



**BULLETIN  
OF THE SLOVAK  
SEISMOGRAPHIC  
STATIONS**

**BRATISLAVA  
ŠROBÁROVÁ  
HURBANOVO  
AND  
SKALNATE PLESO  
FOR THE YEAR 1976**

Bulletin  
of the Slovak Seismographic  
Stations Bratislava, Šrobárová,  
Hurbanovo and Skalnaté Pleso  
for the Year 1976

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The seismological bulletin for the year 1976 contains the results of the interpretation of records from the network of seismograph stations on the territory of Slovakia: BRATISLAVA (BRA), BRATISLAVA-ŽELEZNÁ STUDNIČKA (ZST), ŠROBÁROVÁ (SRO), HURBANOVO (HRB) and SKALNATÉ PLESO (SPC).

In April 1976 has been established the new station Bratislava (ZST). It is situated about 10 km from the town Bratislava, in an old quarry in Little Carpathians, where a tunnel has been cut in granodiorite rocks of carboniferous age. The area is crossed by numbers of minor faults mainly NW-SE direction.

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. 12, 1976; Bulletin of BCIS, 1976; Quarterly Bulletin of the Academy of Sciences of the USSR, 1976. The time standard used throughout is Greenwich Mean Time.

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

The processing of data and numerical calculations were carried out according a program compiled by Mrs. K. Mrázová, using the computer CDC 3300 in the Computing Centre, Bratislava. The program has been written in USASI FORTRAN / MASTER [9].

For calculating the surface-wave magnitudes the standard calibrating functions [5] were used. Station corrections were ignored, as was the calculation of surface-wave magnitudes at distances less than  $6^\circ$ . 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 had been 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 GMT. Using a short computer program the trace amplitudes were converted into ground amplitudes /in micrometers/ and tabulated. The period was determined by measuring the length to 0.1 mm of 2-4 whole periods in a well developed maximum group. The periods are given in whole seconds. The trace amplitudes were measured from peak to peak, halved and the corresponding ground motion given to 0.1  $\mu\text{m}$ .

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

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

## 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 as 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 when leaving the core; AB, BC and DF designate the branches according to [1]
PKSBC	PKS	
PKSDF	PKS	
SKPAB	SKP	S wave transformed into P on the refraction when leaving the core; AB, BC and DF designate the branches according to [1]
SKPBC	SKP	
SKPDF	SKP	
PS, SP	PS, SP	P and S waves reflected and transformed at the Earth's surface
SS	SS	S waves reflected once at the Earth's surface
AP	pP	P waves reflected from the surface as P waves, supposing deep focus earthquake
XP	sP	S waves reflected from the surface as P waves, supposing deep focus earthquake
XS	sS	S waves reflected from the surface as S waves, supposing deep focus earthquake
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

### List of Abbreviations Used in This Bulletin

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
$\epsilon : 1$	damping ratio
H	origin time
h	depth of focus in km
i	impulsive beginning of a phase
K	characteristics of microseisms:
1	disturbance showing microseisms in groups
2	continuous disturbance
3	disturbance of a mixed and irregular character
0	no microseismic movement
0.0	very weak microseismic movement, amplitude less than 0.1 micrometer
TT	disturbance could not be measured because of earthquake
V	disturbance could not be measured because of gusts of wind
...	disturbance could not be measured for other reasons
Kg	moment of inertia of the galvanometer
Ks	moment of inertia of the seismometer
l	reduced pendulum length
MB	body-wave magnitude given by ISC
MLH	surface-wave magnitude
MPV	body-wave magnitude calculated from short period P waves
r	max. deviation due to friction
$\tau^2$	coupling coefficient
Tg	free period of the galvanometer
Ts	free period of the seismometer
Vo	static magnification
+ and -	compressional or dilatational motion in a longitudinal wave
NE	nuclear explosion
Vm	max. dynamic magnification

Station Instrumentation

Coordinates of the Seismographic Stations

Station	Latitude	Longitude	Altitude	Lithologic foundation
Bratislava (BRA)	48°10'06"N	17°06'18"E	270 m	Granite
Bratislava (ZST)	48°11'46"N	17°06'09"E	250 m	Granodiorite
Šrobárová (SRO)	47°48'48"N	18°18'48"E	150 m	Bed of Sand
Hurbanovo (HRB)	47°52'25"N	18°11'34"E	115 m	Bed of Sand
Skalnaté Pleso (SPC)	49°11'20"N	20°14'32"E	1772 m	Granite

Constants for the Year 1976

HURBANOVO

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

Month	Component	Ts [s]	Vo	r [mm]	ε: 1	Paper speed
January-April	E-W	8.2	52.7	1.5	3.7	30 mm/min
	N-S	7.9	49.5	1.1	3.7	
May-August	E-W	8.1	48.3	1.4	4.7	30 mm/min
	N-S	8.0	48.1	1.2	4.9	
September-December	E-W	8.3	55.2	1.5	3.1	30 mm/min
	N-S	8.0	44.5	0.8	3.1	

BRATISLAVA (BRA)

"VEGIK", electromagnetic seismograph with galvanometric registration  
Oct. 1, 1975 - Aug. 18, 1976

Component	Ts [s]	Tg [s]	Dg	τ <sup>2</sup>	A [m]	l [m]	K1 [kg m <sup>2</sup> ]	K2 [kg m <sup>2</sup> × 10 <sup>-8</sup> ]	Paper speed
Z	2.06	1.98	1.42	0.252	1.21	0.094	0.0098	0.572	15 mm/min
E-W	2.12	1.76	1.00	0.084	1.11	0.094	0.0100	0.0190	15 mm/min
N-S	2.10	1.85	0.98	0.094	1.13	0.0934	0.0101	0.0156	15 mm/min

Aug. 19, 1976 - Dec. 1, 1976

Component	Ts [s]	Tg [s]	Dg	τ <sup>2</sup>	A [m]	l [m]	K1 [kg m <sup>2</sup> ]	K2 [kg m <sup>2</sup> × 10 <sup>-8</sup> ]	Paper speed
Z	1.80	1.99	1.46	0.253	1.22	0.094	0.0098	0.0126	15 mm/min
E-W	2.12	1.76	1.00	0.084	1.11	0.094	0.0100	0.0190	15 mm/min
N-S	2.10	1.85	0.98	0.094	1.13	0.0934	0.0101	0.0156	15 mm/min



BRATISLAVA (BRA)

"VEGIK", electromagnetic seismograph with galvanometric registration  
Dec. 2, 1976 - Dec. 31, 1976

Component	$T_s$ [s]	$T_g$ [s]	$D_s$	$D_g$	$\tau^2$	A [m]	l [m]	K1 [kg m <sup>2</sup> ]	K2 [kg m <sup>2</sup> × 10 <sup>-8</sup> ]	Paper speed
Z	1.80	1.99	0.62	1.72	0.280	1.21	0.0940	0.0098	0.12591	15 mm/min
E-W	2.12	1.76	0.80	1.00	0.084	1.11	0.094	0.0100	0.01499	15 mm/min
N-S	2.10	1.85	0.79	0.98	0.094	1.13	0.0934	0.0101	0.01556	15 mm/min

BRATISLAVA (ZST)

"KIRNOS", short period electromagnetic seismograph with galvanometric registration  
Aug. 1, 1976 - Dec. 31, 1976

Component	$T_s$ [s]	$T_g$ [s]	$D_s$	$D_g$	$\tau^2$	A [m]	l [m]	K1 [kg m <sup>2</sup> ]	K2 [kg m <sup>2</sup> × 10 <sup>-8</sup> ]	$V_m$ $T_m = 0.52$	Paper speed
Z	1.04	0.363	0.61	1.90	0.092	1.00	0.177	0.312	1.4302	56934	60 mm/min

ŠROBÁROVÁ

"KIRNOS", electromagnetic seismograph with galvanometric registration, class "C" according to [7]  
July 1, 1975 - Nov. 30, 1976

Component	$T_s$ [s]	$T_g$ [s]	$D_s$	$D_g$	$\tau^2$	A [m]	l [m]	K1 [kg m <sup>2</sup> ]	K2 [kg m <sup>2</sup> × 10 <sup>-8</sup> ]	Paper speed
Z	22.0	1.19	0.54	8.05	0.231	0.98	0.488	0.362	0.695	15 mm/min
N-S	23.1	1.21	0.44	7.70	0.238	0.98	0.488	0.358	0.663	15 mm/min
E-W	24.4	1.16	0.46	7.74	0.243	0.98	0.499	0.358	0.538	15 mm/min

Dec. 1, 1976 - Dec. 31, 1976

Component	$T_s$ [s]	$T_g$ [s]	$D_s$	$D_g$	$\tau^2$	A [m]	l [m]	K1 [kg m <sup>2</sup> ]	K2 [kg m <sup>2</sup> × 10 <sup>-8</sup> ]	Paper speed
Z	21.2	1.18	0.51	8.31	0.244	0.98	0.488	0.362	0.469	15 mm/min
N-S	19.3	1.20	0.42	8.02	0.241	0.98	0.488	0.358	0.433	15 mm/min
E-W	24.6	1.15	0.54	7.89	0.244	0.98	0.499	0.358	0.390	15 mm/min

"VEGIK", electromagnetic seismograph with galvanometric registration  
 May 16, 1975 - Mar. 14, 1976

Component	$T_s$ [s]	$T_g$ [s]	$D_s$	$D_g$	$\tau^2$	$A$ [m]	$l$ [m]	$K_1$ [kg m <sup>2</sup> ]	$K_2$ [kg m <sup>2</sup> x 10 <sup>-8</sup> ]	$V_m$ $T_m = 1.40$	Paper speed
Z	1.69	1.68	1.68	3.57	0.670	1.13	0.094	0.0103	1.2565	12011	60 mm/min

Mar. 15, 1976 - July 4, 1976

Component	$T_s$ [s]	$T_g$ [s]	$D_s$	$D_g$	$\tau^2$	$A$ [m]	$l$ [m]	$K_1$ [kg m <sup>2</sup> ]	$K_2$ [kg m <sup>2</sup> x 10 <sup>-8</sup> ]	$V_m$ $T_m = 0.84$	Paper speed
Z	0.80	2.07	0.57	4.51	0.671	1.08	0.094	0.0103	1.1264	22740	60 mm/min

July 5, 1976 - Dec. 31, 1976

Component	$T_s$ [s]	$T_g$ [s]	$D_s$	$D_g$	$\tau^2$	$A$ [m]	$l$ [m]	$K_1$ [kg m <sup>2</sup> ]	$K_2$ [kg m <sup>2</sup> x 10 <sup>-8</sup> ]	$V_m$ $T_m = 1.20$	Paper speed
Z	1.80	2.07	1.00	2.00	0.302	1.08	0.094	0.0103	1.1264	7512	60 mm/min

List of Quoted Agencies Reporting Epicentral Parameters

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



No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
1	JAN 1	SRO BRA SPC	E EPP ES EAP	0 11 34.0 0 6 44.0 0 8 28.0 0 6 47.0		-0.6 -4.6 -0.1								9.71 10.31 10.82	163.94 159.31 173.82	Greece 38.42 N 21.72 E H = 0 4 6.0 Depth = 18 km MB = 4.6 /ISC/ Kermadec Islands Region 28.78 S 177.39 W H = 1 29 35.0 Depth = 23 km MB = 6.2 /ISC/	
2	JAN 1	SPC	+IPKHKP IPKIP SRO BRA IPKIKP IAPKHKP EPP E	1 49 30.0 1 49 51.0 1 49 30.5 1 51 42.0 1 49 31.3 1 51 37.0 1 53 58.0 2 1 58.0		-3.4 -3.9 1.5 -1.1 2.0 7.1 13.7								155.55 157.43 157.63	39.98 38.25 35.26		
3	JAN 1	SPC	EAPKHKP	15 5 52.0		-0.7								145.90	22.29	Samoa Region 16.64 S 172.57 W H = 14 46 10.6 Depth = 33 km MB = 5.3 /ISC/	
4	JAN 1	SPC	EAPKHKP	22 37 36.0		0.9								145.51	22.44	Samoa Region 16.28 S 172.76 W H = 22 17 56.0 Depth = 33 km MB = 4.8 /ISC/	
5	JAN 3	BRA SPC	+IP -IP	19 27 37.2 19 27 42.0		-2.1 1.0	120	1.5				5.8		85.32 85.65	324.48 326.65	Southern Nevada 37.32 N 116.31 W H = 19 14 59.2 Depth = 0 km MB = 6.2 /ISC/	
6	JAN 6	SPC	EP	21 8 46.0		1.0								73.76	25.24	Off East Coast of Kamchatka 51.52 N 159.30 E H = 20 57 12.6 Depth = 35 km MB = 5.2 /ISC/	
7	JAN 6	SPC	-IP EPCP EXP IPP LMV +IP E ESCS LMH	21 19 52.6 21 20 3.0 21 20 23.0 21 22 36.0 21 57 0.0 21 20 3.6 21 21 0.0 21 30 4.0 21 57 0.0		0.6 -4.6 4.2 -3.0 1.4 -1.9								73.70	25.26	Off East Coast of Kamchatka 51.57 N 159.24 E H = 21 8 23.9 Depth = 70 km MB = 5.6 /ISC/	
8	JAN 6	SPC	EP	21 57 0.0		1.6			14.9	16.0	17.3	16.0	6.6	73.30	25.33	Near East Coast of Kamchatka 51.90 N 158.85 E H = 21 45 25.0 Depth = 11 km MB = 5.4 /ISC/	
9	JAN 6	SPC	IXP EPP	22 29 30.0 22 32 0.0		-0.2 -6.5								73.69	25.23	Off East Coast of Kamchatka 51.59 N 159.27 E H = 22 17 46.4 Depth = 23 km MB = 5.7 /ISC/	

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
10	JAN 7	SPC	EPCP	0 23 30.0		1.3								99.63	78.94	Molucca Sea 0.13 S 124.87 E H = 0 9 50.6 Depth = 62 km MB = 5.5 /ISC/	
11	JAN 7	SPC	EP	2 8 34.0		0.6								73.62	25.24	Off East Coast of Kamchatka 51.65 N 159.20 E H = 1 57 3.5 Depth = 50 km MB = 5.2 /ISC/	
12	JAN 7	SPC	EP	13 48 32.0		0.6								73.66	25.38	Off East Coast of Kamchatka 51.56 N 159.04 E H = 13 37 1.7 Depth = 53 km MB = 5.0 /ISC/	
13	JAN 7	SPC BRA SRO	-IP EPP +IP +IP E LMH	23 45 56.7 23 48 38.0 23 46 0.6 23 46 5.2 23 49 37.0 0 24 30.0		0.8 -4.3 -5.6 -1.0						6.4		73.64	25.16	Off East Coast of Kamchatka 51.67 N 159.32 E H = 23 34 25.3 Depth = 44 km MB = 5.7 /ISC/	
14	JAN 8	SPC SRO BRA	EP IAP IP EXP LMH EP	10 42 18.0 10 42 22.0 10 42 31.0 10 42 47.0 11 20 0.0 10 42 22.0		0.4 -6.7 3.1 3.8 -5.9		5.7	16.0	16.2	16.0			73.61	25.29	Off East Coast of Kamchatka 51.64 N 159.13 E H = 10 30 46.2 Depth = 36 km MB = 5.5 /ISC/	
15	JAN 8	SPC BRA SRO	EP EAP EP IAP EAP LMH	16 1 46.0 16 1 57.3 16 1 50.0 16 2 2.0 16 2 7.0 16 41 0.0		0.4 -0.3 -5.8 -5.8 -0.8							5.8	75.40	24.01	Off East Coast of Kamchatka 51.41 N 159.64 E H = 15 50 12.6 Depth = 40 km MB = 5.4 /ISC/	
16	JAN 8	SPC	E	16 58 31.4					2.3	16.0	4.1	16.0	5.9			No Determination of Epicentre	
17	JAN 10	SPC SRO BRA	EPKIKP EAPKHKP EAPKIKP EPP EPKIKP IPP E EPKHKP IPKIKP IAPKIKP IPP	0 13 40.0 0 13 58.0 0 14 29.0 0 16 16.0 0 13 38.0 0 16 42.0 0 29 54.0 0 13 35.0 0 13 42.0 0 14 29.0 0 16 41.0		0.5 -14.9 3.9 -15.5 -4.9 -1.2 1.1 -1.6 -0.2 -4.4								137.52	49.79	New Hebrides 15.80 S 167.85 E H = 23 54 36.3 Depth = 173 km MB = 5.7 /ISC/	
18	JAN 10	SRO SPC BRA	EPCP IPCP EP	9 5 47.0 9 5 46.0		2.6 -0.1 0.2								88.53 89.14 89.24	151.23 152.71 150.32	South Indian Ocean 35.05 S 54.22 E H = 8 52 48.3 Depth = 10 km MB = 5.3 /ISC/	

No.	Date	Stat. 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						
19	JAN 10	SPC BRA SRO	EAP EPCF EXP	9 11 9 11 9 11	18.0 17.0 27.0		-1.0 0.1 1.5										83.32 83.40 84.06	336.98 334.90 335.73	Off Coast of Oregon 43.63 N 127.42 W H = 8 58 45.3 Depth = 23 km MB = 5.4 /ISC/		
20	JAN 10	SPC SRO	-IP EP EPP E EP	12 59 12 59 13 1 13 9 12 59	28.8 44.0 32.0 56.0 46.0		2.0 4.1 5.6 0.9										43.56 45.19 45.85	74.55 72.14 71.82	Northern Sinkiang Prov., China 42.05 N 83.35 E H = 12 51 21.0 MB = 5.3 /ISC/ Depth = 10 km		
21	JAN 12	SPC BRA	EAP EAP	17 54 17 54	31.0 41.0		-3.8 -1.4										17.35 17.96	143.54 134.14	Cyprus 34.44 N 32.63 E H = 17 50 25.7 Depth = 36 km MB = 5.0 /ISC/		
22	JAN 13	BRA	EP I EPCF IS LMH -IP EP ES LMH +IP IS LMH	13 34 13 34 13 38 13 39 13 48 13 34 13 34 13 39 13 47 13 39 13 47	42.0 45.0 24.0 15.0 0.0 47.3 54.5 34.0 0.0 49.0 25.0 0.0		-1.7 5.6 8.3 1.0 4.9 16.7 -1.5 6.2	14.6	10.0	32.8	10.0						25.19	328.18	Iceland Region 66.25 N 16.54 W H = 13 29 15.8 MB = 5.9 /ISC/ Depth = 5 km		
23	JAN 14	SPC	EPN ISG	11 54 11 55	38.0 40.0		-2.0 19.5										2.53	86.25	South-Western Russia 49.29 N 24.10 E H = 11 53 57.0 Depth = 10 km /ISC/		
24	JAN 14	SPC BRA	+IPKP2 +IPKIKP I EPKSBG +LAPKIKP	16 16 16 27 16 16 16 16 16 20 16 16	8.3 34.0 10.0 40.0 25.0 19.0		2.2 1.2 6.1 -0.7										144.38 146.08 146.14	23.10 18.47 20.68	Tonga Islands 15.29 S 173.45 W H = 15 56 33.2 Depth = 33 km MB = 5.7 /ISC/		
25	JAN 14	SRO HRB BRA	IAPKIKP EAPKIKP EAPKP2 E	16 16 16 16 16 17 16 17	33.0 40.0 13.0 2.0 34.0		-3.2 3.8 1.4 -1.2										157.96 157.97 158.18	39.50 39.16 36.47	Kermadec Islands 29.48 S 177.57 W H = 15 56 33.0 MB = 6.4 /ISC/ Depth = 29 km		
26	JAN 14	HRB BRA	EAPKIKP IPKIKP EPKP2	17 7 17 7 17 8	40.0 28.0 7.0		-3.4 1.1 4.7										157.63 157.83	38.27 35.61	Kermadec Islands 29.02 S 177.42 W H = 16 47 37.0 Depth = 56 km MB = 6.5 /ISC/		

27	JAN 14	BRA	EPKIKP	18 5	13.0		1.4										158.68	36.60	Kermadec Islands 29.94 S 177.36 W H = 17 45 21.0 MB = 5.5 /ISC/ Depth = 59 km
28	JAN 14	SPC	EPKP2	21 11	37.0		0.7										155.83	39.12	Kermadec Islands Region 28.86 S 176.88 W H = 20 51 21.0 MB = 4.8 /ISC/ Depth = 68 km
29	JAN 14	SPC BRA	EPKHKP EPP EPKIKP EPP	23 3 23 7 23 3 23 7	37.0 39.0 37.0 46.0		-3.2 -1.6 1.1 -5.9										155.76 157.81	38.42 33.54	Kermadec Islands Region 28.66 S 176.63 W H = 22 43 42.7 MB = 5.5 /ISC/ Depth = 31 km
30	JAN 15	SPC	EPP	2 18	44.0		-5.0										155.92	38.52	Kermadec Islands Region 28.82 S 176.59 W H = 1 54 50.5 Depth = 33 km MB = 5.4 /ISC/
31	JAN 15	SPC BRA	EPKP2 EAPKIKP	2 20 2 20	36.0 28.0		3.8 9.0										156.17 158.23	38.95 34.06	Kermadec Islands Region 29.12 S 176.63 W H = 2 0 13.0 MB = 5.1 /ISC/ Depth = 47 km
32	JAN 15	SPC BRA	EPKIKP EPKIKP	3 50 3 50	1.0 7.0		1.0 4.3										156.46 158.54	39.77 34.92	Kermadec Islands Region 29.54 S 176.80 W H = 3 30 9.0 MB = 5.2 /ISC/ Depth = 33 km
33	JAN 15	SPC BRA	EPKIKP EPKP2 EPKIKP EPP	4 8 4 8 4 8 4 9	28.0 56.0 28.0 4.0		4.5 -0.4 1.8 -1.5										156.90 159.02	42.04 37.34	Kermadec Islands 30.37 S 177.45 W H = 3 48 39.0 MB = 5.5 /ISC/ Depth = 89 km
34	JAN 15	SPC BRA	EPKIKP EPKP2	6 26 6 27	42.0 19.0		2.5 -2.2										156.99 159.08	40.46 35.61	Kermadec Islands Region 30.14 S 176.78 W H = 6 6 47.7 MB = 5.3 /ISC/ Depth = 33 km
35	JAN 15	SPC BRA	EAPKIKP EPKP2 EPP EPP	6 48 6 48 6 52 6 49 6 52	16.0 45.0 26.0 37.0 34.0		-3.7 2.1 3.7 2.9 0.3										156.91 159.00	40.32 35.46	Kermadec Islands Region 30.04 S 176.77 W H = 6 28 18.0 MB = 5.5 /ISC/ Depth = 28 km
36	JAN 15	SPC BRA	EPKIKP EPKP2 EPKIKP IPKP2	8 49 8 50 8 49 8 50	47.0 18.0 49.0 22.0		1.7 0.3 1.0 -4.8										156.87 158.98	41.43 36.68	Kermadec Islands 30.22 S 177.23 W H = 8 29 55.0 MB = 5.5 /ISC/ Depth = 43 km
37	JAN 15	SPC BRA	EPKIKP +IPKIKP EPKIKP EPKP2 EPKHKP	10 29 10 29 10 29 10 30 10 31	44.0 46.0 52.0 16.0 31.0		3.4 2.6 11.6 -2.5 -6.3										155.38 157.48	41.06 36.46	Kermadec Islands Region 28.85 S 177.93 W H = 10 10 9.0 Depth = 177 km MB = 5.4 /ISC/

No.	Date	Stat. 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					
38	JAN 15	SPC	E	10	44	13.0											159.09	36.49	No determination of epicentre Kermadec Islands 30.29 S 177.10 W H = 16 12 22.3 Depth = 33 km MB = 5.1 /ISC/	
39	JAN 15	BRA	EPKIKP EPKP2	16	32	16.0											156.74	36.41	Kermadec Islands Region 28.18 S 178.29 W H = 21 47 6.0 Depth = 53 km MB = 5.2 /ISC/	
40	JAN 15	BRA	EPKP2	22	7	19.0											145.62	22.10	Samoa Region 16.34 S 172.54 W H = 3 14 10.6 Depth = 33 km MB = 5.2 /ISC/	
41	JAN 16	SPC	EPKP2	3	33	47.0											146.32	49.04	Loyalty Islands Region 22.15 S 170.25 E H = 5 41 51.7 Depth = 47 km	
42	JAN 16	BRA	EAPKHKP	6	1	37.0											142.40 144.26 144.67	53.24 52.23 50.23	Loyalty Islands 21.13 S 168.67 E H = 10 54 28.0 Depth = 32 km MB = 5.2 /ISC/	
43	JAN 16	SPC SRO BRA	EAPKHKP EPKP2 EPKIKP	11 14 11 14 11 13	0.0 2.0 59.0												156.64 158.71	39.52 34.62	Kermadec Islands 29.65 S 176.60 W H = 15 28 4.0 Depth = 4 km MB = 5.2 /ISC/	
44	JAN 16	SPC BRA	EAPKIKP EAPKIKP	15 48 15 48	6.0 5.0	4.6 1.0											156.55 158.67	41.85 37.18	Kermadec Islands 30.03 S 177.58 W H = 21 46 23.0 Depth = 47 km MB = 5.6 /ISC/	
45	JAN 16	SPC BRA	EPKIKP EPKIKP EPKP2	22 6 22 6 22 6	13.0 11.0 49.0	0.6 -4.1 -4.0											158.48	36.91	Kermadec Islands 29.82 S 177.58 W H = 23 32 14.0 Depth = 89 km MB = 5.5 /ISC/	
46	JAN 16	BRA	EPKIKP EAPKIKP	23 52 23 52	0.0 31.0	-0.5 5.4											160.68	42.32	South of Kermadec Islands 32.67 S 178.21 W H = 5 49 54.9 Depth = 33 km	
47	JAN 17	BRA	EPKIKP	6	9	49.0											158.71	34.53	Kermadec Islands Region 29.63 S 176.57 W H = 9 15 35.0 Depth = 48 km MB = 5.3 /ISC/	
48	JAN 17	BRA	EAPKIKP	9	35	35.0														

49	JAN 18	SPC BRA	EP ES E E	4 52 4 52 4 57 4 58	20.0 27.0 20.0 36.0	-1.1 -3.1 -1.7											28.72 29.74	359.16 0.53	Svalbard Region E 77.79 N 18.34 H = 4 46 26.1 Depth = 47 km MB = 5.5 /ISC/
50	JAN 18	HRB SRO	LMH +IP IS E LMH IP LMV	5 1 4 58 5 5 4 57 5 6	28.0 29.0 0.0 35.0 35.0 34.0 13.0 1.0 0.0	1.8 7.8	14.1	6.0	16.6	6.0	6.0	6.3					9.14	169.13	Greece 38.81 N 20.51 E H = 15 10 28.4 Depth = 5 km MB = 5.2 /ISC/
51	JAN 18	SPC	EPKIKP EPKP2	18 45 18 46	43.0 13.0	2.0 -0.8											157.06	41.25	Kermadec Islands 30.35 S 177.05 W H = 18 25 47.0 Depth = 20 km MB = 5.3 /ISC/
52	JAN 19	SPC BRA	EPKP2 EPKP2	16 0 16 0	11.0 16.0	0.6 -1.0											146.00 147.66	22.26 17.45	Samoa Islands Region 16.73 S 172.53 W H = 15 40 31.5 Depth = 33 km MB = 5.2 /ISC/
53	JAN 21	SPC HRB	EP EP ESKS ESP +IP ESP LMH	10 17 10 17 10 27 10 27 10 17 10 27 10 54	12.0 24.0 24.0 48.0 23.0 49.0 0.0	1.0 2.8 -7.2 -8.6 1.7 -7.7										76.36 78.22	34.80 33.35	Kurile Islands 44.74 N 149.15 E H = 10 5 19.0 Depth = 5 km MB = 6.2 /ISC/	
54	JAN 21	SPC BRA	IP IP	12 59 12 59	41.0 55.0	-0.5 2.5											76.80 78.81	34.95 32.85	Kurile Islands 44.29 N 149.29 E H = 12 47 52.1 Depth = 39 km MB = 5.4 /ISC/
55	JAN 21	SPC BRA	EP EP	13 26 13 26	11.0 22.0	2.9 2.9											76.88 78.89	34.99 32.89	Kurile Islands 44.20 N 149.31 E H = 13 14 18.8 Depth = 44 km MB = 5.2 /ISC/
56	JAN 21	SPC BRA	EP EP	18 13 18 13	8.0 17.0	1.1 0.1											68.14 69.77	19.50 17.78	Kamchatka 58.93 N 163.57 E H = 18 2 4.0 Depth = 7 km MB = 5.4 /ISC/



No.	Date	Stat. 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					
75	JAN 26	BRA	EPKP2	8	47	15.0											149.77	25.23	Fiji Islands Region H = 8 27 51.2 Depth = 248 km MB = 4.8 /ISC/	
76	JAN 26	SPC	E	17	57	54.0													No determination of epicentre	
77	JAN 26	SPC BRA	EPKIKP EPKIKP	19	10	25.5 19 10 27.0	0.4 -0.8										156.44 158.52	40.01 35.19	Kermadec Islands Region H = 18 50 35.0 Depth = 40 km MB = 5.4 /ISC/	
78	JAN 26	SPC BRA	EPKP2 EAPKHKP	22	5	50.0 58.0	1.5 -0.2										145.26 146.93	22.01 17.25	Samoa Islands Region H = 21 46 12.8 Depth = 36 km MB = 4.9 /ISC/	
79	JAN 26	SPC	EP	22	48	38.0	2.7										15.59	144.82	Cyprus H = 35.83 N 31.23 E H = 22 44 58.6 Depth = 71 km MB = 4.6 /ISC/	
80	JAN 27	SPC	EAPKIKP	4	38	12.0	-3.5										156.31	39.48	Kermadec Islands Region H = 4 18 10.0 Depth = 63 km MB = 5.1 /ISC/	
81	JAN 27	SPC	EP	4	59	30.0	1.6										76.93	34.43	Kurile Islands H = 44.44 N 149.99 E H = 4 47 34.8 Depth = 15 km MB = 5.0 /ISC/	
82	JAN 27	SPC SRO	EPKIKP EPKIKP EPKP2 E E	11 28 45.0 11 32 46.0 11 28 47.0 11 29 23.0 11 43 30.0 11 46 31.0 11 28 48.0 11 29 24.0	3.3 -6.8 2.8 1.4												156.68 158.55 158.75	39.84 38.07 34.96	Kermadec Islands Region H = 11 8 50.4 Depth = 33 km MB = 5.5 /ISC/	
83	JAN 27	SPC	EAPKIKP	15	21	26.0	-1.2										156.57	39.44	Kermadec Islands Region H = 29.57 S 176.61 W H = 15 1 28.0 Depth = 16 km MB = 5.3 /ISC/	
84	JAN 27	SPC BRA	EXP EPCP	16 19 24.0 16 19 18.0	-1.0 -0.4												83.37 83.46	336.96 334.88	Off Coast of Oregon H = 43.57 N 127.42 W H = 16 6 47.2 Depth = 27 km MB = 5.0 /ISC/	

85	JAN 28	SRO BRA	+IP E EP	19 47 41.0 19 49 47.0 19 47 46.0	0.8 -5.2	299	1.0										76.81 78.81	34.90 32.80	Kurile Islands H = 44.31 N 149.35 E H = 19 35 47.6 Depth = 17 km MB = 5.5 /ISC/
86	JAN 29	BRA	E	0	48	10.0											10.37	158.59	Greece H = 38.40 N 21.90 E H = 0 46 56.0 Depth = 0 km No determination of epicentre
87	JAN 29	SPC	IPG	12	47	8.8											76.75	34.58	Kurile Islands H = 44.52 N 149.68 E H = 13 48 48.0 Depth = 17 km MB = 4.9 /ISC/
88	JAN 30	SPC	EP	14	0	41.0	0.7												Kurile Islands Region H = 43.95 N 149.18 E H = 0 25 28.0 Depth = 16 km MB = 5.4 /ISC/
89	JAN 31	SPC BRA	EP EP	0 37 21.0 0 37 33.0	-1.1 -0.2												77.05 79.06	35.20 33.10	Kurile Islands Region H = 1 57 14.5 Depth = 45 km MB = 5.4 /ISC/
90	JAN 31	SPC BRA	EP EP	2 9 4.0 2 9 16.0	-0.5 0.4												77.04 79.06	35.29 33.18	Kurile Islands Region H = 43.91 N 149.08 E H = 1 57 14.5 Depth = 45 km MB = 5.4 /ISC/
91	JAN 31	SPC	EPKP2	8	40	46.0	-6.0										148.26	36.31	Fiji Region H = 21.46 S 179.29 W H = 8 22 7.5 Depth = 627 km MB = 5.4 /ISC/
92	FEB 1	SPC	EPF	11	32	11.0	-0.9										95.56	304.12	Guerrero, Mexico H = 17.15 N 100.23 W H = 11 14 56.9 Depth = 47 km MB = 5.8 /ISC/
93	FEB 1	SPC	EP	14	42	20.0	2.9										76.73	34.47	Kurile Islands H = 44.60 N 149.80 E H = 14 30 28.4 Depth = 41 km MB = 4.7 /ISC/
94	FEB 2	SPC SRO	-IP DIP EPF EP LMH	3 11 49.0 3 12 0.0 3 14 34.0 3 12 2.0 3 50 0.0	-0.8 0.3 -2.4 1.9												73.84 75.63	25.17 23.89	Off East Coast of Kamchatka H = 51.48 N 159.46 E H = 3 0 15.1 Depth = 23 km MB = 5.5 /ISC/
95	FEB 2	SPC	EP	3	42	20.0	1.9										73.80	25.31	Off East Coast of Kamchatka H = 51.46 N 159.24 E H = 3 30 46.5 Depth = 44 km MB = 5.2 /ISC/
96	FEB 2	SPC	EPKP2	4	4	53.0	0.7										144.64	26.24	Tonga H = 16.06 S 175.19W H = 3 45 52.8 Depth = 326 km MB = 5.5 /ISC/



1976

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
97	FEB 2	SPC	EP	5	26	57.0	-0.8							76.94	34.38	Kurile Islands Region 44.46 N 150.06 E H = 5 15 3.1 Depth = 8 km MB = 5.0 /ISC/	
98	FEB 2	BRA SPC	EP EP	13	22	15.0	1.2							25.19	327.82	Iceland Region 66.12 N 16.73 W H = 13 16 45.9 Depth = 5 km MB = 4.8 /ISC/	
99	FEB 2	SRO SPC BRA	E E I	13	43	14.0	-0.3							9.36	139.53	Turkey 40.39 N 26.26 E H = 13 37 52.8 Depth = 10 km MB = 3.9 /ISC/	
100	FEB 3	SPC	EPKHKP IPKHKP EPKP2 EPKSBG	12	46	24.0	-0.8							151.12	41.15	South of Fiji 25.12 S 179.72 E H = 12 27 31.4 Depth = 486 km MB = 5.7 /ISC/	
101	FEB 3	SPC BRA	IP EP EAP	14	43	51.0	0.1							76.84	34.87	Kurile Islands 44.30 N 149.41 E H = 14 32 2.4 Depth = 48 km MB = 5.3 /ISC/	
102	FEB 3	SPC BRA	EP LAP EP EAP	16	45	31.4	0.1							21.99	104.25	N-W Iran-USSR Border Region 39.93 N 48.41 E H = 16 40 41.5 Depth = 67 km MB = 5.2 /ISC/	
103	FEB 3	SPC BRA SRO	EPKP2 IPKP2 EPKIKP EPKP2	18	23	10.0	-2.1							146.56	26.96	Tonga 18.02 S 174.98 W H = 18 3 50.6 Depth = 197 km MB = 5.6 /ISC/	
104	FEB 3	SPC BRA SRO	-LAP E ES IP E EPF +IP ES	0	9	27.0	-0.8							71.78	22.32	Near East Coast of Kamchatka 54.52 N 162.02 E H = 23 57 55.8 Depth = 38 km MB = 5.9 /ISC/	
105	FEB 4	BRA	EP IFCP ISGS ESP E LMH E ESCS LMH EPCP	9	14	42.0	-0.2							89.24	292.12	Guatemala 15.28 N 89.19 W H = 9 1 43.9 Depth = 5 km MB = 6.0 /ISC/	

106	FEB 4	SPC BRA	IS LMH EPCP E E LMV	9	25	38.0	-0.2	79.6	20.0	58.3	20.0	7.2	90.75	294.47	Guatemala 14.90 N 90.53 W H = 9 30 34.9 Depth = 44 km MB = 5.4 /ISC/	
107	FEB 4	BRA	EPG	11	3	13.0									No determination of epicentre	
108	FEB 4	BRA	EPKP2	11	21	22.0	-11.0							157.95	32.92	Kermadec Islands Region 28.69 S 176.32 W H = 11 1 4.4 Depth = 33 km MB = 4.7 /ISC/
109	FEB 4	SPC BRA	EPKIKP EPKP2	12	57	44.0	1.7							145.97	22.41	Samoa Region 16.72 S 172.62 W H = 12 38 6.9 Depth = 33 km MB = 5.1 /ISC/
110	FEB 4	SPC BRA	EPKP2 EPKP2	13	39	18.0	0.7							147.64	17.60	Samoa Region 16.61 S 172.63 W H = 13 19 42.0 Depth = 58 km MB = 5.2 /ISC/
111	FEB 4	BRA SPC	-IP EP	14	32	41.0	0.3							85.42	324.16	Southern Nevada, N. E. 37.07 N 116.03 W H = 14 20 0.1 Depth = 0 km /AEC/
112	FEB 4	SPC	EP	14	52	42.0	-0.4							85.74	326.36	Southern Nevada, N. E. 37.11 N 116.04 W H = 14 40 0.2 Depth = 0 km /AEC/
113	FEB 4	SPC BRA	EPCP EAP EP	23	39	36.0	0.7							80.57	58.96	Ryukyu Islands 27.38 N 128.35 E H = 23 27 20.1 Depth = 54 km MB = 5.4 /ISC/
114	FEB 5	SPC	EP	4	21	14.0	2.9							82.87	56.64	South-Western Ryukyu Islands 23.45 N 125.60 E H = 4 8 49.0 Depth = 7 km MB = 5.4 /ISC/
115	FEB 5	SPC	EP	8	22	14.0	0.9							44.18	130.60	Arabian Sea 14.20 N 53.31 E H = 8 14 5.7 Depth = 33 km MB = 5.0 /ISC/
116	FEB 5	SPC BRA	IP -IP E	9	47	52.6	0.4							70.86	354.44	Kenai Peninsula 59.98 N 149.27 W H = 9 36 36.0 Depth = 28 km MB = 5.2 /ISC/

No.	Date	Stat. Code	Phase	GMT			RES O-C	Z			E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T	A	T					
117	FEB 5	BRA SRO	-IPP ESKS	10 11 14.0 10 17 27.0	-4.2 -6.5										103.03 103.70	252.00 252.76		Chile-Bolivia Border Region 21.79 S 68.41 W H = 9 53 9.8 Depth = 86 km MB = 5.6 /ISC/		
118	FEB 5	SPC SRO	IP +IP IAP E +IP EPP	17 24 56.3 17 25 7.0 17 25 29.0 17 26 19.0 17 25 7.0 17 25 34.0	0.5 0.8 3.8 -0.2 -0.2									76.56 78.43	37.85 36.45		Hokkaido Region 42.98 N 145.83 E H = 17 13 11.4 Depth = 70 km MB = 5.5 /ISC/			
119	FEB 6	BRA	EPKIKP	2 10 21.0	-1.9									160.82	46.01		South of Kermadec Islands 33.47 S 179.32 W H = 1 50 28.5 Depth = 47 km MB = 5.0 /ISC/			
120	FEB 6	BRA	IPG	10 48 56.0													No determination of epicentre			
121	FEB 6	BRA	EP EPP IP EPCP	18 32 20.0 18 35 55.0 18 32 27.0 18 32 33.0	-2.4 -4.9 0.4 2.7									90.57	292.82		Guatemala 14.70 N 90.63 W H = 18 19 21.4 Depth = 27 km MB = 5.6 /ISC/			
122	FEB 6	SPC BRA	EAPKHP EAPKP2	23 58 37.0 23 59 3.0	-2.2 8.3									145.69 147.93	50.74 47.49		Loyalty Islands Region 23.05 S 171.96 E H = 23 38 55.4 Depth = 51 km			
123	FEB 7	SPC	EP	3 43 15.0	2.7									23.49	100.46		Caspian Sea 40.33 N 51.09 E H = 3 38 10.4 Depth = 93 km MB = 5.0 /ISC/			
124	FEB 7	SPC BRA	EPKIKP IPKIKP	7 28 4.0 7 28 5.0	-1.0 -1.0									148.20 150.19	35.19 30.84		Fiji Region 21.16 S 178.74 W H = 7 9 21.9 Depth = 594 km MB = 5.3 /ISC/			
125	FEB 7	SPC	KPB ESN E	20 47 20.6 20 47 35.0 20 48 13.0	1.1 -8.7									1.97	64.59		Poland 50.00 N 23.00 E H = 20 46 43.0			
126	FEB 8	BRA	EPCP	8 26 48.0	3.1									88.52	291.90		Honduras 15.69 N 88.54 W H = 8 13 48.0 Depth = 5 km MB = 5.1 /ISC/			
127	FEB 9	BRA	EPCP	11 57 52.0	4.7									89.11	292.13		Guatemala 15.39 N 89.11 W H = 14 47.0 Depth = 4.0			

128	FEB 9	BRA EP	EP	21 43 10.0	-2.5									94.20	309.09		Off Coast of Central Mexico 21.63 N 106.59 W H = 21 29 57.0 Depth = 43 km MB = 5.6 /ISC/
129	FEB 10	SPC SRO BRA	-IP +IP E LMH +IP IPP	7 52 23.6 7 52 34.0 8 21 54.0 8 31 0.0 7 52 31.0 7 52 40.0	0.5 0.6 -3.2 0.2									76.79 78.66	34.86 33.48	5.9	Kurile Islands 44.34 N 149.39 E H = 7 40 30.0 Depth = 13 km MB = 5.5 /ISC/
130	FEB 10	SPC BRA	EPCP EP	22 45 49.0 22 45 44.0	0.2 -4.6									77.10 79.11	35.12 33.01		Kurile Islands 43.95 N 149.32 E H = 22 33 41.0 Depth = 2 km MB = 5.3 /ISC/
131	FEB 11	SPC	EP	9 31 16.0													No determination of epicentre
132	FEB 11	SPC BRA SRO	EPKIKP +IPKIKP E IAPKIKP E EPCP2	22 3 29.0 22 3 32.0 22 3 47.0 22 8 8.0 22 3 37.0	0.2 0.4 2.6 1.0									144.65 146.29	21.24 16.51		Samoa Region 15.27 S 172.30 W H = 21 43 56.6 Depth = 41 km MB = 5.6 /ISC/
133	FEB 12	SPC	EP	4 15 6.0	0.6									76.86	34.59		Kurile Islands 44.42 N 149.75 E H = 4 3 10.0 Depth = 1 km MB = 5.0 /ISC/
134	FEB 12	BRA SPC SRO	IP -IP +IP	14 57 36.5 14 57 36.7 14 57 44.4	-4.3 -5.8 -0.2									85.43 85.76 86.19	324.58 326.75 325.44		Southern Nevada, N. E. 37.27 N 116.49 W H = 14 45 0.2 Depth = 0 km
135	FEB 13	SPC SRO BRA	EPCP EAP EKS EPCP	8 20 11.0 8 20 24.0 8 31 8.0 8 20 21.0	-0.0 -5.0 -5.2 -0.1									71.25 69.75	15.67 7 32.8		Luzon 15.67 N 121.70 E H = 8 7 32.8 Depth = 44 km MB = 5.4 /ISC/
136	FEB 13	SPC SRO BRA	EPCP RAP EAP ESKS LMH EPCP E EPP	10 46 24.0 10 46 34.0 10 46 40.0 10 56 56.0 11 31 30.0 10 46 36.0 10 49 14.0 10 50 3.0	-0.3 -2.7 -4.7 6.2 1.7									85.90 87.54	73.48 71.98	6.3	Mindoro 13.98 N 120.16 E H = 10 33 45.9 Depth = 54 km MB = 5.5 /ISC/
137	FEB 14	BRA	EPP	3 31 17.0	-8.9									124.84	220.74		Drake Passage 57.39 S 64.46 W H = 3 10 37.6 Depth = 40 km MB = 5.9 /ISC/

No.	Date	Stat. 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
138	FEB 14	SPC BRA	EPCP EAP -IP IPCP LAP EPP ESKS	11 11 11 11 11 11	2 4 2 4 6 11	14.0 15.0 24.0 32.0 27.0 10.0 46.0	-0.6 -2.7 0.5 7.5 -1.7 0.8 -13.6													Bonin Islands Region 26.54 N 140.32 E H = 10 50 24.0 Depth = 572 km MB = 5.4 /ISC/
139	FEB 14	SPC BRA	IPKHKP EAPKP2 EPKHKP IPKP2 IAPKHKP	11 11 11 11 11	41 42 41 41 42	43.2 43.0 42.0 54.0 41.0	5.4 -2.4 -1.0 -5.8 2.6													South of Fiji 23.16 S 177.40 W H = 11 22 16.0 Depth = 216 km MB = 5.7 /ISC/
140	FEB 14	SPC	EPP	20	48	48.0	-0.9													Java 8.10 S 108.71 E H = 20 31 44.8 Depth = 111 km MB = 5.6 /ISC/
141	FEB 15	SPC SRO BRA	EPCP EPCP ESCS LMH EP E EPP	2 2 2 2 2 2 2	7 7 18 47 7 10 11	27.0 36.0 32.0 0.0 30.6 37.0 18.0	3.2 4.8 0.1 -2.4 1.4	5.7	16.0	8.1	16.0									Samar 12.98 N 125.74 E H = 1 54 19.0 Depth = 0 km MB = 6.2 /ISC/
142	FEB 15	BRA	EPKP2 IPKP2	21 21	43 43	43.0 55.0	-4.3 7.7													Kermadec Islands Region 28.62 S 176.84 W H = 21 23 22.3 Depth = 54 km MB = 5.5 /ISC/
143	FEB 18	SPC BRA	EPKIKP EPKIKP	9 9	44 44	6.0 4.0	1.0 -3.7													Kermadec Islands 29.90 S 177.21 W H = 9 24 14.5 Depth = 39 km MB = 5.4 /ISC/
144	FEB 19	BRA	EP	14	11	49.0	-9.5													Cuba Region 19.85 N 76.87 W H = 13 59 58.0 Depth = 10 km MB = 5.2 /ISC/
145	FEB 19	SPC BRA	EP KPP EPCP	22 22 22	13 16 13	22.0 8.0 37.0	-0.0 -11.0 -0.1													Unimak Island Region 53.51 N 164.41 W H = 22 1 28.2 Depth = 39 km MB = 4.9 /ISC/
146	FEB 21	SPC BRA	EPKIKP EPKIKP	9 9	4 4	40.0 44.0	-0.2 0.1													Loyalty Islands Region 22.98 S 171.90 E H = 8 45 6.6 Depth = 43 km MB = 5.5 /ISC/

147	FEB 21	BRA	EPKP2	11	39	4.0	-3.2													Loyalty Islands Region 23.04 S 171.88 E H = 11 19 22.6 Depth = 47 km MB = 5.6 /ISC/
148	FEB 22	SPC BRA	EP EPCP IP	6 6	10 10	27.0 39.0 34.0	0.3 3.0 0.8													Poz Islands 52.18 N 169.55 W H = 5 58 24.0 Depth = 18 km MB = 5.3 /ISC/
149	FEB 22	SPC SRO BRA	-IP +IP ESKS IP ESKS	7 7 8 7 8	59 59 9 59 10	52.0 59.7 53.7 59.0 2.0	0.5 2.2 -1.1 -2.9 1.4													Northern Sumatra 3.14 N 98.99 E H = 7 47 59.9 Depth = 184 km MB = 5.7 /ISC/
150	FEB 22	SRO HRB BRA	EAP ES LMH LMH ECP E ES ES LMH EP LWV	12 12 12 12 12 12 12 12 12 12	5 6 8 8 5 6 7 8 5 8 8	6.0 36.0 0.0 0.0 22.0 32.0 50.0 14.0 30.0 18.0 30.0	-1.2 -7.8 3.2 -9.4 14.6 0.5	23.7	4.0	12.5	4.0									Greece 39.38 N 22.08 E H = 12 2 53.0 Depth = 19 km MB = 5.0 /ISC/
151	FEB 22	SRO BRA SPC	EPN ESG IPN IPG ESG EPN EPC ESB ESG	16 16 16 16 16 16 16 16	16 17 16 16 17 16 18 18	16.0 24.0 18.0 34.6 31.6 43.5 10.5 14.0 45.0	-3.3 -4.1 -1.8 1.8 -1.5 0.9 16.2													Yugoslavia 44.20 N 15.76 E H = 16 15 15.0 Depth = 3 km MB = 4.7 /ISC/
152	FEB 22	SPC	IPB ISB ISN	20 20 20	2 2 2	33.0 52.3 56.3	-2.4 -0.1 2.5													Poland 50.40 N 19.70 E H = 20 2 11.0 Depth = 33 km MB = 4.7 /ISC/
153	FEB 22	SRO BRA SPC	E ECP LMH EP	22 22 22 22	7 4 7 4	14.0 19.0 31.0 13.5	0.7 1.9													Greece 39.39 N 22.13 E H = 22 1 48.8 Depth = 34 km MB = 4.7 /ISC/
154	FEB 22	SRO BRA SPC	ES BRA LMH E	22 22 22 22	59 57 30 58	34.0 4.0 19.0 56.0	-2.0													Greece 36.39 N 22.14 E H = 22 54 34.8

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
155	FEB 23	SPC SRO BRA	EP EP LMH EPCP LMH	9 14 9 14 9 49 9 14 9 51	38.0 38.0 0.0 58.0 0.0	-2.1 -11.2 0.1		21.3	18.0	21.5	18.0		6.7	80.07 81.81 82.39	66.48 64.92 64.12	Taiwan Region 22.97 N 121.73 E H = 9 2 30.1 Depth = 20 km MB = 5.4 /ISC/	
156	FEB 23	SPC BRA SRO	EP IPCP IP IPCP IPCP LMH	15 26 15 26 15 26 15 26 15 26 16 0	9.0 13.0 9.6 12.6 18.0 0.0	0.1 -7.6 -0.9 -9.2 4.2								76.72 77.00 77.60	341.71 339.90 340.65	Queen Charlotte Islands Region 51.42 N 130.56 W H = 15 14 15.1 Depth = 6 km MB = 5.6 /ISC/	
157	FEB 23	SRO SPC BRA	E EP E EP EPP E E	16 25 16 21 16 25 16 21 16 21 16 24 16 25	30.0 17.0 1.0 21.6 31.0 25.0 19.0	-0.0 3.4 3.5								10.91 11.57 11.66	148.27 158.60 144.96	Aegean Sea 38.27 N 25.58 E H = 16 18 28.0 Depth = 4 km MB = 4.7 /ISC/	
158	FEB 27	BRA	ESG	10 0	50.0	3.5								3.62	231.60	Northern Italy 45.85 N 13.05 E H = 9 58 47.0 Depth = 10 km /ISC/	
159	FEB 29	BRA	IAPKHP EAPKHP	19 53 19 53	5.7 16.2	0.4 7.2								146.16	18.29	Tonga 15.35 S 173.33 W H = 19 33 25.0 Depth = 17 km MB = 5.1 /ISC/	
160	MAR 1	SPC	E I	17 6 17 7	53.0 0.0											No determination of epicentre	
161	MAR 2	BRA	ESB	8 30	47.0	4.3								5.34	268.24	Germany 47.73 N 9.18 E H = 8 28 0.1 Depth = 20 km /ISC/	
162	MAR 2	SRO BRA SPC	EPB ESG LMH EPN EPG ESG EP	19 43 19 45 19 46 19 43 19 44 19 46 19 43	33.0 33.0 0.0 32.0 8.0 5.0 40.0	-7.2 0.7 1.6 0.0 16.0 -0.7								7.21 7.71 8.54	172.24 165.78 183.36	Albania 40.66 N 19.59 E H = 19 41 34.1 Depth = 11 km MB = 4.7 /ISC/	
163	MAR 3	SPC	E	19 11	51.0									38.85	89.38	Afghanistan-USSR Border Region 36.50 N 71.36 E H = 18 54 34.9 Depth = 218 km /ISC/	

164	MAR 4	SPC SRO	EP I EP IPP I E IPS LMH EP I IPKSDP I IPS	3 9 3 12 3 9 3 9 3 9 3 12 3 18 4 6 3 9 3 9 3 9 3 12 3 12 3 18	15.0 36.0 12.5 18.5 44.5 32.5 56.5 0.0 11.0 18.5 45.5 8.0 32.0 36.0	15.4 -0.1 5.9 -2.5 5.0 7.7 13.7											New Hebrides 14.77 N 167.12 E H = 2 50 1.5 Depth = 98 km MB = 6.3 /ISC/
165	MAR 5	BRA	ESG	12 50	5.0	-6.5								5.62	218.75	Central Italy 43.68 N 12.26 E H = 12 47 5.9 Depth = 10 km /ISC/	
166	MAR 6	SPC	EP	11 24	47.0	3.0								97.43	79.96	Northern Sulawesi 0.91 N 122.68 E H = 11 7 18.0 Depth = 82 km MB = 5.4 /ISC/	
167	MAR 6	SPC	EAPKHP	15 25	30.0	12.2								111.54	48.70	Solomon Islands 7.27 N 155.47 E H = 15 6 34.6 Depth = 45 km MB = 5.6 /ISC/	
168	MAR 6	SPC	EP	20 32	35.0	2.3								26.12	325.94	Iceland Region 66.62 N 17.91 W H = 20 26 56.1 Depth = 5 km MB = 4.6 /ISC/	
169	MAR 8	SPC SRO	EPKHP I EPKHP E IPP E ESS LMH EPKHP EP ESKPAB	4 59 4 1 4 59 4 59 5 1 5 4 5 19 6 2 4 59 5 1 5 2	8.0 28.0 10.0 39.0 42.0 30.0 30.0 0.0 7.0 37.0 40.0	2.8 1.3 0.7 7.4 -2.4 -6.8 -0.0								131.71 133.58 133.94	49.36 48.09 46.42	Santa Cruz Islands 10.82 S 165.06 E H = 4 39 54.0 Depth = 25 km MB = 6.0 /ISC/	
170	MAR 8	SPC SRO BRA	EAPKHP EP EP EAPKHP EP	20 25 20 28 20 28 20 26 20 28	47.0 13.0 27.0 0.0 27.0	-1.2 -1.4 0.8 5.8 -1.3								133.46 135.33 135.68	48.66 47.38 45.66	Santa Cruz Islands 11.88 S 166.41 E H = 20 6 34.2 Depth = 78 km MB = 5.5 /ISC/	
171	MAR 8	BRA	+IPKHP	22 25	21.0	0.2								145.69	37.03	Fiji Region 18.32 S 176.17 E H = 22 5 43.0 Depth = 16 km /ISC/	

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No. Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLR	Delta	Azimuth	Remarks
			h	m		A	T	A	T	A	T					
172	MAR 9	BRA +IP IPCP EPCP SPC	14 12 38.0 14 12 57.0 14 12 44.0		-2.3 13.1 -1.4									85.34 85.68	324.51 326.68	Southern Nevada, N. E. 37.31 N 116.36 W H = 14 0 0.1 Depth = 0 km  /AEC/  Leeward Islands 16.84 N 61.06 W H = 9 4 59.3 Depth = 56 km MB = 5.7 /ISC/
173	MAR 10	BRA +IP LAP EP SRO EAP IP EXP SPC BRA	9 16 3.4 9 16 21.4 9 16 13.0 9 16 29.0 9 16 19.0 9 16 41.0 9 44 6.0		-2.3 0.1 2.3 2.6 1.2 1.1									69.80 70.63 71.80	272.86 273.87 274.81	No determination of epicentre  No determination of epicentre  Southern Sumatra 3.58 S 101.98 E H = 20 41 16.1 Depth = 91 km MB = 5.1 /ISC/  Solomon Islands 6.34 S 154.76 E H = 5 22 46.6 Depth = 73 km MB = 5.5 /ISC/  Southern Nevada, N. E. 37.31 N 116.47 W H = 12 30 0.2 Depth = 0 km /AEC/
174	MAR 10	BRA	9 44 6.0													No determination of epicentre
175	MAR 10	BRA	11 5 3.0													No determination of epicentre
176	MAR 10	BRA	20 54 5.0		0.5									89.22	96.19	Southern Sumatra 3.58 S 101.98 E H = 20 41 16.1 Depth = 91 km MB = 5.1 /ISC/
177	MAR 13	BRA	5 41 41.0		2.5									124.98	54.80	Solomon Islands 6.34 S 154.76 E H = 5 22 46.6 Depth = 73 km MB = 5.5 /ISC/  Southern Nevada, N. E. 37.31 N 116.47 W H = 12 30 0.2 Depth = 0 km /AEC/
178	MAR 14	BRA +IP SRO +IPCP SRO	12 42 38.6 12 42 41.4 12 42 57.0		-2.0 -0.9 9.5	599	1.0							85.39 85.72 86.14	324.58 326.76 325.44	Southern Nevada, N. E. 37.31 N 116.47 W H = 12 30 0.2 Depth = 0 km /AEC/
179	MAR 16	SPC SRO BRA	7 35 46.5 7 35 42.0 7 44 17.0 7 50 5.0 7 35 57.0 7 37 28.0		2.0 -7.7									34.49 35.09	116.42 112.41	Southern Iran 27.33 N 55.00 E H = 7 28 57.9 Depth = 36 km MB = 5.4 /ISC/  Southern Nevada, N. E. 37.26 N 116.31 W H = 14 15 0.1 Depth = 0 km /AEC/
180	MAR 17	BRA +IP SRO IP	14 27 37.2 14 27 40.8		-3.2 -1.3									85.37 85.70	324.45 326.62	Southern Nevada, N. E. 37.26 N 116.31 W H = 14 15 0.1 Depth = 0 km /AEC/
181	MAR 17	BRA +IP SRO IP	14 57 37.5 14 57 42.0		-3.1 -0.3									85.40 85.74	324.19 326.37	Southern Nevada, N. E. 37.11 N 116.05 W H = 14 45 0.1 Depth = 0 km /AEC/
182	MAR 19	BRA	2 38 41.0		-5.2									159.03	35.59	Kermadec Islands Region 30.09 S 176.80 W H = 2 18 12.0 Depth = 27 km MB = 5.1 /ISC/

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLR	Delta	Azimuth	Remarks	
				h	m		A	T	A	T	A	T						
183	MAR 19	BRA	IPG	10 48 35.0 10 48 38.0													No determination of epicentre	
184	MAR 19	SPC SRO BRA	EP EAP E IP IPP EPCP	13 10 43.0 13 10 56.0 13 20 32.0 13 11 0.5 13 11 32.0 13 12 26.0 13 13 29.0		1.1 -1.9 1.2 -5.2 16.4									36.43 37.71 38.51	91.98 88.70 88.29	Hindu Kush Region 36.61 N 67.77 E H = 13 3 36.3 Depth = 18 km MB = 5.5 /ISC/  Kermadec Islands 29.92 S 177.80 W H = 4 46 9.4 Depth = 75 km MB = 6.2 /ISC/	
185	MAR 24	SPC SRO BRA	EPKIKP IPKIKP IPKHKP IPKHKP E LMV EPKIKP EPKSDP IPP E LMH IPKIKP EAPKP2 IPP E LMH	5 5 56.0 5 6 3.0 5 6 34.0 5 6 38.0 5 7 45.0 5 6 1 0.0 5 6 0.0 5 9 33.0 5 10 13.0 5 13 45.0 6 13 0.0 5 5 58.5 5 6 56.0 5 10 18.0 5 18 51.0 5 44 30.0		1.0 8.0 -6.2 -2.2 2.6 3.3 -2.3 0.8 -0.0 1.5												No determination of epicentre
186	MAR 24	BRA	IPG	12 35 43.0													No determination of epicentre	
187	MAR 25	BRA	IP EAP	8 28 12.0 8 28 19.5		-3.6									75.95	94.61	Nicobar Islands Region 7.41 N 94.26 E H = 8 16 28.2 Depth = 19 km MB = 5.3 /ISC/  Austria 47.56 N 10.69 E H = 11 15 16.5 Depth = 2 km /ISC/	
188	MAR 25	BRA	ISG	11 17 36.0		-4.6									4.36	264.36	Turkey-USSR Border Region 41.01 N 42.97 E H = 11 55 40.0 Depth = 25 km MB = 4.8 /ISC/	
189	MAR 25	SPC SRO BRA	EP EP ES E EP	11 59 51.0 12 0 2.0 12 3 29.0 12 8 6.0 12 0 11.0		1.4 1.6 2.7 0.7									17.96 18.83 19.70	108.52 102.06 101.68	Northern Sumatra 5.23 N 94.96 E H = 16 58 16.4 Depth = 67 km MB = 5.0 /ISC/	
190	MAR 25	BRA	EP	17 10 8.0		-1.3									78.02	95.57	Jan Meyen Island Region 71.69 N 2.40 W H = 21 16 30.8 Depth = 10 km MB = 4.6 /ISC/	
191	MAR 25	BRA	EP	21 21 57.0		-1.8									25.28	345.69	No determination of epicentre	
192	MAR 26	SPC	E	2 55 14.0													No determination of epicentre	

No.	Date	Stat. 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					
193	MAR 26	BRA	ES E ES ES I	22 29 22 30 22 30 22 30 22 31	50.0 9.0 48.0 51.0 18.0	-17.8 -2.1 0.9											5.24	266.64	Germany 47.60 N 9.37 E H = 22 28 32.9 Depth = 78 km /ISC/	
194	MAR 27	BRA	IPKIKP	2 55	3.0	0.9											158.71	37.97	Kermadec Islands 30.20 S 177.85 W H = 2 35 9.2 MB = 5.4 Depth = 41 km /ISC/	
195	MAR 27	SPC BRA	EAPKIKP IPKIKP	20 1 20 1	51.0 51.0	0.6 -1.1											156.76 158.90	43.77 39.25	Kermadec Islands 30.60 S 178.21 W H = 19 41 53.0 MB = 5.8 Depth = 3 km /ISC/	
196	MAR 27	SPC	IPN ESN	22 29 22 30	53.0 13.0	-3.0 -9.6											2.04	350.34	Poland 51.20 N 19.70 E H = 22 29 20.0 Depth = 33 km /ISC/	
197	MAR 28	BRA	IP	7 7	21.0	1.5											79.38	2.62	Fox Islands 52.77 N 167.13 W H = 6 55 15.1 MB = 5.1 Depth = 32 km /ISC/	
198	MAR 28	BRA SRO SPC	IP IXP IP EXS LMH EP	20 27 20 28 20 27 20 34 20 42 20 28	45.0 21.0 55.0 39.0 0.0 5.0	-3.0 19.3 0.4 -3.2 0.7											43.53 44.35 45.56	271.86 273.09 273.08	North Atlantic Ridge 33.79 N 38.64 W H = 20 19 45.8 MB = 5.5 Depth = 33 km /ISC/	
199	MAR 29	BRA SRO	EP EPCP ESKS LMH	5 53 5 53 6 3 6 28	55.0 6.0 46.0 0.0	-4.6 2.0 9.8											95.69 96.56	282.33 283.20	Off Coast of Central America 1.96 N 85.88 W H = 5 39 36.3 MB = 5.8 Depth = 33 km /ISC/	
200	MAR 29	BRA	IP	20 0	20.0	1.6											77.44	31.86	Kurile Islands 45.96 N 149.50 E H = 19 48 39.7 Depth = 163 km MB = 5.4 /ISC/	
201	MAR 30	BRA	IP	6 5	22.0	-1.1											80.37	39.21	Off East Coast of Honshu 39.66 N 143.26 E H = 5 53 12.8 MB = 5.4 Depth = 28 km /ISC/	
202	MAR 30	BRA	IP IXP	6 16 6 16	25.0 43.0	0.2 8.3											80.48	39.17	Off East Coast of Honshu 39.59 N 143.38 E H = 6 4 13.1 MB = 5.4 Depth = 23 km /ISC/	

203	APR 1	BRA SRO	IPKIP2 EAPKHKP	6 38 6 38	1.0 3.0	0.1 -1.7											145.88 145.94	18.49 20.69	Tonga 15.10 S 173.51 W H = 6 18 22.5 MB = 5.2 Depth = 33 km /ISC/
204	APR 2	SPC SRO BRA	EPCP EPCP E LMH ESS	17 2 17 2 17 6 17 15 17 2	29.0 47.0 27.0 0.0 49.0	-10.1 6.5 -2.0											19.08 19.90	110.46 104.22	Turkey 39.85 N 43.69 E H = 16 53 50.0 MB = 4.6 Depth = 14 km /ISC/
205	APR 2	SPC BRA	EP EP EPP	17 20 17 20 17 23	7.0 16.0 28.0	1.8 -0.5 -0.5											80.53 82.70	44.53 42.30	Near East Coast of Honshu 36.02 N 141.67 E H = 17 7 55.4 MB = 5.5 Depth = 38 km /ISC/
206	APR 2	BRA	EP	17 57	4.0	0.7											20.18	94.19	Eastern Caucasus 43.07 N 45.10 E H = 17 52 25.0 MB = 4.5 Depth = 4 km /ISC/
207	APR 2	SPC	IPG IPG ISN ISN	19 29 19 29 19 30 19 30	50.2 53.6 12.4 19.0	0.3 3.7 4.8 11.4											1.30	321.86	Poland 50.20 N 19.00 E H = 19 29 24.0 Depth = 0 km /ISC/
208	APR 3	BRA	-IP IXP	0 39 0 39	4.2 13.0	0.5 -0.6											79.91	4.26	Fox Islands 52.13 N 169.71 W H = 0 26 55.0 MB = 5.0 Depth = 23 km /ISC/
209	APR 4	BRA	EPKIKP	18 0	51.0	-2.5											150.67	21.48	Tonga 20.15 S 173.90 W H = 17 41 8.0 MB = 4.8 Depth = 18 km /ISC/
210	APR 4	BRA	EPKHKP	23 30	0.0	3.7											149.78	30.40	Fiji Region 20.69 S 178.68 W H = 23 11 18.2 MB = 5.0 Depth = 607 km /ISC/
211	APR 5	BRA	EPKIP2	1 20	48.0	1.1											144.65	20.76	Samoa Region 14.20 S 175.10 W H = 1 1 13.0 MB = 4.5 Depth = 33 km /ISC/
212	APR 5	BRA	EAPKHKP	10 8	5.0	1.6											146.07	17.99	Tonga 15.23 S 173.18 W H = 9 48 20.8 MB = 5.4 Depth = 33 km /ISC/
213	APR 5	SPC SRO BRA	EP LMV EAP E LMH EP LMH	17 5 17 28 17 5 17 27 17 30 17 5 17 29	1.0 0.0 19.0 40.0 0.0 17.0 30.0	0.1 0.9 0.9 0.9											62.04 63.85 64.35	59.97 58.26 57.72	North-Eastern China 40.27 N 112.19 E H = 16 54 39.0 MB = 5.2 Depth = 17 km /ISC/

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No.	Date	Stat. 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						
214	APR 6	SPC	EAPKIKP	14	8	11.0	4.5										119.19	58.43	New Ireland Region 3.94 S 152.04 E H = 13 49 11.9 Depth = 21 km MB = 5.8 /ISC/		
215	APR 8	SPC	+IP	2	46	50.0	-0.3	363	0.8					6.4			31.75	89.57	Uzbekistan 40.31 N 63.72 E H = 2 40 23.9 Depth = 10 km MB = 6.2 /ISC/		
		SRO	I	2	46	56.0											33.08	86.04			
		SRO	I	2	52	22.0	1.4														
		SRO	IP	2	47	3.4	3.3														
		BRA	EPP	2	48	16.0	8.0														
		BRA	ES	2	52	28.0	0.4														
		BRA	+IP	3	6	0.0	7.5														
		BRA	IP	2	47	8.4															
		BRA	IPP	2	48	29.0															
		BRA	IS	2	52	40.0															
		BRA	LMH	3	6	0.0															
216	APR 9	SRO	EXP	7	22	19.0	-0.7										94.72	276.45	Near Coast of Ecuador 0.85 N 79.63 W H = 7 8 50.0 Depth = 19 km MB = 6.0 /ISC/		
		SRO	E	7	32	11.0															
		SRO	LMH	7	59	0.0															
217	APR 10	SPC	IPKP2	17	30	45.7	-1.5										145.16	32.34	Fiji Region 17.73 S 178.46 W H = 17 12 8.3 Depth = 548 km MB = 5.7 /ISC/		
		SRO	IPKP2	17	30	49.0	1.8														
		SRO	IPKIKP	17	30	49.0	2.9														
		BRA	IAPKP2	17	32	59.0	1.0														
		BRA	-IPKIKP	17	30	48.3	2.0														
		BRA	IPKP2	17	30	52.8	-2.1														
		BRA	IAPKP2	17	33	0.0	1.5														
218	APR 11	BRA	IP	13	14	9.0	-0.1														
		BRA	EAP	13	16	5.0	1.7														
219	APR 13	BRA	EPG	10	14	17.0															
220	APR 13	BRA	EPG	11	2	5.0															
221	APR 14	BRA	EAPKHKP	15	45	54.0	0.8										143.80	118.06	South of Australia 51.95 S 139.74 E H = 15 26 16.7 Depth = 33 km MB = 5.4 /ISC/		
222	APR 16	BRA	ESG	4	59	14.0	-1.3										2.52	206.40	Yugoslavia 45.90 N 15.50 E H = 4 57 52.0 Depth = 11 km		
223	APR 16	BRA	IP	17	3	17.0	-1.1										76.00	94.54	Nicobar Islands Region 7.42 N 94.35 E H = 16 51 33.2 Depth = 38 km MB = 5.3 /ISC/		

224	APR 16	BRA	EP	17	58	47.0	-1.7										76.04	94.52	Nicobar Islands Region 7.40 N 94.39 E H = 17 47 0.0 Depth = 14 km MB = 5.1 /ISC/
225	APR 19	SRO	EP	11	3	4.0	2.1										79.62	39.58	Off East Coast of Honshu 40.29 N 143.30 E H = 10 50 55.1 Depth = 25 km MB = 5.4 /ISC/
		BRA	IP	11	3	3.4	0.2										79.86	38.84	
226	APR 21	BRA	EP	3	57	12.0	-1.2										26.63	111.94	Western Iran 33.68 N 47.01 E H = 3 51 37.5 Depth = 50 km MB = 4.7 /ISC/
227	APR 21	BRA	EAP	19	21	42.0	0.0										72.91	93.66	Andaman Islands Region 10.29 N 92.86 E H = 19 10 1.7 Depth = 52 km MB = 5.3 /ISC/
228	APR 21	SRO	EP	20	1	32.0	-0.8										4.47	188.11	Yugoslavia 43.39 N 17.45 E H = 20 0 20.1 Depth = 40 km MB = 4.6 /ISC/
		HRB	E	20	1	56.0	9.4												
		HRB	E	20	2	28.0	0.2												
		HRB	E	20	2	56.0	-6.2												
		HRB	E	20	2	8.0	-9.5												
		BRA	-IP	20	1	28.2													
		BRA	I	20	1	40.2													
		BRA	E	20	2	0.0													
		BRA	E	20	2	22.0	-4.7												
		BRA	ES	20	2	42.2	16.5												
		BRA	E	20	2	52.2	-7.1												
		BRA	EP	20	1	50.8													
		BRA	I	20	1	55.0													
		BRA	E	20	2	17.0													
		BRA	I	20	3	37.0													
229	APR 22	BRA	EP	1	0	16.3	-6.7										4.67	176.91	Yugoslavia 43.51 N 17.45 E H = 0 59 4.7 Depth = 43 km
		BRA	E	1	0	27.0													
		BRA	E	1	0	39.0													
		BRA	E	1	1	39.0													
230	APR 22	SPC	EP	17	9	34.7	1.7										31.78	118.27	Southern Iran 28.71 N 52.12 E H = 17 3 7.5 Depth = 19 km MB = 5.9 /ISC/
		SRO	EP	17	9	35.0	-2.8										32.33	113.95	
		SRO	E	17	15	44.0													
		BRA	LMH	17	27	30.0													
		BRA	-IP	17	9	43.0	-2.5												
		BRA	EXP	17	10	0.0	6.8												
231	APR 22	SRO	EPN	23	0	35.0													
		BRA	E	23	1	32.0													
232	APR 24	SPC	EP	1	37	30.0	-5.9										82.12	45.45	Off East Coast of Honshu 34.19 N 141.86 E H = 1 25 15.0 Depth = 19 km MB = 4.9 /ISC/
		SRO	LMH	2	15	0.0	-1.2										84.01	44.00	
		BRA	EPCP	1	37	50.0	9.7										84.31	43.19	
		BRA	EXP	1	38	5.0													
		BRA	LMV	2	22	0.0													

No.	Date	Stat. 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						
233	APR 26	BRA	IPG	11	0	21.0														No determination of epicentre	
234	APR 28	BRA	I	18	17	12.7														No determination of epicentre	
235	APR 29	SPC SRO BRA	EPKHKP KPP EPKIKP KPP IPKIKP IPKP2 IPP	6 52 6 56 6 52 6 52 6 56 6 53 6 57	39.0 39.0 45.0 50.0 39.0 15.0 0.0	-2.5 -1.1 7.8 -0.4 1.5 3.5 8.6														Kermadec Islands Region 28.19 S 176.71 W H = 6 32 48.9 MB = 5.3 /ISC/ Depth = 62 km	
236	APR 29	SPC SRO BRA	EP +IP ESS LMH IP EPP E ES	22 22 22 22 22 26 22 31 22 22 22 22 22 23 22 26	17.0 30.0 6.0 0.0 35.0 59.0 27.0 12.0	0.7 3.0 -11.2 -1.9 3.6														Turkey 40.96 N 42.87 E H = 22 18 7.7 MB = 5.0 /ISC/ Depth = 30 km	
237	APR 29	SPC BRA	EP EP	23 27 23 27	32.0 48.0	4.9 -0.0														Turkey-USSR Border Region 41.04 N 42.92 E H = 23 23 15.5 MB = 4.8 /ISC/ Depth = 4 km	
238	APR 30	BRA	EPKIKP EPKP2	15 42 15 43	46.0 19.0	3.0 1.5														Kermadec Islands Region 28.41 S 176.58 W H = 15 22 50.4 MB = 5.1 /ISC/ Depth = 33 km	
239	MAY 2	SPC BRA	EPKHKP IPKP2 IPKP2 EPKIKP	16 6 16 6 16 6 16 6	7.6 12.0 16.0 1.0	6.2 -3.1 0.9 -1.6														South of Fiji 23.17 S 177.24 W H = 15 46 37.4 MB = 5.3 /ISC/ Depth = 199 km	
240	MAY 3	SPC BRA	EAPKIKP EPKHKP	14 11 14 11	15.3 15.0	-3.3 2.1														Tonga 20.95 S 174.05 W H = 13 51 26.4 MB = 5.1 /ISC/ Depth = 33 km	
241	MAY 4	BRA	EP	4 19	30.0	-8.1														Central Mid-Atlantic Ridge 8.23 N 38.17 W H = 4 9 23.2 MB = 5.0 /ISC/ Depth = 22 km	
242	MAY 4	BRA SRO LMH EP	EP EAP LMH EP	4 50 4 51 5 17 4 51	51.0 9.0 0.0 18.0	-10.6 -0.9 1.0														Central Mid-Atlantic Ridge 8.10 N 38.09 W H = 4 40 45.0 MB = 5.4 /ISC/ Depth = 13 km	

243	MAY 4	BRA	EPKHKP	8 49	53.0	-0.4														Tonga 21.77 S 174.95 W H = 8 30 7.0 MB = 5.1 /ISC/ Depth = 45 km
244	MAY 4	SPC SRO BRA	EAPKIKP EPKIKP EPKP2 EPP EPKIKP EPKHKP E	14 16 14 16 14 17 14 20 14 16 14 18 14 20	34.0 26.0 6.0 46.0 26.0 23.0 29.0	3.2 -0.0 2.4 -1.0 -3.2														South Island, New Zealand 44.58 S 167.64 E H = 13 56 30.0 MB = 5.8 /ISC/ Depth = 19 km
245	MAY 4	SPC BRA	EAPKIKP EPKIKP EPKP2	17 46 17 46 17 46	26.5 20.0 41.0	-5.4 1.5 -0.1														Tonga Region 23.62 S 175.54 W H = 17 26 34.0 MB = 5.2 /ISC/ Depth = 54 km
246	MAY 5	SPC SRO BRA	EPKIKP EAPKP2 LMV +IPKIKP IPP E LMH +IPKIKP I LMH	5 12 5 13 6 11 5 12 5 17 5 27 6 27 5 17 5 56	42.2 18.0 0.0 44.0 0.0 28.0 0.0 45.5 0.0	-0.6 1.0 -1.3 -3.1 -0.0														Kermadec Islands 29.93 S 177.62 W H = 4 52 48.0 MB = 6.2 /ISC/ Depth = 10 km
247	MAY 6	BRA	EP I IS IS I LMH EP ES	20 0 20 0 20 0 20 1 20 4 20 0 20 1	2.0 12.0 38.7 16.3 0.0 29.7 33.6	-0.6 2.1 15.4 -8.2 -1.1														Italy 46.25 N 13.22 E H = 19 59 8.2 MB = 4.6 /ISC/ Depth = 40 km
248	MAY 6	BRA	EP	20 26	6.0	-2.3														Italy 46.42 N 13.11 E H = 20 25 3.7 MB = 4.6 /ISC/ Depth = 58 km
249	MAY 6	BRA	EP I IS	21 8 21 8 21 9	36.1 48.1 31.6	-11.0 15.9														Northern Italy 46.25 N 12.95 E H = 21 7 43.5 MB = 4.6 /ISC/ Depth = 51 km
250	MAY 6	BRA	EP I ES IS	21 43 21 43 21 43 21 44	12.6 21.2 29.8 1.0	2.0 -16.1 15.1														Italy 46.26 N 13.20 E H = 21 42 17.4 MB = 4.6 /ISC/ Depth = 38 km
251	MAY 6	BRA	EPN EPN ESN ISB	21 50 21 50 21 51 21 51	32.6 38.3 15.5 26.9	-3.5 2.2 -1.3 2.7														Italy 46.22 N 13.18 E H = 21 49 42.0 MB = 5.4 /ISC/ Depth = 20 km



No.	Date	Stat. 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					
252	MAY 6	BRA	EPN ISG	22 15 22 16	30.3 22.2	1.8 -2.3											3.35	239.43	Northern Italy 46.39 N 12.94 E H = 22 14 33.9 Depth = 0 km
253	MAY 6	BRA	ISG	22 22	29.2	-1.1											3.26	236.86	Italy 46.32 N 13.17 E H = 22 20 42.7 Depth = 10 km
254	MAY 6	BRA	ESB ESG	23 6 23 6	10.0 17.0	2.3 3.8											2.83	258.68	Italy 47.54 N 13.01 E H = 23 4 39.8 Depth = 33 km
255	MAY 6	BRA	EP I ES IS	23 8 23 8 23 8 23 8	0.6 7.0 40.0 49.0	-5.7 5.0 14.0											3.29	236.36	Italy 46.28 N 13.16 E H = 23 7 6.2 Depth = 49 km
256	MAY 7	BRA HRB SRO	IPN ESB EPN ESN EPN EPB EPG ESN	0 24 0 25 0 24 0 25 0 25 0 25 0 25 0 26	42.0 50.0 46.0 33.0 15.6 32.0 40.0 16.0	-1.9 4.3 -5.6 -4.6 -1.0 3.5 -1.5 -6.1											3.25 3.74 3.79	234.99 245.91 247.33	Italy 46.24 N 13.27 E H = 0 23 50.7 Depth = 26 km MB = 4.8
257	MAY 7	BRA	IPB ISB	1 1 1 2	30.0 10.0	-0.2 -3.5											3.34	239.79	Northern Italy 46.41 N 12.93 E H = 1 0 30.3 Depth = 33 km
258	MAY 7	BRA	EPB ISG	5 41 5 42	21.0 9.0	-0.5 -3.1											3.35	237.77	Italy 46.31 N 13.02 E H = 5 40 21.5 Depth = 10 km
259	MAY 7	BRA	EPN ISG	6 3 6 3	0.0 50.0	2.0 -1.6											3.22	236.21	Italy 46.31 N 13.24 E H = 6 2 5.1 Depth = 10 km
260	MAY 7	BRA	EPKHKP	6 31	35.0	-0.2											145.54	20.98	Tonga 15.10 S 175.00 W H = 6 12 4.6 Depth = 33 km MB = 4.8
261	MAY 7	BRA	EPG ESB	6 40 6 41	38.0 14.0	2.0 2.7											3.21	236.93	Italy 46.35 N 13.22 E H = 6 39 32.0 Depth = 10 km

262	MAY 7	BRA	ESG	7 38	51.0	2.5											3.24	235.56	Italy 46.27 N 13.25 E H = 7 37 1.4 Depth = 0 km
263	MAY 7	BRA	EPB ISB	9 42 9 43	20.3 5.3	2.0 3.3											3.38	239.41	Northern Italy 46.37 N 12.90 E H = 9 41 17.7 Depth = 10 km
264	MAY 7	BRA	ESG	11 17	23.0	8.0											3.21	235.55	Italy 46.29 N 13.29 E H = 11 15 29.0 Depth = 0 km
265	MAY 7	BRA	E	12 43	31.0												3.19	233.28	Italy 46.20 N 13.42 E H = 12 41 44.0 Depth = 77 km
266	MAY 7	BRA SRO	EPN ESN ESB ESB	13 43 13 44 13 44 13 44	33.3 16.0 34.0 43.0	-10.6 -8.1 2.6 -4.8											3.27	235.72	Italy 46.26 N 13.21 E H = 13 42 50.4 Depth = 26 km
267	MAY 7	BRA	EPB ESG	15 55 15 56	40.0 37.0	-0.9 7.7											3.21	238.88	Italy 46.44 N 13.13 E H = 15 54 43.2 Depth = 10 km
268	MAY 7	BRA	ES I	20 13 20 14	57.3 42.3	-2.9											3.24	237.72	Italy 46.37 N 13.15 E H = 20 12 53.4 Depth = 68 km
269	MAY 7	BRA	ESG	20 54	24.0	2.0											3.15	235.37	Italy 46.32 N 13.37 E H = 20 52 38.1 Depth = 33 km
270	MAY 7	BRA	EAPKIKP	23 24	0.0	7.0											146.01	18.48	Tonga 15.23 S 173.47 W H = 23 4 6.5 Depth = 34 km MB = 4.9
271	MAY 8	BRA	IP	0 24	44.5	0.5											25.24	348.63	Norwegian Sea 72.25 N 1.20 E H = 0 19 16.3 Depth = 10 km MB = 4.7
272	MAY 8	BRA SRO SPC	IPG ISG EPG ESG EPN	3 11 3 11 3 11 3 12 3 11	8.0 50.0 29.0 9.0 29.0	-2.6 -3.1 7.5 -2.2 -2.7											3.25 3.79 5.55	235.21 247.51 240.67	Italy 46.25 N 13.26 E H = 3 10 5.8 Depth = 13 km

No.	Date	Stat. 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						
273	MAY 8	BRA	ESG	9	58	16.0											3.31	239.39	Northern Italy 46.41 N 12.99 E H = 9 56 29.3 Depth = 33 km	
274	MAY 8	BRA	E	10	27	16.0													No determination of epicentre	
275	MAY 8	BRA	ESB	11	42	19.0											3.29	235.30	Italy 46.23 N 13.21 E H = 11 40 35.5 Depth = 0 km	
276	MAY 8	SRO SPC BRA	E EP LMV EP E	23 30 27 27 23 28 23 31	57.0 57.0 0.0 6.0 45.0	1.3 1.5											11.53 11.71 12.37	133.42 143.98 131.18	Turkey 39.33 N 29.10 E H = 23 25 8.0 Depth = 33 km MB = 4.8	
277	MAY 9	BRA HRB SRO SPC	+IPN EPG ISB IPN IPB IPB IPB ISN ISN ISB	0 54 54 0 55 0 54 0 55 0 56 0 55 0 55 0 55 0 56 35.0	34.1 56.0 41.0 44.8 56.8 40.8 0.0 6.0 9.4 19.0 28.0 58.0 19.0 35.0	-3.6 -2.9 2.0 -0.5 -3.1 0.3 -4.4 -1.0 -3.2 5.8 -17.7 3.3 2.0												Italy 46.22 N 13.33 E H = 0 53 44.8 Depth = 20 km MB = 5.0		
278	MAY 9	BRA	ESG	12	35	17.0											3.29	236.65	Italy 46.29 N 13.14 E H = 12 33 31.1 Depth = 33 km	
279	MAY 9	SPC BRA	EPKIKP EPKIKP	21 3 34.0 21 3 44.0	-5.4 0.2												123.57 125.87	58.19 55.64	Solomon Islands 7.47 S 154.68 E H = 20 44 43.2 Depth = 21 km MB = 5.9	
280	MAY 10	BRA SRO SPC	IPN IPB ESN ESB ESN ESN LMH EPN	4 36 4 36 4 37 4 37 4 37 4 38 4 37 17.0	44.0 56.0 18.5 35.0 36.0 30.0	-4.1 2.5 -10.4 -1.4 -7.0 -3.9											3.32	236.37	Italy 46.26 N 13.12 E H = 4 35 53.9 Depth = 15 km MB = 4.3	

281	MAY 10	BRA	EPB ESN ESB	5 9 5 10 20.0 5 10 35.0	50.0 20.0 35.0	0.4 -4.8 2.7											3.30	237.00	Italy 46.30 N 13.11 E H = 5 8 50.3 Depth = 0 km	
282	MAY 10	SPC BRA	EP EP EPP	18 52 18 53 1.5 2.0 18 55	49.0 1.5 2.0	2.3 -1.2 0.4											49.94 52.05	89.82 86.69	Nepal 29.33 N 81.46 E H = 18 43 52.5 Depth = 22 km MB = 5.2	
283	MAY 11	BRA	IPG ISG	5 33 5 33 48.6	0.2 48.6	-2.8 1.5												3.36	235.62	Italy 46.20 N 13.11 E H = 5 31 56.0 Depth = 4 km
284	MAY 11	BRA	EPB ISB ISG	9 58 9 59 13.4 19.4 9 59	31.4 13.4 19.4	2.3 1.7 0.6											3.30	237.35	Italy 46.32 N 13.10 E H = 9 57 29.9 Depth = 15 km	
285	MAY 11	BRA	ESN	10 8 13.0	13.0	1.8												3.36	251.53	Italy 47.01 N 12.45 E H = 10 6 35.3 Depth = 33 km
286	MAY 11	SPC BRA	EPKIKP EPKIKP	10 17 45.4 10 17 49.0	45.4 49.0	2.1 1.3												123.62 125.92	58.33 55.79	Solomon Islands 7.58 S 154.61 E H = 9 58 47.0 Depth = 21 km MB = 5.8
287	MAY 11	BRA	EPKIKP	10 41 31.0	31.0	1.6												126.04	55.65	Solomon Islands 7.62 S 154.77 E H = 10 22 27.0 Depth = 12 km MB = 5.6
288	MAY 11	BRA	EPKIKP	11 48 34.0	34.0	1.8												143.59	117.29	South of Australia 51.45 S 139.64 E H = 11 29 6.9 Depth = 33 km MB = 5.6
289	MAY 11	SRO BRA	EAPKIKP EPAKIKP E	16 10 14.0 16 11 2.0	24.0 14.0 2.0	-0.8 0.3											142.82 143.70	118.30 117.49	South of Australia 51.60 S 139.76 E H = 15 50 43.1 Depth = 40 km MB = 5.9	
290	MAY 11	SRO HRB BRA SPC	IP ISS EPP ESS LMH EP IPP ES LMH EP IPP I E	17 2 20.0 17 4 28.0 17 2 27.0 17 4 26.0 17 9 0.0 17 2 23.0 17 2 29.0 17 4 23.0 17 10 30.0 17 2 35.0 17 3 16.0 17 5 44.0	20.0 28.0 27.0 26.0 0.0 23.0 29.0 23.0 30.0 35.0 16.0 44.0	1.7 -2.1 -0.6 -5.9 -2.3 -4.7 -6.3 -0.6 15.9											10.47 10.54 10.97 11.73	171.00 170.53 166.27 179.55	Ionian Sea 37.45 N 20.36 E H = 16 59 45.0 Depth = 10 km MB = 5.6	

No.	Date	Stat. Code	Phase	GMT		RES O-C	E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
291	MAY 11	BRA	E E E	17 15 17 17 17 23	33.0 14.0 56.0									85.08	274.05	Northern Colombia 6.40 N 72.60 W H = 17 0 49.3 Depth = 153 km	
292	MAY 11	BRA	EPN IPB IPG EPG ESG IPN IPB IPB IMH EPN IPB IPB ESN	22 44 22 45 22 45 22 45 22 46 22 45 22 45 22 45 22 48 22 45 22 45 22 45 22 46	54.0 0.0 6.0 18.5 10.0 5.0 15.0 30.0 28.0 36.0 46.0 31.0	-1.9 -1.4 -2.2 -0.0 0.5 1.0 3.8 -0.7 -5.0 5.0 -4.7			17.7	4.0	17.5	4.0				Northern Italy 46.29 N 12.99 E H = 22 44 0.9 Depth = 13 km MB = 4.9	
293	MAY 11	BRA	IP IS	23 37 23 38	48.3 34.0	-9.4 15.6								3.38	239.35	Northern Italy 46.37 N 12.91 E H = 23 36 47.4 Depth = 63 km	
294	MAY 12	SPC	EPN ESB	1 13 1 13	24.0 45.0	-1.5 0.1								1.45	321.90	Poland 50.32 N 18.85 E H = 1 12 58.0	
295	MAY 12	SPC	E E	2 20 2 20	25.0 46.0											No determination of epicentre	
296	MAY 12	BRA	ESG	3 3	6.0	-0.5											
297	MAY 12	BRA	EPG ESB ISG	9 5 9 5 9 5	13.0 49.0 58.0	-0.2 -0.5 1.4								3.31	237.91	Italy 46.34 N 13.06 E H = 3 1 17.2 Depth = 10 km	
298	MAY 12	BRA	EPG	11 2	11.0											No determination of epicentre	
299	MAY 12	BRA	ESG	18 8	38.0	-2.2								3.23	236.49	Italy 46.32 N 13.22 E H = 18 6 53.5 Depth = 0 km	
300	MAY 13	BRA	EP E IS	0 46 0 49 0 50	18.0 9.0 9.0	-4.0 -4.8								8.77	163.30	Greece-Albania Border Region 39.72 N 15.20 E H = 76 44 15.7 Depth = 4.8 km MB = 4.3	

301	MAY 13	BRA	EP E ES	13 5 13 5 13 6	44.0 56.0 44.0	-2.5 18.7								3.44	237.01	Northern Italy 46.22 N 12.95 E H = 13 4 52.7 Depth = 35 km
302	MAY 14	BRA	IP	6 35	58.0	0.3								62.55	254.74	North Atlantic Ridge 10.79 N 43.51 W H = 6 25 33.0 MB = 5.5 Depth = 21 km
303	MAY 14	BRA	EP	20 52	16.7	1.0										Hokkaido Region 41.63 N 143.73 E H = 20 40 15.0 MB = 5.2 Depth = 42 km
304	MAY 15	BRA	IPB ISB	4 27 4 27	13.0 58.0	-2.0								3.30	234.39	Italy 46.18 N 13.24 E H = 4 26 15.7 Depth = 16 km
305	MAY 15	SPC	EPG ESG	7 59 7 59	13.0 36.0									43.58	176.77	Zaire 4.47 N 19.34 E H = 8 9 55.0 MB = 5.2 Depth = 7 km
306	MAY 15	BRA	EP IPP EP	8 17 8 19 8 18	58.0 45.0 10.0	-3.4 0.2 0.7								44.56	181.29	Northern Italy 46.89 N 12.90 E H = 9 29 30.8 Depth = 10 km
307	MAY 15	BRA	EPB ESG	9 30 9 31	25.0 11.0	-2.0 -3.0								3.12	247.38	Italy 46.21 N 13.21 E H = 15 25 16.0 Depth = 33 km
308	MAY 15	BRA	ESB	15 27	0.0	2.1								3.30	235.03	Italy 46.21 N 13.21 E H = 15 25 16.0 Depth = 33 km
309	MAY 15	BRA	EPG EPG ESG	16 7 16 7 16 7	3.5 12.0 44.0	0.8 9.3 -1.7								3.28	233.59	Italy 46.16 N 13.31 E H = 16 5 57.4 Depth = 0 km
310	MAY 15	BRA	EP IPCP IPP IMH EP LMV	22 9 22 9 22 13 22 52 22 9 22 53	38.0 43.0 44.0 0.0 55.0 0.0	-2.7 2.1 -2.9 4.5		44.9	22.0	40.2	22.0			99.58	263.35	Peru 11.62 S 74.45 W H = 21 55 55.0 MB = 5.9 Depth = 5 km
311	MAY 16	BRA	EP	8 47	4.0	-1.1								77.35	334.36	Vancouver Island Region 48.92 N 123.10 W H = 8 35 15.1 Depth = 60 km MB = 5.2

No.	Date	Stat. Code	Phase	GMT h m s	RES O-C	Z	A	T	E-W	A	T	N-S	A	T	MPV	MIH	Delta	Azimuth	Remarks
312	MAY 17	HRB BRA	EAP KIS LMB +IP ES LMB	3 5 21.0 3 10 38.0 3 24 0.0 3 5 21.9 3 10 39.0 3 24 30.0	-0.6 -3.1 -1.8 -6.3				73.2	10.0		52.4	10.0			6.8	32.96 33.67	86.16 85.88	Uzbekistan 40.35 N 63.45 E H = 2 58 41.1 Depth = 14 km MB = 6.2 /ISC/  Northern Italy 46.22 N 12.99 E H = 16 13 18.6 Depth = 38 km /ISC/  Northern Italy 46.28 N 12.96 E H = 1 30 11.6 Depth = 39 km /ISC/  Northern Italy 46.28 N 12.92 E H = 2 39 43.4 Depth = 75 km /ISC/  New Hebrides Region 21.58 S 173.43 E H = 4 54 50.7 Depth = 36 km MB = 5.4 /ISC/  Crete 34.92 N 25.42 E H = 8 30 20.7 Depth = 71 km MB = 4.7 /ISC/  Northern Italy 45.90 N 12.50 E H = 14 32 23.0 Depth = 10 km /ISC/  Italy 46.10 N 13.00 E H = 15 22 15.0 Depth = 0 km /ISC/  Colombia 4.49 N 75.77 W H = 4 7 16.4 Depth = 161 km MB = 5.8 /ISC/  Caribbean Sea 16.98 N 85.60 W H = 17 43 56.0 Depth = 10 km MB = 5.2 /ISC/
313	MAY 17	BRA	IP I IS I	16 14 9.3 16 14 15.3 16 14 18.3 16 15 3.3 16 14 27.0	-1.5 12.6												3.42 5.73	236.73 241.49	
314	MAY 18	BRA SPC	EP E ES EP	1 31 6.7 1 31 12.7 1 31 54.7 1 31 35.0	-0.6 11.5 -1.2												3.40 5.71	237.76 242.11	
315	MAY 18	BRA	I	2 41 30.0													3.42	238.03	
316	MAY 18	SPC BRA	EKP2 EKP2	5 14 26.0 5 14 31.0	-0.1 2.9												145.18 147.38	47.33 43.89	
317	MAY 18	BRA	EAP IXP EPCP	8 33 55.0 8 34 17.0 8 39 13.0	-1.0 10.5 18.1												14.61	151.90	
318	MAY 18	BRA	EPN ISN	14 33 27.0 14 34 12.0	1.8 -0.2												3.88	235.93	
319	MAY 18	BRA	EPB ESB	15 23 15.0 15 24 0.0	-2.3												3.48	235.07	
320	MAY 19	BRA	-IP IPCP LAP ISCS IPCP	4 19 51.7 4 20 8.0 4 20 35.0 4 30 28.0 4 20 6.0	-0.4 14.2 2.1 1.5 3.6												88.61	275.12	
321	MAY 19	BRA	+IP E	17 56 36.0 17 58 21.0	-0.5												90.56 85.72	277.46 290.59	

322	MAY 19	SPC BRA	EKP2 EKP2 IPKP2 IAPKP2 I	19 31 14.0 19 30 30.0 19 31 10.0 19 31 27.0 19 35 18.0	-9.1 -0.7 -2.2 -5.3												157.60 159.74	43.70 39.08	Kermadec Islands Region 31.30 S 177.67 W H = 19 10 40.6 Depth = 72 km MB = 5.8 /ISC/
323	MAY 20	BRA	IPKP2 IAPKP2 EPP	5 19 0.0 5 20 14.0 5 22 11.0	2.8 12.1 -11.8												146.41	21.40	Tonga 16.00 S 175.01 W H = 4 59 45.2 Depth = 275 km MB = 5.5 /ISC/
324	MAY 21	SPC BRA	EPCP -IP IXP I ESKS	4 24 31.0 4 24 38.0 4 25 38.0 4 29 35.0 4 34 59.0	3.3 0.2 -9.7 3.4												96.90 99.17	76.28 73.99	Talau Islands 3.69 N 125.14 E H = 4 11 17.8 Depth = 198 km MB = 5.8 /ISC/
325	MAY 21	BRA	EKP2 EKP2	7 1 2.0 7 4 35.0	0.7 -1.7												119.54	63.05	Eastern New Guinea Region 5.91 S 145.88 E H = 6 42 24.8 Depth = 112 km MB = 5.8 /ISC/
326	MAY 21	BRA	E	9 10 20.0															No determination of epicentre
327	MAY 21	BRA	-IPG	10 42 55.6															No determination of epicentre
328	MAY 21	SPC BRA	IPG ESG	12 58 51.0 12 59 45.0	0.6 2.8												1.37 2.40	321.30 28.92	Poland 50.25 N 18.91 E H = 12 58 23.0 /WAR/
329	MAY 21	BRA	IP EPP	15 17 1.0 15 20 31.0	1.0 5.8												86.83	45.05	South of Honshu 31.06 N 141.68 E H = 15 4 18.3 Depth = 38 km MB = 5.1 /ISC/
330	MAY 22	SPC BRA	EKP2 EKP2 E	3 19 6.0 3 19 10.0 3 21 31.0	3.5 3.0												121.81 124.11	57.34 54.78	Solomon Islands 5.60 S 154.29 E H = 3 0 21.0 Depth = 107 km MB = 6.0 /ISC/
331	MAY 22	BRA	-IPKP2 E	10 10 6.0 10 11 27.0	1.7												145.56	48.44	Loyalty Islands Region 21.32 S 170.11 E H = 9 50 38.9 Depth = 130 km MB = 4.8 /ISC/
332	MAY 22	BRA	E EKP2	10 18 24.0 10 19 27.0	0.2												160.00	38.82	Kermadec Islands Region 31.48 S 177.43 W H = 9 58 46.0 Depth = 12 km MB = 5.0 /ISC/
333	MAY 23	BRA	EPN IPG ISB ISG I E	0 52 3.0 0 52 20.0 0 52 56.0 0 53 14.0 0 54 14.0 0 56 47.0	-3.3 1.5 0.9 11.6												3.35	236.59	Italy 46.25 N 13.07 E H = 0 51 11.6 Depth = 12 km /ISC/

No.	Date	Stat. Code	Phase	GMT			RES O-C	A			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m	s		Z	T	A	T	A	T	A	T	A					
334	MAY 23	BRA	EPKIKP EPKHP IPP E LME	6 20 6 20 6 21 6 21 6 25 6 38	2.0 4.0 26.0 44.0 11.0 0.0	2.7 -2.7 -19.9 -1.9											123.28	55.04	New Ireland Region 5.02 S 153.65 E H = 6 1 16.8 Depth = 122 km MB = 5.9 /ISC/		
335	MAY 23	BRA	EP E E	16 46 16 47 16 51	16.0 31.0 40.0	-1.6											101.34	266.93	Near Coast of Peru 10.51 S 78.30 W H = 16 32 31.2 Depth = 56 km MB = 5.8 /ISC/		
336	MAY 24	BRA	EPKIKP EAPKP2	5 30 5 31	15.0 24.0	-1.2 15.7											159.83	38.99	Kermadec Islands Region 31.36 S 177.59 W H = 5 10 21.0 Depth = 33 km MB = 5.3 /ISC/		
337	MAY 24	SPC	E I I	10 55 10 56 10 59	43.0 26.0 8.0				24.0	15.0	9.0	15.0							No determination of epicentre		
338	MAY 24	SPC BRA	I +IP IAP I IPP ISCS LME	11 35 11 37 11 37 11 39 11 40 11 47 12 25	57.0 7.0 16.0 19.0 38.0 49.0 30.0	0.2 -3.6											84.44 86.65	47.10 44.81	South of Honshu 31.34 N 141.80 E H = 11 24 26.5 Depth = 42 km MB = 5.6 /ISC/		
339	MAY 24	BRA	IPN ISB	17 53 17 54	32.0 36.0	3.4 4.2											4.28	238.19	Northern Italy 45.79 N 11.90 E H = 17 52 20.7 Depth = 10 km		
340	MAY 25	SPC BRA	IPKP2 IPKIKP	3 46 3 46	53.0 53.0	0.2 2.7											145.62 147.54	31.73 27.40	Fiji Region 18.04 S 177.94 W H = 3 28 17.5 Depth = 609 km MB = 5.4 /ISC/		
341	MAY 25	SPC BRA	IP +IP I EPP	8 20 8 20 8 21 8 23	39.0 44.0 32.0 26.0	-1.7 -7.0 -16.4											73.66 75.45	25.20 23.26	Off East Coast of Kamchatka 51.63 N 159.28 E H = 8 9 9.5 Depth = 40 km MB = 5.3 /ISC/		
342	MAY 25	SPC	IP	8 28	17.0	0.2											73.70	25.19	Off East Coast of Kamchatka 51.60 N 159.32 E H = 8 16 43.0 Depth = 23 km MB = 5.5 /ISC/		
343	MAY 25	BRA	E	18 50	16.0												12.38	131.27	Turkey 39.31 N 29.09 E H = 18 43 27.9 Depth = 14 km MB = 4.6 /ISC/		

344	MAY 25	BRA	EPG	19 49	1.0	-2.4											3.33	236.51	Italy 46.26 N 13.10 E H = 19 47 57.0 Depth = 0 km /ISC/
345	MAY 27	BRA	EPKHP EAPKHP	7 14 7 16	26.0 35.0	1.3 -0.2											150.97	32.89	South of Fiji 22.27 S 179.42 W H = 6 55 39.5 Depth = 566 km MB = 4.8 /ISC/
346	MAY 27	BRA	IPG	13 54	4.0														No determination of epicentre
347	MAY 28	SPC BRA	EPP EP E I LME	23 5 23 6 23 9 23 11	19.0 21.0 9.0 18.0 30.0	-2.6 0.2			0.2	9.0	0.5	9.0					11.80 12.46	143.92 131.20	Turkey 39.26 N 29.17 E H = 23 2 20.3 Depth = 8 km MB = 4.5 /ISC/
348	MAY 29	SPC BRA	IP IPP IP IPP ISP LME	12 34 12 36 12 34 12 36 12 43 13 2	2.0 25.0 12.0 42.0 27.0 30.0	2.4 1.3 -1.8 -0.8 -0.9											64.63 66.86	81.34 78.70	Burma-China Border Region 24.51 N 98.95 E H = 12 23 18.4 Depth = 3 km MB = 5.9 /ISC/
349	MAY 29	SPC BRA	IP IPP IP IPP ISP LME	14 11 14 13 14 11 14 13 14 20 15 39	3.0 24.0 15.0 54.0 21.0 30.0	4.2 1.7 1.9 12.3 -4.4			0.5	15.0	1.0	15.0					64.39 66.61	81.57 78.92	Burma-China Border Region 24.54 N 98.60 E H = 14 0 19.4 Depth = 4 km MB = 5.7 /ISC/
350	MAY 29	SPC BRA	IP IP IPCP IPP	19 47 19 48 19 48 19 50	49.0 0.0 10.0 21.0	15.6 12.4 -6.4 4.4											101.70 103.96	77.84 75.60	Djalilolo Gilolo-Halmahera 1.02 S 127.03 E H = 2 56 37.0 Depth = 7 km MB = 5.6 /ISC/
351	MAY 30	SPC BRA	EPP IPP	3 14 3 15	49.0 13.0	4.2 11.3			0.5	18.0	1.0	18.0					120.79	240.88	Off Coast of Southern Chile 41.50 S 75.34 W H = 3 8 54.5 Depth = 27 km MB = 6.0 /ISC/
352	MAY 30	BRA SPC	IPKIKP I IPP E	3 27 3 28 3 29 3 28	42.0 48.0 17.0 50.0	-2.4 0.1											123.10	243.18	
353	MAY 30	BRA	EP I	21 14 21 15	14.0 9.0	3.6											3.31	238.13	Italy 46.35 N 13.05 E H = 21 13 13.6 Depth = 43 km /ISC/
354	MAY 31	SPC BRA	IP I IPP LME	5 19 5 20 5 19 5 49	9.0 26.0 22.0 47.0 30.0	2.0 0.8 -3.1											64.52 66.74	81.69 79.04	Burma-China Border Region 24.37 N 98.62 E H = 5 8 30.0 Depth = 25 km MB = 5.5 /ISC/

No.	Date	Stat. Code	Phase	GMT		RES O-C	E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T				
355	MAY 31	BRA	ESG	7	26	10.0							3.21	231.27	Italy 46.10 N 13.50 E H = 7 24 21.0 Depth = 0 km	
356	MAY 31	BRA	EP IPP E	18 46 18 48 18 49	0.0 28.0 13.0	2.4 1.3							66.84	79.06	Burma-China Border Region 24.29 N 98.68 E H = 18 35 5.0 Depth = 20 km MB = 5.1	
357	MAY 31	BRA	EPKP2	20 59	16.0	-6.9							159.47	39.01	Kermadec Islands Region 31.05 S 177.80 W H = 20 38 46.0 Depth = 22 km	
358	MAY 31	BRA	EPKICP EPKSAB	22 41 22 45	34.0 13.0	2.4 6.0							134.65	46.45	Santa Cruz Islands 11.26 S 165.40 E H = 22 22 14.3 Depth = 21 km MB = 5.2	
359	JUN 1	BRA	IP	14 2	4.0										No determination of epicentre	
360	JUN	BRA	IPB ISG ISG I	17 22 17 23 17 23 17 24	13.0 4.0 10.0 14.0	1.4 -0.5 5.5							3.49	237.88	Northern Italy 46.23 N 12.84 E H = 17 21 9.0 Depth = 9 km	
361	JUN 1	BRA	ISB	19 17	49.0	-2.5							3.42	236.40	Italy 46.20 N 13.00 E H = 19 16 6.0 Depth = 33 km	
362	JUN 2	BRA	ESG	9 28	54.0	2.0							3.43	237.89	Northern Italy 46.27 N 12.92 E H = 9 26 58.8 Depth = 0 km	
363	JUN 2	BRA	IPG	11 1	28.0										No determination of epicentre	
364	JUN 3	SPC BRA	IPKHKP IPKIKP I I I LMB	14 4 14 4 14 6 17 3 17 3 17 4 17 6 17 13 17 47	34.0 25.0 46.0 26.0 25.0 14.0 10.0 2.0 30.0	7.8 -0.3 -3.1							151.74 153.90	44.88 40.92	South of Fiji 26.55 S 178.34 E H = 13 45 44.2 Depth = 620 km MB = 5.6	
365	JUN 3	SPC BRA	IPKIKP +IPKIKP I I I LMB	17 3 17 3 17 4 17 6 17 13 17 47	26.0 25.0 14.0 10.0 2.0 30.0	4.2 -1.2							121.01 123.31	57.75 55.21	New Ireland Region 5.13 S 153.55 E H = 16 44 40.3 Depth = 95 km MB = 6.1	

No.	Date	Stat. Code	Phase	GMT		RES O-C	E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T				
366	JUN 3	SPC BRA	LAPKHKP -IPKP2 LAPKIKP	21 23 21 23 21 23	29.0 31.0 40.0	-0.1 -1.4 3.0							144.75 146.38	21.13 16.38	Samoa Region 15.35 S 172.21 W H = 21 3 51.0 Depth = 27 km MB = 5.3	
367	JUN 4	BRA	EP	0 52	9.0	-1.1							46.57	101.63	India-Pakistan Border Region 24.52 N 68.45 E H = 0 43 41.4 Depth = 18 km MB = 5.1	
368	JUN 4	SPC BRA	EP IXP -IP IXP I ISKS LMB	4 35 4 36 4 35 4 36 4 38 4 46 5 15	38.0 9.0 50.0 20.0 32.0 2.0 30.0	0.9 19.8 1.5 19.3 0.9							79.10 81.24	42.48 40.28	Near East Coast of Honshu 38.35 N 142.75 E H = 4 23 33.6 Depth = 28 km MB = 5.5	
369	JUN 4	BRA	IPG	10 54	5.0										No determination of epicentre	
370	JUN 4	BRA	EPP ISCS	23 57 23 58	47.0 8.0	-3.2 -9.6							104.19	251.05	Northern Chile 23.27 S 68.54 W H = 23 39 33.1 Depth = 82 km MB = 5.3	
371	JUN 5	SPC BRA	LAPKHKP IPKIKP IPP	8 39 8 39 8 41	11.0 11.0 46.0	-0.5 -1.8 9.1							129.20 131.47	53.41 50.65	Solomon Islands 10.08 S 161.06 E H = 8 20 9.2 Depth = 79 km MB = 6.0	
372	JUN 6	SPC BRA	EPCP KXP IXP I	2 29 2 29 2 29 2 30	26.0 38.0 47.0 47.0	-0.9 5.3 14.3							78.43 78.61	339.22 337.33	Vancouver Island Region 48.98 N 127.91 W H = 2 17 18.3 Depth = 33 km MB = 5.1	
373	JUN 6	BRA	ESB ISG	8 14 8 14	24.0 37.0	-2.9 2.2							3.52	237.15	Northern Italy 46.18 N 12.85 E H = 8 12 38.5 Depth = 33 km	
374	JUN 7	SPC BRA	LAP IPP LAP I I ESKS IXS LMB	7 49 7 53 7 50 7 50 7 52 8 0 8 1 8 35	54.0 14.0 6.0 36.0 15.0 39.0 18.0 30.0	-2.7 -5.2 -1.5 12.3 10.8							88.77 91.08	69.92 67.57	Luzon 14.06 N 124.87 E H = 7 36 55.3 Depth = 28 km MB = 6.0	
375	JUN 7	BRA SPC	-IPCP I IPP ESKS LMB IPCP IPP	14 39 14 41 14 43 14 43 14 50 15 32 14 40 14 43	56.0 48.0 12.0 42.0 30.0 0.0 4.0 55.0	-0.3 -3.8 4.9 2.5 0.4							94.37 95.55	302.09 304.62	Guerrero, Mexico 17.45 N 100.65 W H = 14 26 39.9 Depth = 48 km MB = 6.0	

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T					
376	JUN 7	SPC BRA	RAPKIKP +IPKIKP I	21 12 21 12 21 12	9.0 7.0 48.0	-0.9 -0.8										143.24 145.49	51.16 48.01	Loyalty Islands Region 21.13 S 170.29 E H = 20 52 34.1 MB = 5.2 /ISC/ Depth = 40 km	
377	JUN 8	BRA	IPKIKP ESKDP	9 41 9 45	46.0 10.0	-0.1 -8.4										139.83	47.84	New Hebrides 16.23 S 167.25 E H = 9 22 19.0 MB = 4.9 /ISC/ Depth = 19 km	
378	JUN 8	BRA	IPN IPB ISB ISG I HRB SPC EPN	12 15 12 15 12 16 12 16 12 17 12 17 12 16 12 16	28.0 37.0 19.0 40.0 19.0 17.0 3.0	-3.0 0.9 1.0 15.1 -6.6 -0.8										3.23	236.14	Italy 46.30 N 13.23 E H = 12 14 38.0 Depth = 19 km /ISC/	
379	JUN 9	BRA	+IP IPCP I ESCS IMH	0 31 0 31 0 35 0 41 1 4	29.0 47.0 41.0 29.0 0.0	-0.0 -11.6 7.3											66.43	78.51	Burma-China Border Region 24.94 N 98.74 E H = 0 20 37.9 MB = 5.6 /ISC/ Depth = 13 km
380	JUN 9	SPC BRA	KIP LMV IAP I I	10 5 10 10 10 5 10 6 10 9	30.0 45.0 36.0 12.0 57.0	1.2 0.2											11.81 12.46	144.03 131.32	Turkey 39.24 N 29.15 E H = 10 2 33.0 MB = 4.7 /ISC/ Depth = 12 km
381	JUN 9	BRA	EPKIKP	16 49 16 49	39.0	3.3											123.23	58.19	New Britain Region 6.47 S 151.43 E H = 16 30 40.1 MB = 5.5 /ISC/ Depth = 21 km
382	JUN 9	BRA	IPN IPB ISB I I I EPB I	18 49 18 49 18 50 18 50 18 51 18 51 18 50 18 51	11.4 20.0 2.0 41.0 17.0 5.0 50.0	-1.8 1.0 -1.9 6.5											3.48	237.08	Northern Italy 46.20 N 12.90 E H = 18 48 16.7 Depth = 20 km /ISC/
383	JUN 9	BRA	EP I	23 8 23 13	34.0 53.0	-2.1											80.52	206.81	South Atlantic Ridge 28.00 S 13.10 W H = 22 56 25.7 MB = 4.6 /ISC/ Depth = 33 km
384	JUN 10	BRA	+IP IPCP E	10 31 10 31 10 32	14.0 26.0 26.0	0.7 -0.5											75.49	23.20	Off East Coast of Kamchatka 51.62 N 159.40 E H = 10 19 32.2 MB = 5.1 /ISC/ Depth = 46 km

385	JUN 10	BRA	IPKIKP I	11 28 11 29	40.0 49.0	-0.8										146.08	49.38	Loyalty Islands Region 22.05 S 169.94 E H = 11 9 4.0 Depth = 26 km /ISC/	
386	JUN 10	BRA	ESG	13 6	16.0	4.0										3.29	236.65	Italy 46.29 N 13.14 E H = 13 4 23.3 Depth = 0 km /ISC/	
387	JUN 11	SPC BRA	RAP EPCP KIP EPCP LMH	5 16 5 18 5 16 5 18 5 37	25.0 35.0 54.0 30.0 30.0	-1.5 10.3 7.9 -2.1										40.82 43.05	80.91 77.87	Southern Sinkiang Province 39.90 N 77.28 E H = 5 8 40.0 MB = 5.0 /ISC/ Depth = 11 km	
388	JUN 11	SPC	IP I IS IS I	17 18 17 18 17 19 17 19 17 20	9.0 27.0 13.0 25.0 5.0	-16.4 -0.5 11.5										5.76	241.80	Northern Italy 46.23 N 12.93 E H = 17 16 42.8 Depth = 50 km /ISC/	
389	JUN 12	HRB SPC	E LMH IP IPP IPP I I I I I I LMV	1 3 1 7 1 2 1 2 1 2 1 3 1 3 1 3 1 3 1 7	15.0 0.0 8.0 26.0 35.0 52.0 7.0 27.0 46.0 30.0	1.0 9.5 18.5										10.49 11.67	169.52 178.68	Ionian Sea 37.52 N 20.58 E H = 0 59 18.1 MB = 5.4 /ISC/ Depth = 17 km	
390	JUN 12	BRA	EP E	10 40 10 42	26.0 29.0	4.4											26.18	341.37	Jan Mayen Island Region 71.30 N 8.80 W H = 10 34 45.1 MB = 4.5 /ISC/ Depth = 10 km
391	JUN 13	SPC BRA	IPCP +IP IAP E IPP	18 49 18 49 18 50 18 53 18 54	53.0 56.0 14.0 14.0 8.0	7.5 0.5 1.0 -2.0										99.83 102.08	78.78 76.53	Molucca Sea 0.17 S 125.12 E H = 18 36 6.5 MB = 5.7 /ISC/ Depth = 61 km	
392	JUN 13	BRA	-IP IKP E EP	19 17 19 18 19 19 19 18	56.0 20.0 11.0 6.0	3.5 9.8 2.7										72.77 74.63	279.42 281.37	Mona Passage 19.07 N 67.91 W H = 19 6 26.8 MB = 5.4 /ISC/ Depth = 43 km	
393	JUN 13	BRA	EPF	22 21	0.0	-1.0										102.87	261.51	Near Coast of Peru 15.28 S 75.40 W H = 22 2 46.7 MB = 5.5 /ISC/ Depth = 24 km	
394	JUN 14	BRA	IP I E	6 55 6 59 7 2	33.0 21.0 6.0	-2.7										12.45	130.69	Turkey 39.34 N 29.27 E H = 6 52 37.0 MB = 4.7 /ISC/ Depth = 23 km	

No.	Date	Stat. Code	Phase	GMT			RES O-C	Z			E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T	A	T					
395	JUN 14	BRA	-IPCP	14	7	6.0	0.5								92.38	296.99	Near Coast of Oaxaca, Mexico H = 13.93 N 95.17 W Depth = 45 km MB = 5.1 /ISC/			
396	JUN 14	BRA	IP I E	18 13 18 14 18 15	49.0 19.0 37.0	2.1								80.28	5.32	Poz Islands H = 51.67 N 171.34 W H = 18 1 33.0 Depth = 2 km MB = 5.1 /ISC/				
397	JUN 15	BRA	IPG ISB I	5 47 5 48 5 49	41.0 17.0 17.0	2.6 2.5								3.30	236.29	Italy H = 46.27 N 13.15 E H = 5 46 32.7 Depth = 10 km				
398	JUN 15	SPC BRA	EPDIFP EPDIFP IPP E E LMH	6 23 6 23 6 27 6 31 6 32 7 48	23.0 17.0 47.0 26.0 17.0 0.0	13.9 -2.3 -4.0			20.0	15.0	20.0	15.0		105.39 107.69	70.68 68.40	West Irian Region H = 0.52 N 134.75 E H = 6 9 2.5 Depth = 36 km MB = 5.9 /ISC/				
399	JUN 15	SPC BRA	EP EPCP IPCP	22 48 22 48 22 48	24.0 40.0 46.0	-1.3 -2.8 3.2								79.76 81.96	46.62 44.38	Near South Coast of Honshu H = 35.47 N 139.06 E H = 22 36 20.7 Depth = 47 km MB = 5.4 /ISC/				
400	JUN 15	BRA	IP IXP IPCP E E	23 44 23 44 23 45 23 47 23 44	16.0 40.0 16.0 25.0 35.0	0.3 10.7 3.2 4.3								56.31	218.48	North of Ascension Island H = 1.38 S 14.08 W H = 23 34 35.8 Depth = 32 km MB = 5.3 /ISC/				
401	JUN 16	BRA	EPB ISG E	3 21 3 22 3 23	36.0 23.0 15.0	3.1 -0.8								3.37	235.97	Italy H = 46.21 N 13.08 E H = 3 20 32.4 Depth = 10 km				
402	JUN 16	BRA	IPG I	11 3 11 3	42.0 48.0											No determination of epicentre				
403	JUN 17	SPC	E	2 33	39.0											No determination of epicentre				
404	JUN 17	SPC BRA	EP IP IPCP IXP E	2 56 2 56 2 56 2 56 2 57	31.0 33.0 48.0 54.0 30.0	1.7 -1.4 -1.1 3.6								73.68 74.55	356.98 355.24	Kodiak Island Region H = 57.41 N 154.39 W H = 2 44 57.8 Depth = 38 km MB = 5.2 /ISC/				
405	JUN 17	SPC	IPN IPG I I E	8 0 8 0 8 0 8 0 8 0	34.0 37.0 46.0 50.0 50.0											No determination of epicentre				

406	JUN 17	BRA	ESN ISG	13 29 13 29	4.0 17.0	-7.5 2.0								3.30	239.68	Northern Italy H = 46.43 N 12.99 E H = 13 27 37.1 Depth = 10 km /ISC/
407	JUN 17	HRB SPC	E LMH EP	14 31 14 33 14 30	1.5 0.0 17.0	-2.3								4.03	246.97	Northern Italy H = 46.17 N 12.85 E H = 14 28 50.8 Depth = 35 km /ISC/
408	JUN 17	BRA	EPG ISG E	16 43 16 44 16 45	14.0 0.0 27.0	-2.3 -0.3								3.36	236.24	Italy H = 46.23 N 13.08 E H = 16 42 9.3 Depth = 10 km /ISC/
409	JUN 18	SPC BRA	EAPKIKP -IPKIKP IAPKIKP IAPKP2 E	2 5 2 5 2 5 2 6 2 7	32.0 26.0 47.0 11.0 14.0	-2.2 -0.0 4.0 8.4								152.78 154.70	32.30 27.32	South of Tonga H = 24.82 S 175.36 W H = 1 45 37.3 Depth = 33 km MB = 5.6 /ISC/
410	JUN 18	SPC	IPN IPN ISN ESN IPB EPG ESG	8 7 8 7 8 8 8 8 8 7 8 8 8 8	46.7 50.4 8.3 10.9 54.4 3.0 18.0	0.2 3.9 5.7 8.3 0.6 7.5 1.8								1.10	281.72	Czechoslovakia H = 49.40 N 18.60 E H = 8 7 24.0 Depth = 0 km /ISC/
411	JUN 18	BRA	-I E E EPP	10 27 10 28 10 32 10 31	17.0 26.0 26.0 50.0	-14.4								102.97	261.55	Near Coast of Peru H = 15.32 S 75.50 W H = 10 13 47.0 Depth = 9 km MB = 5.6 /ISC/
412	JUN 18	BRA	E	12 43	11.0											No determination of epicentre
413	JUN 18	BRA	IPG	14 5	56.0											No determination of epicentre
414	JUN 18	BRA	E E	14 46 14 47	2.0 23.0											No determination of epicentre
415	JUN 18	BRA	EPKIKP EPP	22 54 22 56	47.0 11.0	-3.3 -7.7								119.95	56.95	New Ireland Region H = 3.15 S 150.44 E H = 22 36 3.0 Depth = 33 km MB = 5.4 /ISC/
416	JUN 19	SPC BRA	EP IAP IPCP IP I IPP IS	15 12 15 12 15 13 15 12 15 13 15 15 15 22	42.0 46.0 10.0 42.0 39.0 45.0 48.0	-2.2 -4.8 15.6 -6.3 -3.1 5.3								77.86 78.61	136.36 133.55	Mascarene Islands Region H = 17.90 S 65.36 E H = 15 0 46.4 Depth = 21 km MB = 5.5 /ISC/



No.	Date	Stat. Code	Phase	GMT			RES O-C	Z			E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T	A	T					
417	JUN 20	SPC BRA	IP IP IP I I I	4 50 4 50 4 50 4 51 4 57 4 59 5 0	24.0 40.0 33.0 0.0 36.0 57.0 12.0	2.1 9.0 -0.9 17.0											62.28 59.94	South Western Ryukyu Island H = 24.79 N 125.99 E Depth = 21 km MB = 5.8 /ISC/		
418	JUN 20	SPC HRB BRA	IP IP E IPCP ES +IP IS	21 5 21 8 21 32 21 5 21 15 21 5 21 8 21 15	13.0 20.0 22.0 24.5 24.2 22.0 21.0 24.0	0.6 8.6 -2.8 4.2 -0.9 -6.1											98.41 96.58 95.81	Northern Sumatra H = 3.40 N 96.28 E Depth = 20.53 km MB = 6.3 /ISC/		
419	JUN 20	BRA	EP	21 40	20.0	-4.2											95.76	Northern Sumatra H = 3.29 N 96.45 E Depth = 21.28 km MB = 5.2 /ISC/		
420	JUN 20	BRA	EPCP	22 51	19.0	-1.0											95.50	Northern Sumatra H = 3.40 N 96.70 E Depth = 22.39 km MB = 4.5 /ISC/		
421	JUN 20	BRA	EP	22 53	0.0	0.7											95.58	Northern Sumatra H = 3.50 N 96.50 E Depth = 22.40 km MB = 5.2 /ISC/		
422	JUN 20	SPC BRA	EP IP IPP	23 40 23 40 23 41	20.0 34.0 52.0	5.2 0.7 5.6											89.38 85.59	Uzbekistan H = 40.41 N 63.75 E Depth = 23.33 km MB = 5.2 /ISC/		
423	JUN 21	BRA	IP	0 7	10.0	0.7											95.64	Northern Sumatra H = 3.48 N 96.44 E Depth = 23.55 km MB = 5.1 /ISC/		
424	JUN 21	SPC BRA	IP +IP	4 54 4 54	48.0 58.0	0.1 -0.4											98.39 95.80	Northern Sumatra H = 3.30 N 96.39 E Depth = 4.42 km MB = 5.3 /ISC/		
425	JUN 21	SPC BRA	IP IPCP +IP EPCP E	7 29 7 29 7 29 7 29 7 30	34.0 40.0 46.2 55.2 15.0	-0.1 -3.8 1.5 3.0											98.28 95.69	Northern Sumatra H = 3.43 N 96.42 E Depth = 17.31 km MB = 5.7 /ISC/		

426	JUN 22	SPC BRA	IP +IP IXP	2 36 2 36 2 36	9.0 18.3 30.3 51.3	1.8 0.6 5.4 7.0											78.34 80.28	Northern Sumatra H = 3.45 N 96.38 E Depth = 2.24 km MB = 5.1 /ISC/
427	JUN 22	SPC BRA	IP IP IPCP IXP	12 11 12 11 12 11 12 11	5.0 15.0 21.0 30.0 15.0	1.9 1.4 -0.1 1.1											98.52 95.93	Northern Sumatra H = 3.35 N 96.17 E Depth = 11.59 km MB = 5.3 /ISC/
428	JUN 22	SPC BRA	EP EP	22 49 22 49	28.0 33.0	4.4 -1.1											98.13 95.54	Northern Sumatra H = 3.41 N 96.63 E Depth = 22.37 km MB = 4.7 /ISC/
429	JUN 23	SPC BRA	IP IP LAP	1 19 1 20 1 20	58.0 6.0 15.0	2.5 -0.0 -1.4											98.19 95.60	Northern Sumatra H = 3.45 N 96.52 E Depth = 1.7 km MB = 5.0 /ISC/
430	JUN 23	SPC BRA	E I	9 29 9 29	22.0 24.0												98.24 95.65	Northern Sumatra H = 3.33 N 96.56 E Depth = 9.15 km MB = 4.8 /ISC/
431	JUN 23	BRA	E I	11 55 11 55	33.0 45.0													No determination of epicentre
432	JUN 23	SPC BRA	KPP EPDIPF E IPP I	14 8 14 4 14 7 14 8 14 11	23.0 15.0 30.0 56.0 15.0	-6.9 -0.2 8.9											70.60 68.32	West Irian Region H = 0.53 N 134.84 E Depth = 13.49 km MB = 5.9 /ISC/
433	JUN 23	SPC BRA	EP IP	15 48 15 49	52.0 0.0	4.0 -2.0											91.58 88.66	India H = 21.18 N 88.62 E Depth = 15.38 km MB = 5.0 /ISC/
434	JUN 24	SPC BRA	IP IXP IP I I IS	6 11 6 11 6 11 6 12 6 13 6 21	34.0 48.0 42.0 18.0 30.0 45.0	1.7 2.7 -0.8 0.0											98.40 95.81	Northern Sumatra H = 3.35 N 96.33 E Depth = 5.59 km MB = 5.6 /ISC/
435	JUN 24	BRA	IPCP EXP	8 33 8 34	57.0 21.0	-3.5 10.1											95.75	Northern Sumatra H = 3.38 N 96.38 E Depth = 8.21 km MB = 5.0 /ISC/
436	JUN 25	BRA	+IP IPF I IS	7 4 7 4 7 5 7 7	24.0 36.0 15.0 3.0	-0.2 0.6 4.4											158.50	Crete H = 35.07 N 23.25 E Depth = 7.1 km MB = 5.0 /ISC/



No.	Date	Stat. 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						
459	JUL 10	BRA	KPN IPG ISG ISG I I E	4	12	16.0	-1.5 -3.1 11.9 2.2 11.2										3.26	236.43	Italy 46.30 N 13.19 E H = 4 11 24.2 Depth = 10 km /ISC/		
460	JUL 10	SPG	-IP IPOP IPCP LAP IP	11 11 11 11 11	48 48 49 48 48	4.0 19.0 33.0 37.0 13.0	1.9 1.9 15.9 5.5 -0.6										72.92	35.42	Sea of Okhotsk 47.31 N 145.75 E H = 11 37 14.0 Depth = 402 km MB = 5.8 /ISC/		
461	JUL 11	BRA	IP IKP IPP ISKS LMB IPCP IPP E LMB	17 17 17 17 18 17 17 17 17	7 7 10 17 5 7 11 17 42	24.0 42.0 42.0 54.0 0.0 36.0 5.0 32.0 30.0	1.0 8.0 -10.2 6.5 2.6 -2.2		48.0	15.0	86.0	15.0					88.06	278.96	Panama 7.48 N 78.28 W H = 16 54 33.5 Depth = 25 km MB = 6.2 /ISC/		
462	JUL 11	BRA	IP IPP	18 18	33 36	12.0 36.0	-0.1 -5.5										88.07	278.82	Panama 7.38 N 78.17 W H = 18 20 24.7 Depth = 40 km MB = 5.6 /ISC/		
463	JUL 11	BRA	IPCP ISCS IPS LMB +IP I LMB	20 21 21 21 20 20 21	54 5 30 6 54 55 37	45.0 30.0 30.0 30.0 43.0 34.0 30.0	2.3 1.9 2.9 -6.4	247.0	18.0	147.0	18.0			7.7			87.96	278.75	Panama 7.41 N 78.05 W H = 20 41 47.9 Depth = 3 km MB = 6.1 /ISC/		
464	JUL 11	BRA	EAP	22	16	12.0	-2.8										88.05	278.91	Panama 7.46 N 78.23 W H = 22 3 17.4 Depth = 25 km MB = 5.1 /ISC/		
465	JUL 12	BRA	IPB ISB ISG ESG E E	8 8 8 8 8 8	5 6 6 6 7 7	52.0 34.0 40.0 49.0 7.0 28.0	1.3 1.5 0.6 9.6										3.23	239.16	Italy 46.44 N 13.09 E H = 8 4 52.6 Depth = 10 km /ISC/		
466	JUL 12	BRA	IP	14	55	58.0	-3.0										88.25	278.81	Panama 7.24 N 78.28 W H = 14 43 22.8 Depth = 10 km /ISC/		

No.	Date	Stat. 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								
467	JUL 13	BRA	IPKFP2	3	22	26.0	-2.7										159.11	37.83	Kermadec Islands 30.53 S 177.58 W H = 3 1 53.0 Depth = 20 km MB = 5.3 /ISC/		
468	JUL 13	BRA	-IPN IPG ISG ISG I E	12 12 12 12 12 12	11 11 12 12 12 13	26.0 36.0 12.0 18.0 36.0 21.0	-3.5 -1.8 -0.8 5.2										2.67	211.43	Yugoslavia 45.87 N 15.11 E H = 12 10 44.5 Depth = 10 km /ISC/		
469	JUL 13	SPG	IP IPP E IP IPP I E LMB	15 15 15 15 15 15 15 16	30 31 40 31 31 33 40 11	58.0 41.0 43.0 0.0 30.0 18.0 15.0 0.0	2.9 9.3 -0.9 -9.7										24.70	347.98	Norwegian Sea 72.62 N 3.41 E H = 15 25 34.4 Depth = 23 km MB = 5.1 /ISC/		
470	JUL 13	SPG	LAP IPP IP IKP E	17 17 17 17 17	5 5 5 5 6	15.0 40.0 18.0 33.0 51.0	-1.6 -8.6 0.0 8.6										24.70	348.06	Norwegian Sea 72.64 N 3.50 E H = 16 59 50.4 Depth = 16 km MB = 4.8 /ISC/		
471	JUL 14	BRA	+IP IKP IKP EFP IPCP I	1 1 1 1 1 1	45 45 45 48 45 46	23.8 39.0 48.0 48.0 34.0 19.0	0.8 4.1 13.1 -3.9 0.5										87.93	278.72	Panama 7.42 N 78.01 W H = 1 32 34.5 Depth = 27 km MB = 5.4 /ISC/		
472	JUL 14	BRA	IPN IPB IPG ISB I I I EFP IPB IPG ISB	5 5 5 5 5 5 5 5 5 5 5	40 40 40 41 43 46 41 41 41 41 42 20.0	25.3 33.0 51.0 15.0 42.0 27.0 6.0 14.0 29.0 20.0	-2.7 -0.1 11.5 0.0 5.2 1.4 3.4 -3.6										3.23	236.35	Italy 46.31 N 13.22 E H = 5 39 35.0 Depth = 26 km /ISC/		
473	JUL 14	SPG	IPCP IPP LMB +IP IKP IPP ISKS LMB	7 7 8 7 7 7 7 8	27 31 11 27 27 31 37 15	4.0 6.0 30.0 12.0 33.0 15.0 51.0 30.0	1.2 -1.6 0.1 5.2 -8.9 4.2	17.0	18.0	40.0	18.0						99.17	91.91	Bali Region 8.21 S 114.87 E H = 7 13 23.7 Depth = 37 km MB = 6.1 /ISC/		

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No.	Date	Stat. Code	Phase	GMT		RES O-C	E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T				
474	JUL 15	BRA SPC	IP EPCP	0 48 0 48	20.8 34.0	0.5 3.3							88.00 89.88	278.79 281.12		Panama 7.41 N 78.11 W H = 0 35 33.6 Depth = 43 km MB = 5.3 /ISC/
475	JUL 15	BRA	IP I I E	12 59 12 0 12 1 12 2	54.0 36.0 39.0 42.0	15.0							3.27	236.36		Italy 46.29 N 13.18 E H = 12 58 52.1 Depth = 37 km /ISC/
476	JUL 15	BRA SPC	EPB ESB EPP	19 43 19 45 19 43	45.0 33.0 42.0	0.2 8.4 4.1							7.83 8.43	159.43 177.54		Greece-Albania Border Region 40.77 N 20.72 E H = 19 41 28.0 Depth = 1 km /ISC/
477	JUL 15	SPC	E	20 23	3.0											No determination of epicentre
478	JUL 15	BRA	IP LXP	20 28 20 28	12.0 30.0	0.6 0.4							17.35	120.81		Turkey 37.55 N 35.90 E H = 20 24 11.7 Depth = 55 km MB = 4.6 /ISC/
479	JUL 16	SPC BRA	EP IP LXP	3 3 3 3 3 3	14.0 24.0 39.0	2.7 2.2 -0.2							78.41 80.35	98.26 95.67		Northern Sumatra 3.42 N 96.45 E H = 2 51 13.4 Depth = 42 km MB = 5.0 /ISC/
480	JUL 16	BRA	IPG	10 49	7.5								92.22	281.08		South of Panama 5.77 N 82.65 W H = 2 5 21.8 Depth = 22 km MB = 5.3 /ISC/
481	JUL 16	BRA SPC	IPP EPP	16 18 16 19	54.0 14.0	5.2 8.0							111.90 114.21	246.89 249.32		Near Coast of Central Chile 31.56 S 71.50 W H = 15 59 32.6 Depth = 61 km MB = 5.3 /ISC/
482	JUL 17	BRA	EAP	2 18	39.0	0.8							92.22	281.08		South of Panama 5.77 N 82.65 W H = 2 5 21.8 Depth = 22 km MB = 5.3 /ISC/
483	JUL 17	BRA SPC	EP LAP EPP I EP LPCP	4 24 4 24 4 26 4 27 4 24 4 25	21.0 30.0 42.0 24.0 40.0 16.0	-2.4 -1.4 2.9 2.9 0.5							60.63 62.66	213.75 216.71		Ascension Island Region 6.98 S 12.09 W H = 4 14 12.4 Depth = 26 km MB = 5.0 /ISC/
484	JUL 17	SPC BRA	EAPKIKP EPP LAPKIKP	5 51 5 52 5 51	20.0 10.0 24.0	-2.2 2.2 -2.8							112.57 114.88	69.65 67.38		West Iran 4.56 S 139.96 E H = 5 32 41.0 Depth = 18 km MB = 5.7 /ISC/

No.	Date	Stat. Code	Phase	GMT		RES O-C	E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T				
485	JUL 17	BRA SPC	IP LPCP LPCP I E E I	9 15 9 15 9 15 9 16 9 17 9 15 9 17	18.0 25.0 36.0 30.0 29.0 29.0 41.0	-13.0 -6.6 4.4 -6.7							95.05 96.08	306.30 308.86		Near Coast of Jalisco, Mexico 19.35 N 104.66 W H = 9 2 14.7 Depth = 69 km MB = 5.2 /ISC/
486	JUL 17	SPC BRA	IPKIKP I I LMH +IPKIKP I I ISKSD LMH	21 25 21 26 21 35 22 33 21 25 21 26 21 29 21 32 22 33	19.0 10.0 29.0 30.0 21.0 39.0 33.0 30.0 30.0	2.6 0.2 5.2	17.0	18.0	15.0	18.0	6.9		119.79 122.09	57.90 55.37		New Britain Region 4.18 S 152.76 E H = 21 6 33.1 Depth = 62 km MB = 6.1 /ISC/
487	JUL 18	SPC BRA	IPB IPN ISN IPN ISG	10 56 10 56 10 56 10 56 10 56	9.4 14.4 30.0 18.0 48.0	-0.6 3.6 2.9 -0.5 5.2							1.12 1.66	286.76 35.98		Czechoslovakia 49.50 N 18.60 E H = 10 55 48.0 Depth = 33 km /ISC/
488	JUL 18	BRA	EP EAP E EPP ESS	13 35 13 35 13 35 13 35 13 36	7.0 9.0 42.0 4.5 32.0	-2.4 -7.0 9.6 -0.5							9.82	164.61		Greece 38.64 N 20.42 E H = 13 32 47.2 Depth = 31 km /ISC/
489	JUL 18	SPC BRA	EP IP LAP	17 23 17 23 17 23	15.0 24.0 30.0	-4.0 -5.5 -6.8							78.50 80.45	98.14 95.55		Northern Sumatra 3.43 N 96.60 E H = 17 11 18.0 Depth = 23 km MB = 4.5 /ISC/
490	JUL 20	BRA SPC	EPG I E	0 57 1 0 1 0	39.0 27.0 14.0	15.8							4.67 6.12	180.94 202.74		Yugoslavia 43.50 N 17.00 E H = 0 55 50.0 Depth = 10 km /ISC/
491	JUL 20	BRA SPC	EAPKIKP EAPKIKP	1 31 1 31	24.0 45.0	-5.4 12.5							132.58 134.25	285.83 289.71		Easter Island Cordillera 21.73 S 113.26 W H = 1 12 7.1 Depth = 33 km MB = 5.3 /ISC/
492	JUL 20	SPC BRA	EAP LAP I I	1 35 1 35 1 35 1 35	0.0 9.0 48.0 57.0	0.2 0.1							87.99 89.91	99.33 96.95		Southern Sumatra 4.61 S 101.87 E H = 1 22 1.0 Depth = 36 km MB = 5.4 /ISC/
493	JUL 20	SPC BRA	EPKIKP -IPKIKP IPKIP2 IPP	23 10 23 10 23 11 23 15	56.0 58.0 36.0 21.0	1.9 1.1 -0.6 1.6							156.38 158.58	47.49 43.36		Kermadec Islands Region 31.09 S 179.89 W H = 22 51 44.8 Depth = 380 km MB = 5.1 /ISC/
494	JUL 21	SPC	IP I	0 38 0 40	52.0 45.0											No determination of epicentre

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
495	JUL 21	BRA	IPCP EXP	4 11	36.0 48.0	1.3 -1.7								87.96	278.88	Panama 7.50 N 78.15 W H = 3 58 45.7 Depth = 41 km MB = 5.1 /ISC/	
496	JUL 21	BRA	IPG	12 52	30.0											No determination of epicentre	
497	JUL 21	BRA	+IP IPCP IPP I ES LMH	15 21 15 22 15 24 15 25 15 30 15 49	36.0 0.0 12.0 51.0 33.0 30.0	-2.1 -7.5 5.5 5.1	10.0	15.0	22.0	15.0	6.5			66.50	78.67	Burma-China Border Region 24.78 N 98.68 E H = 15 10 45.1 MB = 5.7 /ISC/	
498	JUL 22	BRA SPC	+IPCP EAP	16 48 16 48	12.0 22.0	-0.2 -0.8								88.16 90.03	278.90 281.23	Panama 7.37 N 78.30 W H = 16 35 18.0 Depth = 12 km MB = 5.1 /ISC/	
499	JUL 23	SPC	IP	1 54	33.0	-0.1								64.09	81.30	Burma-China Border Region 24.92 N 98.55 E H = 1 43 56.7 Depth = 11 km MB = 4.9 /ISC/	
500	JUL 23	BRA	-IPKIKP IAPKP2	6 43 6 44	45.0 33.0	3.0 -3.0								158.63	38.21	Kermadec Islands 30.18 S 177.98 W H = 6 23 51.1 Depth = 56 km MB = 5.3 /ISC/	
501	JUL 23	BRA	IPG	10 48	44.0											No determination of epicentre	
502	JUL 23	SPC BRA	IP -IP EXP	12 54 12 54 12 55	37.0 47.0 15.0	-1.1 -1.6 12.1								78.28 80.22	98.34 95.74	Northern Sumatra 3.47 N 96.31 E H = 12 42 39.8 Depth = 33 km MB = 5.1 /ISC/	
503	JUL 23	SPC	EPB ISG	18 26 18 26	12.0 33.0	0.4 0.8								1.47	323.47	Poland 50.36 N 18.88 E H = 18 25 43.7 No determination of epicentre /WAR/	
504	JUL 25	BRA	IPN	8 55	47.4											No determination of epicentre	
505	JUL 25	BRA	IPG	19 15	9.0											No determination of epicentre	
506	JUL 26	SPC BRA	IPCP IPP LMV EPOP EPP E	3 9 3 13 3 26 3 39 3 46 3 52	48.0 21.0 30.0 39.0 46.0 46.0	2.1 -4.7 3.2							91.58 93.82	80.68 78.36	Kalimantan - Borneo 4.93 N 118.34 E H = 26 39.4 Depth = 29 km MB = 5.6 /ISC/		

507	JUL 26	SPC BRA	EP IP IPP I	11 50 11 51 11 51 11 52	52.0 15.0 30.0 6.0	1.5 1.9 -2.7							18.19 20.13	100.38 94.34	43.04 N 45.01 E H = 11 46 36.1 MB = 4.4 /ISC/	
508	JUL 26	BRA	EXP	18 42	57.0	4.0								40.58	86.51	Hindu-Kush Region 36.39 N 70.69 E H = 18 34 26.1 Depth = 200 km /ISC/
509	JUL 27	SPC BRA	EP +IP I I	1 2 1 2 1 2 1 3	6.0 9.0 24.0 18.0	0.4 -1.7								24.66 25.18	345.74 348.25	Norwegian Sea 72.13 N 0.80 E H = 0 56 43.4 Depth = 9 km MB = 5.1 /ISC/
510	JUL 27	BRA	-IP IKP IPP IPCP ISS EP	4 6 4 6 4 7 4 10 4 11 4 6	18.0 36.0 6.0 6.0 15.0 22.0	1.6 9.5 12.8 12.0 -16.5 1.5								24.74	324.46	Iceland 64.66 N 17.31 W H = 4 0 55.6 Depth = 25 km MB = 5.1 /ISC/
511	JUL 27	BRA	IPG ISG	8 20 8 21	54.0 40.0	-0.3 2.4								3.31	236.44	Italy 46.27 N 13.13 E H = 8 19 48.3 Depth = 0 km /ISC/
512	JUL 27	BRA	IP	9 21	33.0	-0.4								75.20	94.09	Nicobar Islands Region 8.31 N 94.13 E H = 9 9 51.3 Depth = 26 km MB = 5.2 /ISC/
513	JUL 27	SPC HRB BRA	EP EP ESP LMH -IP IPP IS LMH	19 53 19 54 20 3 20 21 19 53 19 56 20 2 20 20	41.0 2.3 2.0 0.0 54.0 42.0 57.0 21.0	0.0 9.5 -9.6 -1.5 14.5 3.7	934.1	18.0	2360.7	18.0	8.5			65.71 67.57	57.21 55.53	North Eastern China 39.56 N 117.87 E H = 19 42 54.0 MB = 6.1 /ISC/
514	JUL 27	SPC BRA	EP IP I	23 28 23 28 23 29	19.0 30.0 21.0	2.6 -0.9								65.79 68.09	57.41 55.19	North Eastern China 39.37 N 117.79 E H = 23 17 31.0 MB = 5.3 /ISC/
515	JUL 28	BRA	IP	1 56	39.0	0.2								68.33	55.31	North Eastern China 39.12 N 117.91 E H = 1 45 38.8 Depth = 33 km MB = 5.0 /ISC/
516	JUL 28	SPC HRB BRA	EP ES ES LMH IP IPF	10 56 11 5 10 56 11 5 11 24 10 56 10 59	22.0 11.0 36.0 34.0 0.0 33.0 15.0	0.7 6.9 3.0 7.4 -2.7 6.6								65.88 67.74 68.17	56.80 55.12 54.59	North Eastern China 39.71 N 118.37 E H = 10 45 37.2 MB = 6.1 /ISC/

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
517	JUL 28	BRA	IP	15	46	59.0	0.6							68.21	54.24	North Eastern China 39.91 N 118.70 E H = 15 35 59.0 Depth = 32 km MB = 5.2 /ISC/	
518	JUL 28	SPC BRA	EAPKIP IPKIP I ISKS	17 34 17 34 17 40 17 41	39.0 39.0 39.0 49.0	1.7 -0.5 2.2								142.35 144.59	50.62 47.46	New Hebrides 20.20 S 170.07 E H = 17 15 1.9 Depth = 5 km MB = 5.7 /ISC/	
519	JUL 28	BRA	IPKIP	17 40	39.0	0.1								144.59	47.65	New Hebrides 20.25 S 169.97 E H = 17 21 6.6 Depth = 39 km MB = 5.6 /ISC/	
520	JUL 28	HRB BRA	EXP IP I IXS I LMH	20 22 20 22 20 24 20 26 20 28 20 35	25.0 23.0 42.0 17.0 54.0 30.0	1.9 -1.0 2.1					11.0	9.0	10.0	9.0	5.7		Eastern Caucasus 43.18 N 45.67 E H = 20 17 44.1 Depth = 18 km MB = 5.3 /ISC/
521	JUL 28	BRA	IP	21 9	30.0	1.2								20.44	93.66	Eastern Caucasus 43.13 N 45.53 E H = 21 4 52.4 Depth = 41 km MB = 4.6 /ISC/	
522	JUL 28	BRA	IP	23 6	8.0	-0.1								20.35	93.80	Eastern Caucasus 43.12 N 45.39 E H = 23 1 32.8 Depth = 43 km MB = 4.6 /ISC/	
523	JUL 29	SPC BRA	EP IP	1 11 1 12	49.0 2.0	0.6 -0.8								65.96 68.25	56.32 54.11	North Eastern China 39.96 N 118.85 E H = 1 1 4.3 Depth = 42 km MB = 5.1 /ISC/	
524	JUL 29	SPC BRA	-IP EPP EPP IP IPP IPP I I	5 4 5 4 5 4 5 4 5 4 5 5 5 5 5 6	15.0 27.0 37.0 40.0 53.0 5.0 35.0 17.0	-2.0 -5.6 4.4 -2.1 -10.6 1.4								18.47 20.68	83.68 79.36	Western Kazakhstan 47.81 N 48.10 E H = 4 59 58.0 Depth = 0 km MB = 5.9 /ISC/	
525	JUL 29	BRA	EPKIP	5 56	0.0	3.8							148.03	25.17		Fiji Region 18.14 S 176.59 W H = 5 36 17.3 Depth = 3.3 km MB = 5.2 /ISC/	

526	JUL 29	BRA	EPCP EXP	7 7 7 7	26.0 32.0	-0.2 1.7								88.26	278.54	Panama 7.05 N 78.10 W H = 6 54 31.9 Depth = 14 km MB = 5.1 /ISC/
527	JUL 31	BRA	EPKIP EAPKP2	1 6 1 7	54.0 34.0	-0.5 -0.5								158.80	38.17	Kermadec Islands 30.32 S 177.87 W H = 0 46 56.0 Depth = 6 km MB = 5.8 /ISC/
528	JUL 31	BRA	EPG ESG	14 47 14 48	57.0 39.0	-1.2 -1.5								3.23	234.69	Italy 46.24 N 13.31 E H = 14 46 53.9 Depth = 10 km MB = 5.3 /ISC/
529	AUG	SPC 1	EAPKHP	18 26	40.0	1.2								147.30	25.52	Tonga Islands 18.49 S 173.95 W H = 18 6 56.0 Depth = 13 km MB = 5.3 /ISC/
530	AUG 2	BRA	+IPKP2 LMH	11 14 12 16	58.0 0.0	0.5								144.54	48.86	New Hebrides 20.59 S 169.31 E H = 10 55 25.2 Depth = 43 km MB = 6.0 /ISC/
531	AUG 3	SPC	EAP	7 58	6.4	-1.4								40.79	79.27	Kirgiz-Sinkiang Border Region 40.82 N 78.00 E H = 7 50 19.0 Depth = 28 km MB = 5.2 /ISC/
532	AUG 4	SPC	EP	23 33	27.0	-0.8								83.84	50.01	South of Honshu, Japan 30.18 N 138.64 E H = 23 21 45.4 Depth = 445 km MB = 5.4 /ISC/
533	AUG 5	SPC	EP	9 25	40.0	1.6								76.46	30.89	Kurile Islands 46.59 N 153.89 E H = 9 13 50.8 Depth = 37 km MB = 5.0 /ISC/
534	AUG 5	SPC	EP	13 48	46.0	1.6								74.33	97.53	Micobar Islands Region 7.00 N 94.31 E H = 13 37 14.7 Depth = 87 km MB = 5.7 /ISC/
535	AUG 6	SPC BRA	EP -IPCP	19 54 19 54	40.0 54.0	0.9 -2.7								79.39 81.55	43.78 41.57	Near East Coast of Honshu, Japan 37.38 N 141.62 E H = 19 42 36.5 Depth = 48 km MB = 5.3 /ISC/
536	AUG 7	SPC	EP	5 22	54.0											No determination of epicentre
537	AUG 7	BRA	EPKP2 E	9 56 9 57	45.0 21.0	0.8								144.58	49.02	New Hebrides 20.67 S 169.25 E H = 9 37 12.3 Depth = 47 km MB = 5.1 /ISC/

1976 No. Date	Stat. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MLH	Delta	Azimuth	Remarks
			h	m		A	T	A	T	A	T	A	T					
538	AUG 7	SPG EPG ESG	12	17.5										149.22	28.67	No determination of epicentre Tonga Islands 20.85 S 174.97 W H = 5 32 37.3 Depth = 33 km MB = 5.6 /ISC/		
539	AUG 9	SPC EPKHKP	5	52 17.0	-1.0									2.59	210.89	Yugoslavia 45.93 N 15.20 E H = 2 19 20.0 Depth = 10 km /ISC/		
540	AUG 10	BRA EPG ISB	2 20 10.0 2 20 42.0		-1.7 1.2									3.20 5.50	234.74 240.43	Italy 46.26 N 13.34 E H = 18 30 29.1 Depth = 33 km /ISC/		
541	AUG 11	BRA SPC ESG E	18 32 13.3 18 31 4.4		-1.5									144.49	48.73	New Hebrides 20.51 S 169.35 E H = 22 26 41.0 Depth = 61 km MB = 5.0 /ISC/		
542	AUG 11	BRA EPKIKP	22 46 10.0		-0.4									64.20 66.23	213.35 216.22	Ascension Island Region 10.45 S 13.11 W H = 0 34 17.0 Depth = 20 km MB = 4.9 /ISC/		
543	AUG 12	BRA SPC EP EP	0 44 52.0 0 45 7.2		-0.7 1.4									144.53	47.45	New Hebrides 20.14 S 170.04 E H = 9 39 28.0 Depth = 39 km MB = 5.0 /ISC/		
544	AUG 12	BRA EAPKIKP	9 59 10.0		-2.5									96.47	77.01	Celebes Sea 3.55 N 124.30 E H = 20 53 50.1 Depth = 365 km MB = 5.6 /ISC/		
545	AUG 12	SPC -IP EAP IPP -IPCP EXP IPP ES ESKS	21 6 34.6 21 8 15.0 21 10 35.4 21 6 48.5 21 8 38.0 21 10 59.0 21 12 8.0 21 16 44.0		-5.0 9.6 -6.1 -1.3 -14.5 0.2 -7.2									61.88	80.93	Burma 26.70 N 97.04 E H = 23 26 47.1 Depth = 31 km MB = 6.2 /ISC/		
546	AUG 12	SPC BRA +IP EXP IPP ES EPS	23 37 6.2 23 39 54.0 0 9 0.0 23 37 17.2 23 39 35.0 23 39 41.0 23 45 47.0 23 46 23.0		0.4 -3.3 1.2 -2.4 -6.7 5.7									64.11	78.26			
547	AUG 13	BRA EPKIP2	13 10 23.0		-6.4								157.60	31.08	Kermadec Islands Region 38.09 S 172.56 E Depth = 10 km			

548	AUG 14	BRA EPB ESB	7 32 55.0 7 33 40.0		3.2 -2.4									3.93	260.39	Austria 47.37 N 11.40 E H = 7 31 41.8 Depth = 7 km /ISC/
549	AUG 15	BRA EPKIP2	4 18 46.0		-4.6									149.21	18.80	Tonga Islands Region 18.40 S 172.90 W H = 3 58 53.6 Depth = 0 km /ISC/
550	AUG 15	SPC BRA EPKHKP EPKIKP EPKHKP EPKIP2 EAPKIP2 EPP	19 2 41.0 19 9 44.0 19 2 35.0 19 2 44.0 19 2 59.0 19 4 53.0 19 6 29.0		5.1 -1.0 2.7 -1.8 -4.2 -8.8									151.12 153.23	41.18 36.98	South of Fiji Islands 25.13 S 179.71 E H = 18 43 45.1 Depth = 512 km MB = 5.3 /ISC/
551	AUG 16	BRA EP	1 39 28.0		-5.8									56.60	220.80	North of Ascension Island 0.81 S 15.96 W H = 1 29 49.0 Depth = 14 km MB = 4.9 /ISC/
552	AUG 16	BRA SPC EP EPP EPP	2 37 19.0 2 37 40.0 2 39 34.0 2 37 38.0 2 39 57.0		-3.3 -0.9 3.6 0.6 7.3									56.55 58.70	220.85 223.74	North of Ascension Island 0.75 S 15.97 W H = 2 27 45.0 Depth = 72 km MB = 5.1 /ISC/
553	AUG 16	BRA EP	5 23 40.0		-2.2									79.86	9.76	Andreanof Islands, Aleutian Is. 51.47 N 178.37 W H = 5 11 38.7 Depth = 62 km MB = 5.2 /ISC/
554	AUG 16	SPC +IP ES LMV EP LMH ZST E LMV	14 17 10.5 14 25 40.0 14 46 0.0 14 17 25.0 14 46 0.0 14 17 24.5 14 17 32.5 14 46 0.0		1.1 6.3 4.2 -0.0									62.23 63.96 64.53	71.19 69.26 68.72	Szechwan Province, China 32.78 N 104.09 E H = 14 6 45.0 Depth = 9 km MB = 6.1 /ISC/
555	AUG 16	SPC I LMV E LMH ZST EPP E LMV	16 24 32.0 16 25 3.0 17 12 0.0 16 25 20.0 17 1 0.0 16 24 40.0 16 28 44.0 16 29 17.0 17 15 0.0		5.1 3.0 0.0 10.6									94.30 95.96 96.57	75.46 74.01 73.15	Mindanao, Philippine Islands 6.22 N 124.10 E H = 16 11 5.0 Depth = 8 km MB = 6.4 /ISC/
556	AUG 17	SPC EP	1 24 19.0		-0.1									92.46	71.64	Leyte, Philippine Islands 10.09 N 125.90 E H = 1 11 10.3 Depth = 33 km MB = 6.0 /ISC/

No.	Date	Stat. 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						
557	AUG 17	SPC	EAP IPP LMV EPCP EPP	4	32	45.0	-1.1 1.3										92.83	75.68	Mindanao, Philippine Islands 7.22 N 122.99 E H = 4 19 27.6 Depth = 17 km MB = 6.2 /ISC/		
558	AUG 17	SPC	EP	17	41	8.0	8.1										13.40	155.67	Dodecanese Islands 36.74 N 27.07 E H = 17 37 55.2 Depth = 160 km MB = 5.0 /ISC/		
559	AUG 18	SPC	EPP	2	9	14.0	1.7										94.11	75.33	Mindanao, Philippine Islands 6.45 N 124.08 E H = 1 52 9.0 Depth = 55 km MB = 5.6 /ISC/		
560	AUG 18	SPC BRA	EPCP EPP EP IPP	20 20 20 20	40 44 40 44	47.4 34.8 55.0 55.0	1.0 1.6 -1.0 4.5										93.52 95.80	75.36 73.04	Mindanao, Philippine Islands 6.89 N 123.68 E H = 20 27 33.4 Depth = 45 km MB = 5.6 /ISC/		
561	AUG 19	SPC ZST	EXP E EAP IPP I E	1 1 1 1 1 1	15 19 16 16 20 26	54.0 48.9 0.0 9.0 33.0 0.0	-1.2 1.1 3.5										13.11 13.61	147.83 135.99	Turkey 37.71 N 29.00 E H = 1 12 40.0 Depth = 20 km MB = 5.0 /ISC/		
562	AUG 19	SPC	EPKSAB	1	56	28.8	-4.3										156.83	42.19	Kermadec Islands 30.34 S 177.55 W H = 1 33 57.0 Depth = 39 km /ISC/		
563	AUG 19	ZST	EPG ESG	11 11	3 3	21.5 24.0													No determination of epicentre		
564	AUG 19	SPC ZST	EP EP	13 13	0 0	9.1 37.0	0.1 12.9										62.26 64.56	71.01 68.55	Szechwan Province, China 32.87 N 104.24 E H = 12 49 44.0 Depth = 7 km MB = 5.3 /ISC/		
565	AUG 19	SPC	EXP	19	17	7.0	0.4										87.74	70.56	Luzon, Philippine Islands 14.45 N 123.68 E H = 19 4 7.4 Depth = 26 km MB = 5.4 /ISC/		
566	AUG 20	ZST BRA	EPKHKP EPKHKP	0 0	15 16	59.0 3.5	-4.9 -0.5										148.82 148.84	18.43 18.45	Tonga Islands Region 18.00 S 172.80 W H = 23 56 27.6 Depth = 59 km MB = 5.0 /ISC/		
567	AUG 20	SPC ZST BRA	EP EP EP	4 4 4	7 7 7	47.7 53.9 53.9	-1.2 -1.2 -1.2										76.47 76.47 76.47	38.33 38.33 38.33	No determination of epicentre		



568	AUG 20	BRA	EPF	7	12	17.0	-2.8										103.00	253.96	Northern Chile 20.45 S 69.88 W H = 6 54 9.1 Depth = 63 km MB = 5.6 /ISC/	
569	AUG 20	BRA	ISG	12	5	56.0											107.73 109.97	79.61 77.46	Banda Sea 6.77 S 129.62 E H = 6 56 52.0 Depth = 165 km MB = 5.9 /ISC/	
570	AUG 21	SPC BRA	EPP E IPP ESKS ESKSD ESP	7 7 7 7 7 7	15 15 15 21 21 24	30.0 9.0 30.0 12.0 48.0 39.0	3.2 -13.3 -13.8 -9.9 -10.7													
571	AUG 21	SPC	EP LAP EPCP LMV EAP ES LMH EP EKS LMH	22 22 22 22 22 22 22 22 22 22	0 0 0 29 9 26 0 9 15.0 25	18.5 22.0 40.0 0.0 32.0 4.0 0.0 31.1 15.0 30.0	1.5 0.4 -16.0 -0.6 1.1 -1.0 -3.4	991	1.6											
572	AUG 22	SPC BRA	EP EAP EP EAP ES	2 2 2 2 2	12 13 12 13 22	43.3 26.0 57.0 30.0 9.0	-7.4 4.0 1.1 2.7 4.9										70.86 71.73	356.60 354.97	Southern Alaska 60.18 N 153.31 W H = 2 1 45.7 Depth = 126 km MB = 5.5 /ISC/	
573	AUG 22	BRA	EPN EPG ESG	2 2 2	50 51 52	49.6 24.0 42.0	-1.7 3.5 -0.9										6.29	238.45	Northern Italy 44.62 N 9.59 E H = 2 49 15.0 Depth = 11 km MB = 4.3 /ISC/	
574	AUG 22	BRA	EP	3	9	15.0	1.0										19.49	110.80	Turkey 38.58 N 40.55 E H = 3 4 48.1 Depth = 44 km MB = 4.2 /ISC/	
575	AUG 22	SPC BRA	EAP EP EPP E	13 13 13 13	31 31 32 35	43.3 48.5 0.5 30.0	-0.5 0.9 2.7										11.67 12.32	144.16 131.31	Turkey 39.35 N 29.03 E H = 13 28 50.6 Depth = 23 km MB = 4.8 /ISC/	
576	AUG 22	BRA	EPKIKP EPP	21 21	29 32	3.0 15.0	-3.8 8.8											139.65	41.36	New Hebrides Islands Region 14.03 S 170.95 E H = 21 9 42.0 Depth = 31 km MB = 5.6 /ISC/
577	AUG 23	BRA	EP LMH	3 3	17 22	40.0 0.0	-2.1										10.28	164.02	Greece 38.22 N 20.68 E H = 3 15 13.9 Depth = 33 km MB = 4.5 /ISC/	



No.	Date	Stat. 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					
578	AUG 23	SPC SRO	EP LMV EP ES LMH EAP LMH IP EPP ES LMH	3 4 3 3 3 3 3 3 4	40 8 40 49 40 40 40 40 42 49 6	31.0 0.0 44.0 20.0 0.0 46.5 0.0 44.3 57.8 25.0 0.0	0.1 2.1 3.3 -1.0 -1.7 -12.7 0.5											
579	AUG 23	BRA	ESB	15	53	11.0	-1.3								3.31	234.96	Italy 46.20 N H = 15 51 Depth = 0 km	
580	AUG 24	ZST BRA	IPG ISN EPG EPG EPN EPN ESB EPN EPN EPN ESB	23 23 23 23 23 23 23 23 23 23 23	23 23 23 23 23 23 23 23 23 23 23	6.8 25.0 7.3 8.7 11.1 14.1 20.0 33.6 37.3 39.0 5.5	-3.6 1.4 -3.6 -2.2 0.2 -0.9 0.5 -3.0 0.7 0.8 1.1											
581	AUG 25	SPC	EP	4	8	36.0	5.2								18.33	99.39	Eastern Caucasus 43.25 N H = 4 4 Depth = 4 km MB = 4.6	
582	AUG 25	SPC	EPCP EXP E EPP EPCP EPP ESKS ES LMH EPCP EXP EPP	12 12 12 12 12 12 12 13 12 12 12 12	42 43 44 46 42 46 53 26 43 43 46	52.0 10.0 25.0 22.0 59.0 35.0 27.0 42.0 0.0 2.0 19.5 40.5	0.4 3.6 -1.1 0.1 -1.5 2.4 -7.4 0.3 2.4 -1.0											
583	AUG 25	ZST	EPG ESG	23 7	36.5 38.5												No determination of epicentre	
584	AUG 26	BRA	E	0	37	17.0											No determination of epicentre	
585	AUG 26	ZST	EPN	6	8	28.2											No determination of epicentre	
586	AUG 26	SPC	EPG ESG	14 14	4 4	33.1 39.1									85.44	324.20	Southern Nevada, N.E. 37.08 N H = 14 29 Depth = 0 km MB = 5.3	
587	AUG 26	BRA SPC	IP EP	14 14	42 42	40.0 42.0	0.1 0.4										No determination of epicentre	
588	AUG 27	SPC	E	13	2	34.0											No determination of epicentre	
589	AUG 27	BRA	EPG	13	56	54.0											No determination of epicentre	
590	AUG 27	ZST	EPB ESB	23 23	10 11	17.7 9.2	4.4 2.8								4.13	256.05	Italy 47.05 N H = 23 8 Depth = 10 km	
591	AUG 28	SPC BRA	+IP EPP +IP	3 3 3	4 5 4	14.5 28.0 32.0	1.8 -11.5 -0.1											
592	AUG 28	ZST	EPN	10	11	24.7	-2.6											
593	AUG 28	SPC BRA	EPKP2 IPKP2 LAPKHP	16 16 16	33 33 33	10.0 13.0 29.5	3.2 -0.3 -7.9											
594	AUG 29	BRA	EPP	2	25	38.0	7.7											
595	AUG 29	ZST	EP	15	25	7.0	-2.2											
596	AUG 30	BRA	EPKHP	8	56	18.0	-11.6											
597	AUG 31	SPC BRA	EP E EP EPP	3 3 3 3	36 36 38 38	14.2 15.0 28.0 55.5	0.3 -0.3 -5.9											

No.	Date	Stat. 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					
586	AUG 26	SPC	EPG ESG	14 14	4 4	33.1 39.1												No determination of epicentre
587	AUG 26	BRA SPC	IP EP	14 14	42 42	40.0 42.0	0.1 0.4											No determination of epicentre
588	AUG 27	SPC	E	13	2	34.0												No determination of epicentre
589	AUG 27	BRA	EPG	13	56	54.0												No determination of epicentre
590	AUG 27	ZST	EPB ESB	23 23	10 11	17.7 9.2	4.4 2.8											
591	AUG 28	SPC BRA	+IP EPP +IP	3 3 3	4 5 4	14.5 28.0 32.0	1.8 -11.5 -0.1											
592	AUG 28	ZST	EPN	10	11	24.7	-2.6											
593	AUG 28	SPC BRA	EPKP2 IPKP2 LAPKHP	16 16 16	33 33 33	10.0 13.0 29.5	3.2 -0.3 -7.9											
594	AUG 29	BRA	EPP	2	25	38.0	7.7											
595	AUG 29	ZST	EP	15	25	7.0	-2.2											
596	AUG 30	BRA	EPKHP	8	56	18.0	-11.6											
597	AUG 31	SPC BRA	EP E EP EPP	3 3 3 3	36 36 38 38	14.2 15.0 28.0 55.5	0.3 -0.3 -5.9											

No.	Date	Stat. Code	Phase	GMT		RES O-C	E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T				
598	AUG 31	BRA	EPKIKP	9	26	43.0							158.72	38.31	Kermadec Islands 30.27 S 177.97 W H = 9 6 51.0 Depth = 52 km MB = 5.3 /ISC/	
599	AUG 31	BRA	EPN	11	22	7.0							7.61	143.90	Greece-Bulgaria Border Region 41.85 N 23.10 E H = 11 20 10.1 Depth = 10 km /ISC/	
600	AUG 31	SPC SRO BRA	EPKIKP EPKIKP EPKP2 EPKIKP LAPK2 LAPK2 EPP	13 41 13 42 13 42 13 42 13 42 13 42 13 46	57.0 3.0 35.0 1.0 31.0 42.0 33.0	-1.1 2.4 0.5 0.2 -4.3 -4.6 17.3									Kermadec Islands Region 28.36 S 176.57 W H = 13 22 8.7 Depth = 36 km MB = 5.5 /ISC/	
601	AUG 31	SPC	E	19	24	14.0									No determination of epicentre	
602	SEP 1	SPC BRA	EPKIKP +IPKIKP EAPKHKP	13 44 13 44 13 45	51.4 55.0 11.0	-1.1 -1.3 -1.2							142.10 144.35	51.64 48.55	New Hebrides 20.33 S 169.36 E H = 13 25 29.0 Depth = 75 km MB = 5.6 /ISC/	
603	SEP 2	BRA	IPG	11	4	13.0									No determination of epicentre	
604	SEP 3	BRA	EPG ESG	11 53 11 53	49.4 52.4										No determination of epicentre	
605	SEP 5	BRA	EP	16	49	21.8	-0.8						30.01	111.87	Western Iran 31.41 N 49.98 E H = 16 43 16.8 Depth = 53 km MB = 5.1 /ISC/	
606	SEP 5	BRA	EP	20	24	45.9	0.3						93.51	303.21	Guerrero, Mexico 18.81 N 101.06 W H = 20 11 39.2 Depth = 93 km MB = 5.3 /ISC/	
607	SEP 5	SPC SRO BRA	EP EP ES LMH EP LAP	22 11 22 11 22 15 22 21 22 12 22 12	48.0 58.0 36.0 0.0 5.5 10.0	-1.1 1.5 12.5 -1.0 -0.9	4.6	12.0	3.5	12.0	5.1		18.29 18.89 19.77	117.94 111.19 110.41	Turkey 38.51 N 40.94 E H = 22 7 34.4 Depth = 17 km MB = 5.0 /ISC/	
608	SEP 6	BRA	EPG ISG	19 29 19 30	20.6 4.7	-0.7 -0.9							3.39	236.80	Italy 46.24 N 13.02 E H = 19 28 13.7 Depth = 1 km /ISC/	

No.	Date	Stat. Code	Phase	GMT		RES O-C	E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T				
609	SEP 6	SPC	E	19	49	33.0									No determination of epicentre	
610	SEP 7	BRA	EP	4	52	24.0	-0.7						79.72	94.44	Northern Sumatra 4.71 N 96.93 E H = 4 40 21.9 Depth = 61 km MB = 5.4 /ISC/	
611	SEP 7	BRA	EPB ISB ISG	11 9 11 10 11 10	17.8 2.3 8.8	0.7 1.2 0.2							3.41	236.39	Italy 46.21 N 13.02 E H = 11 8 16.1 Depth = 5 km /ISC/	
612	SEP 8	SPC SRO BRA	EPGP EPP EP EP	2 26 2 30 2 26 2 26	28.0 38.0 35.7 35.2	1.9 5.0 2.7 -0.9							99.61 101.14 101.86	78.96 77.72 76.71	Molucca Sea 0.12 S 124.84 E H = 2 12 49.9 Depth = 76 km MB = 5.6 /ISC/	
613	SEP 8	SPC BRA	EP EP	20 21 20 21	27.0 50.5	-3.0 3.8							46.42	89.09	Kashmir-Tibet Border Region 32.03 N 78.76 E H = 20 13 1.2 Depth = 9 km MB = 5.3 /ISC/	
614	SEP 9	SPC BRA	EP EP	9 33 9 33	50.3 57.0	1.1 0.2							29.14 29.99	354.64 356.09	Svalbard Region 77.83 N 7.87 E H = 9 27 45.2 Depth = 5 km MB = 5.1 /ISC/	
615	SEP 9	BRA	IPG	11	3	0.0									No determination of epicentre	
616	SEP 11	BRA ZST HRB SRO SPC	IPN IPB ESB LMH +IPN LMV EPB ESN ISG LMH +IPN EPB ESM ESB LMV EPN EPN EPB EPG ESB LMV	16 32 16 32 16 32 16 38 16 32 16 39 16 32 16 32 16 32 16 38 16 32 16 32 16 33 16 38 16 32 16 32 16 32 16 33 16 34 16 39	3.3 12.6 51.0 0.0 4.0 0.0 22.0 54.0 19.0 0.0 11.7 19.7 47.7 12.5 0.0 36.4 41.5 51.9 2.3 6.0 0.0	-1.4 2.7 -1.2 -0.9 3.5 -3.7 3.1 -0.9 0.3 -11.3 3.8 -1.1 4.0 2.5 -0.2 5.2	6.0	1.2	8.2	1.2		3.27	236.36	Italy 46.29 N 13.18 E H = 16 31 11.2 Depth = 10 km MB = 5.0 /ISC/		
617	SEP 11	SEP ZST	-IPN IPB ISG	16 49 16 49 16 50	47.0 56.5 43.4	-2.8 1.5 -1.1							3.28	234.80	Italy 46.24 N 13.24 E H = 16 48 56.1 Depth = 10 km /ISC/	

No. Date	Stat. Code	Phase	GMT			RES O-C	E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
			h	m	s		A	T	A	T	A	T					
618	SEP 11	ZST EPB ESB	17	36	6.4	1.6								3.33	238.47	Italy 46.38 N 13.00 E H = 17 35 5.0 Depth = 7 km	
619	SEP 11	ZST EPG ESG	18	28	54.0	-1.8								3.21	234.75	Italy 46.28 N 13.32 E H = 18 27 51.8 Depth = 3 km	
620	SEP 11	ZST EPN ESG	21	6	40.0	-2.6								3.37	235.97	Italy 46.24 N 13.08 E H = 21 5 47.7 Depth = 7 km	
621	SEP 12	ZST EPN IPB ISG	1	20	52.0	0.4								3.26	234.93	Italy 46.26 N 13.26 E H = 1 19 58.3 Depth = 5 km	
622	SEP 12	ZST EPB ISG	8	9	33.2	2.1								3.30	234.89	Italy 46.23 N 13.21 E H = 8 8 31.8 Depth = 10 km	
623	SEP 12	ZST EPG ISG	8	15	53.2	-2.4								3.30	235.24	Italy 46.25 N 13.20 E H = 8 14 49.9 Depth = 10 km	
624	SEP 12	ZST	19	54	22.0	-2.2								3.32	235.11	Italy 46.23 N 13.18 E H = 19 53 30.0 Depth = 26 km	
625	SEP 13	BRA ZST	7	4	51.0	0.5								3.49	235.41	Northern Italy 46.11 N 12.97 E H = 7 3 53.8 Depth = 10 km	
626	SEP 13	ZST	18	55	38.0	-3.2								3.30	236.15	Italy 46.29 N 13.15 E H = 18 54 47.3 Depth = 14 km	

No. Date	Stat. Code	Phase	GMT			RES O-C	E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
			h	m	s		A	T	A	T	A	T					
627	SEP 13	ZST EPB ESB	19	43	18.0	0.8								3.48	235.34	Northern Italy 46.14 N 12.98 E H = 19 42 14.8 Depth = 10 km	
628	SEP 14	ZST EPB ESB	6	53	17.7	0.7								54.93	83.48	Tibet 29.81 N 89.57 E H = 6 43 51.6 Depth = 75 km MB = 5.4	
629	SEP 14	BRA ZST	8	26	23.4	1.4								3.39	236.59	Italy 46.23 N 13.03 E H = 8 25 21.3 Depth = 10 km	
630	SEP 14	BRA ZST	8	27	10.0	-3.2								3.40	236.18	Italy 46.10 N 13.00 E H = 15 29 5.0 Depth = 0 km	
631	SEP 14	BRA ZST	15	30	58.2	-1.9								3.48	235.07	Italy 46.10 N 13.00 E H = 15 29 5.0 Depth = 0 km	
632	SEP 14	BRA ZST	16	5	51.0	11.8								137.02	282.75	Eastern Island Cordillera 26.43 S 115.03 W H = 15 46 8.7 Depth = 33 km MB = 5.4	
633	SEP 14	BRA ZST	23	8	4.0	2.8								113.02	68.41	West Iran 3.69 S 138.06 E H = 22 49 32.4 Depth = 72 km MB = 5.7	
634	SEP 15	BRA ZST	23	8	6.0	4.8								113.02	68.42	West Iran 3.69 S 138.06 E H = 22 49 32.4 Depth = 72 km MB = 5.7	
635	SEP 15	BRA ZST	23	48	9.0	-6.8								34.59	112.33	Southern Iran 28.01 N 53.54 E H = 23 41 28.2 Depth = 35 km MB = 4.8	
636	SEP 15	BRA ZST	2	14	26.0	-0.1								73.50	17.73	Komandorsky Island Region 55.48 N 166.25 E H = 2 2 52.0 Depth = 14 km MB = 4.8	
637	SEP 15	BRA ZST	2	14	36.0	3.7								73.53	17.73	Komandorsky Island Region 55.48 N 166.25 E H = 2 2 52.0 Depth = 14 km MB = 4.8	
638	SEP 15	BRA ZST	3	16	12.6	0.6								3.26	236.43	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
639	SEP 15	BRA ZST	3	16	19.3	2.1								3.27	236.00	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
640	SEP 15	BRA ZST	3	16	11.3	-0.9								3.76	247.11	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
641	SEP 15	BRA ZST	3	16	30.2	-3.8								3.82	248.51	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
642	SEP 15	BRA ZST	3	16	30.0	-3.8								3.82	248.51	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
643	SEP 15	BRA ZST	3	16	51.0	-13.9								3.82	248.51	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
644	SEP 15	BRA ZST	3	17	10.6	-3.8								3.82	248.51	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
645	SEP 15	BRA ZST	3	17	30.0	0.0								3.82	248.51	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
646	SEP 15	BRA ZST	3	16	30.0	3.3								5.57	241.38	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
647	SEP 15	BRA ZST	3	17	9.0	2.8								5.57	241.38	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
648	SEP 15	BRA ZST	3	16	43.7	-1.1								5.57	241.38	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	
649	SEP 15	BRA ZST	3	17	5.8	-4.0								5.57	241.38	Italy 46.30 N 13.19 E H = 3 15 18.7 Depth = 2 km MB = 5.7	

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No.	Date	Stat. 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						
636	SEP 15		EPG ESN LMV	3 17	24.7		14.9										3.45	236.74	Northern Italy 46.23 N 12.95 E H = 3 39 24.5 Depth = 10 km		
637	SEP 15		EPB	3 40	24.3		-1.9										3.16	238.69	Italy 46.46 N 13.20 E H = 3 55 53.0 Depth = 10 km		
638	SEP 15	BRA	IPN IPB ISB	4 39	44.7		-3.7										3.30	236.72	Italy 46.29 N 13.13 E H = 4 38 54.5 Depth = 18 km		
		ZST HRB SPC	IPN ESG EPN	4 39	44.1		-4.5										3.31	236.30	Italy 46.32 N 13.15 E H = 4 58 42.0 Depth = 7 km		
			IPN ESG EPN	4 41	10.0		9.8										5.58	241.71	Italy 46.32 N 13.15 E H = 4 58 42.0 Depth = 7 km		
639	SEP 15	BRA	IPN IPG ISB	4 59	33.0		-2.5										3.27	237.00	Italy 46.30 N 13.19 E H = 5 38 24.6 Depth = 10 km		
640	SEP 15	BRA	EPG	5 0	8.0		-0.3										5.58	241.71	Italy 46.32 N 13.15 E H = 4 58 42.0 Depth = 7 km		
641	SEP 15	BRA ZST HRB	IPN +IPN EPN	9 22	10.8		-1.4										3.27	237.50	Italy 46.30 N 13.14 E H = 9 45 54.9 Depth = 5 km		
			ESN LMH EPN	9 22	10.9		-1.5										3.29	237.07	Northern Italy 46.20 N 13.00 E H = 9 55 50.0 Depth = 10 km		
		SPC	EPN LMV	9 25	0.0		-2.5	520.9	5.0	600.4	5.0						5.59	242.00	Italy 46.30 N 13.14 E H = 9 45 54.9 Depth = 5 km		
642	SEP 15	BRA	KPN EPG ESB	9 46	48.3		-0.3										3.28	236.79	Northern Italy 46.20 N 13.00 E H = 9 55 50.0 Depth = 10 km		
643	SEP 15	ZST	EPB ESB	9 47	0.0		-0.4										3.44	235.99	Northern Italy 46.20 N 13.00 E H = 9 55 50.0 Depth = 10 km		
644	SEP 15	BRA ZST	EPB ESB	9 47	39.0		2.6										3.34	238.95	Northern Italy 46.37 N 12.97 E H = 10 32 48.9 Depth = 10 km		

645	SEP 15		EPB ESB	10 55	31.0		0.8										3.41	235.71	Italy 46.20 N 13.04 E H = 10 54 29.0 Depth = 0 km
646	SEP 15		EPG ESG	10 56	17.0		2.7												No determination of epicentre
647	SEP 15	BRA	IPN EPB ESN ESB	11 12	3.4		-2.8										3.25	236.36	Italy 46.30 N 13.20 E H = 11 11 12.9 Depth = 24 km
		HRB	EPG EPG ISB	11 12	12.6		1.3										3.76	247.07	Italy 46.30 N 13.20 E H = 11 11 12.9 Depth = 24 km
		SPC	EPN EPG	11 12	39.2		-7.0										5.56	241.34	Italy 46.30 N 13.20 E H = 11 11 12.9 Depth = 24 km
648	SEP 15	ZST	E	11 17	46.0												3.30	238.13	Italy 46.38 N 13.05 E H = 11 17 46.0 Depth = 10 km
649	SEP 15	ZST	EPB ESB	14 43	37.0		0.4										3.38	238.04	Northern Italy 46.33 N 12.96 E H = 14 42 36.0 Depth = 10 km
650	SEP 15	ZST	EPB EPG ISB	15 20	55.0		-0.7										3.43	238.36	Northern Italy 46.32 N 12.89 E H = 15 19 54.3 Depth = 10 km
651	SEP 15	ZST	EPB ESB	15 21	11.0		8.3										3.35	238.94	Northern Italy 46.39 N 12.95 E H = 15 24 26.1 Depth = 10 km
652	SEP 15	ZST	ESG	15 26	10.0		-0.3										3.32	235.74	Italy 46.26 N 13.15 E H = 16 11 20.3 Depth = 10 km
653	SEP 15	ZST	EPB ESG	16 13	15.0		5.1										3.36	237.97	Italy 46.26 N 13.15 E H = 16 11 20.3 Depth = 10 km
654	SEP 15	ZST	EPB EPG ESG	16 25	28.0		1.0										3.33	237.56	Northern Italy 46.34 N 12.99 E H = 16 24 26.7 Depth = 10 km
655	SEP 15	ZST	EPB ESG	17 27	6.0		1.6										3.41	236.87	Italy 46.34 N 13.05 E H = 17 26 4.7 Depth = 0 km
			EPB ESG	17 27	10.0		-1.0												Northern Italy 46.26 N 12.99 E H = 17 44 53.1 Depth = 10 km

No.	Date	Stat. Code	Phase	GMT			RES		Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	s	O-C	A	T	A	T	A	T						
656	SEP 15	ZST	EPB EPB ESG	19 32	8.0		-2.4 1.6 -0.3									3.31	235.17	Italy 46.24 N 13.19 E H = 19 31 11.0 Depth = 6 km /ISC/	
657	SEP 15	ZST	EPN EPB ESN ISB	20 25	5.0		0.2 2.7 -7.1 -0.8									3.37	237.00	Italy 46.29 N 13.03 E H = 20 24 9.9 Depth = 11 km /ISC/	
658	SEP 15	ZST	EPB ESG	20 35	58.0		2.0 -2.6									3.29	238.41	Italy 46.40 N 13.05 E H = 20 34 56.9 Depth = 10 km /ISC/	
659	SEP 15	ZST	ESG	20 46	42.0		3.0									3.35	236.17	Italy 46.26 N 13.09 E H = 20 44 48.3 Depth = 10 km /ISC/	
660	SEP 15	ZST	KPG ESG	22 36	51.0		-1.3 1.8									3.35	237.07	Italy 46.30 N 13.04 E H = 22 35 45.4 Depth = 10 km /ISC/	
661	SEP 15	ZST	ESB ESG	23 42	0.0		3.7 -0.2									5.48	274.14	Germany 48.30 N 8.90 E H = 23 39 9.6 Depth = 13 km /ISC/	
662	SEP 16	ZST	EPB ESB	1 31	44.5		-0.7 1.1									3.34	237.35	Italy 46.32 N 13.04 E H = 1 30 45.2 Depth = 10 km /ISC/	
663	SEP 16	SPC ZST	EP EP	3 33	50.0		-2.5 0.0									35.63 36.51	356.74 357.31	North of Svalbard 84.30 N 0.90 E H = 3 26 55.4 Depth = 30 km MB = 5.4 /ISC/	
664	SEP 16	ZST	EAP	4 10	17.0		0.0									36.56	357.35	North of Svalbard 84.35 N 1.00 E H = 4 3 5.3 Depth = 16 km MB = 5.0 /ISC/	
665	SEP 16	SPC ZST	EP EP	4 20	15.4		1.4 0.6									35.44 36.33	356.65 357.24	North of Svalbard 84.11 N 1.10 E H = 4 13 15.1 Depth = 7 km MB = 5.2 /ISC/	
666	SEP 16	SPC ZST	EP EP	4 35	24.0		7.9 1.2 1.8									35.45 36.33	356.67 357.27	North of Svalbard 84.12 N 1.20 E H = 4 26 14.2 Depth = 7 km MB = 5.1 /ISC/	

No.	Date	Stat. Code	Phase	GMT			RES		Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	s	O-C	A	T	A	T	A	T						
667	SEP 16	SEP 16	SPC BRA	5 20	4.8		-0.1 -1.6									35.53 36.43	356.52 357.11	North of Svalbard 84.16 N 0.10 E H = 5 13 8.4 Depth = 28 km MB = 5.2 /ISC/	
668	SEP 16	SEP 16	BRA	5 41	42.6		-2.7 -2.1									3.29	240.18	Northern Italy 46.46 N 12.98 E H = 5 40 39.8 Depth = 10 km /ISC/	
669	SEP 16	SEP 16	SPC SRO	11 45	31.0		1.9 -3.8 -10.2									121.20 122.94	65.57 64.57	Eastern New Guinea Region 9.20 S 148.17 E H = 11 26 36.0 Depth = 12 km MB = 5.9 /ISC/	
670	SEP 16	SEP 16	BRA	11 45	36.2		-1.3									123.52	63.23	Czechoslovakia, Expl. of 22 tons 50.90 N 14.70 E H = 13 59 38.0 Depth = 0 km /ISC/	
671	SEP 16	SEP 16	BRA	14 1	20.0		-2.1									3.15	331.09	Northern Italy 46.42 N 12.80 E H = 20 1 38.4 Depth = 10 km /ISC/	
672	SEP 17	SEP 17	EPB ESG	20 2	36.5		2.4 -1.0									3.42	240.34	Italy 46.30 N 13.18 E H = 4 14 6.9 Depth = 10 km /ISC/	
673	SEP 18	SEP 18	EP ES	4 15	7.0		1.3 0.8									3.28	236.08	Italy 46.29 N 13.09 E H = 0 39 41.3 Depth = 128 km /ISC/	
674	SEP 18	SEP 18	BRA	0 40	41.0		-10.6 16.5									3.32	237.00	Italy 46.33 N 13.26 E H = 5 50 23.0 Depth = 33 km /ISC/	
675	SEP 18	SEP 18	BRA	5 52	8.0		-0.7									3.20	236.34	No determination of epicentre /ISC/	
676	SEP 19	SEP 19	EPG EPG ESG	22 50	19.0											3.26	234.36	Italy 46.23 N 13.28 E H = 10 26 51.8 Depth = 10 km /ISC/	
677	SEP 19	SEP 19	EP ES EP	10 28	1.0		4.1 10.1 8.3									3.28	216.72	Yugoslavia 45.53 N 14.31 E H = 14 52 21.1 Depth = 39 km /ISC/	
678	SEP 19	SEP 19	EP EP LAP	14 53	13.8		-1.6 16.2 12.4									60.64 61.03	162.21 165.84	Zambia 11.08 S 32.84 E H = 14 59 43.4 Depth = 25 km MB = 5.7 /ISC/	

No.	Date	Stat. 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					
679	SEP 19	ZST EP	EP	16	14	31.0	1.9									26.23	355.14	Greenland Sea 74.11 N 9.30 E H = 16 8 56.1 Depth = 40 km MB = 4.7 /ISC/		
680	SEP 19	ZST EP	EP	16	22	50.0	3.5									26.27	355.29	Greenland Sea 74.17 N 9.50 E H = 16 17 12.7 Depth = 36 km MB = 4.7 /ISC/		
681	SEP 19	ZST SPC	EP EPCP	21	11	14.0	-2.6									93.65	302.45	Guerrero, Mexico 18.23 N 100.51 W H = 20 58 7.1 Depth = 72 km MB = 5.5 /ISC/		
682	SEP 20	ZST	ESB	2	28	59.0	-0.4									3.08	234.06	Italy 46.33 N 13.50 E H = 2 27 23.9 Depth = 0 km /ISC/		
683	SEP 20	BRA	EPN LPB ESB	9	10	48.0	-5.4									3.26	236.00	Italy 46.28 N 13.21 E H = 9 10 0.0 Depth = 23 km /ISC/		
684	SEP 20	BRA	EPB ESG EPG ESG	23	35	21.0	2.2									3.27	235.58	Italy 46.28 N 13.21 E H = 9 10 0.0 Depth = 23 km /ISC/		
685	SEP 21	SPC BRA	EPKP2 EPKHP	2	37	2.0	-4.4									147.93	34.81	Fiji Region 20.83 S 178.66 W H = 2 18 19.3 Depth = 581 km MB = 5.2 /ISC/		
686	SEP 21	BRA	EP EP EP	15	4	3.7	-0.2									9.59	191.46	Sicily 38.74 N 14.68 E H = 15 1 50.0 Depth = 296 km MB = 4.7 /ISC/		
687	SEP 21	BRA	ESG	16	19	47.0	0.6									3.36	236.86	Italy 46.26 N 13.05 E H = 16 17 55.4 Depth = 0 km /ISC/		
688	SEP 22	SPC	+IP LMV	0	27	52.4	0.4									76.35	34.74	Kurile Islands 44.78 N 149.21 E H = 0 16 6.6 Depth = 51 km MB = 6.1 /ISC/		

No.	Date	Stat. 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							
689	SEP 22	SEP 22	EP	2	42	40.0	0.8									79.93	8.23	Andeanof Islands 51.65 N 175.97 W H = 2 30 26.7 Depth = 54 km MB = 4.8 /ISC/		
690	SEP 22	BRA	IPG	11	2	20.9	2.4									3.31	238.19	Italy 46.35 N 13.04 E H = 15 23 56.7 Depth = 0 km /ISC/		
691	SEP 22	BRA	ESG	15	25	48.5	1.2									58.79	63.54	Northern China 40.06 N 106.33 E H = 20 7 1.8		
692	SEP 22	SPC	+IP LMV EP LMH +IP	20	17	2.8	-1.3									60.56	61.73	No determination of epicentre		
693	SEP 24	ZST	IPG ISG	4	37	8.9	-2.0									61.11	61.23	No determination of epicentre		
694	SEP 24	ZST	ESG	16	14	4.5	4.9									3.17	232.22	Italy 46.20 N 13.50 E H = 16 12 15.0 Depth = 0 km /ISC/		
695	SEP 24	ZST	EP	20	55	16.6	-0.7									61.30	234.49	Central Mid-Atlantic Ridge 0.92 N 28.47 W H = 20 45 2.8 Depth = 33 km MB = 5.0 /ISC/		
696	SEP 25	BRA	IPG E IPG E	10	1	42.4	2.0									3.39	236.46	No determination of epicentre		
697	SEP 26	ZST	EPB ESB	1	52	53.1	2.2											Italy 46.25 N 13.03 E H = 1 51 50.3 Depth = 10 km /ISC/		
698	SEP 26	ZST	EPG ESG	5	31	55.9	-0.5									3.29	236.22	Italy 46.30 N 13.16 E H = 5 30 50.8 Depth = 0 km /ISC/		
699	SEP 26	ZST	EPB ESB	7	25	42.3	-2.3									3.43	237.35	Northern Italy 46.27 N 12.94 E H = 7 24 43.2 Depth = 33 km /ISC/		
700	SEP 26	ZST	EP ES	7	34	42.3	0.2									3.31	241.71	Northern Italy 46.55 N 12.88 E H = 7 33 47.1 Depth = 40 km /ISC/		

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No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
701	SEP 26	ZST	EPG ESG	14 53 14 54	26.7 11.7	-0.8 0.3								3.35	235.13	Italy 46.21 N 13.14 E H = 14 52 20.6 Depth = 10 km	
702	SEP 27	BRA	EPKIKP	13 3	43.8	3.5								160.64	45.07	South of Kermadec Islands 33.14 S 179.14 W H = 12 43 47.7 Depth = 60 km MB = 5.1	
703	SEP 27	ZST	EPG EPC ESG	14 38 14 38 14 39	34.9 39.9 19.9	-0.7 4.3 1.4								3.28	235.44	Italy 46.27 N 13.21 E H = 14 37 30.2 Depth = 10 km	
704	SEP 29	SPC ZST	-IP E EPP +IP I I E IP I I	3 5 3 6 3 6 3 6 3 6 3 6 3 12 3 6 3 6 3 6	57.0 17.0 37.0 13.1 21.1 39.1 7.1 12.4 25.7 39.1	0.1 -11.4 1.4 0.5								28.52 30.17 30.19	19.80 20.32 20.30	Novaya Zemlya 73.41 N 54.50 E H = 2 59 57.7 Depth = 0 km MB = 5.8	
705	SEP 29	ZST SPC	EP EPCP	10 4 10 5	49.0 0.0	2.4 -0.2								81.14 82.78	288.31 290.44	Caribbean Sea 18.91 N 80.65 W H = 9 52 34.9 Depth = 50 km MB = 5.1	
706	SEP 29	SPC ZST	EPKHKP EPKHKP	15 58 15 58	51.0 50.0	5.0 -1.0								150.87 152.76	31.89 27.07	Tonga Region 22.97 S 175.96 W H = 15 39 3.0 Depth = 49 km MB = 5.4	
707	SEP 29	SPC SRO	EPP EP EPP E	21 19 21 15 21 19 21 23	38.0 52.7 48.7 37.0	3.1 -1.2 2.0								93.72 95.33	75.06 73.69	Mindanao 6.93 N 124.04 E H = 21 2 32.9 Depth = 40 km MB = 5.9	
708	SEP 30	SRO ZST SPC	EP E LMH EP E EP LMV	0 35 0 38 0 40 0 35 0 39 0 35 0 41	31.0 17.0 0.0 40.0 23.0 47.0 0.0	-0.7 1.0 -2.0		9.3	10.0	16.8	10.0			10.49 11.03 11.76	171.11 166.40 179.63	Ionian Sea 37.42 N 20.34 E H = 0 32 58.0 Depth = 10 km MB = 5.1	
709	SEP 30	SPC SRO ZST	EPKIKP EPKIKP EPP LMH EPKIKP EPP	23 54 23 54 23 58 23 56 23 54 23 58	8.0 10.0 31.0 10.0 10.2 30.2	2.2 1.8 3.5 1.7 1.4		7.6	20.0	4.6	20.0			156.76 158.64 158.05	42.33 40.77 37.63	Kermadec Islands 30.30 S 177.65 W H = 23 34 14.0 Depth = 31 km MB = 5.7	

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
710	OCT 1	SPC	EPKHKP	3 53	44.0	6.1								149.56	35.11	South of Fiji 22.39 S 178.11 W H = 3 34 36.2 Depth = 370 km MB = 4.8	
711	OCT 1	ZST	EPKIP2	7 32	56.6	-6.0								149.15	27.84	Fiji Islands Region 19.67 S 177.62 W H = 7 13 50.5 Depth = 377 km MB = 5.2	
712	OCT 1	ZST	E	10 31	15.0											No determination of epicentre	
713	OCT 1	ZST	IPG ESG	10 51 10 51	47.1 49.1											No determination of epicentre	
714	OCT 1	ZST	EPG ESG	12 2 12 2	24.1 28.1									6.03	107.30	Romania 45.72 N 26.54 E H = 17 50 43.1 Depth = 142 km MB = 5.0	
715	OCT 1	SRO HRB ZST	-IP ES E ES ES E -I	17 52 17 53 17 54 17 52 17 53 17 54 17 52	12.5 25.0 5.0 15.0 37.0 24.0 22.2	-17.7 5.6 -16.8 15.3								6.12 6.92 3.37	107.52 107.48 237.00	Italy 46.29 N 13.03 E H = 18 14 47.0 Depth = 0 km	
716	OCT 1	ZST	ESG	18 16	38.0	-0.2										No determination of epicentre	
717	OCT 2	SPC	IPG ESG	7 59 7 59	33.1 42.4									18.59	109.52	Turkey 39.47 N 39.95 E H = 10 6 2.9 Depth = 53 km MB = 4.7	
718	OCT 2	ZST	EP	10 10	16.6	-1.4										No determination of epicentre	
719	OCT 2	SPC	EPG ISG	11 0 11 0	19.8 27.9									145.68	41.95	New Hebrides 19.59 S 173.54 E H = 15 39 0.4 Depth = 33 km MB = 4.8	
720	OCT 2	ZST	EPKIP2	15 58	39.0	0.9										No determination of epicentre	
721	OCT 3	ZST	EPN ESG	17 50 17 51	51.0 43.0	2.6 -2.4								3.40	236.80	Italy 46.26 N 13.00 E H = 17 49 53.0 Depth = 33 km	
722	OCT 5	ZST	EPG ESG	11 49 11 49	2.7 4.7											No determination of epicentre	

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Centre

No.	Date	Stat. 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						
723	OCT 5	ZST BRA	EAPKP2 EAPKIKP EAPKP2	16 18 16 17 16 18	15.0 36.0 14.0	6.3 6.4 5.2											159.15 159.17	37.03 37.08	Kermadec Islands 30.46 S 177.27 W H = 15 57 27.3 Depth = 15 km /ISC/	
724	OCT 5	SPC SRO	EPKIKP EPP EAPKIKP IPP ESP LMH	18 21 18 22 18 21 18 22 18 32 19 7	11.0 46.0 16.7 57.0 49.0 0.0	2.6 0.2 -1.4 -1.5 0.2											121.77 123.58	59.14 58.02	New Britain Region 6.43 S 152.99 E H = 18 2 15.3 Depth = 19 km MB = 6.1 /ISC/	
725	OCT 6	SPC SRO	EPP EPP EPP EPP EPP	13 50 13 53 13 50 14 1 14 31 13 50 13 54	42.4 42.0 53.0 0.0 0.0 53.5 2.5	1.2 -2.3 1.8 1.7 1.0 0.2											79.46 81.35	44.14 42.70	Near East Coast of Honshu, Japan 37.12 N 141.31 E H = 13 38 42.2 Depth = 82 km MB = 5.5 /ISC/	
726	OCT 7	ZST	EPB	0 4	26.1	0.7											2.73	204.32	Yugoslavia 45.70 N 15.50 E H = 0 3 36.0 Depth = 33 km /ISC/	
727	OCT 7	ZST	EPG	13 34	30.5														No determination of epicentre	
728	OCT 7	ZST	E	23 53	16.0														No determination of epicentre	
729	OCT 8	SRO	EP ESS LMH	17 16 17 19 17 25	16.0 52.0 12.0	1.9 -10.7											18.66	111.67	Turkey 38.52 N 40.59 E H = 17 11 56.0 Depth = 27 km MB = 4.8 /ISC/	
730	OCT 8	SPC SRO	EP EP ES LMH	21 17 21 18 21 28 21 56	53.0 0.0 20.0 0.0	2.3 0.7 0.2											82.81 84.50	69.42 67.89	Luzon, Philippine Islands 18.98 N 121.27 E H = 21 5 31.4 Depth = 58 km /ISC/	
731	OCT 10	SPC ZST	EP EP	14 43 14 44	55.0 5.4	0.8 0.1											77.16 79.18	36.54 34.42	Kurile Islands 43.16 N 147.74 E H = 14 31 59.0 Depth = 13 km MB = 5.1 /ISC/	

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T								
732	OCT 11	SPC BRA	EP -IP IPCP EP EPCP	6 42 6 42 6 42 6 42	2.0 8.7 16.8 10.7	1.9 -1.9 -1.2 -0.3											78.32 80.26	98.41 95.82	Northern Sumatra 3.39 N 96.28 E H = 6 30 2.4 Depth = 40 km MB = 5.4 /ISC/	
733	OCT 11	ZST	EPG	11 2	35.2														No determination of epicentre	
734	OCT 11	ZST	EPKP2	21 21	50.1	-2.9											147.67	26.14	Fiji Islands Region 17.98 S 177.23 W H = 21 2 46.9 Depth = 376 km MB = 5.2 /ISC/	
735	OCT 12	BRA	EPKIKP EAPKIKP	0 59 1 0	54.6 24.6	0.9 -0.5											131.93	50.60	Solomon Islands 10.45 S 161.34 E H = 0 40 53.7 Depth = 115 km MB = 5.9 /ISC/	
736	OCT 12	BRA	E	8 3	37.0														No determination of epicentre	
737	OCT 12	ZST	E	10 24	56.0														No determination of epicentre	
738	OCT 13	ZST	EPN IPB ESB	2 49 2 49 2 50	31.5 40.5 20.5	-2.1 1.5 -1.6											3.34	237.28	Italy 46.32 N 13.05 E H = 2 48 39.1 Depth = 10 km /ISC/	
739	OCT 13	SRO	EPB ESB	2 49 2 50	50.0 42.0	1.5 3.3											3.89	249.39	Italy 46.41 N 13.10 E H = 7 39 46.9 Depth = 0 km /ISC/	
740	OCT 14	ZST	EPG ESG	7 40 7 41	48.0 31.0	2.6 3.5													No determination of epicentre	
741	OCT 14	ZST	EPG ESG	11 3 11 3	1.5 3.0														No determination of epicentre	
742	OCT 15	ZST	EPG ESG	12 38 12 38	45.5 46.5												3.34	236.03	Italy 46.26 N 13.11 E H = 2 28 32.2 Depth = 0 km /ISC/	
743	OCT 15	ZST	E	10 56	46.0												5.73	95.87	Romania 47.30 N 25.50 E H = 10 54 48.0 Depth = 150 km /ISC/	
744	OCT 15	SRO ZST	LMH EAP	17 33 17 0	0.0 30.0	1.9											81.24 81.75	59.68 58.89	Northeast of Taiwan 26.82 N 125.63 E H = 16 47 59.4 Depth = 46 km MB = 5.0 /ISC/	



No.	Date	Stat. 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					
745	OCT 15	ZST	-IP	23	9	55.0	-1.4										32.20	111.47	Iran 30.06 N 51.99 E H = 23 3 25.0 Depth = 3 km MB = 5.1 /ISC/	
746	OCT 17	ZST	ESG	20	21	31.0	-0.5										3.18	234.73	Italy 46.30 N 13.36 E H = 20 19 46.5 Depth = 10 km /ISC/	
747	OCT 18	ZST	EPKIKP EAPKIKP	1 11 1 12	53.0 5.0	2.3 3.5											160.94	43.96	South of Kermadec Islands 33.21 S 178.59 W H = 0 51 54.4 Depth = 33 km MB = 5.7 /ISC/	
748	OCT 18	ZST	EP	10	26	39.5	-1.9										32.20	111.40	Iran 30.09 N 52.02 E H = 10 20 14.0 Depth = 31 km MB = 5.0 /ISC/	
749	OCT 19	ZST	ESG ESB	8 33 8 33	35.4 19.6	10.0 2.0											3.49	236.68	Northern Italy 46.20 N 12.90 E H = 8 31 30.0 Depth = 0 km /ISC/	
750	OCT 19	ZST	EPG	9	29	6.4													No determination of epicentre	
751	OCT 19	ZST	EPKIKP	13	14	8.5	5.2										147.72	27.15	Fiji Islands Region 18.20 S 177.75 W H = 12 55 30.1 Depth = 608 km MB = 5.4 /ISC/	
752	OCT 19	ZST	EP	17	54	2.5	0.8										86.35	45.11	South of Honshu 31.41 N 141.32 E H = 17 41 26.7 Depth = 74 km MB = 5.3 /ISC/	
753	OCT 19	ZST	EPB ESB	22 53 22 54	50.6 34.6	2.8 3.3											3.37	239.70	Northern Italy 46.42 N 12.90 E H = 22 52 47.4 Depth = 0 km /ISC/	
754	OCT 20	ZST	EPG	13	4	32.7													No determination of epicentre	
755	OCT 21	SPC ZST	EAP EP	12 51 12 51	36.6 34.6	-5.5 3.5											14.31 14.44	157.05 145.70	Dodecanese Islands 35.77 N 27.05 E H = 12 48 10.1 Depth = 89 km MB = 4.7 /ISC/	
756	OCT 21	SPC ZST	EP +IP	15 6 15 6	36.0 41.5	0.5 0.3											78.63 79.80	5.89 4.07	Fox Islands 52.22 N 169.41 W H = 15 13 15.0 Depth = 10 km MB = 5.0 /ISC/	

No.	Date	Stat. 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					
757	OCT 21	ZST	EP	15	25	25.5	0.4										79.81	4.07	Fox Islands 52.22 N 169.41 W H = 15 13 15.0 Depth = 10 km MB = 5.0 /ISC/	
758	OCT 22	ZST	IPG ISG	10 50 10 50	1.8 3.8												8.58	170.51	Southern Italy 39.72 N 18.93 E H = 11 23 27.3 Depth = 45 km MB = 4.6 /ISC/	
759	OCT 22	ZST	EXP IS	11 25 11 27	45.9 20.0	-0.3 11.9											155.21	31.28	South of Fiji Islands 25.93 S 176.89 W H = 16 19 1.7 Depth = 112 km MB = 5.2 /ISC/	
760	OCT 22	ZST	EPKIP2	16	39	9.0	-0.0												No determination of epicentre	
761	OCT 22	SPC ZST	EP EP	18 47 18 47	6.0 11.0	-0.6 -0.3											74.92 75.74	356.24 354.45	Kodiak Island Region 56.12 N 153.26 W H = 18 35 25.8 Depth = 24 km MB = 5.4 /ISC/	
762	OCT 23	ZST SPC	EP EP	20 9 20 9	7.0 22.0	-0.1 1.2											59.10 61.11	213.51 216.51	Ascension Island Region 5.61 S 11.32 W H = 19 59 10.0 Depth = 55 km MB = 5.1 /ISC/	
763	OCT 24	ZST	EPN ISB EPB EPB EPG EPG ESB ESG	10 8 10 9 10 9 10 9 10 9 10 9 10 9 10 9	36.6 0.0 0.0 7.6 11.1 16.3 26.7 44.6 51.4	-7.8 -3.8 -1.0 2.5 2.4 12.8 -1.0 0.2										1.44 2.85	327.03 275.89	Czechoslovakia 49.40 N 15.90 E H = 10 8 17.0		
764	OCT 24	ZST	EP	16	28	5.3	0.1										36.89	109.51	Southern Iran 27.56 N 56.70 E H = 16 20 59.2 Depth = 46 km MB = 5.0 /ISC/	
765	OCT 24	ZST	E	20	38	9.0											8.89	289.21	Belgium 50.39 N 3.92 E H = 20 33 29.0 Depth = 28 km /ISC/	
766	OCT 25	SPC BRA	-IP IPF E IP E	8 42 8 42 8 45 8 42 8 46	14.6 21.6 49.0 34.5 10.0	-0.0 -1.2 -0.2										10.22 11.69	9.71 16.64	Western Russia 59.20 N 23.58 E H = 8 39 44.7 Depth = 10 km MB = 4.4 /ISC/		
767	OCT 25	ZST	IPG	11	30	17.3													No determination of epicentre	
768	OCT 25	ZST	IPG	11	45	4.7													No determination of epicentre	



No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLB	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
789	NOV 2	SPC BRA ZST	EPCP IPCF EPP IP EPP	11 32 11 32 11 36 11 32 11 36	28.5 31.5 15.0 31.0 13.0	0.9 -0.1 -5.8 0.0 -8.0								93.38 94.28 94.29	132.37 130.17 130.16	Mid Indian Rise 29.24 S 77.79 E H = 11 19 15.0 Depth = 43 km MB = 5.6 /ISC/	
790	NOV 2	SPC ZST BRA	EP EP EP	19 41 19 41 19 41	15.0 24.0 24.0	3.7 0.6 0.5								79.28 81.58 81.59	61.50 59.17 59.17	North-East of Taiwan 26.77 N 125.27 E H = 19 29 30.1 Depth = 230 km MB = 5.5 /ISC/	
791	NOV 3	ZST	EP	7 27	48.0	1.1								79.05	96.37	Off West Coast of N. Sumatra 3.94 N 95.07 E H = 7 15 47.0 Depth = 55 km MB = 4.7 /ISC/	
792	NOV 3	SPC BRA ZST	EP EP IP	10 6 10 6 10 6	32.0 45.0 41.0	0.8 3.2 -0.8								76.99 78.92 78.93	98.71 96.09 96.09	Northern Sumatra 4.22 N 95.19 N H = 9 54 42.5 Depth = 54 km MB = 5.4 /ISC/	
793	NOV 3	ZST	E	11 3	31.0											No determination of epicentre	
794	NOV 3	ZST	E	11 9	5.0									78.96	96.10	Northern Sumatra 4.19 N 95.20 E H = 13 57 1.0 Depth = 17 km MB = 4.9 /ISC/	
795	NOV 4	BRA ZST	IPG IPG	11 2 11 2	38.0 34.0											No determination of epicentre	
796	NOV 4	ZST	I	11 8	9.5											No determination of epicentre	
797	NOV 4	ZST BRA	EPKP2 EAPKP2 EAPKHP	17 3 17 5 17 5	33.5 40.0 39.0	-0.4 -5.0 4.7								150.73 150.76	32.34 32.37	Fiji Region 21.97 S 179.26 W H = 16 44 36.0 Depth = 592 km MB = 5.2 /ISC/	
798	NOV 4	ZST	EPKHP	17 25	44.0	6.8								150.68	30.33	Fiji Region 21.55 S 178.30 W H = 17 6 42.3 Depth = 461 km MB = 5.1 /ISC/	
799	NOV 4	ZST	EPG E	18 19 18 19	39.0 43.0											No determination of epicentre	
800	NOV 4	BRA ZST	E E	20 54 20 54	27.0 14.0									51.63	37.47	Central Sumatra 61.52 N 112.73 E H = 20 54 27.0 Depth = 461 km MB = 5.1 /ISC/	
801	NOV 5	ZST BRA EP	EP BRA EP	4 9 4 9	7.5 7.5	8.2 8.2										No determination of epicentre	

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLB	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
802	NOV 5	SPC SRO	EP EP	20 21 20 21	26.0 26.0	-1.0 -1.0								57.03	222.87	North of Ascension Island 0.40 S 17.70 W H = 20 11 42.0 Depth = 33 km MB = 4.8 /ISC/	
803	NOV 6	SPC SRO ZST BRA	EP EP ESP LMV EP EP	18 14 18 14 18 23 18 45 18 14 18 14	40.0 56.0 47.0 0.0 52.0 52.0	-1.4 4.4 -7.9 -0.6 -4.0								63.80 65.37 66.05 66.06	77.39 75.45 74.82 74.81	Szechwan Province 27.66 N 101.04 E H = 18 4 6.0 Depth = 5 km MB = 5.7 /ISC/	
804	NOV 7	ZST BRA	EPKHP EPKHP IPKHP IPKP2	0 52 0 52 0 52 0 52	25.2 30.2 23.6 36.6	1.3 6.3 -0.4 -2.0								149.93 149.95	29.95 29.97	Fiji Region 20.78 S 178.40 W H = 0 33 42.8 Depth = 579 km MB = 5.2 /ISC/	
805	NOV 7	SPC SRO BRA ZST	EP EP ES LMV EP E I LMH EP	4 7 4 7 4 13 4 25 4 7 4 7 4 9 4 29 4 7	40.0 39.0 3.0 0.0 39.0 42.0 21.0 0.0 41.0	15.1 5.5 7.8 -1.9 0.1								32.55 33.54 34.40 34.40	103.36 99.45 98.88 98.92	Iran 33.86 N 59.23 E H = 4 0 50.4 Depth = 3 km MB = 5.6 /ISC/	
806	NOV 7	SPC BRA ZST	EP IP -IP	11 13 11 13 11 13	30.0 39.0 40.0	2.4 -2.1 -1.2								26.06 27.53 27.54	117.48 111.58 111.63	Western Iran 33.20 N 47.94 E H = 11 7 58.4 Depth = 63 km MB = 5.5 /ISC/	
807	NOV 7	SPC SRO ZST BRA	EPCP LMV EP IPP IS LMV EPCP EPP EPP ES	17 22 18 9 17 22 17 26 17 33 18 9 17 22 17 26 17 22 17 26 17 33	20.0 0.0 26.0 26.0 26.0 0.0 30.0 29.0 33.0 30.0 27.0	0.1 -0.7 5.2 -9.2 -0.0 3.1 3.0 4.0 -13.7							93.99 95.65 96.28 96.29	72.23 70.87 69.90 69.91	Mindanao 8.52 N 126.41 E H = 17 9 7.1 Depth = 64 km MB = 6.1 /ISC/		
808	NOV 8	SPC SRO ZST	EP EPP LMV +IP IAP IPP ESKS ISP LMH +IP EAP EPP LMV	8 31 8 34 9 10 8 31 8 31 8 34 8 42 8 42 9 8 8 31 8 31 8 34 8 56	29.0 41.0 0.0 40.0 52.0 44.0 28.0 28.0 0.0 40.2 51.2 33.0 30.0	-0.4 10.4 0.5 -0.5 -2.6 -3.2 -3.2 -0.6 -2.5 -15.6							79.07 80.95 81.20	42.93 41.49 40.73	Near East Coast of Honshu 38.12 N 142.26 E H = 8 19 28.1 Depth = 44 km MB = 5.9 /ISC/		



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No.	Date	Stat. 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					
809	NOV 8	BRA	IP IXP EPP EKS LMH	8 31 8 31 8 34 8 42 9 11	43.2 57.0 36.0 12.0 0.0	2.3 -1.9 -12.8 3.2											81.22	40.73	Sea Of Okhotsk 47.34 N 145.97 E H = 9 7 57.0 Depth = 404 km MB = 5.0 /ISC/	
810	NOV 8	ZST BRA	EP EP	9 18 9 18	56.2 57.0	-0.4 0.3											74.97 74.99	33.25 33.25	Kermadec Islands 29.90 S 177.16 W H = 18 29 18.0 Depth = 0 km MB = 5.4 /ISC/	
811	NOV 9	SPC ZST BRA	EAPKIP2 EAPKIP EAPKIP2	10 40 18 49 18 49 18 49	7.0 18.0 53.0 52.0	0.7 -2.1 -3.2											158.70 158.72	36.08 36.12	Tonga 19.28 S 173.28 W H = 10 20 11.1 Depth = 33 km MB = 5.2 /ISC/	
812	NOV 9	SPC ZST	EP EPP	22 56 22 58	24.0 19.0	-0.8 -5.0											39.40 41.58	85.65 82.39	Tadzhikistan - Sinkiang 38.12 N 73.61 E H = 22 49 7.5 Depth = 142 km MB = 5.2 /ISC/	
813	NOV 10	ZST	EPG ESG	11 3 11 3	21.0 28.0														No determination of epicentre	
814	NOV 10	ZST	EPG ISG	22 35 22 35	27.8 34.8														No determination of epicentre	
815	NOV 11	SPC ZST	EP EP	2 27 2 27	29.0 41.0	-1.3 -7.5											38.81 41.01	83.86 80.67	Tadzhikistan - Sinkiang 39.39 N 73.77 E H = 2 20 7.9 Depth = 42 km MB = 5.2 /ISC/	
816	NOV 11	ZST	EPCP	3 29	12.0	-0.7											89.81	277.19	South of Panama 4.98 N 78.13 W H = 3 16 13.0 Depth = 23 km MB = 5.5 /ISC/	
817	NOV 11	ZST	E	11 30	39.0														No determination of epicentre	
818	NOV 11	ZST	E	13 26	16.0														No determination of epicentre	
819	NOV 12	SRO ZST	LMH EP EPP	9 58 9 54 9 54	0.0 2.5 18.5	-0.9 5.2										11.12 11.92	143.41 140.53	Asgean Sea 38.54 N 26.74 E H = 9 51 11.3 Depth = 19 km MB = 4.6 /ISC/		

820	NOV 12	ZST	E	9 58	26.5												11.97	140.81	Asgean Sea 38.47 N 26.71 E H = 8 55 32.9 Depth = 6 km MB = 4.9 /ISC/
821	NOV 12	ZST SPC	EP EPCP EP	14 55 14 57 14 55	32.2 18.0 32.0	-0.5 0.2 -0.8											44.19 44.21	334.11 334.09	Baffin Bay 72.57 N 70.33 W H = 14 47 23.7 Depth = 23 km MB = 5.3 /ISC/
822	NOV 12	ZST	EP ES E	19 38 19 39 19 40 19 41	42.0 22.0 14.0 12.0	0.4 -4.9											8.63	170.56	Southern Italy 39.66 N 18.93 E H = 19 36 36.1 Depth = 33 km MB = 4.4 /ISC/
823	NOV 12	ZST	+IPKHP	23 20	34.9	6.4											148.85	27.52	Fiji Region 19.33 S 177.56 W H = 23 1 51.6 Depth = 593 km MB = 5.2 /ISC/
824	NOV 13	ZST	EPB EPG ISG	1 14 1 14 1 15	36.8 38.8 23.8	1.8 -3.1 -2.7											3.41	237.48	Northern Italy 46.29 N 12.96 E H = 1 13 34.0 Depth = 7 km MB = 5.2 /ISC/
825	NOV 13	SRO ZST SPC	LMH EP EAP EAP	6 18 6 13 6 13 6 13	0.0 1.7 15.7 18.0	-3.6 2.0 -0.7											13.26 13.90 14.28	161.67 158.15 169.59	Crete 35.09 N 23.36 E H = 6 9 49.1 Depth = 44 km MB = 5.1 /ISC/
826	NOV 13	ZST	E E	9 0 9 1	49.6 3.6														No determination of epicentre
827	NOV 13	SPC	EP	9 45	59.0	3.6											24.73	350.04	Greenland Sea 73.01 N 6.00 E H = 9 40 35.3 Depth = 29 km MB = 4.8 /ISC/
828	NOV 13	ZST	EP	10 19	38.5	-1.3											36.82	108.03	Southern Iran 28.25 N 57.34 E H = 10 12 36.0 Depth = 62 km MB = 5.0 /ISC/
829	NOV 13	ZST	EP	21 35	36.0	4.3											25.69	353.32	Greenland Sea 73.40 N 7.00 E H = 21 30 3.0 Depth = 33 km MB = 5.0 /ISC/
830	NOV 14	ZST	ESG	3 48	38.0	2.5											3.33	238.19	Italy 46.37 N 13.02 E H = 3 46 45.6 Depth = 10 km MB = 5.2 /ISC/
831	NOV 15	SPC SRO BRA	EP EP ES IP IAP IXP	8 8 8 9 8 13 8 9 8 9 8 9	56.0 0.0 24.0 6.8 10.8 29.1	2.4 1.1 -4.3 -0.2 -9.4 2.4										26.06 26.65 27.53	117.50 112.44 111.60	Western Iran 33.19 N 47.94 E H = 8 3 23.3 Depth = 53 km MB = 5.2 /ISC/	

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No.	Date	Stat. Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
832	NOV 15	SPC SRO	-IP LMV -IP EAP EPP ES	14 3 47.0 14 3 0.0 14 3 56.0 14 4 8.0 14 6 24.0 14 12 56.0 14 35 0.0 14 31 0.0 14 4 0.0	0.3 -2.3 1.2 -5.0 4.5									65.67 67.50 67.53 67.97	57.34 55.71 55.66 55.12	North Eastern China 39.50 N 117.73 E H = 13 53 2.6 Depth = 27 km MB = 6.0 /ISC/	
833	NOV 15	BRA	IPG ISG	15 29 45.0 15 29 48.0													No determination of epicentre
834	NOV 16	BRA	E E	7 11 4.3 7 11 14.0													No determination of epicentre
835	NOV 16	BRA	IPG	11 40 19.3													No determination of epicentre
836	NOV 16	BRA	E	12 32 33.0													No determination of epicentre
837	NOV 17	BRA	EP	8 34 41.9	-1.1									88.76	148.24	Atlantic - Indian Rise 33.75 S 56.27 E H = 8 21 51.5 Depth = 33 km MB = 4.9 /ISC/	
838	NOV 17	SPC SRO	+IP LIP EP E E +IP IPP E	17 30 28.4 17 31 42.0 17 30 37.0 17 30 55.0 17 33 25.0 17 30 43.5 17 32 24.0 17 33 33.0	1.4 0.7 -0.9 -0.9 -1.5									38.76 40.09 40.88	89.56 86.49 86.08	Afghanistan - USSR Border Region 36.46 N 71.19 E H = 17 23 23.4 Depth = 231 km MB = 5.2 /ISC/	
839	NOV 18	BRA SRO	EAPKP2 EAPKP2	2 15 54.0 2 15 54.0	2.6 2.5									149.96 150.00	19.89 22.31	Tonga 19.26 S 173.28 W H = 1 55 45.7 Depth = 36 km MB = 4.9 /ISC/	
840	NOV 18	SPC SRO	EPKIKP EPP EAPKIKP EPP E LMH IPKIKP LAPKIKP E EPP	3 43 2.0 3 44 57.0 3 43 10.0 3 45 6.0 3 56 42.0 4 31 0.0 3 43 6.0 3 43 15.0 3 44 52.0 3 45 15.0	2.5 -0.5 -3.9 -3.3 2.0 0.2 2.5		6.4	20.0		5.2	20.0			125.97 127.80 128.26	56.83 55.71 54.22	Solomon Islands 8.84 S 156.97 E H = 3 24 0.7 Depth = 33 km MB = 6.1 /ISC/	
841	NOV 19	NOV 19	ZST ISG	12 27 1.3 12 27 8.3													No determination of epicentre

842	NOV 19	NOV 19	ZST ESB	13 13 49.4	-0.2									2.99	259.11	Austria 47.55 N 12.77 E H = 13 12 17.0 Depth = 0 km No determination of epicentre /ISC/	
843	NOV 22	NOV 22	ZST EPG ESG	11 3 16.2 11 3 18.2										147.61 149.56	34.07 29.68	Fiji Region 20.38 S 178.41 W H = 18 8 3.6 Depth = 588 km MB = 5.2 /ISC/	
844	NOV 22	NOV 22	ZST SPC EPPKIKP EPPKIKP	18 26 43.0 18 26 48.9	4.4 6.0									37.26 39.56	65.79 63.43	Eastern Kazakhstan 49.97 N 79.01 E H = 5 2 57.5 Depth = 38 km MB = 5.8 /ISC/	
845	NOV 22	NOV 22	ZST SPC +IP EPP	5 10 13.5 5 10 31.9 5 11 54.9	-4.6 -5.3 -7.4									73.97	25.44	Off East Coast of Kamchatka 51.25 N 159.18 E H = 10 46 36.6 Depth = 35 km MB = 5.4 /ISC/	
846	NOV 23	NOV 23	ZST SPC EP	10 58 12.0	1.8												Iran-USSR Border Region 39.05 N 44.04 E H = 12 22 16.0 Depth = 7 km MB = 6.1 /ISC/
847	NOV 24	NOV 24	ZST SPC SRO HRB BRA ZST	12 26 47.2 12 26 55.8 12 27 4.4 12 28 36.0 12 31 4.0 12 38 0.0 12 27 6.2 12 27 9.3 12 31 9.0 12 38 0.0 12 27 6.2 12 27 14.0 12 38 0.0	-2.4 -2.1 5.6 -5.1 -0.6 -1.6 -0.7 -16.9		236.6	10.0	274.2	10.0	6.3			21.44 21.45	105.18 105.24	N.W. Iran - USSR Border Region 39.10 N 44.20 E H = 12 36 48.7 Depth = 63 km MB = 5.5 /ISC/	
848	NOV 24	NOV 24	ZST BRA EP EP	12 41 39.0 12 41 36.0	5.0 1.9									19.56 21.21	112.24 105.55	Turkey 39.09 N 43.71 E H = 13 18 8.9 Depth = 49 km MB = 4.9 /ISC/	
849	NOV 24	NOV 24	ZST SPC EP	13 22 36.0 13 22 54.2	0.8 1.7									19.21	111.12	Turkey 39.60 N 43.65 E H = 14 11 20.0 Depth = 43 km MB = 4.5 /ISC/	
850	NOV 24	NOV 24	ZST SPC EP	14 15 44.0	1.0												Turkey 39.18 N 43.71 E H = 15 4 5.1 Depth = 46 km MB = 4.9 /ISC/
851	NOV 24	NOV 24	ZST SPC EP	15 8 33.0 15 8 51.2	1.9 2.8									19.50 21.16	112.03 105.34	Turkey 39.18 N 43.71 E H = 15 4 5.1 Depth = 46 km MB = 4.9 /ISC/	





No.	Date	Stat. 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					
871	NOV 30	ZST	EP IPP IPF ESKS E LMV EPP ESKS	0 54 0 58 0 59 1 5 1 9 1 42 0 59 1 5	48.1 56.0 12.0 7.0 0.0 0.0 2.0 22.0	1.9 -6.3 9.7 -11.2 -5.1 1.0 6.8 -9.5									102.49	253.22	Chile-Bolivia Border Region 20.57 S 68.93 W H = 0 40 56.5 Depth = 70 km MB = 6.5 /ISC/	
872	DEC 1	ZST	EP	14 28	36.6	0.1									90.34	285.30	Costa Rica 9.98 N 84.62 W H = 14 15 39.7 Depth = 51 km MB = 5.3 /ISC/	
873	DEC 2	ZST	EP	1 32	6.8	0.5									85.81	46.59	South of Honshu, Japan 31.02 N 139.54 E H = 1 19 30.8 Depth = 48 km MB = 5.6 /ISC/	
874	DEC 2	ZST	ESG	11 17	40.1	-2.4									3.08	320.85	Czechoslovakia, Expl. of 25 tons 50.54 N 14.06 E H = 11 16 0.9 Depth = 0 km /ISC/	
875	DEC 2	ZST	EPAIKP	16 31	37.4	0.4								144.89	50.73	Loyalty Islands 21.50 S 168.54 E H = 16 12 0.0 Depth = 12 km MB = 5.0 /ISC/		
876	DEC 3	ZST	IPG ISG	7 30 7 30	5.2 6.9										20.17 21.06	105.59 105.70	Turkey 39.31 N 43.66 E H = 4 10 36.8 Depth = 36 km MB = 4.9 /ISC/	
877	DEC 3	ZST	IPG ISG	8 49 8 49	32.0 34.2									102.27	253.11	Chile-Bolivia Border Region 20.49 S 68.69 W H = 12 32 12.1 Depth = 107 km MB = 5.5 /ISC/		
878	DEC 4	SRO ZST	EP EP	4 15 4 15	0.0 16.8	-10.8 -3.2											No determination of epicentre	
879	DEC 4	ZST	EPP	12 50	32.0	-0.2											No determination of epicentre	
880	DEC 4	BRA ZST	IPH EPH	15 44 15 45	59.8 4.8	-1.2 3.4								5.99 192.44	192.44	49.50 N 141.60 E H = 15 45 4.8 Depth = 43 km MB = 5.5 /ISC/		

881	DEC 4	DEC 4	SPC ZST	EPAIKP EPAIKP	21 44 21 44	52.0 57.4	-0.3 4.4							148.05 149.21	124.02 124.94			West of Macquarie Island 56.75 S 147.48 E H = 21 25 12.3 Depth = 33 km MB = 5.3 /ISC/	
882	DEC 5	DEC 5	ZST BRA	EPAIKP LAPKHP EPAIKP	17 30 17 31 17 30	57.0 9.6 58.0	-3.9 -0.2 -3.0							148.55 148.58	17.99 18.01			Tonga Islands Region 17.69 S 172.63 W H = 17 11 16.0 Depth = 67 km MB = 5.1 /ISC/	
883	DEC 7	DEC 7	ZST	EPG ESG	3 38 3 38	5.0 48.0	-1.6 -1.8							3.30	234.68			Italy 46.22 N 13.22 E H = 3 37 0.7 Depth = 10 km /ISC/	
884	DEC 7	DEC 7	ZST	EPAIKP E	11 35 11 36	32.4 32.0	1.7							148.87	25.59			Fiji Islands Region 19.04 S 176.55 W H = 11 15 38.0 Depth = 18 km MB = 5.5 /ISC/	
885	DEC 8	DEC 8	BRA	EPG	13 44	20.0												No determination of epicentre	
886	DEC 8	DEC 8	BRA	EPG	14 41	7.0												No determination of epicentre	
887	DEC 8	DEC 8	SPC BRA	EP EP	19 31 19 31	31.0 42.0	2.1 1.9							77.22 79.26	36.36 34.24			Kurile Islands 43.21 N 147.99 E H = 19 19 32.0 Depth = 4 km MB = 5.4 /ISC/	
888	DEC 9	DEC 9	SPC ZST SRO	EP EP EPCP ISCS LMH	10 3 10 3 10 3 10 14 10 43	28.0 30.0 34.0 8.0 0.0	1.0 2.3 -1.5 4.1		4.4	20.0	3.9	20.0			83.11 83.25 83.91	338.97 336.89 337.72			Off Coast of Oregon 44.50 N 129.89 W H = 9 51 0.4 Depth = 15 km MB = 5.2 /ISC/
889	DEC 10	DEC 10	ZST	EP	20 47	28.0	-1.1							90.99	95.91			Southern Sumatra 4.72 S 103.37 E H = 20 34 30.7 Depth = 64 km MB = 5.4 /ISC/	
890	DEC 11	DEC 11	SPC ZST	EP EP	4 14 4 14	51.0 59.6	3.9 -1.1							24.93 26.38	118.58 112.49			Iran-Iraq Border Region 33.69 N 46.60 E H = 4 9 27.1 Depth = 49 km MB = 5.0 /ISC/	
891	DEC 11	DEC 11	ZST	EP	8 23	50.0												No determination of epicentre	
892	DEC 11	DEC 11	SPC SRO ZST	EP EP ES LMV -IP	18 19 18 19 18 29 19 0 18 19	37.4 47.8 16.0 0.0 47.0	-0.1 3.8 -3.1 -1.8							73.57 74.69 75.54	97.41 95.54 94.73			Nicobar Islands Region 7.65 N 93.90 E H = 18 8 2.0 Depth = 8 km MB = 5.4 /ISC/	





No.	Date	Stat. 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						
914	DEC 20	ZST	EP	21	18	45.7	1.5										78.85	337.79	Vancouver Island Region 48.91 N 128.70 W H = 21 6 39.3 Depth = 10 km MB = 5.1 /ISC/	
915	DEC 20	ZST	ESB	21	31	26.0	2.0										2.36	31.11	Poland 50.20 N 19.00 E H = 21 30 10.0 Depth = 0 km /ISC/	
916	DEC 20	ZST	EPCP	21	33	47.0	0.5										78.82	337.70	Vancouver Island Region 48.90 N 128.56 W H = 21 21 32.6 Depth = 10 km MB = 4.8 /ISC/	
917	DEC 22	ZST	EP EPP	1	14	56.0 1 18 46.0	0.1 0.3										94.17	47.68	Volcano Islands Region 23.42 N 143.71 E H = 1 1 41.0 Depth = 47 km MB = 5.8 /ISC/	
918	DEC 22	ZST	EPP ESG	11	8	40.6 11 8 42.6													No determination of epicentre	
919	DEC 23	ZST SPC SRO	IP -IP EPCP E ESCS LMH	9 51 34.0 9 51 34.2 9 51 40.0 9 53 37.0 10 2 19.0 10 28 0.0			0.8 1.0 -0.2 5.1										84.60 84.61 85.31	333.14 335.28 333.99	Off Coast of Northern California 41.81 N 125.91 W H = 9 38 59.0 Depth = 15 km MB = 5.4 /ISC/	
920	DEC 23	ZST	-IPG I I	22 4 25.6 22 4 26.2 22 4 27.8															Little Carpathians 48.38 N 17.16 E H = 22 04 /BBA/	
921	DEC 26	ZST	EP	14	59	29.0	0.8										76.89	357.99	Alaska Peninsula 55.25 N 159.47 W H = 14 47 37.6 Depth = 33 km MB = 5.0 /ISC/	
922	DEC 26	BRA ZST SPC	EPCP EP EPP	19 47 10.5 19 47 8.3 19 47 19.0			0.7 -0.8 1.0										93.36 93.20 95.20	305.12 307.37	South Atlantic Ridge H = 0 19 33 56.3 W Depth = 33 km /ISC/	

No.	Date	Stat. Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T								
923	DEC 27	ZST	EP	2	21	29.0													No determination of epicentre	
924	DEC 27	SRO	EAP E LMH LMH EP LXP I E EP ISS E EP EP LMV	7 56 30.0 7 58 28.0 8 1 0.0 8 1 30.0 7 56 29.0 7 56 47.4 7 59 40.0 7 59 52.0 7 56 30.0 7 56 32.0 7 59 10.0 7 56 41.8 8 1 0.0			0.6 -1.3 6.0 -0.6 -2.3 2.0										8.93 9.00 9.47	168.75 168.24 163.52	Greece-Albania Border Region 39.03 N 20.54 E H = 7 54 13.0 Depth = 31 km MB = 4.9 /ISC/	
925	DEC 27	ZST	EPN IPN IPB	12 4 15.0 12 4 21.0 12 4 28.0			-2.9 3.1 0.5										4.81	178.20	Yugoslavia 43.39 N 17.31 E H = 12 3 2.5 Depth = 10 km /ISC/	
926	DEC 28	ZST	EPN ESG	2 46 50.7 2 48 24.0			1.0 -5.6										5.68	208.14	Central Italy 43.13 N 13.45 E H = 2 45 22.1 Depth = 10 km /ISC/	
927	DEC 28	BRA ZST SRO	EPP E EPP E ESKS ES	14 9 58.0 14 10 35.0 14 9 55.0 14 9 42.0 14 16 23.0 14 17 31.0			-1.7 -4.7 10.7 12.0										102.80 102.81 103.47	252.52 252.53 253.28	Chile-Bolivia Border Region 21.27 S 68.64 W H = 13 51 56.2 Depth = 116 km MB = 5.7 /ISC/	
928	DEC 28	BRA ZST	EP EP	18 0 1.0 17 59 59.0			4.3 2.2										20.94 20.95	104.72 104.79	Turkey 39.46 N 43.63 E H = 17 55 16.0 Depth = 51 km MB = 4.3 /ISC/	
929	DEC 28	ZST BRA SPC	IP IP EP	18 12 40.0 18 12 42.0 18 12 42.5			-0.5 1.4 0.2										85.38 85.40 85.75	324.18 324.18 326.35	Southern Nevada 37.10 N 116.04 W H = 18 0 0.1 Depth = 0 km /ISC/	
930	DEC 29	SPC SRO	EP EPP EP EPP ES LMH IP EXP IP EAP	14 48 40.0 14 51 40.0 14 48 47.0 14 51 55.0 14 58 23.0 15 21 0.0 14 48 50.0 14 49 52.0 14 48 50.0 14 49 26.0			2.6 0.6 -0.5 -0.0 -18.5 0.9 12.0 0.8 1.2										78.79 80.68	45.82 44.37	Honshu, Japan 36.71 N 139.15 E H = 14 36 49.0 Depth = 142 km MB = 5.3 /ISC/	
		ZST BRA	LMH IP EXP IP EAP	15 21 0.0 14 48 50.0 14 49 52.0 14 48 50.0 14 49 26.0			0.9 12.0 0.8 1.2										80.97 80.98	43.61 43.60		



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No.	Date	Stat. 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					
931	DEC 29	BRA ZST	EPG EPG	20 26	2.0												No determination of epicentre
932	DEC 30	ZST	IPG ISG	11 2 11 2	29.5 31.5												No determination of epicentre
933	DEC 31	ZST	KP	9 28	54.6	0.6									77.88	37.61	Hokkaido Region 42.59 N 143.20 E H = 9 17 7.5 Depth = 115 km MB = 5.2 /ISC/

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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	4	3.1	2	5	3.8	2	5	3.8	0.0		
3	1	5	4.7	0.0			2	4	2.1	0.0		
4	3	4	5.1	2	5	4.7	2	5	4.7	1	5	3.8
5	1	5	3.8	3	4	4.1	1	6	5.1	0.0		
6	3	6	4.3	1	4	4.1	3	4	6.2	0.0		
7	0.0			1	5	8.5	1	5	5.7	0.0		
8	0.0			0.0			0.0			0.0		
9	0.0			0.0			0.0			0.0		
10	0.0			3	5	3.8	3	5	5.7	0.0		
11	0.0			0.0			1	4	4.1	0.0		
12	2	5	3.8	2	6	3.4	1	6	4.3	1	4	4.1
13	1	5	4.7	2	6	8.5	2	5	6.6	1	5	6.6
14	0.0			1	6	6.0	TT			0.0		
15	0.0			3	4	6.2	TT			0.0		
16	0.0			0.0			0.0			1	5	4.7
17	3	6	6.8	0.0			0.0			0		
18	0.0			0.0			0.0			0.0		
19	TT			0.0			TT			0.0		
20	0.0			0.0			0.0			0.0		
21	1	4	4.1	2	5	3.8	2	6	6.8	1	4	4.1
22	1	6	7.7	TT			1	5	2.8	3	5	3.8
23	3	5	4.7	1	5	3.8	3	5	3.8	0.0		
24	0.0			3	6	4.3	1	4	4.1	3	5	3.8
25	0.0			1	4	4.1	1	4	4.1	0.0		
26	3	5	4.7	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			1	4	5.1	0.0			0.0		
30	3	5	8.5	...			0.0			0.0		
31	0.0			1	5	3.8	1	4	4.1	0.0		
	0.0			0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0											
2	0.0											
3	0.0			3	5	3.9	0.0			0.0		
4	3	4	5.4	3	4	5.4	1	5	8.9	1	6	8.0
5	0.0			3	5	6.9	3	4	4.3	0.0		
6	0.0			1	5	5.9	1	4	4.3	0.0		
7	0.0			3	5	5.9	1	4	5.4	0.0		
8	0.0			3	4	9.7	0.0			0.0		
9	0.0			1	5	4.9	1	4	4.3	0.0		
10	0.0			3	4	4.3	0.0			0.0		
11	0.0			0.0			0.0			0.0		
12	0.0			3	6	8.0	3	6	8.0	3	6	5.3
13	3	5	3.9	1	5	8.9	3	5	6.9	3	5	6.9
14	3	4	5.4	3	5	8.9	TT			0.0		
15	0.0			3	5	8.9	TT			0.0		
16	0.0			0.0			0.0			0.0		
17	0.0			1	5	4.9	1	4	4.3	0.0		
18	0.0			0.0			0.0			0.0		
19	TT			0.0			0.0			0		
20	0.0			0.0			TT			0.0		
21	0.0			1	6	4.4	1	6	7.1	0.0		
22	0.0			1	5	8.9	1	5	4.9	1	5	5.9
23	3	5	6.9	TT			3	5	4.9	3	4	9.7
24	3	4	6.5	3	4	5.4	3	6	7.1	3	5	5.9
25	3	5	8.9	1	5	6.9	1	5	3.9	0.0		
26	0.0			0.0			0.0			0.0		
27	0.0			0.0			0.0			3	4	9.7
28	0.0			1	4	6.5	0.0			0.0		
29	0.0			3	4	4.3	3	3	5.8	0.0		
30	0.0			1	5	3.9	1	5	3.9	0.0		
31	0.0			3	5	6.9	...			1	5	3.9
				1	5	4.9	3	6	4.4	0.0		
				3	4	5.4	0.0			0.0		
				0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0											
2	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			TT			0.0			0.0		
6	0.0			0.0			0.0			0.0		
7	0			0.0			0.0			0.0		
8	0			0.0			0.0			0		
9	0.0			0.0			0.0			0.0		
10				3 5 4.7			3 5 4.7			0.0		
11	3 4 4.1			1 6 3.4			1 5 5.7			0.0		
12	3 5 3.8			1 4 4.1			1 5 3.8			1 5 4.7		
13	0.0			1 4 3.1			1 4 4.1			1 4 4.1		
14	0.0			0.0			0.0			1 5 3.8		
15	...			0.0			...			...		
16	1 4 4.1			1 5 4.7			1 5 2.8			0.0		
17	0.0			1 5 3.8			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			1 5 6.6			1 4 3.1			0.0		
26	0.0			1 4 5.1			1 5 4.7			0.0		
27	0.0			1 5 4.7			0.0			0		
28	0.0			0.0			0.0			0.0		
29	0.0			0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0								
2	0.0			0.0			0.0			0		
3	0.0			0.0			0.0			0.0		
4	0.0			TT			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						3 5 4.9		
8	0.0			0			0			0		
9	0.0			3 5 3.9			3 5 3.9			3 5 3.9		
10				3 5 5.9			1 6 4.4			1 4 5.4		
11	0.0			1 6 7.1			3 6 5.3			0.0		
12	0.0			3 5 3.9			3 5 3.9			3 4 5.4		
13	0.0			1 4 4.3			1 4 5.4			0.0		
14	0.0			0.0			0.0			0.0		
15	0.0			0			0			0.0		
16	0			1 5 4.9			1 4 4.3			0		
17	0.0			1 6 3.5			0.0			0.0		
18	0.0			0.0			0.0			0.0		
19	0.0			0			0			0.0		
20	0			0			0			0		
21	0			0			0			0		
22	0			0			0			0		
23	0			0			0			0		
24	0			0.0			0			0		
25	0			0.0			0			0		
26	0			0			0			0		
27	0			0			0			0		
28	0			0			0			0		
29	0			0			0.0			0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0											
2	0.0			1	5	3.8	1	5	6.6	0.0		
3	0.0			1	5	5.7	0.0			0.0		
4	0.0			0.0			0.0			0.0		
5	0.0			1	4	4.1	0.0			0.0		
6	0.0			2	5	4.7	1	6	3.4	0.0		
7	0.0			0.0			0.0			0.0		
8	0.0			1	5	3.8	0.0			0.0		
9	0.0			1	4	4.1	0.0			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	3	5	4.7	1	6	6.8	0.0			0		
14	0			0.0			0.0			0.0		
15	0.0			1	5	3.8	0.0			0.0		
16	0			1	4	4.1	0.0			0.0		
17	0.0			2	4	3.1	0.0			0.0		
18	0.0			1	5	3.8	0.0			0.0		
19	0.0			0.0			0.0			3	5	5.7
20	0.0			3	6	4.3	0.0			3	4	5.1
21	0.0			3	5	4.7	0.0			0.0		
22	3	5	4.7	2	5	4.7	1	5	3.8	0.0		
23	0.0			0.0			0.0			0.0		
24	3	5	4.7	0.0			0.0			0.0		
25	0.0			1	4	4.1	0.0			0		
26	0.0			0.0			0.0			0.0		
27	0.0			0.0			0.0			3	4	5.1
28	0.0			3	5	3.8	0.0			0.0		
29	3	5	5.7	1	6	4.3	1	6	4.3	0.0		
30	0.0			1	5	4.7	1	5	4.7	0.0		
31	0.0			1	5	3.8	0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0			0			0			0		
2	0			0.0			0			0		
3	0			0.0			0			0		
4	0			0.0			0.0			0		
5	0			0.0			0			0		
6	0.0			0			0			0.0		
7	0			0			0			0		
8	0			3	4	8.6	0.0			0		
9	0.0			0			0			0		
10	0			0.0			0.0			0		
11	0			0			0			0		
12	0			0.0			0			0		
13	0			0			0			0		
14	0			0			0			0		
15	0			0.0			0.0			0		
16	0			0.0			0.0			0		
17	0			3	5	4.9	0.0			0		
18	0			3	6	7.1	0.0			0		
19	0			0.0			0.0			0		
20	0			0			0.0			0.0		
21	0			0			0			0		
22	0			0.0			0			0		
23	0			3	5	4.9	3	3	5.8	0		
24	0			3	5	8.9	0.0			0		
25	0			3	5	7.9	3	5	7.9	0		
26	0			0.0			0			0		
27	0.0			0.0			0			0		
28	0			0.0			0.0			0		
29	0			0.0			0.0			0		
30	0			0			0			0.0		
31	0			0.0			3	4	5.4	0		
	0			0.0			3	4	5.4	3	4	5.4
				3	4	5.4	0.0			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											
2	0.0			1	6	4.3	0.0					
3	0.0			0.0			3	5	4.7	0.0		
4	0.0			1	4	4.1	1	4	4.1	0.0		
5	0.0			0.0			3	5	3.8	0.0		
6	0.0			1	4	4.1	1	5	3.8	0.0		
7	3	5	3.8	2	5	4.7	1	5	3.8	0.0		
8	0.0			1	3	3.3	0.0			0.0		
9	TT			1	4	4.1	0.0			0.0		
10	0.0			3	4	4.1	3	4	4.1	0.0		
11	0.0			1	5	4.7	3	4	4.1	0.0		
12	3	4	4.1	1	5	4.7	1	4	4.1	0.0		
13	3	4	4.1	0.0			0.0			0.0		
14	0.0			0.0			0.0			0.0		
15	3	5	4.7	1	5	3.8	0.0			0.0		
16	0.0			0.0			0.0			0.0		
17	0.0			3	5	3.8	3	5	6.6	0.0		
18	0.0			0.0			0.0			3	5	3.8
19	0.0			0.0			3	5	3.8	3	5	5.1
20	0.0			3	4	4.1	3	4	4.1	0.0		
21	0.0			3	4	4.1	0.0			0.0		
22	3	5	3.8	1	4	4.1	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		
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			0.0		
30	0.0			0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0			3	4	5.4	0.0			0.0		
2	0			3	4	5.4	3	4	6.5	0.0		
3	0			3	3	4.6	3	3	4.6	0.0		
4	0			0.0			0			0		
5	0			1	5	8.9	1	4	4.3	0.0		
6	1	4	4.3	3	5	5.9	3	5	4.9	0.0		
7	3	4	4.3	1	5	5.9	1	4	9.7	0.0		
8	TT			1	4	4.3	1	4	6.5	1	4	3.2
9	0.0			1	4	3.2	1	5	3.9	0.0		
10	3	4	4.3	1	4	5.4	3	4	5.4	0.0		
11	0.0			0.0			3	4	5.4	3	4	5.4
12	3	5	3.9	1	4	6.5	1	4	6.5	0.0		
13	3	5	3.9	1	4	7.6	1	3	4.6	0.0		
14	0.0			3	4	5.4	3	5	8.9	0.0		
15	3	4	4.3	1	4	5.4	3	4	9.7	0.0		
16	0.0			3	4	7.6	3	5	5.9	0.0		
17	0.0			0.0			3	4	5.4	3	4	4.3
18	0.0			3	5	3.9	3	5	4.9	3	5	5.9
19	0.0			0.0			3	4	4.3	3	5	4.9
20	3	4	4.3	1	4	4.3	1	4	6.5	3	5	4.9
21	0.0			3	5	4.9	3	4	5.4	0.0		
22	0.0			3	5	3.0	3	5	4.9	0.0		
23	0.0			1	4	5.4	3	4	5.4	0.0		
24	0.0			3	4	5.4	0.0			0.0		
25	0.0			0.0			0.0			0.0		
26	0			0.0			0.0			0.0		
27	0.0			3	5	4.9	3	4	5.4	0.0		
28	0.0			3	4	5.4	0.0			0.0		
29	0.0			3	4	4.3	3	4	4.3	0.0		
30	0.0			3	5	5.9	3	5	3.9	0.0		
	0.0			3	5	3.9	...			...		

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	0			0			0			0.0		
3	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			1 5 5.6			0.0			0.0		
7	0.0			0.0			0.0			TT		
8	...			0.0			0.0			0		
9	0			0.0			0.0			...		
10	...			0.0			0			0.0		
11	...			0.0			0.0			0.0		
12	0.0			0.0			TT			TT		
13	0			0.0			0.0			0.0		
14	0.0			3 4 4.8			0.0			0.0		
15	0.0			0.0			0.0			0.0		
16	0.0			0.0			0.0			...		
17	...			0.0			0.0			0.0		
18	TT			0.0			0.0			0		
19	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			3 4 4.8			3 4 4.8			0.0		
23	0.0			3 5 5.6			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			3 5 4.5			3 5 4.5			0		
28	...			0.0			0.0			0		
29	0.0			0.0			0.0			...		
30	0.0			0.0			0.0			0		
31	0			0.0			0.0			0		
31	...			0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	...											
2	0.0			0.0			0.0			0.0		
3	0.0			1 4 6.1			...			0.0		
4	...			0.0			0.0			0.0		
5	0.0			1 4 6.1			1 4 4.9			0.0		
6	0.0			0.0			0.0			TT		
7	TT			3 5 6.8			3 4 8.5			0.0		
8	0.0			0.0			0.0			0.0		
9	TT			0.0			0.0			3 6 5.2		
10	0.0			1 5 4.5			3 4 4.9			0.0		
11	0			3 4 7.3			TT			TT		
12	0.0			3 4 4.9			3 4 4.9			3 5 5.7		
13	3 4 4.9			3 5 4.5			3 5 4.5			0.0		
14	3 4 4.9			3 5 5.7			3 5 4.5			0.0		
15	0.0			0.0			0.0			0.0		
16	0			0.0			0.0			0.0		
17	TT			1 5 5.7			3 4 6.1			0.0		
18	3 5 6.8			1 5 9.1			0.0			0		
19	0.0			0.0			0.0			0		
20	0.0			3 4 4.9			3 4 4.9			0.0		
21	0			3 5 5.7			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			0.0		
25	0.0			0.0			0.0			0.0		
26	0			0.0			0.0			0.0		
27	0			3 5 5.7			3 5 5.7			0.0		
28	0.0			3 5 6.8			3 3 5.2			0.0		
29	0.0			0.0			3 5 4.5			0.0		
30	0.0			0.0			0.0			0.0		
31	0.0			0.0			0.0			0		
31	0.0			0.0			0.0			0		
31	0.0			0.0			0.0			0		
31	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		
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			0.0		
6	0.0			0.0			0.0			0		
7	0.0			0.0			0			0		
8	0.0			0.0			0.0			0		
9	0.0			0.0			0.0			0		
10	0.0			0.0			0.0			0		
11	0			0.0			0.0			0		
12	0.0			0.0			0.0			0		
13	0.0			0			0.0			...		
14	...			0.0			0.0			0		
15	0			0.0			0.0			0.0		
16	0.0			0.0			3	4	4.8	0		
17	3	4	4.8	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			3	5	4.5	0.0		
22	0.0			0.0			0.0			0.0		
23	0.0			0.0			0.0			0.0		
24	3	4	4.8	3	4	4.8	0.0			0.0		
25	0.0			3	4	4.8	0.0			0.0		
26	0.0			0.0			0.0			0.0		
27	0.0			0.0			0.0			0		
28	0.0			3	4	4.8	0.0			0		
29	3	5	5.6	0.0			0.0			0.0		
30	0			0.0			0.0			0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			3	5	7.9	0.0			0.0		
2	0.0			3	4	4.9	3	4	4.9	0.0		
3	0.0			3	4	7.3	0.0			0.0		
4	0.0			0.0			0.0			0		
5	0			3	4	6.1	3	4	4.9	3	5	4.5
6	3	5	4.5	3	5	6.8	3	4	4.9	0.0		
7	3	4	6.1	1	4	6.1	3	4	4.9	0		
8	3	4	4.9	3	5	6.8	0.0			0		
9	3	4	4.9	3	5	6.8	3	4	6.1	0.0		
10	0.0			3	5	4.5	3	4	4.9	0.0		
11	0.0			0.0			0.0			0.0		
12	0.0			0.0			3	4	6.1	0.0		
13	0.0			0			0.0			...		
14	...			3	5	5.7	3	5	4.5	0.0		
15	3	4	4.9	3	5	4.5	3	4	4.9	0.0		
16	3	4	4.9	3	4	4.9	3	4	4.9	0.0		
17	0.0			3	5	10.2	3	4	4.9	0.0		
18	3	4	4.9	2	5	4.5	3	5	4.5	0.0		
19	3	4	4.9	0.0			3	4	4.9	0.0		
20	0.0			0.0			0.0			0.0		
21	0.0			1	5	4.5	3	4	4.9	0		
22	0			3	4	4.9	3	4	4.9	0.0		
23	0.0			3	5	6.8	3	4	6.1	0.0		
24	0.0			3	4	4.9	3	5	7.9	0.0		
25	0.0			1	4	4.9	0.0			0		
26	0			0.0			0.0			0		
27	0			0.0			0.0			0		
28	0.0			0.0			0.0			0		
29	0.0			3	5	4.5	3	5	7.9	0.0		
30	0.0			3	4	6.1	0.0			0		
	0			3	4	4.9	3	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	0.0			0.0			0.0					
3	0.0			0.0			0.0			0		
4	0.0			0.0			0.0			3	4	6.0
5	0			3	8	3.7	0.0			0		
6	3	6	4.1	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			3	5	3.4	3	4	4.8
11	0.0			0.0			0.0			0		
12	0.0			0.0			0.0			0		
13	0.0			2	3	5.1	0.0			0.0		
14	0.0			0.0			0.0			0.0		
15	0.0			0.0			3	4	4.8	0.0		
16	0.0			0.0			0.0			0		
17	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			1	4	6.0	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			3	5	5.6	0		
24	0			3	5	6.7	0.0			TT		
25	0			0.0			0.0			TT		
26	0.0			1	4	4.8	0.0			0		
27	0.0			TT			0			0.0		
28	0.0			0.0			0.0			0		
29	0			0.0			0			0		
30	0.0			0.0			0			0		
31	0.0			0.0								

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			3	4	4.9	1	4	6.1	0.0		
2	0			1	4	4.9	3	6	5.2	0.0		
3	3	5	9.1	0.0			0.0			0.0		
4	0.0			0.0			0.0			0.0		
5	0			1	5	6.8	3	4	3.7	0.0		
6	0			3	5	4.5	3	4	3.7	0.0		
7	3	4	4.9	3	4	3.7	1	5	4.5	3	5	4.5
8	0.0			1	4	4.9	3	5	6.8	0.0		
9	3	5	5.7	2	5	4.5	3	5	9.1	0.0		
10	0.0			3	5	4.5	3	4	6.1	0		
11	0.0			3	4	6.1	0.0			0.0		
12	0.0			3	5	4.5	3	5	6.8	3	3	5.2
13	0.0			3	5	6.8	1	5	5.7	0.0		
14	3	4	6.1	1	4	7.3	0.0			3	5	4.5
15	3	4	4.9	1	4	4.9	1	4	4.9	0.0		
16	0			1	4	4.9	1	4	4.9	0.0		
17	0.0			3	4	4.9	3	3	5.2	0.0		
18	0.0			3	4	4.9	3	3	5.2	0		
19	0.0			1	5	4.5	0.0			0		
20	0.0			1	5	4.5	0.0			0		
21	0.0			2	4	4.9	1	3	5.2	0.0		
22	0.0			3	5	4.5	0.0			0.0		
23	0.0			3	5	4.5	0.0			0.0		
24	0			3	4	4.9	0.0			0.0		
25	0			3	3	5.2	0.0			0.0		
26	0.0			3	5	6.8	3	5	5.7	0.0		
27	3	4	4.9	1	4	4.9	3	4	6.1	TT		
28	3	4	4.9	TT			0.0			TT		
29	3	5	5.7	0.0			3	4	6.1	0.0		
30	0.0			1	4	3.7	0.0			0.0		
31	0.0			0.0			0.0			0.0		

MICROSEISMIC ACTIVITY

COMPONENT NS

AUGUST 1976  
International  
Seismological  
Centre

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	0.0			0.0								
3	0.0			0.0						0		
4	0.0			0.0						0.0		
5	0.0			0.0						0.0		
6	3	5	5.6	0.0						0.0		
7	3	5	4.5	0.0						0.0		
8	0.0			0.0						0		
9	0			3	5	5.6	0.0			0.0		
10	0.0			0.0			3	6	5.1	0.0		
11	3	5	4.5	3	6	5.1	0.0			0.0		
12	0.0			0.0						0		
13	0.0			3	3	5.1	0.0			3	4	4.8
14	0.0			0.0						0.0		
15	0.0			0.0						0.0		
16	3	7	3.8	0.0						0.0		
17	0.0			0.0			TT			0.0		
18	0.0			0.0			0.0			0.0		
19	3	5	6.7	0.0						3	4	4.8
20	0.0			0.0			0.0			3	6	9.2
21	0.0			3	4	4.8	3	4	3.6	0.0		
22	0.0			0.0			3	4	4.8	0.0		
23	0.0			0.0			0.0			0.0		
24	0			0.0			0.0			0.0		
25	0.0			3	4	4.8	3	5	4.5	0.0		
26	0.0			0.0			3	5	3.4	0.0		
27	0.0			0.0			3	6	5.1	0.0		
28	0.0			0.0			3	6	5.1	3	4	3.6
29	0.0			3	5	5.6	0.0			0.0		
30	0.0			3	4	3.6	3	4	3.6	0.0		
31	0.0			3	4	3.6	0.0			0.0		
32	3	4	4.8	3	4	3.6	0.0			3	4	4.8
33	0			0.0			3	4	4.8	0.0		
34	3	5	4.5	3	4	4.8	TT			3	4	4.8
35	0			0.0			3	4	4.8	0.0		
36	3	5	4.5	3	4	4.8	3	4	4.8	0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0											
2	0.0											
3	0.0			3	5	5.7				3	4	6.1
4	3	4	4.9	1	5	4.5				3	4	4.9
5	3	5	5.7	3	5	6.8				3	5	4.5
6	3	4	4.9	1	4	4.9				1	5	4.5
7	0.0			1	4	4.9				3	4	4.9
8	0.0			1	4	6.1				0.0		
9	0.0			3	5	5.7				1	5	4.5
10	0.0			0.0						3	6	7.3
11	3	4	9.8	1	5	5.7				1	4	4.9
12	3	5	3.4	1	6	4.2				3	5	4.5
13	0.0			1	5	7.9				3	4	3.7
14	3	5	6.8	3	5	5.7				0.0		
15	3	5	4.5	1	5	5.7				3	4	4.9
16	0.0			1	4	7.3				0.0		
17	0.0			3	5	4.5				3	4	4.9
18	3	4	4.9	3	5	4.5				0.0		
19	3	5	5.7	1	5	4.5				0.0		
20	3	4	4.9	1	4	6.1				3	4	4.9
21	3	4	4.9	3	5	6.8				3	4	4.9
22	3	5	4.5	3	4	4.9				0.0		
23	3	5	4.5	1	5	6.8				3	3	5.2
24	0.0			1	5	4.5				3	4	4.9
25	3	4	4.9	3	4	4.9				3	5	5.7
26	3	5	5.7	1	5	5.7				3	4	4.9
27	3	4	4.9	3	4	4.9				3	4	4.9
28	0.0			3	5	4.5				0.0		
29	3	5	5.7	1	4	4.9				3	4	7.3
30	0.0			3	4	4.9				3	4	4.9
31	3	4	4.9	3	5	5.7				3	5	5.7
32	3	4	4.9	1	5	4.5				3	4	6.1
33	0.0			1	4	4.9				3	5	4.5
34	0.0			1	5	4.5				1	5	4.5
35	0.0			3	5	6.8				3	5	6.8

MICROSEISMIC ACTIVITY

COMPONENT NS

SEPTEMBER 1976

International  
Seismological  
Centre

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	4.2	1	5	3.4	3	5	3.4	3	6	3.8
2	3	6	3.0	1	4	2.8	3	5	1.7	0.0		
3	0.0			0.0			3	5	2.5	0.0		
4	0.0			0.0			0.0			0		
5	0			0			0.0			0.0		
6	0.0			3	4	3.7	3	6	4.5	3	6	6.0
7	0.0			3	5	3.4	3	4	4.6	0.0		
8	3	5	3.4	2	5	3.4	1	4	3.7	3	4	2.8
9	3	5	4.2	1	5	2.5	3	4	2.8	0.0		
10	3	5	4.2	1	4	2.8	1	4	3.7	3	5	3.4
11	3	5	3.4	3	5	3.4	TT			3	5	3.4
12	3	4	3.7	0.0			0.0			0.0		
13	0.0			0.0			0.0			0.0		
14	0.0			0.0			0.0			3	6	6.0
15	TT			TT			0.0			3	4	6.5
16	0.0			0.0			0.0			0.0		
17	3	5	7.6	3	6	5.3	0.0			0.0		
18	0.0			3	4	3.7	0.0			3	4	3.7
19	0.0			3	5	3.4	0.0			0.0		
20	0.0			3	4	3.7	3	4	3.7	0.0		
21	3	6	3.0	1	4	3.7	3	5	3.4	3	4	2.8
22	3	4	4.6	2	4	3.7	1	6	3.0	0.0		
23	3	4	3.7	2	4	3.7	3	4	3.7	0.0		
24	0.0			2	4	4.6	3	4	5.6	0.0		
25	0.0			2	4	4.6	3	4	3.7	0.0		
26	3	4	4.6	1	4	3.7	3	4	3.7	3	5	3.4
27	0.0			3	4	2.8	3	6	3.8	0.0		
28	0.0			3	4	3.7	1	4	3.7	0.0		
29	3	4	3.7	2	4	3.7	0.0			0.0		
30	3	5	3.4	0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	3	5	5.1	3	5	4.1	3	5	5.1	3	5	5.1
2	3	4	5.7	1	4	4.5	3	6	3.6	0.0		
3	3	5	5.1	3	6	5.4	3	5	5.1	3	5	4.1
4	3	5	5.1	3	4	4.5	0.0			3	4	4.5
5	...			3	5	5.1	3	4	4.5	0.0		
6	...			1	4	4.5	3	4	4.5	3	4	4.5
7	3	4	3.4	1	5	5.1	1	6	4.5	3	4	4.5
8	3	4	5.7	1	4	6.8	1	5	5.1	3	5	5.1
9	3	5	6.1	1	4	4.5	3	4	4.5	0.0		
10	3	4	4.5	1	4	4.5	3	5	5.1	3	5	4.1
11	3	5	6.1	3	4	4.5	TT			3	4	5.7
12	0.0			0.0			3	5	4.1	3	4	4.5
13	3	4	4.5	1	4	4.5	3	5	4.1	0.0		
14	0.0			3	5	4.1	3	4	6.8	0.0		
15	TT			TT			3	4	4.5	0.0		
16	3	4	4.5	3	4	6.8	3	5	4.1	3	6	4.5
17	3	4	4.5	1	5	4.1	1	4	3.4	...		
18	...			3	4	4.5	3	5	4.1	0.0		
19	0.0			3	4	3.4	...			...		
20	...			1	6	4.5	3	5	5.1	3	5	4.1
21	3	4	4.5	1	5	9.2	1	4	5.7	3	5	4.1
22	0.0			1	5	4.1	3	6	4.5	3	5	6.1
23	3	4	4.5	1	5	5.1	3	4	4.5	3	4	4.5
24	3	5	5.1	1	4	4.5	3	4	4.5	3	4	4.5
25	3	5	5.1	3	4	4.5	3	4	4.5	3	4	4.5
26	3	4	4.5	3	4	4.5	3	5	4.1	3	5	6.1
27	3	4	4.5	3	4	4.5	3	4	4.5	3	4	5.7
28	3	5	5.1	1	4	4.5	3	5	4.1	3	4	4.5
29	3	4	4.5	3	4	5.7	3	4	6.8	0.0		
30	0.0			1	5	8.2	1	4	5.7	3	3	4.9
				3	4	5.7	3	4	4.5	3	4	4.5

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	0.0			1	4	3.7	1	4	2.8	3	6	3.8
3	0.0			3	5	3.4	3	4	3.7	0.0		
4	0.0			3	4	3.7	0.0			0		
5	0.0			2	5	3.4	1	5	3.4	0.0		
6	0.0			1	5	3.4	1	4	4.6	0.0		
7	3	5	4.2	2	5	2.5	1	5	4.2	3	5	3.4
8	3	4	4.6	1	4	3.7	3	5	3.4	0.0		
9	0.0			3	5	3.4	3	4	2.8	0.0		
10	0			0.0			3	5	3.4	0.0		
11	3	7	6.7	3	4	3.7	0.0			3	4	3.7
12	3	4	3.7	1	5	3.4	1	4	3.7	3	4	3.7
13	3	4	3.7	2	4	2.8	3	5	3.4	3	5	4.2
14	3	5	3.4	2	4	2.8	3	4	4.6	0.0		
15	3	6	3.8	2	5	3.4	3	5	4.2	0.0		
16	3	6	3.8	2	4	3.7	1	4	5.6	0.0		
17	3	6	6.8	2	4	3.7	1	4	5.6	3	5	4.2
18	0.0			3	4	2.8	3	4	3.7	3	5	4.2
19	0.0			0.0			0.0			0.0		
20	3	5	4.2	3	4	2.8	3	4	2.8	0.0		
21	3	5	3.4	3	6	3.0	0.0			0.0		
22	3	5	3.4	3	6	3.8	0.0			3	5	5.1
23	3	5	3.4	3	4	3.7	3	4	4.6	0.0		
24	3	4	3.7	3	4	3.7	3	4	4.6	0.0		
25	0.0			2	3	4.0	3	5	4.2	0.0		
26	0.0			2	6	4.5	3	5	3.4	0.0		
27	0.0			3	6	3.0	0.0			0.0		
28	0.0			3	6	3.0	3	4	3.7	0.0		
29	0.0			3	5	5.1	1	3	3.0	0.0		
30	0.0			2	5	3.4	0.0			0.0		
31	0.0			2	5	4.2	1	4	3.7	3	5	4.2
1	0.0			1	6	3.8	0.0			0.0		
2	0.0			0.0			0.0			3	5	4.2
3	0.0			0.0			0.0			3	5	4.2
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	3	4	3.7	0.0			0.0			0.0		
8	3	4	3.7	0.0			0.0			0.0		
9	3	4	3.7	0.0			0.0			0.0		
10	3	4	3.7	0.0			0.0			0.0		
11	3	4	3.7	0.0			0.0			0.0		
12	3	4	3.7	0.0			0.0			0.0		
13	3	4	3.7	0.0			0.0			0.0		
14	3	4	3.7	0.0			0.0			0.0		
15	3	4	3.7	0.0			0.0			0.0		
16	3	4	3.7	0.0			0.0			0.0		
17	3	4	3.7	0.0			0.0			0.0		
18	3	4	3.7	0.0			0.0			0.0		
19	3	4	3.7	0.0			0.0			0.0		
20	3	4	3.7	0.0			0.0			0.0		
21	3	4	3.7	0.0			0.0			0.0		
22	3	4	3.7	0.0			0.0			0.0		
23	3	4	3.7	0.0			0.0			0.0		
24	3	4	3.7	0.0			0.0			0.0		
25	3	4	3.7	0.0			0.0			0.0		
26	3	4	3.7	0.0			0.0			0.0		
27	3	4	3.7	0.0			0.0			0.0		
28	3	4	3.7	0.0			0.0			0.0		
29	3	4	3.7	0.0			0.0			0.0		
30	3	4	3.7	0.0			0.0			0.0		
31	3	4	3.7	0.0			0.0			0.0		

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	3	4	4.5	1	5	5.1	3	4	4.5	0.0		
2	3	4	5.7	3	5	4.1	3	4	4.5	0.0		
3	0			3	5	4.1	0.0			0		
4	0.0			1	6	4.5	3	6	5.4	3	5	4.1
5	3	5	4.1	3	5	6.1	3	5	6.1	0.0		
6	3	5	6.1	3	4	5.7	3	6	5.4	3	4	6.8
7	3	5	4.1	3	4	5.7	3	6	4.5	3	5	6.1
8	3	4	4.5	3	4	5.7	3	6	4.5	0.0		
9	3	4	5.7	3	4	4.5	3	4	4.5	0.0		
10	0.0			1	4	4.5	3	4	5.7	0.0		
11	3	5	9.2	3	4	5.7	0.0			0.0		
12	3	4	4.5	3	4	5.7	3	5	5.1	3	4	5.7
13	3	4	4.5	1	5	4.1	1	4	5.7	0.0		
14	3	4	4.5	3	4	5.7	3	4	5.7	3	4	4.5
15	3	5	5.1	3	4	5.7	3	4	4.5	3	4	4.5
16	3	5	6.1	3	4	9.1	3	5	9.2	3	6	7.3
17	3	4	4.5	1	5	8.2	3	5	6.1	0.0		
18	...			3	5	5.1	3	5	6.1	0.0		
19	3	6	5.4	0.0			3	4	4.5	0.0		
20	3	3	6.1	1	6	4.5	3	5	5.1	3	6	4.5
21	3	4	4.5	1	5	5.1	1	6	9.1	3	5	5.1
22	3	5	6.1	1	5	6.1	3	5	5.1	0.0		
23	3	4	4.5	1	6	5.4	3	5	5.1	3	5	5.1
24	3	4	4.5	1	5	5.1	1	5	5.1	3	5	5.1
25	3	4	4.5	1	5	5.1	1	6	5.4	3	5	4.1
26	3	4	5.7	3	5	5.1	1	6	5.4	3	4	5.7
27	3	4	5.7	3	5	5.1	3	4	6.8	3	4	5.7
28	3	4	4.5	1	4	4.5	0.0			3	5	6.1
29	3	5	7.2	1	4	4.5	1	5	5.1	3	5	5.1
30	3	5	4.1	1	5	6.1	3	5	8.2	3	5	5.1
31	0.0			1	5	6.1	1	5	5.1	0.0		
1	3	3	3.7	1	5	5.1	1	5	5.1	3	4	4.5
2	3	3	3.7	1	5	5.1	1	5	4.1	0.0		
3	3	3	3.7	3	4	4.5	1	5	7.2	3	4	5.7
4	3	3	3.7	0.0			3	5	5.1	3	4	6.8
5	3	3	3.7	3	4	4.5	3	4	4.5	0.0		

NOVEMBER 1976

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	6	3.8	0.0			0.0		
2	0.0			1	4	3.7	3	5	4.2	0.0		
3	0.0			0.0			0.0			0.0		
4	0			1	2	3.2	1	2	3.2	0		
5	0			1	3	4.0	1	3	3.0	3	4	9.3
6	0.0			0.0			3	3	5.0	0.0		
7	0.0			1	2	4.2	3	5	5.1	0		
8	0.0			1	2	4.2	3	3	5.0	0.0		
9	0.0			1	2	4.2	3	2	4.2	0		
10	0.0			0.0			3	2	4.2	0.0		
11	0.0			1	3	10.0	3	3	4.0	0.0		
12	3	2	5.3	1	3	5.0	3	2	4.2	0.0		
13	3	3	5.0	3	2	4.2	3	2	5.3	0.0		
14	0.0			3	3	4.0	3	3	5.0	0		
15	3	2	5.3	1	3	10.0	TT			3	3	10.0
16	1	3	3.0	1	2	5.3	1	3	6.0	3	2	3.2
17	1	3	5.0	1	3	6.0	1	2	5.3	0.0		
18	1	4	9.3	1	2	5.3	1	2	4.2	0.0		
19	1	2	3.2	1	2	4.2	3	2	4.2	0.0		
20	3	2	6.3	1	2	5.3	3	2	6.3	3	3	5.0
21	3	2	6.3	1	3	3.0	1	6	3.0	1	3	3.0
22	1	6	4.5	2	6	6.8	2	6	3.8	1	3	4.0
23	3	4	2.8	2	5	3.4	0.0			0.0		
24	0.0			0.0			TT			0.0		
25	0.0			1	5	3.4	1	5	4.2	0.0		
26	3	8	4.3	1	6	3.0	3	5	5.1	0.0		
27	3	4	2.8	3	5	3.4	0.0			3	6	3.0
28	0.0			1	5	3.4	1	6	3.0	3	5	3.4
29	3	5	3.4	2	4	3.7	2	4	4.6	1	5	5.9
30	TT			2	5	8.4	2	6	7.5	1	5	

NOVEMBER 1976  
International  
Seismological  
Centre

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			1	5	5.1	3	4	4.5	3	4	6.8
2	3	5	5.1	1	5	10.2	1	5	5.1	3	3	4.9
3	3	3	6.1	3	3	4.9	3	3	4.9	0.0		
4	0.0			3	3	11.1	3	3	7.4	0.0		
5	0.0			3	3	4.9	3	2	5.2	3	2	3.9
6	3	2	5.2	0.0			3	4	11.4	1	4	6.8
7	1	5	10.2	3	2	5.2	1	4	5.7	0.0		
8	3	3	6.1	3	5	10.2	1	2	5.2	0.0		
9	0.0			1	4	6.8	0.0			0.0		
10	0.0			3	3	6.1	1	2	7.8	1	2	5.2
11	0.0			1	2	3.9	1	2	5.2	0.0		
12	0.0			1	3	11.1	1	3	6.1	0.0		
13	3	2	5.2	3	2	7.8	3	2	5.2	0		
14	0.0			0.0			1	3	3.7	3	2	3.9
15	3	4	4.5	0.0			TT			0.0		
16	0.0			0.0			1	2	5.2	0.0		
17	1	2	5.2	1	3	4.9	1	2	5.2	0.0		
18	3	3	3.7	1	2	3.9	1	3	3.7	3	2	5.2
19	1	2	7.8	1	3	4.9	3	4	5.7	0.0		
20	3	2	5.2	3	2	5.2	0.0			0		
21	0			0.0			3	4	4.5	0.0		
22	3	5	4.1	1	5	4.1	3	4	4.5	0.0		
23	0.0			3	4	5.7	3	4	4.5	0.0		
24	0.0			3	3	6.1	TT			0.0		
25	0.0			3	5	5.1	3	4	5.7	3	4	4.5
26	3	4	4.5	1	5	4.1	3	5	5.1	3	4	4.5
27	0.0			3	4	4.5	3	4	4.5	3	4	4.5
28	0.0			1	4	4.5	3	5	4.1	0.0		
29	3	5	4.1	1	5	8.2	3	4	4.5	0.0		
30	TT			1	5	5.1	1	4	5.7	1	6	4.5

GMT Date	00 h			06 h			12 h			18 h			
	K	T	A	K	T	A	K	T	A	K	T	A	
1	1	6	6.8	2	5	8.4	2	4	9.3	1	3	3.0	
2	3	3	5.0	2	6	6.8	2	5	8.4	3	4	5.6	
3	3	3	6.0	2	6	7.5	...	...	...	...	...	...	
4	...	...	...	1	5	12.6	1	4	8.3	3	4	9.3	
5	3	4	4.6	3	4	9.3	3	4	9.3	3	5	7.6	
6	3	3	4.0	2	3	9.0	2	3	9.0	3	5	10.1	
7	3	4	9.3	2	4	8.3	2	4	8.3	3	3	6.0	
8	3	3	6.0	1	5	5.1	2	4	9.3	3	4	4.6	
9	3	3	5.0	2	4	11.1	2	6	11.3	3	4	5.6	
10	3	3	5.0	1	5	8.4	1	4	8.3	3	2	4.2	
11	3	4	9.3	3	4	9.3	3	2	5.3	0.0	...	...	
12	0.0	...	...	3	3	10.0	3	5	7.6	0.0	...	...	
13	3	5	10.1	1	5	7.6	1	4	4.6	0.0	...	...	
14	3	2	6.3	2	3	6.0	1	3	5.0	0.0	...	...	
15	0.0	...	...	1	5	7.6	1	4	5.6	3	3	5.0	
16	0.0	...	...	1	4	5.6	1	4	4.6	3	3	9.0	
17	3	5	8.4	3	4	4.6	3	3	6.0	0.0	...	...	
18	3	4	8.3	3	4	8.3	3	3	6.0	0.0	...	...	
19	0.0	...	...	3	3	6.0	3	3	9.0	3	4	8.3	
20	1	4	9.3	1	4	9.3	1	3	9.0	3	4	9.3	
21	3	4	8.3	3	3	6.0	3	4	8.3	3	4	5.6	
22	3	3	5.0	3	5	8.4	2	5	8.4	3	3	9.0	
23	3	2	4.2	2	4	8.3	2	5	8.4	3	3	6.0	
24	3	2	5.3	3	2	4.2	3	5	4.2	3	4	3.7	
25	0.0	...	...	0.0	...	...	3	3	9.0	0.0	3	4	4.6
26	3	4	3.7	0.0	...	...	3	4	9.3	0.0	...	...	
27	0.0	...	...	0.0	...	...	0.0	...	...	0.0	...	...	
28	0	...	...	3	2	4.2	0.0	...	...	0.0	...	...	
29	0.0	...	...	3	2	4.2	3	2	5.3	0.0	1	4	3.7
30	0.0	...	...	3	3	4.0	1	4	3.7	0.0	...	...	
31	1	4	4.6	2	5	8.4	2	6	7.5	0.0	...	...	

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	3	5	4.1	1	5	12.3	1	2	5.2	0.0	...	...
2	0.0	...	...	1	3	12.3	3	3	7.4	0	...	...
3	0.0	...	...	3	3	6.1	3	4	11.4	0.0	...	...
4	0.0	...	...	3	2	7.8	3	3	6.1	0.0	...	...
5	0.0	...	...	0.0	...	...	3	3	6.1	0.0	...	...
6	0	...	...	1	4	10.2	2	4	6.8	0.0	...	...
7	3	3	7.4	1	4	13.6	1	5	10.2	0.0	...	...
8	0.0	...	...	3	3	4.9	3	3	6.1	0.0	...	...
9	0.0	...	...	0.0	...	...	3	2	6.5	0	...	...
10	0.0	...	...	3	3	7.4	0.0	...	...	0.0	...	...
11	0.0	...	...	0.0	...	...	0.0	...	...	3	2	5.2
12	0.0	...	...	0.0	...	...	0.0	...	...	0	...	...
13	0.0	...	...	0.0	...	...	0.0	...	...	0	...	...
14	0	...	...	0.0	...	...	0.0	...	...	0	...	...
15	0.0	...	...	0.0	...	...	1	3	6.1	0.0	...	...
16	0.0	...	...	0.0	...	...	0.0	...	...	0	...	...
17	0.0	...	...	3	2	5.2	3	5	10.2	0.0	...	...
18	0.0	...	...	3	2	5.2	3	3	6.1	0.0	...	...
19	0.0	...	...	0.0	...	...	3	3	6.1	0	...	...
20	0.0	...	...	0.0	...	...	0.0	...	...	0	...	...
21	0.0	...	...	0.0	...	...	3	3	6.1	0.0	...	...
22	0.0	...	...	3	2	5.2	3	2	5.2	0.0	...	...
23	0	...	...	3	4	10.2	3	3	4.9	3	4	11.4
24	0.0	...	...	1	3	7.4	3	4	6.8	3	5	10.2
25	0.0	...	...	3	3	4.9	3	4	6.8	0.0	...	...
26	0.0	...	...	3	3	4.9	0.0	...	...	0.0	...	...
27	0.0	...	...	3	5	10.2	3	4	10.2	0	...	...
28	0.0	...	...	0.0	...	...	0.0	...	...	0.0	...	...
29	0	...	...	2	6	10.9	3	4	10.2	0.0	...	...
30	0.0	...	...	3	4	5.7	0.0	...	...	0.0	...	...
31	0	...	...	3	3	4.9	3	2	5.2	0.0	...	...
	1	3	11.1	1	4	10.2	3	3	7.4	1	5	10.2
				2	4	17.0	1	5	10.2	0.0	...	...

Macroseismic Observations  
of Earthquakes on the Territory  
of Slovakia in the Year 1976



Date	Origin time	Location	Latitude North	Longitude East	Focal depth [km]	Shaken area [km <sup>2</sup> ]	Epicentral Int. [MCS]	Felt at
May 6	20 00 12.6	Italy (Friuli)	46.266° (ING)	13.252°	17		9.5°	I = 3° Bratislava
July 26	16 00	West Slovakia	48.76°	17.55°			4°	I = 3° Kúty (District of Bratislava)
July 28	17 00	West Slovakia	48.76°	17.55°			4°	I = 4° Myjava (District of Senica)
August 5	11 30	West Slovakia	48.76°	17.55°			3.5°	I = 3.5° Myjava, Turá Lúka (District of Senica)
August 19	10 49	West Slovakia	48.76°	17.55°			3.5°	I = 3.5° Myjava (District of Senica)

Macroseismic Observations 1976

Date	Origin time	Location	Latitude North	Longitude East	Focal depth [km]	Shaken area [km <sup>2</sup> ]	Epicentral Int. [MCS]	Felt at
August 24	23 23	Little Carpatians	48.57°	17.36°	10		5°	I = 5° Prievaly (District of Senica)
								I = 4.5° Cerová-Lieskové, Plavecké Podhradie, Prielež, Sološnica (District of Senica) Senica Suchá nad Parnou, Trátna, Buková, Dlhá (District of Trnava) Častá, Jablonica (District of Bratislava)
								I = 4° Bíňovce, Biely Kostol, Dolné Orešany, Čachtice, Dobrá Voda, Hlboké, Horné Orešany, Smolenice, Ružindol (District of Trnava) Dubová, Harmónia, Modra



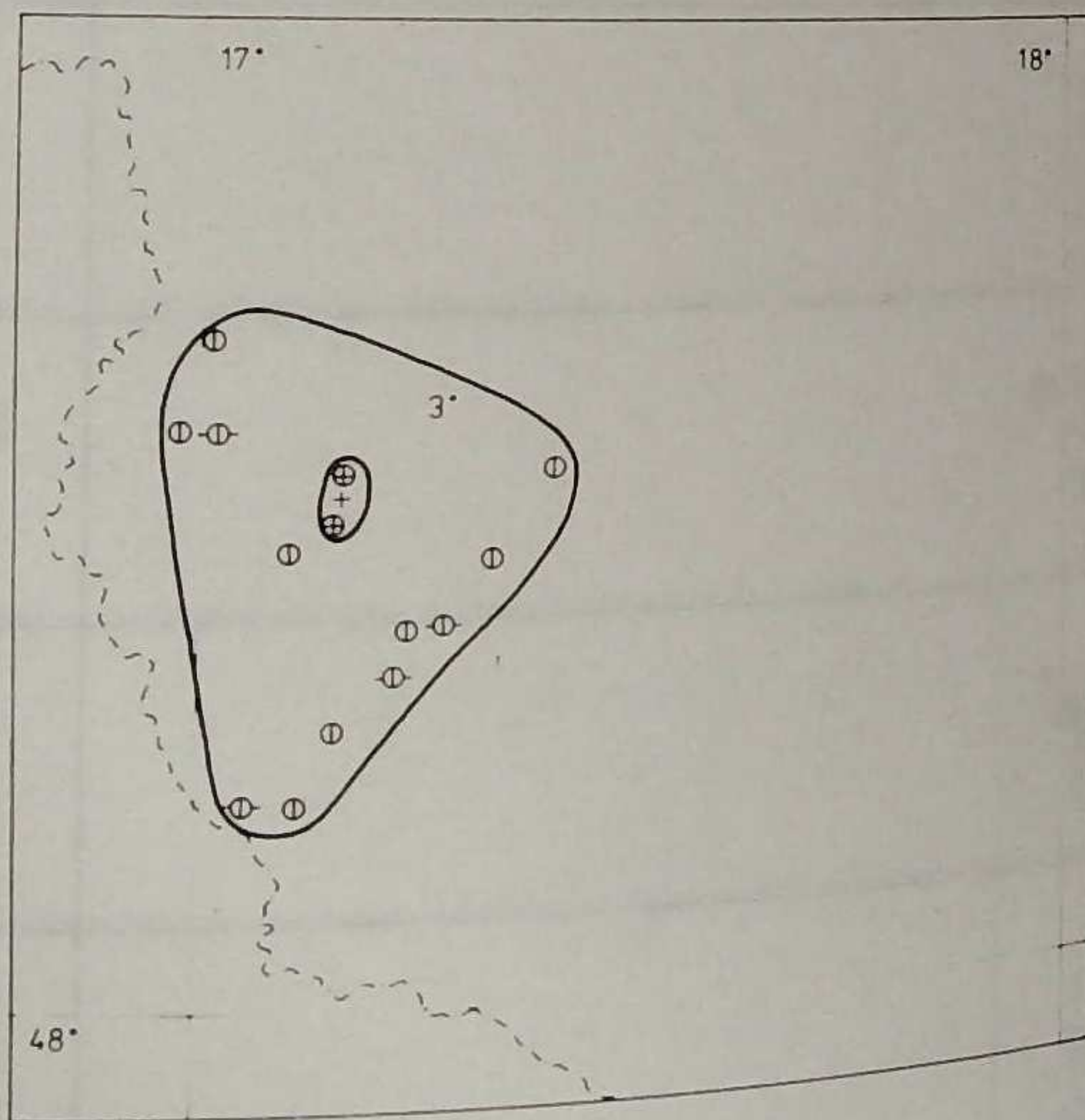
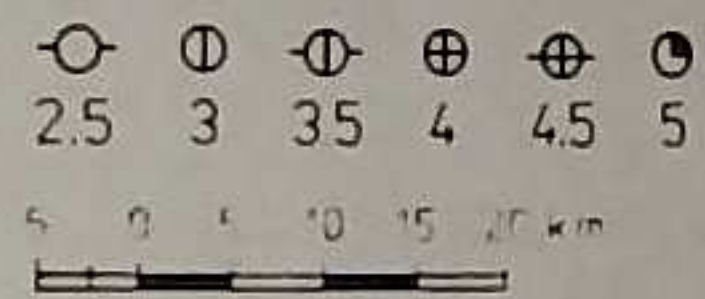


Date	Origin time	Location	Latitude North	Longitude East	Focal depth [km]	Shaken area [km <sup>2</sup> ]	Epicentral Int. [MCS]	Felt at
								Sobotište, Šajdíkovo Humence (District of Senica)
								I = 3.5° Trenčín Trnava Hlohovec, Veľké Kostolany (District of Trnava) Myjava (District of Senica) Pezinok, Vištuk (District of Bratislava)
								I = 3° Bratislava
December 23	22 04	Little Carpathians	48.38°	17.16°			4°	I = 4° Kuchyňa, Pernek (District of Bratislava) I = 3.5° Jur pri Bratislave,

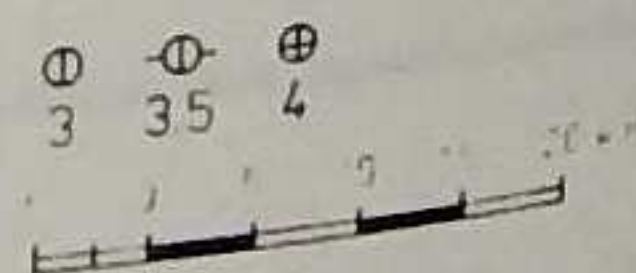
Date	Origin time	Location	Latitude North	Longitude East	Focal depth [km]	Shaken area [km <sup>2</sup> ]	Epicentral Int. [MCS]	Felt at
								Karlova Ves, Malacky, Pezinok (District of Bratislava)
								I = 3° Bratislava Doľany, Jablňové, Kostolište, Limbach, Rača (District of Bratislava) Veľké Leváre (District of Senica)
								I = 2° Veľké Kostolany (District of Trnava)



24.VIII.1976 23:23:05 UT  
 48.6°N 17.4°E  
 M=3.7 h=10km  
 PRIEVALY (M.KARPATY)



23.XII.1976 22:04 UT  
 48.38°N 17.16°E  
 M=3.1 h=6km  
 M.KARPATY



Shocks Recorded by  
 the Czechoslovak Seismological Network

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b Geophysical Institute of the Czechosl. Acad. Sci., Praha

Abstract: For the purpose of location of weak shocks with epicenters on the territory of ČSSR or on the border region a computer program was written which permits rapid location of events. The program was tested on 148 events in the year 1973. After applying criteria for the reliability of solutions 66 events were located with sufficient accuracy.

Key words: Seismology; Epicenter determination.

1. Introduction

Every year the Czechoslovak seismological stations record a great number of weak seismic events whose foci are situated on the territory of the ČSSR or in the near vicinity. Many of them are recorded also by the neighbouring stations in Germany, Poland and Austria. The majority of those local shocks are caused by the industrial explosions in the quarries densely distributed on the territory of the ČSSR (Fig. 2). The rockbursts in the mining regions of Kladno and Příbram in Central Bohemia and in the Ostrava Basin in East Moravia and the adjacent Upper-Silesian Basin on the territory of Poland are the other possible sources of the recorded near shocks.

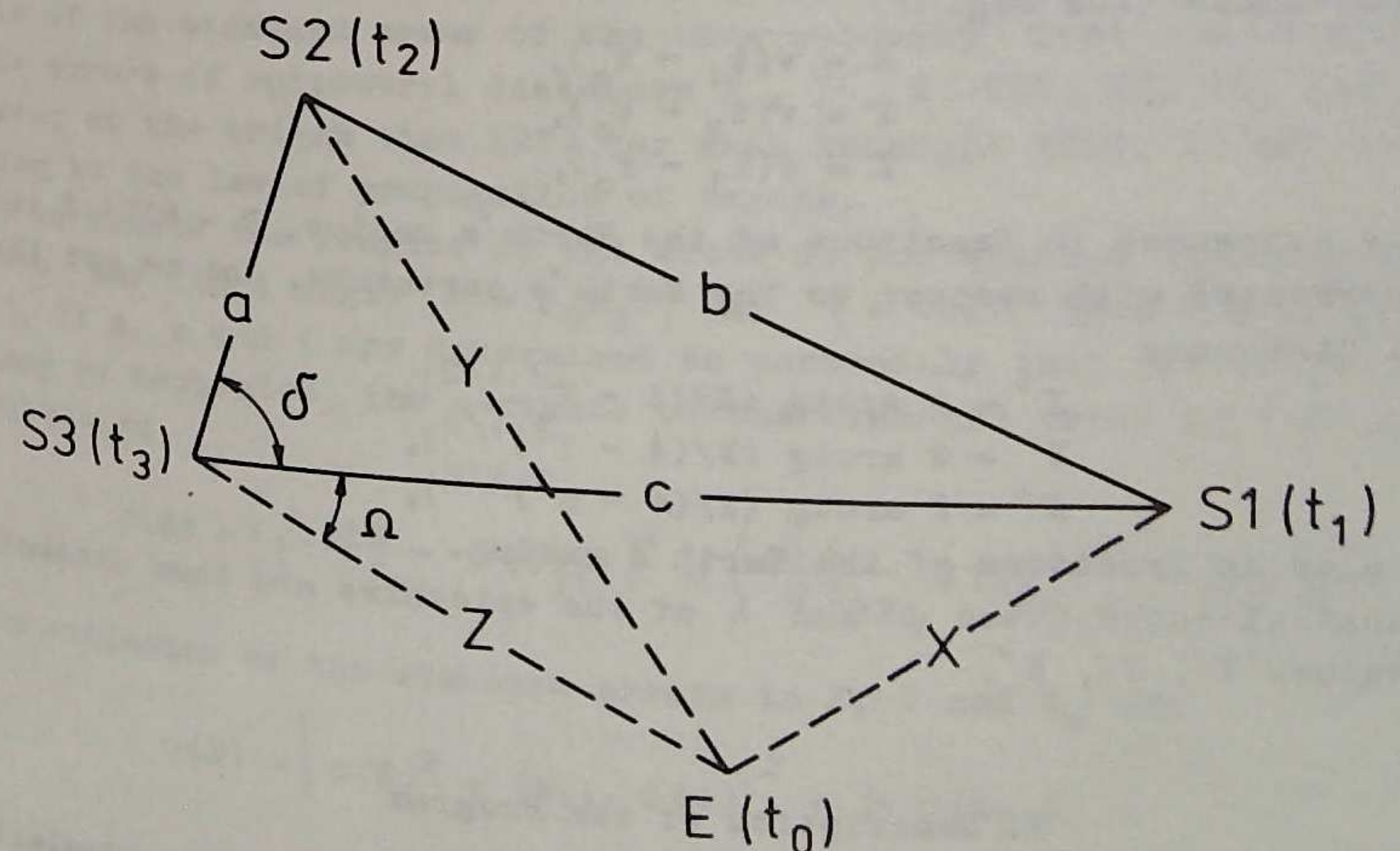


Fig. 1

As the territory of Czechoslovakia is not fully aseismic, an attempt was made to find on the background of the man-made shocks some manifestation of actual seismic activity. To this aid, all the measurements interpreted as near events in the 1973 bulletins of the stations Průhonice (PRU), Praha (PRA), Kašperské Hory (KHC), Raciborz (RAC), Ksiaz (KSP), Rybnik (RBN), Moza (MOX), Collm (CLL), Berggiesshübel (BRG) and Wien (VIE) were used for the determination of epicentres. A computer program was written which permits rapid location of events on the territory of the ČSSR.

## 2. The Method of Location

The program is based on the method developed by Ben-Menahem and Båth [1], using the differences of arrival times of a common phase, recorded at three stations. For our purposes a two-layered model of the crust [2] was applied. The method can be used for any wave group with a constant velocity within the distance interval of about  $10^0$ , such as e.g. Pg, Pb, Pn, Sg, Sb, Sn, provided the depth of the focus  $h \ll z$  ( $z$ -epicentral distance). This assumption holds for the shocks occurring on the territory of Czechoslovakia.

The program employs a preliminary crust model [2], where the average crust is described in terms of two horizontal layers, the Conrad and Mohorovičić discontinuities lie at the depths of 9 km and 35 km, resp.

The velocities and time intercepts determined in [2] are as follows:

Pn: $v = 8.14$ km/s	$\tau = 7.7$ s
Pb: 6.21	1.3
Pg: 5.62	0.4
Sn: 4.53	10.0
Sb: 3.78	2.2
Sg: 3.38	0.0

In order to improve the accuracy of the method [1], after the determination of distances (see Fig. 1)

$$\begin{aligned} X &= v(t_1 - t_0), \\ Y &= v(t_2 - t_0), \\ Z &= v(t_3 - t_0), \end{aligned}$$

( $X, Y, Z, v$  expressed in fractions of the Earth's radius,  $R = 6371.2$  km), they are corrected with respect to the Earth's curvature, and we get the epicentral distances

$$\begin{aligned} X' &= 2 \arctg (X/(4 - X^2)^{1/2}), \\ Y' &= 2 \arctg (Y/(4 - Y^2)^{1/2}), \\ Z' &= 2 \arctg (Z/(4 - Z^2)^{1/2}), \end{aligned}$$

expressed also in fractions of the Earth's radius. The geographical coordinates  $\varphi$  and  $\lambda$  of the epicentre are then determined from the values  $X', Y', Z'$ .

## 3. Description of the Program

The program was written in USASI FORTRAN [3], and all the calculations

were carried out by the computer CDC 3200 in the Computer Centre, Bratislava. When more than 3 readings of a common phase are at our disposal, the epicentral coordinates  $\varphi$  and  $\lambda$  and the origin time are determined for all the appropriate station triangles, the number of triangles being  $\binom{N}{3}$  ( $N$  is the number of station readings). The final parameters of the epicentre are determined after the elimination of those triangles that give the origin time ( $t_0$ ):

$$\begin{aligned} t_0 &> T_{Pg \min} + 0.1 \quad \text{or} \\ t_0 &< T_{Pg \min} - 30.0, \end{aligned}$$

where  $t_{Pg \min}$  means the minimum registered arrival time of Pg, which we have at our disposal, and those triangles for which  $DZ \geq Z/2$  ( $DZ$  is the probable error of  $Z$  - see Par. 4).

After this elimination the arithmetic mean of latitudes ( $\bar{\varphi}$ ), longitudes ( $\bar{\lambda}$ ) and origin times ( $\bar{t}_0$ ) are calculated and the second elimination follows. There is eliminated each triangle for which:

$$|\varphi_1 - \bar{\varphi}| > 0.8^\circ \quad \text{or} \quad |\lambda_1 - \bar{\lambda}| > 0.8^\circ.$$

When there are no Pg arrival times available, only the second elimination is carried out.

After the new arithmetic means  $\bar{\varphi}, \bar{\lambda}$  and  $\bar{t}_0$  have been calculated, the second elimination follows repeatedly until we get an arithmetic mean  $\bar{\varphi}$  and  $\bar{\lambda}$ , for which  $|\varphi_1 - \bar{\varphi}| \leq 0.8^\circ$  and  $|\lambda_1 - \bar{\lambda}| \leq 0.8^\circ$ . These values of coordinates  $\bar{\varphi}, \bar{\lambda}$  and of the origin time  $\bar{t}_0$  are taken as the final values (Tab. 1).

## 4. Precision of the Method

Assuming the estimate of the standard error  $\sigma(t_{31}) = 0.1$  s and  $\sigma(t_{32}) = 0.1$  s ( $t_{31}$  and  $t_{32}$  are the differences  $t_3 - t_1, t_3 - t_2$  of the arrival times of a common wave to the stations  $S_1, S_2, S_3$ , resp.) and the estimate of the standard error of the wave velocity  $\sigma(v) = 0.04$  km/s, the probable errors of epicentral distances  $X', Y', Z'$  ( $DX, DY, DZ$ ) and the probable error of the origin time ( $DT$ ) for each triangle (Tab. 2) are calculated according to the law of propagation of errors.

If we denote the lengths of the sides of the station triangle by  $a, b, c, a \leq b \leq c$  the fixed angle  $\delta = S_2 S_3 S_1$  and  $\gamma = \cos \delta$  then  $Z = Z(a, c, v, t_{31}, t_{32}, \gamma)$ . If  $a, c$  and  $\gamma$  are determined so accurately that the errors in  $a, c$  and  $\gamma$  may be neglected, the estimate of the standard error in  $Z$  is given by the expression

$$\sigma(Z) = \left[ \left( \frac{\partial Z}{\partial t_{31}} \sigma(t_{31}) \right)^2 + \left( \frac{\partial Z}{\partial t_{32}} \sigma(t_{32}) \right)^2 + \left( \frac{\partial Z}{\partial v} \sigma(v) \right)^2 \right]^{1/2}$$

and the estimates of the standard errors in  $X, Y$  and  $t_0$  are

$$\sigma(X) = \left[ \sigma(Z)^2 + (t_{31} \cdot \sigma(v))^2 + (v \sigma(t_{31}))^2 \right]^{1/2},$$

$$\sigma(Y) = \left[ \sigma(Z)^2 + (t_{32} \cdot \sigma(v))^2 + (v \sigma(t_{32}))^2 \right]^{1/2}$$

$$\sigma(t_0) = \left[ 0.01 + (\sigma(Z)/v)^2 + (\sigma(v)Z/v^2)^2 \right]^{1/2}$$

The probable errors of  $X'$ ,  $Y'$ ,  $Z'$  and  $t_0$  are given in the Table 2, as well as the probable errors DF and DL in  $\varphi$  and  $\lambda$ . By the formulae for the direction cosines

$$\begin{aligned} AA &= \cos \varphi' \cos \lambda, \\ BB &= \cos \varphi' \sin \lambda, \\ CC &= \sin \varphi' \end{aligned} \quad \begin{aligned} (1) \\ (2) \\ (3) \end{aligned}$$

( $\varphi'$  being the geocentric latitude), and by the formulae for the calculation of epicentral distances

$$\begin{aligned} \cos X &= a_1 AA + b_1 BB + c_1 CC, \\ \cos Y &= a_2 AA + b_2 BB + c_2 CC, \\ \cos Z &= a_3 AA + b_3 BB + c_3 CC \end{aligned} \quad \begin{aligned} (4) \\ (5) \\ (6) \end{aligned}$$

( $a_i, b_i, c_i$  are the direction cosines of the  $i^{\text{th}}$  station), the probable errors of  $\varphi$  and  $\lambda$  are determined by differentiating the Eqs (4-6)

$$\begin{aligned} -\sin X dX &= a_1 dAA + b_1 dBB + c_1 dCC, \\ -\sin Y dY &= a_2 dAA + b_2 dBB + c_2 dCC, \\ -\sin Z dZ &= a_3 dAA + b_3 dBB + c_3 dCC, \end{aligned}$$

where  $dX, dY$  and  $dZ$  are replaced by the values of the probable errors of  $X, Y$  and  $Z$ . Solving the equations for  $dAA, dBB$  and  $dCC$ , and differentiating the formulae (1-3) we get

$$\begin{aligned} DF &= d\varphi \doteq d\varphi' = dCC/\cos \varphi', \\ DL &= d\lambda = (dBB \cos \lambda - dAA \sin \lambda)/\cos \varphi'. \end{aligned}$$

The probable errors in  $\varphi$  and  $\lambda$  depend on the position of the station triangle with respect to the epicentre, and on the location of the stations in the triangle (see different values of probable errors in Table 2).

### 5. Classification of the Determined Epicentre Parameters

The method described in Par. 2 was tested on the data obtained at the stations situated on the territory of Czechoslovakia and in the near vicinity. All the suitable readings of near shock records in 1973 were used for the calculation of epicentre parameters (only Pg and Sg waves were used in this stage).

The process of calculating the epicentre coordinates and the origin times gives more than one solution for an event, satisfying the observed values of arrival times, even if the number of station readings  $N = 3$  (Table 1). It may be caused by the lower precision in reading weaker wave groups in the record; also some unhomogeneity in the record analysis involved in the bulletin data influences the results. Another source of errors is the choice of a certain crust model which can hardly be the optimum possibility for all the

directions of the wave propagation from the focus to the recording station. We have to find some criterion to decide what solution is the most suitable and to regard it as the final one.

According to the values of standard errors in  $\varphi$  and  $\lambda$  (Table 1) and probable errors in  $\varphi$  and  $\lambda$  contained in Table 2, the preliminary results of parameter calculation given in Table 1 were divided into the following classes:

a) More solutions were obtained for both investigated wave groups Pg and Sg (due to the fact that more than 3 stations were used) - e.g., No. 32 in Table 1. In such a case we take as a valid solution the one calculated with a lower standard errors of  $\varphi, \lambda$  and  $t_0$  (for the event No. 32 the solution derived from the Sg readings).

b) We obtained two or more solutions only for one wave group, i.e. only for one wave group the standard error can be determined. This solution is accepted as the valid value (e.g., No. 36).

c) We obtain only one solution for each wave group, i.e. readings of only 3 stations were available (e.g., No. 52). The valid solution is chosen according to the data in the auxiliary Table 2: the probable errors in the origin time (DT) and in the coordinate determination (DF, DL) must be smaller.

d) Only one triangle can be solved for one measured wave group (Pg or Sg) and we obtain only one solution (e.g., No. 6).

e) If we obtain two solutions for one wave group and for one triangle the valid solution is calculated as an arithmetic mean provided that the condition  $|\varphi_2 - \varphi_1| \leq 0.8$  and  $|\lambda_2 - \lambda_1| \leq 0.8$  is fulfilled.

f) The results determined with a probable error in coordinates exceeding  $0.8^\circ$  (DF, DL in Table 2) are regarded as unreliable (e.g., No. 1).

Table 1 contains also the number of observations (N), the number of all triangles (TR), the number of triangles used after elimination procedures (K) and the estimate of root mean square error of time residuals (SIGMA).

$$\text{SIGMA} = \sqrt{\frac{\sum_{i=1}^N R_i^2}{N}}$$
 where  $R_i$  is the time residual for the  $i^{\text{th}}$  station. In cases when  $N = 3$ ,  $\text{SIGMA} = 0$  and has no meaning.

The probable errors of epicentral distances (DX, DY, DZ), the probable error of the origin time (DT) and the probable errors of  $\varphi$  and  $\lambda$  (DF, DL) are listed in Table 2 for each earthquake (No.), when  $DZ < Z/2$ . The number of triangle (TR) and phase (PH) is also given.

Since the equation  $Z^2 + pZ + q = 0$  in case  $p < 0, q > 0$  leads to two solutions [1] ( $Z$  is the distance from station 3 to the epicentre), in column EP of Table 2 in such case there is designated by number 1 the solution obtained from eq.

$$Z = \frac{|p|}{2} \left[ 1 + (1 - s)^{1/2} \right]$$

and by number 2 the solution obtained from eq.

$$z = \frac{|p|}{2} \left[ 1 - (1 - s)^{1/2} \right],$$

$$s = \frac{4|p|}{p^2}.$$

Only the solutions classified as a-e are in Table 3 in the Fig. 2 as the possible epicentres. Many of them are probably the industrial explosions without known parameters. They are distinguished graphically in Fig. 2.

### 6. Discussion

All the 1973 near shocks which were determined by another source and published in the I.S.C. bulletin for 1973 are introduced in Table 4. Confronting our results with other epicentre parameters, we can see that the method described in Par. 2 and the crust model [2] are quite suitable for the location of the events on the territory of the ČSSR and of West Poland. On the other hand, the foci situated south and west of the Czechoslovak border are not located with a satisfactory accuracy.

The distribution of the stations supplying data for the location will be therefore supplemented with the data of the station Gräfenberg (GRF) for the next stage of near shock location. Also other near earthquake phases besides Pg and Sg will be used for the location.

The authors are indebted to Dr. K. Klíma from the Geophysical Institute, Praha, for preparing Fig. 2.

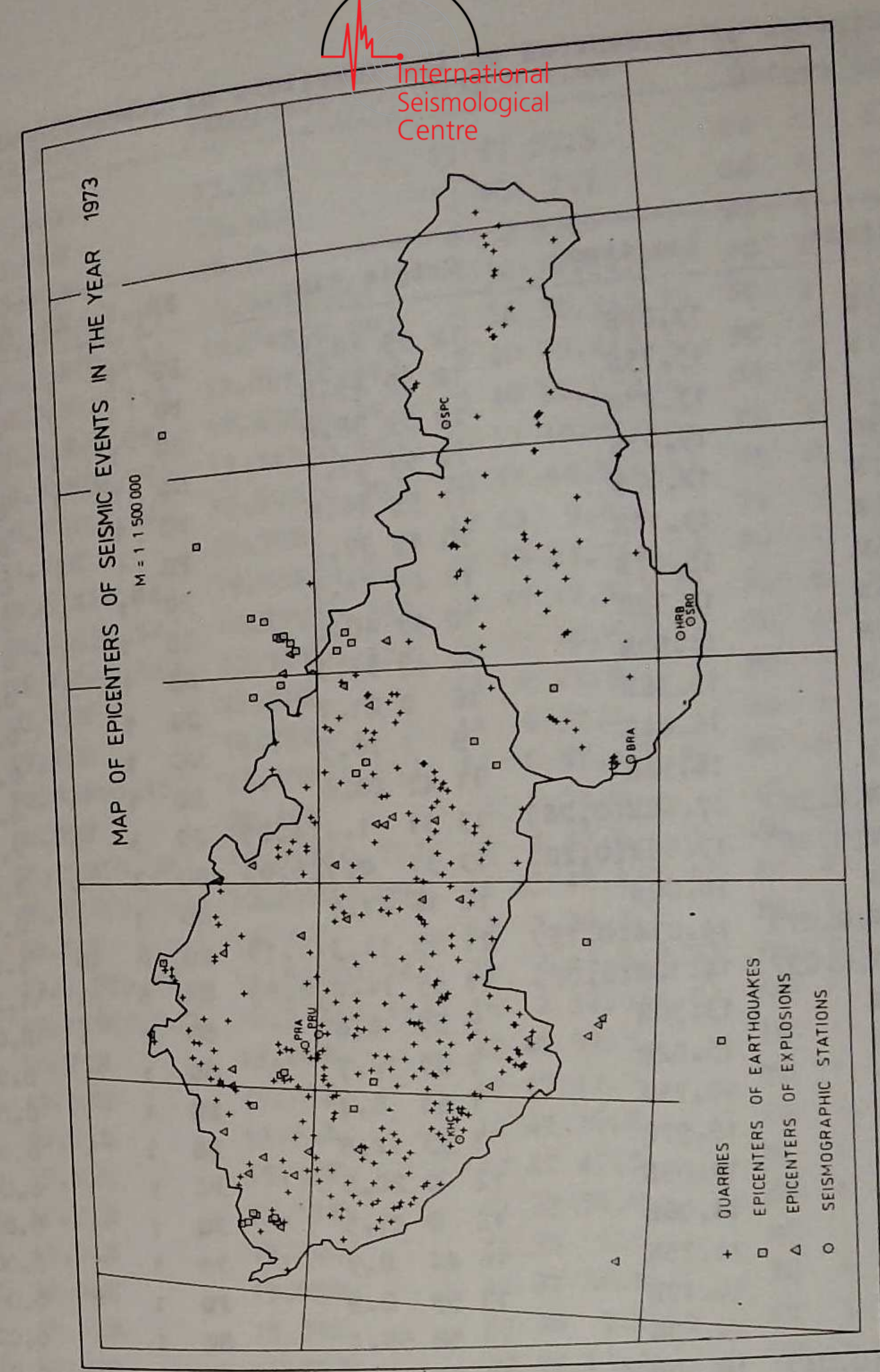


Fig. 2



No.	Date	Latitude	Longitude	Origin time	PH	K	TR	Sigma	N
56	2305	50.72N	13.26E						
56	2305	49.52N	15.24E	7 6 4.0					
56	2305	50.60N	13.46E	7 6 12.7	PG	1	1	0.00	3
56	2305	49.57N	15.15E	7 6 7.2	PG	1	1	0.00	3
59	2805	50.69N	13.29E	7 6 18.7	SG	1	1	0.00	3
59	2805	49.52N	15.22E	11 27 46.5	SG	1	1	0.00	3
59	2805	50.61N	13.41E	11 27 55.0	PG	1	1	0.00	3
59	2805	49.56N	15.16E	11 27 48.7	PG	1	1	0.00	3
60	2805	49.17N	15.86E	11 28 0.7	SG	1	1	0.00	3
60	2805	49.16N	15.84E	12 15 6.2	SG	1	1	0.00	3
61	0206	50.36N(0.28)	18.87E(0.64)	12 15 7.7	PG	1	1	0.00	3
61	0206	50.39N	18.57E	2 25 22.1(5.9)	SG	1	1	0.00	3
63	0706	48.74N	14.54E	2 25 29.3	PG	2	4	3.06	4
63	0706	48.66N	14.45E	9 0 29.8	PG	1	4	1.54	4
64	0706	50.56N(0.08)	13.50E(0.15)	9 0 30.0	PG	1	1	0.00	3
64	0706	50.54N(0.02)	13.55E(0.04)	13 58 4.5(1.8)	SG	1	1	0.00	3
65	1806	50.67N	13.40E	13 58 6.5(0.8)	PG	4	4	1.51	4
65	1806	49.05N	15.49E	15 35 53.6	SG	4	4	0.72	4
66	2006	50.61N(0.09)	16.03E(0.16)	15 35 53.1	PG	1	1	0.00	3
67	2006	49.58N(0.05)	18.28E(0.14)	9 58 6.7(1.4)	SG	1	1	0.00	3
68	2106	51.23N	13.73E	14 44 59.4(1.8)	PG	6	10	1.91	5
69	2106	50.69N	12.89E	10 45 34.0	PG	4	4	0.72	4
69	2106	49.39N	15.17E	11 31 41.6	PG	1	1	0.00	3
73	2806	49.38N	15.84E	11 31 52.3	PG	1	1	0.00	3
74	0107	50.95N(0.12)	15.20E(0.04)	15 8 39.9	PG	1	1	0.00	3
75	0207	49.72N	15.81E	11 50 11.6(0.0)	PG	2	4	1.86	4
76	0307	50.29N(0.09)	13.32E(0.22)	12 15 34.5	PG	1	1	0.00	3
77	0407	50.21N	12.73E	10 59 51.1(2.6)	PG	4	4	1.83	4
78	0407	48.61N	17.77E	11 16 2.6	PG	1	1	0.00	3
79	0407	48.95N	17.08E	16 59 59.7	PG	1	1	0.00	3
80	1107	50.25N	13.77E	18 24 8.9	PG	1	1	0.00	3
81	2307	50.73N	13.25E	12 1 50.4	PG	1	1	0.00	3
81	2307	49.52N	15.26E	8 2 37.7	PG	1	1	0.00	3
83	2407	50.20N	12.70E	8 2 46.6	PG	1	1	0.00	3
84	2407	50.23N	12.72E	18 40 12.2	PG	1	1	0.00	3
85	2507	50.74N	13.18E	18 41 49.9	PG	1	1	0.00	3
85	2507	49.49N	15.26E	9 42 1.9	PG	1	1	0.00	3
87	0208	50.77N	13.16E	9 42 11.2	PG	1	1	0.00	3
87	0208	49.49N	15.28E	14 57 48.8	PG	1	1	0.00	3
90	0608	50.71N	13.21E	14 57 58.5	PG	1	1	0.00	3
90	0608	49.50N	15.23E	11 24 30.1	PG	1	1	0.00	3
91	0708	50.84N	12.91E	11 24 39.0	PG	1	1	0.00	3
91	0708	49.42N	15.32E	12 36 27.8	PG	1	1	0.00	3
94	0808	49.31N(0.11)	16.58E(0.29)	12 36 39.4	PG	1	1	0.00	3
96	1008	50.75N	13.17E	16 0 9.9(2.5)	PG	3	4	2.02	3
96	1008	49.49N	15.26E	12 48 47.2	PG	1	1	0.00	3
				12 48 56.6	PG	1	1	0.00	3

No.	Date	Latitude	Longitude	Origin time	PH	K	TR	Sigma	N
97	1308	50.83N	12.95E	11 6 30.1	PG	1	1	0.00	3
97	1308	49.43N	15.31E	11 6 41.3	PG	1	1	0.00	3
98	1408	49.79N(0.29)	18.28E(0.19)	17 42 53.7(3.4)	PG	12	35	5.32	7
100	1608	50.70N	12.95E	10 46 4.3	PG	1	1	0.00	3
100	1608	49.41N	15.19E	10 46 14.8	PG	1	1	0.00	3
101	1608	49.28N	16.31E	11 1 9.4	PG	1	1	0.00	3
102	1708	48.39N	14.58E	8 53 33.9	PG	1	1	0.00	3
103	1708	50.64N	12.95E	12 7 59.7	PG	1	1	0.00	3
103	1708	49.40N	15.13E	12 8 9.8	PG	1	1	0.00	3
107	2108	50.57N	13.08E	10 49 16.5	PG	1	1	0.00	3
107	2108	49.44N	15.08E	10 49 25.3	PG	1	1	0.00	3
108	2108	50.75N	13.13E	13 16 39.4	PG	1	1	0.00	3
108	2108	49.48N	15.26E	13 16 49.1	PG	1	1	0.00	3
108	2108	50.69N	13.19E	13 16 39.1	SG	1	1	0.00	3
108	2108	49.49N	15.21E	13 16 53.9	SG	1	1	0.00	3
109	0309	50.58N	13.38E	9 20 59.8	PG	1	1	0.00	3
109	0309	49.54N	15.12E	9 21 7.0	PG	1	1	0.00	3
109	0309	49.41N	15.35E	9 21 8.9	SG	1	1	0.00	3
110	0709	50.75N	13.04E	9 57 14.9	PG	1	1	0.00	3
110	0709	49.45N	15.25E	9 57 25.1	PG	1	1	0.00	3
110	0709	50.62N	13.30E	9 57 18.3	SG	1	1	0.00	3
110	0709	49.52N	15.15E	9 57 31.4	SG	1	1	0.00	3
111	1209	50.52N	13.22E	14 58 18.7	SG	1	1	0.00	3
111	1209	49.47N	15.04E	14 58 31.5	SG	1	1	0.00	3
112	1809	50.32N(0.12)	17.40E(0.66)	3 1 25.2(4.8)	PG	2	4	2.97	4
112	1809	50.22N(0.05)	17.91E(0.27)	3 1 31.0(5.6)	PG	4	4	1.15	4
114	2009	49.80N(0.06)	13.14E(0.22)	12 59 45.0(2.2)	SG	4	4	1.60	4
114	2009	49.72N(0.01)	13.45E(0.05)	12 59 48.5(0.0)	PG	3	4	0.76	4
115	2309	50.22N	18.36E	12 59 48.5(0.0)	PG	1	1	0.00	3
117	2609	50.08N(0.37)	19.09E(0.03)	14 7 27.3	PG	1	1	0.00	3
118	2709	50.73	13.17E	13 57 52.2(0.7)	SG	2	4	3.04	4
118	2709	49.49N	15.25E	10 7 6.4	PG	1	1	0.00	3
118	2709	49.39N	15.36E	10 7 15.7	PG	1	1	0.00	3
119	2709	50.28N(0.06)	13.31E(0.16)	10 7 18.3	SG	1	1	0.00	3
119	2709	50.24N(0.08)	13.35E(0.13)	13 1 22.8(1.8)	PG	4	4	1.29	4
120	2709	50.21N	14.13E	13 1 26.6(2.1)	SG	3	4	2.17	4
121	2809	50.57N(0.03)	15.30E(0.00)	17 53 58.2	SG	1	1	0.00	3
121	2809	50.57N(0.01)	15.32E(0.00)	9 14 58.9(0.3)	PG	2	4	0.50	4
122	2809	50.50N	14.17E	9 14 59.8(0.2)	SG	2	4	0.23	4
122	2809	50.30N	13.76E	12 29 7.0	PG	1	1	0.00	3
124	2010	50.31N	18.53E	12 29 9.0	SG	1	1	0.00	3
124	2010	50.33N	18.72E	1 13 27.5	PG	1	1	0.00	3
125	2210	48.57N(0.06)	15.55E(0.09)	1 13 28.4	SG	1	1	0.00	3
125	2210	48.42N(0.04)	15.44E(0.06)	18 19 14.3(0.6)	PG	3	4	0.72	4
126	2710	50.10N(0.33)	15.49E(0.16)	18 19 14.9(0.8)	SG	3	4	0.73	4
126	2710	50.30N(0.32)	15.73E(0.18)	11 0 1.9(5.5)	PG	2	4	4.45	4
				11 0 7.8(9.5)	SG	2	4	6.04	4

No.	Date	Latitude	Longitude	Origin time	PH	K	TR	Sigma	N
127	3010	50.73N	13.19E	8 56 53.6	PG	1	1	0.00	3
127	3010	49.50N	15.25E	8 57 2.8	PG	1	1	0.00	3
127	3010	50.85N	12.92E	8 56 46.8	SG	1	1	0.00	3
127	3010	49.43N	15.33E	8 57 6.1	SG	1	1	0.00	3
128	0211	51.26N	13.72E	12 15 44.5	PG	1	1	0.00	3
129	0611	49.42N	16.35E	11 26 50.0	SG	1	1	0.00	3
130	0611	49.13N	16.96E	22 6 20.5	PG	1	1	0.00	3
130	0611	49.08N	17.31E	22 6 21.1	SG	1	1	0.00	3
132	1011	49.88N	18.21E	2 33 56.7	PG	1	1	0.00	3
134	1511	48.33N	14.69E	8 34 49.1	PG	1	1	0.00	3
135	1611	49.72N	17.14E	12 10 29.4	PG	1	1	0.00	3
135	1611	49.29N	18.02E	12 10 24.7	SG	1	1	0.00	3
137	2011	49.27N	16.16E	11 8 29.2	SG	1	1	0.00	3
138	2611	49.76N	13.83E	21 10 15.0	PG	1	1	0.00	3
138	2611	49.68N	14.01E	21 10 16.3	SG	1	1	0.00	3
139	3011	50.50N	14.00E	11 59 33.4	PG	1	1	0.00	3
139	3011	50.50N	13.99E	11 59 35.6	SG	1	1	0.00	3
140	0112	51.01N	14.46E	11 1 14.4	PG	1	1	0.00	3
140	0112	51.02N	14.47E	11 1 16.1	SG	1	1	0.00	3
143	1812	50.20N(0.07)	18.38E(0.04)	12 20 15.8(1.0)	SG	2	4	0.92	4
144	1912	49.59N	16.34E	12 0 22.8	PG	1	1	0.00	3
145	2112	49.84N(0.11)	17.87E(0.06)	14 29 28.7(0.9)	PG	3	4	0.72	4
145	2112	49.59N(0.18)	17.96E(0.05)	14 29 22.6(5.3)	SG	2	4	3.01	4
147	2812	50.13N	13.15E	13 58 29.1	PG	1	1	0.00	3

Table 2

No.	TR	DX [km]	DY [km]	DZ [km]	DT	DF (GR)	DL (GR)	PH	EP
1	1	45.34	45.34	45.34	8.1	1.05	-2.09	PG	1
1	1	38.87	38.87	38.86	6.9	0.88	-1.34	PG	2
1	1	48.65	48.65	48.64	14.4	1.21	-2.35	SG	1
1	1	42.64	42.64	42.64	12.6	1.04	-1.61	SG	2
2	1	4.16	4.17	4.01	0.8	0.00	-0.03	PG	
2	1	4.16	4.17	4.01	0.8	0.00	-0.03	PG	1
3	1	43.93	43.93	43.92	7.8	1.05	-2.07	PG	1
3	1	38.06	38.06	38.05	6.8	0.89	-1.37	PG	2
3	1	48.84	48.83	48.83	14.5	1.23	-2.39	SG	1
3	1	43.07	43.06	43.06	12.7	1.07	-1.67	SG	2
4	1	70.69	70.70	70.69	20.9	1.45	-1.94	SG	2
5	1	75.99	75.99	75.98	22.5	1.04	-0.97	SG	
5	1	75.99	75.99	75.98	22.5	1.04	-0.97	SG	2
6	1	2.75	2.75	2.72	0.9	0.00	0.01	SG	
6	1	2.75	2.75	2.72	0.9	0.00	0.01	SG	
7	2	7.38	7.22	7.19	1.4	0.00	0.07	PG	
7	2	7.38	7.22	7.19	1.4	0.00	0.07	PG	
7	3	4.06	3.94	3.84	0.7	0.00	0.04	PG	
7	3	4.06	3.94	3.84	0.7	0.00	0.04	PG	
7	4	2.38	1.88	1.71	0.3	0.00	0.02	PG	
7	4	2.38	1.88	1.71	0.3	0.00	0.02	PG	
7	2	11.72	11.42	11.40	3.6	0.01	0.11	SG	
7	2	11.72	11.42	11.40	3.6	0.01	0.11	SG	
7	3	6.90	6.69	6.59	2.1	0.00	0.06	SG	
7	3	6.90	6.69	6.59	2.1	0.00	0.06	SG	
7	4	3.94	3.01	2.83	0.9	0.01	0.04	SG	
7	4	3.94	3.01	2.83	0.9	0.01	0.04	SG	
8	1	7.16	6.30	6.18	1.8	0.02	0.01	SG	
8	1	7.16	6.30	6.18	1.8	0.02	0.01	SG	
9	1	2.82	2.77	2.69	1.1	-0.01	0.00	SG	
9	1	2.82	2.77	2.69	1.1	-0.01	0.00	SG	
9	2	3.29	3.14	3.07	1.1	-0.01	0.00	SG	
9	2	3.29	3.14	3.07	1.1	-0.01	0.00	SG	
9	3	3.22	2.94	2.91	1.0	-0.01	0.01	SG	
9	3	3.22	2.94	2.91	1.0	-0.01	0.01	SG	
9	4	18.66	18.64	18.64	6.0	0.01	0.18	SG	
9	4	18.66	18.64	18.64	6.0	0.01	0.18	SG	
11	2	39.48	39.41	39.40	7.0	0.09	0.50	PG	
11	2	39.48	39.41	39.40	7.0	0.09	0.50	PG	
13	1	2.73	2.63	2.57	0.5	-0.01	0.03	PG	
13	1	2.73	2.63	2.57	0.5	-0.01	0.03	PG	
13	2	2.15	1.83	1.74	0.3	0.01	-0.01	PG	
13	2	2.15	1.83	1.74	0.3	0.01	-0.01	PG	
13	7	101.39	101.39	101.39	18.0	-0.56	-1.14	PG	2
13	7	101.39	101.39	101.39	18.0	-0.56	-1.14	PG	2
13	8	3.28	3.15	3.09	0.6	-0.01	0.00	PG	
13	8	3.28	3.15	3.09	0.6	-0.01	0.00	PG	
13	9	11.04	11.09	11.03	2.0	0.00	-0.09	PG	
13	9	11.04	11.09	11.03	2.0	0.00	-0.09	PG	
13	10	3.97	3.97	3.92	0.7	0.00	0.00	PG	
13	10	3.97	3.97	3.92	0.7	0.00	0.00	PG	
13	1	7.48	7.34	7.33	2.2	-0.03	0.09	SG	
13	1	7.48	7.34	7.33	2.2	-0.03	0.09	SG	
13	2	2.84	2.09	2.05	0.6	0.01	-0.02	SG	
13	2	2.84	2.09	2.05	0.6	0.01	-0.02	SG	
13	7	86.35	86.37	86.35	25.6	-0.54	-1.05	SG	2
13	7	86.35	86.37	86.35	25.6	-0.54	-1.05	SG	2
13	8	5.63	5.41	5.39	1.8	-0.03	0.00	SG	
13	8	5.63	5.41	5.39	1.8	-0.03	0.00	SG	
13	9	6.84	7.05	6.83	2.2	0.00	-0.06	SG	
13	9	6.84	7.05	6.83	2.2	0.00	-0.06	SG	
13	10	4.51	4.50	4.49	1.5	0.00	0.01	SG	
13	10	4.51	4.50	4.49	1.5	0.00	0.01	SG	
14	1	49.25	49.25	49.25	14.6	1.24	-2.40	SG	1
14	1	49.25	49.25	49.25	14.6	1.24	-2.40	SG	1
14	1	43.29	43.29	43.28	12.8	1.07	-1.65	SG	2
14	1	43.29	43.29	43.28	12.8	1.07	-1.65	SG	2
15	1	24.72	24.70	24.69	4.4	-0.60	-0.18	PG	1
15	1	24.72	24.70	24.69	4.4	-0.60	-0.18	PG	1
15	1	20.98	20.96	20.95	3.7	-0.52	-0.11	PG	2
15	1	20.98	20.96	20.95	3.7	-0.52	-0.11	PG	2
16	1	3.28	3.29	3.20	0.6	-0.01	-0.03	PG	
16	1	3.28	3.29	3.20	0.6	-0.01	-0.03	PG	
16	1	4.34	4.37	4.25	1.3	-0.01	-0.04	SG	
16	1	4.34	4.37	4.25	1.3	-0.01	-0.04	SG	
17	1	2.38	2.37	2.26	0.5	-0.01	0.00	PG	
17	1	2.38	2.37	2.26	0.5	-0.01	0.00	PG	
19	1	2.56	2.51	2.44	0.5	0.00	0.01	PG	
19	1	2.56	2.51	2.44	0.5	0.00	0.01	PG	



No.	TR	DX [km]	DY [km]	DZ [km]	DT	DF (GR)	DL (GR)	PH	EP
19	1	3.90	4.10	3.87	1.3	0.00			
20	1	19.21	19.18	19.16	3.4	0.10	0.04	SG	
20	2	20.09	19.97	19.96	3.6	0.03	0.11	PG	
20	3	17.19	17.12	17.10	3.1	-0.03	0.24	PG	
20	4	6.74	6.44	6.33	1.1	0.00	0.20	PG	
20	1	32.51	32.45	32.43	9.7	0.16	0.09	PG	
20	2	50.90	50.76	50.75	15.1	0.08	0.24	SG	
20	3	36.62	36.52	36.50	10.8	-0.04	0.63	SG	
23	1	74.37	74.37	74.37	13.2	1.87	0.46	SG	
23	1	64.97	64.97	64.97	11.6	1.60	-3.51	PG	1
23	1	45.10	45.10	45.09	13.4	0.95	-2.30	PG	2
25	1	42.83	42.77	42.76	12.7	0.27	-1.34	SG	2
26	1	51.82	51.82	51.82	9.2	1.22	0.30	SG	
26	1	44.53	44.53	44.53	7.9	1.03	-2.39	PG	1
26	1	42.33	42.33	42.33	12.5	0.89	-1.52	PG	2
27	1	40.64	40.64	40.63	12.0	0.84	-1.29	SG	2
27	1	33.78	33.77	33.76	10.0	0.68	-1.76	SG	1
28	1	34.55	34.51	34.50	6.2	0.06	-1.05	SG	2
28	1	47.32	47.24	47.22	14.0	0.02	0.45	PG	
29	1	58.06	58.06	58.06	10.3	1.31	0.62	SG	
29	1	49.12	49.12	49.12	8.7	1.08	-2.57	PG	1
29	1	59.63	59.63	59.62	17.6	1.54	-1.55	PG	2
29	1	52.56	52.56	52.56	15.6	1.33	-2.91	SG	1
29	1	52.56	52.56	52.56	15.6	1.33	-1.98	SG	2
30	1	9.21	8.95	8.88	1.6	0.01	0.12	PG	
31	1	5.87	5.86	5.83	1.1	0.00	-0.01	PG	
31	3	2.74	2.67	2.54	0.5	0.00	-0.02	PG	
31	4	2.77	2.84	2.65	0.6	0.00	-0.01	PG	
31	1	3.34	3.30	3.28	1.1	0.00	0.00	SG	
31	7	34.23	34.18	34.11	10.2	0.00	-0.38	SG	
31	7	34.23	34.18	34.11	10.2	0.00	-0.01	PG	
32	1	9.94	9.94	9.92	1.8	0.00	-0.04	PG	
32	3	3.17	3.14	3.00	0.6	-0.01	-0.02	PG	
32	4	2.95	2.97	2.80	0.6	0.00	-0.02	SG	
32	1	3.54	3.50	3.48	1.2	0.00	0.00	SG	
32	3	8.56	8.46	8.35	2.6	-0.02	-0.08	SG	
32	4	5.67	5.82	5.51	1.9	0.00	-0.04	PG	
33	1	6.70	6.70	6.67	1.2	0.01	-0.01	PG	
33	1	6.70	6.70	6.67	1.2	0.01	-0.60	PG	
33	2	54.52	54.50	54.50	9.7	0.26	-0.02	PG	
33	5	2.72	2.65	2.52	0.5	0.00	-0.01	PG	
33	8	2.76	2.83	2.64	0.6	0.00	-0.01	PG	
33	10	2.76	2.83	2.64	0.6	0.00	-0.01	SG	
33	10	2.69	2.21	1.96	0.4	0.01	0.00	SG	
33	1	2.90	2.85	2.83	1.0	0.00	-0.12	SG	1
33	2	11.78	11.53	11.52	3.4	0.06	-0.12	SG	
33	2	11.78	11.53	11.52	3.4	1.20	-2.95	SG	
33	3	76.96	76.95	76.94	22.8	0.06	-0.07	SG	
33	3	76.96	76.95	76.94	22.8	1.20	-0.07	SG	
33	5	8.39	8.30	8.18	2.6	-0.02	-1.69	SG	
33	5	8.39	8.30	8.18	2.6	0.01	-1.69	SG	
33	7	139.36	139.35	139.33	41.2	0.01		SG	

No.	TR	DX [km]	DY [km]	DZ [km]	DT	DF (GR)	DL (GR)	PH	EP
33	8	5.55	5.70	5.39	1.8	0.00	-0.04	SG	
33	9	15.15	15.29	15.11	4.6	0.04	-0.16	SG	
33	10	4.95	4.40	3.99	1.2	0.02	-0.03	SG	
33	10	4.95	4.40	3.99	1.2	0.02	-4.19	PG	1
34	1	107.90	107.90	107.90	19.2	2.57	0.01	SG	
34	1	2.37	2.29	2.05	0.7	0.02	0.01	SG	
34	3	2.38	2.26	2.21	0.8	0.01	-0.01	SG	
34	3	2.38	2.26	2.21	0.8	0.01	0.01	SG	
34	4	2.46	2.34	2.31	0.9	0.00	-0.01	PG	
34	4	2.46	2.34	2.31	0.9	0.00	-0.01	PG	
35	1	4.89	4.88	4.85	0.9	0.00	-0.19	PG	
35	1	4.89	4.88	4.85	0.9	0.00	-0.19	PG	
35	2	18.54	18.49	18.48	3.3	0.08	-0.03	PG	
35	2	18.54	18.49	18.48	3.3	0.08	-0.03	PG	
35	5	4.07	4.00	3.90	0.8	-0.01	-0.02	PG	
35	5	4.07	4.00	3.90	0.8	-0.01	-0.02	PG	
35	8	3.46	3.52	3.32	0.7	0.00	-0.15	PG	
35	8	3.46	3.52	3.32	0.7	0.00	-0.15	PG	
35	9	13.34	13.40	13.31	2.4	0.03	-0.02	PG	
35	9	13.34	13.40	13.31	2.4	0.03	-0.02	PG	
35	10	2.90	2.55	2.27	0.4	0.01	-0.86	SG	
35	10	2.90	2.55	2.27	0.4	0.01	-0.86	SG	
35	1	72.68	72.66	72.62	21.5	0.00	-0.04	SG	
35	1	72.68	72.66	72.62	21.5	0.00	-0.04	SG	
35	2	5.90	6.05	5.74	1.9	0.00	-0.14	SG	
35	2	5.90	6.05	5.74	1.9	0.00	-0.14	SG	
35	3	13.07	13.24	13.03	4.0	0.03	-0.03	SG	
35	3	13.07	13.24	13.03	4.0	0.03	-0.03	SG	
35	4	5.07	4.58	4.16	1.3	0.02	-0.03	PG	1
35	4	5.07	4.58	4.16	1.3	0.02	-0.03	PG	1
36	1	53.40	53.39	53.39	9.5	1.02	-2.27	PG	2
36	1	53.40	53.39	53.39	9.5	1.02	-2.27	PG	2
36	1	44.31	44.30	44.30	7.9	0.83	-1.46	PG	
36	1	44.31	44.30	44.30	7.9	0.83	-1.46	PG	
36	1	6.61	6.19	6.18	1.9	0.03	-0.06	SG	
36	1	6.61	6.19	6.18	1.9	0.03	-0.06	SG	
36	4	10.13	10.34	10.08	3.2	0.02	-0.10	SG	
36	4	10.13	10.34	10.08	3.2	0.02	-0.10	SG	
37	1	71.16	71.14	71.13	12.7	0.11	0.96	PG	
37	1	71.16	71.14	71.13	12.7	0.11	0.96	PG	
37	2	114.42	114.35	114.35	33.9	0.08	1.51	SG	
37	2	114.42	114.35	114.35	33.9	0.08	1.51	SG	
37	3	73.84	73.79	73.77	21.9	0.07	0.99	SG	
37	3	73.84	73.79	73.77	21.9	0.07	0.99	SG	
38	7	59.50	59.51	59.49	10.6	-0.59	-1.05	PG	1
38	7	59.50	59.51	59.49	10.6	-0.59	-1.05	PG	1
38	7	49.59	49.60	49.58	8.8	-0.50	-0.79	PG	2
38	7	49.59	49.60	49.58	8.8	-0.50	-0.79	PG	2
38	7	84.14	84.16	84.14	24.9	-0.85	-1.50	SG	1
38	7	84.14	84.16	84.14	24.9	-0.85	-1.50	SG	1
38	10	6.73	6.71	6.67	2.3	-0.03	-0.01	SG	
38	10	6.73	6.71	6.67	2.3	-0.03	-0.01	SG	
39	1	23.75	23.71	23.70	4.2	0.14	0.15	PG	
39	1	23.75	23.71	23.70	4.2	0.14	0.15	PG	
40	1	18.72	18.72	18.70	3.3	-0.04	0.32	PG	2
40	1	18.72	18.72	18.70	3.3	-0.04	0.32	PG	2
40	2	92.80	92.80	92.80	16.5	1.15	-0.80	PG	2
40	2	92.80	92.80	92.80	16.5	1.15	-0.80	PG	2
40	3	8.09	7.99	7.97	1.4	-0.05	0.07	PG	
40	3	8.09	7.99	7.97	1.4	-0.05	0.07	PG	
40	4	2.63	2.86	2.51	0.5	-0.01	0.03	PG	
40	4	2.63	2.86	2.51	0.5	-0.01	0.03	PG	
40	3	6.49	6.16	6.15	1.9	-0.04	0.06	SG	
40	3	6.49	6.16	6.15	1.9	-0.04	0.06	SG	
40	4	3.45	3.91	3.31	1.1	-0.01	0.04	SG	
40	4	3.45	3.91	3.31	1.1	-0.01	0.04	SG	
41	1	58.91	58.91	58.91	10.5	1.43	-2.74	PG	1
41	1	58.91	58.91	58.91	10.5	1.43	-2.74	PG	1
41	1	50.95	50.95	50.95	9.1	1.21	-1.76	PG	2
41	1	50.95	50.95	50.95	9.1	1.21	-1.76	PG	2
41	1	67.78	67.78	67.78	20.1	1.85	-3.40	SG	1
41	1	67.78	67.78	67.78	20.1	1.85	-3.40	SG	1
41	1	60.55	60.55	60.54	17.9	1.62	-2.40	SG	2
41	1	60.55	60.55	60.54	17.9	1.62	-2.40	SG	2
42	1	72.65	72.65	72.65	12.9	1.84	-3.44	PG	1
42	1	72.65	72.65	72.65	12.9	1.84	-3.44	PG	1
42	1	63.58	63.58	63.57	11.3	1.58	-2.27	PG	2
42	1	63.58	63.58	63.57	11.3	1.58	-2.27	PG	2
42	1	57.12	57.12	57.11	16.9	1.29	-2.52	SG	1
42	1	57.12	57.12	57.11	16.9	1.29	-2.52	SG	1
42	1	48.31	48.31	48.30	14.3	1.07	-1.52	SG	2
42	1	48.31	48.31	48.30	14.3	1.07	-1.52	SG	2
43	1	23.74	23.68	23.66	4.2	0.00	0.30	PG	
43	1	23.74	23.68	23.66	4.2	0.00	0.30	PG	
43	1	38.53	38.47	38.46	11.5	0.21	0.29	SG	
43	1	38.53	38.47	38.46	11.5	0.21	0.29	SG	

No.	TR	DX [ km ]	DY [ km ]	DZ [ km ]	DT	DF (GR)	DL (GR)	PH	EP
45	1	69.62	69.62	69.62	12.4	1.78			
45	1	61.13	61.13	61.13	10.9	1.53	-3.33	PG	1
45	1	50.69	50.69	50.69	15.0	1.10	-2.23	PG	2
45	1	42.33	42.33	42.33	12.5	0.89	-2.20	SG	1
46	1	72.09	72.09	72.09	12.8	1.74	-1.29	SG	2
46	1	62.18	62.18	62.18	11.1	1.47	-3.30	PG	1
46	1	45.99	45.99	45.99	13.6	0.95	-2.09	PG	2
47	1	84.03	84.03	84.03	15.0	1.62	-1.34	SG	2
47	1	71.17	71.18	71.17	21.1	1.12	-1.87	PG	2
48	1	47.80	47.82	47.80	14.1	0.03	-1.20	SG	2
49	2	100.00	100.00	100.00	17.8	1.17	0.82	SG	2
49	3	5.02	5.02	4.99	0.9	0.00	-0.77	PG	2
49	4	5.25	5.26	5.21	1.0	0.00	0.01	PG	
49	1	9.12	9.15	9.11	2.7	0.02	0.03	PG	
49	3	2.64	2.63	2.60	0.9	0.00	0.07	SG	
49	4	2.86	2.92	2.82	1.0	0.00	0.01	SG	
52	1	2.87	2.87	2.80	0.5	0.00	0.02	SG	
52	1	2.28	2.27	2.21	0.8	0.00	0.01	PG	
56	1	65.27	65.27	65.27	11.6	1.61	-3.06	PG	1
56	1	56.76	56.76	56.76	10.1	1.37	-1.99	PG	2
56	1	66.11	66.11	66.11	19.6	1.76	-3.27	SG	1
56	1	58.72	58.72	58.72	17.4	1.54	-2.26	SG	2
58	1	3.02	3.04	2.94	0.6	0.01	0.03	PG	
58	2	2.34	2.38	2.26	0.4	0.01	0.02	PG	
58	1	2.77	2.81	2.69	1.0	0.01	0.02	SG	
58	2	1.91	1.94	1.76	0.6	0.01	0.01	SG	
59	1	63.49	63.49	63.49	11.3	1.58	-3.00	PG	1
59	1	55.36	55.36	55.36	9.9	1.35	-1.97	PG	2
59	1	63.57	63.57	63.57	18.8	1.67	-3.11	SG	1
59	1	56.19	56.20	56.19	16.6	1.44	-2.13	SG	2
59	1	56.19	56.20	56.19	16.6	1.44	0.02	PG	
60	1	3.28	3.28	3.23	0.6	0.00	0.01	SG	
60	1	2.44	2.46	2.40	0.9	0.00	0.71	PG	
61	3	53.08	53.05	53.04	9.5	0.06	0.10	PG	
61	4	7.93	7.64	7.56	1.3	0.01	0.53	SG	
61	3	40.80	40.71	40.69	12.1	0.02	0.02	PG	
63	1	12.23	12.23	12.21	2.2	-0.03	-0.38	SG	
63	1	71.21	71.21	71.21	21.1	-0.22	0.02	PG	
64	1	2.42	2.43	2.33	0.5	0.00	-2.72	PG	1
64	2	58.45	58.45	58.45	10.4	1.42	-1.76	PG	2
64	2	50.60	50.60	50.60	9.0	1.20	-0.01	PG	
64	3	2.35	2.36	2.19	0.5	-0.01	-0.01	PG	
64	4	2.79	2.85	2.72	0.6	0.00	0.02	SG	
64	1	2.64	2.65	2.53	0.9	0.01	0.02	SG	1
64	2	65.78	65.78	65.77	19.5	1.76	-3.27	SG	2
64	2	58.51	58.51	58.50	17.3	1.54	-2.27	SG	

No.	TR	DX [ km ]	DY [ km ]	DZ [ km ]	DT	DF (GR)	DL (GR)	PH	EP
64	3	3.47	3.49	3.26	1.2	-0.01	-0.02	SG	
64	4	2.92	3.10	2.86	1.1	0.00	-0.01	SG	
64	4	2.92	3.10	2.86	1.1	0.00	-0.01	PG	1
65	1	73.95	73.95	73.94	13.2	1.92	-3.57	PG	2
65	1	31.38	31.37	31.37	9.3	0.43	-0.65	SG	
65	1	31.38	31.37	31.37	9.3	0.43	-0.65	PG	
66	5	7.92	7.83	7.76	1.4	0.00	0.10	PG	
66	6	8.31	8.18	8.11	1.4	0.06	0.04	PG	
66	7	6.05	6.05	6.01	1.1	0.00	0.00	PG	
66	8	12.85	12.85	12.76	2.3	0.01	0.17	PG	
66	9	10.15	10.00	9.98	1.8	0.07	0.04	PG	
66	10	103.24	103.25	103.24	18.4	0.78	1.60	PG	1
66	10	84.56	84.57	84.55	15.0	0.64	1.38	PG	2
66	7	4.95	4.92	4.90	1.7	0.00	0.01	SG	
66	7	4.95	4.92	4.90	1.7	0.00	0.01	PG	
67	1	16.94	16.92	16.90	3.0	0.09	0.08	PG	
67	2	10.03	9.85	9.82	1.8	0.01	0.11	PG	
67	3	10.02	9.93	9.90	1.8	-0.02	0.11	PG	
67	4	3.46	3.00	2.80	0.5	0.00	0.04	PG	
67	4	3.46	3.00	2.80	0.5	0.00	0.04	PG	1
68	1	108.52	108.53	108.52	19.3	2.60	-4.22	PG	1
69	1	42.04	42.04	42.04	7.5	0.92	-1.87	PG	2
69	1	35.41	35.40	35.40	6.3	0.75	-1.15	PG	
73	1	4.29	4.30	4.25	0.8	0.01	0.02	PG	
74	1	5.07	5.09	5.02	0.9	0.02	0.06	PG	
74	3	1.43	1.36	1.19	0.3	0.00	0.01	PG	
74	4	1.72	1.51	1.29	0.3	0.01	0.01	PG	
74	4	1.72	1.51	1.29	0.3	0.01	0.01	PG	2
75	1	87.01	87.01	87.01	15.5	1.89	-2.21	PG	
76	1	7.28	7.28	7.26	1.3	0.00	0.05	PG	
76	1	7.28	7.28	7.26	1.3	0.00	0.05	PG	1
76	2	39.55	39.54	39.54	7.0	0.81	-1.74	PG	2
76	2	33.28	33.27	33.27	5.9	0.67	-1.12	PG	
76	3	3.43	3.49	3.34	0.7	-0.02	-0.02	PG	
76	4	2.34	2.32	2.17	0.5	0.00	-0.01	PG	
77	1	8.74	8.74	8.72	1.6	0.00	0.01	PG	
78	1	12.57	12.51	12.50	2.3	-0.06	0.09	PG	
79	1	35.96	35.95	35.94	6.4	-0.15	0.19	PG	
80	1	62.38	62.38	62.38	11.1	1.92	-3.48	PG	1
81	1	66.58	66.58	66.57	11.8	1.64	-3.11	PG	1
81	1	57.79	57.79	57.79	10.3	1.39	-2.01	PG	2
83	1	14.28	14.28	14.27	2.5	0.00	0.02	PG	
84	1	6.25	6.25	6.22	1.1	0.00	0.01	PG	
85	1	60.41	60.41	60.41	10.8	1.45	-2.79	PG	1
85	1	52.10	52.10	52.10	9.3	1.22	-1.78	PG	2
86	3	21.71	21.65	21.62	3.9	0.00	0.27	PG	
87	1	62.09	62.09	62.09	11.1	1.48	-2.84	PG	1
87	1	53.39	53.40	53.39	9.5	1.24	-1.80	PG	2
90	1	58.45	58.45	58.45	10.4	1.42	-2.72	PG	1
90	1	50.60	50.60	50.60	9.0	1.20	-1.76	PG	2
91	1	53.15	53.15	53.14	9.5	1.17	-2.33	PG	1

No.	TR	DX [ km ]	DY [ km ]	DZ [ km ]	DT	DF (GR)	DL (GR)	PH	EP
91	1	44.68	44.68	44.67	8.0	0.96			
94	1	2.17	2.15	2.06	0.4	0.00	-1.39	PG	
94	3	3.19	3.19	3.13	0.6	0.00	0.02	PG	2
94	4	2.88	2.94	2.82	0.5	0.00	0.02	PG	
96	1	60.95	60.95	60.95	10.8	1.46	0.02	PG	
96	1	52.51	52.52	52.51	9.3	1.23	-2.80	PG	1
97	1	54.60	54.60	54.60	9.7	1.22	-1.78	PG	2
97	1	46.06	46.06	46.06	8.2	1.00	-2.41	PG	1
98	3	16.09	16.07	16.05	2.9	0.09	-1.45	PG	2
98	4	12.13	11.98	11.96	2.2	0.01	0.07	PG	
98	5	12.02	11.88	11.86	2.2	0.01	0.13	PG	
98	11	20.58	20.53	20.52	3.7	0.11	0.13	PG	
98	12	19.91	19.86	19.86	3.5	0.11	0.22	PG	
98	13	15.29	15.22	15.20	2.7	-0.04	0.21	PG	
98	14	13.32	13.26	13.24	2.4	-0.04	0.17	PG	
98	18	41.79	41.71	41.70	7.5	-0.14	0.14	PG	
98	19	40.52	40.44	40.43	7.2	-0.13	0.50	PG	
98	22	26.86	26.80	26.79	4.8	0.17	0.49	PG	
98	23	4.07	3.70	3.51	0.6	0.00	0.23	PG	
98	24	4.02	3.67	3.52	0.6	0.00	0.05	PG	
98	27	85.41	85.42	85.40	15.2	0.22	0.05	PG	2
98	28	94.22	94.23	94.21	16.8	0.25	1.35	PG	1
98	32	46.51	46.51	46.50	8.3	0.13	1.51	PG	2
98	33	48.45	48.45	48.44	8.6	0.13	0.72	PG	1
98	33	34.48	34.49	34.47	6.1	0.10	0.78	PG	2
98	35	2.85	2.67	2.60	0.5	-0.01	0.57	PG	
100	1	44.19	44.19	44.19	7.9	0.98	0.03	PG	1
100	1	37.38	37.38	37.38	6.7	0.81	-1.98	PG	2
101	1	84.73	84.73	84.73	15.1	1.17	-1.22	PG	2
102	1	2.54	2.57	2.46	0.5	-0.01	-1.19	PG	1
103	1	41.39	41.39	41.39	7.4	0.92	-0.01	PG	2
103	1	35.07	35.07	35.06	6.2	0.76	-1.86	PG	
104	1	5.58	5.60	5.53	1.0	-0.03	-1.17	PG	
104	4	3.48	3.32	3.26	0.7	0.01	-0.03	PG	1
107	1	41.82	41.82	41.82	7.4	0.97	0.01	PG	2
107	1	35.94	35.93	35.93	6.4	0.82	-1.94	PG	1
108	1	57.60	57.60	57.59	10.3	1.36	-1.26	PG	2
108	1	49.45	49.45	49.44	8.8	1.14	-2.64	SG	1
108	1	54.79	54.79	54.79	16.2	1.33	-1.66	SG	2
108	1	47.38	47.39	47.38	14.0	1.12	-2.56	PG	1
108	1	47.38	47.39	47.38	14.0	1.12	-1.65	PG	2
109	1	57.48	57.47	57.47	10.2	1.49	-2.81	PG	
109	1	50.74	50.74	50.73	9.0	1.29	-1.93	SG	2
109	1	42.41	42.41	42.40	12.6	0.89	-1.29	PG	1
109	1	51.15	51.15	51.14	9.1	1.17	-2.31	PG	2
110	1	43.57	43.57	43.56	7.8	0.98	-1.44	PG	
110	1	43.57	43.57	43.56	7.8	0.98	-1.44	PG	

No.	TR	DX [ km ]	DY [ km ]	DZ [ km ]	DT	DF (GR)	DL (GR)	PH	EP
64	3	3.47	3.49	3.26	1.2	-0.01	-0.02	SG	
64	4	2.92	3.10	2.86	1.1	0.00	-0.01	SG	1
65	1	73.95	73.95	73.94	13.2	1.92	-3.57	PG	2
65	1	31.38	31.37	31.37	9.3	0.43	-0.65	PG	
66	5	7.92	7.83	7.76	1.4	0.00	0.10	PG	
66	6	8.31	8.18	8.11	1.4	0.06	0.04	PG	
66	7	6.05	6.05	6.01	1.1	0.00	0.00	PG	
66	8	12.85	12.85	12.76	2.3	0.01	0.17	PG	
66	9	10.15	10.00	9.98	1.8	0.07	0.04	PG	1
66	10	103.24	103.25	103.24	18.4	0.78	1.60	PG	2
66	10	84.56	84.57	84.55	15.0	0.64	1.38	PG	
66	7	4.95	4.92	4.90	1.7	0.00	0.01	SG	
67	1	16.94	16.92	16.90	3.0	0.09	0.08	PG	
67	2	10.03	9.85	9.82	1.8	0.01	0.11	PG	
67	3	10.02	9.93	9.90	1.8	-0.02	0.11	PG	
67	4	3.46	3.00	2.80	0.5	0.00	0.04	PG	1
68	1	108.52	108.53	108.52	19.3	2.60	-4.22	PG	1
69	1	42.04	42.04	42.04	7.5	0.92	-1.87	PG	2
69	1	35.41	35.40	35.40	6.3	0.75	-1.15	PG	
73	1	4.29	4.30	4.25	0.8	0.01	0.02	PG	
74	1	5.07	5.09	5.02	0.9	0.02	0.06	PG	
74	3	1.43	1.36	1.19	0.3	0.00	0.01	PG	
74	4	1.72	1.51	1.29	0.3	0.01	0.01	PG	2
75	1	87.01	87.01	87.01	15.5	1.89	-2.21	PG	
76	1	7.28	7.28	7.26	1.3	0.00	0.05	PG	
76	2	39.55	39.54	39.54	7.0	0.81	-1.74	PG	1
76	2	33.28	33.27	33.27	5.9	0.67	-1.12	PG	2
76	3	3.43	3.49	3.34	0.7	-0.02	-0.02	PG	
76	4	2.34	2.32	2.17	0.5	0.00	-0.01	PG	
77	1	8.74	8.74	8.72	1.6	0.00	0.01	PG	
78	1	12.57	12.51	12.50	2.3	-0.06	0.09	PG	
79	1	35.96	35.95	35.94	6.4	-0.15	0.19	PG	
80	1	62.38	62.38	62.38	11.1	1.92	-3.48	PG	1
81	1	66.58	66.58	66.57	11.8	1.64	-3.11	PG	1
81	1	57.79	57.79	57.79	10.3	1.39	-2.01	PG	2
83	1	14.28	14.28	14.27	2.5	0.00	0.02	PG	
84	1	6.25	6.25	6.22	1.1	0.00	0.01	PG	
85	1	60.41	60.41	60.41	10.8	1.45	-2.79	PG	1
85	1	52.10	52.10	52.10	9.3	1.22	-1.78	PG	2
86	3	21.71	21.65	21.62	3.9	0.00	0.27	PG	
87	1	62.09	62.09	62.09	11.1	1.48	-2.84	PG	1
87	1	53.39	53.40	53.39	9.5	1.24	-1.80	PG	2
90	1	58.45	58.45	58.45	10.4	1.42	-2.72	PG	1
90	1	50.60	50.60	50.60	9.0	1.20	-1.76	PG	2
91	1	53.15	53.15	53.14	9.5	1.17	-2.33	PG	1

No.	TR	DX [ km ]	DY [ km ]	DZ [ km ]	DT	DF (GR)	DL (GR)	PH	EP
91	1	44.68	44.68	44.67	8.0	0.96	-1.39	PG	
94	1	2.17	2.15	2.06	0.4	0.00	0.02	PG	2
94	3	3.19	3.19	3.13	0.6	0.00	0.02	PG	
94	4	2.88	2.94	2.82	0.5	0.00	0.02	PG	
96	1	60.95	60.95	60.95	10.8	1.46	-2.80	PG	
96	1	52.51	52.52	52.51	9.3	1.23	-1.78	PG	1
97	1	54.60	54.60	54.60	9.7	1.22	-2.41	PG	2
97	1	46.06	46.06	46.06	8.2	1.00	-1.45	PG	1
98	3	16.09	16.07	16.05	2.9	0.09	0.07	PG	2
98	4	12.13	11.98	11.96	2.2	0.01	0.13	PG	
98	5	12.02	11.88	11.86	2.2	0.01	0.13	PG	
98	11	20.58	20.53	20.52	3.7	0.11	0.22	PG	
98	12	19.91	19.86	19.86	3.5	0.11	0.21	PG	
98	13	15.29	15.22	15.20	2.7	-0.04	0.17	PG	
98	14	13.32	13.26	13.24	2.4	-0.04	0.14	PG	
98	18	41.79	41.71	41.70	7.5	-0.14	0.50	PG	
98	19	40.52	40.44	40.43	7.2	-0.13	0.49	PG	
98	22	26.86	26.80	26.79	4.8	0.17	0.23	PG	
98	23	4.07	3.70	3.51	0.6	0.00	0.05	PG	
98	24	4.02	3.67	3.52	0.6	0.00	0.05	PG	
98	27	85.41	85.42	85.40	15.2	0.22	1.35	PG	2
98	28	94.22	94.23	94.21	16.8	0.25	1.51	PG	1
98	32	46.51	46.51	46.50	8.3	0.13	0.72	PG	2
98	33	48.45	48.45	48.44	8.6	0.13	0.78	PG	1
98	33	34.48	34.49	34.47	6.1	0.10	0.57	PG	2
98	35	2.85	2.67	2.60	0.5	-0.01	0.03	PG	
100	1	44.19	44.19	44.19	7.9	0.98	-1.98	PG	1
100	1	37.38	37.38	37.38	6.7	0.81	-1.22	PG	2
101	1	84.73	84.73	84.73	15.1	1.17	-1.19	PG	
102	1	2.54	2.57	2.46	0.5	-0.01	-0.01	PG	1
103	1	41.39	41.39	41.39	7.4	0.92	-1.86	PG	2
103	1	35.07	35.07	35.06	6.2	0.76	-1.17	PG	
104	1	5.58	5.60	5.53	1.0	-0.03	-0.03	PG	
104	4	3.48	3.32	3.26	0.7	0.01	0.01	PG	1
107	1	41.82	41.82	41.82	7.4	0.97	-1.94	PG	2
107	1	35.94	35.93	35.93	6.4	0.82	-1.26	PG	1
108	1	57.60	57.60	57.59	10.3	1.36	-2.64	PG	2
108	1	49.45	49.45	49.44	8.8	1.14	-1.66	SG	1
108	1	54.79	54.79	54.79	16.2	1.33	-2.56	SG	2
108	1	47.38	47.39	47.38	14.0	1.12	-1.65	PG	1
108	1	57.48	57.47	57.47	10.2	1.49	-2.81	PG	2
109	1	50.74	50.74	50.73	9.0	1.29	-1.93	SG	2
109	1	42.41	42.41	42.40	12.6	0.89	-1.29	PG	1
109	1	51.15	51.15	51.14	9.1	1.17	-2.31	PG	2
110	1	43.57	43.57	43.56	7.8	0.98	-1.44	PG	

No.	TR	DX [ km ]	DY [ km ]	DZ [ km ]	DT	DF (GR)	DL (GR)	PH	EP
110	1	56.20	56.20	56.20	16.6	1.42	-2.70	SG	1
110	1	49.21	49.21	49.21	14.6	1.22	-1.81	SG	2
111	1	47.25	47.25	47.24	14.0	1.15	-2.26	SG	1
111	1	41.21	41.21	41.20	12.2	0.99	-1.53	SG	2
112	3	1.76	1.56	1.34	0.3	0.01	0.01	PG	
112	4	7.22	7.18	7.13	1.3	0.03	0.07	PG	
112	1	7.94	8.01	7.93	2.5	0.03	0.08	SG	
112	2	38.78	38.72	38.70	11.5	0.22	0.29	SG	
112	3	3.55	3.50	3.22	1.1	0.01	0.03	SG	
112	4	7.10	7.02	6.94	2.2	0.02	0.07	SG	
114	1	1.66	1.50	1.37	0.3	-0.01	0.01	PG	1
114	2	42.67	42.65	42.65	7.6	0.55	-1.49	PG	
114	4	4.02	3.87	3.80	0.7	-0.02	-0.01	PG	
114	1	2.31	1.89	1.85	0.6	-0.01	0.01	SG	
114	4	5.93	5.62	5.57	1.8	-0.03	-0.02	SG	
115	1	23.99	23.93	23.91	4.3	-0.01	0.31	PG	
117	3	45.28	45.26	45.25	8.1	0.06	0.61	PG	
117	4	2.87	2.72	2.54	0.5	-0.01	0.03	PG	1
117	2	171.89	171.85	171.84	50.9	0.05	2.31	SG	
117	3	95.11	95.07	95.06	28.1	0.02	1.30	SG	
118	1	58.94	58.94	58.93	10.5	1.41	-2.72	PG	1
118	1	50.80	50.80	50.80	9.0	1.19	-1.73	PG	2
118	1	41.30	41.30	41.29	12.2	0.85	-1.23	SG	2
119	1	15.03	15.04	15.02	2.7	0.00	0.10	PG	
119	2	39.03	39.03	39.02	6.9	0.84	-1.76	PG	1
119	2	33.29	33.28	33.27	5.9	0.70	-1.18	PG	2
119	3	3.66	3.71	3.56	0.7	-0.02	-0.02	PG	
119	4	2.42	2.41	2.26	0.5	0.00	-0.01	PG	
119	1	4.99	4.99	4.98	1.5	0.00	0.03	SG	
119	2	41.09	41.08	41.07	12.2	0.77	-1.73	SG	1
119	2	33.77	33.75	33.75	10.0	0.62	-1.07	SG	2
119	3	4.72	4.80	4.58	1.5	-0.02	-0.03	SG	
119	4	3.45	3.41	3.21	1.2	0.00	-0.01	SG	
120	1	58.80	58.81	58.80	17.4	0.04	0.98	SG	2
121	3	1.97	1.83	1.74	0.3	-0.01	0.01	PG	
121	4	1.54	1.48	1.15	0.2	0.00	0.01	PG	
121	3	2.25	1.86	1.83	0.6	-0.01	0.02	SG	
121	4	2.26	2.11	1.64	0.6	0.00	0.02	SG	
122	1	3.48	3.54	3.43	0.6	-0.02	-0.01	PG	
122	1	6.46	6.58	6.41	2.0	-0.04	-0.03	SG	
124	1	32.72	32.68	32.66	5.8	0.00	0.43	PG	
124	1	77.35	77.29	77.28	22.9	-0.02	1.04	SG	
125	1	2.40	2.29	2.21	0.5	-0.01	0.01	PG	
125	3	4.85	4.70	4.64	0.9	-0.03	0.00	PG	
125	4	2.05	1.68	1.47	0.3	-0.01	0.00	PG	

No.	TR	DX [ km ]	DY [ km ]	DZ [ km ]	DT	DF (GR)	DL (GR)	PH	KP
125	1	3.87	3.64	3.60	1.3	-0.02	0.01		
125	3	10.36	10.13	10.07	3.1	-0.06	-0.01	SG	
125	4	3.51	2.75	2.54	0.8	-0.02	0.00	SG	
126	2	2.01	1.90	1.71	0.3	0.01	0.01	PG	
126	4	5.67	5.67	5.64	1.1	0.00	0.00	PG	
126	2	6.00	5.92	5.80	1.7	0.05	0.03	SG	
126	4	4.95	4.93	4.91	1.7	0.00	0.01	SG	
127	1	59.89	59.89	59.89	10.7	1.44	-2.77	PG	1
127	1	51.70	51.70	51.70	9.2	1.22	-1.77	PG	2
127	1	52.16	52.16	52.16	15.4	1.15	-2.29	SG	1
127	1	43.85	43.85	43.84	13.0	0.95	-1.36	SG	2
128	1	107.47	107.47	107.46	19.1	2.55	-4.13	PG	1
129	1	75.92	75.92	75.92	22.5	1.11	-1.07	SG	2
130	1	9.08	9.06	9.04	1.6	-0.03	0.04	PG	
130	1	3.87	3.71	3.69	1.3	-0.01	0.02	SG	
132	1	9.33	9.18	9.16	1.7	0.03	0.11	PG	
134	1	2.37	2.38	2.26	0.5	-0.01	0.00	PG	
135	1	2.51	2.42	2.33	0.5	0.00	0.02	PG	
135	1	17.44	17.33	17.31	5.2	-0.06	0.17	SG	
137	1	86.00	86.00	86.00	25.5	1.25	-1.37	SG	2
138	1	3.06	2.96	2.91	0.5	-0.01	0.03	PG	
138	1	10.93	10.83	10.83	3.2	-0.04	0.13	SG	
139	1	2.74	2.81	2.66	0.5	-0.01	-0.01	PG	
139	1	3.11	3.26	3.02	1.1	-0.01	-0.01	SG	
140	1	2.96	2.95	2.90	0.6	0.00	0.00	PG	
140	1	2.24	2.24	2.20	0.8	0.00	0.00	SG	
141	3	27.98	27.88	27.84	8.3	-0.21	-0.10	SG	
143	2	85.53	85.42	85.41	25.3	-0.15	1.11	SG	
143	3	45.71	45.62	45.60	13.5	-0.05	0.59	SG	
144	1	76.04	76.04	76.03	13.5	1.20	-1.11	PG	2
145	2	12.84	12.69	12.67	2.3	0.04	0.14	PG	
145	3	13.32	13.25	13.23	2.4	-0.03	0.15	PG	
145	4	6.31	6.04	5.94	1.1	0.00	0.08	SG	
145	3	20.29	20.16	20.14	6.0	-0.04	0.23	SG	
145	4	5.49	4.88	4.64	1.4	-0.01	0.06	PG	
145	4	5.49	4.88	4.64	1.4	-0.01	0.06	PG	
145	4	5.49	4.88	4.64	1.4	-0.01	0.06	PG	
147	1	5.07	5.07	5.04	0.9	0.00	0.03	SG	
147	1	2.93	2.92	2.90	0.9	0.00	0.02	SG	
147	1	2.93	2.92	2.90	0.9	0.00	0.02	SG	
148	4	6.71	6.84	6.57	2.2	0.02	-0.04	SG	

Table 3

No.	Date	$\phi^\circ$	$\lambda^\circ$	h m s	Cl.	Ph.	N
2	Jan12	50.17	12.66	12 59 44.8	d	Pg	3
6	Jan20	49.66	16.56	11 47 28.6	d	Sg	3
7	Jan20	49.69±0.28	17.68±0.20	13 31 00.1±5.0	a	Sg	4
8	Jan26	50.20	18.02	16 16 41.7	c	Sg	3
13	Jan28	49.65±0.03	14.10±0.07	21 55 13.3±1.1	a	Sg	5
15	Jan30	50.31	18.97	01 53 12.8	d	Pg	3
16	Jan30	48.96	14.09	12 00 20.5	c	Pg	3
17	Jan30	48.31	14.75	16 44 08.7	d	Pg	3
19	Feb01	49.90	16.17	13 59 00.9	c	Pg	3
20	Feb03	49.83±0.04	18.38±0.14	11 39 65.1±1.8	a	Pg	4
23	Feb17	50.39	17.80	09 56 48.8	d	Sg	3
28	Feb21	50.71	19.31	20 08 27.0	c	Pg	3
30	Feb27	50.13	18.23	06 02 33.6	c	Pg	3
31	Mar03	50.38±0.02	12.74±0.28	05 36 38.3±1.7	a	Sg	5
32	Mar03	50.41±0.05	12.65±0.14	07 40 56.6±2.3	a	Sg	4
33	Mar03	50.37±0.10	12.67±0.20	10 53 44.5±4.6	a	Sg	5
34	Mar07	49.83±0.04	15.65±0.06	12 23 21.7±1.1	b	Sg	4
35	Mar11	50.33±0.04	12.74±0.15	12 17 18.8±2.7	a	Sg	4
36	Mar16	50.02±0.15	13.40±0.13	14 06 37.4±5.4	b	Sg	4
37	Mar23	50.17±0.38	19.07±0.17	02 01 33.5±4.0	b	Sg	4
39	Mar29	50.15	18.21	13 01 46.8	c	Pg	3
40	Apr06	49.61±0.10	16.55±0.14	16 02 47.9±2.2	a	Pg	4
43	Apr20	50.24	18.37	22 24 53.1	d	Pg	3
48	May05	50.19	14.16	20 55 15.0	c	Sg	1
49	May08	49.56±0.08	16.62±0.15	16 46 24.5±1.8	a	Pg	4
52	May14	50.38	13.15	11 20 39.8	c	Sg	3
60	May28	49.16	15.84	12 15 07.7	c	Sg	3
61	Jun02	50.39	18.57	02 25 29.3	c	Sg	4
63	Jun07	48.74	14.54	09 00 29.8	a	Pg	3
64	Jun07	50.54±0.02	13.55±0.04	13 58 06.5±0.8	a	Sg	4
66	Jun20	50.61±0.09	16.03±0.16	09 58 06.7±1.4	b	Pg	5
67	Jun20	49.58±0.05	18.28±0.14	14 44 59.4±1.8	b	Pg	4
73	Jun28	49.38	15.84	15 08 39.9	d	Pg	3
74	Jul01	50.95±0.12	15.20±0.04	11 50 11.6±0.0	b	Pg	4
76	Jul03	50.29±0.09	13.32±0.22	10 59 51.1±2.6	b	Pg	4
77	Jul04	50.21	12.73	11 16 02.6	d	Pg	3
78	Jul04	48.61	17.77	16 59 59.7	d	Pg	3
79	Jul04	48.95	17.08	18 24 08.9	d	Pg	3
83	Jul24	50.20	12.70	18 40 12.2	d	Pg	3
84	Jul24	50.23	12.72	18 41 49.9	d	Pg	3
94	Aug08	49.31±0.11	16.58±0.29	16 00 09.9±2.5	b	Pg	4
98	Aug14	49.79±0.29	18.28±0.19	17 42 53.7±3.4	b	Pg	7
102	Aug17	48.39	14.58	08 53 33.9	d	Pg	3
112	Sep18	50.22±0.05	17.91±0.27	03 01 31.0±5.6	a	Sg	4

No.	Date	$\varphi^\circ$	$\lambda^\circ$	h	m	s	Cl.	Ph.	N
114	Sep20	49.72 $\pm$ 0.01	13.45 $\pm$ 0.05	12	59	48.5 $\pm$ 0.0	b	Sg	4
115	Sep23	50.22	18.36	14	07	27.3	d	Pg	3
119	Sep27	50.28 $\pm$ 0.06	13.31 $\pm$ 0.16	13	01	22.8 $\pm$ 1.8	a	Pg	4
120	Sep27	50.21	14.13	17	53	58.2	c	Sg	3
121	Sep28	50.57 $\pm$ 0.01	15.32 $\pm$ 0.00	09	14	59.8 $\pm$ 0.2	a	Sg	4
122	Sep28	50.50	14.17	12	29	07.0	c	Pg	3
124	Oct20	50.31	18.53	01	13	27.5	c	Pg	3
125	Oct22	48.42 $\pm$ 0.04	15.44 $\pm$ 0.06	18	19	14.9 $\pm$ 0.8	a	Sg	4
126	Oct27	50.10 $\pm$ 0.33	15.49 $\pm$ 0.16	11	00	01.9 $\pm$ 5.5	a	Pg	4
130	Nov06	49.08	17.31	22	06	21.1	c	Sg	3
132	Nov10	49.88	18.21	02	33	56.7	d	Pg	3
134	Nov15	48.33	14.69	08	34	49.1	d	Pg	3
135	Nov16	49.72	17.14	12	10	29.4	d	Pg	3
138	Nov26	49.76	13.83	21	10	15.0	c	Pg	3
139	Nov30	50.50	14.00	11	59	33.4	c	Pg	3
140	Dec01	51.02	14.47	11	01	16.1	c	Sg	3
141	Dec12	47.61	14.56	00	02	53.2	d	Sg	4
143	Dec18	50.20 $\pm$ 0.07	18.38 $\pm$ 0.04	12	20	15.8 $\pm$ 1.0	b	Sg	4
145	Dec21	49.84 $\pm$ 0.11	17.87 $\pm$ 0.06	14	29	28.7 $\pm$ 1.0	a	Pg	4
147	Dec28	50.13	13.15	13	58	29.1	c	Pg	3

Table 4

No.	Date	$\varphi^\circ$	$\lambda^\circ$	Origin time	h	Cl.	Source
15	Jan30	50.31N	18.97E	01 53 12.8		d	
		50.27N	18.93E	01 53 13.1			WAR
28	Feb21	50.71N	19.31E	20 08 27.0		c	
		50.37N	18.82E	20 08 36.0			WAR
30	Feb27	50.13N	18.23E	06 02 33.6		c	
		50.24N	18.90E	06 02 30			WAR
31	Mar03	50.38N $\pm$ 0.02	12.74E $\pm$ 0.28	05 36 38.3 $\pm$ 1.7		a	
		50.5N $\pm$ 0.22	12.2E $\pm$ 0.20	05 36 38.0 $\pm$ 1.9	0km		ISC
33	Mar03	50.37N $\pm$ 0.10	12.67E $\pm$ 0.20	10 53 44.5 $\pm$ 4.6		a	
		50.3N	12.4E	10 53 42.2	6km		NEIS
		50.3N	12.5E	10 53 42.0			BCIS
35	Mar11	50.33N $\pm$ 0.04	12.74E $\pm$ 0.15	12 17 18.8 $\pm$ 2.7		a	
		50.9N $\pm$ 0.28	12.9E $\pm$ 0.25	12 17 22 $\pm$ 2.5	33km		ISC
		50.3N	12.5E	12 17 16			BCIS
37	Mar23	50.17N $\pm$ 0.38	19.07E $\pm$ 0.17	02 01 33.5 $\pm$ 4.0		b	
		50.37N	18.85E	02 01 38.8			WAR
38	Mar24	48.17N $\pm$ 0.06	12.52E $\pm$ 0.09	11 45 48.4 $\pm$ 2.1		b	
		47.2N $\pm$ 0.13	11.0E $\pm$ 0.10	11 45 26 $\pm$ 1.0	33km		ISC
		47.25N	11.4E	11 45 21			VIE
43	Apr20	50.24N	18.37E	22 24 53.1		d	
		50.35N	18.92E	22 24 49.6			WAR
67	Jun20	49.58N $\pm$ 0.05	18.28E $\pm$ 0.14	14 44 59.4 $\pm$ 1.8		b	
		50.27N	18.90E	14 45 03.5			WAR
98	Aug14	49.79N $\pm$ 0.29	18.28E $\pm$ 0.19	17 42 53.7 $\pm$ 3.4		b	
		50.0N	18.5E	17 43 00			BCIS
		50.03N	18.45E	17 43 00			WAR
119	Sep27	50.28N $\pm$ 0.06	13.31E $\pm$ 0.16	13 01 22.8 $\pm$ 1.8		a	
		50.18N	13.29E	13 01			PRU

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