	3.4 -1.6 -1.4 6.4 15.3 0.1			14.0	10.0	12.0	10.0	5.0	7.70 8.27	166.66 160.92		Greece-Albania Border Region 40.29 N 20.63 E H = 5 10 31.8 Depth = 17 km MB = 4.9 /ISC/	
731	SEP 18	SRO BRA	EFN ESB EP ES	9 9 9 10 9 9 9 10	3.0 55.0 6.0 40.0	3.4 -2.7 -1.3 -3.6								7.81 8.38	165.96 160.32		Greece-Albania Border Region 40.21 N 20.78 E H = 9 7 2.0 Depth = 3 km MB = 4.4 /ISC/	
732	SEP 18	BRA	E	12 15	37.0													No determination of epicentre
733	SEP 18	BRA	EPP	18 44	29.0	-2.3									95.61	94.87		Java 7.47 S 107.26 E H = 18 27 20.5 Depth = 88 km MB = 5.2 /ISC/
734	SEP 19	BRA	IPG	15 35	44.0													No determination of epicentre
735	SEP 20	SPC SRO BRA	IP IP I IP IXP E	1 4 1 4 1 5 1 4 1 5 1 6	37.3 56.0 44.0 58.3 23.3 33.0	-9.3 -1.0 0.2 5.4								76.36 78.23 78.43	38.52 37.12 36.40		Hokkaido Region 42.79 N 144.94 E H = 0 53 0.9 Depth = 49 km MB = 5.6 /ISC/	

736	SEP 20	SPC SRO BRA	EPKIKP EPKIKP ESKPDF EPKIKP EAPKP2 ESKPDF	19 44 19 44 19 47 19 44 19 45 19 47	10.2 27.0 19.0 13.0 17.0 24.0	-4.7 9.7 19.5 -4.4 -8.7 -14.7									157.23 159.11 159.28	38.39 36.49 33.30		Tonga Region 29.96 S 175.83 W H = 19 24 32.0 Depth = 105 km MB = 5.1 /ISC/
737	SEP 20	SRO BRA	E IP	20 5 20 5	15.0 14.2													No determination of epicentre
738	SEP 20	SRO BRA	EPKIKP ESP LMH IPKIKP EAPKIKP E ISKPDF	21 38 21 49 22 22 21 38 21 39 21 40 21 42	51.0 51.0 0.0 51.2 53.2 52.0 18.2	2.2 2.0 1.3 3.3 2.2 3.9		2.0	20.0	4.0	20.0			119.33 119.90	64.33 63.05		Eastern New Guinea Region 6.20 S 146.10 E H = 21 20 11.8 Depth = 105 km MB = 5.8 /ISC/	
739	SEP 21	BRA	E EPP	3 31 3 32	15.0 3.0	-3.5								109.33	77.63		Banda Sea 6.39 S 129.07 E H = 3 13 1.0 Depth = 5 km MB = 5.3 /ISC/	
740	SEP 21	BRA	EAPKIKP EAPKP2	11 42 11 42	17.0 49.0	-6.6 1.8								154.00	27.50		South of Tonga 24.18 S 175.70 W H = 11 22 19.0 Depth = 81 km MB = 4.7 /ISC/	
741	SEP 21	SRO BRA	IPKHKP I IPP I LMH IPKIKP IAPKIKP IAPKP2 I EPP	13 0 13 1 13 3 13 12 14 5 13 0 13 1 13 1 13 4	19.8 26.8 59.0 50.8 0.0 7.2 28.2 4.2 13.2 10.0	6.3 -7.5 -1.5 -0.2 13.4 3.0		2.0	20.0	3.0	20.0	6.1		153.48 153.57	30.21 27.54		Tonga Region 23.78 S 175.88 W H = 12 40 26.0 Depth = 68 km MB = 5.4 /ISC/	
742	SEP 21	SRO BRA	IP IP IAP IPP E EKS	16 6 16 6 16 6 16 9 16 10 16 16	25.0 25.3 56.3 29.3 8.0 39.0	-0.8 -0.6 0.3 13.5 -2.2								74.43 74.45	24.72 24.07		Kamohatka 52.19 N 157.44 E H = 15 54 59.1 Depth = 119 km MB = 5.7 /ISC/	
743	SEP 21	BRA	EPP E	17 23 17 24	24.0 15.0	-6.3								104.26	251.03		Northern Chile 23.34 S 68.58 W H = 17 5 14.4 Depth = 98 km MB = 5.2 /ISC/	



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
744	SEP 21	BRA	EPKHKP EPKP2	19 45	34.0	4.9								150.70	34.43	South of Fiji 22.32 S 179.72 E H = 19 26 45.0 Depth = 590 km MB = 5.1 /ISC/	
745	SEP 23	BRA	E	0 28	22.0											No determination of epicentre	
746	SEP 23	SRO	IP IPP ISP I LMH IP	19 36 19 37 19 38 19 44 19 48 20 2	59.2 34.2 50.2 2.2 14.2 0.0	2.0 2.2 3.5								48.14	187.37	Gabon 0.28 S 12.83 E H = 19 28 18.3 Depth = 41 km MB = 5.9 /ISC/	
		BRA	IP IPCP E E E	19 36 19 37 19 38 19 40 19 41 19 45	58.1 43.1 23.0 41.0 39.0 12.0	-0.1 -1.5	40	1.0	7.6	12.0	4.5	12.0	5.5	48.40	185.72		
747	SEP 24	BRA	EP EAP	2 8	0.0	-2.1								61.35	258.06	North Atlantic Ridge 13.66 N 44.93 W H = 1 57 44.7 Depth = 16 km MB = 5.0 /ISC/	
748	SEP 24	BRA	EPG ESN E	10 49 10 49 10 50	19.0 36.0 7.0	-1.9 -0.7								0.95	134.56	Hungary 47.50 N 18.10 E H = 10 49 2.0 Depth = 33 km /ISC/	
749	SEP 25	BRA	E E	12 1 12 2	54.0 5.0									1.84	330.03	Czechoslovakia, Explosion 49.75 N 15.69 E H = 12 0 2.0 /ISC/	
750	SEP 25	BRA	EAPKIKP	16 8	48.0	6.0								125.05	61.97	Eastern New Guinea Region 9.80 S 149.95 E H = 15 49 39.0 Depth = 3 km MB = 5.4 /ISC/	
751	SEP 26	BRA SPC	IXP IXP IPP	15 17 15 17 15 20	41.2 43.5 53.6	0.8 1.3 -9.3								85.39 85.73	324.22 326.39	Southern Nevada, N.E. 37.13 N 116.07 E H = 15 5 0.0 /ISC/	

752	SEP 27	SRO SRO	EP IP IS ISS LMH IP IXP IPP E	3 22 3 22 3 33 3 38 3 57 3 22 3 23 3 26 3 29	28.0 32.4 0.4 32.4 0.0 38.0 4.0 13.0 6.0	1.9 -3.3 3.7 3.4											Off East Coast of Honshu 33.67 N 141.30 E H = 3 10 6.8 Depth = 35 km MB = 5.7 /ISC/
753	SEP 27	BRA	IPOP IXP I I I EP	4 21 4 22 4 24 4 27 4 29 4 21	44.8 16.8 30.8 11.8 39.8 48.0	-1.0 15.3								86.97	270.68	Colombia 2.72 N 71.37 W H = 4 9 1.6 Depth = 44 km MB = 5.5 /ISC/	
754	SEP 27	SRO SRO BRA	IAP IP EPP	5 36 5 36 5 38	8.4 7.6 16.6	0.4 -0.0 4.0								87.79	271.59	Nepal 28.59 N 85.51 E H = 5 26 33.6 Depth = 20 km MB = 5.5 /ISC/	
755	SEP 27	SRO BRA	IP IS LMH IP IPOP IPCP I IS LMH	5 59 6 9 6 32 5 59 5 59 6 0 6 9 6 38	28.4 24.0 0.0 27.6 32.6 46.6 25.6 28.6 0.0	0.0 -0.5 -1.8 -6.0 8.0 2.2	8380 480	4.0 2.0	39.0	20.0	33.0	20.0	7.2 6.2	78.6 78.79	35.92 35.20	Kurile Islands 43.12 N 146.56 E H = 5 47 24.0 Depth = 5 km MB = 6.0 /ISC/	
756	SEP 27	BRA	IPG	10 0	3.7											No determination of epicentre	
757	SEP 27	BRA	IPG	11 50	19.6											No determination of epicentre	
758	SEP 27	BRA	E	12 1	37.6											No determination of epicentre	
759	SEP 28	BRA	EPKIKP IPKP2	0 2 0 3	44.0 8.0	1.5 1.0								152.91	39.10	South of Fiji 25.29 S 178.61 E H = 23 43 59.8 Depth = 590 km MB = 5.5 /ISC/	
760	SEP 28	BRA	EPKIKP	7 3	53.0	1.9								146.23	43.91	Loyalty Islands Region 22.03 S 170.26 E H = 7 11 17.0 Depth = 47 km /ISC/	



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
761	SEP 28	BRA	EP	21	6	7.0								84.67	44.43	South of Honshu 33.20 N 140.87 E H = 20 53 37.1 Depth = 54 km MB = 4.6 /ISC/	
762	SEP 29	SRO	EP LMH	6 38 6 44	44.0 0.0	-10.7								14.31	146.63	Dodecanese Islands 35.40 N 27.89 E H = 6 35 33.4 Depth = 49 km MB = 4.6 /ISC/	
763	SEP 29	BRA	IP E	14 1 14 3	36.0 5.0	-3.4								84.62	44.43	South of Honshu 33.24 N 140.84 E H = 13 49 11.3 Depth = 61 km MB = 4.6 /ISC/	
764	SEP 29	SRO	IP	15 59	41.0	-5.5								42.55	77.32	Kirgiziya-Sinkiang 40.30 N 77.92 E H = 15 51 51.0 Depth = 24 km MB = 5.3 /ISC/	
765	OCT 1	SRO BRA	E ES	0 39 0 30	19.0 18.0	-6.2								8.12 8.55	177.29 171.12	Southern Italy 39.70 N 18.81 E H = 0 34 40.0 Depth = 13 km MB = 3.8 /ISC/	
766	OCT 1	SRO	EP EPP ESP LMH	4 21 4 25 4 34 5 1	23.0 35.0 29.0 0.0	5.1 3.8 0.2		4.9	20.0	5.2	20.0		6.2	101.76	57.12	South of the Marianas 12.07 N 141.12 E H = 4 7 27.7 Depth = 40 km MB = 5.3 /ISC/	
767	OCT 3	BRA	E	8 54	10.0											No determination of epicentre	
768	OCT 3	BRA	EP EPP LMH SRO	14 35 14 35 14 39 15 23 14 35 14 39 15 12	26.0 38.0 33.0 0.0 29.7 5.0 0.0	0.2 -6.9 0.5	110	1.0						102.12	265.21	Near Coast of Peru 12.24 S 77.58 W H = 14 21 29.3 Depth = 9 km MB = 6.2 /ISC/	
769	OCT 4	BRA	EP	11 5	32.0											No determination of epicentre	
770	OCT 4	BRA	E	12 15	29.0											No determination of epicentre	

771	OCT 4	BRA	E	12 44	26.0											No determination of epicentre
772	OCT 4	BRA	EP	17 47	49.0	-1.5								74.62	22.94	Off East Coast of Kamchatka 52.51 N 159.17 E H = 17 36 17.8 Depth = 76 km MB = 4.8 /ISC/
773	OCT 4	BRA	EP E	18 7 18 9	18.0 49.0	-1.6								74.80	22.56	Off East Coast of Kamchatka 52.50 N 159.83 E H = 17 55 41.0 Depth = 33 km MB = 4.8 /ISC/
774	OCT 4	SRO BRA	-IP IPCP IS +IP IAP	22 32 22 34 22 39 22 32 22 32	29.0 25.0 5.0 40.1 42.0	-3.9 2.8 7.6 0.2 -7.4	2090	4.0				6.2		43.25	102.02	Pakistan 26.38 N 66.65 E H = 22 24 32.8 Depth = 32 km MB = 5.7 /ISC/
775	OCT 4	BRA	EP	22 47	10.0	-0.5								75.21	22.35	Off East Coast of Kamchatka 52.21 N 160.41 E H = 22 35 27.3 Depth = 19 km MB = 5.2 /ISC/
776	OCT 5	BRA	E	16 54	49.0											No determination of epicentre
777	OCT 7	SRO SPC	EAP E EXP	11 45 11 48 11 46	40.0 28.0 4.0	2.0 -5.0								8.03 9.45	176.65 186.23	Southern Italy 39.79 N 18.92 E H = 11 43 39.8 Depth = 36 km MB = 4.4 /ISC/
778	OCT 7	SRO	I	22 18	36.0									112.03	204.16	South Sandwich Islands Region 58.08 S 27.26 W H = 21 53 8.0 Depth = 286 km MB = 5.5 /ISC/
779	OCT 8	SRO SPC	IP I IS LMH IP	10 2 10 6 10 11 10 36 10 2	12.0 40.0 28.0 0.0 22.7	-0.6 4.4 0.0 3.2								70.88 72.03	274.93 275.87	Leeward Islands 17.37 N 61.99 W H = 9 50 58.0 Depth = 41 km MB = 6.4 /ISC/
780	OCT 9	SPC HRB SRO	IP IS LMV EP ES IP IXP	7 43 7 53 8 19 7 44 7 53 7 44 7 44	53.5 39.8 0.0 3.5 55.8 1.0 18.0	3.0 5.7 2.7 1.8 0.2 2.6								76.80 78.65 78.66	34.26 32.82 32.89	Kurile Islands Region 44.64 N 150.09 E H = 7 32 0.6 Depth = 34 km MB = 6.3 /ISC/



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		a	A	T	A	T	A					
781	OCT 10	SRC BRA	IPKP2 EPKHKP	2 5 2 6	58.6 0.0	-2.1 -3.8	480	31.3	20.0	24.0	18.0	5.7	6.8	78.79	32.17		South of FIJI 22.08 S 179.47 W H = 1 47 13.1 Depth = 595 km MB = 5.1 /ISC/
782	OCT 11	BRA	EPG ESB	4 4 4 5	24.0 0.0	-2.1 -1.2								3.20	260.01		Austria 47.52 N 12.46 E H = 4 3 22.4 Depth = 11 km /ISC/
783	OCT 10	BRA	ESB	5 18	10.0	-0.1								3.17	259.54		Austria 47.50 N 12.50 E H = 5 16 32.0 Depth = 9 km /ISC/
784	OCT 10	SRC BRA	+IP I LMH IP IPCP E E	7 0 7 8 7 18 7 43 7 0 7 5 7 5	19.0 55.0 0.0 0.0 10.5 20.5 45.0	1.8 -7.9 -6.6		24.1	18.0	26.6	18.0	6.7		78.90 79.14	39.28 38.55		Hokkaido Region 41.05 N 143.09 E H = 6 48 15.5 Depth = 33 km MB = 5.7 /ISC/
785	OCT 10	BRA	EP	7 8	52.0	-0.7								79.21	38.54		Off East Coast of Honshu 40.99 N 143.15 E H = 6 56 49.7 Depth = 36 km MB = 5.7 /ISC/
786	OCT 10	SRC BRA	+IPCP E IPP ESCS IPCP EPP	21 45 21 47 21 48 21 55 21 45 21 48	9.0 39.0 40.0 51.0 12.2 40.0	0.8 -0.7 0.6 0.3 -7.4								89.36 90.21	96.83 95.93		Southern Sumatra 4.15 S 102.83 E H = 21 32 18.9 Depth = 89 km MB = 5.7 /ISC/
787	OCT 11	SRC SRO BRA	EAPKP2 EPKP2 EPKHKP	8 54 8 53 8 53	2.0 53.0 44.0	-3.1 -1.6 1.9								151.64 151.66 152.49	131.51 133.56 133.23		West of Macquarie Islands 60.70 S 153.94 E H = 8 33 52.7 Depth = 33 km MB = 5.1 /ISC/

788	OCT 11	BRA	IPG	11 50	43.0												No determination of epicentre
789	OCT 11	BRA	E	13 12	46.0												No determination of epicentre
790	OCT 11	SRC BRA	EP EP	18 22 18 23	53.0 4.0	0.7 0.9								71.24 73.11	28.70 26.79		North West of Kurile Islands 52.15 N 152.68 E H = 18 12 18.7 Depth = 453 km MB = 4.5 /ISC/
791	OCT 12	SRC BRA	IP IP	4 59 4 59	28.8 39.0	1.0 -0.3								77.66 79.78	40.70 38.53		Off East Coast of Honshu 40.52 N 143.57 E H = 4 47 30.9 Depth = 20 km MB = 5.3 /ISC/
792	OCT 12	SRO BRA	EP ES	6 27 6 37 6 59	0.0 0.0 0.0	1.5 1.9 0.2								79.53 79.77	39.26 38.52		Off East Coast of Honshu 40.54 N 143.58 E H = 6 14 51.0 Depth = 17 km MB = 5.5 /ISC/
793	OCT 12	SRC BRA	EP EP	12 57 12 57	26.8 39.0	2.5 3.1								77.68 79.79	40.71 38.55		Off East Coast of Honshu 40.50 N 143.56 E H = 12 45 27.4 Depth = 20 km MB = 4.7 /ISC/
794	OCT 12	BRA	EP	16 29	35.0	0.8								79.95	38.51		Off East Coast of Honshu 40.39 N 143.71 E H = 16 17 23.0 Depth = 8 km MB = 5.0 /ISC/
795	OCT 12	BRA	EPKP2	19 18	22.0	-2.0								147.20	28.11		FIJI Region 17.84 S 178.44 W H = 18 59 42.1 Depth = 606 km MB = 5.0 /ISC/
796	OCT 13	BRA	E	3 56	52.0												No determination of epicentre
797	OCT 13	BRA	E	11 56 11 57	11.0 0.0												No determination of epicentre
798	OCT 14	SRO BRA	ESB IPN ISN	4 13 4 12 4 13	27.0 22.6 12.0	2.6 -4.1 -9.0								4.22 4.55	188.24 176.56		Yugoslavia 43.63 N 17.48 E H = 4 13 15.0 Depth = 11 km /ISC/



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
799	OCT 14	SPC	IP EPP LMV	14 23	40.8	1.9 -4.1	990	2.0					6.4		77.62	40.55	Off East Coast of Honshu 40.64 N 143.69 E H = 14 11 41.2 Depth = 13 km MB = 5.4 /ISC/
				14 26	31.7												
				15 3	0.0												
				14 23	51.0												
800	OCT 15	SRO	IP IPCP IS LMH EP	14 24	11.0	1.8 13.5 2.0	990	2.0	4.7	16.0	5.4	16.0		6.1	79.50	39.13	Off East Coast of Honshu 40.66 N 143.78 E H = 1 16 45.9 Depth = 12 km MB = 5.4 /ISC/
				14 33	51.0												
				15 4	0.0												
				14 23	50.0												
801	OCT 15	SRO	IAP EPP IP ESCS LMH IP	1 28	47.0	-0.6 -0.8 0.9 4.8 -0.4									7.89	153.14	Greece 40.67 N 22.99 E H = 9 56 49.2 Depth = 0 km MB = 4.2 /ISC/
				1 31	40.0												
				1 28	55.0												
				1 39	19.0												
802	OCT 15	BRA	EPKIKP EPKP2	21 47	33.0	-0.9 -0.1								159.09	38.74	Kermadec Islands 30.67 S 177.92 W H = 21 27 40.7 Depth = 42 km MB = 5.7 /ISC/	
				21 48	13.0												
				3 44	9.0												
				3 45	1.0												
803	OCT 16	BRA	EPG ISB	3 44	9.0	10.1 5.4								5.42	275.25	Germany 48.38 N 9.00 E H = 3 42 10.8 Depth = 21 km /ISC/	
				3 45	1.0												
				5 51	27.4												
				5 51	41.0												
804	OCT 16	BRA	+IP IAP I LMH EP LMH +IP I IXS LMH EP LMV	5 51	27.4	-0.6 2.4 -12.7 -1.1 -0.2 4.6 2.8	70	1.0					5.5	31.11	297.10	North Atlantic Ridge 52.71 N 32.00 W H = 5 45 11.2 Depth = 41 km MB = 5.7 /ISC/	
				5 55	18.4												
				6 2	0.0												
				5 51	22.2												

805	OCT 16	SRO	IP IPCP IP IPCP EPP E	9 41	50.3	3.8 1.8 1.7 -0.9 3.3 11.6								77.87	40.70	Off East Coast of Honshu 40.35 N 143.72 E H = 9 29 46.7 Depth = 8 km MB = 5.5 /ISC/
				9 41	58.6											
				9 42	6.6											
				9 41	57.2											
806	OCT 16	BRA	EPKIKP E	17 49	22.0	2.3								121.33	61.00	New Britain Region 6.30 S 148.38 E H = 17 30 34.4 Depth = 70 km MB = 5.5 /ISC/
				17 50	6.0											
				19 49	55.0											
				11 54	31.0											
807	OCT 16	BRA	E	19 49	55.0											No determination of epicentre
				12 59	50.0											
				11 54	31.0											
				12 59	50.0											
808	OCT 17	BRA	E	11 54	31.0											No determination of epicentre
				12 59	50.0											
				0 37	52.0											
				0 38	4.4											
809	OCT 17	BRA	E	12 59	50.0											No determination of epicentre
				0 38	4.4											
				0 38	17.6											
				2 45	29.4											
810	OCT 18	SRO	EP IAP EAP	0 37	52.0	0.2 -4.0 -2.8								70.09	274.27	Leeward Islands 17.56 N 62.27 W H = 0 26 44.1 Depth = 60 km MB = 5.0 /ISC/
				0 38	4.4											
				0 38	17.6											
				2 45	29.4											
811	OCT 18	SRO	E	2 45	29.4											No determination of epicentre
				11 50	53.6											
				11 50	56.6											
				12 11	31.6											
812	OCT 18	SRO	IPG ISG	11 50	53.6											No determination of epicentre
				11 50	56.6											
				12 11	31.6											
				12 12	3.0											
813	OCT 18	SRO	IPKP2 EAPKP2 EAPKHKP	12 11	31.6	-2.0 18.8 -0.8								147.37	16.90	Samoa Region 16.38 S 172.29 W H = 11 51 49.3 Depth = 33 km MB = 5.3 /ISC/
				12 12	3.0											
				12 11	35.0											
				14 14	33.0											
814	OCT 18	SRO	EP	14 14	33.0	-0.1								78.40	0.41	Unimak Island Region 53.81 N 163.58 W H = 14 2 34.6 Depth = 36 km MB = 4.8 /ISC/
				12 11	35.0											
				11 11	13.0											
				11 11	13.0											
815	OCT 20	SRO	EP	11 11	13.0											No determination of epicentre
				11 11	13.0											
				11 11	13.0											
				11 11	13.0											



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
816	OCT 20	BRA	EP IPP IS I I IPOP E	11 27 11 28 11 29 11 31 11 32 11 34 11 36	57.0 19.4 44.4 2.4 4.4 20.4 3.4	-3.1 11.5 4.4 -7.7								8.69	171.14	Southern Italy 39.57 N 18.83 E H = 11 25 50.3 Depth = 0 km MB = 4.9 /ISC/	
817	OCT 20	BRA	E	11 56	3.0									77.91	38.28	Hokkaido Region 42.22 N 142.47 E H = 11 43 8.1 Depth = 46 km MB = 5.2 /ISC/	
818	OCT 20	BRA	EPKIKP	15 46	37.0	1.4								125.16	54.96	Solomon Islands 6.57 S 154.75 E H = 15 27 38.8 Depth = 37 km MB = 5.5 /ISC/	
819	OCT 21	BRA	IPKIKP IPKPF IAPKPF ISKPDF E	4 31 4 31 4 33 4 33 4 36	4.2 9.2 27.2 45.2 22.0	1.8 -2.7 3.4 4.8								147.30	28.27	Fiji Region 17.97 S 178.49 W H = 4 12 28.7 Depth = 596 km MB = 5.9 /ISC/	
820	OCT 21	BRA	IP	12 59	46.5	1.1	140	1.0				5.9		73.67	21.63	Near East Coast of Kamohatka 53.90 N 160.40 E H = 12 48 16.7 Depth = 63 km MB = 5.7 /ISC/	
821	OCT 22	SPC SRO BRA	EPCP EPCP IS EP EXP	9 29 9 29 9 39 9 29 9 29	4.5 11.0 29.0 11.0 30.0	-1.0 0.9 4.4 1.0 3.2								82.78 83.85 84.70	99.31 97.68 96.81	Southern Sumatra 0.60 S 98.50 E H = 9 16 39.0 Depth = 40 km MB = 4.7 /ISC/	
822	OCT 22	BRA SPC	EAP EP	12 12 12 12	10.0 9.8	0.0 2.7								27.85 28.58	316.39 314.64	Iceland Region 62.20 N 26.31 W H = 12 6 12.0 Depth = 33 km MB = 4.8 /ISC/	
823	OCT 23	SPC SRO I I LMH EAPKIKP BRA	EAPKIKP IAPKIKP I I LMH EAPKIKP	6 33 6 33 6 35 6 44 7 28 6 34	57.0 59.0 19.0 0.0 0.0 11.0	1.6 0.2 11.2						7.1		123.97 125.78 126.27	59.46 58.37 56.95	D'Entrecasteaux Islands Region 8.40 S 154.03 E H = 6 14 52.0 Depth = 18 km MB = 6.2 /ISC/	

824	OCT 24	BRA	IP IAP E EPP	5 39 5 39 5 40 5 42	16.2 29.2 9.0 31.0	1.5 -1.9 -1.3	40	1.0				5.6		84.52	44.29	South of Honahu 33.40 N 140.91 E H = 5 26 46.7 Depth = 58 km MB = 5.4 /ISC/	
825	OCT 25	BRA	EPCP ES IXP IXP E E	0 18 0 29 0 19 0 19 0 20 0 22	28.0 8.0 21.0 26.0 36.0 39.0	-0.2 -6.4 13.8 18.8								91.36	295.45	Near Coast of Chiapas, Mexico 15.76 N 93.26 W H = 0 5 32.3 Depth = 107 km MB = 5.6 /ISC/	
826	OCT 25	BRA	EPKIKP	3 38	6.0	1.8								123.49	57.33	New Britain Region 6.27 S 152.18 E H = 3 19 7.8 Depth = 19 km MB = 5.7 /ISC/	
827	OCT 25	SRO BRA	E E E	10 1 10 2 10 1	47.0 15.0 11.0											No determination of epicentre	
828	OCT 25	BRA	EP EAP EXP ESS	11 48 11 47 11 47 11 49	54.0 3.0 24.0 5.0	-2.8 -2.0 13.0 -13.0								14.27	158.60	Crete 34.67 N 23.37 E H = 11 43 35.5 Depth = 41 km MB = 4.9 /ISC/	
829	OCT 26	BRA	IP I I	12 0 12 0 12 1	53.1 55.0 2.0												No determination of epicentre
830	OCT 27	BRA	IFKPF EAPKIKP	5 10 5 11	50.1 11.0	-0.3 -1.2								146.11	48.38	Loyalty Islands Region 21.77 S 170.46 E H = 4 51 18.3 Depth = 92 km MB = 5.0 /ISC/	
831	OCT 27	BRA	EAP EXP	8 55 8 56	58.0 11.0	-3.0 3.5								15.13	153.98	Crete 34.24 N 25.05 E H = 8 52 20.0 Depth = 45 km MB = 4.3 /ISC/	
832	OCT 29	SRO HRB	IPN ISN LMH EPB ESN ISC	1 6 1 6 1 7 1 6 1 6 1 7	4.4 4.4 30.0 9.8 44.3 0.0	0.5 0.8 -0.9 0.4								3.23	178.64	Yugoslavia 44.59 N 18.42 E H = 1 5 11.0 Depth = 0 km MB = 5.1 /ISC/	



No.	Date	St. Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
833	OCT 29	BRA	EP	3 22	3.0	1.1								3.69	165.25	Near Coast of Venezuela 10.58 N 63.45 W H = 3 10 16.9 Depth = 33 km MB = 5.0 /ISC/	
834	OCT 29	SPC SRO	E I IPP I LMH E IPKIKP IPKIKP	3 28 3 28 3 33 3 40 4 0 3 28 3 32 3 33	23.5 32.6 0.0 25.6 0.0 32.0 36.0 13.0	-6.2 4.9 0.4								107.79 109.31	79.80 78.73	Banda Sea 6.93 S 129.52 E H = 3 14 18.6 Depth = 156 km MB = 6.3 /ISC/	
835	OCT 29	BRA	EAPKIKP E	9 7 9 8	54.0 18.0	13.1								146.91	17.01	Samoa Region 15.94 S 172.45 W H = 8 47 53.0 Depth = 33 km MB = 4.8 /ISC/	
836	OCT 29	BRA	IPG	15 40	46.4											No determination of epicentre	
837	OCT 29	BRA	IPN ISN	18 1 18 1	24.3 39.3	1.0 4.7								0.67	225.59	Austria 47.70 N 16.40 E H = 18 1 7.0 Depth = 10 km /ISC/	
838	OCT 30	SPC BRA	EP LMV EP EAP EXP E	16 19 16 58 16 19 16 20 16 20 16 21	43.7 0.0 51.0 5.0 20.0 7.0	3.2 -1.5 -3.4 5.3								79.87 82.16	55.80 53.50	Ryukyu Islands 29.89 N 130.61 E H = 16 7 36.3 Depth = 56 km MB = 5.3 /ISC/	
839	OCT 31	BRA	EPKHKP EAPKP2	7 6 7 7	24.0 11.0	-0.6 19.8								152.47	24.38	Tonga Region 22.28 S 174.78 W H = 6 46 35.3 Depth = 33 km MB = 4.8 /ISC/	

840	OCT 31	BRA	E	7 23	48.0												No determination of epicentre
841	OCT 31	BRA	EPN I ISG	8 34 8 35 8 36	52.0 36.0 6.0												No determination of epicentre
842	OCT 31	BRA	E E	15 14 15 15	35.0 4.0												No determination of epicentre
843	OCT 31	SRO BRA	IPG ISG I IPN IPB ISN ISG E ESN	22 24 22 25 22 25 22 25 22 24 22 24 22 25 22 25 22 26 22 25	39.7 11.7 39.7 19.2 25.2 4.2 31.2 9.0 34.4	12.6 1.2 -2.3 -2.9 5.9 -1.0								3.31 3.76	180.16 166.85	Yugoslavia 44.50 N 18.30 E H = 22 23 21.0 Depth = 0 km /ISC/	
844	NOV 1	BRA	EPKHKP	3 56	9.0	0.7								4.88	196.60	Tonga 21.67 S 174.15 W H = 3 36 20.0 Depth = 33 km MB = 4.7 /ISC/	
845	NOV 1	BRA	EPN RSN E	10 42 10 42 10 43	14.0 45.0 36.0	2.7 -11.1								152.06	22.80	Yugoslavia 44.50 N 17.50 E H = 10 41 12.0 Depth = 0 km /ISC/	
846	NOV 1	BRA	E	11 26	50.0									3.68	175.59	No determination of epicentre	
847	NOV 2	SPC SRO	EP +IP I I	5 5 5 5 5 6 5 14 5 5 5 6 5 8 5 15	29.0 51.7 11.7 48.7 56.4 15.4 12.4 17.4	-11.2 -4.7 -0.0	5170				7.0 6.5			26.77 28.55	24.01 23.75	Novaya Zemlya 70.81 N 53.91 E H = 4 59 56.9 Depth = 0 km MB = 6.4 /ISC/	
848	NOV 2	BRA	E	22 1	11.0									28.56	24.48	No determination of epicentre	
849	NOV 2	SPC BRA	EP EP	22 7 22 7	29.5 40.0	0.9 0.1								80.20 82.37	44.30 42.08	Near East Coast of Honshu 36.42 N 141.67 E H = 21 55 21.4 Depth = 46 km MB = 5.1 /ISC/	



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No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
850	NOV 2	SPC BRA	IPKIKP IPKFP2 IAKIKFP I ISKIFAB I	22 38 22 38 22 39 22 40 22 38 22 39	30.0 36.3 11.3 12.3 35.6 39.6	0.2 0.2 16.8 -0.7								144.19 145.90 145.95	23.92 19.33 21.54	Tonga 15.23 S 173.98 W H = 22 19 2.9 Depth = 76 km MB = 5.6 /ISC/	
851	NOV 3	BRA	E E	1 23 1 24	17.0 18.0												No determination of epicentre
852	NOV 3	BRA	EPB ESG	23 0 23 2	51.0 19.0	-0.3 9.4								5.09	226.61	Northern Italy 44.55 N 11.93 E H = 22 59 21.4 Depth = 22 km /ISC/	
853	NOV 4	SPC BRA	EAFKIKP EAFKFP2 EAKKFP EFPK2	15 6 15 7 15 6 15 7	54.4 14.0 49.0 7.0	0.6 5.2 -0.6 1.1								150.83 152.67	28.86 23.88	Tonga Region 22.40 S 174.48 W H = 14 46 59.8 Depth = 33 km MB = 4.9 /ISC/	
854	NOV 4	SPC BRA	EAFKIKP EAFKIKP EAFKFP2 E	17 49 17 49 17 49 17 50	17.0 19.0 43.0 7.0	-3.0 -3.6 -0.3								151.10 152.93	28.49 23.46	Tonga Region 22.60 S 174.20 W H = 17 29 25.0 Depth = 37 km MB = 4.9 /ISC/	
855	NOV 5	BRA	EPKFP2 E	0 21 0 22	41.0 29.0	-0.5								146.39	17.62	Samoa Region 15.50 S 172.90 W H = 0 2 1.1 Depth = 33 km MB = 4.8 /ISC/	
856	NOV 5	BRA	IPG E	2 27 2 28	4.3 21.3												No determination of epicentre
857	NOV 6	BRA	EPH EFG E	14 34 14 35 14 36	46.0 18.0 20.0	-4.9 13.2								3.65	167.61	Yugoslavia 44.60 N 18.20 E H = 14 33 52.0 Depth = 0 km /ISC/	
858	NOV 7	SPC BRA	IFH ISG IFW ISN I E	2 35 2 35 2 35 2 35 2 36 2 37	0.7 22.4 8.7 37.3 17.3 49.0	-0.1 -0.2 -1.6 -1.2								1.53 2.19	310.79 23.27	Poland 50.17 N 18.45 E H = 2 34 32.2 Depth = 0 km /ISC/	
859	NOV 7	BRA	E	4 11 4 12	39.0 3.0												No determination of epicentre

860	NOV 7	BRA	IPG	12 34	30.8												No determination of epicentre	
861	NOV 7	BRA	E	13 15	18.0												No determination of epicentre	
862	NOV 7	BRA	EPP	13 35	9.0	-5.8											No determination of epicentre	
863	NOV 8	BRA	IAPKHKP IPKSDP	13 54 13 57	16.8 51.8	-1.0 2.2									99.89	257.90	Southern Peru 15.51 S 70.61 W H = 13 17 39.2 Depth = 173 km MB = 5.3 /ISC/	
864	NOV 8	SRO BRA	IAP IPCP IAP I IPP IPS LMH IP IPCP IAP IPP IPP I	21 35 21 35 21 35 21 36 21 38 21 44 21 45 22 4 21 35 21 35 21 35 21 37 21 38 21 40	25.0 13.6 37.6 33.6 5.6 45.6 45.6 0.0 4.6 18.6 41.6 50.6 8.6 33.6	-9.4 -0.4 2.6 5.4 5.1 7.8 -0.1 3.6 5.3 -1.7 6.3								146.34	17.97	Tonga 15.49 S 173.11 W H = 13 34 37.0 Depth = 17 km MB = 5.3 /ISC/		
865	NOV 9	SRO BRA	E E EXP	6 3 6 7 6 3	50.0 2.0 24.5	11.9											Hokkaido Region 42.53 N 141.75 E H = 21 23 22.2 Depth = 125 km MB = 5.9 /ISC/	
866	NOV 9	SRO	EPCF ESCS LMH	10 42 10 53 11 13	38.0 2.0 0.0	1.0 -5.1											Greece 38.92 N 20.32 E H = 6 0 45.0 Depth = 24 km MB = 4.8 /ISC/	
867	NOV 9	BRA	E	11 52	8.0												Near North Coast of Colombia 11.50 N 75.20 W H = 10 29 59.4 Depth = 0 km MB = 4.6 /ISC/	
868	NOV 9	BRA SRO	IP IPP I LMH IP	13 13 13 15 13 18 13 20 13 58 13 13	49.7 4.7 4.7 20.7 0.0 51.6	1.5 2.1 -0.1											No determination of epicentre	
							2940	1.0										Near Coast of Peru 12.44 S 77.46 W H = 12 59 51.0 Depth = 6 km MB = 6.0 /ISC/



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No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
869	NOV 9	SRO	I I IPP ISKS LMH	13 13 13 14	16 17 18 24 2 0.0	-3.2 -1.0			15.0	16.0	40.4	16.0	7.1	92.75	96.48	Sunda Strait 6.44 S 105.38 E H = 19 10 55.8 Depth = 55 km MB = 6.1 /ISC/	
870	NOV 9	BRA	EP E	20 20	19 20	49.0 24.0										No determination of epicentre	
871	NOV 10	SRO	IPKP2 IAPKIKP ISKPDF LMH IPKIKP IAPKIKP I EPP	4 4 4 5 4 4 4	45 45 48 50 45 45 48	9.7 17.7 33.7 0.0 5.9 22.0 25.0	1.2 1.0 -3.3 -0.8 11.1 -5.4		2.3	20.0	2.1	20.0	6.0	145.30 145.37	29.21 27.04	Fiji Region 15.91 S 178.47 W H = 4 25 31.9 Depth = 31 km MB = 5.8 /ISC/	
872	NOV 11	BRA	ESB ESB	0 0	43 44	57.0 7.0	-2.9 7.1							5.62	273.45	Germany 48.20 N 8.70 E H = 0 41 9.0 Depth = 0 km /ISC/	
873	NOV 11	SPC BRA	EP IP IAP EPP	5 5 5 5	29 29 30 33	44.5 52.8 9.8 7.0	-1.3 -0.6 -2.4 10.0	40	1.0			5.3	78.39 79.77	11.55 9.56	Andeanof Islands 21.59 N 178.18 W H = 5 17 51.2 Depth = 69 km MB = 5.7 /ISC/		
874	NOV 11	SPC	EPKHKP IPKHKP	6 6	48 48	48.2 53.5	1.0 6.3						151.43	34.88	South of Fiji 24.06 S 177.16 W H = 6 29 16.7 Depth = 163 km MB = 5.6 /ISC/		
875	NOV 12	BRA	EP E I I	3 3 3 3	0 0 2 2	26.0 54.0 27.2 5.2	8.5						7.11	274.86	France 48.28 N 6.46 E H = 2 58 38.1 Depth = 36 km /ISC/		

876	NOV 12	BRA	EP	3	28	31.0	-0.1							78.51	31.26	Kurile Islands 45.33 N 150.98 E H = 3 16 31.8 Depth = 35 km MB = 4.8 /ISC/	
877	NOV 12	BRA	EP I	13 13	44 44	7.0 9.2										No determination of epicentre	
878	NOV 12	SPC BRA	EPCP +IP IAP E	22 22 22 22	26 26 27 28	52.6 55.6 12.6 15.6	6.2 -0.5 -0.2	40	1.2			5.9	95.35 97.59	80.33 78.04	Celebes Sea 2.27 N 121.06 E H = 22 13 26.9 Depth = 58 km MB = 5.8 /ISC/		
879	NOV 13	SPC SRO BRA	EP IAP IXS I +IP IAP IPP E E	2 2 2 2 2 2 2 2 2	40 41 45 49 41 41 41 42 44	48.0 6.2 2.3 26.3 9.7 15.7 41.7 56.0 19.0	-1.6 -2.3 8.4 -0.7 -1.6 7.7	70	1.0			5.0	19.26 20.39	99.09 93.46	Eastern Caucasus 42.90 N 46.56 E H = 2 36 24.2 Depth = 25 km MB = 5.1 /ISC/		
880	NOV 13	BRA	ESQ ISG E	5 5 5	45 45 45	4.0 11.0 26.0	4.7 11.7						2.52	206.40	Yugoslavia 45.90 N 15.50 E H = 5 43 36.0 Depth = 0 km /ISC/		
881	NOV 13	SRO BRA	EPKIKP EAPKIKP EAPKIKP E	17 17 17 17	19 19 19 20	2.0 5.0 10.0 8.0	4.3 -4.9 0.1						148.97 149.83	127.92 127.39	West of Macquarie Islands 58.01 S 148.50 E H = 16 59 17.4 Depth = 33 km MB = 5.4 /ISC/		
882	NOV 14	BRA	EP IXP E E	5 5 5 5	0 0 1 2	17.0 33.0 9.0 8.0	-7.8 0.4						73.21	355.47	Alaska Peninsula 58.77 N 154.56 W H = 4 48 53.0 Depth = 18 km MB = 5.2 /ISC/		
883	NOV 14	SRO BRA SPC	IXP I I LMH EP I E EAP LMV	13 13 13 13 13 13 13 13 13	25 27 28 29 25 26 28 25 32	14.3 34.3 36.3 0.0 2.0 4.0 23.0 15.3 0.0	5.7 -5.9 -2.3			8.1	16.0	14.3	16.0	5.0	9.94 10.59 10.88	157.80 153.62 168.13	Greece 38.50 N 23.08 E H = 13 22 34.7 Depth = 27 km MB = 4.9 /ISC/

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No.	Date	St. Code	Phase	GMT			RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	a		A	T	A	T	A	T					
884	NOV 14	SRO BRA SPC	IPP EP EP	14 29 14 29 14 29	18.4 15.0 26.5	-1.2 -7.1 0.4									9.94 10.59 10.89	158.14 153.94 168.44	Greece 38.48 N 23.01 E H = 14 26 46.6 Depth = 6 km MB = 5.0 /ISC/	
885	NOV 14	BRA	EP I	15 32 15 33	13.0 7.0	-6.5									10.61	153.35	Greece 38.50 N 23.15 E H = 15 29 46.8 Depth = 35 km MB = 4.9 /ISC/	
886	NOV 14	BRA	ESB	17 12	10.0	-3.9									5.42	273.35	Germany 48.20 N 9.00 E H = 17 9 29.0 Depth = 15 km /ISC/	
887	NOV 15	SRO BRA	IP IPP LMH IXP IPP E	23 45 23 48 0 21 23 45 23 45 23 48 23 50	2.5 14.5 0.0 3.9 31.9 12.9 31.9	1.0 2.1 0.9 10.8 -1.9	200	1.0	5.4	16.0	4.5	16.0	6.2	6.1	82.29 82.58	43.57 42.78	Near East Coast of Honshu 35.85 N 141.10 E H = 23 32 34.2 Depth = 44 km MB = 5.8 /ISC/	
888	NOV 17	BRA	IPKP2	1 20	1.5	-1.0									147.40	20.48	Tonga 16.84 S 174.25 W H = 1 0 34.5 Depth = 169 km MB = 4.9 /ISC/	
889	NOV 17	BRA	IP	17 35	50.3	3.1	70	1.0					5.7	73.18	20.59	Near East Coast of Kamchatka 54.75 N 161.61 E H = 17 24 19.0 Depth = 42 km MB = 5.4 /ISC/		
890	NOV 18	BRA	IP E EPP	18 15 18 16 18 19	32.5 32.5 5.0	1.6 18.6									83.91	66.07	Philippine Islands Region 20.54 N 121.22 E H = 18 3 3.5 Depth = 37 km MB = 5.5 /ISC/	
891	NOV 19	SRO BRA	IP IS LMH IP IAP EPP	4 7 4 18 4 59 4 7 4 8 4 11	47.3 9.3 0.0 52.6 11.6 20.0	-1.6 -0.2 0.6 2.7 8.4			4.1	24.0	5.9	24.0	6.0	84.56 85.18	67.79 66.95	Philippine Islands Region 19.00 N 121.39 E H = 3 55 21.0 Depth = 60 km MB = 5.7 /ISC/		

892	NOV 19	BRA	IPKP2	5 59	5.5	-4.0									147.37	28.30	Fiji Region 18.04 S 178.48 W H = 5 40 27.0 Depth = 607 km MB = 5.1 /ISC/
893	NOV 19	BRA	IAFKHP	7 9	55.6	-0.9									139.78	47.44	New Hebrides 16.06 S 167.46 E H = 6 50 29.5 Depth = 44 km MB = 5.2 /ISC/
894	NOV 19	BRA	E	17 48	16.0												No determination of epicentre
895	NOV 20	BRA	EP	0 21	13.0	-0.0									78.62	1.37	Fox Islands Region 53.57 N 165.14 W H = 0 9 12.0 Depth = 27 km MB = 5.0 /ISC/
896	NOV 20	SRO BRA	IPKIKP IPP LMH IAFKHP ISKPEG I E	4 34 4 37 5 32 4 34 4 34 4 37 4 39 4 42	11.6 3.6 0.0 6.2 30.2 27.2 16.2 7.2	2.8 -0.1 -3.2 2.6 -10.1			35.0	24.0	37.0	24.0	7.1	138.47 138.83	48.90 47.09	New Hebrides 15.12 S 167.16 E H = 4 14 50.1 Depth = 62 km MB = 6.2 /ISC/	
897	NOV 21	SPC	E	22 6	3.0												No determination of epicentre
898	NOV 23	SRO	EPN I LMH	18 49 18 51 18 52	15.0 21.0 0.0												No determination of epicentre
899	NOV 27	SRO	IP IXS LMH	16 58 17 2 17 9	6.1 22.1 9.0	6.1 -10.2			4.8	12.0	1.4	10.0	5.8	23.87	111.70	Iran-Iraq Border Region 35.26 N 45.66 E H = 16 52 51.1 Depth = 57 km MB = 5.0 /ISC/	
900	NOV 29	SPC SRO	EPCP IS IAP IPP IS IXS LMH	22 17 22 26 22 17 22 19 22 20 22 27 22 29 22 52	7.5 52.4 14.6 6.6 38.6 6.6 46.6 0.0	-1.1 4.0 0.6 15.0 -1.6 0.1 -11.2								83.31 85.18	49.84 48.38	South of Honshu 30.71 N 138.44 E H = 22 5 23.5 Depth = 429 km MB = 6.1 /ISC/	
									47.0	20.0	45.0	20.0					



No.	Date	St. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
901	DEC 1	SRO	E LMH	12 14 12 16	27.0 0.0				2.9	8.0	3.7	8.0		4.7	10.16	142.15	Turkey 39.48 N 26.35 E H = 12 9 29.5 Depth = 36 km MB = 4.5 /ISC/
902	DEC 2	SRO	EPG ISC I I	1 57 1 58 1 59 1 59	17.0 39.0 17.0 55.0	-4.1 -4.2								6.27	219.20		Central Italy 42.82 N 12.93 E H = 1 55 16.0 Depth = 5 km /ISC/
903	DEC 2	SRO	E I I	13 5 13 7 13 8	50.0 47.0 47.0												No determination of epicentre
904	DEC 3	SPC SRO	EPDIFF IPP EPP I I LMH	3 20 3 25 3 25 3 27 3 36 4 5	55.5 24.0 32.9 46.9 38.9 0.0	7.1 6.9 4.4			5.1	20.0	9.2	20.0	6.4	106.66 108.21	78.15 77.04		Banda Sea 5.04 S 129.99 E H = 3 6 35.7 Depth = 32 km MB = 6.0 /ISC/
905	DEC 4	SRO	IP I ISKS LMH	3 20 3 23 3 30 4 5	11.1 43.1 31.1 0.0	0.8 4.8			15.3	16.0	9.2	20.0	6.5	82.63	97.40		Northern Sumatra 0.50 N 97.89 E H = 3 7 47.0 Depth = 20 km MB = 5.8 /ISC/
906	DEC 6	SPC	E	15 31	6.7												No determination of epicentre
907	DEC 7	SPC SRO	EP IP IXS LMH	7 46 7 46 7 56 8 22	14.6 25.0 40.0 0.0	1.3 3.6 -0.6			2.6	20.0	2.0	20.0	5.7	78.94 80.45	6.96 5.72		Fox Islands 51.81 N 170.80 W H = 7 34 11.0 Depth = 30 km MB = 5.5 /ISC/
908	DEC 9	BRA	ISG	12 14	19.0	-0.3								0.13	270.80		Austria 48.17 N 16.91 E H = 12 14 15.0 Depth = 5 km /ISC/
909	DEC 10	SPC SRO BRA	IP IAP IP IXP LMH IP	1 48 1 48 1 48 1 49 1 50 1 48	10.5 51.6 3.8 19.0 0.0 26.4	2.3 -1.6 -15.3 -9.3 0.8								38.28 39.60 40.39	90.07 86.97 86.55		Hindu Kush Region 36.48 N 70.47 E H = 1 41 7.0 Depth = 213 km MB = 5.3 /ISC/

910	DEC 10	SPC	EAP	13 14	34.0	-0.9									77.24	37.57	Off Coast of Hokkaido 42.56 N 146.64 E H = 13 2 34.5 Depth = 18 km MB = 4.9 /ISC/
911	DEC 14	SRO SPC	EXP E IS LMH EP	2 39 2 39 2 41 2 42 2 39	13.0 39.0 1.0 0.0 17.0	2.3 11.9 1.1			6.3	12.0	7.6	12.0	4.9	9.78 11.00	168.63 177.91		Greece 38.19 N 20.75 E H = 2 36 37.7 Depth = 32 km MB = 5.2 /ISC/
912	DEC 17	SPC SRO BRA	EPKHP IAPKIKP I EPK2 IAPKIKP E	15 54 15 55 15 55 15 55 15 55 15 57	38.8 7.0 35.0 2.0 14.0 8.0	-11.9 0.6 -0.2 6.1								145.52 145.92 146.80	120.26 121.52 120.80		West of Macquarie Island 54.21 S 143.90 E H = 15 35 20.2 Depth = 33 km MB = 5.2 /ISC/
913	DEC 17	SRO BRA	EPK2 I IAPKIKP IAPK2	23 21 23 22 23 21 23 22	51.0 39.0 47.0 5.0	-0.2 -0.5 3.8								150.34 150.37	26.79 24.34		Tonga 20.26 S 175.43 W H = 23 1 54.5 Depth = 31 km MB = 5.3 /ISC/
914	DEC 19	BRA	IP IPCP I	16 13 16 13 16 14	41.0 47.0 23.0	-1.3 2.6								88.34	279.13		Panama 7.39 N 78.59 W H = 16 0 49.1 Depth = 10 km MB = 5.3 /ISC/
915	DEC 20	SRO BRA	IPK2 IPKIKP E	2 59 2 59 2 1	32.0 26.0 11.0	3.8 1.2								145.30 145.33	26.64 24.46		Fiji Region 15.43 S 177.03 W H = 2 40 31.8 Depth = 379 km MB = 5.0 /ISC/
916	DEC 20	SRO BRA	EP E I I LMH EP I I LMH	15 11 15 12 15 13 15 14 15 15 15 11 15 12 15 14 15 15	31.0 44.0 40.0 12.0 0.0 33.0 32.0 14.0 0.0	-2.1 -7.7								8.30 8.85	168.06 162.55		Greece-Albania Border Region 39.67 N 20.53 E H = 15 9 32.6 Depth = 47 km MB = 4.7 /ISC/
917	DEC 21	BRA SRO	IPK2 IAPKIKP I IAPKIKP I LMH	8 48 8 48 8 49 8 48 8 49 8 55	33.0 39.0 6.0 37.0 37.0 0.0	0.5 5.3 3.3								145.10 145.13	20.62 22.79		Samoa Region 14.62 S 174.91 W H = 8 28 53.0 Depth = 8 km MB = 5.5 /ISC/



No.	Date	St. Code	Phase	h	GMT m	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks	
							A	T	A	T	A	T						
918	DEC 22	SRO BRA	IPKP2 E IPKP2 E E E	17	2 46.0	-3.8 -0.8 -3.2 14.8								146.78	30.87	Piji Region 17.63 S 178.83 W H = 16.44 2.3 Depth = 525 km MB = 5.0 /ISC/		
				17	4 10.0							146.87	28.63					
				17	2 47.0													
				17	3 5.0													
919	DEC 23	BRA	IPKP2 I I I I I I	1	23 38.0	1.1 -0.8 18.1 5.1								144.98	21.90	Samoa Region 14.69 S 175.67 W H = 1 4 7.0 Depth = 75 km MB = 5.2 /ISC/		
				1	23 51.0													
				1	24 15.0													
				1	25 14.0													
920	DEC 23	SRO BRA	EP I LMH IP IAP IPP I	5	26 46.0	-0.8 0.8 2.0 3.3			1.9	16.0	2.2	16.0		4.7	20.54	92.46	Eastern Caucasus 43.16 N 46.94 E H = 5 22 9.0 Depth = 37 km MB = 4.8 /ISC/	
				5	27 54.0													
				5	36 0.0													
				5	26 56.0													
921	DEC 23	BRA	IP	11	1 29.0											No determination of epicentre		
				7	8 26.0													
				7	18 54.0	-0.1												
				7	59 0.0	3.9												
922	DEC 24	SRO BRA	IPCP IS LMH IP IS	7	8 26.0	-0.8			10.2	20.0	18.3	20.0		6.5	85.44	98.43	Southern Sumatra 2.30 S 99.01 E H = 6 55 47.0 Depth = 32 km MB = 5.9 /ISC/	
				7	19 0.0													
				7	8 26.0													
				7	19 0.0													
923	DEC 25	BRA SRO	IP I IP LMH	3	1 13.0	-0.6 0.6								78.70	14.08	Near Islands 51.66 N 174.59 E H = 2 49 9.0 Depth = 7 km MB = 5.8 /ISC/		
				3	2 37.0													
				3	1 15.0													
				3	42 0.0		2100	2.0										
924	DEC 27	BRA	IPG	12 38	13.0											No determination of epicentre		
925	DEC 27	BRA	E	12 57	12.0											No determination of epicentre		
926	DEC 28	SRO	IP IXP IPP ISS LMH	12	19 35.0	-0.3 2.1 -1.5 13.4									42.03	87.06	Pakistan 35.06 N 72.91 E H = 12 11 46.6 Depth = 45 km MB = 5.9 /ISC/	
				12	19 55.0													
				12	21 15.0													
				12	29 7.0													
927	DEC 29	SRO	IP IXP IPCP LMH	3	55 35.0	1.1 8.6 18.2											Iceland 64.63 N 17.55 W H = 3 50 5.9 Depth = 31 km MB = 5.1 /ISC/	
				3	55 55.0													
				3	55 47.0													
				4	6 0.0													





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