

**BULLETIN
OF THE SLOVAK
SEISMOGRAPHIC
STATIONS**

CENTRE SEISMOLOGICAL
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International
Seismological
Centre

**BRATISLAVA
ŠROBÁROVÁ
HURBANOVO
AND
SKALNATÉ PLESO
FOR THE YEAR 1970**

Slovak Academy of Sciences
Geophysical Institute

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Bulletin of the Slovak Seismographic Stations Bratislava, Šrobárová, Hurbanovo and Skalnaté Pleso for the Year 1970

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

The seismological bulletin for the year 1970 contains the results of the interpretation of records from the network of seismographic stations on the territory of Slovakia: Bratislava /central station/, Šrobárová, Hurbanovo and Skalnaté Pleso.

The records from the network are collected at the Geophysical Institute of the Slovak Academy of Sciences in Bratislava, where they are analysed. The preliminary results of the interpretation were published in ten-day preliminary bulletins for stations Bratislava and Šrobárová and in monthly preliminary bulletins with readings of the seismograms from stations Hurbanovo 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 centres in Washington; Strasbourg and Moscow twice a week. 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 or shock magnitudes, frequently quoted are as follows: Bulletin of ISC, Vol. 7, 1970; Bulletin of BCIS, 1970; Quarterly Bulletin of the Academy of Sciences of the U.S.S.R., 1970. 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 Gier in the Institute of Theoretical Cybernetics. The program is written in Gier-Algol IV. The main features of the program are that the theoretical travel-time tables [1, 2, 3, 4] of important phases /p. 15/ are stored on magnetic tape. The epicentral distances and azimuths of the observing stations from the epicentre are calculated after computation of the geocentric direction cosines from the coordinates. After the input of observed arrival times of important phases, the residuals O-C for each observed phase are calculated. An automatic phase identification is carried out in the case of phase P, resp. Pdiff, PKIKP, PKHKP, PKP2 as well as in the case of phases: pPKIKP-pPKP2; pP-PcP; SKS /branch ab/ - SKS /branch df/; PKS /branch ab/ - PKS /branch bc/ - PKS /branch df/; PS-SP; Pg-Pb-Pn; Sg-Sb-Sn. From all possible phases it is determined and printed that one, which has the minimum value of |O-C|. In the case when the minimum value of |O-C| > 20 s, the observed time is printed, designated only by letter i or e.

For calculating the magnitude on the basis of the relation

$$M = \log \left(\frac{A}{T} \right)_{\max} + \sigma(\Delta) + S$$

the standard calibrating functions [5] were used for P phase of shallow earthquakes and for their surface waves /h < 100 km/. The values of body wave magnitudes from PV waves of earthquakes with focal depth h ≥ 100 km and with epicentral distances in the interval /20°, 100°/ were calculated on the basis of Q-functions [6] /stored on the magnetic tape in digital form/. In cases when two remarkable maxima occurred within the interval of 25 seconds, beginning from the first onset, two values of mPV

were determined. The values of the amplitudes AV are given in nanometers while the values of AEW and ANS are given in micrometers.

An earthquake magnitude formula, giving the closest possible fit to surface wave magnitudes determined by NEIC has been developed for the station Šrobárová [8]. The value of station correction for Šrobárová according to [8]: S = -0.22 and the standard error ± 0.03. For the determination of magnitudes the station correction was not yet 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 N-S and E-W components four times per day at 0, 06, 12, and 18 h G.M.T. Using a short procedure 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 μm.

The ten-day preliminary bulletins for stations Bratislava and Šrobárová were prepared by Mrs. K.Mrázová and Mrs. A.Weihsová. The interpretation of earthquakes registered on the Hurbanovo and Skalnaté Pleso seismograms was carried out by Mrs. K. Mrázová and Mr. A.Molnár. The investigation of macroseismic observations of earthquakes felt on the territory of Slovakia was carried out by Mr. I. Brouček.

In preparing this bulletin the authors have been in different parts assisted by Mr. P.Pajdušák, Mrs. A.Miková, Mrs. I. Bochníčková, and Mrs. N. Hupková.

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

List of Abbreviations Used in this Bulletin

A	length of recording arm
Az	azimuth of stations with respect to the epicentre
Dc	epicentral distance calculated with regard to geocentric coordinates
Dg	damping constant of the galvanometer
Ds	damping constant of the seismometer
e	poorly defined beginning of a phase
$\xi:1$	damping ratio
H	origin time, expressed in G.M.T.
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 micron
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 waves magnitude given by ISC
MLH	surface waves magnitude
MPV	body waves magnitude



r	max. deviation due to friction
σ^2	coupling coefficient
Tg	free period of the galvanometer
Ts	free period of the seismometer
Vo	static magnification
Vm	max. dynamic magnification
+ and -	compressional or dilatational motion in a longitudinal wave
NE	nuclear explosion

Station Instrumentation

Coordinates of the Seismographic Stations

Station	Latitude	Longitude	Elevation	Lithologic foundation
Bratislava	48° 10' 06" N	17° 06' 18" E	270 m	Granite
Šrobárová	47° 48' 48" N	18° 18' 48" E	150 m	Bed of sand
Hurbanovo	47° 52' 25" N	18° 11' 34" E	115 m	Bed of sand
Skalnaté Pleso	49° 11' 20" N	20° 14' 42" E	1772 m	Granite

Constants for the Year 1970

HURBANOVO

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

Month	Component	Ts /s/	Vo	r /mm/	ξ :1	Paper speed
January-July	N-S	7.0	52.4	-1.0	4.5	30mm/min
	E-W	10.7	52.7	0.9	3.9	
August-September	N-S	7.4	44.3	0.4	4.8	30mm/min
	E-W	11.1	56.7	0.7	3.8	
November-December	N-S	7.9	52.7	-0.3	4.4	30mm/min
	E-W	9.8	57.6	0.7	3.5	

SKALNATÉ PLESO

"VEGIK", electromagnetic seismograph with galvanometric registration

Component	Ts /s/	Tg /s/	Ds	Dg	σ^2	Vm	Paper speed
Z	1.9	1.0	0.97	0.90	0.12	3860	60mm/min

BRATISLAVA

"VEGIK", electromagnetic seismograph with galvanometric registration

Component	Ts /s/	Tg /s/	Ds	Dg	σ^2	A /m/	l /m/	K1 /kg m ² /	K2 /kg m ² / x 10 ⁻⁸	Paper speed
Z	1.78	1.91	0.87	1.05	0.114	1.12	0.0940	0.0098	1.35	15 mm/min
N-S	2.00	1.86	0.91	1.02	0.103	1.03	0.0934	0.0101	3.67	15 mm/min
E-W	2.00	1.92	0.90	1.08	0.104	0.03	0.0940	0.0100	3.7	15 mm/min

ŠROBÁROVÁ

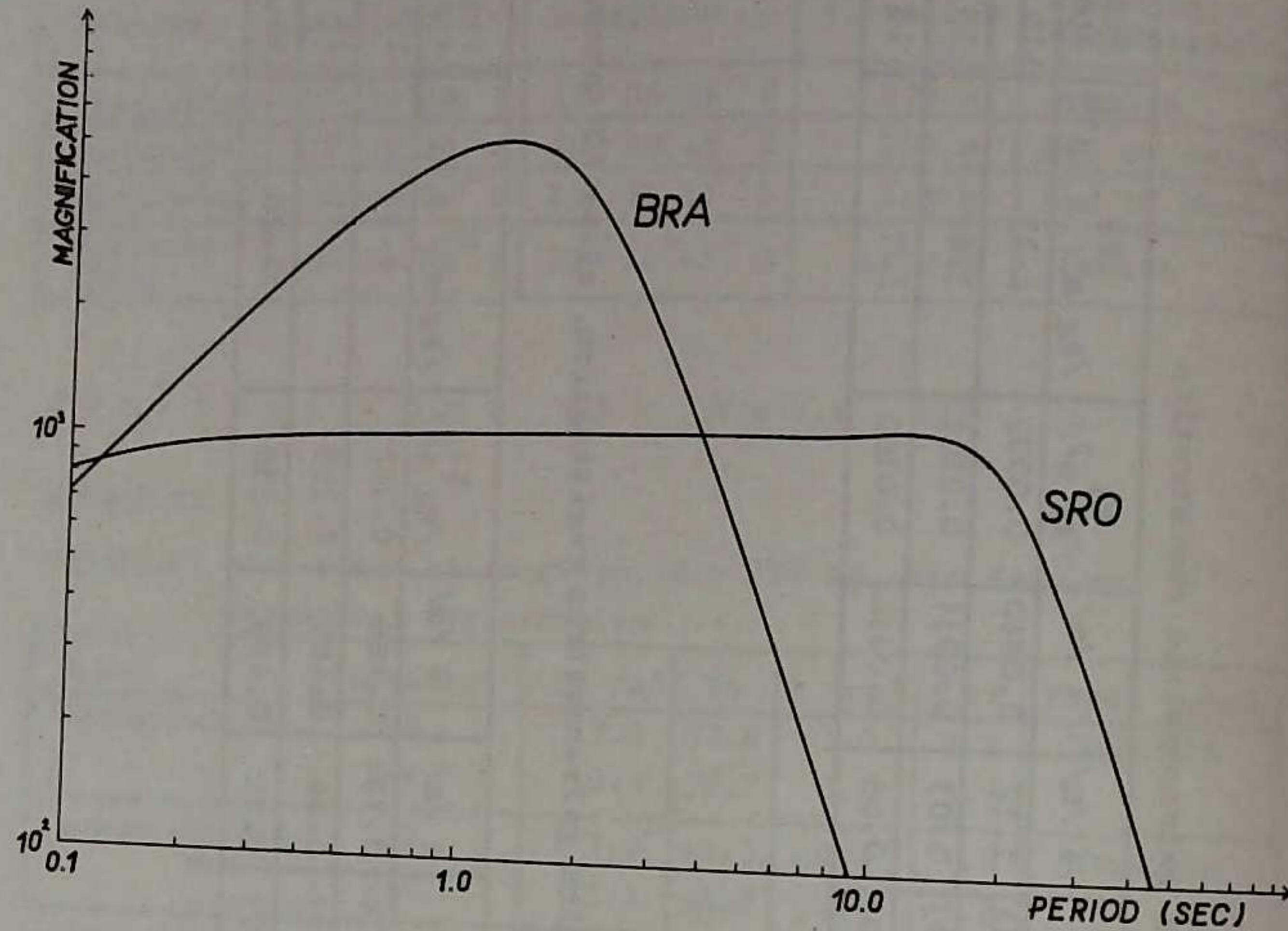
"KIRNOS", electromagnetic seismograph with galvanometric registration, class "C" according to [7]

Component	Ts /s/	Tg /s/	Ds	Dg	σ^2	A /m/	l /m/	K1 /kg m ² /	K2 /kg m ² / x 10 ⁻⁹	Paper speed
Z	22.4	1.17	0.54	8.00	0.234	0.98	0.488	0.362	4.87	15 mm/min
N-S	22.7	1.25	0.47	7.70	0.277	0.98	0.488	0.358	5.31	15 mm/min
E-W	24.9	1.15	0.49	7.70	0.367	0.98	0.499	0.358	4.28	15 mm/min



RESPONSE AMPLITUDE CHARACTERISTIC

STATION BRATISLAVA COMPONENT Z
STATION ŠROBÁROVÁ COMPONENT Z



List of Seismic Phases



Phase	In Bulletin	Usual	Description
	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
	SKSAB	SKS	S waves passing through the core as P waves, transformed back into S waves in the mantle /the letters AB resp. BC designates the branch AB or BC according to [1] /
	SKSBC	SKS	
	PS, SP	PS, SP	P and S waves reflected and transformed at the Earth's surface
	PKSAB	PKS	P wave transformed into S on the refraction when

PKSBC	PKS	leaving the core /the letters AB, BC and DF
PKSDF	PKS	designates the branches according to [1] /
AP	pP	P waves reflected from the surface as P wa-
		ves, supposing deep focus earthquake
LMH	LmH	waves of maximum amplitude in the surface
		wave group /on the horizontal component/



List of Quoted Agencies Reporting Epicentral Parameters

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

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No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		e	A	T	A	T	A					
1	1	BRA	EP	01 56	47.0	-1.2								30.61	283.42	Costa Rica 8.54 N 83.35 W, H = 01 43 48.0, DEPTH = 33 km, MB = 5.3 /ISC/.	
2	1	BRA	IP	10 06	05.0	1.1	90	1.6				5.5	79.17	28.87	Kurile Islands Region 45.87 N 154.36 E, H = 09 54 00.9, DEPTH = 34 km, MB = 5.3 /ISC/.		
3	1	BRA	EPKIP	17 30	54.0	1.4							158.36	36.08	Kermadec Islands 29.57 S 177.33 W, H = 17 11 00.3, DEPTH = 43 km, MB = 5.3 /ISC/.		
4	2	BRA	EP	01 30	54.0	0.7							69.37	271.30	Leeward Islands 16.12 N 59.66 W, H = 01 19 45.0, DEPTH = 21 km, MB = 5.0 /ISC/.		
5	2	SRO	EP	19 46	05.0	-1.7							3.10	195.62	Yugoslavia 44.82 N 17.14 E, H = 19 45 18.9, DEPTH = 49 km, MB = 5.1 /ISC/.		
6	3	SPC BRA	IP IP	06 58 06 59	53.0 14.0	1.3 0.8							17.75 19.57	105.83 99.19	Turkey-USSR Border Region 41.81 N 43.35 E, H = 06 54 46.1, DEPTH = 41 km, MB = 5.1 /ISC/.		
7	3	BRA	E	13 09	17.0											No determination of epicentre	
8	3	BRA	EP	16 41	41.0	-1.5							28.43	111.55	Western Persia 32.60 N 48.75 E, H = 16 35 49.8, DEPTH = 44 km, MB = 5.1 /ISC/.		

9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897
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No.	Date	STA Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A	T	A	T					
18	9	BRA	EP	19	35	19.0										51.99	124.45	Carlsberg Ridge 9.21 N 58.26 E, H = 19 26 19.0, DEPTH = 96 km, MB = 4.9 /ISC/.		
19	9	BRA	+IPKP2	20	17	31.0										144.72	26.98	Fiji Region 15.28 S 178.65 W, H = 19 58 41.7, DEPTH = 427 km, MB = 5.1 /ISC/.		
20	9	BRA	EPP	23	34	31.0										103.61	88.70	Sumbawa Island Region 9.27 S 117.25 E, H = 23 16 20.6, DEPTH = 58 km, MB = 5.7 /ISC/.		
21	10	SPC BRA	EP -IP IPP ES EFS LMH	12 20 12 20 12 24 12 31 12 33 13 17	30.0 38.0 43.0 47.0 20.0 00.0														Mindanao, Philippine Islands 6.80 N 126.75 E, H = 12 07 08.6, DEPTH = 68 km, MB = 5.9 /ISC/.	
22	11	SPC BRA	EP EP	05 15 05 15	29.0 34.0															Mindanao, Philippine Islands 7.43 N 126.87 E, H = 05 02 05.0, DEPTH = 60 km, MB = 5.4 /ISC/.
23	11	BRA	EPKKP IPKP2	05 39 05 39	16.0 19.0															Loyalty Islands Region 22.61 S 171.43 E, H = 05 19 38.1, DEPTH = 50 km, MB = 5.2 /ISC/.
24	16	SRO	EP EAP ES	08 16 08 17 08 26	54.0 26.0 14.0															Southern Alaska 60.28 N 152.66 W, H = 08 05 39.0, DEPTH = 85 km, MB = 5.5 /ISC/.
25	17	BRA	E	16	31	07.0														No determination of epicentre
26	18	SPC BRA	EP EP	00 31 00 31	55.0 56.0	10.6 1.5														Marianas Region 21.39 N 146.71 E, H = 00 18 24.4, DEPTH = 42 km, MB = 5.7 /ISC/.

27	18	BRA	EPKP2	04	30	20.0															Fiji Region 15.60 S 179.85 W, H = 04 10 46.2, DEPTH = 45 km, MB = 5.1 /ISC/.
28	18	SPC	E E	05 49 05 50	55.0 15.0																Poland
29	20	BRA	EP	00	50	22.0															Unimak Island Region 53.84 N 163.60 W, H = 00 38 25.0, DEPTH = 33 km, MB = 5.1 /ISC/.
30	20	SPC HRB SRO	IPKIP EPKHP IPKIP IAPKIP I	07 39 07 39 07 39 07 40 07 50	33.0 45.0 34.0 04.0 06.0	1.4 4.4 -0.1 -5.0															South of Fiji 25.85 S 177.29 W, H = 07 19 51.4, DEPTH = 82 km, MB = 6.2 /ISC/.
31	20	SPC BRA	EKP2 IPKP2	17 27 17 27	26.0 38.0	-5.0 -1.5															South of Fiji 26.10 S 177.16 W, H = 17 07 31.0, DEPTH = 104 km, MB = 5.4 /ISC/.
32	20	SPC SRO	IP ES +IP IS	17 44 17 54 17 45 17 54	48.0 32.0 02.0 46.0	-0.9 3.7 2.6 -2.7															Hokkaido, Japan 42.48 N 143.04 E, H = 17 33 03.1, DEPTH = 25 km, MB = 6.3 /ISC/.
33	21	BRA	EPKP2	16	10	46.0															Fiji Region 16.27 S 177.42 W, H = 15 51 05.2, DEPTH = 33 km, MB = 4.6 /ISC/.
34	21	BRA SRO	+IPDIFF IPF LMH EPF ESKAB EFS	18 05 18 10 18 49 18 10 18 16 18 19	42.0 00.0 00.0 14.0 30.0 27.0	-1.4 -4.7 2.2 8.2 2.8															Off Coast of Mexico 7.03 N 104.24 W, H = 17 51 37.4, DEPTH = 23 km, MB = 6.1 /ISC/.

No.	Date	STA Code	Phase	GMT			RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T					
		SPC	LMH EPDIFF EPP	18 49 00.0 18 05 52.0 18 10 14.0			2.9 0.0		17.7	20.0	14.5	20.0		6.7	106.08	301.63		
35	22	SPC BRA	EPKHP EPKP2	00 04 01.0 00 04 18.0			6.9 -2.2											South of Fiji 26.06 S 176.97 W, H = 23 44 11.0, DEPTH = 100 km, MB = 4.9 /ISC/.
36	22	SPC BRA	EP IP	04 07 31.0 04 07 39.0			1.3 0.2											Rat Islands, Aleutian Islands 51.32 N 177.16 E, H = 03 55 30.0, DEPTH = 12 km, MB = 5.2 /ISC/.
37	22	BRA	IPN IPG ISN ISB LMH ESG EPN EPG ESB ESG	15 26 37.0 15 27 05.0 15 27 36.0 15 28 05.0 15 28 00.0 15 28 40.0 15 26 50.0 15 27 20.0 15 28 32.0 15 28 44.0			-4.5 -0.6 -9.6 2.6 -1.8 -3.5 -2.6 4.3 -0.8											Germany 48.43 N 8.98 E, H = 15 25 17.3, DEPTH = 16 km, MB = 4.5 /ISC/.
38	23	SPC BRA	EP EAP EAL	03 43 26.0 03 43 36.0 03 43 28.0 03 43 43.0			3.6 2.9 -0.3 4.0											Unimak Island Region 53.72 N 163.61 W, H = 03 31 29.3, DEPTH = 36 km, MB = 5.2 /ISC/.
39	23	SPC BRA	IP IP I	22 34 05.0 22 34 13.0 22 34 19.0			2.8 0.2											Kurile Islands 49.73 N 154.97 E, H = 22 22 37.9, DEPTH = 122 km, MB = 5.5 /ISC/.
40	26	BRA	IPKIKP EPP E	10 20 37.0 10 23 19.0 10 24 13.0			-0.2 -2.7											Santa Cruz Islands 12.62 S 166.35 E, H = 10 01 20.0 DEPTH = 42 km, MB = 5.6 /ISC/.
41	26	SPC BRA	EP EAP EP EAP EPP	16 45 35.0 16 46 21.0 16 45 49.0 16 46 37.0 16 47 34.0			2.6 2.0 -0.8 0.6 4.0											Hindu Kush Region 36.52 N 70.56 E, H = 16 38 31.6, DEPTH = 221 km, MB = 4.6 /ISC/.

42	27	BRA	+IP	09 42 13.0			0.2											Northern Columbia 7.49 N 72.09 W, H = 09 29 44.5, DEPTH = 31 km, MB = 5.6 /ISC/.	
43	28	SPC SRO	IPKIKP E E EPP	23 24 38.0 23 27 03.0 23 24 38.0 23 27 10.0 23 28 14.0			2.9 -0.1 -12.1											Fiji Region 20.69 S 178.79 W, H = 23 06 01.4, DEPTH = 603 km, MB = 5.6 /ISC/.	
44	29	SPC SRO	EPKP2 EPKP2	03 12 38.0 03 12 42.0			-2.6 -6.0											Tonga 19.98 S 173.68 W, H = 02 52 53.0, DEPTH = 52 km, MB = 5.0 /ISC/.	
45	29	BRA SPC	+IP EP	11 11 39.0 11 11 57.0			1.1 -0.5											Sicily 38.76 N 14.83 E, H = 11 09 24.5, DEPTH = 284 km, MB = 4.6 /ISC/.	
46	30	SRO BRA	+IPKIKP I IPP IPKSDP IPKIKP I IPP IPKSDP E	08 47 26.0 08 48 14.0 08 50 22.0 08 51 02.0 08 47 31.0 08 48 14.0 08 50 23.0 08 51 00.0 08 52 08.0			-1.1 0.0 0.2 3.3 -1.1 -2.4												New Hebrides 14.61 S 167.31 E, H = 08 28 22.9, DEPTH = 174 km, MB = 5.6 /ISC/.
47	31	BRA	EP EAP	11 53 57.0 11 54 12.0			0.8 -4.6											Northern Sumatra 4.16 N 96.10 E, H = 11 41 56.0, DEPTH = 77 km, MB = 5.1 /ISC/.	
48	31	BRA SRO	EP EP	16 41 36.5 16 41 45.0			-0.8 0.1											North Atlantic Ocean 53.77 N 35.51 W, H = 16 35 03.6, DEPTH = 33 km, MB = 5.2 /ISC/.	

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
						A	T	A	T	A	T					
49	1	ERA	E	17 34 21.0										79.07	34.51	Kurile Islands 43.23 N 147.54 E, H = 17 22 07.7, MB = 5.5 /ISC/.
50	2	SRO	IP I E E	18 01 51.0 18 02 29.0 18 04 29.0 18 09 25.0 18 39 30.0	-1.7									78.82	35.32	Kurile Islands 43.25 N 147.40 E, H = 17 49 52.5, MB = 5.6 /ISC/.
51	2	ERA	EP	18 17 51.0	-1.1									79.00	34.59	
52	3	SPC ERA	E IP	19 28 04.0 19 29 19.0	0.0									79.18	34.41	Kurile Islands 43.19 N 147.74 E, H = 18 05 44.0, MB = 5.4 /ISC/.
53	4	ERA SRO	EP EPP IP IPP IPS LMH IP IPP	05 22 13.0 05 26 12.0 05 22 18.6 05 26 10.6 05 35 04.6 06 07 00.0 05 22 13.0 05 26 06.0	1.3 10.4 2.9 2.0 9.0 -4.4 -5.6									77.02 79.05	36.32 34.21	Kurile Islands 43.40 N 147.88 E, H = 19 17 14.0, MB = 5.3 /ISC/.
54	4	SPC ERA	EP IP E	13 19 03.0 13 19 19.0 13 19 43.0	0.2 5.0									95.20 96.08 96.44	300.07 300.97 302.62	Off Coast of Guerrero, Mexico 15.57 N 99.48 W, H = 05 08 48.0, MB = 5.9 /ISC/.
55	4	ERA	IP E	17 12 40.0 17 13 19.0	-0.7	104	1.2				5.9		85.40	324.17	Southern Nevada /NE Grape B/ 37.10 N 116.03 W, H = 17 00 00.4, MB = 5.6 /ISC/.	
56	4	SPC SRO ERA	EPKIP EPKIP2 EPKIP2	23 05 28.0 23 05 28.0 23 05 38.0	-1.7 -4.9 -2.1								145.17 147.03 147.41	51.15 50.07 47.93	Loyalty Islands Region 22.74 S 171.44 E, H = 22 45 58.3, MB = 5.2 /ISC/.	

57	5	SPC ERA	EP EP	03 50 50.0 03 51 10.0	-4.5 1.4									66.90 69.15	79.05 76.47	Yunan Province, China 24.40 N 102.33 E, H = 03 39 59.0, MB = 5.2 /ISC/.
58	5	SPC SRO ERA	IP IP LMH -IP IAP	12 58 21.0 12 58 36.0 13 44 30.0 12 58 37.0 12 58 49.0	-3.7 1.0 1.6 2.2	133	1.6				5.8			76.12 77.96 78.04	30.55 29.20 28.50	Kurile Islands 47.04 N 154.07 E, H = 12 46 39.2, MB = 5.4 /ISC/.
59	5	SPC ERA	IP EP	14 53 23.0 14 53 39.0	1.9 1.2									76.06 77.98	30.53 28.48	Kurile Islands 47.10 N 154.05 E, H = 14 41 41.6, MB = 5.4 /ISC/.
60	5	ERA	E	15 41 36.0												Probably explosion
61	5	SPC SRO	IP EP EPC ES	22 18 45.0 22 18 56.0 22 22 46.0 22 29 56.0	-6.3 -3.1 15.9 6.8									88.18 89.82	72.94 71.48	Luzon, Philippine Islands 12.58 N 122.09 E, H = 22 05 58.5, DEPTH = 8 km, MB = 5.9 /ISC/.
62	6	SPC ERA	HRB E LMH EP EAP EPP ES LMH	23 03 00.0 22 20 31.0 22 29 53.0 23 04 00.0 22 19 01.0 22 19 06.0 22 22 45.0 22 29 54.0 22 55 00.0	3.3 -1.1 1.5 9.7 -1.1	251	2.4	5.0	20.0	13.8	20.0	6.1	6.4	90.47	70.58	Off East Coast of Kamchatka 54.57 N 163.56 E, H = 00 11 49.5, MB = 5.6 /ISC/.
63	6	SPC ERA	IP IP IPCP	00 23 12.0 00 23 24.0 00 23 36.0	0.8 2.8 -0.9									72.11 73.80	21.44 19.58	Mindoro, Philippine Islands 12.69 N 121.93 E, H = 02 17 33.5, MB = 5.3 /ISC/.
64	6	ERA	I	12 17 22.0												No determination of epicentre
65	6	ERA	E	13 00 41.0												No determination of epicentre
66	6	ERA	E E	15 57 52.0 15 58 06.0												No determination of epicentre

No.	Date	STA Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T						
67	6	SRO BRA	EP LMH EP	22 21 22 53 22 21	43.0 30.0 43.0	0.0 -4.5										68.36 69.08	79.30 78.60	Yunan Province, China 23.02 N 100.76 E, H = 22 10 42.4, DEPTH = 30 km, MB = 5.4 /ISC/.		
68	7	SPC BRA	IP IPP IP IPCP IPP	10 12 10 15 10 13 10 13 10 15	54.0 46.0 00.0 13.0 52.0	3.0 2.9 -1.8 1.0 -7.2										75.89 77.80	30.51 28.47	Kurile Islands 47.26 N 153.95 E, H = 10 01 06.0, MB = 5.3 /ISC/.		
69	7	SPC IP	IP	12 19	22.0	0.9										75.93	30.57	Kurile Islands 47.20 N 153.90 E, H = 12 07 34.3, DEPTH = 22 km, MB = 5.4 /ISC/.		
70	7	SPC BRA	EP EP	12 27 12 27	07.0 17.0	0.8 0.1										76.09 78.01	30.58 28.53	Kurile Islands 47.05 N 154.01 E, H = 12 15 20.2, DEPTH = 33 km, MB = 5.1 /ISC/.		
71	7	SPC BRA IP	IP IP	21 27 21 27	45.0 54.0	-0.1 -1.8										75.89 77.80	30.54 28.50	Kurile Islands 47.25 N 153.91 E, H = 21 16 00.2, DEPTH = 33 km, MB = 5.2 /ISC/.		
72	9	BRA	ES	08 53	45.0	2.5										5.49	230.27	Northern Italy 44.50 N 11.20 E, H = 08 51 19.0, DEPTH = 82 km, MB = 4.2 /ISC/.		
73	9	BRA	I	15 36	17.0													Explosion		
74	10	SPC BRA	E EPKIKP	19 52 19 52	47.0 35.0	14.4										107.76 110.01	78.22 76.05	Banda Sea 5.93 S 130.65 E, H = 19 34 04.8, DEPTH = 129 km, MB = 5.5 /ISC/.		
75	11	SPC BRA	IPKP2 EPKHKP EAPKIKP	02 19 02 19 02 19	51.0 40.0 49.0	3.9 -0.2 -5.0										149.65 151.44	26.97 22.02	Tonga 20.97 S 173.95 W, H = 01 59 53.6, DEPTH = 33 km, MB = 5.1 /ISC/.		
76	11	SRO	ES	19 05	33.0	-17.0										10.71	161.04	Southern Greece 37.59 N 20.67 E, H = 19 01 00.9, DEPTH = 79 km, MB = 4.9 /ISC/.		

77	13	BRA	I	09 29	21.0														Probably explosion
78	13	BRA	I	10 04	42.0														Probably explosion
79	13	SRO	IP EAP IPP E E ESKSAB EPS IP IPP ESKSAB	15 55 15 58 16 00 16 02 16 03 16 05 16 09 15 56 16 00 16 05	57.0 13.0 07.0 00.0 05.0 37.0 25.0 02.0 11.0 41.0	-0.3 2.5 -1.6 0.1 3.5 1.0 -3.6 0.1 -0.6										97.55	90.53	Java Sea 5.96 S 113.03 E, H = 15 43 26.9, DEPTH = 616 km, MB 5.7 /ISC/.	
80	14	BRA	EP	11 30	54.0	-0.6										99.01	265.37	Peru 9.84 S 75.55 W, H = 11 17 16.4, DEPTH = 36 km, MB = 5.8 /ISC/.	
81	16	SPC BRA	IPKHKP IPKP2 I EPKIKP EPKHKP EPKP2 E	21 55 21 55 21 57 21 55 21 55 21 55 21 57	08.0 13.0 31.0 06.0 15.0 30.0 27.0	2.9 -7.7 0.5 4.4 0.3										150.68 152.82	43.38 39.38	South Of Fiji 25.27 S 178.44 E, H = 21 36 22.4, DEPTH = 585 km, MB = 5.3 /ISC/.	
82	17	SRO BRA	I EP E	00 21 00 18 00 21	35.0 51.0 13.0	10.2										8.63 9.18	168.00 162.67	Greece-Albania Border Region 39.34 N 20.62 E, H = 00 16 28.3, DEPTH = 53 km, MB = 4.6 /ISC/.	
83	17	BRA	EP	03 04	39.0	-1.6										21.23	106.91	Turkey 38.65 N 43.36 E, H = 02 59 56.7, MB = 4.7 /ISC/.	
84	17	SPC BRA	EP EP	05 59 05 59	10.0 21.0	2.4 2.9										92.69 94.99	71.81 69.48	Mindanao, Philippine Islands 9.80 N 125.91 E, H = 05 46 03.7, DEPTH = 83 km, MB = 5.8 /ISC/.	
85	17	BRA	E	11 03	54.0													Explosion	
86	17	BRA	EPKIKP	17 44	39.0	2.1										146.52	49.20	Loyalty Islands Region 22.37 S 170.29 E, H = 17 25 01.6, DEPTH = 42 km, MB = 5.0 /ISC/.	

No.	Date	STA Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T	A	T						
87	17	SRO BRA	EPKP2 E E E	19 34 19 34 19 34	00.0 27.0 00.0	-0.6 -2.1										146.17 146.56	51.12 49.03		Loyalty Islands Region 22.35 S 170.40 E, H = 19 14 22.6, DEPTH = 46 km, MB = 5.4 /ISC/.	
88	18	SRO BRA	IPKHKP I E E -IPKHKP I E EPKSDF EPP	15 42 15 42 15 44 15 48 15 42 15 42 15 44 15 46 15 46	51.0 55.0 00.0 00.0 51.0 57.0 00.0 03.0 33.0	0.7 0.5 -19.2 -3.1										150.47 150.54	29.47 27.01		Fiji Region 20.83 S 176.71 W, H = 15 23 31.5, DEPTH = 240 km, MB = 5.7 /ISC/.	
89	18	BRA	EPKIKP EPKP2	16 43 16 43	15.0 36.0	2.0 2.1										152.76	27.60		South of Fiji 23.03 S 176.20 W, H = 16 23 39.1, DEPTH = 130 km, MB = 5.2 /ISC/.	
90	19	SPC SRO BRA	IP ES IMH IP	07 20 07 20 07 28 07 49 07 20	10.0 17.0 39.0 11.0 21.0	3.7 0.7 6.7 -0.3										59.40 60.88 61.61	82.51 80.40 79.77		Eastern India 27.40 N 93.96 E, H = 07 10 01.5 DEPTH = 12 km, MB = 5.4 /ISC/.	
91	19	BRA	EPKIKP E EAPKIKP	11 07 11 07 11 08	34.0 48.0 09.0	2.8 17.8										158.90	38.03		Kermadec Islands 30.38 S 177.77 W, H = 10 47 38.3, DEPTH = 43 km, MB = 5.4 /ISC/.	
92	19	BRA	EP	11 24	33.0	6.4										43.65	9.74		North of Severnaya Zemlya 83.23 N 117.30 E, H = 11 16 26.0, MB = 4.9 /ISC/.	
93	20	BRA	EPKHKP EPKP2	10 53 10 53	21.0 30.0	6.9 1.4										151.61	22.56		Tonga 21.20 S 174.17 W, H = 10 33 27.0, MB = 4.7 /ISC/.	
94	21	BRA	E	11 16	48.0														Czechoslovakia, explosion	
95	22	BRA SRO	IP EP E	23 46 23 46 23 48	42.0 52.0 04.0	-0.5 4.0	1.2							5.5	26.00 26.60	341.60 341.16			Jan Mayen Islands Region 71.23 N 8.21 W, H = 23 43 10.9, DEPTH = 35 km, MB = 5.1 /ISC/.	

96	23	BRA	EP E E	11 29 11 29 11 30	24.0 51.0 18.0	1.7										35.33	111.47		Southern Persia 27.83 N 54.52 E, H = 11 22 28.5, DEPTH = 36 km, MB = 5.4 /ISC/.
97	23	BRA	EPKP2 E	18 00 18 02	00.0 12.0	0.3										146.92	28.08		Fiji Region 17.57 S 178.52 W, H = 17 41 16.3, MB = 5.2 /ISC/.
98	24	BRA	EP E	00 45 00 56	27.0 18.0	-2.4										32.91	299.16		North Atlantic Ocean 53.40 N 35.29 W, H = 00 38 56.0, DEPTH = 32 km, MB = 4.6 /ISC/.
99	24	BRA	I	00 56	18.0														No determination of epicentre
100	24	BRA	IP IPCP IPP	02 18 02 18 02 20	18.0 39.0 45.0	-0.5 -11.5 1.9										65.34	71.13		Szechwan Province, China 30.61 N 103.05 E, H = 02 07 36.0, MB = 5.8 /ISC/.
101	24	BRA SRO	EP EP	08 17 08 17	06.0 15.0	0.8 6.9										71.45 71.94	349.68 350.33		Gulf of Alaska 59.57 N 143.40 W, H = 08 05 43.4, DEPTH = 15 km, MB = 5.1 /ISC/.
102	24	BRA	IPKIKP	15 27	36.0	3.0										126.08	54.49		Solomon Islands 7.13 S 155.58 E, H = 15 08 37.4, DEPTH = 60 km, MB = 5.3 /ISC/.
103	25	SRO BRA	EP EP	10 33 10 33	12.0 15.0	-0.3 -0.2										81.31 81.88	63.77 62.98		Taiwan Region 24.10 N 122.30 E, H = 10 20 59.3, MB = 5.3 /ISC/.
104	26	BRA	IP	15 42	41.0	0.3										85.40	324.20		Southern Nevada /NE Yannigen/ 37.12 N 116.06 W, H = 15 30 00.4, DEPTH = 0KM, MB = 5.3 /ISC/.
105	26	SPC BRA	E EP	16 01 16 02	12.0 59.0	1.6										86.42 88.72	73.49 71.12		Mindoro, Philippine Islands 13.57 N 120.50 E, H = 15 50 09.9, DEPTH = 65 km, MB = 5.3 /ISC/.
106	26	BRA	EP	19 39	47.0	1.7										53.99	85.28		Nepal, India 27.62 N 85.70 E, H = 19 30 14.5, DEPTH = 96 km, MB = 5.0 /ISC/.

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
107	26	SPC SRO ERA	IP IP +IP EAP	23 17 51.0 23 18 00.0 23 18 02.0 23 18 08.0		0.5 -0.8 0.3 -0.1								76.83 78.70 78.87	36.49 35.10 34.37	Kurile Islands 43.47 N 147.56 E, H = 23 05 58.4, MB = 5.4 /ISC/.	
108	26	SRO BRA	IP +IP IAP E	23 41 06.5 23 41 05.0 23 41 26.0 23 44 35.0		-3.1 -5.5 6.1								78.78 78.95	35.24 34.52	Kurile Islands 43.33 N 147.45 E, H = 23 29 08.3, MB = 5.5 /ISC/.	
109	27	SPC BRA	EP EP	01 57 08.0 01 57 16.0		3.8 0.6								77.03 79.07	36.45 34.33	Kurile Islands 43.32 N 147.75 E, H = 01 45 08.0, MB = 5.2 /ISC/.	
110	27	ERA	EP	02 11 50.0		1.6								79.16	34.40	Kurile Islands 43.21 N 147.73 E, H = 01 59 45.9, MB = 4.7 /ISC/.	
111	27	SPC ERA	EP EP	03 02 50.0 03 02 59.0		4.0 1.8								77.04 79.08	36.57 34.45	Kurile Islands 43.25 N 147.62 E, H = 02 50 55.6, MB = 5.1 /ISC/.	
112	27	ERA +IP IAP ES IFS +EP		07 20 14.0 07 20 17.0 07 30 20.0 07 31 02.0 07 20 16.6		0.4 1.3 -1.9 -4.9 2.0								81.03	10.79	Andreanof Islands, Aleutian Islands 50.13 N 179.59 W, H = 07 07 56.5, MB = 6.0 /ISC/.	
113	27	ERA	I	09 51 32.0										79.48	34.48	Off Coast of Hokkaido, Japan 42.89 N 147.87 E, H = 09 36 00.0, MB = 4.9 /ISC/.	
114	27	SPC	EP	10 01 17.0		4.0								76.99	36.53	Kurile Islands 43.32 N 147.63 E, H = 09 49 22.3, MB = 4.8 /ISC/.	
115	27	SPC	E	13 11 30.0										84.03	46.95	South of Honshu, Japan 31.77 N 141.68 E, H = 12 59 59.0, MB = 5.1 /ISC/.	

116	28	SPC ERA	EPIKP EPPF2 E	05 17 46.0 05 17 55.0 05 18 28.0		0.3 0.6								145.51 147.14	21.10 16.28	Samoa Region 16.09 S 172.00 W, H = 04 58 11.2, MB = 5.3 /ISC/.
117	28	ERA HRB SRO	-IP I IAP IPP E ISKSAB EP IAP IPP I ISKSAB +IP	11 04 19.0 11 04 22.0 11 05 04.0 11 07 16.0 11 09 16.0 11 14 12.0 11 04 26.0 11 05 12.0 11 07 20.0 11 09 36.0 11 14 12.0 11 04 20.8		0.1 215 3948 0.8 -5.7 -3.7 6.0 11.8 -3.2 -4.8 0.6	1.0 2.4				5.8 6.7			79.09 79.28 79.33	7.51 8.17 8.24	Andreanof Islands, Aleutian Islands 52.59 N 175.04 W, H = 10 52 31.1, MB = 6.0 /ISC/.
118	28	ERA	EP	20 05 52.0		0.3								36.47	109.57	Southern Persia 27.81 N 56.33 E, H = 19 58 48.7, MB = 5.5 /ISC/.

No.	Date	STA Code	Phase	GMT h m s	RFS O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
						A	T		A	T		A	T						
134	14	ERA	EP	08 24 12.0	-0.5											50.37	269.93	North Atlantic Ridge 28.40 N 43.85 W, H = 08 15 16.6, DEPTH = 33 km, MB = 4.9 /ISC/.	
135	14	SPC ERA	IP EP	13 03 15.0 13 03 27.0	0.8 1.9											76.38 78.36	33.26 31.18	Kurile Islands 45.50 N 150.97 E, H = 12 51 27.4, MB = 5.3 /ISC/.	
136	14	SPC ERA	IPKP2 IPKHP	21 08 23.0 21 08 27.0	-3.5 5.3											146.97 148.92	33.18 28.82	Fiji Region 19.60 S 178.20 W, H = 20 49 46.1, DEPTH = 610 km, MB = 5.1 /ISC/.	
137	15	ERA	EP	05 42 28.0	2.3											84.28	56.36	Ryukyu Islands 26.45 N 129.58 E, H = 05 29 56.4, DEPTH = 36 km, MB = 5.1 /ISC/.	
138	15	ERA E	E E	12 58 03.0 13 00 30.0												107.13	249.26	Chile-Argentina Border Region 26.60 S 69.42 W, H = 12 39 15.6, MB = 5.8 /ISC/.	
139	17	SRO	EP	17 02 53.0	16.7											6.89	162.84	Yugoslavia 41.20 N 21.00 E, H = 17 00 55.1, MB = 4.6 /NEIC/.	
140	19	ERA	I	15 00 05.0														No determination of epicentre	
141	19	ERA	IP	15 33 11.0	-0.4											81.13	10.82	Andeanof Islands, Aleutian Islands 50.03 N 179.61 W, H = 15 20 54.0, MB = 5.3 /ISC/.	
142	19	SPC ERA	IP I I I E E LMH	23 45 25.0 23 47 04.0 23 48 11.0 23 45 32.0 23 45 44.0 23 48 38.0 23 56 11.0 00 29 00.0	-10.5 -10.5											79.14 80.44	8.89 6.88	Near Islands, Aleutian Islands 51.34 N 173.75 W, H = 23 33 28.7, MB = 5.8 /ISC/.	

143	20	ERA	I	16 33 05.0															No determination of epicentre
144	21	ERA SRO	I I I	20 43 12.0 20 43 27.0 20 44 25.0												5.28 6.14	276.54 279.80	Germany 48.50 N 9.20 E, H = 20 40 21.3, DEPTH = 14 km, MB = 4.1 /NEIC/.	
145	23	SPC SRO ERA	IP I EP E ES LMH IP E E	00 32 34.0 00 35 30.0 00 32 45.0 00 33 13.0 00 42 29.0 01 04 00.0 00 32 45.0 00 33 18.0 00 35 45.0	3.6 4.2 6.3 2.7											76.52 78.40 78.67	42.99 41.55 40.83	Honshu, Japan 40.18 N 140.31 E, H = 00 20 55.1, DEPTH = 147 km, MB = 5.5 /ISC/.	
146	23	ERA	EP E	02 02 12.0 02 02 15.0	2.3											51.57	100.52	India-Tibet 21.60 N 72.96 E, H = 01 53 01.0, MB = 5.2 /ISC/.	
147	23	ERA	IP E	12 26 55.0 12 27 37.0	-0.6											81.55	4.38	Ryukyu Islands 29.82 N 129.39 E, H = 12 14 54.8, DEPTH = 162 km, MB = 5.7 /ISC/.	
148	23	SRO HRB ERA	EP E E E EP E	20 58 09.0 20 59 53.0 21 00 41.0 21 00 28.0 21 02 36.0 20 58 19.0 21 01 22.0	-4.2 -1.6											8.91 8.99 9.45	168.99 168.47 163.73	Greece-Albania Border Region 39.04 N 20.49 E, H = 20 56 01.0, DEPTH = 7 km, MB = 4.5 /ISC/.	
149	23	ERA	I	23 18 40.0												85.41	324.16	Southern Nevada /NE Shaper/ 37.09 N 116.02 W, H = 23 05 00.4, MB = 5.5 /ISC/.	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
150	24	BRA	E	10 54	07.0									102.89	325.77	Western Australia 22.08 N 126.65 W, H = 10 35 16.9, DEPTH = 3 km, MB = 6.1 /ISC/.	
151	26	BRA	IP IAP I E	19 12 19 12 19 13 19 16	39.0 49.0 21.0 15.0	-2.3 0.0	620	1.2				6.7		85.42	324.62	Southern Nevada /NE Handley/ 37.30 N 116.53 W, H = 19 00 00.7, DEPTH = 0 km, MB = 6.4 /ISC/.	
152	27	SPC SRO ERA	IP I EP EPP E LMH EP EAP EPP E LMH	18 50 18 54 18 50 18 54 19 01 19 40 18 50 18 50 18 54 18 57 19 40	16.0 31.0 29.0 33.0 01.0 00.0 24.0 39.0 27.0 33.0 00.0	1.6 8.0 16.2 -0.4 11.0 4.3			8.8	20.0	21.0	20.0	6.7	97.97	80.64	Northern Celebes 0.28 N 119.37 E, H = 18 36 47.0, DEPTH = 11 km, MB = 6.0 /ISC/.	
153	28	SPC ERA	IPKIP IPKIP	08 04 08 04	48.0 54.0	-0.4 1.1								122.54 124.84	57.45 54.89	Solomon Islands 6.26 S 154.62 E, H = 07 45 59.5, DEPTH = 59 km, MB = 5.8 /ISC/.	
154	28	ERA	EPK2	10 17	42.0	2.2								146.48	49.29	Loyalty Islands Region 22.36 S 170.22 E, H = 09 57 54.0, DEPTH = 2 km /ISC/.	
155	28	SRO ERA	E E	16 45 16 45	32.0 33.0									4.54 5.05	173.65 164.07	Yugoslavia 43.30 N 19.00 E, H = 16 42 51.0, DEPTH = 44 km /ISC/.	
156	28	SRO HRB SPC ERA	IP IP IS LMH IP I I IS E LMH	21 05 21 05 21 07 21 11 21 05 21 05 21 07 21 08 21 18	17.0 18.0 29.0 00.0 19.0 24.0 42.0 12.0 00.0	2.7 2.3 -0.4 2.6 -5.4		70.0	4.0	110.0	4.0	6.6		11.82 11.82 11.97 12.66	132.61 132.47 142.97 130.46	Turkey 39.21 N 29.50 E, H = 21 02 23.5, DEPTH = 18 km, MB = 6.0 /ISC/.	



157	28	SRO SPC ERA	EP E IP E E	23 14 23 18 23 14 23 14 23 19	37.0 16.0 37.0 45.0 00.0	3.2 -3.9								11.89 12.05 12.74	132.62 142.92 130.47	Turkey 39.15 N 29.56 E, H = 23 11 43.4, DEPTH = 31 km, MB = 4.8 /ISC/.
158	28	BRA	EP	23 31	21.0	-6.2								12.65	130.40	Turkey 39.23 N 29.50 E, H = 23 28 27.7, DEPTH = 50 km, MB = 4.4 /ISC/.
159	28	SRO BRA	EP E E	23 47 23 50 23 47	09.0 16.0 00.0	12.8								12.05 12.90	132.29 130.18	Turkey 39.07 N 29.76 E, H = 23 44 01.0, DEPTH = 32 km, MB = 5.0 /ISC/.
160	29	ERA	E E	02 58 03 02	03.0 39.0									12.74	130.64	Turkey 39.12 N 29.53 E, H = 02 54 52.0, DEPTH = 22 km, MB = 4.2 /ISC/.
161	29	SRO ERA	IP I LMH E E	06 59 07 02 07 05 06 59 07 03	21.0 40.0 30.0 30.0 30.0	-6.8			9.6	10.0	21.2	10.0	5.5	12.05 12.90	132.38 130.26	Turkey 39.06 N 29.74 E, H = 06 56 24.4, DEPTH = 29 km, MB = 5.1 /ISC/.
162	29	SPC BRA	IPKIP I IPKIP I IPP	10 27 10 28 10 27 10 28 10 30	23.0 22.0 24.0 21.0 39.0	3.8 0.9 7.5								138.95 141.19	49.91 46.82	New Hebrides 17.07 S 168.56 E, H = 10 08 20.4, DEPTH = 232 km, MB = 6.0 /ISC/.
163	29	ERA	EP E	14 43 14 44	24.0 33.0	2.4								12.30	136.07	Turkey 38.73 N 28.00 E, H = 14 40 26.6, DEPTH = 47 km, MB = 4.5 /ISC/.
164	29	SRO ERA	EP E E E	19 14 19 17 19 18 19 14	37.0 44.0 36.0 45.0	3.4								11.83 12.67	133.06 130.89	Turkey 39.14 N 29.42 E, H = 19 11 43.0, DEPTH = 22 km, MB = 4.7 /ISC/.
165	30	SRO	EP E LMH	06 51 06 53 06 57	53.0 25.0 00.0	1.8		2.3	14.0	3.1	14.0	4.5		11.60	132.21	Turkey 39.43 N 29.40 E, H = 06 49 05.0, DEPTH = 33 km, MB = 4.6 /ISC/.

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
						A	T		A	T		A	T						
166	30	SRO	EP E E LMH LMH SFC ERA	08 02 41.0 08 05 28.0 08 06 00.0 08 07 30.0 08 08 30.0 08 02 42.0 08 02 46.0 08 03 09.6 08 06 42.0	0.9 -0.4				11.9	12.0	11.0	12.0		5.2	11.60	132.91	Turkey 39.34 N 29.26 E, H = 07 59 52.0, MB = 5.1 /ISC/ DEPTH = 16 km,		
167	30	SRO	EP E E ERA	08 38 08.0 08 41 40.0 08 42 00.0 08 38 16.0	3.4 0.1									11.63	133.12	Turkey 39.29 N 29.24 E, H = 08 35 18.2, MB = 4.7 /ISC/ DEPTH = 36 km,			
168	30	SRO	EP E E ERA	16 35 32.0 16 38 40.0 16 35 38.0 16 40 00.0	5.2									11.95	132.72	Turkey 39.09 N 29.59 E, H = 16 32 35.5, MB = 4.7 /ISC/ DEPTH = 30 km,			
169	30	SPC SRO	E EP EPP I LMH I E LMH EP E I	17 02 05.0 17 00 12.0 17 04 20.0 17 10 40.0 17 48 00.0 17 02 14.0 17 10 47.0 17 48 00.0 17 00 16.0 17 04 16.0 17 10 48.0	1.6 10.2				25.1	22.0	13.0	22.0		6.7	95.49 97.13	73.14 71.80	Mindanao, Philippine Islands 6.78 N 126.66 E, H = 16 46 46.2, MB = 5.8 /ISC/ DEPTH = 82 km,		
170	31	SRO	EP E E HRB ES E BRA EP E	03 49 44.0 03 52 44.0 03 53 32.0 03 52 15.0 03 54 31.0 03 49 51.0 03 54 12.0	0.1 13.9 -4.3									12.10	132.32	Turkey 39.03 N 29.79 E, H = 03 46 51.1, MB = 4.7 /ISC/ DEPTH = 35 km,			



171	1	SPC ERA	IP EP EAP E	14 35 15.0 14 35 29.0 14 35 46.0 14 36 17.0	1.1 3.4 0.4									77.55 79.69	42.20 40.03	Honshu, Japan 39.78 N 141.91 E, H = 14 23 24.6, MB = 5.8 /WAR/ DEPTH = 75 km,
172	1	ERA	E	16 03 33.0										12.46	130.75	Turkey 39.32 N 29.27 E, H = 15 56 04.6, MB = 4.8 /ISC/ DEPTH = 35 km,
173	2	SPC BRA	IPKP2 I EPKXP E E E E E E E	11 31 29.0 11 32 22.0 11 31 24.0 11 31 33.0 11 32 10.0 11 35 06.0 11 31 36.0 11 35 16.0 11 38 24.0	-4.5 -1.6 -5.0									149.13 150.91	26.42 21.49	Kermadec Islands 20.39 S 173.84 W, H = 11 11 42.2, MB = 5.5 /ISC/ DEPTH = 39 km,
174	3	SPC	IPKP2	07 12 25.0	0.4									149.13	26.88	Kermadec Islands 20.46 S 174.08 W, H = 06 52 34.0, MB = 5.5 /ISC/ DEPTH = 39 km,
175	3	SPC	IP	20 59 43.0	2.8									27.65	102.79	Perseus-USSR Border Region 37.13 N 54.74 E, H = 20 53 50.0, MB = 5.0 /ISC/ DEPTH = 8 km,
176	4	SPC ERA	IPKP2 EPKP2	23 05 44.0 23 05 49.0	0.5 -1.8									144.47 146.34	29.87 25.53	Fiji Region 16.58 S 177.32 W, H = 22 46 50.2, MB = 5.2 /ISC/ DEPTH = 377 km,
177	6	ERA	E E	12 42 30.0 12 43 09.0										150.29	21.29	New Hebrides Region 19.76 S 173.91 W, H = 12 23 16.0, MB = 4.5 /ISC/ DEPTH = 46 km,
178	6	ERA	E	15 53 44.0												No determination of epicentre
179	6	ERA	E EPN E ESB LMH	21 53 00.0 21 55 08.0 21 55 17.0 21 55 48.0 21 57 00.0	2.0 -1.6									3.02	179.40	Yugoslavia 45.15 N 17.15 E, H = 21 54 16.0 /BCIS/

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
						A	T	A	T	A	T					
180	7	SPC SRO HRB	IP LMH EP E	05 46 42.0	0.9								7.1	85.50 87.18	71.17 69.67	Luzon, Philippine Islands 15.78 N 121.71 E, H = 05 34 06.2, DEPTH = 40 km, MB = 6.5 /ISC/.
				06 29 30.0												
181	7	BRA	E	05 46 50.0												Philippine Islands Region 15.75 N 122.20 E, H = 07 58 57.1, DEPTH = 15 km /ISC/.
				05 47 05.0												
182	7	BRA	IP EPP E	09 20 50.0	-2.6											Marocco 34.87 N 3.90 W, H = 09 16 14.0, DEPTH = 27 km, MB = 4.8 /ISC/.
				09 22 35.0												
183	7	BRA	E	09 37 15.0												Luzon, Philippine Islands 15.41 N 121.77 W, H = 09 24 27.0, DEPTH = 23 km, MB = 4.9 /ISC/.
184	7	SRO	EP LMH EP ES E	17 08 10.0	11.5											Turkey 39.34 N 29.32 E, H = 17 05 11.9, DEPTH = 33 km, MB = 5.1 /ISC/.
				17 10 33.0												
185	8	ERA	E	09 02 06.0												Greece 38.34 N 22.56 E, H = 13 50 28.3, DEPTH = 23 km, MB = 5.8 /ISC/.
186	8	SRO	IP IS LMH EP	13 52 54.0	0.7											Luzon, Philippine Islands 15.38 N 121.63 W, H = 08 49 13.0, DEPTH = 4 km, MB = 5.2 /ISC/.
				13 54 49.0												
187	8	ERA	E	15 00 27.0	3.3											New Hebrides 13.88 S 166.83 W, H = 08 14 41.0, MB = 5.4 /ISC/.
				15 03 15.0												
188	8	BRA	EP	18 07 18.0	-1.0											Luzon, Philippine Islands 15.59 N 121.72 E, H = 17 54 31.0, MB = 5.3 /ISC/.
189	8	SRO	+IP IS LMH EP E E	21 36 46.0	3.5											Luzon, Philippine Islands 15.43 N 121.75 E, H = 21 23 53.0, MB = 5.7 /ISC/.
				21 40 20.0												
190	8	BRA	E	22 47 57.0												No determination of epicentre
				00 12 03.0												
191	9	BRA	+IP I IAP	00 12 11.0	-1.1											Kurile Islands 45.38 N 149.30 E, H = 00 00 12.1, DEPTH = 67 km, MB = 5.4 /ISC/.
				00 12 20.0												
192	9	BRA	I IPN I	08 25 39.0	-7.0											Austria 47.80 N 16.20 E, H = 08 25 31.0 /VIE/.
				08 25 41.0												
193	9	BRA	E E E	09 13 05.0												No determination of epicentre
				09 13 16.0												
194	9	BRA	EP E	10 15 19.0	-12.2											Turkey 39.11 N 29.41 E, H = 10 12 30.4, DEPTH = 34 km, MB = 4.7 /ISC/.
				10 15 26.0												

No.	Date	STA Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A	T	A	T					
195	9	BRA	EP	16	37	43.0	2.2									92.65	293.14	Off Coast of Chiapas, Mexico H = 16 24 30.0, MB = 5.3 /ISC/.		
196	10	BRA	E	01	17	40.0										12.62	131.21	Turkey 39.13 N 29.31 E, H = 01 14 40.0, DEPTH = 22 km, MB = 4.2 /ISC/.		
197	10	SPC	EPKHKP E I	14 28 52.0 14 29 13.0 14 32 47.0			-2.1									154.29	39.47	Kermadec Islands Region 27.56 S 177.85 W, H = 14 09 14.4, DEPTH = 148 km, MB = 5.5 /ISC/.		
198	10	BRA	E	15	00	21.0												No determination of epicentre		
199	10	BRA	EPC I ISC I	20 20 57.0 20 20 58.0 20 22 10.0 20 22 49.0			0.5 2.1									5.46	277.05	Germany 48.55 N 8.94 E, H = 20 19 07.6, DEPTH = 17 km /ISC/.		
200	11	BRA	EP E	01 05 43.0 01 09 23.0			-3.0									10.81	155.49	Greece 38.17 N 22.77 E, H = 01 03 11.3, DEPTH = 55 km, MB = 4.4 /ISC/.		
201	11	SPC BRA	IP IP IPCP I I IS LMH	04 17 02.0 04 17 05.0 04 17 27.0 04 17 39.0 04 18 06.0 04 26 30.0 04 53 00.0			1.5 0.6 2.4 9.5									70.54 71.19	350.82 349.24	Gulf of Alaska 59.72 N 142.49 W, H = 04 05 42.9, DEPTH = 7 km, MB = 5.3 /ISC/.		
202	11	BRA	EPKP2	06 41 06.0			-5.1									149.81	20.22	Tonga 19.16 S 173.49 W, H = 06 21 17.0, MB = 5.3 /ISC/.		

203	12	SPC SRO	IP IP IS LMH EP ES LMH +IP IAP I IPP IS LMH	04 14 31.0 04 14 35.0 04 25 21.0 04 53 00.0 04 14 41.0 04 25 23.0 05 01 30.0 04 14 35.0 04 14 49.0 04 14 58.0 04 18 19.0 04 25 22.0 04 53 00.0			5.8 1.7 8.1 7.5 9.6 -1.3 5.1 13.2 3.2											Philippine Islands Region 15.08 N 122.01 E, H = 04 01 44.6, MB = 5.8 /ISC/.
204	12	BRA	EP	04 29 49.0			1.2									86.22 87.89	71.40 69.91	Philippine Islands Region 15.21 N 122.04 E, H = 04 16 55.3, MB = 5.5 /ISC/.
205	12	SPC BRA	IP EP	05 30 54.0 05 31 01.0			6.9 2.8									87.95 88.53	69.83 69.04	Philippine Islands Region 15.17 N 122.51 E, H = 05 18 09.1, MB = 5.4 /ISC/.
206	12	BRA	EP EAP	14 35 31.0 14 35 40.0			-0.3 0.8									88.45	68.93	Philippine Islands Region 15.07 N 122.51 E, H = 14 22 38.2, MB = 5.4 /ISC/.
207	14	BRA	I	09 28 08.0														No determination of epicentre
208	15	SRO BRA	EP IS LMH +IP IAP I IPP I LMH	13 27 16.0 13 37 59.0 14 10 30.0 13 27 17.0 13 27 28.0 13 28 25.0 13 30 49.0 13 31 16.0 14 05 00.0			1.9 5.8 -0.1 -3.4 -0.3									88.31	69.38	Philippine Islands Region 15.11 N 122.71 E, H = 13 14 26.7, MB = 5.6 /ISC/.
209	15	BRA	E EPP	16 32 55.0 16 33 04.0			-2.4									12.46	130.60	Turkey 39.34 N 29.30 E, H = 16 29 58.0, MB = 4.6 /ISC/.
210	16	SPC BRA	IP EP EAP E	02 08 17.0 02 08 25.0 02 08 46.0 02 09 10.0			3.7 0.5 12.4									81.70 83.89	45.39 43.14	Off East Coast of Honshu, Japan H = 01 55 56.3, MB = 5.1 /ISC/.

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks			
				h	m		A	T	A	T	A	T								
211	16	SFC ERA	IP IP	05 44 35.0	05 44 39.0	-0.1 0.0	161	1.5				5.9		70.42 71.06	350.82 349.24	Gulf of Alaska 59.84 N 142.43 W, H = 05 33 18.2, DEPTH = 7 km, MB = 5.6 /ISC/.				
				05 44 49.0	05 44 49.0															
		HRB	LMH EPP	05 45 10.0	05 45 01.0	10.6 6.6														
				05 54 31.0	05 54 31.0															
		SRO	EPP IS	06 36 00.0	06 36 00.0	10.9 11.7														
				05 47 29.0	05 54 11.0															
		SRO	EPP IS	06 19 00.0	06 19 00.0	6.0 13.3 11.9														
				05 47 12.0	05 54 12.0															
		212	16	HRB SPC	EPP LMH	05 59 24.0	05 59 24.0	-5.0												
						06 19 00.0	06 19 00.0													
213	16	SRO BRA	EPP IP	10 45 23.0	10 49 00.0	3.6 -5.7														
				10 49 00.0	10 45 20.0															
214	16	SRO HRB ERA	EPP ES LMH	11 46 20.0	11 50 24.0	2.1 18.6 17.3														
				11 46 22.0	11 46 22.0															
215	16	SRO HRB ERA	EPP ES LMH	22 41 32.0	22 43 20.0	-1.0 -6.5														
				22 41 39.0	22 43 20.0															
216	16	SRO HRB ERA	EPP ES LMH	22 42 07.0	22 44 01.0	-1.0 -6.5														
				22 42 07.0	22 44 01.0															
217	16	SRO HRB ERA	EPP ES LMH	22 44 30.0	22 41 42.0	1.3														
				22 41 42.0	22 43 14.0															
218	16	SRO HRB ERA	EPP ES LMH	22 43 14.0	22 44 30.0	1.3														
				22 43 14.0	22 44 30.0															

215	18	SRO HRB ERA	EPP ES LMH	09 01 55.0	09 02 22.0	-1.3 2.5													
				09 02 28.0	09 03 22.0														
216	18	SRO HRB ERA	EPP ES LMH	09 05 04.0	09 11 19.0	9.5 -7.7 0.7													
				09 11 19.0	09 01 51.0														
217	19	SRO HRB ERA	EPP ES LMH	23 37 30.0	23 39 23.0	3.8 -1.5 0.5 1.6													
				23 37 39.0	23 37 50.0														
218	19	SRO HRB ERA	EPP ES LMH	01 27 05.0	01 27 11.0	-0.7													
				01 27 11.0	01 36 43.0														
219	19	SRO HRB SFC ERA	EPP ES LMH IP	13 32 35.0	13 34 55.0	3.9 8.5 4.6 0.6 -2.9													
				13 37 30.0	13 32 37.0														

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks		
				h	m		A	T	A	T	A	T							
220	19	SRO	IP	13	50	31.0	3.1								12.10	132.30	Turkey 39.03 N 29.80 E, H = 13 47 35.0, DEPTH = 24 km, MB = 5.4 /ISC/.		
			I	13	53	31.0													
			LMH	13	55	00.0													
			EP	13	50	31.0		2.1											
221	19	BRA	E	13	53	49.0	0.5										Northern Italy 45.55 N 10.39 E, H = 18 16 30.8, /ISC/.		
			LMH	13	58	00.0													
			IP	13	50	31.0		-2.0											
			EP	13	50	38.0													
222	20	BRA	I	13	50	48.0	-3.7										South of Kermadec 32.05 S 173.32 W, H = 02 08 33.3, DEPTH = 137 km, MB = 5.4 /ISC/.		
			I	13	51	29.0													
			I	13	53	32.0													
			LMH	13	55	00.0													
223	20	BRA	EPN	18	17	53.0	-0.1								5.30	242.86	Tonga 15.19 S 173.59 W, H = 03 41 14.0, DEPTH = 33 km, MB = 4.7 /ISC/.		
			EPB	18	18	08.0		3.8											
			ESG	18	19	29.0		3.2											
			E	02	28	14.0		-3.7											
224	20	SRO	EPKIKP	10	58	14.0	-2.7										New Hebrides 18.79 S 169.29 E, H = 10 39 12.8, DEPTH = 243 km, MB = 6.2 /ISC/.		
			I	11	02	18.0													
			I	11	09	58.0													
			E	11	19	50.0		-1.3											
225	20	SRO	IPKIKP	10	58	16.0	-2.5										Greece 38.27 N 22.66 E, H = 15 39 31.6, DEPTH = 38 km, MB = 5.1 /ISC/.		
			I	11	07	35.0													
			E	11	09	50.0													
			E	15	41	54.0		-3.2											

226	21	BRA	IP	14	24	44.0	-0.7										North of Ascension Island 3.32 S 12.09 W, H = 14 14 56.8, DEPTH = 25 km, MB = 5.1 /ISC/.			
			E	14	24	50.0														
			EPCP	14	25	35.0		-3.6												
			E	14	27	14.0														
227	22	SRO	EP	05	26	59.0	0.3										Turkey 39.02 N 29.77 E, H = 05 24 06.0, DEPTH = 37 km, MB = 5.1 /ISC/.			
			IS	05	29	25.0														
			I	05	30	29.0		11.6												
			LMH	05	31	00.0														
228	22	BRA	LMH	05	33	30.0	-2.0										No determination of epicentre			
			EP	05	27	08.0														
			EPP	05	27	23.0		1.9												
			E	05	28	09.0														
229	22	BRA	E	05	31	15.0	5.0										Southern Norway 58.50 N 6.70 E, H = 11 55 30.0 /UPP/.			
			E	05	32	00.0														
			LMH	11	31	25.0														
			I	11	31	28.0														
230	22	BRA	E	12	01	00.0	12.06										Turkey 39.08 N 29.43 E, H = 18 38 50.1, DEPTH = 48 km, MB = 4.6 /ISC/.			
			EP	18	41	52.0		1.3												
			EPP	18	42	10.0		7.9												
			LMH	01	24	30.0														
231	23	BRA	EP	01	04	04.0	0.0										East of Severnaya Zemlya 80.65 N 122.00 E, H = 00 55 47.6, DEPTH = 27 km, MB = 5.2 /ISC/.			
			E	01	06	10.0														
			EP	01	04	05.0		-0.3												
			LMH	01	24	30.0														
232	23	BRA	EP	04	32	43.0	12.7										Southern Greece 37.51 N 22.73 E, H = 04 29 48.2, DEPTH = 74 km, MB = 4.8 /ISC/.			
			E	04	33	10.0														
			E	04	36	34.0														
			EP	09	04	13.0		1.4												
233	23	SRO	-IP	09	04	25.0	-2.8										Turkey 39.13 N 28.65 E, H = 09 01 26.6, DEPTH = 28 km, MB = 5.2 /ISC/.			
			I	09	06	17.0														
			LMH	09	08	00.0														
			EP	09	04	25.0		12.1												
234	23	BRA	ES	09	06	28.0	5.7										Southern Greece 37.51 N 22.73 E, H = 04 29 48.2, DEPTH = 74 km, MB = 4.8 /ISC/.			
			LMH	09	08	00.0														
			E	09	04	15.0														
			EPP	09	04	27.0		-5.8												
235	23	SRO	IS	09	06	36.0	-1.9										Turkey 39.13 N 28.65 E, H = 09 01 26.6, DEPTH = 28 km, MB = 5.2 /ISC/.			
			I	09	07	24.0														
			I	09	08	30.0														
			LMH	09	08	30.0														

No.	Date	STA Code	Phase	GMT			RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T					
234	24	SRO BRA	EP E LMH E E	00 43 06.0 00 45 20.0 00 48 00.0 00 42 51.0 00 43 27.0	3.5									5.2	12.14 12.99	132.21 130.12	Turkey 39.01 N 29.85 E, H = 00 40 01.4, DEPTH = 32 km, MB = 4.8 /ISC/.	
235	24	BRA SRO	+IP EP I LMH IP	01 29 31.0 01 30 09.0 01 31 07.0 01 42 00.0 01 29 54.0	-12.9 17.6 -0.2								5.2	32.34 33.21 33.53	303.20 303.86 302.48	North Atlantic Ocean 55.64 N 35.03 W, H = 01 23 16.9, MB = 5.3 /ISC/.		
236	25	SRO	I I	04 25 16.0 04 26 14.0														No determination of epicentre
237	26	BRA	EP	06 46 21.0	0.1									32.44	303.06		North Atlantic Ocean 55.55 N 35.18 W, H = 06 39 54.0, DEPTH = 59 km, MB = 4.9 /ISC/.	
238	26	BRA	+IP I I I I	14 32 23.0 14 32 34.0 14 33 42.0 14 35 15.0 14 35 48.0	1.9	519	1.2					6.5		76.94	15.61		Near Islands, Aleutian Islands 52.93 N 171.45 E, H = 14 20 27.8, MB = 5.8 /ISC/.	
239	27	SRO BRA	EP E LMH EP E LMH	09 38 06.0 09 41 16.0 09 42 00.0 09 38 14.0 09 39 18.0 09 42 30.0	0.6 -2.6								5.0 4.9	12.05 12.89	133.14 130.98	Turkey 38.96 N 29.58 E, H = 09 35 13.1, MB = 4.8 /ISC/.		
240	27	SRO BRA	EP E EPP E	22 27 33.0 22 31 20.0 22 27 43.0 22 28 01.0 22 33 14.0	-3.4 4.9									11.95 12.79	132.95 130.79	Turkey 39.06 N 29.54 E, H = 22 24 43.0, DEPTH = 11 km, MB = 4.7 /ISC/.		
241	28	BRA	EPKIKP E	00 48 29.0 00 48 35.0	4.0									126.26	56.37		Solomon Islands 8.13 S 154.41 E, H = 00 29 21.0, MB = 5.3 /ISC/.	
242	28	BRA	E	01 31 20.0										139.72	350.07		Solomon Islands 8.13 S 156.43 W, H = 01 12 17.4, DEPTH = 24 km, MB = 5.5 /ISC/.	

243	28	BRA	EP E	03 25 50.0 03 27 53.0	-2.7										24.27	141.78	Egypt 27.61 N 33.76 E, H = 03 20 38.0, MB = 4.8 /ISC/.	
244	28	BRA	I	10 37 13.0														No determination of epicentre
245	29	BRA	EP EAP E	06 07 01.0 06 07 14.0 06 10 33.0	1.0 1.2									78.56	35.13		Kurile Islands 43.35 N 146.47 E, H = 05 55 01.6, MB = 5.3 /ISC/.	
246	29	BRA	EP E EPP LMH	11 35 45.0 11 36 18.0 11 39 14.0 12 46 00.0	2.9 -10.4							7.1		91.99	294.31		Near Coast of Chiapas, Mexico 14.55 N 92.75 W, H = 11 22 35.8, MB = 5.4 /ISC/.	
247	29	BRA	EP EAP EPP E IP IS LMH	14 14 27.0 14 14 36.0 14 18 24.0 14 21 07.0 14 25 45.0 14 14 26.0 14 25 33.0 15 06 00.0	1.5 -3.8 16.2 -3.6 4.9									91.93	294.33		Near Coast of Chiapas, Mexico 14.61 N 92.73 W, H = 14 01 21.2, MB = 5.4 /ISC/.	
248	29	BRA	EPKIKP E EPP	18 21 18.0 18 21 42.0 18 25 21.0	-1.2 -3.7									155.33	238.17		Easter Island Cordillera 55.51 S 124.33 W, H = 18 01 29.7, MB = 5.7 /ISC/.	
249	29	BRA	-IP E	19 43 01.0 19 43 10.0	-0.7									92.22	295.04		Near Coast of Chiapas, Mexico 14.83 N 93.48 W, H = 19 29 54.8, MB = 5.2 /ISC/.	
250	29	BRA	IP E	21 33 33.0 21 33 40.0	0.0									92.31	294.95		Near Coast of Chiapas, Mexico 14.70 N 93.47 W, H = 21 20 25.9, MB = 5.2 /ISC/.	
251	30	BRA	-IP EAP E LMH EP LMH	08 46 12.0 08 46 30.0 08 47 49.0 08 51 12.0 08 30 00.0 08 46 08.0 09 31 00.0	3.5 10.3 -4.5									92.27	294.76		Near Coast of Chiapas, Mexico 14.61 N 93.29 W, H = 08 33 01.0, MB = 5.8 /ISC/.	
		SRO										6.5 6.4		93.16	295.65			

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
						A	T	A	T	A	T					
252	30	ERA	EP	13 04 44.0	-3.0									92.40	294.74	Near Coast of Chiapas, Mexico 14.50 N 93.36 W, H = 12 51 37.0, DEPTH = 24 km, MB = 5.4 /ISC/.

253	1	ERA	EP	08 36 09.0	-1.8									92.49	295.05	Near Coast of Chiapas, Mexico 14.63 N 93.67 W, H = 08 23 03.2, DEPTH = 4 km, MB = 5.0 /ISC/.
254	1	ERA	EP	08 48 32.0	1.2									92.23	294.70	Near Coast of Chiapas, Mexico 14.61 N 93.22 W, H = 08 35 23.6, DEPTH = 38 km, MB = 5.3 /ISC/.
255	1	ERA	-IP	20 16 37.0	0.4									92.46	295.03	Near Coast of Chiapas, Mexico 14.64 N 93.63 W, H = 20 03 27.9, DEPTH = 34 km, MB = 5.0 /ISC/.
256	1	ERA	EP	20 47 46.0	1.4									79.17	34.81	Off Coast of Hokkaido, Japan 42.99 N 147.27 E, H = 20 35 41.9, DEPTH = 37 km, MB = 5.0 /ISC/.
257	2	ERA	+IP	02 20 06.0	0.8									92.43	295.16	Near Coast of Chiapas, Mexico 14.74 N 93.72 W, H = 02 06 57.9, DEPTH = 45 km, MB = 5.4 /ISC/.
258	3	BRA	EPG	04 19 31.0	1.8									5.75	234.69	Northern Italy 44.65 N 10.53 E, H = 04 17 34.5 /BCIS/.
259	4	SRO ERA	EPKP2 EPKP2	08 00 40.0 08 00 37.0	4.1 -0.1									146.37 146.68	45.12 42.97	New Hebrides Region 20.72 S 173.53 E, H = 07 40 52.5, DEPTH = 14 km, MB = 5.1 /ISC/.
260	4	ERA	+IPKIP IAPKIP	11 44 07.0 11 44 46.0	1.0 -17.4									145.86	48.32	Loyalty Islands Region 21.54 S 170.35 E, H = 11 24 44.5, DEPTH = 143 km, MB = 5.0 /ISC/.
261	4	BRA	EPKHP	20 40 36.0	5.7									149.67	28.77	Fiji Region 20.30 S 177.90 W, H = 20 21 35.3, DEPTH = 435 km, MB = 4.2 /ISC/.
262	5	BRA	EPKIP	20 25 39.8	-1.7									144.61	47.23	New Hebrides 20.14 S 170.20 E, H = 20 06 03.7, DEPTH = 35 km, MB = 5.0 /ISC/.

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
						A	T		A	T		A	T						
263	6	SPC	EP	02 47 58.0	5.3											85.59	71.18	Luzon, Philippine Islands 15.71 N 121.76 E, H = 02 35 17.5, DEPTH = 41 km, MB = 5.1 /ISC/.	
264	6	SRO	E	10 50 06.0														No determination of epicentre	
265	6	ERA +IP +EAP SPC EP		15 33 24.7 15 33 36.7 15 33 17.0	-0.5 2.3 3.9											73.29 71.31	86.03 83.30	Nicobar Islands Region 9.81 N 92.91 E, H = 15 21 55.0, DEPTH = 32 km, MB = 5.3 /ISC/.	
266	7	ERA	E	10 03 25.0														No determination of epicentre	
267	7	BRA I		11 59 24.0 11 59 40.0														Poland	
268	8	BRA E		02 52 22.0 02 57 19.0												13.12	130.02	Turkey 38.93 N 29.98 E, H = 02 49 14.6, DEPTH = 20 km, MB = 4.6 /ISC/.	
269	8	BRA EPKIP		12 58 55.0	0.6											125.59	60.47	D'Entrecasteaux Islands Region 9.50 S 151.27 E, H = 12 39 53.5, DEPTH = 16 km, MB = 5.1. /ISC/.	
270	8	BRA I		13 36 22.0														No determination of epicentre	
271	9	BRA EPKP2		16 38 42.7	0.9											145.42	21.80	Tonga 15.10 S 175.50 W, H = 16 19 05.1, DEPTH = 33 km, MB = 4.7 /ISC/.	
272	9	BRA EPKIP E		18 19 21.7 18 22 37.0	1.8											121.72	56.43	New Britain Region 4.37 S 151.81 E, H = 18 00 49.4, DEPTH = 196 km, MB = 5.9 /ISC/.	
273	10	ERA EP		04-05 25.0	2.5											11.02	164.01	Ionian Sea 37.50 N 20.90 E, H = 04 02 45.0, DEPTH = 54 km, MB = 4.3 /ISC/.	
274	10	ERA EP		20 17 52.0	-2.4											99.06	49.04	Marianas 18.56 N 145.28 E, H = 20 05 16.3, DEPTH = 606 km, MB = 5.4 /ISC/.	

275	10	BRA E		20 56 34.0														No determination of epicentre
276	11	SPC ERA -IP		03 18 51.0 03 18 58.0	4.3 -1.2											31.97 33.40	118.15 112.97	Southern Persia 28.61 N 52.31 E, H = 03 12 21.7, DEPTH = 34 km, MB = 5.0 /ISC/.
277	11	SRO ERA IP ES IP IP IS I		05 52 49.0 05 53 25.0 05 53 39.0 05 52 52.2 05 53 08.0 05 53 31.0 05 53 50.0	-0.7 16.3 -1.4 14.4 1.3											2.81 3.08	194.37 177.04	Yugoslavia 45.09 N 17.33 E, H = 05 52 06.1, DEPTH = 37 km, /ISC/.
278	11	BRA EP		10 21 55.0	1.6											77.63	14.56	Near Islands, Aleutian Islands 52.56 N 173.39 E, H = 10 10 01.1, DEPTH = 53 km, MB = 4.7 /ISC/.
279	11	ERA EPKHP		15 25 05.0	3.0											149.04	28.44	Fiji Region 19.65 S 177.96 W, H = 15 06 13.1, DEPTH = 477 km, MB = 5.1 /ISC/.
280	11	BRA E		16 13 37.0 16 14 43.0														No determination of epicentre
281	12	BRA EPKHP		17 17 38.0	-0.5											151.04	22.71	Tonga 20.67 S 174.41 W, H = 16 58 01.0, DEPTH = 97 km, MB = 5.2 /ISC/.
282	12	SRO BRA EP LMH		22 51 25.0 22 57 00.0 22 51 37.9	-3.6 0.7											10.09 10.71	160.59 156.29	Greece 38.21 N 22.55 E, H = 22 49 03.2, DEPTH = 39 km, MB = 4.8 /ISC/.
283	14	BRA EPKIP EPP E		08 51 28.0 08 52 45.0 08 53 18.0	2.4 4.2											117.27	62.00	Near North Coast of New Guinea 3.52 S 145.26 E, H = 08 32 42.9, DEPTH = 29 km, MB = 5.3 /ISC/.
284	14	SRO HRB ERA IP ES		09 25 05.0 09 29 00.0 09 35 00.0 09 32 00.0 09 25 11.6 09 25 16.0 09 29 15.0	0.5 9.5 -1.3 8.6											20.69 20.77 21.51	92.38 92.44 92.31	Eastern Caucasus 43.13 N 47.14 E, H = 09 20 22.0, DEPTH = 12 km, MB = 5.5 /ISC/.

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
						A	T		A	T		A	T						
302	16	ERA	EP	21 31 45.0	2.0											21.47	92.26	Eastern Caucasus 43.16 N 47.09 E, H = 21 26 55.0, DEPTH = 30 km, MB = 4.7 /ISC/.	
303	17	ERA	EP	05 07 06.0	0.8											21.45	92.30	Eastern Caucasus 43.16 N 47.06 E, H = 05 02 14.0, DEPTH = 5 km, MB = 4.6 /ISC/.	
304	17	SRO ES LMH +IP	EP ES LMH +IP	06 53 44.0 06 57 37.0 07 30 30.0 06 53 54.0	-0.4 7.1 1.1											20.57	92.45	Eastern Caucasus 43.15 N 46.98 E, H = 06 49 02.0, DEPTH = 4 km, MB = 5.0 /ISC/.	
305	17	ERA	EP	15 04 18.0	1.9											83.34	43.38	Off East Coast of Honshu, Japan 34.89 N 141.02 E, H = 14 51 54.6, DEPTH = 62 km, MB = 5.0 /ISC/.	
306	18	ERA	EP	01 36 14.0	-0.9											30.07	295.81	North Atlantic Ridge 52.27 N 30.13 W, H = 01 30 06.2, DEPTH = 31 km, MB = 4.9 /ISC/.	
307	19	ERA	EP	02 14 14.0	10.7											31.58	354.70	Greenland Sea 79.16 N 2.30 E, H = 02 07 40.5, DEPTH = 25 km, MB = 4.5 /ISC/.	
308	19	ERA	EP	10 35 06.7	2.3											79.26	294.45	Near Coast of Venezuela 10.99 N 68.92 W, H = 10 22 56.0, DEPTH = 2 km, MB = 5.1 /ISC/.	
309	19	ERA	E	11 04 31.0														No determination of epicentre	
310	19	ERA	EPKIKP	15 07 24.5	1.1											122.66	56.39	New Britain Region 5.14 S 152.36 E, H = 14 48 35.2, DEPTH = 67 km, MB = 5.4 /ISC/.	
311	20	ERA SRO	E EPS	20 21 21.0 20 22 45.0 20 23 30.0 20 32 16.2	8.1											110.38 110.41	205.21 205.78	South Sandwich Region 55.92 S 28.07 W, H = 20 03 35.0, DEPTH = 6 km, MB = 6.1 /ISC/.	



312	20	SPC ERA	LMH EPP EP +IP	21 05 30.0 20 23 00.0 20 42 51.0 20 43 00.0	3.3 -1.4 0.0											112.22 78.48 79.87	207.01 11.86 9.87	Andreasof Islands, Aleutian Islands 51.44 N 178.53 W, H = 20 30 54.7, MB = 5.6 /ISC/.
313	20	ERA	EP	22 15 03.0	1.6											88.63	277.24	Near West Coast of Columbia 5.90 N 77.37 W, H = 22 02 12.1, DEPTH = 47 km, MB = 4.9 /ISC/.
314	21	ERA	EPKHKP +IPK2	00 55 33.0 00 55 42.0	6.0 1.4											149.59	28.91	Fiji Region 20.25 S 178.00 W, H = 00 36 43.6, DEPTH = 546 km, MB = 4.9 /ISC/.
315	21	SPC BRA	E E E	12 43 12.0 12 43 33.0 12 46 00.0														No determination of epicentre
316	22	BRA	I	13 08 57.0														No determination of epicentre
317	23	ERA	EP	23 21 55.0	0.6											79.05	34.18	No determination of epicentre
318	24	BRA	EP	00 53 18.0	-1.9											79.00	34.22	Kurile Islands 43.41 N 147.91 E, H = 23 09 52.4, DEPTH = 37 km, MB = 5.1 /ISC/.
319	25	BRA	ESB	12 58 30.0	-6.9											6.53	211.47	Kurile Islands 43.44 N 147.83 E, H = 00 41 21.0, DEPTH = 61 km, MB = 4.5 /ISC/.
320	25	SPC BRA	EPKIKP EPKIKP	17 07 23.0 17 07 27.0	0.5 1.7											156.11 158.21	41.39 36.72	Central Italy 42.50 N 12.50 E, H = 12 55 19.0 /BCIS/.
321	26	ERA	EP	00 55 09.0	-1.8											19.72	94.37	Kermadec Islands 29.55 S 177.65 W, H = 16 47 36.0, DEPTH = 65 km, MB = 5.4 /ISC/.
																		Western Caucasus 43.20 N 44.50 E, H = 00 50 52.0, DEPTH = 163 km, MB = 4.2 /ISC/.

No.	Date	STA Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A	T	A	T					
322	26	BRA	EP	10 05	26.0	-1.4											77.97	1.03	Unimak Islands Region 54.23 N 164.61 W, H = 09 53 33.6, DEPTH = 56 km, MB = 5.3 /ISC/.	
323	26	BRA	EP	12 06	15.0	15.5											5.92	216.39	Central Italy 43.30 N 12.30 E, H = 12 04 32.0, DEPTH = 34 km /ISC/.	
324	26	BRA	E	14 03	33.0														No determination of epicentre	
325	26	ERA SPC	EP	15 12 15 12	39.5 45.0	-1.4 2.4											85.40 85.75	324.20 326.37	Southern Nevada /NE Flask/ 37.11 N 116.06 W, H = 15 00 00.0, DEPTH = 0 km, MB = 5.5 /ISC/.	
326	27	BRA	E	11 37	55.0														Czechoslovakia, explosion	
327	27	SPC HRB	EP	12 17 12 17 12 18 12 28	12.0 14.0 31.0 42.0	1.7 -5.1											87.09 88.98	50.52 48.98	Bonin Islands Region 27.22 N 140.29 E, H = 12 05 08.3, DEPTH = 406 km, MB = 6.0 /ISC/.	
328	27	BRA	-IP	12 17 12 17 12 18 12 22 12 27 12 28 13 05	18.6 18.6 45.0 24.0 12.0 40.0 00.0	-2.2 -10.2 1.0											-89.33	48.19		
329	27	SPC ERA	EP	19 17 19 20 19 56 19 17 19 27 19 28 19 57	36.0 36.0 30.0 45.7 51.0 43.0 00.0	1.3 6.7 -0.6 4.3 11.4											77.60 79.72	41.21 39.04	Near East Coast of Honshu, Japan 40.29 N 142.98 E, H = 19 05 37.9, DEPTH = 18 km, MB = 5.7 /ISC/.	
329	27	SPC ERA	EP	22 47 22 58 22 25 22 47 23 27	43.0 20.0 00.0 54.0 00.0	-1.5 -2.1											77.69 79.81	41.17 39.01	Off East Coast of Honshu, Japan 40.24 N 143.08 E, H = 22 35 48.9, DEPTH = 29 km, MB = 5.6 /ISC/.	

330	28	SPC ERA	EP IPP IP	00 08 00 11 00 08	36.0 28.0 45.7	1.5 -2.1 -0.4											77.59 79.71	41.16 39.00	Off East Coast of Honshu, Japan 40.33 N 143.02 E, H = 23 56 38.8, DEPTH = 25 km, MB = 5.4 /ISC/.
331	28	BRA	EPKIKP	11 53	01.0	-0.6											144.69	48.21	New Hebrides 20.51 S 169.73 E, H = 11 33 41.1, DEPTH = 137 km, MB = 4.9 /ISC/.
332	28	SPC	E	18 04 18 05 18 05	47.0 05.0 23.0														No determination of epicentre
333	29	SPC ERA	IP E -IP	04 42 04 50 04 42	47.0 18.0 55.0	2.4 -0.9											76.03 78.07	36.62 34.52	Kurile Islands 44.08 N 146.81 E, H = 04 31 04.9, DEPTH = 85 km, MB = 5.4 /ISC/.
334	29	BRA	IPKP2	05 34	16.0	0.3											145.82	18.42	Tonga 15.03 S 173.48 W, H = 05 14 42.0, DEPTH = 70 km, MB = 5.4 /ISC/.
335	29	BRA	E	06 31	52.0														No determination of epicentre
336	29	ERA	EP EAP EPCP	10 44 10 44 10 44	28.0 46.0 58.0	-1.4 3.3 -6.3											64.01	82.53	Burma-India Border Region 23.96 N 94.06 E, H = 10 33 58.7, DEPTH = 49 km, MB = 5.1 /ISC/.
337	29	BRA	E	12 06	49.0														No determination of epicentre
338	29	SPC SRO ERA	EPKIKP EPKIKP EPKIKP EPP EPTSDP	19 21 19 21 19 21 19 24 19 25	35.0 35.0 35.0 13.0 07.0	5.9 2.4 1.8 -2.3 -1.1											133.31 135.19 135.53	48.60 47.31 45.59	Santa Cruz Islands 11.73 S 166.38 E, H = 19 02 22.8, DEPTH = 65 km, MB = 5.9 /ISC/.
339	29	ERA	EP	19 45	20.0	-0.6											78.26	31.85	Kurile Islands 45.26 N 150.09 E, H = 19 33 23.3, DEPTH = 40 km, MB = 5.0 /ISC/.
340	29	SPC BRA	E E E E	20 49 20 49 20 49 20 51 20 51	26.0 26.0 31.7 55.0 55.0												147.75 149.73	34.45 30.10	Fiji Region 20.59 S 178.55 W, H = 20 30 44.3, DEPTH = 60 km, MB = 5.1 /ISC/.

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T				
341	30	ERA	EPKP2 EAPKIKP	03 44	47.0	-1.5 -0.2							146.08	49.02	Loyalty Islands Region 21.94 S 170.12 E, H = 03 25 11.3, DEPTH = 49 km, MB = 4.7 /ISC/.	
342	30	ERA	EP	10 27	50.0	-0.6							83.71	64.94	Taiwan Region 21.43 N 121.99 E, H = 04 15 21.0, MB = 4.6 /ISC/.	
343	30	BP	EP	10 37	53.0	12.0							89.33	206.59	South Atlantic Ridge 35.40 S 16.10 W, H = 10 24 51.5, DEPTH = 33 km, MB = 4.5 /ISC/.	
344	30	ERA	EPKHKP	11 12	45.0	5.4							149.43	29.44	Fiji Region 20.19 S 178.33 W, H = 10 54 01.7, DEPTH = 600 km, MB = 4.7 /ISC/.	
345	30	SPG ERA	EP EP EPP	13 29 13 29 13 33	23.0 28.0 17.0	6.7 1.0 6.7							89.76 92.06	71.07 68.72	Samar, Philippine Islands Region 12.56 N 124.60 E, H = 13 16 28.6, DEPTH = 105 km, MB = 5.6 /ISC/.	
346	30	ERA	ESB	16 40	57.0	5.3							5.48	275.47	Germany 48.40 N 8.90 E, H = 16 38 05.0, DEPTH = 0 km /ISC/.	
347	30	ERA	EPKP2	18 19	48.0	-1.7							147.70	314.99	Tuamotu Archipelago Region 22.16 S 138.84 W, H = 17 59 58.9, DEPTH = 0 km, MB = 4.5 /ISC/.	
348	30	ERA	EP EAP	23 31 23 31	38.0 56.0	0.8 6.9							78.56	0.81	Unimak Island Region 53.64 N 164.23 W, H = 23 19 38.3, DEPTH = 41 km, MB = 5.0 /ISC/.	
349	31	ERA	EP	03 03	12.0	13.1							78.50	0.91	Unimak Island Region 53.70 N 164.39 W, H = 02 50 59.4, DEPTH = 33 km, MB = 4.4 /ISC/.	

350	31	ERA	EPN ESG	08 12 08 14	50.0 21.0	0.4 -3.1							5.39	274.72	Germany 48.33 N 9.04 E, H = 08 11 26.0, DEPTH = 2 km /ISC/.
351	31	ERA	EP	10 30	39.0	-1.4							21.49	92.49	Eastern Caucasus 43.08 N 47.08 E, H = 10 25 52.9, DEPTH = 37 km, MB = 4.5 /ISC/.
352	31	BRA	EP EPP ESKSAB LMH EPS	20 37 20 41 20 48 21 23 20 50	12.0 09.0 06.0 00.0 21.0	-0.9 -14.4 19.6 -9.5							100.70	268.26	Near Coast of Northern Peru 9.15 S 78.83 W, H = 20 23 28.4, DEPTH = 48 km, MB = 6.4 /ISC/.
		HRB					597.0	20.0	672.0	20.0	8.3	101.43	269.00		

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T					
353	1	BRA	EP	01 18	08.0	0.7								9.62	162.15		Greece 38.9 N 20.87 E, H = 01 15 48.6, DEPTH = 4 km, MB = 4.8 /ISC/.
354	1	BRA	EP EPP	01 49 01 54	57.0 06.0	1.0 -1.3								100.94	268.33		Off Coast of Northern Peru 9.28 S 79.85 W, H = 01 36 10.1, DEPTH = 45 km, MB = 5.9 /ISC/.
355	1	BRA	EP EPP	02 58 03 03	57.0 15.0	-9.9 -4.4								101.39	267.42		Near Coast of Peru 10.22 S 78.69 W, H = 02 45 18.8, DEPTH = 43 km, MB = 5.8 /ISC/.
356	1	BRA	EP E	17 57 17 58	25.0 13.0	-1.0								92.07	281.08		South of Panama 5.88 N 82.55 W, H = 17 44 16.6, DEPTH = 18 km, MB = 5.4 /ISC/.
357	2	BRA	EP EPP	01 51 01 55	24.0 15.0	15.8 -5.2								101.17	267.87		Near Coast of Northern Peru 9.75 S 78.87 W, H = 01 37 22.7, DEPTH = 57 km, MB = 5.7 /ISC/.
358	2	BRA	+IP E E IS I IS	03 10 03 11 03 13 03 19 03 16 03 19	35.0 05.0 41.0 41.0 36.0 48.0	-1.1 0.6 2.7	111	0.9				6.0		70.28	354.38		Southern Alaska 61.54 N 151.79 W, H = 02 59 29.5, DEPTH = 80 km, MB = 5.5 /ISC/.
359	2	BRA	EPKHKP E E	21 49 21 50 21 52	34.0 00.0 32.0	1.0								149.72	27.91		Fiji Region 20.20 S 177.45 W, H = 21 30 30.9, DEPTH = 371 km, MB = 5.1 /ISC/.
360	2	BRA	EP E E	23 45 23 46 23 47	31.0 16.0 25.0	1.0								78.25	31.11		Kurile Islands 45.63 N 150.98 E, H = 23 33 32.3, DEPTH = 36 km, MB = 5.3 /ISC/.
361	3	SRO	E	12 30	01.0												No determination of epicentre

362	4	BRA	EP E E EPP E	04 23 04 23 04 26 04 27 04 34	10.0 25.0 34.0 31.0 19.0	-1.8 7.3 13.6												Near Coast of Northern Peru 9.88 S 78.69 W, H = 04 09 25.4, DEPTH = 48 km, MB = 5.8 /ISC/.
363	4	BRA	EPG E	13 36 13 37	59.0 17.0													Slovakia /Little Carpathians/
364	5	SRO	+IP IPP IS LMH EP EPP ES LMH EP EPP ES LMH	05 00 05 02 05 07 05 16 05 01 05 02 05 07 05 17 05 01 05 02 05 07 05 20	57.0 41.0 21.0 30.0 06.0 49.0 31.0 30.0 05.0 47.0 28.0 00.0	-1.3 2.8 5.6 7.2 10.2 14.7 1.1 2.6 2.6												Alms-Ata Region 42.48 N 78.71 E, H = 04 53 07.4, DEPTH = 24 km, MB = 5.9 /ISC/.
365	5	BRA	E E	09 48 09 49	44.0 26.0													Near Coast of Chiapas, Mexico 14.10 N 92.54 W, H = 09 25 38.0, DEPTH = 67 km, MB = 4.5 /ISC/.
366	5	BRA	EP	10 09	23.0	13.7												Greece 38.06 N 22.29 E, H = 10 06 35.9, DEPTH = 79 km, MB = 4.3 /ISC/.
367	5	SPC SRO BRA	IP EP LMH EP E	10 42 10 42 11 07 10 42 10 43	01.0 13.0 30.0 11.0 56.0	0.9 0.8 -1.2												Eastern Siberia 63.26 N 146.18 E, H = 10 31 53.9, DEPTH = 33 km, MB = 5.4 /ISC/.
368	5	SRO BRA	E EP E	12 01 12 04 12 02 12 05	11.0 01.0 11.0 17.0	-3.0												Romania 45.66 N 26.57 E, H = 12 00 33.4, DEPTH = 131 km, MB = 4.4 /ISC/.
369	5	SPC BRA	IP +IP IFCP	22 52 22 52 22 52	00.0 03.0 18.0	7.0 -0.2 0.8	214	1.5										Off East Coast of Kamchatka 52.16 N 159.51 E, H = 22 40 24.0,

No.	Date	STA 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				
		SRO	I IP	22 55 48.0 22 52 03.0		-0.3									75.03	23.55	DEPTH = 39 km, MB = 5.5 /ISC/.		
370	8	SRO ERA	E EPN E	06 54 42.0 06 52 41.0 06 55 02.0		-10.0								6.54 7.12	166.10 159.60	Albania 41.44 N 20.40 E, H = 06 51 03.0, DEPTH = 29 km, MB = 4.5 /ISC/.			
371	8	ERA	EP	12 37 53.0		2.0								21.50	92.12	Eastern Caucasus 43.20 N 47.16 E, H = 12 33 03.0, DEPTH = 32 km, MB = 4.6 /ISC/.			
372	8	SRO	I	16 00 44.0												No determination of epicentre			
373	9	SRO	I	08 48 18.0												No determination of epicentre			
374	9	SRO	E	09 12 06.0												No determination of epicentre			
375	9	SRO	E	09 32 02.0												No determination of epicentre			
376	9	SRO	E	10 07 10.0												No determination of epicentre			
377	9	SRO	E	10 24 58.0												No determination of epicentre			
378	9	SRO	I	11 03 04.0												No determination of epicentre			
379	9	BRA	EPKP2 E	11 14 40.0 11 15 19.0 11 18 16.0		-2.2								146.65	18.05	Tonga 15.80 S 173.09 W, H = 10 55 09.8, DEPTH = 100 km, MB = 5.0 /ISC/.			
380	9	BRA	E	12 52 05.0 12 52 22.0												No determination of epicentre			
381	10	SRO ERA	EP LMH EP E	05 20 06.0 05 25 30.0 05 20 17.0 05 20 25.0		1.4 1.2	1.2	12.0	1.4	12.0	4.3		11.84 12.69	132.91 130.74	Turkey 39.15 N 29.46 E, H = 05 17 15.5, DEPTH = 43 km, MB = 4.4 /ISC/.				
382	10	BRA	E	11 32 22.9 11 32 26.0												No determination of epicentre			
383	10	SRO	*IP IS LMH	16 29 46.0 16 39 42.0 17 07 00.0		1.6 7.6	2.7	20.0	3.6	20.0	5.8		78.36	33.24	Kurile Islands 44.72 N 149.46 E, H = 16 17 48.1,				

No.	Date	STA 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				
384	11	BRA	IP IS LMH	16 29 44.0 16 39 38.0 17 12 00.0		-1.2 2.1	12.0	18.0	11.0	18.0	6.4		78.50	32.52	DEPTH = 53 km, MB = 6.9 /ISC/.				
385	11	SRO HRB	IPDIFF I ISKSAB I ISKSAB LMH	06 16 51.0 06 17 24.0 06 21 03.0 06 27 12.0 06 17 26.0 06 21 16.0 06 27 26.0 07 05 30.0		-0.4 -9.9 1.2	5.3	20.0	5.2	20.0	6.2		105.00 105.65	250.14 250.87	Chile-Argentina Border Region 24.47 S 68.46 W, H = 06 02 52.4, DEPTH = 87 km, MB = 6.2 /ISC/.				
386	11	ERA	E I	17 06 42.0 17 08 30.0 17 13 26.0 18 27 00.0 17 06 53.0 17 10 53.0 18 26 00.0		-8.4 2.1							153.72 153.82	130.04 129.97	Macquarie Island Region 58.86 S 157.60 E, H = 16 46 43.7, DEPTH = 64 km, MB = 6.0 /ISC/.				
387	12	BRA SRO	IP I IP IS	05 06 12.0 05 06 18.0 05 06 13.0 05 16 01.0		-0.7 -2.2 8.4	64.0	19.0	136.0	19.0	7.7		34.52	64.93	Afghanistan-USSR Border Region 50.60 N 71.08 E, H = 17 40 50.8, DEPTH = 188 km, MB = 5.1 /ISC/.				
388	12	SRO ERA	EPKIP I IPKIP IPP I	08 24 53.0 08 29 17.0 08 24 51.0 08 25 52.0 08 27 45.0		3.3 0.1 6.7							75.19 79.62	353.81 354.50	Kodiak Island Region 56.62 N 152.02 W, H = 04 54 32.1, MB = 5.3 /ISC/.				
389	12	BRA	ESB	15 07 55.0		3.4							112.43 113.04	68.18 67.02	Near North Coast of West New Guinea 2.90 S 139.08 E, H = 08 06 17.0, DEPTH = 32 km, MB = 5.9 /ISC/.				
390	13	SRO	E	05 51 57.0												Germany, explosion 51.22 N 9.86 E, H = 15 05 01.2, DEPTH = 0 km /ISC/.			
391	13	SRO	E	12 26 37.0												No determination of epicentre			

No.	Date	STA Code	Phase	GMT			RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T	A	T						
392	14	BRA	EPKIKP I IFP LMH	00 19 13.0 00 19 22.0 00 21 07.0 01 20 00.0		0.9 -0.8 2.2 8.8														Near Coast of Southern Chile 51.94 S 74.14 W, H = 00 00 08.8, MB = 5.9 /ISC/. DEPTH = 10 km, MB = 5.9 /ISC/.	
393	14	ERA	ISE I	12 00 18.0 12 01 28.0		-7.3														Northern Italy 44.09 N 11.82 E, H = 11 57 38.4 /BCIS/.	
394	14	BRA	EPKP2 EPKSDF	22 01 59.0 22 05 20.0		-5.9 1.5														Easter Island Cordillera 54.70 S 119.30 W, H = 21 41 59.9, /ISC/. DEPTH = 33 km, /ISC/.	
395	15	BRA	IP	06 27 04.0		-2.3														Eastern Caucasus 43.22 N 47.07 E, H = 06 22 15.0, MB = 4.8 /ISC/. DEPTH = 3 km, MB = 4.8 /ISC/.	
396	15	BRA	E	11 04 46.0																No determination of epicentre	
397	15	BRA	EPKIKP EPP E LMH LMH EPP I I I LMH I	11 33 49.0 11 35 28.0 11 05 52.0 12 37 00.0 12 25 30.0 11 35 24.0 11 43 36.0 11 45 32.0 11 50 40.0 12 25 00.0 11 33 52.0		2.4 -1.9 -8.0														Falkland Islands Region 54.31 S 64.20 W, H = 11 14 54.4, MB = 5.7 /ISC/. DEPTH = 38 km, MB = 5.7 /ISC/.	
398	15	BRA	EP	16 03 42.0		0.6														Turkey 38.85 N 36.88 E, H = 15 59 43.9, /ISC/. DEPTH = 33 km, /ISC/.	
399	15	BRA	ERN ISG	20 24 57.0 20 27 09.0		7.0 18.0														Albania 41.73 N 20.14 E, H = 20 23 06.7 /BCIS/.	

No.	Date	STA Code	Phase	GMT			RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m	s		A	T	A	T	A	T	A	T						
400	15	BRA	EPN ESC	20 44 08.0 20 46 17.0		5.8 16.0														Albania 41.84 N 20.10 E, H = 20 42 20.5 /BCIS/.	
401	16	BRA	IFKP2	18 14 41.0		0.2														South of Fiji 24.00 S 176.80 W, H = 17 54 40.0, MB = 4.6 /ISC/. DEPTH = 105 km, MB = 4.6 /ISC/.	
402	17	BRA	IP I IPP I IP EPP E	04 58 01.0 05 02 00.0 05 02 08.0 05 04 14.0 04 58 04.0 05 02 16.0 05 09 12.0		0.1 -5.2 -0.1 -2.3															Southern Peru 16.00 S 71.88 W, H = 04 44 20.9, MB = 5.8 /ISC/. DEPTH = 99 km, MB = 5.8 /ISC/.
403	17	SRO	E E	13 55 40.0 13 55 46.0																No determination of epicentre	
404	17	BRA	IP I I I	06 02 29.0 06 03 11.0 06 06 29.0 06 07 08.0		0.2														Greece 38.38 N 22.14 E, H = 05 59 58.0, MB = 4.4 /ISC/. DEPTH = 3 km, MB = 4.4 /ISC/.	
405	19	BRA	EPDIFF E EPP EPP E	11 10 18.0 11 13 15.0 11 14 45.0 11 14 39.0 11 23 59.0		1.6 5.7 -5.3														Near Coast of Northern Chile 22.28 S 70.55 W, H = 10 56 13.5, MB = 6.1 /ISC/. DEPTH = 44 km, MB = 6.1 /ISC/.	
406	19	BRA	E	12 49 58.0																No determination of epicentre	
407	19	BRA	IP IS LMH IP IS LMH IP	14 35 28.0 14 37 19.0 14 43 51.0 15 01 00.0 14 35 31.0 14 44 00.0 14 59 00.0 14 35 45.0		-1.9 8.9 -3.9 8.4 0.3															North Atlantic Ridge 15.34 N 45.92 W, H = 14 25 20.0, MB = 5.5 /ISC/. DEPTH = 43 km, MB = 5.5 /ISC/.
408	19	BRA	EPKIKP SRO I I I IPKIKP	18 58 05.5 18 58 03.0 18 58 11.0 18 58 27.0 19 09 39.0 18 58 01.1		8.1 -0.4 0.5															Fiji Region 15.60 S 176.11 W, H = 18 38 25.5, MB = 5.2 /ISC/. DEPTH = 33 km, MB = 5.2 /ISC/.

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
409	19	BRA	IP	19 03	52.0	1.0								71.16	18.54		Near East Coast of Kamchatka 57.38 N 163.35 E, H = 18 52 33.0, DEPTH = 33 km, MB = 5.2 /ISC/.
410	19	BRA	EPKIKP E	19 09 19 10	22.0 19.0	0.3								145.31	23.02		Fiji Region 15.18 S 176.22 W, H = 18 49 47.0, DEPTH = 31 km, MB = 5.4 /ISC/.
411	19	SRO	E E	22 29 22 32	27.0 00.0									8.49	168.14		Greece-Albania Border Region 39.48 N 20.56 E, H = 22 27 01.3, MB = 4.5 /ISC/.
412	20	SPC ERA	IP EP	02 36 02 36	20.0 34.0	-1.4 1.0								77.81 79.93	41.04 38.87		Off East Coast of Honshu 40.21 N 143.31 E, H = 02 24 25.3, DEPTH = 30 km, MB = 5.1 /ISC/.
413	20	SRO	E	05 50	11.0												No determination of epicentre
414	20	SRO	EP E E LMH EP	06 07 06 08 06 12 06 13 06 07	35.0 39.0 28.0 00.0 32.0	13.5		0.8	8.0	2.3	10.0		4.5	12.24 13.09	132.84 130.72		Turkey 38.85 N 29.80 E, H = 06 04 27.2, MB = 4.2 /ISC/.
415	20	BRA	IP EPP	20 00 20 03	15.0 15.0	-3.8 -5.6								79.34	207.83		South Atlantic Ridge 26.54 S 13.70 W, H = 19 48 15.3, DEPTH = 38 km, MB = 5.1 /ISC/.
416	22	SPC SRO	IP EP ES	14 51 14 51 15 01	17.0 24.0 20.0	0.9 0.4 10.1								75.84 77.15	358.02 356.90		South of Alaska 55.31 N 156.39 W, H = 14 39 30.3, DEPTH = 25 km, MB = 5.5 /ISC/.
417	22	SRO	+IP IPP IS LMH	21 45 21 48 21 55 22 16	36.0 24.0 32.0 00.0	2.5 -10.0 5.2	1000	2.7	16.0	2.4	16.0	6.5	5.8	78.80	35.27		Kurile Islands 43.30 N 147.44 E, H = 21 33 33.5, MB = 5.6 /ISC/.
418	24	BRA	I	11 05	05.0												No determination of epicentre

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks	
				h	m		A	T	A	T	A	T						
419	24	SPC ERA	IP IP IAP I I LMH EP E LMH IP IAP I IS LMH	13 21 13 21 13 21 13 23 13 30 13 56 13 21 13 23 13 55 13 21 13 21 13 28 13 31 13 51	01.0 03.0 00.0 32.0 23.0 30.0 18.0 00.0 10.0 14.0 30.0 06.0 00.0	-1.7 -1.3 -11.0	107	1.5					5.8	76.43 76.72	341.95 340.15		Queen Charlotte Islands Region 51.77 N 130.76 W, H = 13 09 13.0, MB = 5.7 /ISC/.	
420	25	SRO ERA	EPKIKP E IPKIKP I I	05 32 05 35 05 32 05 33 05 35	58.0 02.0 59.0 13.0 17.0	1.2 1.4								127.96 128.39	53.27 51.76		Solomon Islands 7.90 S 158.68 E, H = 05 13 59.0, MB = 5.9 /ISC/.	
421	25	BRA	E	13 25	42.0													Solomon Islands 76.70 S 158.59 E, H = 13 06 44.8, MB = 5.1 /ISC/.
422	26	ERA	EP	02 01	10.0	0.9	107	1.5				5.1		22.32	104.71		Northwest Persia-USSR Border Region 38.70 N 45.10 E, H = 01 56 16.0, MB = 4.5 /ISC/.	
423	26	ERA	IP E	16 02 16 03	54.0 11.0	-0.8	111	1.5				5.7		56.81	223.25		North of Ascension Islands 0.08 S 17.88 W, H = 15 53 13.1, DEPTH = 49 km, MB = 5.2 /ISC/.	
424	26	ERA	EP	00 50	58.0	1.9								21.59	91.95		Eastern Caucasus 43.22 N 47.31 E, H = 00 46 07.3, MB = 4.5 /ISC/.	
425	27	SRO	I	05 50	20.0												No determination of epicentre	
426	27	ERA	E E	10 03 10 03	19.0 19.0									86.44	280.75		Near Coast of Northern Peru 9.90 N 78.53 W, H = 09 45 28.9, DEPTH = 70 km, MB = 5.4 /ISC/.	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
427	27	SRO	E	18 59	52.0	1.5								6.37	172.69	Albania 41.49 N 19.39 E, H = 18 57 15.0, DEPTH = 48 km /ISC/.	
			E	19 00	48.0												
			LMH	19 02	30.0												
			I	18 59	59.0												
		ERA	I	19 00	15.0					4.2	3.0	2.0	3.0	6.87	165.50		
			I	19 01	09.0												
			LMH	19 02	30.0												
			I	18 59	37.0												
		SPC	I	19 01	01.0					0.5	3.0	0.5	3.0	7.72	184.79		
			I	19 01	01.0												
			I	19 01	01.0												
			I	19 01	01.0												
428	28	SRO	EPDIFF	01 44	32.0	6.3								106.96	84.20	Timor 8.70 S 124.04 E, H = 01 30 13.8, DEPTH = 50 km, MB = 6.2 /ISC/.	
			EPP	01 49	00.0												
			E	01 58	24.0												
			LMH	02 32	00.0												
		ERA	IPDIFF	01 44	30.0	0.9				4.7	24.0	7.3	24.0	107.72	83.17		
			I	01 47	39.0												
			I	01 49	00.0												
			I	01 51	30.0												
429	28	BRA	4P	02 05	27.0	-1.8	104	1.2						39.15	63.91	Eastern Kazakhstan 49.83 N 78.22 E, H = 01 57 57.7, DEPTH = 0 km, MB = 5.7 /ISC/.	
			I	02 05	42.0												
			I	02 07	15.0												
			IPP	02 07	15.0												
430	28	ERA	E	08 15	48.0												No determination of epicentre
431	28	BRA	IP	11 13	31.0	1.5	222	1.0						74.09	21.87	Near Coast of Kamchatka 53.42 N 160.34 E, H = 11 01 56.2, DEPTH = 44 km, MB = 5.7 /ISC/.	
			E	11 13	40.0												
432	28	SPG	IPKP2	11 28	51.0	11.2								148.39	36.68	Fiji Region 21.66 S 179.42 W, H = 11 09 51.3, DEPTH = 587 km, MB = 5.8 /ISC/.	
			IPP	11 32	27.0												
			IPKIKP	11 28	30.0												
			IPKIKP	11 28	37.0												
			IPKP2	11 28	46.0												
			I	11 29	21.0												
			I	11 30	55.0												
			I	11 31	07.0												
IPP	11 32	22.0															
433	28	SPC	IPKP2	22 58	27.0	-3.6								149.73	27.71	Tonga 21.17 S 174.30 W, H = 22 38 36.9, DEPTH = 34 km, MB = 5.2 /ISC/.	
			IPKIKP	22 58	29.0												
434	29	BRA	IPKIKP	06 07	42.0	0.6								158.78	43.36	Kermadec Islands Region 31.26 S 179.76 W, H = 05 48 22.0, DEPTH = 318 km, MB = 5.0 /ISC/.	
			IPKP2	06 08	21.0												
435	29	BRA	IPN	12 16	51.0	-2.7											Yugoslavia 42.10 N 19.60 E, H = 12 15 17.0
			I	12 17	04.0												
			ISN	12 18	00.0												
			ISG	12 18	39.0												
436	30	BRA	E	12 20	27.0	-1.8											Greece 38.60 N 20.57 E, H = 18 21 22.0, DEPTH = 18 km, MB = 4.6 /ISC/.
			IP	18 23	42.0												
			I	18 24	39.0												
			I	18 26	39.0												
			I	18 27	09.0												
			I	18 27	09.0												
			I	18 27	09.0												
			LMH	18 28	30.0												

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
437	1	ERA	E I	08 58	53.0 08 58 59.0									147.74	21.48	No determination of epicentre Kermadec Islands Region 17.31 S 174.70 W, H = 12 44 03.0, DEPTH = 213 km, MB = 4.7 /ISC/.	
438	1	ERA	EPKIKP	13 03	22.0	2.9											North Atlantic Ridge 23.83 N 45.60 W, H = 16 18 43.3, DEPTH = 32 km, MB = 5.1 /ISC/.
439	1	BRA	-IP EPCP EPP	16 28 16 29 16 30	11.0 08.0 29.0	0.2 -5.6 14.5											Near Coast of Peru 10.14 S 78.60 W, H = 00 45 01.2, DEPTH = 55 km, MB = 5.8 /ISC/.
440	2	BRA	-IP EPP E	00 58 01 03 01 04	47.0 09.0 28.0	-0.4 9.3								101.27	267.41		Turkey 38.87 N 36.81 E, H = 02 24 34.7, DEPTH = 19 km, MB = 4.7 /ISC/.
441	2	BRA	-IP IPP I E	02 28 02 28 02 29 02 30	35.0 44.0 08.0 41.0	1.8 -1.8								17.01	115.86		Greece 38.72 N 20.59 E, H = 07 50 14.0, DEPTH = 27 km, MB = 4.9 /ISC/.
442	2	SRO	E ES LMH	07 53 07 54 07 56	16.0 28.0 30.0	15.2 -2.0		4.0	8.0	7.0	8.0		4.9	9.24	168.84		Northern Sumatra 4.63 N 97.65 E, H = 19 14 08.0, DEPTH = 91 km, MB = 5.0 /ISC/.
443	2	ERA	IP IAP	07 52 07 52	34.0 34.0	-4.1		3.3	8.0	2.8	8.0		4.6	9.70	164.43		Greece 38.77 N 20.42 E, H = 00 41 00.0, DEPTH = 24 km, MB = 4.8 /ISC/.
444	3	SRO	E E E LMH	00 43 00 44 00 45 00 47	32.0 28.0 50.0 30.0	-6.2		2.5	6.0	1.0	6.0		4.6	9.17	169.61		South of Kermadec Islands 33.32 S 179.14 W, H = 10 21 43.0, DEPTH = 0 km, MB = 5.3 /ISC/.
445	3	BRA	EPKIKP	10 41	45.0	0.6								160.79	45.38		

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
446	3	ERA	E	12 51	36.0												No determination of epicentre
447	5	ERA	EP	14 25	44.0	-0.7								97.34	70.28		Mindanao, Philippine Islands 7.47 N 126.80 E, H = 14 12 17.9, DEPTH = 68 km, MB = 5.5 /ISC/.
448	6	BRA	EPKIP2	00 08	57.0	-3.6								148.13	19.25		Tonga Islands 17.40 S 173.40 W, H = 23 49 13.5, DEPTH = 34 km, MB = 4.8 /NEIC/.
449	8	ERA	-IP E ES	05 00 05 01 05 09	16.0 29.0 21.0	-0.2 0.4 -0.6						6.3		71.38	276.33		Virgin Islands 18.00 N 64.67 W, H = 04 49 10.6, DEPTH = 148 km, MB = 5.8 /ISC/.
450	8	BRA	EP	15 10	47.0	0.5								78.05	38.29		Hokkaido, Japan 42.09 N 142.57 E, H = 14 58 55.9, DEPTH = 88 km, MB = 5.0 /ISC/.
451	9	SPC	IP I EP	08 22 08 23 08 23	51.0 20.0 10.0	-7.3 0.6								76.95	35.80		Kurile Islands Region 43.73 N 148.43 E, H = 08 11 08.3, DEPTH = 41 km, MB = 5.3 /ISC/.
452	9	SPC	EP I EP	11 36 11 37 11 36	26.0 18.0 39.0	-3.0 -0.3 3.9								78.97	33.69		Kurile Islands Region 43.84 N 149.48 E, H = 11 24 34.0, DEPTH = 4 km, MB = 5.4 /ISC/.
453	9	SPC	IP I EP	12 23 12 24 12 23	44.0 07.0 59.0	-3.5 1.3 3.9								76.91	35.87		Kurile Islands Region 43.73 N 148.32 E, H = 12 11 57.5, DEPTH = 39 km, MB = 5.5 /ISC/.
454	9	SPC	EP E EP	21 09 21 10 21 09	38.0 00.0 55.0	-1.1 8.6								5.47	125.92		Romania 45.80 N 26.58 E, H = 21 08 18.5, DEPTH = 138 km, MB = 4.4 /ISC/.
		ERA	LMH +IP I LMH	13 01 12 23 12 34 13 02	00.0 59.0 14.0 00.0	0.4		2.9	18.0	3.7	18.0		5.9	78.93	33.76		
		ERA	EP E EP E	21 10 21 10 21 10 21 11	05.0 29.0 05.0 17.0	6.6 1.1								6.02	106.49		
		ERA	EP E EP E	21 10 21 10 21 10 21 12	05.0 29.0 17.0 14.0	6.6 1.1								6.90	106.56		

No.	Date	STA Code	Phase	GMT h m s	RBS O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
						A	T		A	T		A	T						
455	10	ERA	I	10 30 46.0														No determination of epicentre	
456	10	ERA	IPN I IPJ ISG LMH	14 20 24.0 14 20 33.0 14 20 57.0 14 22 14.0 14 24 45.0	-4.2 2.1 2.5											5.85	88.90	Romania 47.95 N 25.83 E, H = 14 18 58.1, DEPTH = 33 km /ISC/.	
457	10	ERA	I E E	21 19 24.2 21 20 12.0 21 22 56.0												88.40	70.95	Mindoro, Philippine Islands 13.93 N 120.42 E, H = 10 21 06.0, MB = 5.5 /ISC/.	
458	11	ERA	EP EPP E E E	21 28 58.0 21 32 22.0 21 33 23.0 21 35 16.0 21 35 48.0	-1.4 11.8 12.6											82.83	55.23	Ryukyu Islands 28.29 N 129.56 E, H = 21 16 34.7, DEPTH = 18 km, MB = 5.1 /ISC/.	
459	11	SRO	IP IPP IS +IP I I E	22 46 31.0 22 47 21.0 22 50 55.0 22 46 39.0 22 46 48.0 22 47 06.0 22 47 39.0 22 48 45.0	-3.0 11.8 3.3 -3.3 -14.5														Caspian Sea 37.57 N 49.07 E, H = 22 41 13.5, DEPTH = 22 km, MB = 4.7 /ISC/.
460	11	SRO	EP E LMH	23 31 31.0 23 34 35.0 23 38 30.0	-2.7 -3.2		2.0	8.0	1.9	8.0					4.4	9.10	168.79	Greece 38.86 N 20.57 E, H = 23 29 19.6, DEPTH = 13 km, MB = 4.7 /ISC/.	
461	12	ERA	EP EPP	09 31 14.0 09 35 04.0	2.8 5.8											93.26	69.96	Leyte, Philippine Islands 10.84 N 124.41 E, H = 09 18 04.6, DEPTH = 82 km, MB = 5.5 /ISC/.	
462	13	ERA	EP E E E	00 49 04.1 00 50 31.1 00 52 31.0 00 53 16.1	-3.3											9.76	163.86	Greece 38.73 N 20.56 E, H = 00 46 45.0, DEPTH = 21 km, MB = 4.4 /ISC/.	

No.	Date	STA Code	Phase	GMT h m s	RBS O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
						A	T		A	T		A	T						
463	14	SPC	IP I EP E	18 12 03.0 18 12 11.0 18 12 02.0 18 12 06.0	5.6 0.1														Norwegian Sea 72.48 N 2.20 E, H = 18 06 37.1, MB = 4.7 /ISC/.
464	16	ERA	EPKP2 E	07 57 50.0 07 58 26.0	-0.5														South of Fiji Region 25.33 S 177.85 W, H = 07 37 58.1, DEPTH = 208 km, MB = 5.0 /ISC/.
465	16	ERA	IPKHKP EPKP2 E E EPP E EPKP2 E E LMH	21 37 29.0 21 37 34.0 21 38 25.0 21 39 34.0 21 41 10.0 21 42 25.0 21 37 35.0 21 38 15.0 21 39 21.0 21 53 30.0	2.4 -4.6 1.6 -3.7														Tonga 19.19 S 173.37 W, H = 21 17 44.2, MB = 5.7 /ISC/.
466	16	ERA	EPKP2 E	23 43 46.0 23 44 10.0	2.0		2.0	18.0	0.9	18.0					5.9	146.41	17.62	Samoa Region 15.52 S 172.90 W, H = 23 24 03.5, DEPTH = 33 km, MB = 4.6 /ISC/.	
467	17	SRO	EPKHKP E E E LMH EPKHKP I I EPKP2 EPP E E	20 24 37.0 20 26 37.0 20 30 31.0 20 32 35.0 21 46 30.0 20 24 36.0 20 24 54.0 20 25 18.0 20 28 30.0 20 30 12.0 20 33 09.0	1.2 0.2 10.7 5.4														Tonga Region 22.00 S 174.65 W, H = 20 04 47.1, MB = 5.6 /ISC/.
468	18	ERA	+IP I EPP ES LMH IP IS LMH	02 00 45.0 02 00 57.0 02 03 48.0 02 10 54.0 02 44 30.0 02 00 47.0 02 10 55.0 02 43 00.0	0.0 -0.6 10.0 0.9 8.8														Andeanof Islands 51.35 N 178.51 W, H = 01 48 38.9, MB = 5.8 /ISC/.
469	21	SPC	IP I	01 25 09.0 01 25 51.0	2.5		4.0	18.0	8.5	18.0					6.2	79.96	9.87	Hindu Kush Region 36.46 N 70.39 E,	



No.	Date	STA 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					
270		BRA	EP EAP EPP	01 25 24.0 01 26 08.0 01 27 00.0	0.1 -0.2 -3.8										40.34	86.63	H = 01 18 05.2, DEPTH = 209 km, MB = 5.1 /ISC/.		
271	21	BRA	EPN ESN ESG E EPG ESG E	11 26 00.0 11 27 17.0 11 28 15.0 11 29 09.0 11 26 01.0 11 27 19.0 11 28 39.0 11 29 19.0	-17.0 -17.7 -0.6 15.4 -1.8										6.66 7.43	260.73 265.28	Switzerland 46.69 N 7.53 E, H = 11 24 35.5, DEPTH = 0 km /ISC/.		
271	21	BRA	EKP2 EAPKIP E E E E	19 04 14.0 19 04 33.0 19 05 33.0 19 06 30.0 19 04 07.0 19 04 39.0 19 06 23.0 19 08 10.0	-3.4 -11.8 1.6 -5.8										149.80 149.83	20.17 22.59	Tonga 19.14 S 173.47 W, H = 18 44 31.0, MB = 4.9 /ISC/.		
472	24	BRA	E E	16 00 51.0 16 01 06.0											2.87	326.75	Czechoslovakia, explosion 50.54 N 14.64 E, H = 15 59 50.0 /PRU/.		
273	25	SPC	IP IPP +IP IS LMH	22 53 13.0 22 56 11.0 22 53 21.5 22 56 36.0 23 03 40.0 23 34 00.0 22 53 22.3 22 53 45.0 22 56 36.0 23 03 36.0 23 28 30.0	1.8 -0.5 0.3 9.2 17.3 420 8.2 5.4 8.9												Kyushu, Japan 32.26 N 131.78 E, H = 22 41 12.6, DEPTH = 47 km, MB = 6.1 /ISC/.		
474	26	SRO	+IP LMH +IP IS LMH	07 22 47.8 08 03 30.0 07 22 48.0 07 23 31.0 07 33 04.0 08 03 30.0	-2.0 -4.0 6.0													Kyushu, Japan 32.31 N 131.83 E, H = 07 10 37.9, DEPTH = 22 km, MB = 6.0 /ISC/.	

No.	Date	STA Code	Phase	GMT		RES O-C	Z			E-W			N-S			MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T							
475	27	SPC	I	14 34 10.0														No determination of epicentre	
476	28	BRA	E E E	05 07 33.0 05 08 13.0 05 08 23.0	0.4										151.71	24.29		Tonga Region 21.54 S 174.98 W, H = 04 47 48.0, DEPTH = 33 km, MB = 5.1 /ISC/.	
477	29	BRA	EP EAP EPP E	05 59 03.0 05 59 09.0 06 00 48.0 06 02 46.5	1.8 0.5 5.3										43.37	77.68		Southern Sinkiang Province, China 39.84 N 77.72 E, H = 05 50 59.0, DEPTH = 24 km, MB = 5.3 /ISC/.	
478	29	BRA	-IP IAP E IPP IS LMH -IP IAP IPP IS I LMH IP	10 26 43.5 10 27 00.0 10 27 30.0 10 29 12.0 10 35 09.0 10 54 30.0 10 26 40.0 10 27 04.0 10 29 16.0 10 35 00.0 10 39 56.0 10 57 30.0 10 26 33.0	-2.2 -3.5 4.5 -2.0 -1.1 5.2 6.3 -2.0 1.9													Burma-India Border Region 26.02 N 95.37 E, H = 10 16 20.4, DEPTH = 68 km, MB = 6.4 /ISC/.	
479	30	SPC	IP IP IS LMH IP I I IS LMH	00 58 14.0 00 58 24.0 01 03 16.0 01 13 30.0 00 58 28.0 00 59 30.0 01 01 21.0 01 03 30.0 01 19 30.0	2.2 2.6 5.5 -0.9 6.1														Persia-USSR Border Region 37.85 N 55.94 E, H = 00 52 20.3, MB = 5.7 /ISC/.
480	30	SPC	IP IP IPP IS LMH IP IPP E IS LMH	05 06 47.0 05 06 48.0 05 08 36.0 05 13 28.0 05 30 30.0 05 06 52.0 05 08 42.0 05 11 21.0 05 13 35.0 05 28 30.0	1.3 1.7 7.0 16.7 -1.2 4.4 11.3														Eastern Gulf of Aden 14.38 N 51.75 E, H = 04 48 45.7, DEPTH = 33 km, MB = 5.6 /ISC/.
481	30	BRA	I I I	18 37 00.0 18 37 10.0 18 37 15.0															No determination of epicentre

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z			E-W			N-S			MLH	Delta	Azimuth	Remarks
						A	T		A	T		A	T					
482	30	BRA	+IPKIKP E EAPKP2	19 03 44.0 19 04 05.2 19 04 38.0	1.5 6.3										146.11	19.44	Tonga 15.45 S 173.99 W, H = 18 44 16.9, DEPTH = 113 km, MB = 5.1 /ISC/.	
483	31	BRA	EPKP2	04 00 44.0	-2.7										148.70	18.81	Tonga 17.90 S 173.03 W, H = 03 40 57.6, DEPTH = 37 km, MB = 4.8 /ISC/.	
484	31	BRA	EPCP	13 22 07.0	-1.8										67.05	72.34	Szechwan Province, China 28.63 N 103.61 E, H = 13 10 44.0, MB = 5.3 /ISC/.	
485	31	BRA	EPKIKP E	15 35 38.7 15 36 05.0	1.7										136.20	280.56	Easter Island Region 26.98 S 113.21 W, H = 15 16 17.0, MB = 5.3 /ISC/.	
486	31	BRA	-IP I IPP ISKSAB LMH IP	17 20 02.0 17 20 26.0 17 23 44.0 17 29 29.0 18 03 30.0 17 20 15.0	-0.4 -9.9 -4.9 3.0										90.85	268.78	Columbia 1.46 S 72.56 W, H = 17 08 05.4, DEPTH = 653 km, MB = 6.5 /ISC/.	
487	31	BRA	+IPKIKP I I	21 05 40.0 21 06 05.0 21 08 23.0	0.1										145.07	23.43	Fiji Region 15.01 S 176.52 W, H = 20 46 06.0, MB = 5.2 /ISC/.	

488	1	BRA	-IP E EPP ES	01 30 36.7 01 30 50.0 01 34 10.0 01 41 15.0	-1.5 -1.8 0.9										89.04	95.51	Southern Sumatra 2.99 S 102.36 E, H = 01 17 55.8, DEPTH = 121 km, MB = 5.3 /ISC/.	
489	1	BRA	E	09 00 14.0														Slovakia, probably explosion
490	1	BRA	EP	14 49 32.0	3.1										25.83	354.54	Greenland Sea 73.64 N 8.70 E, H = 14 43 58.9, DEPTH = 33 km, MB = 4.4 /ISC/.	
491	L	BRA	EP	01 48 04.0	0.5										77.91	29.63	Kurile Islands 46.63 N 152.56 E, H = 01 36 07.4, MB = 5.1 /ISC/.	
492	2	SPC BRA	EPKP2 EPKP2	19 43 35.0 19 43 37.0	1.4 -3.1										145.65 147.33	22.43 17.66	Samoa Region 16.42 S 172.72 W, H = 19 23 56.0, MB = 4.6 /ISC/.	
493	3	BRA	EPKP2 E EAPKIKP E	00 53 23.0 00 53 32.0 00 53 53.0 00 56 44.0	-2.0 -3.7										146.63	19.41	Tonga 15.95 S 173.85 W, H = 00 33 50.3, MB = 5.4 /ISC/.	
494	3	BRA	EPKP2	03 53 17.0	-0.7										146.88	20.94	Tonga 16.40 S 174.63 W, H = 03 33 35.4, MB = 5.1 /ISC/.	
495	3	SRO BRA	EP ES -IP ES	22 42 17.0 22 52 20.0 22 42 18.8 22 52 28.0	1.6 1.8 -1.0 1.1										81.15 82.00	96.00 95.14	Northern Sumatra 2.54 N 97.94 E, H = 22 30 05.9, MB = 5.7 /ISC/.	
496	4	BRA	EPKP2	19 54 03.0	-0.8										148.83	18.83	Tonga 16.07 S 173.48 W, H = 19 34 23.9, MB = 4.7 /ISC/.	
497	5	SRO BRA	IPN EPG ESN ESQ +IPN IPG ISG	04 28 27.2 04 28 43.0 04 29 17.0 04 29 37.0 04 28 25.2 04 28 48.1 04 29 45.0	-2.1 -3.4 -2.8 -4.3 -5.7 -0.4 0.1									4.19 4.30	202.97 190.21	Yugoslavia 43.93 N 16.05 E, H = 04 27 22.7, MB = 4.5 /ISC/.		



No.	Date	STA 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					
498	5	BRA	EP	05	39	39.0	-1.2								100.81	268.29	Near Coast of Northern Peru 9.21 S 78.93 W, H = 05 25 58.1, DEPTH = 72 km, MB = 5.6 /ISC/.		
499	5	BRA	+IP EPP	09	19	16.4 09 21 31.0	-2.2 -6.5								61.91	255.74	North Atlantic Ridge 11.87 N 43.76 W, H = 09 09 02.0, DEPTH = 51 km, MB = 5.2 /ISC/.		
500	6	BRA	E	19	19	46.0											No determination of epicentre		
501	6	ERA	E EPKIKP EPKP2	21	41	20.0 21 41 31.0 21 41 49.0	1.6 -1.8								153.11	25.76	Tonga Region 23.09 S 175.22 W, H = 21 21 43.0, DEPTH = 41 km, MB = 5.1 /ISC/.		
502	7	BRA	EP	01	55	22.0	0.1								78.98	33.67	Kurile Islands Region 43.73 N 148.45 E, H = 01 43 15.0, DEPTH = 2 km, MB = 5.1 /ISC/.		
503	7	BRA	EPKIKP EPKP2 E	08	09	51.0 08 10 00.0 08 12 06.0	1.2 1.3								147.27	27.71	Fiji Region 17.84 S 178.20 W, H = 07 51 12.0, DEPTH = 553 km, MB = 5.5 /ISC/.		
504	7	BRA	E	04	28	46.0									89.72	46.90	Ionian Islands Region 27.61 N 141.74 E, H = 16 33 36.2, DEPTH = 90 km, MB = 5.1 /ISC/.		
505	8	BRA	EP	04	28	46.0	5.5								4.78	223.45	Northern Italy 44.60 N 12.50 E, H = 04 27 29.0, DEPTH = 48 km /ISC/.		
506	8	BRA	EP	09	13	13.0	0.4								81.39	53.43	Kyushu, Japan 30.54 N 130.13 E, H = 09 01 09.3, DEPTH = 133 km, MB = 4.9 /ISC/.		
507	8	SRO ERA	EP ESKSAB LMH EP EPP	21	18	02.0 21 28 37.0 22 06 00.0 21 18 00.0 21 22 19.0	5.5 7.8 0.4 8.6		0.9	20.0	0.5	20.0			101.08	75.82	Molucca Passage 1.16 N 126.20 E, H = 21 04 06.0, DEPTH = 17 km, MB = 5.8 /ISC/.		

508	10	SPC BRA	EPKP2 EPKIKP	11	53	32.0 11 53 32.0	3.2 2.5								145.37 147.10	24.58 19.93	Tonga 16.48 S 174.02 W, H = 11 33 57.2, MB = 4.9 /ISC/.
509	10	SPC BRA	EPKIKP EPP EPKIKP EAPKIKP EPP E LMH	15	34	41.0 15 37 15.0 15 34 39.3 15 34 50.0 15 37 26.0 15 38 17.0 16 34 00.0	5.4 -1.2 -0.4 -10.8 -4.1								135.32 137.55	49.83 46.82	New Hebrides 13.92 S 166.65 E, H = 15 15 20.7, MB = 5.9 /ISC/.
510	10	ERA	IPN EPG ESN ESG	16	39	47.0 16 40 05.0 16 40 35.0 16 41 11.0	-2.5 -2.1 -6.1 7.7								4.29	190.43	Yugoslavia 43.94 N 16.03 E, H = 16 38 41.4, DEPTH = 27 km /ISC/.
511	11	ERA	EP IAP EPP ES LMH	03	58	28.8 03 58 36.3 04 00 35.0 04 06 20.0 04 25 00.0	-1.2 -1.2 0.0 5.6	1.4				5.9			55.89	218.34	North of Ascension Island 1.05 S 13.81 W, H = 03 48 51.9, DEPTH = 25 km, MB = 5.5 /ISC/.
512	11	SPC BRA	EPKIKP EPP -IPKIKP IPP E LMH	10	41	38.0 10 44 20.0 10 41 47.0 10 44 32.0 10 45 17.0 11 40 00.0	-0.9 2.3 4.0 0.2		6.4	15.0	13.6	15.0			135.46 137.69	50.09 47.03	New Hebrides 14.13 S 166.56 E, H = 10 22 20.0, MB = 6.1 /ISC/.
513	11	BRA	E	11	05	38.0											Slovakia, probably explosion
514	11	BRA	EP	20	11	35.0	-2.5								91.43	284.61	Off Coast of Costa Rica 8.70 N 84.80 W, H = 19 58 31.5, DEPTH = 21 km, MB = 4.7 /ISC/.
515	11	BRA SPC	EPKIKP E EPKIKP	20	29	32.0 20 30 23.0 20 29 38.0	4.2 6.9								113.74 115.47	201.28 202.93	South Sandwich Islands Region 60.63 S 25.27 W, H = 20 10 54.1, MB = 5.8 /ISC/.
516	12	SPC ERA	EPKIKP EPP EPP EPKSDP	01	00	03.0 01 00 06.0 01 02 51.0 01 03 37.0	4.5 3.5 -1.6 -0.3								135.26 137.49	49.95 46.95	New Hebrides 13.91 S 166.54 E, H = 00 40 43.0, MB = 5.3 /ISC/.
517	12	SPC	EPKIKP EPP	01	58	54.0 02 01 32.0	1.9 -0.2								135.24	49.95	New Hebrides 13.99 S 166.53 E,

No. Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
			h	m		A	T	A	T	A	T					
	SRO	EPKIKP EPKSAB LMH	01 58	45.0	-10.4									137.11	48.72	H = 01 39 36.9, DEPTH = 43 km, MB = 5.8 /ISC/.
	ERA	EPKIKP EAPKIKP EPP	02 02	37.0	-0.1			2.6	20.0	3.1	20.0	6.1	137.47	46.95		
518	SPC ERA	EPKIKP EPKIKP EPP EPKSDF	08 40	41.0	-0.2								135.32 137.56	49.91 46.91	New Hebrides 13.95 S 166.60 E, H = 08 21 27.0, MB = 5.2 /ISC/.	
519	ERA	EPKIKP EPKSDF	09 25	15.0	5.5								137.77	46.95	New Hebrides 14.15 S 166.69 E, H = 09 05 49.9, DEPTH = 45 km, MB = 5.2 /ISC/.	
520	ERA	EP E LMH	09 37	11.0	1.4								90.12	288.12	Near Cosset of Nicaragua 12.00 N 86.64 W, H = 09 24 15.6, DEPTH = 66 km, MB = 5.5 /ISC/.	
	SRO	EP EPP ES LMH	09 37	16.0	2.2			15.0	20.0	75.0	20.0	7.1	91.01	289.01		
			09 40	57.0	4.0							6.6				
			09 48	13.0	9.8			15.0	20.0	16.0	20.0					
521	ERA	EPKIKP	12 54	17.0	4.2								137.56	47.25	New Hebrides 14.07 S 166.40 E, H = 12 34 52.0, MB = 5.0 /ISC/.	
522	ERA	E	14 06	21.0											No determination of epicentre	
523	ERA	EP	22 58	14.0	-0.5								78.69	33.88	Kurile Islands Region 43.88 N 148.00 E, H = 22 46 15.0, DEPTH = 41 km, MB = 5.3 /ISC/.	
524	ERA	E	02 11	46.0											No determination of epicentre	
525	SRO BRA	EPDIFF ESKSAB +IPDIFF EPP E	04 36	24.0	-1.0								103.08	88.98	Sumbawa Island Region 9.00 S 117.95 E, H = 04 22 35.3, DEPTH = 92 km, MB = 5.9 /ISC/.	
			04 47	00.0	5.1								103.88	87.99		
			04 36	27.8	-0.7											
			04 40	49.0	0.1											
			04 56	19.0												

No. Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
			h	m		A	T	A	T	A	T					
526	ERA	EP	03 50	25.0	-0.5									66.58	353.08	Central Alaska 64.98 N 147.83 W, H = 03 39 34.0, MB = 4.9 /ISC/.
527	ERA	I	12 59	38.8												Probably explosion
528	ERA	EPKP2	13 27	21.0	5.3								147.21	17.58	Samoa Region 16.30 S 172.70 W, H = 13 07 34.5, MB = 4.5 /ISC/.	
529	SRO ERA	EPKP2 EPKP2 EAPKIKP	02 01	28.0	0.8								146.50 146.54	27.48 25.25	Fiji Region 16.72 S 177.10 W, H = 01 41 48.5, MB = 4.7 /ISC/.	
			02 01	37.0	-8.3											
530	ERA	EPKP2	05 02	36.0	-1.1								146.70	25.28	Fiji Region 16.88 S 177.07 W, H = 04 42 55.5, MB = 5.1 /ISC/.	
531	ERA	E	12 22	53.0												No determination of epicentre
532	BRA	E	22 34	21.0												No determination of epicentre
533	BRA	E	02 44	42.0									6.99	163.30	Albania 41.44 N 19.77 E, H = 02 42 32.1, /ISC/.	
																DEPTH = 0 km
534	BRA	E	04 27	33.0									11.87	92.29	Switzerland 46.37 N 34.37 E, H = 04 25 32.0, DEPTH = 5 km /ISC/.	
			04 28	12.0												
535	SRO ERA	E EP E	17 45	08.0	-2.9								9.01 9.62	162.53 157.71	Greece 39.16 N 21.78 E, H = 17 40 17.9, MB = 4.5 /ISC/.	
			17 45	31.0												DEPTH = 38 km, MB = 4.5 /ISC/.
536	SRO ERA SRO	EP IP EP ES LMH	18 03	19.0	0.8											Southern Alaska 60.70 N 145.38 W, H = 17 52 08.4, MB = 5.8 /ISC/.
			18 03	20.7	-1.8											DEPTH = 30 km, MB = 5.8 /ISC/.
			18 03	24.0	-1.4											
			18 12	44.0	5.8											
			18 34	00.0												
537	SRO	EPN ESB LMH	02 03	34.0	-1.3								6.81	170.68	Albania 41.08 N 19.77 E, H = 02 01 51.6,	
			02 05	17.0	-0.8											
			02 05	30.0												

No. Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
			h	m		A	T	A	T	A	T					
538	19	BRA EPN EPG ESG LMH	02 03 02 04 02 05 02 06	41.0 14.0 49.0 30.0	-1.6 -3.9 -5.0								7.34	164.02	DEPTH = 21 km, MB = 4.9 /ISC/.	
539	21	BRA -IP	00 55 57.5		1.5									78.05	31.88	Kurile Islands 45.42 N 149.91 E, H = 00 44 02.3, DEPTH = 61 km, MB = 5.2 /ISC/.
540	21	BRA EPKP2	08 57 58.0		0.3								144.86	21.59	Samoa Region 14.52 S 175.53 W, H = 08 38 23.2, DEPTH = 33 km, MB = 5.1 /ISC/.	
541	22	SPC BRA EP EPCP	11 38 11 38 11 39	44.0 50.0 17.0	3.5 -0.7 11.2								72.51 74.24	23.16 21.27	Off East Coast of Kamchatka 53.52 N 161.32 E, H = 11 27 14.0, DEPTH = 25 km, MB = 5.1 /ISC/.	
542	23	BRA EP EAP	03 45 03 45	15.0 18.0	3.2 -0.1								60.49	213.39	Ascension Island Region 6.97 S 11.74 W, H = 03 35 00.9, DEPTH = 21 km, MB = 4.6 /ISC/.	
543	23	BRA EPKP2	05 17 13.0		-4.1								147.06	28.50	Fiji Region 17.78 S 178.70 W, H = 04 58 29.7, DEPTH = 536 km, MB = 4.9 /ISC/.	
544	23	BRA SRO SPC EP EP	11 13 11 14 11 14	51.0 11.0 05.0	-0.9 11.5 1.5								32.88 33.76 34.23	298.60 299.37 298.11	North Atlantic Ocean 53.11 N 35.14 W, H = 11 07 18.8, DEPTH = 33 km, MB = 4.9 /ISC/.	
545	23	BRA E E	16 01 16 01	12.0 28.0											No determination of epicentre	

546	24	BRA EPKIKP EPKP2 EPP	09 52 09 53 09 56	37.0 04.0 43.0	-0.7 -1.5 0.2								155.25	31.43	South of Fiji 25.97 S 176.93 W, H = 09 32 55.0, MB = 4.9 /ISC/.
547	24	BRA SRO EPKIKP EPKP2 EPP E LMH EPKIKP EPP	12 50 12 50 12 51 12 55 12 50 12 51 12 55 13 01 14 07 12 50 12 55	20.0 31.0 17.0 04.0 23.0 23.0 07.0 55.0 30.0 21.0 22.0	-0.4 -5.6 -2.6 -3.5 2.3 1.8 -2.3 -1.1 3.3 -2.8								165.12	228.54	South Pacific Cordillera 56.46 S 142.61 W, H = 12 30 19.9, MB = 5.8 /ISC/.
548	24	BRA EP	16 40 22.0		-2.8								18.96	113.02	Turkey 38.32 N 39.45 E, H = 16 36 03.0, MB = 4.4 /ISC/.
549	24	BRA E	18 22 28.0												No determination of epicentre
550	25	SRO BRA IPN ESB -IPN IPB IPG IPB ISN ISG EPN ESG	01 41 01 42 01 41 01 41 01 41 01 41 01 42 01 42 01 41 01 43	19.2 25.0 25.3 42.0 52.0 22.0 52.0 41.0 35.0	-4.4 -5.8 -4.7 1.8 0.3 -7.5 -5.2 -3.6 3.7								4.55	177.82	Yugoslavia 43.27 N 18.55 E, H = 01 40 11.9, MB = 4.7 /ISC/.
551	25	BRA EPKIKP	05 08 35.0		2.6								147.35	18.05	Samoa Region 16.49 S 172.93 W, H = 04 48 52.8, MB = 4.8 /ISC/.
552	25	BRA E	11 03 48.0												Probably explosion
553	26	SPC SRO ES BRA -IP EAP	15 24 15 24 15 34 15 24 15 24 15 24	14.0 25.0 43.0 26.0 44.0	-1.4 1.1 -2.4 -1.0 0.7								83.04 84.72 85.35	70.62 69.09 68.25	Luzon, Philippine Islands 18.02 N 120.48 E, H = 15 11 54.9, MB = 5.5 /ISC/.
554	26	BRA EPKIKP	18 33 14.0		4.6								149.41	28.82	Fiji Region 20.06 S 178.02 W, H = 18 14 24.7, DEPTH = 528 km, MB = 4.7 /ISC/.

No.	Date	STA 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				
555	26	BRA	EP	21	07	11.0	2.6								83.61	42.94	Off East Coast of Honshu 34.91 N 141.65 E, H = 20 54 42.9, DEPTH = 40 km, MB = 5.0 /ISC/.		
556	27	SPC BRA SRO	EPKP2 +IPKP2 EAPKP2 E +IPKIKP	16 42 02.0 16 42 15.0 16 42 06.0 16 42 20.0 16 42 56.0 16 42 03.0	02.0 15.0 06.0 20.0 56.0 03.0	2.1 4.0 -0.2 2.7 0.4									144.50 146.18 146.25	22.67 18.01 20.23	Tonga 15.34 S 173.17 W, H = 16 22 25.0, DEPTH = 23 km, MB = 5.3 /ISC/.		
557	27	BRA SRO	+IP EP EP ESKSAB	19 57 56.8 20 01 35.0 19 58 00.0 20 01 43.0 20 08 36.0	56.8 35.0 00.0 43.0 36.0	1.7 -3.7 0.9 -2.8 8.6									93.09 93.98	297.13 298.03	Near Coast of Oaxaca, Mexico 15.45 N 95.74 W, H = 19 44 41.0, DEPTH = 18 km, MB = 5.4 /ISC/.		
558	27	BRA	E	20 01 31.0	31.0										146.09	17.59	Samoa Region 15.20 S 172.95 W, H = 20 11 51.4, DEPTH = 33 km, MB = 5.1 /ISC/.		
559	28	SRO BRA	+IPKIKP EP ESKSDF E LMH E +IPKIKP EP EP EPKSDF	01 21 35.0 01 23 11.0 01 28 36.0 01 33 00.0 02 11 30.0 01 18 10.0 01 21 35.1 01 23 19.0 01 25 07.0	35.0 11.0 36.0 00.0 30.0 10.0 35.1 19.0 07.0	1.2 -3.1 -0.5 0.4 1.3 -3.2		9.2	24.0	4.4	24.0	6.4			122.22 122.69	56.57 55.19	New Ireland Region 4.60 S 153.22 E, H = 01 02 47.6, DEPTH = 76 km, MB = 6.0 /ISC/.		
560	28	SPC BRA	EPKIKP +IPKIKP EAPKIKP	10 25 59.0 10 25 57.4 10 26 12.0	59.0 57.4 12.0	2.5 -1.5 -6.1									158.64 160.89	51.19 47.25	South of Kermadec Islands 33.76 S 179.67 W, H = 10 06 03.6, DEPTH = 41 km, MB = 5.7 /ISC/.		
561	28	SPC BRA SRO	EPKIKP EPKP2 EPKSDF EPKP2 EPKSDF	14 21 01.0 14 21 09.0 14 24 55.0 14 21 09.0 14 24 55.0	01.0 09.0 55.0 09.0 55.0	-1.6 0.1 15.5 -0.1 15.4									144.34 146.02 146.09	22.75 18.11 20.32	Tonga 15.19 S 173.26 W, H = 14 01 26.2, DEPTH = 10 km, MB = 5.2 /ISC/.		



562	28	SPC BRA SRO	EPKIKP EPKP2 EPKP2	14 36 03.0 14 36 06.0 14 36 06.0	03.0 06.0 06.0	7.5 4.3 4.1									144.23 145.91 145.98	22.55 17.91 20.11	Tonga 15.06 S 173.17 W, H = 14 16 23.1, DEPTH = 33 km, MB = 5.0 /ISC/.
563	28	SRO BRA	EP EP	18 34 38.0 18 34 38.0	38.0 38.0	2.2 -0.9									84.57 85.19	68.24 67.40	Luzon, Philippine Islands 18.70 N 121.04 E, H = 18 22 06.0, MB = 5.1 /ISC/.
564	29	SRO BRA	+IP IAP EP +IP	01 54 49.0 01 56 01.0 01 57 53.0 01 54 49.0	49.0 01.0 53.0 49.0	1.2 6.5 1.0 -0.5									79.33 79.66	45.72 44.98	Near West Coast of Honshu, Japan 37.00 N 136.81 E, H = 01 43 12.3, DEPTH = 285 km, MB = 5.2 /ISC/.
565	29	BRA E E	EPN E E	10 44 08.0 10 44 51.0 10 46 27.0	08.0 51.0 27.0	6.2									6.88	165.14	Albania 41.49 N 19.45 E, H = 10 42 17.2, DEPTH = 33 km /ISC/.
566	29	BRA	IP	15 10 20.2	20.2	0.1									67.86	36.89	Eastern Russia 51.08 N 135.30 E, H = 14 59 23.9, DEPTH = 40 km, MB = 5.4 /ISC/.
567	30	SPC BRA +IP	EP +IP	00 50 12.0 00 50 21.0	12.0 21.0	1.7 0.4									73.30 75.07	24.80 22.87	Off East Coast of Kamchatka 52.13 N 159.58 E, H = 00 38 41.0, DEPTH = 38 km, MB = 5.1 /ISC/.
568	30	SPC BRA SRO	EPKP2 EPKP2 EPKP2	01 03 37.0 01 03 38.0 01 03 39.0	37.0 38.0 39.0	3.0 -2.4 -1.8									145.40 147.06 147.14	21.98 17.21 19.47	Samoa Region 16.11 S 172.53 W, H = 00 43 57.4, DEPTH = 33 km, MB = 5.3 /ISC/.
569	30	SRO BRA	EPN EPN ESN	03 50 43.0 03 50 51.0 03 51 45.0	43.0 51.0 45.0	-2.7 0.0 -2.7									4.39 4.76	184.32 173.36	Yugoslavia 43.44 N 17.86 E, H = 03 49 36.3, DEPTH = 0 km, MB = 4.2 /ISC/.
570	30	BRA EP	EP	16 23 42.0	42.0	1.4									30.14	95.84	Persia 37.65 N 56.10 E, H = 16 17 31.7, DEPTH = 33 km, MB = 5.0 /ISC/.

No. Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
			h	m		A	T	A	T	A	T					
571	30	IP -IP EAP E -IP IAP IS	17 56 17 56 17 58 17 59 17 56 17 58 18 05	23.0 35.0 51.0 49.0 32.7 45.0 12.0	-0.7 0.8 6.8 -1.8 0.5 2.1									70.73 72.55 72.61	29.17 27.88 27.26	Sea of Okhotsk 52.36 N 151.64 E, H = 17 46 08.9, DEPTH = 643 km, MB = 6.5 /ISC/.



572	1	SRO EP E LMH EP ES EP LMH	01 09 01 12 01 14 01 09 01 11 01 09 01 14	07.0 15.0 30.0 14.7 18.0 22.0 00.0	0.2 1.0 5.4 -2.3			9.5	10.0	6.4	10.0			5.0	9.97	171.30	Ionian Sea 37.94 N 20.21 E, H = 01 06 40.0, DEPTH = 7 km, MB = 4.7 /ISC/.
573	1	SRO IP IPP LMH EP IP	05 25 05 29 06 03 05 25 05 29	02.0 11.0 30.0 03.0 12.0	0.9 -0.2 0.2 -2.1			11.5	24.0	14.6	24.0			6.5	100.61 100.97	48.60 47.55	Marianas Region 17.70 N 147.65 E, H = 05 11 16.0, DEPTH = 39 km, MB = 6.2 /ISC/.
574	1	BRA IP EPP	15 36 15 38	13.0 21.0	-1.8 2.0										56.00	216.91	North of Ascension Island 1.64 S 12.77 W, H = 19 26 35.0, DEPTH = 19 km, MB = 5.2 /ISC/.
575	1	BRA SPC EP	16 15 16 16	48.0 01.0	8.4 6.6										56.00 58.09	216.42 219.43	North of Ascension Island 1.80 S 12.40 W, H = 16 06 02.0, DEPTH = 33 km, MB = 4.6 /ISC/.
576	2	BRA IP	04 03	15.0	-0.7										75.00	22.81	Off East Coast of Kanchatka 52.22 N 159.61 E, H = 03 51 38.0, DEPTH = 51 km, MB = 4.8 /ISC/.
577	3	SRO EP EPP ES LMH IP E ES LMH	05 36 05 36 05 39 05 44 05 36 05 37 05 39 05 46	08.0 22.0 28.0 30.0 15.0 12.0 39.0 00.0	1.2 2.4 15.0 -2.9 5.9			5.3	12.0	3.8	12.0			5.1	16.89 17.77	111.57 110.79	Turkey 39.60 N 38.78 E, H = 05 32 10.2, DEPTH = 22 km, MB = 5.0 /ISC/.
578	3	BRA EPKIP E	09 51 09 55	48.0 12.0	-0.4										140.68	47.72	New Hebrides 16.93 S 167.78 E, H = 09 32 23.2, DEPTH = 42 km, MB = 5.5 /ISC/.
579	3	BRA EPKP2	19 30	23.0	-0.1										153.19	25.28	Tonga Region 23.09 S 174.97 W, H = 19 10 14.8, DEPTH = 33 km, MB = 4.8 /ISC/.

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m s		A	T	A	T	A	T					
580	4	SPC BRA	EAP EAP	13 19 13 20	49.0 06.0	-2.3 -2.6								37.99 40.09	90.01 86.48	Hindu Kush Region 36.68 N 70.20 E, H = 13 12 01.7, DEPTH = 280 km, MB = 4.7 /ISC/.	
581	4	ERA E	E E	23 23 23 24	07.0 39.0											No determination of epicentre	
582	4	SRO BRA E	ES E EP E	23 31 23 32 23 30 23 31	15.0 03.0 12.0 54.0	16.3 -3.3								4.32 4.77	178.19 167.70	Yugoslavia 43.50 N 18.50 E, H = 23 29 04.0, DEPTH = 50 km /ISC/.	
583	5	SPC HRB SRO BRA	IP IAP EP EP EAP ES -IP IAP ES	08 02 08 04 08 03 08 02 08 04 08 11 08 02 08 05 08 11	48.0 54.0 01.0 59.0 59.0 43.0 58.0 04.0 43.0	-0.7 1.9 -0.2 2.6 3.8 -1.6 7.3 3.1	850 240	2.0 1.5				5.9 5.5		70.75 72.56 72.57 72.64	29.30 27.95 28.01 27.39	Sea of Okhotsk 52.28 N 151.49 E, H = 07 52 27.2, DEPTH = 560 km, MB = 5.7 /ISC/.	
584	5	SPC BRA EAP	EP EP EAP	11 47 11 47 11 47	03.0 07.0 13.0	8.4 4.2 2.0								44.10 45.13	129.93 125.47	Arabian Sea 14.50 N 53.68 E, H = 11 38 46.9, DEPTH = 27 km, MB = 4.9 /ISC/.	
585	5	BRA	EPKIP	17 27	34.0	3.3								148.55	16.49	Tonga Region 17.50 S 171.82 W, H = 17 07 51.0, MB = 5.2 /ISC/.	
586	5	BRA	EP	19 17	49.0	0.8								25.81	353.39	Greenland Sea 73.50 N 7.00 E, H = 13 12 18.4, DEPTH = 33 km, MB = 4.4 /ISC/.	
587	5	BRA	EP	19 34	06.0	9.7								40.64	85.07	Afghanistan-USSR Border Region 37.14 N 71.40 E, H = 19 26 24.5, DEPTH = 98 km, MB = 5.0 /ISC/.	



588	6	SPC BRA	EP IP	04 10 04 10	23.0 28.0	14.2 -0.3								36.79 39.10	66.46 64.04	Eastern Kazakhstan 49.77 N 78.10 E, H = 04 02 57.6, DEPTH = 0 km, MB = 5.4 /ISC/.
589	7	SRO BRA SRO	EP E -IP ES E EP	12 55 12 57 12 55 12 56 12 56 12 55	15.0 00.0 17.0 08.0 31.0 50.0	-1.4 -0.5 1.7 8.0								4.15 4.23 5.98	205.24 192.27 211.97	Yugoslavia 44.03 N 15.86 E, H = 12 54 13.8, DEPTH = 46 km /ISC/.
590	7	BRA SRO	+IPN ESN ESG ESB ESG	14 03 14 05 14 05 14 05 14 05	50.0 08.0 47.0 31.0 55.0	-4.6 3.4 7.1 1.4 8.8								5.96 6.15	211.61 220.67	Central Italy 43.01 N 12.85 E, H = 14 02 23.0, MB = 4.2 /ISC/.
591	7	BRA	EP	18 36	47.0	-2.8								21.58	237.63	Marocco 34.16 N 4.90 W, H = 18 31 56.5, DEPTH = 0 km /ISC/.
592	7	SRO BRA	EPN EPB ESN LMH -IPN IPG ISN LMH IPN	20 59 21 00 21 00 21 02 20 59 21 00 21 00 21 01 21 00	55.0 07.0 45.0 00.0 56.0 20.0 47.0 30.0 19.0	-2.2 2.1 -2.3 -2.8 3.7 -3.2 -3.7								4.17 4.28	282.79 189.97	Yugoslavia 43.95 N 16.08 E, H = 20 58 50.9, DEPTH = 12 km, MB = 5.2 /ISC/.
593	7	BRA	EP ES	23 26 23 27	23.0 14.0	-0.5 1.8								4.21	190.63	Yugoslavia 44.03 N 16.03 E, H = 23 25 20.1, DEPTH = 33 km /ISC/.
594	8	BRA	E	11 02	11.0											Small local shock
595	9	BRA	E	05 29	13.0									12.85	131.11	Turkey 38.97 N 29.52 E, H = 05 25 53.8, DEPTH = 0 km, MB = 4.8 /ISC/.
596	9	SPC BRA	EP EP	19 31 19 31	00.0 12.0	2.4 2.5								80.53 82.81	55.03 52.74	Ryukyu Islands Region 29.84 N 131.76 E, H = 13 18 46.3, MB = 5.1 /ISC/.

No.	Date	STA Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta Azimuth	Remarks
				h	m s		A	T	A	T	A	T	A	T					
597	10	BRA E	E	13	49 12.0										3.87	292.18	Germany 49.50 N 11.60 E, H = 13 47 24.0, /RCIS/.		
598	11	BRA	EKFP2	01	24 00.0	-2.9									148.60	247.85	Easter Islands Cordillera 50.15 S 114.30 W, H = 01-04 13.9, MB = 5.2 /ISC/.		
599	11	BRA, I	I	12	24 28.0												Small local shock		
600	12	SRO ERA ES	IP +IP ES	08 40 47.0 08 40 46.5 08 41 33.0	1.9 0.1 -2.0										4.12 4.21	204.37 191.33	Yugoslavia 44.04 N 15.96 E, H = 08 39 43.0, /ISC/.		
601	13	BRA SRO	EP EP	21 23 01.7 21 23 10.0	0.5 5.3										85.7P 86.3P	332.00 332.85	Off Coast of Northern California 40.36 N 125.11 W, H = 21 10 19.7, MB = 5.2 /ISC/.		
602	14	SPC ERA EPP	EP EP EPP	09 51 24.0 09 51 33.0 09 53 18.0	10.6 1.3 5.4										40.73 42.96	80.80 77.76	Kirgiziya-Sinkiang Border Region 40.01 N 77.23 E, H = 09 43 33.0, MB = 4.9 /ISC/.		
603	14	SPC SRO BRA LMH +IP ESKSAB LMH	EP EPP +IP IPP ES I LMH +IP ESKSAB LMH	09 56 51.0 09 59 50.0 09 57 03.0 10 00 07.0 10 07 06.0 10 10 35.0 10 36 30.0 09 57 03.2 10 07 12.0 10 36 30.0	-1.2 -2.1 0.7 -0.6 2.5 -0.5 -1.3												Near East Coast of Honshu, Japan 38.77 N 142.27 E, H = 09 44 54.0, MB = 5.6 /ISC/.		
604	14	SPC ERA EPP	EP EPP EPP	19 56 24.0 19 56 35.0 19 56 35.7 19 56 48.0	0.6 0.4 1.1 4.6													Kurile Islands 43.33 N 147.99 E, H = 19 44 28.0, MB = 5.1 /ISC/.	
605	15	SPC ERA EPP	EP EP EPP	04 07 59.0 04 07 56.0	9.9 -0.2													Greenland Sea 73.51 N 8.20 E, H = 04 02 25.3, MB = 4.6 /ISC/.	



606	15	SPC ERA	EKIKP EPKHKP	09 54 48.0 09 54 52.0	4.9 4.2										147.78 149.76	34.78 30.44	Fiji Region 20.68 S 178.71 W, H = 09 36 08.7, MB = 5.0 /ISC/.	
60	15	ERA	EKIKP EKP2	21 02 52.0 21 03 30.0	-1.0 -1.6										158.90	37.25	Kermadec Islands 30.25 S 177.48 W, H = 20 43 02.0, MB = 5.2 /ISC/.	
608	16	ERA	EKP2	00 55 59.0	-3.7										159.04	36.96	Kermadec Islands 30.32 S 177.30 W, H = 00 35 28.0, MB = 5.1 /ISC/.	
609	16	BRA	E EPP LMH	02 06 39.0 02 07 48.0 02 54 00.0	12.7										103.31	52.73	Marianas 13.00 N 144.50 E, H = 01 49 21.0, MB = 5.8 /ISC/.	
610	16	BRA	EP	03 17 30.0	3.3										82.67	64.88	Taiwan Region 22.26 N 121.31 E, H = 03 05 10.0, MB = 4.9 /ISC/.	
611	18	BRA	EP IAP EPP ES EP ES LMH	02 12 00.0 02 12 09.0 02 12 42.0 02 16 29.0 02 12 06.0 02 16 51.0 02 24 00.0	-0.9 0.4 0.9 2.5 -0.4 14.8										25.84	342.17	Jan Mayen Island Region 71.27 N 7.30 W, H = 02 06 30.1, MB = 5.1 /ISC/.	
612	18	BRA SRO	EP EAP EP	16 18 13.0 16 18 29.0 16 18 20.0	-1.6 2.5 -2.5										29.99 30.87	293.23 294.12	North Atlantic Ridge 51.03 N 29.56 W, H = 16 12 08.0, MB = 5.1 /ISC/.	
613	19	BRA	EP	21 02 42.0	0.5										25.96	341.71	Jan Mayen Island Region 71.23 N 8.00 W, H = 20 57 10.3, MB = 4.4 /ISC/.	
614	20	ERA	E	10 59 29.0											88.01	46.09	South of Honshu, Japan 29.49 N 141.43 E, H = 10 37 49.3, MB = 5.0 /ISC/.	
615	23	ERA	E	02 36 54.0														No determination of epicentre

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
630	1	SRO BRA	EP ES I EP	22 24 22 26 22 26 22 24	18.0 38.0 50.0 33.0	-7.6 16.9 -1.3								10.32	159.59	Greece 38.04 N 22.85 E, H = 22 21 56.9, DEPTH = 35 km, MB = 4.8 /ISC/.	
631	1	SRO BRA	EP I EP	22 41 22 44 22 41	10.0 26.0 21.0	4.4 6.8								10.32 10.95	159.96 155.77	Greece 38.02 N 22.77 E, H = 22 38 37.2, MB = 5.1 /ISC/.	
632	2	BRA	EPKIKP	06 34	23.0	0.5								125.48	54.97	Solomon Islands 6.84 S 154.92 E, H = 06 15 32.6, MB = 5.5 /ISC/.	
633	2	BRA	EPKIKP	10 00	05.3	-5.6								158.16	34.50	Kermadec Islands Region 29.13 S 176.83 W, H = 09 40 18.0, MB = 5.4 /ISC/.	
634	2	SRO BRA	E E E	16 06 16 06 16 07	04.0 05.0 32.0											Yugoslavia, probably explosion	
635	3	BRA	EP EPCP	00 27 00 28	53.0 17.0	-1.7 5.5								73.07	19.59	Off East Coast of Kamchatka 55.23 N 163.05 E, H = 00 16 29.0, MB = 5.1 /ISC/.	
636	3	BRA	EP	14 29	47.0	0.6								88.42	277.66	Near West Coast of Columbia 6.34 N 77.54 W, H = 14 16 56.7, MB = 5.2 /ISC/.	
637	5	BRA	EPKHKP EPKP2	14 45 14 45	00.0 08.0	5.7 0.0								149.71	29.37	Fiji Region 20.44 S 178.19 W, H = 14 26 09.5, MB = 4.6 /ISC/.	
638	5	BRA	IP	14 57	53.7	0.7								20.89	120.88	Jordan-Syria Region. 35.04 N 39.00 E, H = 14 53 11.4, MB = 4.8 /ISC/.	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A					
639	5	BRA	EPKIKP	20 00	44.0	0.0								145.70	25.39	Fiji Region 15.94 S 177.44 W, H = 19 41 56.2, MB = 4.9 /ISC/.	
640	5	BRA	EPKIKP	22 12	46.0	13.0								158.33	34.40	Kermadec Islands Region 29.27 S 176.71 W, H = 21 52 39.0, MB = 5.0 /ISC/.	
641	5	BRA	IP I	23 25 23 26	26.7 45.0	-0.1								4.26	191.59	Adriatic Sea 43.99 N 15.92 E, H = 23 24 22.6, MB = 5.0 /ISC/.	
642	6	BRA	EP	21 38	19.0	6.7								88.55	277.60	Near West Coast of Columbia 6.20 N 77.58 W, H = 21 25 21.9, MB = 5.2 /ISC/.	
643	6	BRA	EPP	22 15	37.0	6.8								39.69	82.36	Tadzhikistan 39.13 N 71.57 E, H = 22 06 24.3, MB = 5.1 /ISC/.	
644	6	BRA	EP	23 47	25.0	2.3								78.28	38.88	Hokkaido, Japan 41.58 N 142.10 E, H = 23 35 28.3, MB = 4.9 /ISC/.	
645	8	BRA	EP	02 50	34.0	-1.3								21.48	133.38	Dead Sea 31.70 N 35.30 E, H = 02 45 43.0, MB = 4.9 /ISC/.	
646	8	BRA	EPKP2	04 08	01.0	-5.7								149.63	20.42	Tonga 19.01 S 173.64 W, H = 03 48 17.0, MB = 5.1 /ISC/.	
647	8	BRA	IP	05 04	51.0	-1.4								73.82	21.64	Near East Coast of Kamchatka 53.76 N 160.49 E, H = 04 53 19.0, MB = 5.6 /ISC/.	
648	8	SRO BRA	EP EP	22 16 22 16	44.0 49.0	0.2 -1.8								9.82 10.33	170.81 165.85	Greece 38.10 N 20.29 E, H = 22 14 22.4, MB = 4.6 /ISC/.	

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		a	A	T	A	T	A					
649	8	SRO BRA	IP EPCP +IP EPCP	23 48 23 48 23 48 23 48	16.0 24.0 13.5 28.0	4.3 2.9 0.9 6.1								78.47 78.64	34.99 34.27	Kurile Islands 43.72 N 147.51 E, H = 23 36 11.6, DEPTH = 28 km, MB = 5.7 /ISC/.	
650	9	BRA	EP	01 01	23.0	4.2								10.51	166.33	Ionian Sea 37.90 N 20.23 E, H = 00 58 45.0, DEPTH = 11 km /ISC/.	
651	9	BRA	EP	01 26	11.0	0.8								39.72	82.34	Tadzhikistan 39.12 N 71.61 E, H = 01 18 40.3, DEPTH = 43 km, MB = 5.0 /ISC/.	
652	9	BRA	I I I	08 01 08 02 08 02	59.0 05.0 08.0											Slovakia, Little Carpathians	
653	9	BRA	E	12 56	50.0											Slovakia	
654	9	SPC BRA	EP EP	13 56 13 56	00.0 25.0	-3.7 3.2								37.49 39.66	85.76 82.40	Tadzhikistan 38.12 N 71.52 E, H = 13 48 52.0, DEPTH = 39 km, MB = 5.0 /ISC/.	
655	10	SRO BRA	EP IP EAP EPP ES	09 05 09 05 09 05 09 07 09 14	00.0 06.4 14.0 50.0 59.0	-1.4 0.2 -1.9 -16.6 -1.9	104	1.2				5.7		78.01 78.89	109.05 108.17	South Indian Ocean 3.56 S 86.19 E, H = 08 53 04.5, DEPTH = 32 km, MB = 5.8 /ISC/.	
656	10	SRO BRA	LMH EP	13 55 13 50	30.0 49.0	-6.0								9.83 10.34	171.30 166.31	Greece 38.07 N 20.19 E, H = 13 48 26.0, DEPTH = 35 km, MB = 4.4 /ISC/.	
657	10	BRA	EPKIP EPKP2	22 19 22 20	10.0 17.0	0.1 -5.4								160.20	40.49	Kermadec Islands Region 31.94 S 177.89 W, H = 21 59 40.0, DEPTH = 7 km, MB = 6.0 /ISC/.	
658	11	BRA	EP	02 38	04.0	3.4								10.38	166.09	Greece 38.04 N 20.25 E, H = 02 35 29.0, DEPTH = 15 km, MB = 4.4 /ISC/.	

659	11	BRA	IPKIP EPKP2 E	03 36 03 37 03 42	47.2 29.0 35.0	1.6 0.9								160.16	41.03	South of Kermadec Islands 32.00 S 178.10 W, H = 03 16 50.0, DEPTH = 33 km, MB = 5.8 /ISC/.
660	11	BRA	EP	05 41	17.0	-0.5								79.01	34.30	Kurile Islands 43.39 N 147.74 E, H = 05 29 15.4, DEPTH = 34 km, MB = 5.2 /ISC/.
661	11	BRA	EPKIP	05 58	05.0	3.2								160.39	40.57	South of Kermadec Islands 32.12 S 177.80 W, H = 05 38 05.8, MB = 5.5 /ISC/.
662	12	SRO BRA	EP IP EAP	09 44 09 44 09 46	10.0 07.2 02.0	3.9 -0.8 -0.3								72.03 72.36	45.56 44.93	E. Russia-N.E. China Border Region 42.79 N 131.01 E, H = 09 33 35.7, DEPTH = 542 km, MB = 5.1 /ISC/.
663	13	SRO BRA	E EP EPP	00 57 00 57 00 58	25.0 40.0 10.0	0.0 15.4								16.60 17.49	118.18 117.09	Turkey 38.28 N 36.98 E, H = 00 53 37.3, DEPTH = 34 km, MB = 4.6 /ISC/.
664	13	SRO BRA	EPKIP IPKIP	04 19 04 19	13.0 12.8	1.2 0.6								145.81 146.04	39.58 37.42	Fiji Region 18.73 S 176.12 E, H = 03 59 36.6, DEPTH = 33 km, MB = 5.2 /ISC/.
665	13	BRA	EPKP2	07 13	07.0	0.7								145.91	37.85	Fiji Region 18.72 S 175.83 E, H = 06 53 36.0, MB = 4.8 /ISC/.
666	13	SRO BRA	I E	10 35 10 33	29.8 44.5											No determination of epicentre
667	13	BRA	EPKIP EPKP2	14 22 14 22	01.0 18.0	-0.1 13.3								146.10	37.12	Fiji Region 18.71 S 176.30 E, H = 14 02 25.4, MB = 5.1 /ISC/.
668	13	BRA	IPKIP EAPKIP IPP	19 12 19 12 19 13	01.0 55.0 16.0	1.5 5.1 3.5								116.44	64.33	New Guinea 4.10 S 143.10 E, H = 18 53 30.5, DEPTH = 124 km, MB = 5.9 /ISC/.

No.	Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
669	14	BRA SRO	+IP EPP ES +IP LMH	06 06 06 07 06 11 06 06 06 22	10.0 19.0 16.0 12.0 00.0	-1.8 12.8 4.9 -0.2	970	1.0	20.2	6.0	15.4	6.0	6.6	30.22 30.28	20.59 19.97		Novaya Zemlya [NE MB = 6.9 /UPP/] 73.31 N 54.89 E, H = 05 59 57.3, MB = 6.6 /ISC/. DEPTH = 0 km, MB = 6.6 /ISC/.
670	14	BRA	EPKIKP	09 26	00.0	6.9								160.67	41.97		South Of Kermadec Islands 32.60 S 178.10 W, H = 09 05 57.0, MB = 4.5 /ISC/. DEPTH = 33 km, MB = 4.5 /ISC/.
671	14	BRA	EPKIKP	10 59	31.0	-0.3								147.34	28.20		Fiji Region 17.99 S 178.44 W, H = 10 40 56.5, DEPTH = 585 km, MB = 5.1 /ISC/.
672	14	BRA	I	13 02	37.0												No determination of epicentre
673	14	BRA	+IP	14 42	38.9	-1.7								85.42	324.14		Southern Nevada /NE Tijeras/ 37.07 N 116.01 W, H = 14 30 00.0, DEPTH = 0 km, MB = 5.5 /ISC/.
674	14	SRO BRA	EP +IP IPCP	16 12 16 12 16 12	26.0 36.4 49.0	-9.2 0.3 4.2								79.06 79.23	34.82 34.09		Kurile Islands Region 43.31 N 148.14 E, H = 16 00 29.0, DEPTH = 9 km, MB = 5.3 /ISC/.
675	14	SRO BRA	EP EP	18 18 18 18	08.0 02.0	3.1 -3.8								78.78 78.95	34.89 34.17		Kurile Islands 43.51 N 147.85 E, H = 18 06 04.0, DEPTH = 34 km, MB = 5.1 /ISC/.
676	14	SRO BRA	EP ES LMH +IP ES LMH	18 27 18 37 19 05 18 27 18 37 19 06	42.0 22.0 00.0 39.1 38.0 00.0	3.6 -9.7 -0.2 4.5			6.9	12.0	16.7	12.0	6.6	78.90 79.07	35.00 34.27		Kurile Islands 43.35 N 147.82 E, H = 18 15 38.5, MB = 5.6 /ISC/.
677	14	BRA	EP	18 47	17.0	0.2								79.28	34.18		Kurile Islands 43.22 N 148.08 E, H = 18 35 12.0, DEPTH = 26 km, MB = 4.9 /ISC/.

678	14	SRO BRA	EP ES LMH EP	21 26 21 35 22 03 21 25	00.0 54.0 00.0 59.0	-0.3 1.2 -2.3			2.6	20.0	5.7	20.0	5.9	78.54 78.72	35.49 34.77		Kurile Islands 43.40 N 147.00 E, H = 21 14 01.0, MB = 5.4 /ISC/. DEPTH = 36 km, MB = 5.4 /ISC/.
679	15	BRA	E	00 17	59.0												No determination of epicentre
680	15	SRO BRA	EPKIKP EPKIKP	12 32 12 32	02.0 02.0	2.4 2.2								146.80 146.89	30.84 28.60		Fiji Region 17.64 S 178.81 W, H = 12 13 23.3, DEPTH = 561 km, MB = 4.9 /ISC/.
681	16	SRO BRA	+IP LMH EP LMH	05 38 06 11 05 38 06 19	18.0 00.0 17.8 00.0	-0.6 -2.3			6.2	12.0	11.3	12.0	6.5	79.33 79.61	41.85 41.11		Honshu, Japan 39.25 N 150.71 E, H = 05 26 15.2, MB = 5.8 /ISC/. DEPTH = 37 km, MB = 5.8 /ISC/.
682	20	BRA	EPKIKP E	08 45 08 48	00.0 25.0	1.3								139.23	46.92		New Hebrides 15.41 S 167.47 E, H = 08 25 46.7, MB = 5.5 /ISC/. DEPTH = 127 km, MB = 5.5 /ISC/.
683	20	BRA	EPN E ESG	13 46 13 47 13 47	48.0 05.0 54.0	-2.3 8.2								3.32	177.61		Yugoslavia 44.85 N 17.30 E, H = 13 45 56.0, /ISC/. DEPTH = 22 km
684	20	SRO BRA	ERN ESG +IPN IPC ISG	20 20 20 21 20 20 20 20 20 21	14.8 13.0 17.0 34.5 17.5	-0.6 7.0 -2.0 3.5 3.0								3.06 3.32	195.12 178.96		Yugoslavia 44.85 N 17.19 E, H = 20 19 24.8, /ISC/. DEPTH = 8 km
685	20	BRA	EP	23 35	18.0	-1.3								26.92	355.63		Greenland Sea 74.80 N 9.60 E, H = 23 29 39.3, MB = 4.5 /ISC/. DEPTH = 33 km, MB = 4.5 /ISC/.
686	21	SPC BRA SRO	IP +IP EP	08 19 08 19 08 19	50.0 53.4 55.0	4.3 0.4 -2.0	257	1.5					5.7	26.00 26.80 27.23	352.92 354.95 354.33		Greenland Sea 74.62 N 8.56 E, H = 08 14 14.1, MB = 5.4 /ISC/. DEPTH = 33 km, MB = 5.4 /ISC/.
687	21	BRA	E	09 47	11.0												Yugoslavia /LJU/
688	21	BRA	I	11 04	29.2												Probably explosion

No. Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
			h	m		A	T	A	T	A	T					
689	21	BRA SRO SPC	IP EP LMH EP	16 00 18.0 16 00 23.0 16 25 30.0 16 00 40.0	-1.7 -0.8 4.9			1.3	20.0	2.6	20.0		5.4	61.17 61.79 63.48	247.39 248.62 249.64	Central Mid-Atlantic Ridge 7.68 N 37.57 W, H = 15 50 05.3, DEPTH = 28 km, MB = 5.2 /ISC/.
690	22	BRA	EPKIKP	06 33 16.0	3.9								137.51	46.52		New Hebrides 13.78 S 166.81 E, H = 06 13 51.7, DEPTH = 34 km, MB = 4.8 /ISC/.
691	23	SPC BRA	EP -IP EAP	00 06 00.0 00 06 08.3 00 07 54.0	2.9 -0.3 3.6	127	1.6				5.2		72.22 74.24	35.11 33.11		Sea of Okhotsk 48.05 N 145.53 E, H = 23 55 18.9, DEPTH = 465 km, MB = 5.1 /ISC/.
692	23	BRA	EPKIKP	11 20 40.0	2.8								131.40	258.41		West Chile Rise 36.50 S 97.13 W, H = 11 01 34.0, DEPTH = 81 km, MB = 5.4 /ISC/.
693	23	BRA	E	11 55 25.0									3.14	321.29		Czechoslovakia /Expl. of 16.2 Tons/ 50.58 N 14.02 E, H = 11 53 00.0, DEPTH = 0 km /PRU/.
694	23	BRA	E	15 07 58.0									5.60	305.63		Germany /Expl. of 20 Tons/ 51.21 N 9.86 E, H = 15 05 00.0, DEPTH = 0 km /BCIS/.
695	25	BRA	EP	07 56 00.0	-0.9								74.54	93.63		Nicobar Islands Region 9.10 N 94.01 E, H = 07 44 26.6, DEPTH = 58 km, MB = 5.0 /ISC/.
696	25	BRA	EP	10 17 03.0	-3.4								74.60	93.59		Nicobar Islands Region 9.08 N 94.08 E, H = 10 05 29.0, DEPTH = 34 km, MB = 4.8 /ISC/.
697	25	BRA	EP	10 26 51.0	-1.2								74.51	93.58		Nicobar Islands Region 9.16 N 94.02 E, H = 10 15 18.2, DEPTH = 59 km, MB = 4.9 /ISC/.

698	25	SPC SRO BRA	EP IP EP	11 27 23.0 11 27 37.3 11 27 27.1	10.2 17.9 -0.9								21.96 22.63 23.51	115.16 109.42 108.69		Persia-Iraq Border Region 36.74 N 45.17 E, H = 11 22 21.3, MB = 5.3 /ISC/.
699	25	BRA	EP	12 12 21.0	1.8								75.48	130.54		Mid-Indian Rise 13.68 S 66.29 E, H = 12 00 35.7, DEPTH = 27 km, MB = 5.6 /ISC/.
700	25	SPC SRO BRA	EP EP EP	15 21 23.0 15 21 24.3 15 21 25.4	7.5 2.0 -1.7								72.44 73.59 74.43	96.37 94.47 93.66		Nicobar Islands Region 9.17 N 93.91 E, H = 15 09 51.0, DEPTH = 36 km, MB = 5.5 /ISC/.
701	25	BRA	EP	15 33 30.0	2.7								74.61	93.63		Nicobar Islands Region 9.05 N 94.06 E, H = 15 21 49.0, DEPTH = 28 km, MB = 4.9 /ISC/.
702	25	BRA	EP	22 32 23.0	-2.2								74.57	93.53		Nicobar Islands Region 9.15 N 94.10 E, H = 22 20 51.0, DEPTH = 60 km, MB = 4.8 /ISC/.
703	26	BRA	E	00 46 50.0												No determination of epicentre
704	26	SPC BRA	EPKIP2 EPKIP	08 31 31.0 08 31 35.0	-2.0 4.7								145.75 147.66	31.71 27.36		Fiji Region 18.15 S 177.88 W, H = 08 12 58.4, DEPTH = 621 km, MB = 5.1 /ISC/.
705	26	SPC BRA SRO	IP IP ES	20 59 51.0 20 59 56.0 21 02 38.0 21 00 03.7 21 05 24.0	-1.0 -3.2 0.8 9.0								31.33 32.15 32.57	354.13 355.29 354.95		Greenland Sea 79.80 N 2.90 E, H = 20 53 32.6, DEPTH = 34 km, MB = 5.6 /ISC/.
706	28	BRA	E	22 24 53.0												No determination of epicentre
707	28	BRA	EPKIP2	22 46 41.0	0.0								146.05	25.51		Fiji Region 16.29 S 177.40 W, H = 22 27 01.9, MB = 5.1 /ISC/.
708	29	SPC BRA	EP EP	09 22 35.0 09 22 35.0	3.0 -1.8								76.53 77.39	133.53 130.68		Mid-Indian Rise 15.39 S 67.21 E, H = 09 10 44.0, DEPTH = 38 km, MB = 5.1 /ISC/.

No.	Date	STA 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					
709	29	BRA	I	12	00	47.0												Slovakia, explosion	
710	29	SPC BRA	EP EP	19	42	22.0 19 42 32.0	1.3 0.1											Kurile Islands 44.43 N 149.10 E, H = 19 30 32.7, DEPTH = 41 km, MB = 5.2 /ISC/.	
711	31	BRA	EP	09	20	17.0	1.7											Southern Sumatra 4.28 S 102.75 E, H = 09 07 20.8, DEPTH = 67 km, MB = 5.1 /ISC/.	
712	31	SRO BRA	EP +IP ES EP	16	09	04.0 16 09 12.2 16 10 20.0 16 09 27.0	-0.7 0.4 -3.2 3.3											Yugoslavia 42.10 N 19.35 E, H = 16 07 39.4, DEPTH = 39 km, MB = 4.6 /ISC/.	
713	31	SPC SRO BRA	E EPKIP E	18	12	11.0 18 12 04.0 18 12 17.0	11.7											Near North Coast of New Guinea 4.97 S 145.45 E, H = 17 53 10.5, DEPTH = 45 km, MB = 6.0 /ISC/.	



714	2	BRA	EPG ESG	08	43	44.0 08 45 05.0	1.1 2.9											Northern Italy 45.10 N 11.10 E, H = 08 42 12.0, DEPTH = 0 km /BCIS/.
715	2	BRA	EPKHP	10	33	13.0	-0.5											Fiji Region 15.40 S 176.12 W, H = 10 13 35.0, DEPTH = 27 km, 5.3 /ISC/.
716	2	BRA	IPN IPG ISG	12	13	10.7 12 13 28.7 12 14 05.0	0.2 6.4 -0.5											Yugoslavia 44.87 N 17.09 E, H = 12 12 16.5, DEPTH = 0 km /ISC/.
717	3	SPC BRA	EP +IP	02	41	14.0 02 41 18.5	2.7 2.1											Central Alaska 62.01 N 151.05 W, H = 02 30 11.8, MB = 5.5 /ISC/.
718	3	BRA SPC	EPKP2 EPKP2	09	42	58.0 09 42 59.0	4.2 -4.4											Easter Island Cordillera 50.20 S 114.30 W, H = 09 23 12.0, DEPTH = 94 km, MB = 4.9 /ISC/.
719	3	BRA	I	11	15	11.0												Slovakia, explosion
720	3	BRA	IP	15	24	46.7	1.2											Luzon, Philippine Islands 18.45 N 120.88 E, H = 15 12 14.3, MB = 5.4 /ISC/.
721	4	BRA	E	09	41	41.0												No determination of epicentre
722	4	BRA	EPKIP	18	02	42.0	0.2											New Hebrides 20.03 S 169.21 E, H = 17 43 12.4, DEPTH = 54 km, MB = 5.2 /ISC/.
723	5	BRA	EP	13	25	00.0	2.6											South Of Panama 6.88 N 82.61 W, H = 13 11 51.0, DEPTH = 16 km, MB = 5.5 /ISC/.
724	7	BRA	EP	23	30	55.0	-1.0											Luzon, Philippine Islands 18.45 N 120.88 E, H = 23 18 26.1, MB = 5.3 /ISC/.

No.	Date	STA Code	Phase	GMT		RES O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
				h	m		s	A	T	A	T	A	T	A	T					
725	8	SRO BRA	EP EP EAP	15 12 21.0 15 12 25.0 15 12 43.0	4.8 5.9 8.4												95.16 95.80	70.46 69.50	Mindanao, Philippine Islands 9.16 N 126.41 E, H = 14 58 57.4, MB = 5.6 /ISC/. DEPTH = 52 km,	
726	8	SPC SRO BRA	E EPKIKP LMH EPKIKP	23 53 43.0 22 54 25.0 23 47 00.0 22 54 22.0	9.5 5.2		16.0	24.0				6.0	24.0				109.02 110.66 111.31	72.51 71.39 70.27	Western New Guinea Region 3.43 S 135.65 E, H = 22 35 46.4, MB = 6.2 /ISC/. DEPTH = 33 km,	
727	9	SPC BRA	E EP	17 48 43.0 17 48 31.0 17 49 13.0	-0.3												33.96 35.58	111.67 106.94	Southern Persia 29.55 N 56.81 E, H = 17 41 43.2, MB = 5.4 /ISC/. DEPTH = 114 km,	
728	10	SPC BRA	E EP	00 39 11.0 00 42 06.0 00 38 03.0 00 39 23.0 00 41 15.0 00 42 27.0	0.4 -0.6 -1.7												79.33 81.56	48.58 46.34	Southern Honahu, Japan 34.67 N 136.86 E, H = 00 26 22.2, MB = 5.2 /ISC/. DEPTH = 350 km,	
729	10	SRO BRA	EPKIKP EPKIKP EKP2	14 07 28.3 14 07 29.8 14 08 06.0	-0.4 0.8 -6.0												160.02 160.31	44.37 41.15	South of Kermadec Islands 32.15 S 178.05 W, H = 13 47 33.8, MB = 5.3 /ISC/. DEPTH = 37 km,	
730	11	BRA	E	03 34 48.0															No determination of epicentre	
731	11	SRO	E	10 30 44.0															Small near shock	
732	11	SRO BRA	EP ES LMH EP LMH	21 01 30.0 21 04 08.0 21 07 30.0 21 01 45.0 21 08 00.0	1.1 4.9 6.0		6.4	8.0	15.2	8.0			8.0				13.92 14.69	144.47 141.86	Eastern Mediterranean Sea 35.99 N 28.24 E, H = 20 58 11.9, MB = 4.9 /ISC/. DEPTH = 35 km,	
733	12	BRA	E	08 20 14.0 08 21 29.0															No determination of epicentre	
734	12	BRA	EP	11 35 29.0	4.3												7.64	158.46	Albania 41.00 N 20.80 E, H = 11 33 34.0, /ISC/. DEPTH = 75 km	
735	13	BRA	I	11 12 17.0															Slovakia, explosion	

736	13	SPC SRO BRA	EP E EP ESKSAB LMH EP LMH	14 29 26.0 14 32 33.0 14 29 32.0 14 40 10.0 15 08 00.0 14 29 37.0 15 07 00.0	4.7 3.0 15.2 5.0												89.96 91.62 92.26	72.04 70.61 69.69	Cebu, Philippine Islands 11.78 N 123.97 E, H = 14 16 21.7, MB = 5.5 /ISC/. DEPTH = 18 km,
737	13	SPC BRA	IP IAP EP EPP	17 37 21.0 17 37 46.0 17 37 37.0 17 39 11.0	0.8 1.8 -0.8 -5.7		9.2	24.0	20.4	24.0			24.0				38.68 40.81	88.57 85.13	Afghanistan-USSR Border Region 37.01 N 71.55 E, H = 17 30 05.1, MB = 5.1 /ISC/. DEPTH = 103 km,
738	14	BRA	EPP	05 09 43.0	-1.9												102.96	53.94	South of Marianas 12.64 N 143.29 E, H = 04 51 39.0, MB = 5.5 /ISC/. DEPTH = 105 km,
739	14	SPC SRO	EP EPP IP ES LMH	08 10 29.0 08 13 36.0 08 10 36.7 08 20 37.0 08 52 00.0	0.5 5.3 -0.9 -10.2								20.0				79.96 81.69	66.84 65.28	Taiwan Region 22.82 N 121.36 E, H = 07 58 20.0, MB = 5.7 /ISC/. DEPTH = 26 km,
740	18	BRA SPC	EP EP	12 31 02.0 12 31 20.0	3.5 4.7		11.4	20.0	10.4	20.0			20.0				40.90 42.95	271.51 272.64	North Atlantic Ridge 35.14 N 35.90 W, H = 12 23 15.6, MB = 5.1 /ISC/. DEPTH = 18 km,
741	18	SPC	IPKIKP E	17 01 50.0 17 04 06.0	1.3												146.23	44.98	South of Fiji 21.81 S 175.23 E, H = 16 43 14.8, MB = 5.5 /ISC/. DEPTH = 576 km,
742	20	BRA	E	11 51 27.0															No determination of epicentre
743	20	SPC BRA	EP EP	13 53 42.0 13 59 51.0	3.4 1.8												87.47 87.69	48.41 46.07	Bonin Islands Region 28.09 N 142.50 E, H = 13 46 52.3, MB = 5.4 /ISC/. DEPTH = 27 km,
744	20	SPC SRO BRA	IP IP LMH IP ES	14 00 14.0 14 00 24.8 14 10 15.0 14 38 30.0 14 00 24.0 14 10 18.0	2.2 2.6 1.0 0.9 2.1								16.0				76.60 78.47 78.64	36.88 35.49 34.77	Kurile Islands 43.46 N 146.94 E, H = 13 48 23.6, MB = 5.8 /ISC/. DEPTH = 39 km,

No.	Date	STA Code	Phase	GMT h m s	RES O-C	Z		E-W		N-S		MLH	Delta	Azimuth	Remarks
						A	T	A	T	A	T				
745	21	SPC BRA	EPKP2 EPKP2 E	00 48 06.0 00 48 07.0 00 48 16.0	1.2 -5.2							148.98 150.78	27.07 22.19		Tonga 20.35 S 174.23 W, H = 00 28 14.8, MB = 5.2 /ISC/.
746	21	SPC BRA	IP +IP I	08 40 49.0 08 41 07.0 08 41 19.0	1.5 1.5							21.88 23.72	103.94 98.25		Eastern Caucasus 40.09 N 48.37 E, H = 08 35 58.3, MB = 5.1 /ISC/.
747	21	SPC ERA	EP EP	12 32 15.0 12 32 22.0	3.5 -0.7							85.10 87.40	72.83 70.46		Luzon, Philippine Islands 15.01 N 120.13 E, H = 12 19 40.1, MB = 5.5 /ISC/.
748	22	BRA	IPN ISN	20 38 57.1 20 39 12.1	-0.4 -0.6							1.02	221.77		Austria 47.40 N 16.10 E, H = 20 38 36.0, /ISC/.
749	23	BRA	I	11 04 30.0											Slovakia, explosion
750	24	BRA	EPKP2	02 12 21.0	1.6							146.01	18.12		Tonga 15.18 S 173.27 W, H = 01 52 40.0, HB = 4.8 /ISC/.
751	24	SPC ERA SRO	EP +IP	05 18 15.0 05 18 22.6	3.7 0.5							75.29 77.22	31.31 29.27		Kurile Islands 47.40 N 152.52 E, H = 05 06 40.7, MB = 5.2 /ISC/.
752	26	SPC ERA SRO	EP EP EP	03 24 13.0 03 24 10.0 03 24 16.0	3.1 -0.4 2.3							83.32 83.41 84.07	337.15 335.06 335.89		Off Coast of Oregon 43.69 N 127.63 W, H = 03 11 42.1, MB = 5.4 /ISC/.
753	27	SPC BRA	IP +IP	09 51 27.0 09 51 36.6	1.7 -1.0	2.0						79.51 81.83	65.14 62.79		Taiwan Region 24.26 N 122.42 E, H = 09 39 24.1, MB = 5.7 /ISC/.
754	27	ERA	EP	19 58 38.0	1.0							67.87	212.26		South Atlantic Ridge 14.25 S 13.55 W, H = 19 47 39.9, MB = 4.8 /ISC/.

755	28	SPC BRA	EPP EPP	01 14 15.0 01 14 30.0	7.0 5.2							101.57 103.83	77.95 75.72		Molucca Sea 0.99 S 126.86 E, H = 00 56 05.0, MB = 5.7 /ISC/.
756	28	BRA	EPP	11 27 06.0	9.8							103.31	253.57		Northern Chile 20.94 S 69.81 W, H = 11 08 40.0, MB = 5.8 /ISC/.
757	28	BRA	I I	14 02 18.0 14 02 22.0											Near shock
758	28	BRA	EPP	15 03 42.0	-6.6							103.42	253.63		Northern Chile 20.96 S 69.34 W, H = 14 45 33.6, MB = 5.7 /ISC/.
759	28	SRO BRA	EPKIP EPKIP EPP	20 41 27.0 20 41 24.0 20 42 33.0	7.5 3.4 0.1							115.72 116.31	65.75 64.53		New Guinea 4.11 S 142.83 E, H = 20 22 51.2, MB = 5.9 /ISC/.
760	29	ERA SRO	IP EPP LMH IP ES LMH	06 12 04.6 06 14 24.0 06 41 30.0 06 12 06.6 06 20 47.0 06 41 00.0	2.7 -4.5 3.7 1.1		7.0 18.0	33.0 18.0				65.66 65.92	213.74 215.03		Ascension Island Region 11.67 S 14.00 W, H = 06 01 18.6, MB = 5.1 /ISC/.
761	29	BRA	EP	17 43 33.0	-2.1							28.12	33.04		Turkmeniya 39.87 N 54.80 E, H = 17 37 44.3, MB = 4.6 /ISC/.
762	29	BRA	EP	20 13 49.0	-1.5							91.44	294.80		Mexico-Guatemala Border Region 15.29 N 92.79 W, H = 20 00 54.0, MB = 5.0 /ISC/.

No. Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
			h	m		A	T	A	T	A	T					
763	1	ERA SRO LMH EP	01 05	42.0	-1.8									12.40	208.30	Tunisia 36.98 N 9.80 E, H = 01 02 47.9, DEPTH = 57 km, MB = 4.9 /ISC/.
764	1	BRA ESG	10 52	30.0	3.0									6.53	292.49	Germany 50.29 N 7.68 E, H = 10 49 09.2, DEPTH = 18 km /ISC/.
765	1	BRA E	11 03	25.0												Slovakia, explosion
766	1	SPC SRO ES LMH +IP	12 01 12 01 12 04 12 09 12 01	25.0 22.3 46.0 30.0 36.2	7.5 -2.8 15.8 0.0									16.20 16.81	117.95 110.49	Turkey 39.90 N 38.93 E, H = 11 57 30.0, MB = 4.7 /ISC/.
767	1	SRO BRA EPP EPP	18 36 13 36	26.0 39.0	7.3 17.6									17.69	109.77	Solomon Islands 11.02 S 163.45 E, H = 18 14 36.0, MB = 6.0 /ISC/.
768	1	BRA EP	19 41	18.0	-0.9									79.48	3.88	Fox Islands, Aleutian Islands 52.59 N 169.16 W, H = 19 29 17.3, DEPTH = 60 km, MB = 5.1 /ISC/.
769	1	ERA SRO EPS LMH	21 21 21 21 21 32 21 58	45.3 51.0 46.3 00.0	-0.5 -4.5 -0.8 -5.7	179	2.4							80.20 80.44	7.86 8.61	Andreanof Islands, Aleutian Islands 51.44 N 175.33 W, H = 21 09 37.0, DEPTH = 32 km, MB = 5.7 /ISC/.
770	1	BRA EPKIKP	22 21	33.0	2.2									146.54	17.85	Samoa Region 15.67 S 173.00 W, H = 22 01 55.6, DEPTH = 43 km, MB = 5.4 /ISC/.
771	2	BRA EP	02 47	06.0	0.3									80.18	7.81	Andreanof Islands, Aleutian Islands 51.47 N 175.25 W, H = 02 34 58.2, DEPTH = 42 km, MB = 5.5 /ISC/.

No. Date	STA Code	Phase	GMT		RES O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
			h	m		A	T	A	T	A	T					
772	2	BRA EP	09 15	21.0	-0.4									80.19	7.83	Andreanof Islands, Aleutian Islands 51.46 N 175.28 W, H = 09 03 15.0, MB = 5.1 /ISC/.
773	2	BRA E	09 50	41.0												Slovakia, explosion
774	2	BRA EP	11 11	21.0	0.3									44.48	328.41	Baffin Islands Region 68.50 N 67.55 W, H = 11 03 10.0, MB = 4.9 /ISC/.
775	2	SPC SRO ERA EPP EPP EPP	15 47 15 47 15 47	36.0 38.0 36.0	17.3 7.8 3.2									131.42 133.29 133.67	51.27 90.06 48.40	Solomon Islands 11.11 S 163.66 E, H = 15 25 46.5, MB = 5.3 /ISC/.
776	2	SRO BRA EPP E LMH LMH	16 16 17 14 16 13 16 16 16 17 17 05 17 14	18.0 00.0 36.0 15.0 39.0 00.0 00.0	16.4 2.5 10.7									133.09 133.47	50.28 48.64	Solomon Islands 11.03 S 163.41 E, H = 15 54 19.0, MB = 5.8 /ISC/.
777	2	BRA EP	19 23	24.0	1.4									63.40	65.28	Kansu Province, China 35.84 N 105.55 E, H = 19 12 52.0, MB = 5.2 /ISC/.
778	2	BRA EPN	23 54	09.0	-4.0									5.21	172.75	Yugoslavia 43.00 N 18.00 E, H = 23 52 52.0, /ISC/.
779	3	ERA SRO SPC E	05 12 05 12 05 11	34.7 42.0 54.0	-0.3 5.5									86.67 88.57	277.28 279.58	Northern Columbia 7.40 N 76.08 W, H = 04 53 49.0, DEPTH = 5 km, MB = 5.6 /ISC/.
780	4	BRA EP I	02 03 02 03	15.0 19.0	1.4									16.00	97.60	Western Caucasus 43.80 N 39.27 E, H = 01 59 29.5, DEPTH = 33 km, MB = 4.8 /ISC/.
781	4	BRA EP	10 03	46.0	-16.6									87.22	281.55	Panama 9.85 N 73.66 W, H = 09 51 16.4, DEPTH = 20 km, MB = 5.3 /ISC/.

No.	Date	STA Code	Phase	GMT h m s	RBS O-C	Z			E-W			N-S			MPV	MLH	Delta	Azimuth	Remarks
						A	T		A	T		A	T						
799	16	BRA I		14 15 10.0												3.13	321.55	Slovakia, explosion	
800	17	BRA E		11 06 17.0														Czechoslovakia /Expl. of 28 Tons/ 50.58 N 14.05 E, H = 11 04 00.0, /FRU/ DEPTH = 0 km	
801	17	BRA +IP		16 17 39.2	-1.4													Southern Nevada /NE Carpetbag/ 37.13 N 116.08 W, H = 16 05 00.2, MB = 5.8 /ISC/ DEPTH = 0 km	
802	18	BRA EP		15 41 07.0	0.0													South of Alaska 53.45 N 160.79 W, H = 15 29 06.3, MB = 5.1 /ISC/ DEPTH = 34 km	
803	19	SRO EP BRA EP		00 02 48.0 00 02 48.4	1.0 -1.7													Mindanao, Philippine Islands 5.15 N 123.50 E, H = 23 50 12.8, MB = 5.5 /ISC/ DEPTH = 512 km	
804	19	BRA EPN ESG EPN ESG		03 00 29.0 03 00 59.0 03 00 31.0 03 01 00.0	-1.5 0.8 -0.2 0.1													Yugoslavia 46.37 N 16.52 E, H = 02 59 57.3, /ISC/ DEPTH = 16 km	
805	19	SPC IP SRO +IP IS LMH		10 50 37.0 10 50 44.5 11 01 05.0 11 34 30.0	2.3 4.5 -1.7													Southern Sumatra 1.59 S 99.95 E, H = 10 38 05.6, MB = 5.8 /ISC/ DEPTH = 46 km	
806	20	SRO EP ES LMH LMH BRA E E LMH		11 04 36.0 11 06 50.0 11 09 30.0 11 08 00.0 11 04 45.0 11 08 33.0 11 11 30.0	2.6 7.1													Turkey 39.36 N 29.24 E, H = 11 01 46.8, MB = 5.0 /ISC/ DEPTH = 26 km	
807	20	BRA EPKIKP		12 14 30.0	4.1													Fiji Region 17.89 S 179.84 W, H = 11 55 55.8, MB = 5.0 /ISC/ DEPTH = 625 km	

808	21	BRA EP		11 04 59.0	-1.4														Kurile Islands Region 43.93 N 150.87 E, H = 10 52 55.4, MB = 5.0 /ISC/ DEPTH = 41 km
809	21	BRA EPP		14 58 48.0	-4.6														Sumbawa Island Region 9.21 S 116.36 E, H = 14 40 43.6, MB = 5.7 /ISC/ DEPTH = 76 km
810	22	BRA -IPKIKP		05 57 11.0	0.2														New Hebrides 20 79 S 169.87 E, H = 05 37 49.0, MB = 5.3 /ISC/ DEPTH = 129 km
811	23	SPC IP E BRA IP		07 06 19.5 07 11 25.0 07 06 36.4	0.2 -3.1														Western Kazakhstan [NE /UPP/] 44.00 N 54.90 E, H = 07 01 00.0, /BCIS/ DEPTH = 0 km
812	23	BRA I		14 13 48.0															No determination of epicentre
813	23	BRA EP		15 36 39.0	2.1	108	1.0												Near Coast of Chiapas, Mexico 15.91 N 93.80 W, H = 15 23 40.9, MB = 5.3 /ISC/ DEPTH = 106 km
814	25	BRA EP ES SRO IP IPCP IS LMH EP		13 03 25.0 13 11 25.0 13 03 29.2 13 04 21.0 13 11 25.0 13 26 00.0 13 03 42.0	-1.6 4.5 0.3 0.3 0.2 0.1														Central Mid-Atlantic Ridge 0.28 S 19.20 W, H = 12 53 37.6, MB = 5.5 /ISC/ DEPTH = 33 km
815	26	SPC EP SRO EP BRA EP EAP EPCP EPP		10 14 14.0 10 14 21.0 10 14 21.0 10 14 30.0 10 14 42.0 10 17 18.0	3.0 3.2 -1.6 -4.0 4.5 7.0														Nicobar Islands Region- 9.29 N 94.00 E, H = 10 02 47.0, MB = 5.2 /ISC/ DEPTH = 39 km
816	26	BRA EP		10 27 26.0	-0.5														Nicobar Islands Region 9.20 N 94.01 E, H = 10 15 48.0, MB = 4.8 /ISC/ DEPTH = 22 km

No.	Date	STA Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
817	26	SPC SRO BRA	EPKIKP EPKYP2 EPKYP2	19 25 19 25 19 25	13.0 17.0 14.0	4.0 4.8 1.2								142.34 144.21 144.36	36.18 34.40 32.29		Fiji Region 16.00 S 178.22 E, H = 19 05 46.0, MB = 5.2 /ISC/. DEPTH = 82 km,
818	27	SPC BRA	EP EP	20 56 20 56	38.0 49.0	0.5 0.5								76.81 78.79	33.81 31.72		Kurile Islands Region 44.86 N 150.62 E, H = 20 44 46.0, MB = 5.1 /ISC/. DEPTH = 24 km,
819	28	SPC BRA	EP EP	02 01 02 01	12.0 34.0	1.4 2.7								18.45 20.27	105.54 89.09		Western Caucasus 41.51 N 44.20 E, H = 01 56 54.0, MB = 4.8 /ISC/. DEPTH = 18 km,
820	28	BRA	EP	17 04	23.0	8.6								14.74	142.08		Eastern Mediterranean Sea 35.92 N 28.21 E, H = 17 00 46.0, MB = 4.6 /ISC/. DEPTH = 28 km,
821	28	SPC SRO BRA	EPKIKP EPKIKP EPP LMH +IPKIKP EPP ESKSAB LMH	20 22 20 22 20 24 21 04 20 22 20 24 20 29 21 07	15.0 07.0 00.0 00.0 18.5 05.0 14.0 00.0	3.8 -7.7 1.2 2.9 2.9 3.4		19.3	25.0	15.4	25.0	6.8	121.12 122.94	57.78 56.62		New Ireland Region 5.23 S 153.59 E, H = 20 03 25.5, MB = 6.2 /ISC/. DEPTH = 63 km,	
822	29	SPC SRO BRA	EPKIKP IPKIKP LMH EPKIKP EPKIDF	02 45 02 45 03 34 02 45 02 48	14.0 19.3 00.0 24.0 50.0	0.7 2.4 6.4 -2.5		14.0	20.0	11.0	20.0	6.7	129.79 131.65 132.06	54.40 52.23 50.63		Solomon Islands 10.58 S 161.39 E, H = 02 26 11.8, MB = 6.0 /ISC/. DEPTH = 70 km,	
823	29	BRA	E	10 36	23.0									80.79	3.52		Fox Islands, Aleutian Islands 51.31 N 168.44 W, H = 10 24 31.5, MB = 4.9 /ISC/. DEPTH = 9 km,
824	30	BRA	EPB ESG	02 22 02 24	20.0 06.0	6.1 -1.8								7.32	240.93		Northern Italy 44.25 N 8.19 E, H = 02 20 05.9, MB = 3.9 /ISC/. DEPTH = 33 km,

No.	Date	STA Code	Phase	GMT		RBS O-C	Z		E-W		N-S		MPV	MLH	Delta	Azimuth	Remarks
				h	m		A	T	A	T	A	T					
825	30	BRA	IP IAP	08 23 08 24	29.8 00.0	0.3 4.6								83.57	95.08		Northern Sumatra 1.40 N 99.04 E, H = 08 11 10.8, MB = 5.3 /ISC/. DEPTH = 96 km,
826	30	BRA SRO	IP ES IAP ES LMH	21 03 21 07 21 03 21 03 21 07 21 14	00.0 42.0 11.0 19.0 43.0 00.0	-1.3 16.4 3.1 1.3 5.6		10.0	16.0	4.0	16.0	5.5	25.78 26.50	256.77 258.73		North Atlantic Ocean 37.22 N 14.93 W, H = 20 57 32.1, MB = 5.0 /ISC/. DEPTH = 37 km,	
827	31	BRA	EPN ESG	22 06 22 08	28.0 49.0	-8.6 2.4								7.27	240.25		Northern Italy 44.21 N 8.32 E, H = 22 04 46.5, MB = 3.3 /ISC/. DEPTH = 33 km

Component: NS

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	3	4.0	2.1	0.0			0.0			0.0		
2	0.0			0			0			0		
3	0			0			0			0		
4	0.0			0.0			0			0		
5	0			0.0			0			0		
6	0			0			0			0		
7	0			0.0			0			0		
8	0.0			3	5.0	4.0	0.0			0.0		
9	0.0			3	8.0	8.1	0.0			0.0		
10	0			0			0			0		
11	0			0			0			0		
12	0			0			0			0		
13	0			0			0			0		
14	0			0.0			0			0		
15	0			0.0			0			0		
16	0			0			0.0			0		
17	0.0			3	5.0	2.0	3	4.0	2.1	0.0		
18	0			0			0			0		
19	0			0			0			0		
20	0			0.0			0.0			0		
21	0			0			0			0		
22	0			0			0			0		
23	0			0			0			0		
24	0			0			0			0		
25	0			0.0			0.0			0		
26	0.0			0.0			0.0			0.0		
27	0			0			0			0		
28	0			0			0			0		
29	0			0			0			0		
30	0			0			0			0		
31	0			0			0			0		

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	3	5.0	1.8	0.0			0.0			0.0		
2	0.0			0.0			0			0		
3	0.0			0.0			0.0			0.0		
4	0			0.0			0			0		
5	0			0.0			0			0		
6	0			0			0.0			0.0		
7	0			0			3	6.0	3.4	3	5.0	3.6
8	0.0			3	6.0	3.4	0.0			0		
9	0.0			0			0			0		
10	0			0			0			0		
11	0			0			0			0		
12	0			0			0.0			0.0		
13	0			0.0			0.0			0		
14	0.0			0.0			0.0			0		
15	0.0			3	5.0	1.8	3	4.0	1.9	0		
16	0			0.0			0.0			0		
17	0.0			0.0			0.0			0.0		
18	0.0			0.0			0.0			0.0		
19	0.0			0.0			0.0			0.0		
20	0.0			0.0			0.0			0.0		
21	0.0			0.0			0.0			0		
22	0.0			3	4.0	1.9	0.0			0		
23	0			0.0			0.0			0		
24	0			0.0			0.0			0		
25	0			0			0			0		
26	0.0			0			0			0		
27	0			0			0			0		
28	0			0			0.0			0.0		
29	0			0			0.0			0		
30	0			0			0.0			0.0		
31	0			0			0.0			0.0		

Microseismic activity

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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		
2	0			0.0			0.0			0		
3	0.0			3 5.0 7.6			3 5.0 1.9			0		
4	0			0.0			0			0		
5	0			0			0.0			0		
6	0			0			0			0		
7	0			0			00			0		
8	0			0			0			0		
9	0			0			0			0		
10	0			0.0			0.0			0.0		
11	0			0			0			0		
12	0			0			0			0		
13	0			0			0.0			0.0		
14	0			0			0			0		
15	0			0.0			0.0			0.0		
16	0			0.0			0			0		
17	0			0			0			0		
18	0.0			0.0			0			0		
19	0			0			0			0		
20	0.0			0.0			0			0		
21	0			3 4.0 2.1			0			0		
22	0			0			0			0		
23	0			0			0			0		
24	0			3 4.0 2.1			0			0		
25	0			0			0			0		
26	0.0			0.0			0.0			0.0		
27	0			0.0			0			0		
28	0.0			0			0.0			3 8.0 1.7		

Microseismic activity

February 1970

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				3 6.0 2.0			0.0			0.0			3 6.0 6.0
2	0.0						0.0			0			0
3	0.0						3 6.0 4.0			0.0			0.0
4				3 6.0 4.0			0.0			0.0			0
5	0						0			0			0
6	0						0.0			0			3 5.0 2.1
7	0						0.0			0			0
8	0.0						0.0			0.0			0
9	0						0.0			0.0			0
10	0						0.0			3 4.0 2.2			0
11	0						0.0			0.0			0
12	0						0			0			0
13	0						0.0			0.0			0
14	0						0			0			0
15	0						0			0.0			0.0
16	0						0.0			0			0
17	0.0						0.0			0			0
18	0						0			0			0
19							3 4.0 2.2			0.0			0
20	0						0			0			0
21	0						0			0.0			0.0
22	0						0.0			0.0			0
23	0.0						0.0			0.0			0
24	0						0			0			0
25	0						0			0			0
26	0						0			0			0
27	0						0			0			0
28	0						0			0			0

Microseismic activity

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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		
2	0			3 6.0 1.7			0.0			0		
3	0			0			0			0		
4	0.0			0.0			0.0			0.0		
5	0			0			0.0			0.0		
6	0			0			0			0		
7	0			0.0			0.0			0.0		
8	0			3 5.0 1.9			3 4.0 2.1			0.0		
9	0			0			0			0		
10	0			0.0			0.0			0.0		
11	0.0			0.0			0			0		
12	0			0			0			0		
13	0			0.0			0.0			0.0		
14	0			0			0			0		
15	0			0			0			0		
16	0			0			0			0		
17	0			0			0			0		
18	0			0			0			0		
19	0			0.0			0.0			0		
20	0.0			0.0			0.0			0		
21	0			3 6.0 1.7			0.0			0		
22	0			0			0			0		
23	0			0			0			0		
24	0			0			0			0		
25	0.0			0			0			0		
26	0			0.0			0			0		
27	0			0.0			0.0			0		
28	0			0			0			0		
29	0			0			0			0		
30	0			0			0			0		
31	0			0.0			0.0			0		
				3 5.0 1.9			0.0			0		

Microseismic activity

March 1970
International
Seismological
Centre

Component: EW

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			0.0			0.0		
2	3 6.0 6.0			3 5.0 4.2			0.0			0.0		
3	0			0.0			0			0		
4	0			3 4.0 2.2			0			0		
5	0			0			0			0		
6	0			0			0			0		
7	0.0			0.0			0.0			0.0		
8	3 8.0 1.7			3 4.0 2.2			0.0			0.0		
9	0			0			0			0		
10	0			0			0			0		
11	0			0			0			0		
12	0			0			0			0		
13	3 4.0 2.2			3 7.0 1.9			0			0		
14	0			0			0			0		
15	0			0			0			0		
16	0			0			0			0.0		
17	0			3 5.0 4.2			0.0			0		
18	0.0			0.0			0.0			0		
19	3 5.0 2.1			3 4.0 2.2			0.0			0		
20	0			0			0			0		
21	0			0			0			0		
22	0.0			0.0			0.0			3 4.0 2.2		0.0
23	3 6.0 2.0			3 6.0 4.0			0			0.0		
24	0.0			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		
30	0			0			0			3 5.0 2.1		0.0
31	0			0.0			0.0			0		

Microseismic activity

April 1970

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			3	6.0	1.7	0.0			0.0		
2	0			0			0			0		
3	0			0			0			0		
4	0			0			0			0		
5	0			0.0			0.0			0		
6	0			0.0			0			0.0		
7	0.0			0.0			0.0			0		
8	0.0			0.0			0.0			0.0		
9	0			0			0			0		
10	0			0			0			0		
11	0			0			0			0		
12	0			0			0			0		
13	0			0.0			3	8.0	3.5	3	9.0	2.1
14	0			0			0			0		
15	0			0			0			0		
16	0			0			0			0		
17	0			3	5.0	1.9	0.0			0		
18	0			0			0			0		
19	0			0			0			0		
20	0			0			0			0		
21	0.0			0			0			0		
22	0.0			0.0			0.0			0.0		
23	0			0			0			0		
24	0.0			0.0			0			0		
25	0			0.0			0.0			0		
26	0			0			0			0		
27	0			0			0			0		
28	0			0.0			0			0		
29	0.0			0.0			0			0		
30	0			3	4.0	2.1	3	5.0	1.9	0.0		
				0			0			0		



Microseismic activity

April 1970

Component: EW

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			3	5.0	2.1	3	6.0	2.0	0.0		
2	0.0			0			0			0		
3	0			0			0			0		
4	0			0			0			0		
5	0			0.0			0			0		
6	0			3	5.0	2.1	0.0			0.0		
7	0			0.0			0			0		
8	0			0			0			0		
9	0			0.0			3	6.0	2.0	0.0		
10	0			0			0			0		
11	0			0			0			0		
12	0			0			0			0		
13	0.0			0.0			0.0			0.0		
14	0			0.0			3	4.0	4.4	0		
15	0			0.0			0.0			0.0		
16	0.0			0.0			0.0			0		
17	0.0			0.0			0.0			0.0		
18	0			3	6.0	2.0	0.0			0.0		
19	0.0			0.0			3	5.0	2.1	0.0		
20	0.0			0.0			0.0			0		
21	3	6.0	2.0	0.0			0.0			0		
22	0			0.0			0			0		
23	0			0.0			0			0		
24	3	6.0	2.0	0			0			0		
25	0			0			0			0		
26	0			3	5.0	4.2	3	6.0	2.0	0		
27	0.0			0.0			0			0		
28	0.0			0.0			0			0		
29	3	4.0	2.2	3	5.0	2.1	3	6.0	4.0	0		
30	0.0			0.0			0.0			0.0		

Microseismic activity

May 1970

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		
2	0			0			0			0		
3	0			0			0			0		
4	0			0.0			0			0		
5	0			0			0			0		
6	0.0			0.0			0.0			0.0		
7	0			0.0			0.0			0		
8	0			0.0			0.0			0		
9	0			0			0			0		
10	0			0			0			0		
11	0			...			0.0			0		
12	0			...			0			0		
13	0			0			0.0			TT		
14	0			0			0			0		
15	0			0			0			TT		
16	0			0			0			0		
17	0			...			0			0		
18	0			0			0			0		
19	0			0			0.0			0.0		
20	0.0			0.0			0.0			0.0		
21	0			0			0.0			0.0		
22	0			0			0.0			0		
23	0			0			0.0			0		
24	0			0			0			0		
25	0			0			0			0		
26	0			0			0			0		
27	0			0			0			0		
28	0			0.0			TT			0		
29	0			0			0			0		
30	0			0			0.0			3 4.0 1.9		
31	0			0			0			0		



International
Seismological
Centre

Microseismic activity

May 1970

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			3 4.0 2.3			3 4.0 2.3		
2	0.0			0.0			0.0			0.0		
3	0.0			0.0			0.0			0.0		
4	0			0.0			0.0			0.0		
5	0.0			0.0			0.0			0.0		
6	0.0			0.0			0.0			3 6.0 2.1		
7	0.0			...			0.0			0		
8	0			0.0			0			0		
9	0.0			0.0			0.0			0.0		
10	0.0			0.0			0.0			0.0		
11	0.0			0.0			3 4.0 2.3			0.0		
12	3 4.0 2.3			0.0			0.0			3 4.0 2.3		
13	3 4.0 2.3			3 4.0 2.3			0.0			TT		
14	0.0			3 4.0 2.3			0.0			0.0		
15	0.0			0.0			0.0			TT		
16	0			0.0			0.0			0.0		
17	0.0			0.0			0.0			0.0		
18	3 4.0 2.3			0.0			0.0			0.0		
19	0.0			...			3 6.0 2.1			3 6.0 2.1		
20	0.0			0.0			0.0			0.0		
21	0.0			2 6.0 2.1			2 6.0 2.1			2 6.0 2.1		
22	0.0			...			0.0			0.0		
23	0.0			0.0			0.0			0.0		
24	0.0			0.0			0.0			0.0		
25	0			0.0			0.0			0.0		
26	0.0			0.0			0.0			0.0		
27	0			...			0.0			0.0		
28	0.0			0.0			0.0			0.0		
29	0.0			0.0			0.0			0.0		
30	0.0			0.0			0			0.0		
31	0.0			0.0			0			0.0		

Microseismic activity

June 1970

Component: NS

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			0.0			0.0		
2	0			0.0			0.0			0		
3	0			0.0			0			0		
4	0			0.0			0			0.0		
5	0			TT			3 6.0 1.5			0		
6	0			0.0			0			0		
7	0			0			0			0		
8	0			0			0.0			0		
9	0			0			0.0			0.0		
10	0			0.0			3 8.0 1.5			3 6.0 1.5		
11	3 5.0 1.7					TT		
12	0			0			0.0			0.0		
13	0			0.0			0.0			0		
14	0.0			0			0.0			0.0		
15	0			0.0			TT			0.0		
16	0			0.0			0.0			0		
17	3 6.0 1.5			3 6.0 1.5			0.0			0		
18	0			0			0.0			3 6.0 1.5		
19	0.0			0			3 6.0 1.5			0		
20	0			0			0.0			0		
21	0			0			0.0			0		
22	0			0			0			0		
23	0			0			0.0			0.0		
24	0			0.0			0.0			0		
25	0			0.0			0.0			TT		
26	0			0			3 6.0 1.5			0.0		
27	0.0			0			0			0.0		
28	3 7.0 1.4			3 6.0 1.5			0			0.0		
29	0			3 7.0 1.4			0.0			0.0		
30	0.0			0			0.0			0.0		
				0.0			3 8.0 1.5			0.0		



Microseismic activity

June 1970

Component: EW

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			0.0			0.0		
2	0			0.0			0.0			0.0		
3	0			0.0			0.0			0.0		3 3.0 2.4
4	0.0			0.0			0.0			0.0		0.0
5	0.0			TT			3 7.0 2.0			0.0		
6	0.0			0.0			0.0			0.0		3 6.0 2.1
7	0.0			3 6.0 2.1			0.0			0.0		0.0
8	0.0			0.0			0.0			0.0		0.0
9	0.0			0.0			3 5.0 2.2			0		
10	0			0.0			3 6.0 2.1			3 6.0 2.1		3 8.0 1.8
11	0.0			3 6.0 2.1			3 8.0 1.8			3 8.0 1.8		TT
12	0.0			3 8.0 1.8			0.0			0.0		3 8.0 1.8
13	3 8.0 1.8			0.0			0.0			0.0		3 8.0 1.8
14	0.0			0.0			0.0			0.0		0.0
15	0			0.0			TT			0.0		0.0
16	0			3 6.0 2.1			0.0			0.0		0.0
17	0			0			0.0			0.0		0
18	0.0			0.0			0.0			0.0		0.0
19	3 6.0 2.1			3 6.0 2.1			0.0			0.0		0.0
20	0.0			0.0			3 6.0 2.1			3 6.0 2.1		0
21	0.0			0.0			0			0.0		0
22	0			0			0.0			0.0		3 6.0 2.1
23	0			0.0			3 7.0 2.0			0.0		0.0
24	0.0			3 6.0 2.1			0.0			0.0		TT
25	0.0			0.0			0.0			0.0		0.0
26	0.0			...			0.0			0.0		0.0
27	3 8.0 1.8			3 8.0 1.8			0.0			0.0		3 8.0 1.8
28	3 8.0 1.8			0			0.0			0.0		0.0
29	0.0			0.0			0.0			0.0		0.0
30	0.0			0.0			0.0			0.0		...

Microseismic activity

July 1970

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			3	6.0	1.5	3	6.0	1.5
2	0.0			0.0			3	6.0	1.5	0.0		
3	TT			0.0			0.0			0		
4	0			0			0			0		
5	0			0			0			0		
6	0.0			0.0			0.0			0.0		
7	0			0			0.0			0.0		
8	0.0			3	6.0	1.5	0.0			0.0		
9	0			0			0.0			0.0		
10	0			0			0.0			0		
11	0			0			0.0			0.0		
12	0.0			0.0			0			0		
13	0			0			3	5.0	1.7	0.0		
14	3	6.0	1.5	0.0			0			0.0		
15	0.0			0			0			0.0		
16	0			0			0.0			0.0		
17	0			0			0.0			0.0		
18	0.0			0			0.0			0		
19	0			0			3	7.0	1.4	3	7.0	1.4
20	3	8.0	1.5	...			0			0.0		
21	0			0			0.0			0.0		
22	0.0			0.0			0.0			0		
23	0			0			0			3	6.0	1.5
24	0			0			0			0		
25	0			0			0			3	7.0	1.4
26	TT			0.0			3	7.0	1.4	0		
27	0			0			0			0		
28	0			0			0			0		
29	0			0			0.0			0.0		
30	0			0			TT			0		
31	0			TT			3	8.0	1.5	3	8.0	1.5
				0			0.0			TT		

Microseismic activity

Component: EW.

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			0.0			0.0		
2	0			3	6.0	2.1	3	5.0	2.2	3	7.0	2.0
3	TT			3	7.0	2.0	3	5.0	2.2	2	8.0	1.8
4	0.0			3	7.0	2.0	0.0			3	6.0	2.1
5			0.0			0.0		
6	0.0			0.0			0.0			0.0		
7	0.0			0.0			0.0			3	8.0	1.8
8	0			0.0			0.0			0.0		
9	0			0.0			0.0			0.0		
10	3	8.0	1.8	0			0.0			0.0		
11	0			...			0.0			0		
12	0			...			0			0.0		
13	0.0			3	6.0	2.1	0.0			0.0		
14	0			0.0			3	7.0	2.0	3	6.0	2.1
15	0			0.0			0.0			3	7.0	2.0
16	3	6.0	2.1	0.0			0.0			...		
17			0.0		
18	0.0			3	8.0	1.8	3	7.0	2.0	3	7.0	2.0
19	0.0			...			3	8.0	1.8	3	8.0	1.8
20	0			...			0.0			3	6.0	2.1
21	3	7.0	2.0	0.0			0.0			0.0		
22	0			0			0.0			0.0		
23	0			0.0			2	8.0	1.8	2	7.0	2.0
24	3	8.0	1.8	3	8.0	1.8	...			0		
25	0			3	7.0	2.0	0			0		
26	TT			0			3	8.0	1.8	3	7.0	2.0
27	3	7.0	2.0	3	7.0	2.0	2	8.0	1.8	2	8.0	1.8
28	3	8.0	1.8	2	9.0	1.7	2	8.0	1.8	2	8.0	1.8
29	0			3	8.0	1.8	TT			2	9.0	1.7
30	2	9.0	1.7	TT			3	8.0	1.8	3	8.0	1.8
31	3	8.0	1.8	3	8.0	1.8	2	9.0	1.7	TT		

Microseismic activity

August 1970

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		
2	0			0.0			0			0		
3	0			0			0			0		
4	0			0			0.0			0		
5	0			0.0			3 6.0 2.2			0.0		
6	0			3 7.0 2.0			0			0.0		
7	3 5.0 2.4			0			3 5.0 2.4			0.0		
8	0			0			0.0			0.0		
9	3 6.0 2.2			0.0				
10			0			0		
11	0			0			3 6.0 2.2			0		
12	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		
16	0			0			0			0		
17	0			0			0			0		
18	0			0			0			0		
19	0			0			0			0.0		
20	0			0.0			0.0			0.0		
21	0			0			0			0		
22	0			0			0			0		
23	0			0			0			0		
24	0.0			...			0			0		
25	0			0			0.0			0		
26	0			TT			0.0			0		
27	0			0			0			0.0		
28	0			0			0			0		
29	0			0.0			0.0			0.0		
30	0			0			0			0		
31	0.0			0			0.0			3 5.0 2.4		



Microseismic activity

August 1970

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	3	8.0	1.6	3	8.0	1.6	2	8.0	1.6	2	6.0	1.9
2	0.0			3	9.0	1.5	3	8.0	1.6	3	8.0	1.6
3	3	6.0	1.9	2	9.0	1.5	2	8.0	1.6	2	6.0	1.9
4	0.0			0.0			2	9.0	1.5	2	7.0	1.7
5	3	6.0	1.9	3	6.0	1.9	2	6.0	1.9	2	7.0	1.7
6	3	7.0	1.7	3	8.0	1.6	2	9.0	1.5	2	8.0	1.6
7	3	5.0	2.0	3	9.0	1.5	2	6.0	1.9	2	9.0	1.5
8	2	8.0	1.6	3	8.0	1.6	2	8.0	1.6	2	9.0	1.5
9	2	8.0	1.6	3	6.0 1.9		3	8.0	1.6	3	8.0	1.6
10	3	8.0	1.6	2	8.0	1.6	2	6.0	1.9	2	7.0	1.7
11	3	8.0	1.6	3	9.0	1.5	2	9.0	1.5	2	7.0	1.7
12	3	6.0	1.9	3	5.0	2.0	2	8.0	3.2	2	6.0	1.9
13	3	6.0	1.9	3	8.0	1.6	2	8.0	1.6	2	8.0	1.6
14	3	8.0	1.6	3	8.0	1.6	2	8.0	1.6	2	8.0	1.6
15	3	7.0	1.7	3	8.0	1.6	2	8.0	1.6	2	7.0	1.7
16	3	6.0	1.9	3	6.0	1.9	3	8.0	1.6	3	8.0	1.6
17	0.0			0.0			3	8.0	1.6	3	6.0	1.9
18	3	6.0	1.9	3	8.0	1.6	2	8.0	1.6	3	7.0	1.7
19	3	8.0	1.6	3	9.0	1.5	2	8.0	1.6	3	8.0	1.6
20	3	8.0	1.6	3	9.0	1.5	2	8.0	3.2	2	8.0	3.2
21	0.0			3	6.0 3.7		2	9.0	1.5	2	9.0	1.5
22	0.0			0.0			2	9.0	1.5	3	6.0	1.9
23	3	6.0	5.6	0.0			0.0			3	7.0	3.5
24	0.0			2	9.0	1.5	2	7.0	1.7	2	8.0	3.2
25	3	7.0	1.7	TT			2	7.0	3.5	2	9.0	1.5
26	3	7.0	1.7	3	6.0	1.9	2	6.0	1.9	2	6.0	1.9
27	3	8.0	1.6	3	6.0	1.9	2	7.0	3.5	2	6.0	1.9
28	3	8.0	1.6	3	7.0	5.2	0.0			1	8.0	1.6
29	0.0			0.0			0.0			0.0		
30	0			0.0			0.0			TT		
31	0			0.0			0.0			0.0		

Microseismic activity September 1970

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			TT			0.0			...		
2			0.0			...		
3			0.0			0		
4	0.0			0			0.0			0.0		
5	0			0			TT			0		
6	0.0			0.0			0.0			0		
7	0.0			3 5.0 2.4			0.0			3 6.0 2.2		
8	TT			0.0			3 6.0 2.2			3 6.0 2.2		
9	0.0			3 6.0 2.2			3 6.0 2.2			3 6.0 2.2		
10	0.0			0.0			1 6.0 2.2			1 6.0 2.2		
11	3 6.0 2.2			3 6.0 2.2			3 6.0 4.3			0.0		
12	0.0			0.0			0.0			0.0		
13	0			0			0			0		
14	0			0			0			0.0		
15	0			0			0.0			0		
16	0.0			0.0			0.0			0.0		
17	0			0			0.0			0.0		
18	0			0.0			0.0			0		
19	0			0			0.0			0		
20	0			0			0.0			0.0		
21	0.0			0			0.0			0		
22	0			0.0			0.0			0		
23	0			0			0			0		
24	0			0.0			0			0		
25	0.0			0.0			0			0		
26	0			0.0			0.0			0.0		
27	0.0			0			TT			0.0		
28	0.0			0.0			0			0.0		
29	0			0			0.0			0.0		
30	0			0			0.0			0.0		

Microseismic activity September 1970

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			TT			0.0			0.0		
2	0			3 7.0 1.7			0.0			0.0		
3	3 9.0 1.5			0.0			0.0			0.0		
4	3 7.0 1.7			0.0			3 8.0 1.6			0.0		
5	3 6.0 1.9			0.0			TT			0.0		
6	0.0			0.0			3 6.0 1.9			3 6.0 1.9		
7	0.0			3 7.0 1.7			0.0			3 7.0 1.7		
8	TT			3 6.0 1.9			0.0			1 6.0 3.7		
9	1 6.0 1.3			1 6.0 3.7			3 7.0 1.7			3 8.0 1.6		
10	3 6.0 1.9			0.0			0.0			1 7.0 3.5		
11	1 7.0 3.5			1 6.0 3.7			1 7.0 5.2			3 7.0 1.7		
12	0.0			0.0			0.0			0.0		
13	0			0			0.0			3 8.0 1.6		
14	0			0			3 9.0 3.0			0.0		
15	0.0			3 6.0 1.9			0.0			0.0		
16	0.0			0.0			0.0			0.0		
17	0.0			0.0			0.0			0.0		
18	0.0			0			0			0.0		
19	0			0			0			0.0		
20	0			0.0			0.0			0.0		
21	0.0			0.0			0.0			0.0		
22	0.0			0.0			3 9.0 3.0			0.0		
23	3 8.0 4.9			0.0			0.0			0.0		
24	0.0			0.0			0			0.0		
25	0			0.0			0.0			0.0		
26	0.0			0.0			TT			0.0		
27	0.0			0.0			0.0			0.0		
28	0			0.0			0			0.0		
29	0			0			0			0.0		
30	0.0			0			0			0.0		

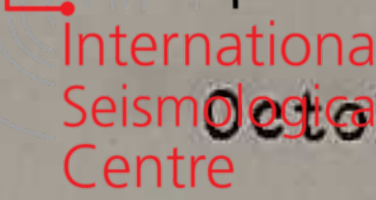
Microseismic activity

October 1970

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	TT			0.0			3 6.0 2.2			3 6.0 2.2		
3	0.0			3 5.0 2.4			3 5.0 2.4			3 5.0 2.4		
4	0.0			0			0			0		
5	0			0			0.0			3 6.0 2.2		
6	TT			0.0			3 6.0 2.2			0.0		
7	0.0			0.0			3 6.0 4.3			0.0		
8	0.0			0			0.0			0		
9	0			0			0			0		
10	0.0			0.0			0.0			3 6.0 2.2		
11	3 7.0 2.0			3 5.0 2.4			3 6.0 4.3			3 6.0 4.3		
12	3 6.0 4.3			...			1 7.0 4.1			1 6.0 8.6		
13	1 5.0 9.4			1 5.0 2.4			0.0			3 7.0 2.0		
14	0.0			0.0			0			0		
15	0			0			0			0		
16	0			TT			0			0.0		
17	0			0			0			0		
18	0			0			0.0			0.0		
19	0.0			3 6.0 2.2			1 8.0 4.1			1 7.0 6.1		
20	1 6.0 4.3			1 6.0 6.5			1 7.0 8.1			1 7.0 8.1		
21	TT			1 6.0 6.5			1 6.0 8.6			3 6.0 6.5		
22	0.0			0.0			0.0			0		
23	0			0.0			0.0			0.0		
24	0.0			3 5.0 2.4			1 6.0 4.3			1 7.0 6.1		
25	1 6.0 8.6			1 6.0 8.6			1 7.0 8.1			1 7.0 8.1		
26	1 6.0 6.5			3 6.0 4.3			0.0			3 6.0 2.2		
27	TT			0			0.0			0.0		
28	0			0			0.0			0.0		
29	0			0.0			0.0			0.0		
30	0.0			0.0			0.0			0.0		
31	0.0			0.0			3 7.0 2.0			3 6.0 2.2		
				0.0			0.0			TT		

Microseismic activity



October 1970

Component: EW

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0			0			0		
2	TT			0.0			3 7.0 1.7			0.0		
3	0			0			0.0			3 7.0 1.7		
4	0.0			0.0			0			0		
5	0			0.0			0.0			0.0		
6	TT			0.0			0.0			0.0		
7	3 6.0 1.9			3 6.0 1.9			3 6.0 1.9			3 6.0 1.9		
8	3 6.0 1.9			3 8.0 1.6			0.0			0		
9	0			0			0			0.0		
10	0			3 6.0 1.9			1 6.0 3.7			1 6.0 3.7		
11	1 6.0 3.7			1 6.0 3.7			1 6.0 3.7			1 6.0 3.7		
12	1 6.0 3.7			1 6.0 3.7			1 7.0 3.5			1 7.0 3.5		
13	1 5.0 3.9			1 6.0 3.7			0.0			0.0		
14	0.0			0.0			0.0			0.0		
15	0.0			0			0			0		
16	0			TT			0.0			0.0		
17	0			0			0			0		
18	0			...			0.0			0.0		
19	1 6.0 1.9			1 7.0 3.5			0.0			1 7.0 5.2		
20	1 7.0 3.5			1 7.0 5.2			1 7.0 5.2			1 7.0 7.0		
21	TT			1 6.0 7.4			1 6.0 5.6			1 6.0 3.7		
22	3 6.0 1.9			0.0			0.0			0		
23	0			0.0			0.0			0.0		
24	0.0			3 5.0 3.9			1 7.0 7.0			1 7.0 7.0		
25	1 6.0 7.4			1 7.0 8.7			1 7.0 7.0			1 7.0 5.2		
26	0.0			3 7.0 1.7			0.0			0.0		
27	TT			0			0			0.0		
28	0.0			0.0			0.0			0.0		
29	0.0			0.0			0.0			0.0		
30	0.0			0.0			0.0			3 6.0 1.9		
31	3 6.0 1.9			0.0			0.0			TT		

Microseismic activity

November 1970

Component: NS

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			3	5.0	4.0	1	6.0	5.4	3	6.0	3.6
2		3	5.0 4.0	...			3	5.0	4.0	3	4.0	4.3
3		3	5.0 4.0	3	6.0	5.4	3	7.0	3.3	3	5.0	5.9
4	0.0			...			3	5.0	4.0	3	6.0	3.6
5	0.0			0			3	5.0	2.0	3	5.0	2.0
6	0.0			...			0.0			0.0		
7	0			0.0			0.0			3	6.0	3.6
8	0.0			0.0			0.0			0.0		
9	0.0			3	6.0	1.8	1	5.0	4.0	1	5.0	5.9
10	0.0			0.0			0.0			0.0		
11	0.0			0.0			0.0			0.0		
12	0.0			0.0			0.0			0.0		
13	0.0			0.0			0.0			0.0		
14	0			0			TT			0.0		
15	0			0			0.0			0		
16	0			0.0			0.0			0.0		
17	0.0			0.0			0.0			3	6.0	3.6
18	0.0			0.0			0.0			0.0		
19	0.0			3	6.0	3.6	0.0			0.0		
20		3	6.0 1.8	0.0			3	6.0	3.6	0.0		
21	0			0.0			0.0			0.0		
22	0.0			0.0			0			0.0		
23		3	6.0 3.6	0.0			3	7.0	1.7	0.0		
24	0.0			0.0			3	3.0	1.6	0.0		
25	0.0			3	8.0	3.2	0.0			3	6.0	3.6
26		3	5.0 5.9	1	6.0	7.2	3	6.0	5.4	3	5.0	5.9
27		3	5.0 2.0	3	6.0	1.8	1	5.0	7.9	3	5.0	5.9
28		3	6.0 3.6	3	6.0	1.8	3	6.0	5.4	3	6.0	3.6
29		3	5.0 5.9	3	5.0	4.0	3	5.0	5.9	3	5.0	2.0
30		3	4.0 4.3	0.0			3	4.0	4.3	3	5.0	2.0



Microseismic activity

November 1970

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		3	5.0 3.6	3	5.0	3.6	1	6.0	5.0	1	6.0	3.4
2		3	5.0 3.6	3	5.0	1.8	0.0			3	7.0	1.5
3		3	6.0 3.4	1	5.0	5.5	1	6.0	5.0	3	5.0	3.6
4		3	5.0 3.6	3	5.0	5.5	0.0			0.0		
5	0.0			0.0			0.0			0.0		
6	0.0			0.0			0.0			0.0		
7	0			0			0.0			3	4.0	1.9
8		3	4.0 1.9	3	5.0	1.8	0.0			3	5.0	1.8
9		3	5.0 3.6	1	5.0	3.6	0.0			3	5.0	1.8
10		1	5.0 3.6	1	5.0	5.5	3	5.0	3.6	3	5.0	3.6
11	0.0			0.0			0.0			0.0		
12	0.0			0.0			0.0			3	5.0	1.8
13	0			0.0			0.0			0.0		
14	0			0.0			TT			0.0		
15	0			0.0			0.0			0.0		
16		3	6.0 1.7	0.0			0.0			0		
17	0.0			0.0			3	6.0	1.7	0.0		
18	0.0			0.0			0.0			3	7.0	1.5
19	0.0			0.0			0.0			0		
20	0			0.0			0.0			0.0		
21	0.0			0.0			0.0			0.0		
22	0.0			0.0			0			3	8.0	1.4
23	0			0.0			0.0			0.0		
24	0.0			0.0			3	5.0	1.8	0.0		
25	0			1	6.0	5.0	3	5.0	7.3	3	5.0	5.5
26		3	6.0 5.0	3	5.0	3.6	1	6.0	5.0	1	6.0	6.7
27		3	5.0 3.6	3	5.0	1.8	3	6.0	5.0	3	6.0	3.4
28		3	6.0 3.4	3	5.0	3.6	3	5.0	5.5	3	0.5	2.2
29		3	7.0 4.6	0.0			0.0			0.0		
30	0.0			0.0			0.0			0.0		

Component: NS

GMT Date	00 h			06 h			12 h			18 h		
	K	T	A	K	T	A	K	T	A	K	T	A
1	0.0			0.0			0.0			0.0		
2	0			0			0.0			TT		
3	0.0			0.0			3 4.0 4.3			3 4.0 2.1		
4	0.0			0.0			3 7.0 3.3			...		
5		
6		
7			3 6.0 3.6			3 6.0 3.6		
8	TT			0.0			3 7.0 3.3			3 6.0 1.8		
9	3 7.0 1.7			3 7.0 5.0			1 7.0 8.3			1 7.0 6.7		
10	3 7.0 3.3			TT			1 6.0 9.0			3 7.0 5.0		
11	3 7.0 3.3			3 6.0 3.6			1 7.0 8.3			1 7.0 6.7		
12	3 6.0 5.4			3 5.0 5.9			3 6.0 5.4			3 8.0 3.2		
13	3 6.0 1.8			0.0			3 8.0 3.2			0.0		
14	0.0			...			3 7.0 3.3			3 6.0 3.6		
15	3 6.0 1.8			3 7.0 3.3			3 7.0 5.0			3 5.0 4.0		
16	3 5.0 2.0			0.0			3 7.0 1.7			3 6.0 1.8		
17	0.0			...			3 7.0 6.7			3 6.0 5.4		
18	3 7.0 5.0			3 7.0 5.0			3 7.0 3.3			3 8.0 3.2		
19	3 8.0 1.6			3 8.0 3.2			3 6.0 3.6			3 7.0 1.7		
20	0.0			0.0			TT			3 7.0 1.7		
21	0.0			3 7.0 3.3			3 7.0 8.3			3 7.0 5.0		
22	3 7.0 1.7			3 7.0 1.7			3 5.0 5.9			3 6.0 3.6		
23	3 6.0 1.8			...			0.0			3 6.0 1.8		
24	0			0			0			0		
25	0			0			0			0		
26	0			0			0			0		
27	0			0			0			0		
28	3 5.0 2.0			...			3 6.0 1.8			3 5.0 2.0		
29	0.0			0.0			3 6.0 3.6			3 6.0 3.6		
30	3 5.0 4.0			3 7.0 3.3			0.0			3 6.0 3.6		
31	0.0			0.0			3 6.0 3.6			3 6.0 1.8		



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	3	8.0	1.4	0.0			0.0			0.0		
2	0			0.0			0.0			TT		
3	0.0			0.0			3 5.0 1.8			3 4.0 1.9		
4	3 6.0 1.7			3 6.0 1.7			3 8.0 1.4			3 7.0 1.5		
5	3 7.0 1.5			3 7.0 1.5			3 7.0 1.5			3 7.0 1.5		
6	3 7.0 1.5			3 7.0 1.5			0.0			3 6.0 1.7		
7	TT			0.0			0.0			0.0		
8	TT			0.0			0.0			3 5.0 3.6		
9	3 8.0 1.4			3 8.0 2.8			1 7.0 6.2			3 6.0 5.0		
10	3 5.0 3.6			TT			3 7.0 4.6			3 7.0 3.1		
11	3 4.0 3.9			3 7.0 3.1			3 5.0 5.5			3 6.0 3.4		
12	3 5.0 3.6			3 5.0 3.6			3 5.0 7.3			3 5.0 3.6		
13	0.0			0.0			3 5.0 3.6			3 6.0 1.7		
14	0.0			3 7.0 1.5			3 7.0 1.5			0.0		
15	3 5.0 3.6			3 6.0 5.0			3 7.0 6.2			3 7.0 3.1		
16	0.0			0.0			0.0			0.0		
17	3 6.0 1.7			3 6.0 1.7			3 8.0 2.8			3 7.0 3.1		
18	3 6.0 1.7			3 7.0 3.1			3 7.0 6.2			3 6.0 5.0		
19	3 7.0 1.5			0.0			3 7.0 4.6			3 7.0 3.1		
20	3 6.0 1.7			3 6.0 1.7			TT			3 6.0 3.4		
21	3 6.0 3.4			3 7.0 3.1			1 7.0 6.2			3 7.0 3.1		
22	3 7.0 1.5			3 7.0 1.5			0.0			0.0		
23	0.0			0			0.0			0		
24	0			0			0.0			0.0		
25	0			...			0			0		
26	0			0			0			0		
27	0			0.0			3 7.0 1.5			3 7.0 4.6		
28	3 6.0 3.4			3 5.0 1.8			3 5.0 3.6			3 6.0 3.4		
29	0.0			0.0			0.0			0.0		
30	3 6.0 3.4			3 5.0 1.8			3 6.0 3.4			0.0		
31	0.0			0.0			0.0			0.0		



Macroseismic Observations
of Earthquakes on the Territory
of Slovakia in the Year 1970

Macroseismic Observations 1970

Date	Origin time	Location	Latitude North	Longitude East	Focal depth /km/	Shaken area /km ² /	Epicentral Int. /MCS/	Felt at
June 4	13 37 /BRA/	West Slovakia	48.2°	17.4°			4°	I = 4° Little Carpathians Nová Dedinka /District of Senica/
December 11	06 45 /BRA/	Middle Slovakia	48.9°	18.3°				I = 4.50 Horná Poruba /District of Trenčín/
								I = 4° Dolná Poruba /District of Trenčín/
								I = 3.50 Trenč. Teplice /District of Trenčín/



BULLETIN OF THE SLOVAK SEISMOGRAPHIC STATIONS
BRATISLAVA, ŠROBÁROVÁ, HURBANOVO
AND SKALNATÉ PLESO FOR THE YEAR 1970

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