The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.
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The International Seismological Summary

1959 OCTOBER, NOVEMBER, DECEMBER

The 1959 number of the Summary includes a few modifications to the presentation due to the output format of the electronic computer and card-controlled typewriter.

No lower case letters are available so the letterpress is uniformly in capitals. Phases pP, sP, sS when available are therefore designated by *PP, *SP, *SS; the asterisk implying that the first letter of the pair is equivalent to lower case. An additional column is provided and used exclusively for the phase pP. Surface waves are no longer included in a separate column. Residuals are by comparison with the Jeffreys-Bullen tables; P is used up to 105°, PKP from 110°, S up to 95° and SKS from 95°. For P and PKP beyond the scope of the tables the dummy figure of 777 is placed to complete the residual column. The quantity called SE at the head of each earthquake is the standard error of the computed P residuals.

KEW OBSERVATORY
October 1965

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The Director of the I.S.S. wishes to express his thanks to H.M. Treasury, to U.N.E.S.C.O. and I.C.S.U. acting through the agency of F.A.G.S., to the National Science Foundation of the United States, and to the International Association of Seismology which have covered the cost of preparation and printing of this volume.

He also thanks the Director-General of the Meteorological Office and the Superintendent of Kew Observatory for the hospitality extended to his staff, and the Director of the Atlas Computer Laboratory at the National Institute for Research in Nuclear Science for the services of the electronic computer.

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OCTOBER 3 20.H 2.M 47.S EPICENTRE 43.26 146.80 DEPTH= 0.KM

A=-0.61124 B= 0.40004 C= 0.68290 D= 0.5476 E= 0.8367
G=-0.5714 H= 0.3740 K=-0.7305 HT= -2.9

SE= 3.54

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
NEMURO	0.89	274.7	0 19K	0	0 27	-6		
KUSIRO	1.78	261.6	0 31K	-1	0 49	-6		
ABASHIRI	1.98	293.4	0 35K	0	0 55	-6		
OBIHIRO	2.66	263.8	0 44	0				
HIROO	2.74	250.2	0 47K	1	1 15	-5		
URAKAWA	3.16	250.8	0 54	2	1 28	-3		
ASAHIGAWA	3.26	280.6	0 55	2				
TOMAKOMAI	3.88	262.4	1 7	5				1 47
SAPPORO	3.99	269.1	1 4K	1	1 46	-6		
WAKKANAI	4.26	302.2	1 6	-1				2 22
MURORAN	4.38	259.6	1 10	1	2 2	0		
HAKODATE	4.69	254.0	1 13A	0	2 1	-8		1 35
MORI	4.73	257.9	1 17	3	2 4	-6		
HATINOHE	4.79	237.0	1 14	-1	2 2	-10		
SUTTSU	4.84	266.7	1 22	7	2 11	-2		
AOMORI	5.10	243.4	1 22	3	2 16	-4		
MIYAKO	5.12	226.8	1 18	-1	2 9	-11		
MORIOKA	5.52	231.8	1 24	-1	2 21	-9		
MIZUSAWA	5.94	227.9	1 30	-1	2 30	-11		
AKITA	6.15	237.1	1 36	2	2 41	-5		3 3
ISINOMAKI	6.37	222.5	1 35	-2	2 40	-11		
SENDAI	6.70	223.9	1 40	-2	2 48	-12		
SAKATA	6.83	232.7	1 48	4				
YAMAGATA	7.00	226.5	1 45	-1				
HUKUSIMA	7.32	223.3	1 49	-1	3 3	-12		
ONAHAMA	7.76	217.6			3 14	-13		
NIIGATA	7.95	230.4	2 11	12				
MITO	8.42	217.4	2 7	1				
UTUNOMIYA	8.56	220.7	2 3	-5	3 31	-15		
KAKIOKA	8.67	218.1	2 6	-3	3 38	-11		
TUKUBASAN	8.72	218.5	2 6A	-4	3 36	-14		
TYOSI	8.82	213.3			3 38	-15		
MAEBASI	9.07	223.5	2 24	9	3 51	-8		
KUMAGAYA	9.11	221.3	2 18	3				
NAGANO	9.32	227.9	2 26	8	4 22	17		
TOKYO C.M.O.	9.33	218.1			3 51	-13		
OIWAKE	9.39	225.2	2 30	11				
TITIBU	9.39	221.8			3 53	-14		
MATUSIRO	9.41	227.3	2 17A	-2	3 53	-14		3 32
YOKOHAMA	9.58	217.6			3 50	-22		
HUNATU	9.93	221.4			4 7	-14		
MISIMA	10.15	219.4	2 43	13	4 10	-16		
GIHU	11.04	228.0			4 56	9		
NAGOYA	11.10	226.6	3 3	20				
ABUYAMA	12.09	229.9	2 54K	-2				
COLLEGE	41.63	35.8	7 54	3				
RABAUL	47.49	172.7	8 40	2				
CHITTAGONG	49.73	263.5	8 17	-39				
RESOLUTE	55.51	16.5	9 37A	-2				10 39 PCP
WARSAK DAM	57.68	288.1	10 1A	7				
SODANKYLA	60.82	337.5	10 12	-4				
KIRUNA	62.13	339.8	10 22	-3				
CHARTERS TS.	63.04	180.6	10 30	-1				
QUETTA	63.06	287.0	10 28A	-3				
SHASTA	64.17	57.6	10 41	3				
HUNGRY HORSE	64.47	46.9	10 42	2				
MINERAL	64.86	57.6	10 56A	13				
NURMIJARVI	66.35	332.8	10 51	-1				
RENO	66.45	57.4	10 55	2				
HELSINKI	66.50	332.4	10 50	-3				
LICK	66.64	60.2	11 8	14				
SKALSTUGAN	67.57	339.8	10 57	-3				
EUREKA	68.82	55.4	11 9	1				
UPPSALA	69.11	335.2	11 7	-3				11 31 PCP
GOTEBORG	72.56	336.5	11 30	0				
TUCSON	76.70	58.3	11 57	3				
TUCSON TELE.	76.71	58.1	11 57	3				12 41
RACIBORZ	76.78	328.9	11 53	-2				
PRUHONICE	78.20	330.8	12 1	-2				
JENA	78.43	332.9	12 2	-2				12 19

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STUTTGART	81.05	333.1	12 17	-1	
LJUBLJANA	81.50	328.6	12 18	-2	
JERUSALEM	82.58	307.0	12 26A	0	
BREBEUF	84.59	27.3	12 37K	1	
ELISABTHVLLE	119.18	282.0	18 52	1	

OCTOBER 5 17.H 56.M 21.S EPICENTRE 83.46 113.37 DEPTH= 0.KM

A=-0.04550 B= 0.10527 C= 0.99340 D= 0.9179 E= 0.3967
G=-0.3941 H= 0.9119 K=-0.1147 HT=-14.0

SE= 2.85

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KHEYS	7.84	278.6	2 0	2	3 29	0		2 13
TIKSI	12.26	156.5						
NORD	13.65	331.5	3 18	1				
THULE	20.25	1.1	4 41	1				
RESOLUTE	21.44	20.2	4 49	-3	8 51	5		
YAKUTSK	21.89	159.1	4 59	2				
APATITY	22.35	275.9	5 3	2				
KIRUNA	23.53	288.3	5 14	1	9 27	3		17 26
SCORESBY SD.	24.74	325.6	5 25	1	9 55	10		
MAGADAN	25.67	134.4			10 13	13		
COLLEGE	27.03	68.2	5 45	-1				
PETROPAVLOVK	32.82	127.6						8 15 PPP
MOSCOW	33.37	265.4	6 50	8				
GOTEBORG	34.32	291.0	6 44	-6				
SEMIPALATNSK	34.43	218.2	6 52	1				
UGLEGORSK	35.45	147.0						10 13
ULAN-BATOR	35.74	187.5	7 4	1				
POTSDAM	39.44	288.3	7 38	4				
LWOW	40.74	277.0						9 23 PP
KRAKOW	40.98	281.1	7 34	-12				9 30 PP
PRUHONICE	41.64	286.3	7 52	0				9 26 PP
IASI	42.92	272.9						9 57
BRATISLAVA	43.15	283.3	8 7	3				9 49 PCP
TCHIMKENT	43.32	228.4	8 8	3				9 55 PP
STUTTGART	43.41	291.0	8 6	0				
LUNACHARSKOE	44.31	228.6	8 17	4				10 5 PCP
TASHKENT	44.32	228.6	8 13	-1				10 1 PP
NAMANGAN	44.46	226.0	8 16	1				10 3 PP
ANDIJAN	44.63	225.2	8 19	3				
GROZNY	44.69	253.7	8 20	3				10 6 PP
TIFLIS	46.37	254.3	8 34	4				10 26 PP
HUNGRY HORSE	46.50	42.6	8 30	-1				
STALINABAD	47.09	228.7	8 34	-2				
KIROVOBAD	47.26	252.5	8 37	0				
KULYAB	47.67	227.6	8 40	0				
MATUSIRO	47.72	152.8			15 46	9		
BUTTE	48.93	41.6	8 48	-2				
OTTAWA	51.30	8.2	9 7	-1				
WARSAK DAM	51.40	225.1	9 7	-2				
RAPID CITY	51.52	33.3	9 43	33				
SHASTA	53.40	51.5	9 23	-1				
LAHORE	53.61	221.9	9 24	-1				
MINERAL	53.82	50.8	9 26A	-1				
RENO	54.78	49.3	9 34	0				
EUREKA	55.16	45.7	9 35	-2				
QUETTA	55.57	229.5	9 40	0				
PALISADES	55.72	6.7			17 29	2		
ALGIERS UNI.	55.94	294.6	9 34	-8				
LICK	56.80	51.3	9 48K	-1				
JERUSALEM	57.27	262.2	9 53	1				
SHIRAZ	57.48	244.4	9 54A	1				
FRESNO	57.53	49.6	9 54	0				
SHILLONG	58.48	202.9	10 0	0				
PASADENA	60.27	48.4	10 13	0				
TUCSON TELE.	62.67	41.5	10 29	0				
MBOUR	80.03	311.4	12 20	7				

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OCTOBER 5 18.H 27.M 45.S EPICENTRE 83.53 112.54 DEPTH= 0.KM

A=-0.04350 B= 0.10480 C= 0.99354 D= 0.9236 E= 0.3833
G=-0.3809 H= 0.9176 K=-0.1135 HT=-14.0

SE= 2.86

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
KHEYS	7.74	277.4	1	57	0	3	25	-1				
TIKSI	12.37	155.4	2	55	-5							
NORD	13.54	330.9	3	19	3	6	7	19				
THULE	20.18	0.6	4	37	-2							
RESOLUTE	21.41	19.6	4	50	-2	8	39	-6				
YAKUTSK	21.99	158.2	4	57	0	8	57	1				
APATITY	22.25	275.0	5	2	2							
SODANKYLA	23.18	281.3	5	10	1	9	30	12			5	29
KIRUNA	23.42	287.4	5	16	4	9	31	9				
SCORESBY SD.	24.63	324.9	5	25	2	9	51	8				
MAGADAN	25.79	133.5	5	33	-1	10	5	3				
COLLEGE	27.09	67.6	5	45	-1	10	27	3				
SKALSTUGAN	28.41	292.3	6	0	2							
SVERDLOVSK	29.72	240.8									10	10
KLYUCHI	29.88	123.3	6	11	0	11	10	2				
NURMIJARVI	30.06	279.2	6	17	4						6	49
PULKOVO	30.15	273.4	6	11	-3						9	57
HELSINKI	30.36	278.8	6	17	1							
UPPSALA	31.49	285.6	6	25	-1	11	29	-5				
KABANSK	31.66	186.9	6	28	1							
PETROPAVLOVK	32.94	126.8	6	35	-3						7	55 PP
MOSCOW	33.28	264.5	6	44	3							
GOTEBORG	34.21	290.1	6	44	-5							
SEMIPALATNSK	34.43	217.2	6	51	0							
IVIGTUT	35.17	343.9				12	34	3			8	14
UGLEGORSK	35.56	146.1									10	5
ULAN-BATOR	35.79	186.5	7	3	0							
COPENHAGEN	36.14	289.0	7	8	2	12	46	0			8	29 PP
ABERDEEN	36.16	302.9	7	50K	44						8	26 PP
Y.-SAKHLINSK	37.66	145.7	7	19A	0						8	53 PP
WARSAW	38.60	279.8	7	29A	3	13	37	14			9	14 PP
POTSDAM	39.33	287.4	7	34	1	13	29	-5			9	15 PPP
CHANGCHUN	40.03	165.6	7	39A	1	13	53	8			9	15 PP
RATHFARNHAM	40.37	305.7									9	15 PP
COLLMBERG	40.40	287.2	7	42	1	14	7	16			9	21 PP
DE BILT	40.44	294.8	7	43	1	13	45	-6				
LWOW	40.64	276.1	7	46	3	14	0	6			9	22 PP
KRAKOW	40.87	280.2	7	48	3	13	23	-35			9	19 PP
JENA	40.92	288.5	7	49	3	13	43	-15			9	21 PP
RACIBORZ	41.03	281.9	7	49	2							
PRAGUE	41.46	285.5	7	53	3						9	25 PP
PRUHONICE	41.53	285.4	7	53A	2	14	12	5			9	29 PP
KEW	41.62	299.8	7	53	2	14	9	0			17	33
CHEB	41.67	287.5	7	55	3	14	19	10			9	33 PP
UCCLE	41.81	295.3	7	56	3	14	16	5				
KURMENTY	41.93	218.2	7	55	1							
CERNAUTI	41.94	273.9	7	56	2	14	17	4			9	36 PP
DOURBES	42.47	294.9	8	4	6	14	29	8				
RAKHOV	42.48	275.5	7	56	-3							
IASI	42.82	272.0									9	35 PP
BRATISLAVA	43.04	282.5	8	1	-2	13	15	-75			9	40 PCP
HURBANOVO	43.21	281.3	8	0	-4	13	56	-36				
STUTTGART	43.30	290.1	8	5	0	14	39	6			9	54 PCP
BANFF	43.60	42.8	8	7	-1							
STRASBOURG	43.65	291.5	8	9	1	14	41	3			10	5 PP
NARYN	43.66	220.4	8	11	3	15	11	33				
PEKING	43.66	176.0	8	8	0	14	43	4			18	5 SS
PARIS	43.97	296.6	8	14A	3	14	34	-9				
PIATIGORSK	44.21	255.7	8	16	3	14	48	2				
LUNACHARSKOE	44.28	227.6	8	13	0	14	48	0			9	54 PP
TASHKENT	44.30	227.7	8	9	-4						10	3 PCP
NAMANGAN	44.44	225.0	8	17	3						10	0 PP
ANDIJAN	44.61	224.3	8	18A	2						10	5 PP
GROZNY	44.62	252.8	8	19A	3						10	16 PP
MAKHACH-KALA	44.77	250.9	8	20	3	14	CA	3			10	3 PCP
TIMISOARA	44.97	277.9	8	3	-16							
LJUBLJANA	45.42	284.5	8	26	4							
ZAGREB	45.48	283.0	8	27	4							
VICTORIA	45.58	50.5	8	22A	-2							
BUCHAREST	45.73	272.8	8	30	5						18	34

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TRIESTE	45.90	285.1	8	29	3	15	33	22		
BELGRADE	45.97	278.4	8	31K	4	15	16	4	10	34 PP
TIFLIS	46.30	253.4	8	33	4				10	10 PCP
HUNGRY HORSE	46.52	41.9	8	30	-1				10	28 PP
PAVIA	46.86	289.4	9	10	36				19	20 SS
CLERMONT-FD.	46.91	295.3	8	38	4	15	33	8		
STALINABAD	47.07	227.8	8	36	1	15	23	-5		
KIROVOBAD	47.19	251.6	8	38	2				10	29 PP
KIZYL-ARVAT	47.60	241.1	8	44	5	15	42	7		
KULYAB	47.65	226.6	8	40A	0	15	31	-5		
MATUSIRO	47.83	151.9	8	39K	-2	15	43	5	10	39 PP
EREVAN	47.86	253.4	8	35	-7				10	37 PP
KHOROG	47.93	224.7	8	45	3					
PRATO	47.93	287.3	8	51	9	15	45	5		
BAIRAM-ALI	48.62	234.7	8	52	5				10	52 PP
BUTTE	48.94	40.9	8	48	-2					
BOZEMAN	49.40	39.5	8	51	-2					
ROME	49.74	285.6	8	59A	3	16	12	7	10	54 PP
SHAWINIGAN	50.13	4.8	8	57	-2					
BREBEUF	51.17	5.6	9	5	-2					
OTTAWA	51.25	7.5	9	6	-2					
WARSAK DAM	51.38	224.2	9	6	-3					
RAPID CITY	51.51	32.5	9	7	-3	16	32	3		
NANKING	51.64	173.2	9	10A	-1	16	38	7		
CUGLIERI	51.87	289.0							10	45 PP
HALIFAX	52.09	356.5	9	9	-5	15	38	-59	20	27 SSS
ZO-SE	52.63	170.7	9	17	-1					
MESSINA	53.06	281.9	9	8	-13	16	24	-27	11	3 PP
CHENGTU	53.07	189.2	9	22	1	16	56	5		
WUHAN	53.13	177.8	9	22A	0					
SHASTA	53.43	50.8	9	25	1					
TOLEDO	53.46	301.1	9	27	3	17	0	4	20	24 SS
LAHORE	53.60	221.0	9	24	-1					
MINERAL	53.85	50.1	9	27	0					
SALT LAKE C.	54.22	40.9	9	30	0					
DEHRA DUN	54.56	216.9	9	41	9	17	17	6		
RENO	54.80	48.5	9	35K	1					
KSARA	55.10	261.0	9	40A	4	17	21	3	11	43 PP
EUREKA	55.18	44.9	9	35	-2					
QUETTA	55.55	228.4	9	40	1	17	32	8	11	44 PP
PALISADES	55.66	5.9	9	40	0	17	29	3	11	35 PP
PENNSYLVANIA	55.81	9.5	9	42	1	17	36	8		
ALGIERS UNI.	55.82	293.8	9	40	-1	17	29	1	12	59 PPP
GRANADA	56.09	300.2	9	49K	6	18	37	66	12	37 PP
BERKELEY	56.25	51.1	9	44	0	17	36	2		
ALMERIA	56.30	299.1	9	46A	1					
LICK	56.93	60.5	9	56	7					
RELIZANE	57.09	296.0	9	52	2					
JERUSALEM	57.19	261.4	9	54	3					
SHIRAZ	57.43	243.5	9	53	0					
CHATRA	57.48	207.0	9	53	0					
FRESNO	57.66	48.9	9	55	1					
WASHINGTON	57.72	8.9	9	52	-3					
SHILLONG	58.51	202.0	9	59	-1	18	7	4		
PASADENA	60.29	47.6	10	14	1	18	28	2	13	58
BOKARO	60.53	208.2	10	13	-1	18	39	10	14	2
CANTON	60.53	179.2	10	14	0					
CHAPEL HILL	60.66	10.8	10	13	-2					
CHITTAGONG	61.70	201.8	10	24	2	18	51	7	12	42 PP
COLUMBIA	62.52	12.7	10	25	-3					
TUCSON TELE.	62.68	40.8	10	27	-2				12	40 PP
TUCSON	62.76	40.9	10	29	0					
BERMUDA	64.30	357.4	10	35	-5	19	15	-2	14	49 PPP
BOMBAY	66.26	221.4	10	50	-2	19	41	0		
POONA	66.55	220.3	10	54	0					
HYDERABAD	67.33	215.4	11	3	4	20	2	8	13	33 PP
TAMANRASSET	69.40	289.5	11	12	0	20	17	-2	13	46 PP
ADDIS ABABA	79.27	254.9	12	13	4					
CARACAS	86.08	359.5	12	42	-2	23	11	-7		
LWIRO	91.51	263.5							25	24 PS
ADELAIDE	118.90	155.6	18	50	-1					
WILKES	149.60	181.6	19	50	3					
DUMONT	150.60	158.0	19	48	0					
TERRE ADELIE	150.81	156.9	19	48	-1					
CAPE HALLETT	158.04	136.3	19	58	-1				24	17 PKS
SCOTT BASE	163.12	143.7	20	51	47					

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OCTOBER 5 20.H 34.M 4.S EPICENTRE 40.89 19.85 DEPTH= 0.KM

A= 0.71309 B= 0.25738 C= 0.65212 D= 0.3395 E=-0.9406
G= 0.6134 H= 0.2214 K=-0.7581 HT= -2.0

SE= 2.66

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SKOPJE	1.61	47.6	0	33K	3	0	57	5					
TARANTO	2.02	258.8	0	34	-2	1	4	2					
SOFIA	3.17	54.1	0	56	4	1	3c	4			1	47	SG
BELGRADE	3.95	6.3	1	4K	1						1	18	PG
ATHENS	4.19	133.0	1	10A	3	2	2	5					
MESSINA	4.27	232.4	1	5	-3	1	52	-7			1	20	PG
REGGIO CALA.	4.28	230.7	1	6	-2	1	50	-9			2	6	
TIMISOARA	4.96	11.2	0	37	-41	1	53	-24			0	59	PG
ROME	5.63	282.7	1	31K	4	2	40	6			1	41	P*
ZAGREB	5.67	331.5	1	28K	0						1	55	PG
CAMPULUNG	5.79	39.2	1	34	5	2	42	4			1	53	PG
BUCHAREST	5.80	50.5	1	35K	6	2	45	7			1	58	PG
LJUBLJANA	6.45	324.8	1	37K	-2	2	49	-5			2	6	PG
TRIESTE	6.51	318.9	1	39	-1	2	56	0			2	3	PG
HURBANOVO	7.07	351.0	2	3	15	3	17	7			4	5	SG
PRATO	7.13	297.6	1	50	2	2	42	-29					
BOLOGNA	7.23	302.7	1	55	5	3	21	7					
TOLMEZZO	7.40	320.3	1	50	-2	3	16	-2			4	7	
BRATISLAVA	7.54	345.8	1	52	-2	3	18	-3			4	9	SG
VIENNA-H.	7.76	342.5	1	59	2	3	37	10			2	37	PG
IASI	8.40	38.8	2	9	3	4	35	52			4	55	SG
KRAKOW	9.16	0.3	2	18	1	4	40	38			2	39	PPP
RACIBORZ	9.26	353.4	2	18	0	4	42	38			2	30	PPP
LWOW	9.40	16.8	2	23K	3						5	4	SS
CHUR	9.53	312.1	2	22	0						4	10	SS
MONACO	9.63	291.2	2	27	4	5	16	63					
PRAGUE	9.93	339.3	2	27	0	4	16	-5			3	27	PG
RAVENSBURG	10.05	316.7	2	26	-3								
CHER	10.57	332.8				4	31	-5			3	26	
EBINGEN	10.64	316.8	2	33	-4								
TUBINGEN	10.81	318.5	2	35	-4								
STUTTGART	10.87	320.0	2	36	-4	4	33	-11					
BASLE	11.02	311.1	2	37	-5	5	4	17					
NEUCHATEL	11.12	307.6	2	43	0	4	39	-11					
SIMFEROPOL	11.22	64.1	2	45	0								
WARSAW	11.37	3.7	2	48	1	4	51	-5			2	57	PP
COLLMBERG	11.44	337.8	2	45	-3	4	52	-6			4	59	
STRASBOURG	11.51	315.9	2	47	-2	5	3	4			5	18	SS
JENA	11.56	333.0	2	49	-1	5	2	1			3	1	PP
HALLE	11.93	335.4				5	43	33			3	7	PP
POTSDAM	12.39	340.3	3	5	4	5	44	23			6	3	
CLERMONT-FD.	13.11	297.4	3	26	16								
BENSBERG	13.37	323.1	3	13	-1	5	30	-14					
ALGIERS UNI.	13.72	258.0	3	16	-2	5	41	-12			3	27	PP
MUNSTER	13.90	326.9	3	40	19								
DOURBES	14.09	315.9	3	25	2	5	59	-2					
KSARA	14.56	113.9	3	30A	1	6	13	0			3	40	PP
PARIS	14.61	308.6	3	35	5	6	23	9					
UCCLE	14.63	317.8	3	31	1	6	17	3					
TORTOSA	14.64	276.1	3	36	5	7	3	48					
SOTCHI	14.96	73.1	3	37	2								
JERUSALEM	15.35	121.5	3	37	-3	6	24	-7					
COPENHAGEN	15.58	344.2	3	51	8	6	56	19					
ALICANTE	15.87	267.4	3	51	5	6	57	14			4	18	PPP
RELIZANE	15.98	257.5	3	47K	-1	6	35	-11			4	4	PPP
FOLINIERE	16.40	305.5	3	53	0								
KEW	17.46	314.1	4	9	2	7	29	9					
GOTEBORG	17.57	345.9	4	1	-7						4	11	
TOLEDO	18.22	274.7	4	17	1	7	37	-1			4	33	PP
GRANADA	18.57	266.1	4	21K	1	7	54	9			4	57	PP
TIFLIS	18.75	79.2	4	24	1	7	53	3					
MOSCOW	18.89	32.2	4	23	-1								
UPPSALA	19.03	356.6	4	24K	-2	7	56	0			8	8	
HELSINKI	19.56	7.7	4	30	-2						4	40	
NURMIJARVI	19.87	7.0	4	35	-1	8	25	11					
DURHAM	19.88	321.5	4	42	6								
PULKOVO	20.00	15.6	4	32	-5								
ABERDEEN	21.58	326.4				8	51	3			9	32	SS
TAMANRASSET	21.72	218.1	4	54A	-1						5	21	PP

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SKALSTUGAN	23.16	351.4	5 7K	-2				
SODANKYLA	26.79	5.8	5 42	-2			5 53	
KIRUNA	26.99	0.5	5 43	-3				
APATITY	27.73	11.2	5 50	-2				
SHIRAZ	28.78	102.6	6 1K	-1	10 46	-5		
ADDIS ABABA	35.90	146.9	7 7	3				
BANGUI	36.37	182.1	7 24	16	12 46	-4		
SCORESBY SD.	36.47	337.9	7 8	-1				
QIETTA	39.37	90.5	7 33	0	13 35	0		
WARSAK DAM	41.12	82.5	7 44	-4				
NORD	42.72	352.6	7 59	-2				
LWIRO	43.71	167.0	8 9	0				
LAHORE	44.31	84.1	8 13	-1				
LEOPOLDVILLE	45.24	186.5	8 19	-2				
ELISABTHVLLE	52.75	170.6	9 19	0				
CHATRA	56.36	82.0	9 43	-2				
RESOLUTE	57.02	343.3	9 48	-2	17 32	-12		
ULAN-BATOR	59.42	51.3	10 6	-1				
SHILLONG	60.58	80.5	10 12K	-3				
BULAWAYO	61.26	170.6	10 20	1				
CHITTAGONG	62.37	83.5	10 28	1				
SHAWINIGAN	63.38	309.5	10 31	-3				
OTTAWA	65.73	309.7	10 48	-1				
MORGANTOWN	71.66	306.7	11 26	0				
COLLEGE	74.13	354.6	11 39	-1				
SAN JUAN	75.23	281.6	11 46	0				
BANFF	80.39	333.4	12 15	0				
HUNGRY HORSE	82.22	331.0	12 25	0				
BOZEMAN	83.29	327.7	12 31	1				
LARAMIE	84.39	321.9	12 36	0				
HORSESHOE B.	84.42	336.8	11 35	-61				
MATUSIRO	84.46	45.4	12 35	-1	22 56	-6		
VICTORIA	85.23	336.5	12 40K	0				
EUREKA	90.45	327.4	13 6	1			14 26	
MINERAL	91.86	331.5	13 10	-1				
RENO	91.91	329.9	13 15	3				
TUCSON TELE.	94.02	319.9	13 23	2				
FRESNO	94.31	328.6	13 25	2				
LA PAZ	99.11	256.2	14 16	31				
CHARTERS TS.	130.21	82.1	19 14	1				
SOUTH POLE	130.70	180.0	19 15	1			22 36	
BYRD STATION	137.94	189.8					22 20	PP
CAPE HALLETT	145.32	164.6	19 40	0				

OCTOBER 6 5.H 44.M 35.S EPICENTRE 0.27 122.12 DEPTH= 127.KM

A=-0.53166 B= 0.84694 C= 0.00473 D= 0.8470 E= 0.5317
G=-0.0025 H= 0.0040 K=-1.0000 HT= 7.2

DEPTH OF FOCUS= 0.015R

SE= 1.95

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
LEMBANG	16.09	243.7	3 40A	-1	6 48	13		
BAGUIO CITY	16.12	354.7	3 39	-2	7 15	40		
DJAKARTA	16.55	247.0	3 47K	1				
HONG KONG	23.22	341.0	4 57	0	9 1	5		
MEDAN	23.65	278.3	5 1	0	9 9	6		
CANTON	24.23	340.0	5 7	1	9 16	3		
GUAM	25.96	58.8	5 25	2				
PORT MORESBY	26.71	111.7	5 29A	-1	9 50	-4	6 6	6 27 *SP
RABAUL	30.35	98.7	6 3	1				7 56
ZO-SE	30.67	358.4	6 5	0	10 59	2		
WUHAN	30.94	347.2	6 8	1				
CHARTERS TS.	31.12	131.9	6 9	0	11 6	2		
NANKING	31.77	354.6	6 15	0	11 16	2		
MUNDARING	32.55	189.4	6 19	-2				
CHENGTU	34.77	332.0	6 39	-1	11 58	-3		
CHITTAGONG	36.77	308.7	6 57	0	12 34	3	7 35	8 35 PP
ADELAIDE	38.34	157.8	7 11A	1				7 46
SHILLONG	38.53	313.1	7 12	0				
MATUSIRO	39.05	20.8	7 13A	-3	13 1	-5	8 2	9 25
LANCHOW	39.45	336.4	7 20	0	13 11	-1		
PEKING	39.94	352.9	7 24	0				

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LHASA	41.59	317.4		7 39	2							
CHATRA	42.73	311.0		7 55	9					14 1		
MELBOURNE	43.38	153.4		7 53A	1					9 38	PP	
CANBERRA	43.39	147.4		7 53A	1			8 39		9 38	PP	
RIVERVIEW	43.51	144.1		7 54	1							
ULAN-BATOR	49.27	346.5		8 37	-1							
POONA	50.72	293.8		8 47K	-2	15 52	-1					
BOMBAY	51.76	294.0								16 7		
WARSAK DAM	57.97	310.8		9 42K	0							
QUETTA	60.20	305.0		9 55K	-2	17 58	-1					
DUMONT	68.00	172.4	10	47	-1							
TERRE ADELIE	68.33	171.9	10	47	-3							
CAPE HALLETT	78.48	166.6	11	48A	-1							
HONOLULU	80.38	68.6	12	0	1							
KIPAPA	80.46	68.4	12	0	0							
SCOTT BASE	81.60	171.3	12	7A	2							
ADDIS ABABA	83.39	279.0	12	17	2							
COLLEGE	89.78	25.3	12	43	-3							
SOUTH POLE	90.27	180.0	12	47	-1					16 21	PP	
ELISABTHVLLE	94.61	258.4								16 50	PP	
BYRD STATION	95.02	171.1	13	10	0			13 57		16 58	PP	
RESOLUTE	101.99	9.4				24 55	48			26 37	PS	
HUNGRY HORSE	111.60	36.6	18	16	-4							
EUREKA	113.96	46.0	18	25	1					19 10	PP	
PASADENA	114.10	52.1	18	26	1							
TAMANRASSET	114.29	295.1	18	26	1					19 12	PP	
RAPID CITY	120.23	36.4	18	36	0							
TUCSON	120.53	51.7	18	39	2					19 12		
TUCSON TELE.	120.59	51.6	18	39	2					19 12		
SHAWINIGAN	131.57	13.7	18	58	0					22 10	SKP	
OTTAWA	131.86	16.8	18	57	-2					22 11	SKP	
BREBEUF	132.34	15.0	18	59K	-1							
WASHINGTON	137.22	22.2	19	9	0							
COLUMBIA	139.57	30.2	19	5	-8							
BERMUDA	146.89	10.6	19	25	-1					19 57	PKP2	
HUANCAYO	159.10	124.7								20 26	PKP2	
SAN JUAN	159.77	23.2	19	44	0							
LA PAZ	160.97	148.4	19	45A	0					20 32	PKP2	

OCTOBER 7 8.H 30.M 40.S EPICENTRE 40.93 19.87 DEPTH= 0.KM

A= 0.71256 B= 0.25746 C= 0.65266 D= 0.3398 E=-0.9405
G= 0.6138 H= 0.2218 K=-0.7576 HT= -2.0

SE= 2.68

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SKOPJE	1.57	48.3									0	33	PG
SOFIA	3.13	54.6	0	59	7	1	36	5			1	4	P*
BELGRADE	3.91	6.1	1	4A	1	1	56	6			1	19	PG
ATHENS	4.20	133.5	1	11A	4	2	2	4					
MESSINA	4.31	232.1	1	8	-1	1	51	-9			1	21	PG
REGGIO CALA.	4.32	230.4	1	7	-2	1	50	-11			1	22	
TIMISOARA	4.91	11.1	1	18	1						2	43	SG
ROME	5.64	282.3	1	26K	-1	2	30	-4			1	38	P*
ZAGREB	5.64	331.2	1	28	0	2	41	7			1	56	PG
CAMPULUNG	5.75	39.4	1	33	4	2	52	15			2	11	PG
BUCHAREST	5.77	50.8	1	32A	3	2	54	17			2	8	PG
LJUBLJANA	6.42	324.5	1	37	-2						3	35	
TRIESTE	6.49	318.6	1	39K	0	2	55	0			2	8	PGPG
HURBANOVO	7.04	350.8	1	53	6	3	10	1			4	1	SG
PRATO	7.12	297.3	1	47	-1	2	32	-39					
FOCSANI	7.16	45.9	2	7	18	3	27	15			2	52	PG
BOLOGNA	7.22	302.4	1	55	5	3	21	7			3	35	
TOLMEZZO	7.38	320.0	1	53	1	3	15	-2			2	11	
BRATISLAVA	7.50	345.7	1	53	-1	3	14	-6			2	27	PG
BACAU	7.59	39.8	2	1	6	3	27	4			2	49	PG
VIENNA-H.	7.73	342.4	1	56	-1	3	51	25			2	31	PG
SKALNATE PL.	8.25	1.8	2	8K	4	3	48	9					
IASI	8.36	38.9	2	8	2	3	47	5			4	47	SG
PAVIA	8.90	302.0	2	20	7	4	8	13			3	50	
KRAKOW	9.12	0.3	2	18	2	4	4	3			2	57	
RACIBORZ	9.22	353.3	2	17	-1	4	2	-1			2	28	PP
LWOW	9.36	16.8	2	23	4	4	16	9					
CHORZOW	9.38	356.6	2	18	-2	4	38	31			5	2	SG
CHUR	9.52	311.9	2	24	2	4	5	-6					

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PRUHONICE	9.78	339.4	2	24A	-1	5	10	53			
PRAGUE	9.90	339.2	2	27K	0	4	15	-5.	3	12	PG
RAVENSBURG	10.03	316.5	2	26	-3						
CHEB	10.54	332.7	2	33	-3						
EBINGEN	10.62	316.6	2	32	-5						
TUBINGEN	10.79	318.3	2	35	-4						
STUTTGART	10.85	319.8	2	37K	-3	4	32	-11			
PLAUEN	10.96	333.2	2	42	0						
BASLE	11.00	310.9	2	35	-7				4	48	SS
NEUCHATEL	11.10	307.4	2	40	-3				4	55	SSS
SONNEBERG	11.22	330.3	2	41	-4	4	34	-18	3	4	
WARSAW	11.33	3.6	2	47A	0	4	17	-38	3	2	PPP
COLLMBERG	11.40	337.7	2	46K	-2	4	41	-16	3	3	
STRASBOURG	11.50	315.7	2	46	-3	4	48	-11	5	10	SS
JENA	11.53	332.9	2	44	-5	4	50	-10	5	10	SS
HALLE	11.90	335.3	2	57	3	5	10	1	3	5	PP
POTSDAM	12.36	340.2	3	6	6	5	43	23	4	58	
CLERMONT-FD.	13.11	297.2	3	25	15	5	59	21			
BENSBERG	13.34	323.0	3	12	-2	5	28	-16			
ALGIERS UNI.	13.75	257.8	3	17	-2	5	59	5	3	26	PP
MINSTER	13.87	326.8	3	23	2				4	21	
KSARA	14.57	114.1	3	31	1	6	14	1	3	42	PP
PARIS	14.60	308.4	3	34	4	6	20	6			
UCCLE	14.61	317.7	3	36	6	6	18	4			
TORTOSA	14.66	275.9	3	37	6	6	43	28			
WITTEVEEN	14.89	327.4	3	40	6						
SOTCHI	14.94	73.2	3	36	1						
DE BILT	15.03	322.9	3	50	14	6	40	16			
JERUSALEM	15.36	121.6	3	38K	-2	6	28	-4			
COPENHAGEN	15.54	344.2	3	41	-1	6	49	13			
ALICANTE	15.88	267.3	3	43	-4	6	58	14	4	0	PP
RELIZANE	16.01	257.4	3	47	-1				3	56	PP
FOUINIERE	16.38	305.4	3	53	0						
KEW	17.44	313.9	4	8A	1	7	26	6			
JERSEY	17.53	305.4	3	12	-56	6	25	-57			
GOTEBORG	17.53	345.8	4	7	-1				4	18	
ALMERIA	17.85	264.0	4	15	3	7	33	4			
TOLEDO	18.24	274.5	4	17	1	7	35	-3	4	30	PP
GRANADA	18.59	266.0	4	24K	3	7	54	8	4	30	5 8 PP
TIFLIS	18.73	79.4	4	25	2	8	2	13			
MOSCOW	18.85	32.3	4	22	-2	7	54	2			
UPPSALA	18.99	356.5	4	22A	-4	8	0	5			
HELSINKI	19.52	7.7	4	29	-3	8	6	-1			
NURMIJARVI	19.82	7.0	4	32	-3	8	10	-4	8	24	SS
DURHAM	19.86	321.4	4	32A	-4						
PULKOVO	19.96	15.6	4	34	-3	8	19	2			
SERRA PILAR	21.44	279.9	4	53K	1	8	47	1	5	18	PP
BERGEN	21.47	340.1	4	50	-3	8	52	5			
COIMBRA	21.47	277.4	4	56A	3						
RATHFARNHAM	21.53	313.9	4	51A	-2	8	51	3			
ABERDEEN	21.55	326.3				8	50	2	9	32	SS
TAMANRASSET	21.77	218.1	4	56K	0	9	0	8	5	26	PP
LISBON	22.35	273.8	5	11K	10						
SKALSTUGAN	23.12	351.3	5	7A	-2						
SODANKYLA	26.75	5.8	5	42	-1	10	11	-7			
KIRUNA	26.95	0.5	5	43A	-2	10	30	8	5	57	
APATITY	27.69	11.2	5	49	-3						
SIDA	31.76	328.8	6	29	1						
REYKJAVIK	33.44	328.0	6	43K	0						
ADDIS ABABA	35.93	146.9	7	9	5	12	39	-4			
BANGUI	36.41	182.1	7	7	-1				7	58	
SCORESBY SD.	36.44	337.8	7	9	0						
QUETTA	39.36	90.5	7	32A	-1	13	34	-1	9	7	PP
WARSAK DAM	41.10	82.5	7	46	-2						
MBOUR	41.52	241.2	7	52	1						
KHEYS	42.14	8.7	7	59	3						
KARACHI	42.22	97.4	7	56A	-1						
NORD	42.69	352.6	7	59A	-1						
LWIRO	43.74	167.0	8	10A	1				18	8	
LAHORE	44.29	84.2	8	11	-3						
IVIGTUT	44.91	320.5				14	57	0			
LEOPOLDVILLE	45.28	186.5	8	21A	-1	14	57	-5	18	25	SS
BOMBAY	50.04	99.6	8	56	-3				10	55	
POONA	51.03	99.2	9	5A	-1				10	22	
ELISABTHVLLE	52.79	170.6	9	20A	1						
BROKEN HILL	55.67	169.9	9	41	0						
CHATRA	56.34	82.1	9	44	-1						
RESOLUTE	56.99	343.3	9	48A	-2	17	42	-2	10	43	PCP

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TIKSI	57.26	20.9	10	5	13					
LHASA	57.73	77.1	9	53	-2					
HALIFAX	58.77	303.9	10	1A	-2	17	51	-16		
ULAN-BATOR	59.38	51.3	10	7	0					
SHILLONG	60.56	80.5	10	11	-4					
BULAWAYO	61.30	170.6	10	20	0					
CHITTAGONG	62.35	83.6	10	26A	-1	18	51	-2	12	45 PP
YAKUTSK	62.99	29.9	10	28	-3					
WINDHOEK	63.23	182.9	10	33K	0					
SHAWINIGAN	63.37	309.5	10	32A	-2					
LANCHOW	63.45	64.3	10	33A	-1					
BREBEUF	64.43	308.9	10	40A	-1					
TANANARIVE	64.86	150.9	10	43A	0					
OTTAWA	65.72	309.7	10	48A	-1					
BERMUDA	65.87	292.6	10	50	0	19	36	-1	13	35 PP
CHENGTU	66.56	69.1	10	54A	0	19	46	1		
PRETORIA	66.79	171.8							11	27 PCP
PALISADES	67.12	305.0	10	57	-1	19	53	1	21	5 SCS
SIAN	67.91	63.4	11	3A	0					
KUNMING	68.85	74.7	11	7A	-2					
PEKING	69.25	54.7	11	11A	0	20	22	5		
KIMBERLEY	69.48	175.4	11	3K	-10					
PENNSYLVANIA	69.67	306.7	11	13	-1	20	26	4		
WASHINGTON	70.32	304.6	11	17	-1					
PIETERMZBURG	70.87	170.3	11	22K	1					
MORGANTOWN	71.65	306.7	11	26A	0				21	10
CHANGCHUN	72.28	47.1	11	29A	-1					
CHAPEL HILL	73.39	303.2	11	37	1					
COLLEGE	74.09	354.6	11	39	-1	21	13	0		
ST. VINCENT	74.84	274.4	11	45	1					
SAN JUAN	75.23	281.6	11	46	-1					
NANKING	75.81	59.9	11	50A	0					
COLUMBIA	75.86	302.7	11	51	1					
GRENADA	75.89	273.8	11	52	2					
CANTON	77.75	70.1	12	1A	0					
ZO-SE	78.00	59.3	12	2A	0					
Y.-SAKHLINSK	78.77	35.9	12	7	1					
HONG KONG	78.84	70.3	12	6	-1	21	42	-23		
SITKA	80.17	346.5	12	15	1					
BANFF	80.36	333.4	12	15K	0					
LAWRENCE	80.90	314.4	12	18	0					
RAPID CITY	81.11	322.3	12	19	0					
HUNGRY HORSE	82.20	331.0	12	25	0				15	30 PP
FAYETTEVILLE	82.38	311.7	12	25	-1					
BOZEMAN	83.26	327.8	12	32	2					
BUTTE	83.58	328.8	12	32	0					
LARAMIE	84.36	321.9	12	37	1					
MATUSIRO	84.42	45.4	12	35A	-1	23	8	6		
VICTORIA	85.20	336.5	13	36A	56					
CORVALLIS	88.67	334.6	12	57	0					
EUREKA	90.42	327.4	13	5	0				16	37 PP
SHASTA	91.81	332.2	13	12	1					
MINERAL	91.84	331.6	13	12A	0					
RENO	91.88	330.0	13	12A	0					
BOULDER CITY	92.89	324.7	14	17	61					
TUCSON TELE.	94.00	319.9	13	23	2				17	9 PP
TUCSON	94.13	319.9	13	24	2				17	10 PP
BERKELEY	94.26	330.8	13	23A	0	24	38	6		
FRESNO	94.29	328.6	13	24	1					
LICK	94.50	330.2	13	25A	1				17	13
PASADENA	95.88	326.1	13	30	0	25	1	55	25	47 PS
PORT MORESBY	123.97	71.2	19	1	0					
CHARTERS TS.	130.19	82.1	19	13	0					
SOUTH POLE	130.74	180.0	19	12	-2				21	30 PP
BYRD STATION	137.99	189.8	19	21	-6				22	21 PP
DUMONT	138.61	148.6	19	26	-2					
TERRE ADELIE	139.13	149.0	19	26	-3					
CANBERRA	140.06	98.9	19	24K	-7					
SCOTT BASE	140.56	169.5	19	25	-7				22	33 PKS
CAPE HALLETT	145.36	164.6	19	40A	0				21	44
KARAPIRO	160.99	88.9	20	46K	44					

OCTOBER 8 0.H 3.M 31.S EPICENTRE -19.04 168.63 DEPTH= 0.KM

A=-0.92739 B= 0.18643 C=-0.32434 D= 0.1971 E= 0.9804
G= 0.3180 H=-0.0639 K=-0.9459 HT= 4.9

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SE= 2.55

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	9.33	86.1	2 24	5				
BRISBANE	16.76	237.4	3 59	1	7 9	5		
APIA	19.49	77.4	4 31	0	7 15	-51		
KARAPIRO	19.76	163.7	4 33	-2				
TONGARIRO	20.95	164.9	4 50	3				
TUAI	21.03	161.2	5 1	13				
CHARTERS TS.	21.11	263.4	4 52K	3	8 46	6		
RIVERVIEW	21.44	223.2	4 54A	2	8 48	2		
COBB RIVER	22.24	171.8	5 7	7				
PORT MORESBY	22.90	291.8	5 10A	3	9 18	5	5 29	5 40 *SP
KAIMATA	23.52	174.8	5 29	16				
CANBERRA	23.76	223.0	5 17A	2				7 22
ROXBURGH	26.37	178.9			10 4	-8		
MELBOURNE	27.85	222.9	5 53	0				
ADELAIDE	30.86	233.0	6 20A	0				
GUAM	39.97	322.2	7 38	0				
MUNDARING	48.61	243.9	8 47	-1				
TERRE ADELIE	50.89	193.5	9 4	-1				
DUMONT	51.08	194.2	9 4	-3				
CAPE HALLETT	53.28	179.4	9 21A	-2	16 53	-1	9 33	9 57 PCP
MANILA	57.57	302.2	9 50	-4				12 24
SCOTT BASE	58.85	180.5	10 1	-2				
BAGUIO CITY	58.95	303.6	10 3	-1				
WILKES	60.10	203.3	10 9	-3	18 18	-6		22 18 SS
LEMBANG	60.43	272.9	10 13A	-1	18 29	1		
MATUSIRO	62.31	332.6	10 26A	-1	18 47	-5		39 35 PKPPKP
HONG KONG	67.24	305.2	10 50	-9	18 49	-64		
ZO-SE	67.54	316.9	11 1A	0				
BYRD STATION	68.24	169.7	11 2	-3				
CANTON	68.32	305.4	11 6A	1				
NANKING	69.72	316.2	11 14A	0				
SOUTH POLE	71.07	180.0	11 20	-2				
PEKING	76.42	321.2	11 54A	1	21 38	-1		
SIAN	77.67	312.9	12 1A	1				
KUNMING	77.68	302.1	12 3A	3	21 55	3		
LANCHOW	82.16	312.3	12 26A	2	22 41	2		
HALLEY BAY	85.17	176.2	12 38	-2				
CHITTAGONG	85.58	295.3	12 21	-21	22 42	-31		15 30 PP
UKIAH	85.99	46.4	12 43	-1				
BERKELEY	86.06	47.8	12 44K	0				
VINEYARD	86.17	49.1	13 0A	15				
SHILLONG	86.77	298.3	12 48	0				
SHASTA	87.29	45.3	12 55A	5				
FRESNO	87.31	49.7	12 49	-1				
PASADENA	87.39	52.6	12 24	-27				
MINERAL	87.66	45.9	12 51K	-1				
RENO	88.52	47.2	12 55A	-1				
LHASA	89.01	301.7	13 1	3				
COLLEGE	90.03	17.1	13 0	-3				
BOULDER CITY	90.63	52.1	13 5	-1				15 39
EUREKA	91.19	48.5	13 8	0				
TUCSON	92.32	56.8	13 14	0				14 4
TUCSON TELE.	92.44	56.7	13 14	0				
RESOLUTE	109.94	16.3						28 29 PS
SVERDLOVSK	115.57	324.6	18 44	0				
PALISADES	122.83	53.0						20 40 PP
BULAWAYO	124.76	227.3	19 2	0				
KIRUNA	127.24	345.5	19 5	-2				
TIFLIS	127.54	308.3	19 10	2				
MOSCOW	128.21	327.1	19 10	1				
PULKOVO	129.58	334.1	19 11	-1				
ELISABTHVLLE	131.05	234.6	19 16	2				22 44 SKP
NURMIJARVI	131.33	337.2	19 15	0				22 39 PKS
SKALSTUGAN	132.67	345.9	19 11	-6				19 30
LWIRO	135.21	246.2	19 26	4				
KSARA	135.58	299.1	19 27	4				22 9 PP
GOTEBORG	137.73	341.6	19 26	-1				
COLLMBERG	142.51	334.8	19 31	-4				22 33 PP
PRUHONICE	142.84	332.2	19 33A	-3				22 49 PP
BELGRADE	143.12	321.3	19 33K	-3				20 6
JENA	143.36	335.6	19 33	-4				22 46 PP
MUNSTER	143.92	340.0	19 36	-2				
ATHENS	144.14	309.1	19 36K	-2				
BENSBERG	144.93	339.5	19 39A	0				

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LEOPOLDVILLE	144.96	231.1	19	43A	4			
RATHFARNHAM	145.58	354.6	19	40	0	20	44	
LJUBLJANA	145.63	327.4	19	41K	0	20	7	
UCCLE	145.95	342.1	19	42	1			
STUTTGART	145.98	335.4	19	41	0			
TUBINGEN	146.26	335.3	19	43	1			
TRIESTE	146.30	327.5	19	43	1	19	57	PKP2
KEW	146.49	347.5	19	43	1			
DOURBES	146.49	341.3	19	43	1			
EBINGEN	146.58	335.0	19	43	1			
RAVENSBURG	146.63	333.9	19	44	2			
STRASBOURG	146.72	336.6	19	45	3			
BANGUI	147.31	247.3	19	47	4	20	0	
CHUR	147.40	333.0	19	47	3			
TARANTO	147.48	317.2				15	29	
BASLE	147.65	335.7	19	44	0			
PARIS	148.27	342.5	19	48	3	20	1	PKP2
NEUCHATEL	148.33	335.8	19	49	4			
FOLINIERE	149.07	345.9	19	50	4	20	4	PKP2
ROME	149.51	323.5	18	21	-86	20	2	PKP2
MESSINA	149.80	314.8	19	52	5			
MONACO	150.76	331.4	19	54	5			
CLERMONT-FD.	150.77	339.0	19	55	6			
TAMANRASSET	163.79	286.2	20	5A	0			

OCTOBER 8 2.H 35.M 21.S EPICENTRE 52.35-170.81 DEPTH= 0.KM

A=-0.60552 B=-0.09791 C= 0.78979 D=-0.1596 E= 0.9872
G=-0.7797 H=-0.1261 K=-0.6134 HT= -6.3

SE= 2.20

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
COLLEGE	17.20	34.3	4	3	0	7	31	17					
CORVALLIS	31.95	84.8	6	37A	8								
BANFF	33.53	69.5	6	42	-1								
SHASTA	34.66	90.0	6	54	1								
MINERAL	35.36	89.9	6	56A	-3								
HUNGRY HORSE	35.66	73.2	7	1	-1						9	28	PCP
RESOLUTE	36.77	25.5	7	10	-1	13	15	20			17	15	SCS
RENO	36.94	89.6	7	16	4								
FRESNO	38.69	93.1	7	29	2								
BOZEMAN	38.77	75.3	7	28	0								
MATUSIRO	38.81	266.6	7	28K	0	13	26	0			9	38	
EUREKA	39.33	86.7	7	31	-1						13	24	SCP
PASADENA	41.41	94.7	7	59	9								
CHANGCHUN	42.23	284.8	7	57	1								
BOULDER CITY	42.25	90.0	7	56	0								
NORD	45.57	5.2	8	24	1								
TUCSON	47.20	90.7	8	35	-1								
TUCSON TELE.	47.21	90.5	8	35	-1								
PEKING	49.94	286.4	8	58	1								
LAWRENCE	52.13	73.0	9	9	-5								
ZO-SE	52.92	274.4	9	20	0								
NANKING	53.71	277.1	9	24	-2								
FAYETTEVILLE	54.68	75.0	9	27	-6								
WUHAN	57.35	278.8	9	52A	0								
OTTAWA	58.53	55.4	9	58A	-2								
APATITY	59.04	349.4	10	3	-1								
SHAWINIGAN	59.18	52.7	10	3	-2								
BREBEUF	59.51	54.1	10	4A	-3								
LANCHOW	59.80	290.8	10	8	-1								
KIRUNA	59.84	355.1	10	8A	-1								
SODANKYLA	59.88	352.3	10	9	-1								
MORGANTOWN	60.36	62.7	10	11K	-2								
PALISADES	62.58	57.8	10	26	-2	18	56	1			23	14	SS
SVERDLOVSK	63.28	331.2	10	33	0								
CHAPEL HILL	63.52	65.0	10	33	-1								
CHENGTU	63.56	286.5	10	34A	0								
COLUMBIA	63.80	67.8	10	33	-3								
SKALSTUGAN	64.38	358.5	10	39	-1								
NURMIJARVI	66.81	351.7	10	56	1								
PULKOVO	66.94	348.6	10	56	0								
HELSINKI	67.11	351.5	10	57	0								
UPPSALA	67.95	355.4	11	2	-1								

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KUNMING	68.41	283.3	11	6A	1						
MOSCOW	69.75	343.3	11	14	0						
GOTEBORG	70.29	358.4	11	16	-1						
COPENHAGEN	72.30	358.1	11	30K	1						
SHILLONG	74.43	291.6	11	42A	0						
COLLMBERG	76.67	357.5	11	54A	0					14	49 PP
CHITTAGONG	76.94	289.5	11	53A	-3	21	37	-7		14	43 PP
BENSBERG	77.05	1.3	11	57	1						
JENA	77.07	358.4	11	56	-1					12	44
LWOW	77.43	350.2	11	59	1						
RACIBORZ	77.66	354.1	12	2	2						
DOURBES	77.85	3.0	12	1	0						
PRUHONICE	77.94	356.5	12	2A	1						
WARSAK DAM	78.27	311.3	12	2	-1						
FOLINIERE	78.92	6.5	12	7	0						
LAHORE	78.98	307.9	12	7	0						
PARIS	79.05	4.5	12	8	1						
STUTTGART	79.26	359.9	12	9	0						
STRASBOURG	79.44	1.0	12	11	2						
TUBINGEN	79.50	0.1	12	11	1						
IASI	79.59	347.4	12	25	15						
BRATISLAVA	79.63	354.6	12	15	4						
EBINGEN	79.85	0.1	12	13	1						
RAVENSBURG	80.25	359.7	12	15	1						
CHARTERS TS.	81.23	220.4	12	18	-1						
TIFLIS	81.35	333.8	12	21	1						
CLERMONT-FD.	82.12	4.3	12	25	1						
QUETTA	83.58	312.5	12	32	1	22	55	2			
SAN JUAN	84.27	67.4	12	36	1						
MONACO	84.29	1.3	12	36	1						
KSARA	91.07	338.0	13	9	2						
TAMANRASSET	105.12	3.5	14	16	777					18	31 PP
LWIRO	127.46	335.0	19	9	2						
SCOTT BASE	130.67	186.1	19	4	-9						
ELISABTHVLLE	136.80	333.3	19	28	4						
SOUTH POLE	142.17	180.0	19	26	-8						
BULAWAYO	144.47	327.5	19	38	0						
WINDHOEK	149.65	345.4	19	53	6						
PRETORIA	149.80	324.3	19	55	8						
PIETERMZBURG	152.41	317.1	19	58	7						
KIMBERLEY	153.73	327.8	19	48	-5						

OCTOBER 8 10.H 55.M 11.S EPICENTRE 18.94 -73.29 DEPTH= 0.KM

A= 0.27210 B=-0.90659 C= 0.32258 D=-0.9578 E=-0.2875
G= 0.0927 H=-0.3090 K=-0.9465 HT= 4.9

SE= 3.30

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
SAN JUAN	6.82	93.5	1	45	1	3	21	18				
CARACAS	10.40	142.9	2	58	24	4	57	25				
FUQUENE	13.39	181.9	3	16	2	5	45	0				
CHINCHINA	14.07	189.6	3	20	-3	5	53	-8				
BERMUDA	15.46	28.4	3	39	-2	6	19	-15				
COLUMBIA	16.51	336.8	3	59	4							
CHAPEL HILL	17.66	344.4	4	8	-1							
WASHINGTON	20.16	351.4	4	38	-1							
MORGANTOWN	21.41	345.8	4	52K	0							
PALISADES	22.01	358.8	4	58	0	9	6	10				
PENNSYLVANIA	22.14	350.8	5	0	1	9	16	17				
FAYETTEVILLE	25.12	317.1	5	27A	-1							
OTTAWA	26.46	356.2	5	43	2							
BREBEUF	26.49	359.5	5	41A	0							
SHAWINIGAN	27.54	0.8	5	51	1							
LAWRENCE	27.58	321.0	5	50	-1							
HUANCAYO	30.86	183.9	6	25	5					7	56 PPP	
LA PAZ	35.58	171.5	6	58	-3	12	36	-1				
TUCSON TELE.	36.09	299.2	7	6	0							
TUCSON	36.17	299.0	7	7	1							
SALT LAKE C.	39.46	311.9	7	33	-1							
BOZEMAN	41.00	319.1	7	53	7							
EUREKA	42.02	308.4	7	55	0					9	44 PP	
BUTTE	42.10	318.9	7	55	0							
HUNGRY HORSE	44.05	321.2	8	10	-1					10	43	

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FRESNO	44.33	303.5	8	12	-2						
MINERAL	46.43	308.0	8	29A	-1						
SHASTA	47.10	308.3	8	34A	-2						
RESOLUTE	56.98	353.3	9	48A	-2	18	1	18			
GRANADA	62.84	57.3	10	41K	11				13	13	PP
COLLEGE	66.45	333.3	10	51	-2						
STUTTGART	71.17	43.9	11	12	-11						
SKALSTUGAN	71.27	28.1	11	23	0						
JENA	72.34	41.4	11	29	-1				12	12	
TAMANRASSET	72.92	71.3	11	34A	1				14	22	PP
KIRUNA	74.03	23.2	11	16A	-24						
PRUHONICE	74.37	42.1	11	42	0						
SODANKYLA	76.45	23.1	11	47	-6						
PULKOVO	80.47	29.9							24	52	
MOSCOW	85.71	32.0							17	53	PPP
TIKSI	88.40	353.1							21	7	
CHARTERS TS.	142.76	261.5	19	32	-3						

OCTOBER 11 9.H 33.M 55.S EPICENTRE 41.67 142.06 DEPTH= 74.KM

A=-0.59085 B= 0.46060 C= 0.66238 D= 0.6148 E= 0.7887
G=-0.5224 H= 0.4072 K=-0.7492 HT= -2.3

DEPTH OF FOCUS= 0.006R

SE= 3.16

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
URAKAWA	0.72	48.1	0	15	-2	0	28	-2				
HAKODATE	0.98	278.4	0	19K	0	0	32	-2				
TOMAKOMAI	1.02	339.6	0	22	2	0	38	3				
MURORAN	1.03	309.1	0	20K	0	0	35	0				
HIROO	1.12	56.7	0	21A	0	0	37	0				
MORI	1.19	291.4	0	22A	0	0	38	-1				
HATINOHE	1.21	199.6	0	18	-4	0	30	-9				
AOMORI	1.29	229.0	0	20K	-3	0	37	-4				
SAPPORO	1.49	339.5	0	26K	0	0	48	3				
OBIHIRO	1.51	33.8	0	28	2	0	49	3				
SUTTSU	1.77	310.2	0	30	0	0	53	1			1	8
MIYAKO	2.02	182.0	0	27	-6	0	48	-9				
MORIOKA	2.08	199.3	0	31K	-3	0	53	-6				
ASAHIGAWA	2.12	6.1	0	37	3	1	6	6				
KUSIRO	2.17	52.2	0	34K	-1	1	1	0				
AKITA	2.46	218.0	0	37	-2	1	3	-5				
MIZUSAWA	2.64	195.9	0	40	-2	1	8	-5				
ABASHIRI	2.86	34.1	0	45	0	1	20	2				
NEMURO	3.08	56.4	0	44	-4	1	17	-7				
SAKATA	3.25	212.4	0	51	1	1	27	-1				
ISINOMAKI	3.29	190.2	0	47	-4	1	22	-7			2	26
SENDAI	3.51	195.1	0	53	-1	1	27	-8				
YAMAGATA	3.66	201.6	0	55	-1	1	34	-4			2	46
WAKKANAI	3.76	355.9	1	5	8						1	25
HUKUSIMA	4.11	197.9	1	1	-1	1	49	0				
NIIGATA	4.41	212.7	1	11	5							
AIKAWA	4.68	220.0	1	10	0							
SHIRAKAWA	4.77	198.0	1	13	2	2	5	-1				
ONAHAMA	4.80	191.2	1	23	11						2	13
Y.-SAKHLINSK	5.37	4.8	1	19	0	2	23	2				
UTUNOMIYA	5.39	199.1	1	18	-2	2	18	-3				
MITO	5.43	193.7	1	22	2	2	43	21				
TAKADA	5.44	214.1	1	21	1							
KAKIOKA	5.63	195.7	1	23	0	2	32	5				
TUKUBASAN	5.66	196.3	1	17K	-6	2	9	-19			1	44
MAEBASI	5.76	204.8	1	32	7	2	32	2				
NAGANO	5.83	212.2	1	29	3	2	54	22				
WAZIMA	5.86	224.6	1	27	1							
KUMAGAYA	5.90	201.6	1	28	1	2	43	9				
MATUSIRO	5.94	211.5	1	24A	-3	2	30	-5				
OIWAKE	5.99	208.3	1	31	3	2	36	0				
TITIBU	6.14	203.2	1	45	15	2	47	7				
TOYAMA	6.24	218.8	1	29	-3							
TOKYO C.M.O.	6.25	197.6	1	38	6	2	51	8				
MATUMOTO	6.28	211.8	1	35	3							
YOKOHAMA	6.51	197.6	1	45	10	2	54	5				
KOHU	6.59	205.7	1	38	2	2	53	2				

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HUNATU	6.68	203.7	2	22	44				3	9
MERA	6.97	195.3	2	19	37					
MISIMA	6.98	201.5	1	54	12	3	7	6		
HUKUI	7.23	220.9	1	47	2					
SHIZUOKA	7.28	204.4							3	10
UGLEGORSK	7.41	0.0	1	47	-1					
GIHU	7.51	215.2	1	56	7	3	21	7		
NAGOYA	7.62	213.2	1	54	3	3	27	11		
OMAESAKI	7.68	204.4	2	13	21					
KAMEYAMA	8.11	214.6	2	5	8	3	25	-3		
KYOTO	8.30	218.9	1	54	-6	3	40	7		
ABUYAMA	8.49	219.0	2	OK	-3					
NARA	8.53	217.1	1	58	-5					
OSAKA	8.69	218.4	2	22	17				3	59
SUMOTO	9.24	219.9	2	18	5	4	9	13		
CHANGCHUN	12.50	285.5	3	0	3	5	38	23		
MAGADAN	18.71	14.0	4	14	-1					
PEKING	19.64	273.8	4	22	-3	8	12	15		
ZO-SE	19.80	244.5	4	25	-2	8	16	15		
NANKING	20.90	250.2	4	35	-3	8	33	11		
YAKUTSK	21.68	344.2	4	44	-2	8	38	1		
WUHAN	24.75	252.2	5	15	-1					
ULAN-BATOR	25.56	296.1	5	24	0					
LANCHOW	30.12	272.0	6	4	-1					
HONG KONG	30.33	239.1	6	10	3	11	11	11		
CHENGTU	32.39	262.6	6	23	-2					
KUNMING	36.39	255.5	6	57	-2					
SHILLONG	44.15	264.9	6	36A	-87					
COLLEGE	44.95	34.6	8	10	0					
CHITTAGONG	46.05	261.3	8	0	-18					
CHATRA	46.97	269.7	8	26	1					
LAHORE	54.04	282.5	9	20	1					
WARSAK DAM	54.81	286.6	9	24A	-1					
RESOLUTE	58.00	15.2	9	46A	-2	17	35	-5	21	45 SS
APATITY	58.69	334.8	9	51K	-1					
QUETTA	60.13	285.2	10	2A	0					
THULE	60.60	7.9	10	2	-3					
SODANKYLA	60.90	336.4	10	7	-1					
CHARTERS TS.	61.57	175.5	10	10	-2					
KIRUNA	62.37	338.6	10	17	0					
MOSCOW	63.86	322.4	10	26	-1					
CORVALLIS	65.16	51.7	10	53	17					
NURMIJARVI	66.11	331.3	10	41	-1				11	6 PCP
HELSINKI	66.23	330.9	10	44	2				11	12 PCP
SKALSTUGAN	67.79	338.2	10	51A	-1					
SHASTA	67.96	54.7	10	53A	0					
HUNGRY HORSE	68.08	44.3	10	54	0					
MINERAL	68.66	54.6	10	58A	0					
UPPSALA	69.03	333.5	10	59A	-1				11	17
RENO	70.24	54.4	11	26A	19					
BUTTE	70.32	45.5	11	7	-1					
LICK	70.46	57.2	11	10K	1					
SHIRAZ	70.66	292.7	11	4A	-6					
FRESNO	71.96	56.7	11	35	17					
EUREKA	72.59	52.5	11	21	0					
PASADENA	74.65	57.9	11	53	20	21	7	5		
BOULDER CITY	75.55	54.7	11	40	2					
RACIBORZ	76.25	326.6	11	43	1				11	54 PCP
RAPID CITY	76.51	42.3	11	44	0					
COLLMBERG	77.34	330.0	11	48A	0				11	59 PCP
PRUHONICE	77.80	328.4	11	52A	1					
JENA	78.17	330.5	11	53	0				12	13
TUCSON	80.50	55.2	12	13	7					
TUCSON TELE.	80.51	55.1	12	7	1				15	34 PPP
JERUSALEM	80.66	304.3	12	8	1					
STUTTGART	80.79	330.5	12	8A	1					
LJUBLJANA	80.94	326.0	12	8	0					
DOURBES	81.30	333.9	12	13	3					
STRASBOURG	81.50	331.3	12	11	0					
OTTAWA	86.97	25.6	12	38	0					
BREBEUF	87.54	24.2	12	42K	1					
TAMANRASSET	104.29	319.1	13	58	1				18	7 PP
SOUTH POLE	131.48	180.0	19	5	1					

OCTOBER 12 3.H 21.M 53.S EPICENTRE 2.03 98.06 DEPTH= 0.KM

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A=-0.14013 B= 0.98951 C= 0.03516 D= 0.9901 E= 0.1402
G=-0.0049 H= 0.0348 K=-0.9994 HT= 7.2

SE= 2.44

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
MEDAN	1.66	21.9	0	38	8						8	35	PCP
PORT BLAIR	10.95	331.3	2	58	17	4	52	7			3	5	PP
DJAKARTA	11.96	133.0	2	52K	-2						5	9	
COLOMBO	18.76	285.5	4	27	5	8	12	23			9	41	
PHU-LIEN	20.44	23.5	4	42	1	8	29	3			8	55	SS
MADRAS	20.79	302.5	4	49K	4	8	36	3			5	11	PP
CHITTAGONG	21.10	343.8	4	49A	1	8	46	7			5	14	PP
VIZIANAGRAM	21.48	319.1	4	55	3								
KODAIKANAL	22.02	292.6	4	55	-2	9	1	5			5	31	PP
CALCUTTA	22.45	335.9	4	55	-7	9	4	0			10	6	SS
KUNMING	23.40	10.7	5	13A	2						15	57	
SHILLONG	24.15	346.2	5	20A	2	9	40	6			6	0	PP
HYDERABAD	24.61	309.7	5	25A	2	9	31	-11			5	43	PP
BOKARO	24.71	332.3	5	24A	0	9	44	0			6	3	PP
HONG KONG	25.52	36.6	5	33	2	9	53	-4					
MANILA	25.97	59.8	5	38	2	9	45	-20					
BAGUIO CITY	26.38	55.8	5	41	2	10	16	5					
CHATRA	26.78	338.0	5	43	0						11	37	
LHASA	28.26	347.0	5	58	2	10	31	-11					
BOMBAY	29.87	305.8				11	3	-6			9	52	
AGRA	31.50	324.2	6	25A	0	11	27	-6					
WUHAN	32.37	27.2	6	31	-2	11	43	-4			7	55	
SIAN	33.62	16.4	6	43	-1	12	1	-5					
DEHRA DUN	33.94	328.0	6	50	3	12	5	-6			14	36	SSS
LANCHOW	34.27	8.3	6	49A	0	12	8	-9					
NANKING	35.68	31.0	7	3	1	12	36	-2			8	31	
ZO-SE	36.25	34.7	7	7	1	12	41	-6			16	7	SS
LAHORE	36.93	325.1	7	11	-1								
KARACHI	37.54	309.8	7	19	2								
PERTH	37.76	154.9	7	34	15	13	16	6			16	18	
MUNDARING	37.94	154.5	7	23	2	13	1	-12					
WARSAK DAM	40.31	325.0	7	41A	1								
QUETTA	40.67	316.6	7	44A	1	13	49	-5	7	55	9	43	PCP
ULAN-BATOR	46.35	8.2	8	30	1								
GUAM	47.53	73.6	8	38	-1								
ABUYAMA	47.79	42.5	8	39A	-2								
CHANGCHUN	48.14	26.4	8	44A	1	15	39	-3			10	22	
PORT MORESBY	50.20	103.9	8	59	0	16	10	-1	9	12	10	47	PP
IRKUTSK	50.34	5.0	9	1	1								
MATUSIRO	50.50	42.3	9	0A	-1	16	13	-2	9	18	10	58	PP
SHIRAZ	51.20	307.1	9	5A	-2	16	18	-7					
TUKUBASAN	51.62	43.7	8	53K	-17	16	32	1			13	59	PCS
CHARTERS TS.	52.11	117.4	9	33A	19	16	33	-4					
ADELAIDE	52.95	137.9	9	20K	0	16	51	2			13	1	
TANANARIVE	53.82	244.8	9	28K	2								
MELBOURNE	58.73	137.4	10	3	1								
Y.-SAKHLINSK	59.20	34.0	10	4	-1								
ADDIS ABABA	59.36	279.2	10	10	4						10	51	PCP
UGLEGORSK	60.06	31.8	10	10	-1								
BRISBANE	60.19	123.2	10	13	1	18	26	1					
CANBERRA	60.35	133.1	10	13A	0								
RIVERVIEW	61.31	130.6	10	18	-1	18	37	-2					
TIFLIS	61.91	317.2	10	23	0	18	40	-7					
SVERDLOVSK	62.25	337.8	10	24	-2	18	46	-5					
YAKUTSK	64.39	15.9	10	38	-2								
KSARA	65.94	306.3	10	50A	0	19	51	14			13	22	PP
JERUSALEM	65.99	303.9	10	49K	-1								
SOTCHI	66.09	317.4	10	49	-2	19	29	-10					
WILKES	68.80	174.6	11	19	11	20	7	-4			24	23	SS
LWIRO	69.37	266.9	11	14	3	20	15	-3					
MAGADAN	70.22	25.5	11	16	0								
SIMFEROPOL	70.34	317.4									16	15	
BROKEN HILL	70.80	254.0	11	20	0						11	30	PCP
ELISABTHVLLE	71.44	257.1	11	27	3	20	42	0					
BULAWAYO	71.48	248.1	11	24	0						11	35	PCP
MOSCOW	72.06	328.9	11	24	-4	20	40	-9					
TIKSI	72.21	9.8	11	26	-2								
PRETORIA	72.85	242.4	11	13	-19								
DUMONT	74.71	164.0	11	41	-2	21	8	-11					
TERRE ADELIE	75.20	163.7	11	41	-5	21	8	-16					
IASI	75.33	318.4	11	48	1								
BUCHAREST	75.74	315.3	11	49A	0	21	27	-3					

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KIMBERLEY	76.37	239.9	11	47	-5					
ATHENS	76.42	308.5	11	46K	-7					
PULKOVO	77.18	331.3	11	55	-2	21	38	-8		
SOFIA	77.42	313.2	11	50	-8	21	40	-9	21	53 SKS
LWOW	78.18	320.5	12	2A	0	21	50	-7		
APATITY	78.64	339.3	12	4A	-1	21	56	-6	15	3 PP
BANGUI	79.32	274.0	12	9	0	22	30	21		
BELGRADE	79.79	315.1	12	11K	0	22	21	7	12	21 PCP
COBB RIVER	79.82	132.2	12	14	3					
HELSINKI	79.88	330.9	12	11	-1	22	29	14	12	17 PCP
NURMIJARVI	80.11	331.2	12	13	0	22	31	14	15	7 PP
GEBBIES PASS	80.30	134.8	12	16	2					
WARSAW	80.47	322.6	12	15A	0	22	24	3	12	26 PCP
KHEYS	80.78	353.9	12	15	-1	22	18	-6		
KRAKOW	80.83	320.3	12	18	1	22	18	-7	22	45 SCS
SODANKYLA	81.05	338.2	12	17	-1				15	18 PP
KARAPIRO	81.38	128.7	12	22	2					
TONGARIRO	81.58	129.9	12	21	0					
HURBANOVO	81.69	317.9	12	37	16	22	52	18		
RACIBORZ	81.94	320.2	12	22	-1					
WINDHOEK	82.43	247.1	12	30	5					
BRATISLAVA	82.46	318.2	12	24	-1	22	37	-5	15	28 PP
MESSINA	82.86	308.1	12	25	-2				13	16
LEOPOLDVILLE	82.99	265.4	12	29	1	22	44	-3	23	5 SCS
UPPSALA	83.44	329.9	12	29A	-1	22	41	-10		
KIRUNA	83.47	338.1	12	30A	0	22	46	-6		
LJUBLJANA	84.06	315.9	12	33	0				13	27
PRUHONICE	84.27	319.9	12	34A	-1	22	57	-3	15	49 PP
PRAGUE	84.36	319.9	12	36	1	22	57	-4	15	38 PP
TRIESTE	84.57	315.5				22	57	-6	23	40
TOLMEZZO	85.11	316.2	12	38	-1				13	8
COLLMBERG	85.33	321.1	12	39A	-1				16	26 PP
POTSDAM	85.34	322.2	12	37	-3	23	4	-6	16	2 PP
ROME	85.36	311.7	12	39A	-1	23	4	-6	28	47 SS
COPENHAGEN	85.85	325.5	12	43	1	23	22	7	23	11 SKS
HALLE	86.00	321.3	12	42	-1				15	59 PP
JENA	86.21	320.7	12	44	0	23	9	-10	16	8 PP
SKALSTUGAN	86.31	333.4	12	44A	-1					
SONNEBERG	86.44	320.2	12	44	-1					
CAPE HALLETT	86.55	163.0	12	47	1	22	48	-34	28	27 SS
RAVENSBURG	87.46	317.6	12	51	1					
CHUR	87.53	316.6	12	52	1					
SCOTT BASE	87.56	168.6	12	51	0	23	28	-4		
STUTTGART	87.68	318.5	12	50	-1	23	30	-3	16	23 PP
TUBINGEN	87.82	318.3	12	51	-1					
EBINGEN	87.89	318.0	12	51	-1					
STRASBOURG	88.69	318.4	12	59	3	23	39	-3	16	37 PP
MUNSTER	88.69	321.8	12	57	1					
BASLE	88.84	317.3	12	58	1					
BENSBERG	89.00	320.8	12	58	0				13	20
MONACO	89.07	313.5	12	56	-2					
DOURBES	90.68	320.0	13	5	-1	24	1	1		
NORD	91.53	352.3	13	8	-1					
TAMANRASSET	91.57	292.7	13	10A	0	24	10	2	16	55 PP
CLERMONT-FD.	92.01	315.8	13	13	1					
SOUTH POLE	92.02	180.0	13	12	0				13	49
PARIS	92.16	318.8	13	13	1				13	34
ALGIERS UNI.	92.82	306.8	13	12	-3	24	20	1	16	58 PP
KEW	93.65	321.7				24	20	-6		
DURHAM	93.92	325.1	12	47A	-33					
RELIZANE	94.92	306.0	13	12	-13				17	7 PP
RATHFARNHAM	96.92	324.1	13	36A	2				18	16
COLLEGE	98.20	23.2	14	0	20				17	31 PP
BYRD STATION	99.95	173.8	13	49	1					
RESOLUTE	103.01	3.5	14	1K	0	24	37	-4	18	17 PP
BANFF	119.78	23.7	18	52	0					
CORVALLIS	120.76	33.3	18	58	4					
HUNGRY HORSE	122.59	24.9	18	58	1				20	42 PP
SHASTA	123.74	36.4	19	0K	0					
MINERAL	124.42	36.3	19	2K	1				20	51
BUTTE	125.03	25.7	19	3	1					
BERKELEY	125.56	39.0	19	8	5					
BOZEMAN	125.96	24.9	19	6	2					
RENO	126.00	35.9	19	7	3					
LICK	126.27	39.2	19	6K	2				20	56
FRESNO	127.78	38.6	19	11	4					
SALT LAKE C.	129.42	29.4	19	12	1					
RAPID CITY	130.31	20.0	19	13	1					

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PASADENA	130.46	40.1	19 15	2		21 31	PP
SHAWINIGAN	130.96	351.6	19 13	0		22 34	SKP
BOULDER CITY	131.31	35.9	19 17	3			
BREBEUF	132.10	352.1	19 15	-1			
TUCSON	136.28	36.3	19 27	4		22 24	PP
TUCSON TELE.	136.28	36.1	19 17	-6		22 11	PP
PALISADES	136.55	351.2	19 22	-2		22 2	PP
LAWRENCE	137.40	15.4	19 25	0			
WASHINGTON	139.03	354.2	19 30	2		22 24	PP
FAYETTEVILLE	140.39	15.6	19 30	-1			
CHIHUAHUA	141.72	35.5			26 55 13	23 17	
BERMUDA	142.07	335.9	19 31	-3		22 39	PP
COLUMBIA	144.15	358.7	19 37	0			
TACUBAYA	152.78	37.8	19 53	2			
SAN JUAN	154.43	323.1	20 18	25			
LA PAZ	160.21	222.6	20 6A	5		20 38	PKP2
CARACAS	160.56	310.1				20 43	PKP2
HUANCAYO	168.08	213.0	20 13	5		20 30	PKP2

OCTOBER 12 3.H 43.M 45.S EPICENTRE -19.00 -69.07 DEPTH= 123.KM

A= 0.33808 B=-0.88375 C=-0.32356 D=-0.9340 E=-0.3573
G=-0.1156 H= 0.3022 K=-0.9462 HT= 4.9

DEPTH OF FOCUS= 0.014R

SE= 3.00

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
LA PAZ	2.64	19.9	0 45A	3	1 18	3	0 54	2 1	*SS
ANTOFAGASTA	4.85	194.9	1 9	-3	2 3	-4			
HUANCAYO	9.17	318.0	2 7	-3	4 32	40			
BOGOTA	23.98	347.6	5 10	6	8 55	-14			
CHINCHINA	24.68	344.2	5 10	0					
FUQUENE	24.74	348.8	5 18	7					
CARACAS	29.39	4.3	6 19A	26	11 50	73			
PORT STANLEY	33.81	167.5	6 34	2					
SAN JUAN	37.26	4.6	6 56	-5				8 26	PP
ARGENTINE I.	46.33	177.2	8 6	-9					
TACUBAYA	48.27	320.6	8 34	4	15 24	5			
COLUMBIA	53.92	347.7	9 10	-3					
WASHINGTON	58.08	352.6	9 39	-3					
FAYETTEVILLE	59.73	336.5	9 51	-3					
HALLEY BAY	60.74	168.8	10 1	0					
MBOUR	61.09	60.9	10 1	-2				11 1	*PPCP
HALIFAX	63.50	4.4	10 16A	-3	18 39	-2		10 48	SP
BREBEUF	64.32	356.4	10 23	-1				11 39	PP
OTTAWA	64.37	354.8	10 22A	-3					
TUCSON TELE.	64.77	321.5	10 27	0				13 20	PP
TUCSON	64.77	321.4	10 27	0				11 30	
BYRD STATION	64.93	188.5	10 30	2			11 0	11 13	*SP
SHAWINIGAN	65.32	357.2	10 29	-2					
SEVEN FALLS	65.83	358.7	10 34	0					
BOULDER CITY	69.75	321.7	11 59	61				12 42	
RAPID CITY	70.11	334.5	11 3	2					
PASADENA	70.55	318.3	11 4	1			11 47	18 1	
SOUTH POLE	71.12	180.0	11 8	1			11 38	11 28	PCP
SALT LAKE C.	71.52	327.0	11 8	-1					
FRESNO	73.26	319.5	11 28	9					
LICK	74.76	319.0	11 28K	0			11 59		
RENO	75.06	321.7	11 29K	-1					
BERKELEY	75.47	319.1	11 33	1					
BUTTE	75.75	330.3	11 33	-1					
MINERAL	76.63	321.4	11 38	-1				12 17	PCP
SHASTA	77.32	321.3	11 42K	0			12 11		
HUNGRY HORSE	78.14	331.2	11 47	0					
SCOTT BASE	78.25	190.3	11 49	2				12 19	PCP
CORVALLIS	80.28	324.0	11 29A	-29					
CAPE HALLETT	80.77	195.4	11 34K	-27				12 5	PCP
BANFF	80.86	332.5	12 1	-1					
GRANADA	83.16	47.0	12 49	36					
TAMANRASSET	83.83	63.5	12 17A	0			12 49	15 8	
TOLEDO	84.21	44.5	12 19	0			12 52		
KIMBERLEY	84.31	118.3	12 20	1					
RELIZANE	85.42	49.9	12 22	-3			12 47		
ALGIERS UNI.	87.68	49.9	12 40	4					

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BULAWAYO	90.46	111.4	12 50	1								
FOLINIERE	90.81	38.0	12 49	-1								
TERRE ADELIE	91.47	191.6	12 56	3								
DUMONT	91.86	191.2	12 56	1								
RESOLUTE	94.90	353.3	13 8	-1					13 41			
STUTTGART	96.67	40.7	13 16	-1					13 48			
LWIRO	96.71	94.7	13 48	31							17 13	
CHARTERS TS.	127.96	223.6	18 54K	3							19 29	
QUETTA	138.71	65.7	19 16	5								
GUAM	147.11	265.5	19 31	5								
MATUSIRO	150.36	311.7	19 38K	7					20 11			

OCTOBER 12 19.H 25.M 59.S EPICENTRE 15.68 80.07 DEPTH= 0.KM

A= 0.16614 B= 0.94882 C= 0.26860 D= 0.9850 E=-0.1725
G= 0.0463 H= 0.2646 K=-0.9633 HT= 5.6

SE= 2.46

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
HYDERABAD	2.33	318.5									0	38	PG
MADRAS	2.67	177.7	0	45	0	1	17	-1					
VIZIANAGRAM	4.04	52.7	1	12	8								
KODAIKANAL	5.98	205.4	2	34A	63						3	4	
POONA	6.59	296.4	1	39	-1	2	53	-4			2	5	PG
BOMBAY	7.63	295.8	1	57	2	3	18	-5			3	36	
SEHORE	7.96	339.7				3	27	-4					
BOKARO	9.74	32.7				4	5	-11					
CALCUTTA	10.39	47.8									4	20	
AGRA	11.55	350.8	2	49	0	4	49	-11					
CHATRA	12.91	29.6	3	9	2						6	39	
PORT BLAIR	12.92	106.4	3	6	-1						5	17	
CHITTAGONG	12.94	57.3	3	5	-2								
DEHRA DUN	14.69	353.1	3	30	0						6	8	
SHILLONG	14.78	46.4	3	28	-4	6	11	-6			3	40	PP
LAHORE	16.64	342.7	3	52	-4	6	52	-9					
TOCKLAI	17.56	48.8									4	19	
QUETTA	18.79	322.4	4	22	-1	7	51	1					
WARSAK DAM	19.79	338.7	4	35	1								
SHIRAZ	28.88	303.5	6	3K	1						6	52	
HELSINKI	59.46	331.6	10	9	2								
NURMIJARVI	59.74	331.9	10	10	2						10	25	
BULAWAYO	61.84	236.5	10	22	-1								
SODANKYLA	61.98	339.4	10	22	-2								
UPPSALA	62.82	329.8	10	30	1								
KIRUNA	64.32	338.7	10	38	-1								
SKALSTUGAN	66.23	333.1	10	50	-1								

OCTOBER 15 6.H 15.M 34.S EPICENTRE -0.02 120.06 DEPTH= 0.KM

A=-0.50086 B= 0.86553 C=-0.00034 D= 0.8655 E= 0.5009
G= 0.0002 H=-0.0003 K=-1.0000 HT= 7.2

SE= 2.89

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LEMBANG	14.13	241.2	3	24K	0	6	32	29					
DJAKARTA	14.55	244.9	3	46	17								
MANILA	14.63	3.9	3	33	3	6	25	11					
BAGUIO CITY	16.34	1.8	3	52	-1	7	0	5					
MEDAN	21.66	279.7	4	53	-1	9	16	26					
HENGCHUN	21.90	1.7	4	59	2								
TAWU	22.25	2.1	5	5	5	9	16	15					
TAITUNG	22.66	2.6	5	6	2								
TAINAN	22.88	0.4	5	11	4								
HONG KONG	22.91	345.9	5	6K	-1	9	13	0			5	39	PP
HSINKONG	23.02	3.1	5	15	7								
YUSHAN	23.37	2.1	5	17	6	9	22	1					
ALISHAN	23.41	1.7	5	18	6	9	36	14					
CANTON	23.88	344.6	5	17	1	9	33	3					
HWALIEN	23.89	3.5	5	20	4								
TAICHUNG	24.03	1.4	5	18	0								

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PHU-LIEN	24.51	328.4	5	23	1	9	36	-5	10	25 SS
HSINCHU	24.69	2.0	5	15	-9	10	15	31		
ILAN	24.70	3.7	5	12	-12	9	4	-40		
TAIPEI	24.94	3.1	5	10	-17	9	59	11		
GUAM	27.88	60.3	5	51	-3					
PORT MORESBY	28.53	109.8	5	57	-3	10	44	-3	7	0 PP
KUNMING	30.09	327.4	6	15K	1	11	17	5	7	12 PP
WUHAN	30.83	350.7	6	25	5					
ZO-SE	30.97	1.9	6	21A	0	11	5	-21		
YAKUSIMA	31.89	17.2	6	28	-1	11	37	-3	7	36 PP
NANKING	31.93	357.9	6	30	0					
MUNDARING	31.98	186.2	6	27	-3	11	41	-1		
PERTH	32.01	186.8	6	31	1	11	48	6	7	36 PP
RABAUL	32.35	97.8	6	32	-1	11	44	-3	8	45
CHARTERS TS.	32.50	129.4	6	34K	-1	11	50	0		
KAGOSIMA	32.95	16.6	6	43	4	11	45	-12		
TOMIE	33.49	13.4	6	43	0	12	14	9		
MIYAZAKI	33.54	17.7	6	44	0	12	6	0		
NAGASAKI	33.87	15.0	6	45A	-2	12	10	-1	7	57 PP
CHENGTU	34.11	334.9	6	47	-2	12	9	-6	8	0 PP
KUMAMOTO	34.17	16.1	6	49	0	12	44	28		
ASOSAN	34.35	16.5	6	58	7					
SAGA	34.47	15.3	6	55	3				14	52
HUKUOKA	34.80	15.2	6	56K	1	12	26	1	8	16 PP
OOITA	34.82	17.1	6	59	4	11	59	-27		
SIMIDU	34.82	19.2	6	53	-2	12	19	-7	8	12
UWAZIMA	35.10	18.4	6	57	0	12	25	-5	8	24 PP
SIMONOSEKI	35.30	15.7	6	59	0					
CHITTAGONG	35.37	310.8	6	59K	-1	12	35	1	8	21 PP
SIAN	35.65	344.1	7	1	-1					
MUROTO	35.66	20.5	7	7	5	12	41	2	8	33
KOTI	35.71	19.5	7	2	0	12	23	-17	8	33 PP
MATUYAMA	35.74	18.3	7	1	-2	12	35	-5	8	21 PP
TOCKLAI	36.06	319.5	7	17	12					
SIOMISAKI	36.42	22.4	7	7	-1				8	40
HAMADA	36.51	16.7	7	9	0	13	0	8	8	27 PP
TOKUSIMA	36.55	20.5	7	8	-2	12	51	-1	8	36
TAKAMATU	36.59	19.6	7	9	-1	12	42	-11	8	37 PP
HIMEJI	36.87	19.9							9	11
OKAYAMA	36.88	19.2	7	11	-1					
SUMOTO	36.91	20.7	7	10A	-3	12	35	-23	8	38 PP
OWASE	37.14	22.5	7	14	0	13	0	-1	8	48 PP
SHILLONG	37.26	315.2	7	13	-2	13	2	-1	8	41 PP
KOBE	37.31	20.8	7	15	-1	13	7	3	8	49 PP
MATSUE	37.32	17.7	7	12	-4	13	7	3	8	48 PP
YONAGO	37.38	18.0	7	15	-2	13	8	3	8	41 PP
OSAKA	37.41	21.2	7	16	-1	13	0	-6	8	45 PP
NARA	37.54	21.6	7	15	-3					
ABUYAMA	37.62	21.1	7	16A	-3					
KYOTO	37.81	21.2	7	21	1				8	53 PP
TU	37.82	22.4	7	22	2					
KAMEYAMA	37.93	22.2	7	20	-1	13	22	8	8	54 PP
TOYOOKA	37.95	19.8	7	23	2	13	12	-2	8	52
SAIGO	38.09	17.5	7	25	3	13	25	9	8	58
MAIZURU	38.09	20.5	7	23	0				8	59
CALCUTTA	38.13	308.1	7	26A	3	13	11	-6	8	53 PP
HIKONE	38.22	21.6	7	23	-1	13	11	-7	8	53
NAGOYA	38.41	22.6	7	24	-1	13	21	0	9	0
OMAESAKI	38.41	24.5	7	25	0	13	22	1	9	12
GIHU	38.53	22.2	7	25	-1	13	20	-3	9	5
SHIZUOKA	38.80	24.4	7	29	1	13	29	2	9	8
ADELAIDE	38.90	155.3	7	28A	-1	13	28	0	7 34	9 0 PP
HUKUI	38.91	21.1	7	35	6					
LANCHOW	38.93	338.9	7	30	0	13	25	-4		
OSIMA	39.04	25.6	7	29	-1				8	53
IIDA	39.05	23.3	7	35	4	13	31	1	9	9
MISIMA	39.16	24.9	7	27	-4	13	29	-3	9	3
AJIRO	39.16	25.1	7	25	-6				9	10
MERA	39.37	26.0	7	28	-5					
HUNATU	39.41	24.4	7	36	2	13	37	1		
KOHU	39.47	24.0	7	33	-1	13	30	-7	9	8
YOKOHAMA	39.72	25.4	7	36	0				9	17
MATUMOTO	39.74	22.9	7	36	0	13	38	-3	9	15
TOYAMA	39.84	21.7	7	37	0					
TITIBU	39.95	24.3	7	39	1				9	20
TOKYO C.M.O.	39.97	25.3	7	40	2	13	46	2	10	11
PEKING	40.02	355.4	7	38	-1	13	47	2		
OIWAKE	40.04	23.5	7	39	0	13	41	-4	9	14
MATUSIRO	40.09	22.9	7	36A	-3	13	26	-20	9	13 PP

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NAGANO	40.20	22.8	7 39	-1	13 20	-28		9 30	PP
KUMAGAYA	40.22	24.5	7 38	-2				9 26	
VIZIANAGRAM	40.24	298.6	7 41	1					
MAEBASI	40.31	24.0	7 40	-1				9 35	
WAZIMA	40.34	20.9	7 40	-1	13 50	0		9 18	
TUKUBASAN	40.58	25.2	7 38	-5	13 47	-7		9 16	PP
TAKADA	40.59	22.6	7 40	-3					
KAKIOKA	40.63	25.3	7 42	-2					
COLOMBO	40.67	280.6	7 47	3	13 52	-3			
UTUNOMIYA	40.77	24.7	7 41	-4				9 56	
MITO	40.88	25.5	8 15	29					
CHATRA	41.39	312.8	7 49	-1	14 4	-2			
SHIRAKAWA	41.40	24.6	7 52	2	14 2	-4			
AIKAWA	41.40	21.9	7 49	-1				9 49	
ONAHAMA	41.54	25.5	7 52	1	14 2	-6		10 48	
BRISBANE	41.57	133.6	7 51	0	14 9	1			
MADRAS	41.59	289.7	7 50K	-1	14 12	4		9 27	PP
HUKUSIMA	42.04	24.4	7 55	0	14 14	-1			
YAMAGATA	42.42	23.9	7 57	-1	14 25	4			
SENDAI	42.66	24.4	8 0	0	14 23	-1		10 18	
ISINOMAKI	42.97	24.7	8 1	-2				14 29	
MIZUSAWA	43.48	24.0	8 6	-1	14 31	-5			
KODAIKANAL	43.56	284.9	8 12K	4	14 32	-5		9 50	
AKITA	43.58	22.5	8 9A	1	14 43	5		10 6	
CHANGCHUN	43.91	5.5	8 9	-1	14 42	0		9 57	PP
MORIOKA	43.99	23.6	8 11A	0	14 45	1			
MELBOURNE	44.08	151.3	8 12A	0	14 45	0		9 53	PP
VLADIVOSTOK	44.24	12.4	8 13	0				10 39	PPP
MIYAKO	44.27	24.4	8 13	0	14 25	-23			
CANBERRA	44.29	145.5	8 13K	0	14 49	1	8 20	9 58	PCP
HYDERABAD	44.46	295.2	8 13K	-2	14 48	-2		9 58	PP
AOMORI	44.80	22.4	8 19	1	14 36	-19			
HATINOHE	44.84	23.3	8 14	-4	14 54	-2			
MORI	45.83	21.3	8 29	3	15 6	-4		12 31	
SUTTSU	46.32	20.5	8 32	2	15 16	-1			
SAPPORO	46.96	21.4	8 34	-1	15 19	-7		10 17	PP
OBIHIRO	47.53	23.0	8 47	8					
KUSIRO	48.06	24.0	8 41K	-2	15 39	-3			
AGRA	48.57	307.3	8 45K	-2	15 41	-8		10 41	PP
NEMURO	48.83	24.7	8 46	-3	15 43	-10		10 52	
POONA	48.97	294.8	8 49A	-1	15 51	-4		10 46	PP
ULAN-BATOR	49.10	348.3	8 52	1	15 52	-4			
WAKKANAI	49.12	20.1	8 57	5					
FORT NELSON	49.24	153.6	8 58	6				19 53	
BOMBAY	50.01	294.9	9 1	3	16 13	4		10 58	PP
DEHRA DUN	50.03	311.0	9 2	3	16 16	7		10 46	PP
Y.-SAKHLINSK	50.87	19.9	9 4	-1				11 2	PP
LAHORE	53.43	310.4	9 21	-3	16 58	2		11 24	PP
IRKUTSK	53.76	348.1	9 26A	-1				17 1	PSP
WARSAK DAM	56.62	311.8	9 45	-2					
KARACHI	56.87	299.9	9 50	1				12 8	PP
QUETTA	58.69	305.8	9 59	-3	18 3	-3		12 10	PP
FRUNSE	58.94	322.3	10 4	0	18 9	0		12 12	PP
SUVA	60.08	110.9	10 21	9	18 30	6		12 16	PP
SEMIPALATNSK	60.57	331.9	10 15	0	18 28	-2		12 30	PP
STALINABAD	60.66	315.4	10 14	-1	18 23	-8			
TASHKENT	61.57	318.4	10 18	-4	18 39	-4		20 6	SCS
ONERAHI	61.67	131.4	10 27	5					
PETROPAVLOVK	61.84	25.3	10 21	-3				12 44	PP
YAKUTSK	62.31	5.1	10 24	-3	18 46	-6			
ROXBURGH	62.65	143.1	10 28	-1	18 50	-7		15 56	
COBB RIVER	62.70	137.4	10 27	-2			10 45		
MACQUARIE I.	62.98	155.7	10 30	-1	19 7	6	10 50	11 3	PCP
KARAPIRO	63.37	133.2	10 32	-2				11 5	
GEBBIES PASS	63.84	140.1	10 40	3					
TONGARIRO	63.86	134.5	10 37	0				11 46	
MAGADAN	64.06	16.8	10 38	0					
WELLINGTON	64.18	136.9	10 38	-1	19 15	-1			
TUAI	64.87	133.6	10 46	3					
KERGUELEN I.	65.12	213.5	10 48	3	19 31	4			
WILKES	66.53	184.2	10 51	-3	19 41	-3		13 3	PP
DUMONT	68.00	171.6	11 8	5	20 2	0		24 52	SS
ASHKABAD	68.01	311.3	11 3	0	20 3	1		11 43	
TERRE ADELIE	68.34	171.1	11 8	2	20 2	-4			
APIA	68.81	104.7	11 12	4				11 36	PCP
MIRNY	69.10	191.2	11 8	-2	20 15	0		11 44	PCP
SHIRAZ	70.58	301.5	11 16K	-3	20 34	1			
TIKSI	71.76	2.9	11 23	-3	20 38	-8		13 58	PP

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TANANARIVE	73.46	250.4	11	37A	1	21	12	6		14	18 PP
SVERDLOVSK	73.78	330.5	11	37	-1	21	4	-5		14	19 PP
GORIS	77.49	310.5	11	59	0	21	51	1		14	58 PP
CAPE HALLETT	78.69	166.1	12	4A	-2	21	59	-4	12 14	15	15 PP
TIFLIS	79.03	312.5	12	9	1	22	10	3		15	14 PP
ADDIS ABABA	81.40	279.1	12	22	2	22	41	10			
SCOTT BASE	81.63	171.0	12	21	-1	22	36	2		14	18 PP
HONOLULU	82.40	68.6	12	30	4	22	36	-6			
KIPAPA	82.48	68.5	12	31	5						
KSARA	85.17	303.8	12	41K	1	23	1	-8		16	2 PP
KHEYS	85.60	351.6	12	43	1	23	3	-10		16	3 PP
JERUSALEM	85.61	301.7	12	41	-1	23	13	-1			
MOSCOW	85.74	325.8	12	41	-2	23	5	-10		16	8 PP
SIMFEROPOL	87.13	314.8	12	47	-2	23	11	-17		16	11 PP
LCO. MARQUES	87.70	244.2				24	37	63		32	50
APATITY	88.72	337.4	12	57K	0	23	24	-19		16	32 PP
PIETERMZBURG	89.69	240.5	13	4	2						
PULKOVO	89.88	329.6	13	0	-2					16	41 PP
SOUTH POLE	89.98	180.0	13	0	-3	23	42	-13		16	37 PP
COLLEGE	90.92	25.3	13	3	-4	24	7	4		16	48 PP
LWIRO	91.26	267.8	13	8	-1	23	48	-18			
SODANKYLA	91.34	337.3	13	5	-4	24	10	3		16	34 PP
BROKEN HILL	91.53	255.6	13	9	-1						
PRETORIA	91.68	244.4	13	20	9						
IASI	91.71	317.0	13	12	1	23	48	-22			
ELISABTHVLLE	92.53	258.4	13	14	-1	23	53	-24		16	49 PP
HELSINKI	92.56	330.1	13	17	2	24	20	3		23	47 SKS
NURMIJARVI	92.68	330.5	13	15	0	24	26	7		17	4 PP
BUCHAREST	92.85	314.3	13	18A	2	24	1	-19		18	55 PP
CAMPULUNG	93.56	315.2	13	22	3	24	2	-24			
KIRUNA	93.66	338.0	13	18A	-2	23	47	-40		17	6 PP
LWOW	93.91	319.8	13	19	-2	24	22	-7		17	14 PP
KIMBERLEY	94.62	241.3	13	22	-2						
SOFIA	94.97	312.7	13	26	0	24	2	-36		26	0 PS
ATHENS	95.02	308.0	13	27	1						
BYRD STATION	95.05	171.3	13	26	0	23	58	-4		17	19 PP
WARSAW	95.56	322.4	13	25A	-4	24	0	-4		17	28 PP
NORD	96.17	354.2	13	27	-4	23	58	-10		17	26 PP
TIMISOARA	96.19	315.9	13	14	-17	24	15	7			
UPPSALA	96.25	330.3	13	30	-2	24	2	-6		17	27 PP
SKALNATE PL.	96.43	319.4				24	11	2		17	36 PP
KRAKOW	96.52	320.3	13	40	7	24	8	-2		17	20 PP
BELGRADE	96.84	315.0	13	25K	-9	24	12	1		17	30 PP
BUDAPEST	97.48	317.8	13	47	10	24	17	2			
SKALSTUGAN	97.87	334.5	13	34	-5					17	37 PP
HURBANOVO	97.97	318.3				24	18	1		17	12 PP
BRATISLAVA	98.65	318.7	13	43	0	24	19	-2		17	22 PP
DUBROVNIK	98.79	313.1	14	16	33	24	58	37			
HERMANUS	98.92	235.3				24	26	4		17	48 PP
VIENNA-H.	99.11	318.9	13	45	0	25	14	51			
GOTEBORG	99.61	328.8	13	39A	-8					17	48 PP
ZAGREB	99.81	316.5	13	47	-1	24	26	0		17	56 PP
COPENHAGEN	99.88	326.8	13	49K	1	24	28	1		17	57 PP
PRUHONICE	99.95	320.8	13	48	-1					17	56 PP
PRAGUE	100.01	320.9	13	49A	0	24	29	2		17	58 PP
POTSDAM	100.33	323.4	13	50	0	24	27	-1		18	2 PP
COLLMBERG	100.63	322.4				24	32	2		18	5 PP
LJUBLJANA	100.77	316.9	13	52	0					18	1 PP
HALLE	101.22	322.7				24	36	3		20	36
CHEB	101.30	321.2				25	37	63		28	46 PS
REGGIO CALA.	101.33	308.8								17	23
TRIESTE	101.37	316.6	13	56	1	25	40	66		18	10 PP
MESSINA	101.40	308.9	13	53	-2	25	32	58		18	7 PP
BANGUI	101.40	274.4	13	57	2	24	36	2			
JENA	101.59	322.2	13	56	0	24	32	-3		18	9 PP
SONNEBERG	101.96	321.7	13	56	-2					18	7 PP
BERGEN	102.02	332.6				24	15	-22		18	11 PP
RESOLUTE	102.61	9.0	14	5	5	24	32	-8		18	12 PP
ROME	103.04	313.1	14	3A	1	25	37	55		20	16 PP
BOLOGNA	103.30	315.9				24	48	5		17	38 PP
STUTTGART	103.59	320.5	14	3	-2	24	43	-1		18	23 PP
PRATO	103.60	315.3	14	4	-1	25	24	40			
MUNSTER	103.67	323.9	15	29	84					16	28
CHUR	103.94	318.5				24	41	-5		18	12 PP
WITTEVEEN	103.96	325.0	14	6	0					18	26 PP
BENSBERG	104.25	323.0	14	8	0					18	29 PP
STRASBOURG	104.60	320.6	14	8	-1	24	48	-1		18	26 PP
PAVIA	104.62	316.9	14	10A	1	25	59	70		18	30 PP

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LEOPOLDVILLE	104.76	265.5	14	13A	3	24	51	1	18	26 PP
BASLE	105.03	319.6	18	10	777					
DE BILT	105.06	324.6	14	3	777	24	54	3	18	36 PP
NEUCHATEL	105.60	319.2				24	55	1	18	34 PP
UCCLE	105.99	323.5	14	16	777	24	53	-2		
CUGLIERI	106.31	312.0	15	56	777				28	16
LUANDA	106.62	260.8				24	37	-21	32	50
ABERDEEN	106.87	331.2				25	1	2	18	46 PP
DURHAM	107.71	328.8							19	0 PP
PARIS	107.83	322.0	14	26	777				18	54 PP
KEW	108.46	325.3	14	28	777	25	8	2	19	1 PP
CLERMONT-FD.	108.50	318.9							18	59 PP
CORVALLIS	108.71	42.4							18	50 PP
SHASTA	110.60	46.1	17	59	-36					
MINERAL	111.29	46.2	18	39	3					
ALGIERS UNI.	111.40	309.8	18	30	-6	25	37	19	19	17 PP
SAN FRANCSCO	111.47	49.1							28	46 PS
BERKELEY	111.59	48.9	18	42	5				19	20 PP
TORTOSA	112.00	314.6	19	31	54					
LICK	112.22	49.3	18	43K	5					
TAMANRASSET	112.54	294.6	18	35	-4	25	33	10	19	26 PP
RENO	112.86	46.5	18	42	3					
HUNGRY HORSE	113.05	36.0	18	37	-2				19	30 PP
ALICANTE	113.56	312.4	14	47	777	27	12	105	19	37 PP
RELIZANE	113.63	309.4	18	40	-1				19	32 PP
FRESNO	113.79	49.4	18	46	5					
BUTTE	115.04	37.7	18	46	3					
ALMERIA	115.56	311.4	18	47	3				19	43 PP
TOLEDO	115.58	315.1	19	21	37	25	40	6	19	49 PP
EUREKA	115.64	45.4	18	44	0				18	44
PASADENA	115.90	51.6	18	49	4				31	18 PS
BOZEMAN	116.14	37.4	18	46	0				19	49 PP
GRANADA	116.29	312.1	14	22	777	25	52	15	19	52 PP
BOULDER CITY	117.82	48.6	18	53	4				20	5 PP
SALT LAKE C.	117.96	42.6	18	50	1				19	59 PP
RAPID CITY	121.68	35.5	18	55	-1				20	28 PP
TUCSON	122.33	51.1	19	3	5				20	34 PP
TUCSON TELE.	122.38	50.9	19	3	5				20	34 PP
CHIHUAHUA	127.54	53.1							37	43 PKPPKP
FAYETTEVILLE	132.05	37.9	19	18A	2				22	41 PKS
SEVEN FALLS	132.14	10.0	19	18	2				21	34 PP
SHAWINIGAN	132.31	12.0	19	19	2				21	34 PP
FLORISSANT	132.38	32.4							22	48 PKS
ST. LOUIS 1	132.57	32.4	19	19	2				21	41 PP
OTTAWA	132.71	15.1	19	18	1				21	38 PP
BREBEUF	133.13	13.2	19	22K	4	25	16	-72		
CLEVELAND	134.34	22.7	19	24	4					
MBOUR	135.16	290.5	19	27	5				22	0 PP
HALIFAX	135.47	3.7	19	26K	3				21	50 PP
PENNSYLVANIA	136.26	19.8	19	27	3				22	6 PP
MORGANTOWN	136.54	22.6	19	28A	3				23	1 PP
TACUBAYA	136.97	61.1	19	28	3	26	32	-2	22	16 PP
PALISADES	137.28	15.6	19	30	4				22	13 PP
FORDHAM	137.43	15.7							22	16 PP
WASHINGTON	138.24	20.2	19	31	3				22	18 PP
VERA CRUZ	139.72	59.7							24	30
CHAPEL HILL	140.10	24.5							22	30
COLUMBIA	140.84	28.2	19	37	5					
MERIDA	144.31	52.5	19	38	0					
BUENOS AIRES	145.53	182.1	19	46	6					
BERMUDA	147.50	7.5	19	49	5				23	14 PP
SAN SALVADOR	148.00	63.7	19	49	4					
SANTIAGO MA.	148.73	63.5	19	54	8					
HUANCAYO	160.58	128.7	20	8A	6				24	31 PP
SAN JUAN	160.77	18.1	20	5	3				24	18 PP
LA PAZ	161.71	154.2	20	6	3	27	11	5	24	36 PP
CHINCHINA	163.59	72.3	20	9	4				24	27 PP
BOGOTA	165.17	71.9	20	9	3				35	18 PSKS
FUQUENE	165.21	68.3	20	12	6					
CARACAS	167.48	33.5	20	45A	37				25	46 PP
TRINIDAD	169.34	7.8	20	10	1					

OCTOBER 15 7.H 40.M 36.S EPICENTRE 44.70 148.68 DEPTH= 81.KM

A=-0.60928 B= 0.37071 C= 0.70097 D= 0.5198 E= 0.8543
G=-0.5988 H= 0.3644 K=-0.7132 HT= -3.4

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DEPTH OF FOCUS= 0.008R

SE= 2.80

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
REIDOVOE	0.74	321.3	0	18	0							
KURILSK	0.78	313.0	0	18	0	0	34	2				
GORNY	0.82	286.1	0	19	0	0	34	2				
LESOZAVODSK	1.07	274.4	0	21	0	0	38	1				
SHIKOTAN	1.57	238.9	0	26	-2	0	45	-3				
KOSMODEMANSK	2.10	254.4	0	35	1	1	1	1				
NEMURO	2.62	239.7	0	39K	-3	1	10	-3				
ABASHIRI	3.23	259.4	0	51	1	1	32	4				
KUSIRO	3.54	242.5	0	53K	-1	1	33	-3				
OBIHIRO	4.35	247.8	1	6	0	1	57	1				
HIROO	4.59	240.1	1	8K	-1	2	0	-2				
Y.-SAKHLINSK	4.77	301.2	1	13	2	2	12	6				
URAKAWA	5.00	241.4	1	15	0	2	0	-12				
SAPPORO	5.54	255.5	1	24A	2	2	26	1				
TOMAKOMAI	5.55	250.6	1	25	3	2	26	1				
MURORAN	6.08	249.7	1	30	1	2	37	-2				
MORI	6.45	249.1	1	34	-1	2	46	-2				
HAKODATE	6.46	246.2	1	32	-3	2	46	-2				
HATINOHE	6.72	234.2	1	53	15	2	46	-8				
AOMORI	6.99	239.1	1	49	7	2	55	-6				
MIYAKO	7.09	227.0	1	49	6							
MORIOKA	7.48	230.7	1	46	-3	3	3	-10				
MIZUSAWA	7.91	227.9	2	1	6	3	13	-11				
AKITA	8.08	235.0				3	18	8				
ISINOMAKI	8.34	223.9	2	5	4	3	23	-11				
SENDAI	8.68	224.9	2	14	9	3	31	-11				
YAMAGATA	8.97	227.0	2	1	-8	3	40	-10				
HUKUSIMA	9.29	224.5	2	22	8	3	47	-10				
ONAHAMA	9.73	219.9									3	55
SHIRAKAWA	9.91	223.1									3	40
MITO	10.39	219.7				4	11	-12				
UTUNOMIYA	10.53	222.4				4	39	12			4	7
KAKIOKA	10.65	220.3	2	32	0	4	14	-16				
TUKUBASAN	10.69	220.6	2	26A	-6	4	16	-15			3	4
MAEBASI	11.05	224.7				4	31	-7				
KUMAGAYA	11.09	222.9	?	38	0	4	31	-10				
TOKYO C.M.O.	11.30	220.2				4	32	-13				
OIWAKE	11.36	226.1	2	55	14							
TITIBU	11.37	223.3				4	35	-11				
MATUSIRO	11.38	227.9	2	37K	-5	4	40	-8				
YOKOHAMA	11.55	219.8				4	40	-11				
KOHU	11.87	224.1				4	51	-8			4	20
AJIRO	12.12	220.6				4	48	-18				
MISIMA	12.13	221.3									4	32
VLADIVOSTOK	12.21	268.5				5	23	16				
NAGOYA	13.08	227.3	2	51	-13							
YAKUTSK	20.57	334.1	4	33	-2						9	18 SSS
TIKSI	28.65	347.0	5	48	-3							
COLLEGE	39.67	36.8	7	26	0							
SHILLONG	49.20	266.9	8	43A	1							
ALMATA	50.06	295.2	8	50	1							
CHITTAGONG	51.24	263.7	9	0	2							
CHATRA	51.78	271.6	9	3	1							
NORD	53.71	357.4	9	13K	-3							
RESOLUTE	53.75	17.2	9	15A	-1							
STALINABAD	57.78	294.2	9	46	1							
LAHORE	58.05	284.3	9	47	0							
WARSAK DAM	58.53	288.3	9	52	1							
CORVALLIS	59.47	56.0	9	58	1							
SODANKYLA	60.01	337.7	9	58	-3							
KIRUNA	61.25	340.1	10	7	-2							
SHASTA	62.26	59.2	10	17	1							
HUNGRY HORSE	62.49	48.2	10	16	-2						10	39
MINERAL	62.95	59.1	10	19A	-2							
QUETTA	63.93	287.5	10	27	0							
PULKOVO	64.33	330.4	10	29	-1							
MOSCOW	64.34	324.1	10	28	-2							
CHARTERS TS.	64.51	182.5	10	47	16							
RENO	64.54	58.9	10	52	21							
NURMIJARVI	65.69	333.3	10	37	-1				10	58		
HELSINKI	65.85	332.9	10	38	-1						11	8 PCP
SKALSTUGAN	66.68	340.4	10	44	-1							

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EUREKA	66.89	56.9	10 45	-1	11 7	
UPPSALA	68.37	335.8	10 53	-2		
BOULDER CITY	69.84	59.1	11 3	-1		
RAPID CITY	70.97	46.4	11 11	0	11 34	
GORIS	70.97	306.9	11 15	4		
SIDA	71.36	353.8	11 16K	3		
GOTEBORG	71.78	337.2	11 23A	7		
COPENHAGEN	73.38	335.9	11 26A	1		
SIMFEROPOL	73.56	317.7	11 28	2		
SHIRAZ	73.84	295.7	11 29A	1	15 41	
TUCSON	74.80	59.7	11 34	1		
TUCSON TELE.	74.80	59.6	11 34	0	11 56	
RACIBORZ	76.24	329.7	11 43	1	11 52	PCP
COLLMBERG	76.98	333.2	11 46A	0	13 41	
PRUHONICE	77.60	331.7	11 51A	2		
JENA	77.75	333.8	11 51	1		
BRATISLAVA	78.24	329.2	11 53K	0	12 10	PCP
SONNEBERG	78.35	333.8	11 53	0		
BENSBERG	79.05	336.4	11 58	1		
CANBERRA	79.64	179.7	12 22	22	12 41	
ADELAIDE	79.81	188.3	12 3	2	12 19	
STUTTGART	80.37	334.1	12 6	2		
KEW	80.53	340.9	12 6	1		
DOURBES	80.54	337.5	12 8	3		
KSARA	80.90	309.0	11 53	-14		
LJUBLJANA	80.97	329.6	12 8A	0		
STRASBOURG	81.00	334.9	12 9	1		
BASLE	81.99	334.5	12 9	-4		
OTTAWA	82.04	29.9	12 12K	-1		
PARIS	82.29	338.2	12 16	2		
BREBEUF	82.69	28.5	12 16K	0		
FOLINIERE	83.08	340.0	12 19	1		
HUANCAYO	130.33	63.1	19 5	3		
BYRD STATION	133.96	166.0	19 8	0	22 32	PKS

OCTOBER 16 1.H 15.M 15.S EPICENTRE -30.62 -69.05 DEPTH= 135.KM

A= 0.30825 B=-0.80506 C=-0.50682 D=-0.9339 E=-0.3576
G=-0.1812 H= 0.4733 K=-0.8621 HT= 1.6

DEPTH OF FOCUS= 0.016R

SE= 2.29

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
LA PAZ	14.08	3.6	3 15	1				
HUANCAYO	19.38	341.2			8 57	73	4 56	
ARGENTINE I.	34.78	176.5	6 39	0				
CARACAS	40.93	3.2	7 56	25	14 45	73		
SAN JUAN	48.80	3.7	8 29	-4			8 56	
HALLEY BAY	49.42	167.1	8 36	-2				
BYRD STATION	53.50	189.6	9 8	-1			9 36	10 12 PCP
TACUBAYA	57.57	325.8	9 42	4				11 52 PP
SOUTH POLE	59.55	180.0	9 50	-1			10 18	10 36 *SP
SCOTT BASE	66.88	191.0	10 39A	-1				
CAPE HALLETT	69.64	196.3	11 6A	9				16 9
LAWRENCE	73.41	339.0	11 17	-2				
TUCSON	74.00	324.0	11 23	1			11 52	
TUCSON TELE.	74.02	324.2	11 23	0			11 52	12 55
BREBEUF	75.87	356.7	11 33	0			12 0	
SHAWINIGAN	76.88	357.4	11 38	-1			12 6	
SEVEN FALLS	77.40	358.8	11 41	-1			12 10	
BOULDER CITY	78.98	323.7	11 50	0			12 21	
PASADENA	79.36	320.4	11 53	1			12 23	
TERRE ADELIE	80.14	191.7	11 58	2				
DUMONT	80.51	191.3	11 58	0				
RAPID CITY	80.63	335.8	11 59	0			12 29	
FRESNO	82.19	321.1	12 7	0				
EUREKA	82.26	325.2	12 8	1			12 38	
LEOPOLDVILLE	82.89	90.9	12 11K	0			12 40	12 51 *SP
PRETORIA	83.04	115.7	11 2	-69				
LICK	83.61	320.4	12 15K	1				
RENO	84.24	323.0	12 18K	1				
BOZEMAN	84.96	331.9	12 22	1				
MINERAL	85.77	322.5	12 25A	0				

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BUTTE	85.87	331.2	12 25	-1			12 57	
BULAWAYO	86.24	111.1	12 28	1				
SHASTA	86.44	322.3	12 27K	-1				
WELLINGTON	87.34	222.6	11 27	-66				
TONGARIRO	88.20	224.6	12 31	-6				
HUNGRY HORSE	88.33	331.9	12 37	0				
KARAPIRO	88.99	225.6	12 41	1				
TAMANRASSET	89.05	62.8	12 40K	-1	13 9		16 9	PP
BROKEN HILL	89.06	106.1	11 53	-48			13 20	
ELISABTHVLLE	89.67	103.3	12 47	3	13 24		13 37	*SP
CORVALLIS	89.69	324.5	12 44K	0				
RESOLUTE	106.40	353.1					28 9	*SPS
SHIRAZ	129.96	75.4	18 55K	1			22 18	PKS
QUETTA	142.23	79.1	19 18	2				
WARSAK DAM	146.67	73.7	19 26	2				
LAHORE	148.71	78.7	19 31	4				

OCTOBER 16 16.H 15.M 16.S EPICENTRE 1.11 123.71 DEPTH= 0.KM
A=-0.55483 B= 0.83174 C= 0.01919 D= 0.8319 E= 0.5549
G=-0.0107 H= 0.0160 K=-0.9998 HT= 7.2

SE= 2.98

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S		SUPP. M S	
MANILA	13.72	349.2	3 28	10	5 46	-6				
BAGUIO CITY	15.52	348.7	3 48	6						
LEMBANG	17.89	243.6	4 10	-2						
CANTON	24.06	336.0	5 17A	-1						
MEDAN	25.12	276.0	5 33	5	10 3	12				
PORT MORESBY	25.58	114.6	5 32	0	10 3	5			5 17	PP
RABAUL	28.93	100.7	6 3	0						
CHARTERS TS.	30.54	134.8	6 17	0						
KUNMING	31.30	321.4	6 27	3						
SIAN	35.75	338.8	7 4	2						
CHITTAGONG	37.52	306.6	7 22	5	13 35	28			9 2	PP
MATUSIRO	37.73	19.2	7 17	-2					13 15	
ADELAIDE	38.54	160.0	7 26A	0					9 2	
SHILLONG	39.16	311.0	7 34K	3						
PEKING	39.34	350.9	7 32	-1						
LANCHOW	39.36	334.2	7 35A	2						
BRISBANE	39.81	137.6	7 40	4					9 25	
CANBERRA	43.27	149.4	8 6A	1					9 56	PP
RIVERVIEW	43.28	146.0	8 6	1						
CHATRA	43.41	309.3	8 8	2						
MELBOURNE	43.44	155.3	8 8	2					10 0	PP
ULAN-BATOR	48.85	345.0	8 44	-5						
AGRA	50.86	304.7			16 24	3				
LAHORE	55.54	308.2	9 38	-1	17 24	0				
WARSAK DAM	58.65	309.8	10 2	1						
YAKUTSK	60.93	3.2	10 16	-1						
QUETTA	61.04	304.1	10 17	-1					12 42	PP
KARAPIRO	61.52	135.0	10 21	0					11 19	
DUMONT	68.62	173.1	11 4	-3						
TERRE ADELIE	68.93	172.6	11 4	-5						
TIKSI	70.49	1.7	11 14	-4						
SHIRAZ	73.13	300.6	11 33	-1					13 32	
SVERDLOVSK	74.64	329.5	11 41	-2						
CAPE HALLETT	78.93	166.9	12 8K	1						
TIFLIS	80.98	311.9	12 18	0						
SCOTT BASE	82.18	171.6	12 24	0						
MOSCOW	86.87	325.6	12 49	1						
COLLEGE	88.35	25.3	12 58	3						
SOUTH POLE	91.10	180.0	13 7	-1					13 58	
SODANKYLA	91.72	337.4	13 8	-2						
BULAWAYO	95.16	250.0	13 26	0						
BROKEN HILL	95.35	255.7	13 28	1						
BYRD STATION	95.59	171.0	13 30	2						
RESOLUTE	100.91	9.7			24 30	-1			18 4	PP
STUTTGART	105.02	321.4	14 53	777						
EUREKA	112.24	46.2	18 39	2						
TAMANRASSET	115.37	295.8	18 27	-17					19 47	PP
PALISADES	135.12	18.9							22 50	PKS
BERMUDA	145.76	12.7	19 44	4						
HUANCAYO	158.21	120.7	20 4	5						

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OCTOBER 17 8.H 34.M 60.S EPICENTRE -57.33-160.95 DEPTH= 0.KM

A=-0.51267 B=-0.17700 C=-0.84014 D=-0.3264 E= 0.9452
G= 0.7941 H= 0.2742 K=-0.5424 HT= -8.0

SE= 2.31

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
CAPE HALLETT	19.06	206.8	4	26K	0	8	8	12			4	32	PP
GEBBIES PASS	21.45	298.1	4	55	4								
SCOTT BASE	23.34	196.6	5	11K	1	9	28	8					
COBB RIVER	23.44	302.6	5	14	3								
TONGARIRO	23.76	309.7	5	14	0								
KARAPIRO	24.83	311.3	5	20	-5								
BYRD STATION	26.08	164.8	5	35	-1						6	1	PP
TERRE ADELIE	27.58	226.3	5	55	5								
DUMONT	28.14	226.4	5	55	0								
SOUTH POLE	32.85	180.0	6	36	-1						9	19	PCP
WILKES	39.26	219.6				13	40	7					
RIVERVIEW	39.80	285.2	7	37	1						12	47	
MELBOURNE	40.09	275.3	7	34A	-4								
ARGENTINE I.	42.65	141.9	7	58	-1								
BRISBANE	44.12	292.7	8	10K	-1						8	36	
HALLEY BAY	44.13	165.0	8	9	-2								
ADELAIDE	45.59	272.6	8	24A	1								
CHARTERS TS.	53.48	291.3	9	23A	-1						10	28	
PORT STANLEY	54.46	131.8	9	31	0								
PORT MORESBY	62.19	298.6	10	25K	0								
HUANCAYO	77.60	92.9	12	1	2								
LA PAZ	77.79	101.4	12	3K	3								
LWIRO	120.09	191.3									18	10	
COLLEGE	122.29	6.6	18	55	-2								
QUETTA	137.31	251.4	19	26	1								
RESOLUTE	138.71	21.6									41	32	SS
THULE	145.31	24.5	19	38	-1								
KSARA	153.85	213.2	20	2	9								
STUTTGART	169.61	141.5									21	21	PKP2

OCTOBER 18 17.H 6.M 19.S EPICENTRE 50.97 157.02 DEPTH= 0.KM

A=-0.58218 B= 0.24686 C= 0.77468 D= 0.3904 E= 0.9207
G=-0.7132 H= 0.3024 K=-0.6324 HT= -5.8

SE= 3.06

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SEVERO-KUR.	0.66	243.5	0	47	31	1	5	38					
PETROPAVLOVK	2.29	25.4	0	49	9	1	11	2			4	23	
KLYUCHI	5.83	21.6	1	35	5	2	37	-1					
MAGADAN	9.30	340.0	2	26	8	4	11	6					
UGLEGORSK	9.81	264.7	2	46	21						4	49	
Y.-SAKHLINSK	10.19	252.8	2	51	20								
YAKUTSK	18.54	317.1	4	22	2								
MATUSIRO	19.73	230.3	4	47K	13								
TIKSI	24.29	338.7	5	19	-1						19	59	SS
COLLEGE	31.27	42.5	6	22	-2						7	6	PCP
RESOLUTE	46.00	20.6	8	25K	-2						10	2	PCP
NORD	47.64	358.7	8	37A	-3								
THULE	49.63	12.7	8	51	-4								
HUNGRY HORSE	54.21	55.3	9	29	-1								
SHASTA	54.42	67.3	9	33K	2								
APATITY	54.49	336.9	9	28	-4								
SHILLONG	55.07	268.4	9	39K	3								
MINERAL	55.11	67.1	9	32	-4								
SODANKYLA	56.24	339.2	9	39	-5								
RENO	56.68	66.8	9	48	1								
LICK	57.06	69.9	9	48K	-2								
KIRUNA	57.16	341.9	9	58	7								
CHITTAGONG	57.42	265.8	10	0A	7	18	8	19			12	11	PP
EUREKA	58.93	64.5	10	4	1						10	31	PCP
PASADENA	61.29	70.3	10	17	-2								

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WARSAK DAM	61.79	290.0	10 24	1			
BOULDER CITY	61.99	66.7	10 26	2		10 52	PCP
MOSCOW	62.40	326.2	10 32	5			
NURMIJARVI	62.46	335.6	10 25	-2		11 5	PCP
SKALSTUGAN	62.49	343.1	10 25	-3			
RAPID CITY	62.64	53.1	10 28	0		10 56	PCP
HELSINKI	62.67	335.3	10 26	-3		11 6	PCP
UPPSALA	64.76	338.7	10 40	-2		11 14	PCP
TUCSON TELE.	66.96	66.8	10 58	1		11 27	
TUCSON	66.96	66.9	10 58	1			
QUETTA	67.24	290.1	11 0	2			
GOTEBORG	67.96	340.6	11 0A	-3			
COLLMBERG	73.64	337.4	11 36A	-1		11 52	
OTTAWA	73.74	35.7	11 35A	-3			
JENA	74.32	338.1	11 39	-2			
BREBEUF	74.42	34.4	11 40K	-2			
PRUHONICE	74.46	335.9	11 42A	0			
RATHFARNHAM	75.16	349.7	11 46A	0			
SHIRAZ	75.91	299.7	11 52K	2	21 19 -14		
KEW	76.15	345.6	11 50K	-2			
DOURBES	76.60	342.2	11 51	-3			
STUTTGART	76.87	338.7	11 55	-1			
STRASBOURG	77.39	339.6	11 58	0		12 27	
LJUBLJANA	78.08	334.3	12 2A	0			
PARIS	78.24	343.1	12 3K	0			
BASLE	78.42	339.4	12 4	0			
FOLINIERE	78.79	345.0	12 5	-1			
NEUCHATEL	79.07	339.6	12 7	-1			
KSARA	80.97	313.8	12 19	1			
CLERMONT-FD.	81.04	341.8	12 19	1			
MONACO	82.05	338.3	12 23	0			
ATHENS	82.42	324.5	12 24A	-1			
JERUSALEM	82.98	313.2	12 29	1			
TAMANRASSET	102.40	333.2	13 58	-1			
ELISABTHVLLE	123.36	295.3	19 4	5			
BROKEN HILL	125.02	292.3	19 7	5			
BYRD STATION	138.61	164.8	19 30	2		20 4	
SOUTH POLE	140.78	180.0	19 28	-4		20 0	

OCTOBER 18 23.H 25.M 14.S EPICENTRE -5.55 104.86 DEPTH= 101.KM
A=-0.25519 B= 0.96211 C=-0.09600 D= 0.9666 E= 0.2564
G= 0.0246 H=-0.0928 K=-0.9954 HT= 7.0

DEPTH OF FOCUS= 0.011R

SE= 3.32

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
DJAKARTA	2.06	107.9	0 36	2	1 2	3		
LEMBANG	3.03	115.0	0 45K	-2				
HONG KONG	29.14	17.9	5 50	-3	10 47	11		
SHILLONG	33.40	338.4	6 30K	-1				
CHATRA	36.46	332.8	6 55	-2				
PORT MORESBY	42.09	97.8	7 44	1				7 55
CHARTERS TS.	42.73	113.6	7 49	1				9 40
ADELAIDE	42.81	137.7	7 48	-1				8 18
CANBERRA	50.26	132.2	8 48A	0				9 14
WARSAK DAM	50.38	323.7	8 49A	0				
QUETTA	50.80	316.6	8 51A	-1				
MATUSIRO	52.22	34.1	9 3	0				
DUMONT	65.66	165.4	10 50	15				
TERRE ADELIE	66.13	165.1	10 50	12				
YAKUTSK	70.04	12.2	11 14	11				
BULAWAYO	75.21	250.7	11 32	-1				
BROKEN HILL	75.48	256.6	11 35	1				
JERUSALEM	75.84	304.6	11 37	1				11 59
KSARA	75.87	306.7	11 38	1				
ELISABTHVLLE	76.57	259.4	11 40	-1				
MOSCOW	82.02	328.2	12 10	0				
SOUTH POLE	84.49	180.0	12 20	-2				
PULKOVO	87.05	330.8	12 36	1				
APATITY	88.10	338.6	12 41	1				
HELSINKI	89.76	330.5	12 49	1				
NURMIJARVI	89.97	330.8	12 50	1				13 5
SODANKYLA	90.57	337.7	12 51	-1				

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BYRD STATION	91.70	173.0	12 57	0			13 34				
KIRUNA	92.99	337.8	13 4K	1							
UPPSALA	93.36	329.7	13 5	1							
LJUBLJANA	94.18	315.7	12 10	-58					12 31		
RAPID CITY	134.40	28.3							22 58	PKS	
TUCSON	137.40	46.9							23 9	PKS	
TUCSON TELE.	137.43	46.7							22 54	PKS	
PALISADES	144.67	358.4	19 26	1			19 46				
FAYETTEVILLE	144.93	27.4	19 26A	1			19 46				
MORGANTOWN	145.79	6.6									
CHAPEL HILL	149.56	6.3	19 41	8							
COLUMBIA	151.17	10.2	19 46	11							
HUANCAYO	162.52	179.4	19 5?	6							

OCTOBER 19 2.H 46.M 58.S EPICENTRE 44.18 147.88 DEPTH= 74.KM

A=-0.60937 B= 0.38260 C= 0.69447 D= 0.5317 E= 0.8469
G=-0.5882 H= 0.3693 K=-0.7195 HT= -3.2

DEPTH OF FOCUS= 0.007R

SE= 3.13

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KURILSK	1.05	359.7	0 23	3	0 38	3		
NEMURO	1.87	243.8	0 28K	-3	0 46	-8		
ABASHIRI	2.60	267.8	0 42K	1	1 14	2		
KUSIRO	2.80	245.8	0 42K	-2	1 13	-4		
OBIHIRO	3.63	251.3	0 55	0	1 26	-11		
HIROO	3.83	241.9	0 57K	-1	1 38	-5		
ASAHIGAWA	3.99	266.2	1 2	2				
URAKAWA	4.24	243.2	1 3	-1	1 52	-1		
Y.-SAKHLINSK	4.60	309.9	1 10	1	2 2	0		
TOMAKOMAI	4.84	253.5	1 17	5	2 5	-3		
SAPPORO	4.87	259.1	1 12K	-1	2 6	-2		1 43
MURORAN	5.37	252.1	1 19	0	2 16	-5		
HAKODATE	5.73	248.1	1 22K	-2	2 23	-7		
SUTTSU	5.73	258.7	1 22	-2	2 33	3		
MORI	5.74	251.3	1 25	0	2 26	-4		
HATINOHE	5.95	234.4	1 23	-4	2 23	-12		
AOMORI	6.23	239.8	1 23	-8	2 31	-11		
MIYAKO	6.31	226.3	1 28	-5	2 30	-14		
UGLEGORSK	6.33	322.9	1 36	3	2 52	8		3 22
MORIOKA	6.71	230.5	1 34	-4	2 40	-14		
MIZUSAWA	7.14	227.3	1 54	10	2 53	-11		
AKITA	7.31	235.1	1 52	6	2 58	-11		
ISINOMAKI	7.57	222.9	1 56	6	3 1	-14		
SENDAI	7.90	224.1	1 59	5	3 10	-13		
SAKATA	8.01	231.6			3 15	-11		
YAMAGATA	8.20	226.3	1 46	-13	3 17	-13		
HUKUSIMA	8.52	223.6	2 7	4	3 24	-14		
ONAHAMA	8.96	218.7			3 49	0		3 23
NIIGATA	9.14	229.8			3 43	-11		
SHIRAKAWA	9.14	222.1	2 22	11	3 38	-16		
AIKAWA	9.52	233.0	2 12	-4	3 50	-13		
MITO	9.62	218.5	3 48	90				
UTUNOMIYA	9.76	221.4	2 25	5	3 55	-14		3 5
KAKIOKA	9.88	219.1	2 15	-6	3 55	-17		
TUKUBASAN	9.92	219.4	2 15A	-7				3 50
TAKADA	10.17	229.2						3 42
MAEBASI	10.27	223.9	2 47	20	4 9	-12		3 39
KUMAGAYA	10.32	221.9	2 31	4	4 9	-13		
NAGANO	10.51	227.8	2 39	9				
TOKYO C.M.O.	10.53	219.0			4 13	-14		
OIWAKE	10.59	225.4	2 48	17				
MATUSIRO	10.61	227.3	2 27	-4	4 18	-11		
YOKOHAMA	10.78	218.7			4 21	-12		
MATUMOTO	10.95	227.1			4 27	-10		
KOHU	11.10	223.2	2 53	15	4 33	-8		
MISIMA	11.36	220.2						4 21
VLADIVOSTOK	11.63	270.3	2 43	-2				4 49
HUKUI	12.05	231.6			4 35	-29		
GIHU	12.23	228.0	2 58	5	4 36	-32		4 59
NAGOYA	12.30	226.7			5 6	-4		
KLYUCHI	14.69	29.6	3 22	-3				

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MAGADAN	15.50	5.6	3	37	2					
CHANGCHUN	16.24	276.7	3	42	-3					
YAKUTSK	20.80	335.5	4	35	-2	8	19	-1		
PEKING	23.80	271.0	5	8	1	9	16	2		
ZO-SE	24.72	247.2	5	19	3					
NANKING	25.75	251.9	5	28	3					
ULAN-BATOR	28.44	292.2	5	50	0					
TIKSI	29.03	347.7	5	51	-4					
WUHAN	29.56	253.9	6	59	59					
IRKUTSK	29.74	301.4	6	1	0					
LANCHOW	34.31	271.7	6	42A	1	12	1	-1		
COLLEGE	40.43	36.4	7	34	1					
KUNMING	41.12	257.7	7	38	0	13	44	-2		
RABAUL	48.31	174.3	8	33	-3					
SHILLONG	48.59	266.8	8	37A	-1					
ALMATA	49.76	295.3	8	48	1					
CHITTAGONG	50.61	263.6	8	51	-2	16	3	2		
CHATRA	51.22	271.4	8	59	1					
FRUNSE	51.47	295.8	9	1	1	16	12	-1		
SVERDLOVSK	53.19	316.7	9	10	-3					
NORD	54.20	357.2	9	18K	-2					
RESOLUTE	54.41	16.9	9	20A	-2	17	12	19	11	35 PP
STALINABAD	57.47	294.1	9	43	-1					
THULE	57.48	9.5	9	41	-3					
LAHORE	57.62	284.2	9	43	-2					
WARSAK DAM	58.14	288.1	9	48A	0					
APATITY	58.21	335.7	9	47	-2					
CORVALLIS	60.24	55.4	10	3A	0					
SODANKYLA	60.27	337.6	9	56	-7					
KIRUNA	61.55	340.0	10	11	-1					
SHASTA	63.02	58.6	10	22A	0					
HUNGRY HORSE	63.27	47.7	10	23	0					
QUETTA	63.54	287.2	10	25A	0	18	53	2	12	46 PP
MINERAL	63.71	58.5	10	26A	0					
CHARTERS TS.	63.97	181.7	10	25K	-3					
MOSCOW	64.42	324.0	10	29	-2				10	56
PULKOVO	64.50	330.2	10	30	-1					
ASHKABAD	64.53	298.9	10	28	-3					
BERKELEY	64.79	61.0	10	33A	0					
RENO	65.30	58.3	10	36A	0					
BUTTE	65.49	49.0	10	38	0					
LICK	65.51	61.1	10	38A	0					
NURMIJARVI	65.89	333.0	10	39	-1					12 57 PP
POONA	65.97	272.9	10	29	-12					
HELSINKI	66.05	332.7	10	40	-1				11	9 PCP
BOZEMAN	66.53	48.6	10	44	0					
SKALSTUGAN	66.97	340.1	10	46	-1					
FRESNO	67.01	60.6	10	26	-21					
EUREKA	67.66	56.3	10	51	0				11	14
UPPSALA	68.60	335.6	10	56A	-1					
SALT LAKE C.	69.25	53.1	11	1	0					
PASADENA	69.70	61.9	11	3	-1					
BOULDER CITY	70.60	58.5	11	10	1					
GORIS	70.82	306.6	11	8	-3					
GOTEBORG	72.03	336.9	11	19A	1					
SHIRAZ	73.54	295.3	11	27A	0	20	57	8		
SIMFEROPOL	73.55	317.3	11	27A	0					
TUCSON	75.56	59.1	11	39	1					
TUCSON TELE.	75.56	59.0	11	39	1					
COLLMBERG	77.18	332.9	11	48A	1				14	31
PRAGUE	77.75	331.4	11	53	2					
PRUHONICE	77.78	331.3	11	52A	1				14	42 PP
WITTEVEEN	77.78	337.1	11	52	1					
JENA	77.96	333.4	11	52	0				12	49
BRATISLAVA	78.39	328.8	11	57	3				12	31
SONNEBERG	78.56	333.4	11	55	0					
CANBERRA	79.13	179.1	11	58	0					
BENSBERG	79.29	335.9	12	0	1					
UCCLE	80.24	337.5	12	6	2					
RATHFARNHAM	80.40	344.6	12	11K	6					
STUTTGART	80.58	333.7	12	7A	1					
KSARA	80.77	308.6	12	9	2					
DOURBES	80.80	337.0	12	7	0					
KEW	80.83	340.5	12	8A	1					
TUBINGEN	80.86	333.7	12	8	1					
LJUBLJANA	81.12	329.2	12	9A	0				12	42
EBINGEN	81.20	333.6	12	10	1					
STRASBOURG	81.22	334.5	12	10	1					
RAVENSBURG	81.34	333.0	12	11	1					

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CHUR	82.18	332.6	12	15K	1					
BASLE	82.21	334.1	12	16	2					
PARIS	82.55	337.7	12	18	2					
JERUSALEM	82.65	307.6	12	18	1					
SHAWINIGAN	82.77	26.9	12	18A	1					
OTTAWA	82.78	29.3	12	17A	0					
NEUCHATEL	82.88	334.2	12	18	0					
SEVEN FALLS	82.89	25.5	12	18	0					
BREBEUF	83.42	28.0	12	21K	0					
CLERMONT-FD.	85.14	336.1	12	55	26					
MORGANTOWN	86.09	35.0	12	35A	1					
PALISADES	87.25	30.3	12	39	0					
TAMANRASSET	104.98	324.3	14	1	1				18	17
ELISABTHVLLE	119.74	283.3	18	45	3					
BULAWAYO	124.63	275.1	18	52	1					
HUANCAYO	131.08	62.7	19	7K	3					
BYRD STATION	133.59	166.1	19	6	-2				19	35
SOUTH POLE	133.99	180.0	19	9	0					
HALLEY BAY	148.47	182.7	19	37	2					

OCTOBER 19 8.H 27.M 22.5 EPICENTRE -27.98-176.84 DEPTH= 0.KM

A=-0.88304 B=-0.04873 C=-0.46677 D=-0.0551 E= 0.9985
G= 0.4661 H= 0.0257 K=-0.8844 HT= 2.5

SE= 3.21

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
RAOUL ISLAND	1.58	216.7	0	32	3	0	48	-3					
SUVA	10.71	335.1	2	40	2								
KARAPIRO	11.80	210.9	2	48	-5								
TUAI	11.89	203.4				4	56	-12					
TONGARIRO	12.86	207.6	3	16	9						5	21	
APIA	14.88	19.5	3	28	-5	6	0	-20			4	24	
WELLINGTON	14.94	205.2	3	37	3	6	3	-18					
COBB RIVER	15.62	210.5	3	56	13	6	18	-19					
KAIMATA	17.36	210.3	4	6	1	7	3	-15					
GEBBIES PASS	17.82	205.6	4	5	-6	7	8	-20					
BRISBANE	26.88	264.1	5	43	-1	10	17	-3					
RIVERVIEW	28.00	250.0	5	54A	-1	10	26	-12					
CANBERRA	29.88	247.2	6	12A	1						7	16	PP
MELBOURNE	33.33	243.0	6	42K	0						7	59	PP
CHARTERS TS.	34.50	274.9	6	52K	0	12	18	-2					
RABAUL	37.81	303.1	7	24	4								
ADELAIDE	38.40	248.2	7	24K	-1	13	24	4			9	0	PP
PORT MORESBY	38.59	291.5	7	27K	1	13	18	-5			9	10	PPP
CAPE HALLETT	44.93	185.6	8	18K	0	14	54	-3	8	34	13	45	SCP
TERRE ADELIE	46.39	201.4	8	29	-1	15	29	11					
DUMONT	46.75	202.0	8	29	-4	15	29	6			10	26	PP
SCOTT BASE	50.51	184.4	9	2	0	16	25	9			18	51	SCS
HONOLULU	52.24	22.3	8	56	-19	16	44	5			9	19	
KIPAPA	52.37	22.3	9	15	-1								
BYRD STATION	57.12	169.9	10	2	11	17	59	14					
PERTH	57.62	248.3	9	53	-1	17	58	6					
WILKES	57.75	207.1	9	51	-4	17	51	-2			19	43	SCS
HALLEY BAY	75.02	172.6	11	41	-4								
TUKUBASAN	75.64	325.3	11	49	0	21	44	14			26	22	SS
MATUSIRO	76.86	324.2	11	54	-1	22	7	24			22	33	
SAN FRANCSCO	82.91	40.5				22	53	6					
PASADENA	83.08	45.5	12	28	-1	24	2	74			22	50	SKS
LICK	83.09	41.2	12	29K	0								
BERKELEY	83.09	40.5	12	29K	0	22	54	6					
Y.-SAKHLINSK	83.10	333.4	12	27	-2	22	51	3					
HONG KONG	83.25	299.5	12	26	-4	22	0	-50					
ZO-SE	83.31	310.3	12	30K	0								
UKIAH	83.42	39.1	12	34	3								
PETROPAVLOVK	83.44	345.4	12	36	5	23	4	12					
FRESNO	83.79	42.7	12	32	0								
CANTON	84.32	299.7	12	35	0								
PORT STANLEY	84.33	146.8	12	34	-1								
SHASTA	84.97	38.4	12	38	0								
MINERAL	85.16	39.1	12	38A	-1								
NANKING	85.52	309.8	12	41A	0	23	22	10			23	5	SKS
RENO	85.63	40.6	12	41	-1								
BOULDER CITY	86.35	45.9	12	44	-1								

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	TUCSON	86.74	50.8	12	47	0				
	TUCSON TELE.	86.87	50.8	12	48	0				
	CORVALLIS	87.19	35.1	12	56	7				
	WUHAN	87.56	306.5	12	51A	0				
	EUREKA	87.85	42.6	12	51	-1			31	35 PKKP
	CHANGCHUN	88.94	322.2	12	58A	0	23	54 9	23	27 SKS
	SALT LAKE C.	91.13	43.5	13	6	-2				
	MAGADAN	91.21	344.2				24	6 1		
	PEKING	91.92	315.0	13	11A	-1	24	22 10	23	43 SKS
	KUNMING	93.65	296.4	13	20	1	24	57 30	23	53 SKS
	BUTTE	93.86	39.0	13	19	-1				
	HUANCAYO	94.35	106.0	13	27	4	24	4 -29		
	HUNGRY HORSE	94.48	36.5	13	26	3				
	COLLEGE	95.27	12.0	13	24	-3	24	51 48	17	0 PP
	CHENGTU	95.36	301.8	13	28A	1	24	3 0	24	54 S
	LA PAZ	98.07	113.4	13	49	9	24	16 -1	26	31 PS
	LANCHOW	98.09	306.4	13	41	1	25	13 56		
	RAPID CITY	98.28	44.3	13	46	5			30	40 PKKP
	YAKUTSK	99.39	337.4						16	52
	CHINCHINA	102.22	90.8				24	38 0	27	18 PS
	BOGOTA	103.43	91.9				24	43 0	27	35 PS
	FUQUENE	104.12	91.3	18	3	236			27	25 PS
	ST. LOUIS 1	104.44	53.8				24	45 -3	26	3 S
	TIKSI	106.20	344.4						18	36 PP
	KODAIKANAL	108.53	271.9						28	30
	CARACAS	112.38	89.8	18	20	-18	24	24 -58		
	RESOLUTE	114.65	16.8	18	40	-2	27	32 121	28	56 PS
	BOMBAY	116.19	278.4						21	57
	PALISADES	117.06	55.9						29	44 PS
	BERMUDA	122.08	67.6						21	3 PP
	KHEYS	122.95	350.8	18	38	-20				
	QUETTA	124.87	288.8	19	2	0				
	BULAWAYO	126.20	210.0	19	4	-1				
	SVERDLOVSK	130.64	322.4						20	37 PPP
	BROKEN HILL	131.21	213.4	19	16	2				
	ELISABTHVLLE	134.10	214.2	19	22	2			21	50 SKP
	APATITY	136.41	343.7	19	22	-2			22	1 PP
	SHIRAZ	136.98	284.5	19	21	-4			22	56 PKS
	SODANKYLA	138.10	346.7	19	27	0				
	KIRUNA	138.80	350.2	19	26	-2			22	13 PP
	LWIRO	141.12	223.5	19	21	-11				
	ADDIS ABABA	141.53	247.6	19	48	15				
	MOSCOW	142.88	328.0	19	31	-4				
	TIFLIS	143.54	303.2	19	34	-3			23	3 PKS
	SKALSTUGAN	143.91	353.1	19	33	-4				
	NURMIJARVI	144.37	341.9	19	34	-4			22	23 PP
	HELSINKI	144.56	341.3	19	37	-1				
	LEOPOLDVILLE	145.79	201.8	19	41A	0			23	6 PP
	UPPSALA	146.64	346.7	19	41	-1			42	5 SS
	GOTEBORG	149.66	350.6	19	52	5			20	35
	KSARA	151.40	289.9	19	47	-2			23	33 PP
	COPENHAGEN	151.52	348.9	19	48	-2				
	JERUSALEM	152.00	285.6	19	58	8			23	42 PKS
	BANGUI	152.29	214.9	19	59	8			20	40
	WARSAW	152.35	336.0	19	55	4			23	37 PP
	IASI	152.94	321.7	20	2	10			20	49
	LWOW	152.98	329.5	19	50	-2			20	10
	DURHAM	153.01	6.1	19	57A	5				
	POTSDAM	154.53	345.8	19	51	-3			23	50 PP
	RACIBORZ	155.13	336.6	20	20	25				
	COLLMBERG	155.56	345.0	19	55	0			23	55 PP
	HALLE	155.60	346.6	19	55	0			20	23 PKP2
	JENA	156.21	346.7	19	53	-3			23	59 PP
	PRUHONICE	156.37	341.4	19	55	-1			24	0 PP
	BENSBERG	156.85	353.5	20	28	31				
	MBOUR	156.91	121.8	19	58	1			23	42 PP
	BRATISLAVA	157.12	335.5	19	55	-2			20	30 PKP2
	DOURBES	157.89	357.5	20	1	3			20	38 PKP2
	SOFIA	158.03	317.2	20	33	34			24	12 PP
	BELGRADE	158.26	325.2	20	15A	16			24	17 PP
	STUTTGART	158.71	348.8	19	58	-1			24	8 PP
	FOLINIERE	159.06	6.7						20	36 PKP2
	STRASBOURG	159.13	351.4	19	58	-2			24	18 PP
	LJUBLJANA	159.85	336.5	20	0	-1			20	41
	TRIESTE	160.47	337.3	20	0	-1			20	44 PKP2
	ROME	164.17	333.7	19	40	-25			24	41
	MESSINA	165.47	317.6	20	4	-2	27	7 -2	24	51 PP
	TOLEDO	166.72	24.9	20	9	2			21	11 PKP2

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GRANADA	169.21	30.1	20	26K	17	27	2	-9			25	8 PP
ALMERIA	169.96	26.8	20	9	0						25	14 PP
ALGIERS UNI.	171.24	0.6	20	9	-1						25	13 PP
RELIZANE	171.95	15.3	20	10	0						25	29 PP
TAMANRASSET	174.40	202.9	20	12	1						25	30 PP

OCTOBER 19 13.H 52.M 43.S EPICENTRE -22.03-179.50 DEPTH= 582.KM

A=-0.92782 B=-0.00810 C=-0.37295 D=-0.0087 E= 1.0000
G= 0.3729 H= 0.0033 K=-0.9279 HT= 4.2

DEPTH OF FOCUS= 0.087R

SE= 1.20

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP H	*PP S	SUPP. M	SUPP. S	
SUVA	4.32	332.9	1	28	1						2	40	
RAOUL ISLAND	7.33	169.1	1	53	0	3	23	0					
APIA	11.00	43.2	2	27	-1	4	21	-7					
ONERAHI	14.70	200.0	4	10	65								
KARAPIRO	16.41	194.0	3	24A	2								
TONGARIRO	17.63	192.8	3	33	0	6	31	6					
WELLINGTON	19.79	192.8	3	51	-2	7	7	6					
COBB RIVER	20.09	197.3	3	55	-1								
KAIMATA	21.80	198.3	4	10	-2								
GEBBIES PASS	22.57	195.0	4	17	-2	7	57	11					
BRISBANE	25.71	252.4	4	46K	-1	8	33	-3					
RIVERVIEW	28.37	239.2	5	11	1								
CANBERRA	30.50	237.3	5	29K	1								
CHARTERS TS.	31.97	267.1	5	40K	0	10	10	-3					
RABAUL	32.68	298.8	5	44	-2								
MELBOURNE	34.34	234.7	6	1A	1								
PORT MORESBY	34.38	286.1	6	OK	0								
ADELAIDE	38.65	241.2	6	36	1								
CAPE HALLETT	50.64	184.0	8	9A	1								
TERRE ADELIE	51.13	198.7	8	12	1								
DUMONT	51.45	199.3	8	12	-2								
SCOTT BASE	56.26	183.5	8	49K	1								
MUNDARING	57.41	245.4	8	55	0								
BYRD STATION	63.37	170.3	9	34	0								
SOUTH POLE	68.10	180.0	10	3	-1								
MATUSIRO	70.63	324.9	10	17K	-2								
HONG KONG	78.21	299.9	11	1A	0								
NANKING	79.85	310.6	11	9	0								
BERKELEY	80.25	42.5	11	12A	0								
LICK	80.32	43.2	11	13A	1								
PASADENA	80.75	47.5	11	14	0								
ARCATA	81.02	39.2	11	16	1								
FRESNO	81.16	44.6	11	16	0								
SHASTA	81.90	40.2	11	20A	0								
WUHAN	82.07	307.3	11	21	0								
MINERAL	82.17	40.8	11	22A	1								
CHANGCHUN	82.76	323.2	11	24	0								
RENO	82.78	42.3	11	25A	1								
CORVALLIS	83.80	36.7	11	30A	1								
BOULDER CITY	84.04	47.5	11	30	-1								
TUCSON	84.96	52.4	11	37	2								
TUCSON TELE.	85.08	52.4	11	37	1								
EUREKA	85.19	44.0	11	37	1								
PEKING	86.00	316.1	11	40	0								
KUNMING	88.80	297.6	11	55	2								
COLLEGE	90.00	13.0	11	56	-3								
CHENGTU	90.14	303.1	12	1	2								
HUNGRY HORSE	91.20	37.4	12	3	-1								
BANFF	91.91	34.5	12	6	-2								
RESOLUTE	109.65	16.3	17	23	0								
BULAWAYO	129.89	215.2											
SODANKYLA	131.78	346.8	18	5	-2								
KIRUNA	132.54	349.9	18	8	-1								
SHIRAZ	132.89	290.5	18	10	1								
ELISABTHVLLE	137.33	221.0	18	21	3								
NURMIJARVI	137.99	342.4	18	10	-9								
UPPSALA	140.31	346.5	18	15	-8								
LWIRO	143.30	232.4	18	29K	0								
GOTEBORG	143.40	349.7	18	25K	-4								
JERUSALEM	147.67	294.9	18	40K	5								

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COLLMBERG	149.20	344.6	18	43	5			21	1		
JENA	149.88	346.0	18	44	5			21	1		
PRUHONICE	149.99	341.7	18	45K	6			21	6		
LEOPO_DVILLE	150.05	210.6	18	47K	8						
STUTTGART	152.42	347.4	18	42	-1						
FOLINIERE	153.31	1.4	18	52	8						
TAMANRASSET	175.30	280.1	19	4	1					24	35 PP

OCTOBER 19 15.H 55.M 30.S EPICENTRE -54.46 -27.91 DEPTH= 0.KM

A= 0.51597 B=-0.27330 C=-0.81184 D=-0.4681 E=-0.8837
G=-0.7174 H= 0.3800 K=-0.5839 HT= -7.0

SE= 2.91

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
OHIGGINS	17.69	227.9	4	14	5	7	32	7					
PORT STANLEY	18.14	266.4	4	17	2								
ARGENTINE I.	20.88	224.5	4	47	1	8	46	11					
HALLEY BAY	21.16	179.1	4	46	-3								
BUENOS AIRES	29.12	300.4	6	8	3								
SOUTH POLE	35.72	180.0	7	0	-2								
BYRD STATION	37.20	196.8	7	14	-1						8	11	PP
HERMANUS	38.27	78.1	7	28	4	13	16	-2			16	3	SS
GRAHAMSTOWN	43.29	83.7	8	7	2								
ANTOFAGASTA	44.03	297.0	8	14	3	14	46	2					
KIMBERLEY	45.63	77.7	8	25A	1								
WINDHOEK	46.26	64.8	8	27	-2								
SCOTT BASE	47.64	184.2	8	39	-1	15	36	1			15	50	PS
PIETERMZBURG	48.22	83.5	8	45	1								
LA PAZ	48.94	304.8	8	51K	1	15	55	1			10	39	PP
MIRNY	51.39	153.9	9	6	-3	16	24	-4			16	29	PS
CAPE HALLETT	52.89	186.9	9	21A	1	16	49	1	10	32	11	23	PP
BULAWAYO	54.51	74.3	9	29	-3								
WILKES	55.49	161.0	9	42	3	17	29	6			11	49	PP
HUANCAYO	56.30	300.0	9	46	1	17	45	11					
TERRE ADELIE	58.78	175.1	10	0	-2	18	7	0					
DUMONT	58.85	174.4	10	0	-3	18	7	-1			12	16	PP
BROKEN HILL	59.04	70.2	9	58	-6								
ELISABTHVLLE	60.80	67.5	10	13K	-3	18	30	-3			12	26	PP
LEOPOLDVILLE	60.91	51.3	10	14K	-3	18	30	-4			12	48	
TANANARIVE	66.40	89.7	10	52	-1	19	53	10			21	2	SCS
MBOUR	69.19	11.3	11	7	-3						12	36	PP
LWIRO	69.40	63.2	11	10K	-2						32	17	
BANGUI	70.19	50.3	11	14	-2						19	24	
BOGOTA	70.23	310.2	11	18	1	20	29	1			14	7	PP
TRINIDAD	70.76	324.9	11	22	2								
FUQUENE	70.84	310.9	11	25	5								
CHINCHINA	71.24	308.9	11	19	-4	20	37	-3			14	10	PP
CARACAS	72.59	319.5	11	30	-1	20	56	1					
ST. VINCENT	73.07	326.0	11	28	-6								
ST. KITTS	77.45	326.0	11	57	-2								
SAN JUAN	79.56	323.3	12	6	-4						15	8	PP
TAMANRASSET	82.11	30.9	12	23K	-1	22	42	4			15	40	PP
FORT NELSON	82.90	176.5	12	28	0								
ADDIS ABABA	84.16	65.8	12	37	3	23	13	14					
MELBOURNE	87.88	174.4	12	55K	2	23	36	1			16	16	PP
PERTH	88.44	149.8	12	59	4						16	27	PP
MUNDARING	88.53	150.1	12	58	2	23	20	-21					
ADELAIDE	90.19	169.1	13	4K	0	23	42	-14			16	34	PP
CANBERRA	90.55	177.5	13	6A	1						16	52	PP
RIVERVIEW	92.07	179.2	13	4A	-8	23	50	-23					
BERMUDA	92.12	329.5	13	16	4	23	54	-19			17	2	PP
RELIZANE	93.13	22.8	13	19	2	24	30	8			17	0	PP
ALMERIA	93.54	20.2	13	18	-1	24	18	-8			17	24	PP
GRANADA	93.64	19.2	13	22A	3	24	30	3			17	9	PP
ALGIERS UNI.	94.69	24.5	13	26	2	24	45	9			17	13	PP
TACUBAYA	95.24	296.1	13	32	5	24	5	3			17	24	PP
ALICANTE	95.40	21.3	13	32	5	24	49	46			26	54	PPS
TOLEDO	96.17	18.2	13	34	3	24	12	5			17	26	PP
BRISBANE	98.49	180.6	13	42	1	24	23	4					
JERUSALEM	101.58	50.8	14	2	7						18	4	PP
ROME	102.01	29.6									18	4	PP
PALISADES	102.93	326.0				24	40	-1			18	20	PP
HALIFAX	103.28	334.7									33	13	SS

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KSARA	103.60	50.2	14	7	3	25	55	71	18 26	PP
MORGANTOWN	103.79	321.2							18 36	PP
PAVIA	104.15	26.1							27 38	PS
CHARTERS TS.	105.59	174.3	14	15	777	24	53	0		
TRIESTE	105.82	29.0	18	37	777	24	58	4	27 53	SP
COLOMBO	105.90	100.6	17	21	777				28 1	SP
SOFIA	106.20	36.8							18 43	PP
LJUBLJANA	106.41	29.3	14	28	777				18 41	PP
ZAGREB	106.62	30.4							18 49	PP
STRASBOURG	106.98	23.9	18	42	777	26	30	91	24 54	SKS
KODAIKaNAL	107.20	96.5							24 21	
OTTAWA	107.45	326.8	18	41	777					
STUTTGART	107.52	24.8	14	27	777	25	4	2	18 51	PP
DOURBES	107.70	21.3				24	33	-29	18 49	PP
KEW	108.04	17.7				24	59	-5	28 19	PS
UCCLE	108.31	20.9				25	0	-5	18 53	PP
SHIRAZ	108.36	64.7	14	28	777	24	54	-11		
BUCHAREST	108.69	37.7							28 15	
RATHFARNHAM	108.88	13.5							19 35	
BRATISLAVA	109.07	30.1	18	57	777					
LAWRENCE	109.46	310.3	18	38	777					
DE BILT	109.71	21.0							19 6	PP
PRUHONICE	109.99	27.6							19 3	PP
JENA	110.09	25.4	18	33	0				19 1	PP
HALLE	110.70	25.4				25	5	-10	29 54	PS
COLLMBERG	110.79	26.1	18	39	4				19 48	PP
MADRAS	110.99	97.1							19 15	PP
BOMBAY	111.36	87.2							19 20	PP
POONA	111.68	88.3							19 23	PP
TUCSON	111.72	295.2	18	41	4					
TUCSON TELE.	111.74	295.3	18	40	3				29 33	PKKP
POTSDAM	111.79	25.7	19	12	35				28 52	
SIMFEROPOL	112.16	42.6							19 22	PP
LWOW	112.67	33.6							19 27	PP
GORIS	113.05	54.0	18	33	-6				22 13	PKS
ABERDEEN	113.23	15.0							29 13	PS
WARSAW	113.84	30.5	18	52	11	25	56	28	19 37	PP
TIFLIS	114.10	51.5							19 27	PP
COPENHAGEN	114.65	23.8							19 42	PP
PORT MORESBY	116.25	174.6	18	49A	4	25	40	3	19 56	PP
QUETTA	116.67	74.9	18	46	0	25	44	6	19 55	PP
BOULDER CITY	116.71	295.0	18	49	3					
PASADENA	117.12	291.3	18	50	3				20 0	PP
RAPID CITY	117.13	308.4	18	49	2				19 58	
ASHKABAD	117.84	63.1	18	42	-6					
SALT LAKE C.	118.77	300.5	18	52	2					
UPPSALA	119.63	24.5	18	52	0				29 4	PKKP
EUREKA	119.92	296.8	18	53	1				28 45	PKKP
FRESNO	119.96	292.1	18	56	3					
LICK	121.37	291.3	18	56K	1				20 32	
RABAUL	121.55	180.1	18	55	-1					
SKALSTUGAN	121.77	19.9	18	58	2					
HELSINKI	121.80	28.0	18	57	1				28 59	PKKP
LAHORE	121.90	79.3	18	57	1					
RENO	121.99	294.3	19	1A	4					
NURMIJARVI	122.00	27.6	18	58	1				28 57	PKKP
BOZEMAN	122.00	304.8	18	58	1					
BERKELEY	122.09	291.3	19	0A	3				20 34	
WARSAK DAM	122.11	75.4	18	56	-1					
MOSCOW	122.19	37.5	18	59	2				20 30	PP
BOKARO	122.76	94.4							32 50	
BUTTE	122.99	304.2	19	1	3					
PULKOVO	123.00	30.9							20 35	PP
DEHRA DUN	123.13	83.1							21 8	
UKIAH	123.52	291.7	19	4	5				20 45	
STALINABAD	123.87	69.7	19	2	2	26	0	-2		
SHASTA	124.20	293.6	19	5	4					
SCORESBY SD.	124.71	2.4	19	5K	3					
CHITTAGONG	125.11	100.7	19	3	0	26	5	-1	20 57	PP
ARCATA	125.23	292.6	19	7	4					
HUNGRY HORSE	125.34	305.3	19	2	-1				20 39	PP
CHATRA	125.85	93.2	19	4	0					
TASHKENT	126.09	67.6	19	3	-1				20 59	PP
KIRUNA	127.14	20.8	19	8A	2				21 8	PP
CORVALLIS	127.38	296.4	19	10A	3					
SHILLONG	127.62	98.2	18	56A	-11					
SODANKYLA	128.13	23.6	19	6	-2				21 2	PP
APATITY	129.94	26.1	19	11K	-1				21 24	PP

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FRUNSE	130.02	69.7	19 11	-1			21 30	PP
VICTORIA	130.07	300.1	20 26	74				
LHASA	130.20	94.1	19 14	2				
PHU-LIEN	132.05	116.1					22 45	PKS
SVERDLOVSK	132.07	47.8	19 17	1			22 46	PKS
THULE	133.14	347.9	19 16	-2			22 45	SKP
KUNMING	133.44	108.7	19 20	2			21 46	PP
NORD	135.96	2.4	19 25	2				
RESOLUTE	136.22	339.3	19 11	-13			22 2	PP
CANTON	137.38	121.7	19 28	2			22 13	PP
SEMIPALATNSK	137.75	64.8					22 0	
CHENGTU	138.42	104.9	19 30	2			22 18	PP
LANCHOW	142.25	99.0	19 32	-2			22 43	PP
KHEYS	142.57	15.6	19 32	-3				
SIAN	143.86	106.1	19 36	-1				
WUHAN	144.08	116.4	19 37	0			22 52	PP
NANKING	147.48	119.9	19 45	2				
ZO-SE	147.89	124.0	19 47	3			23 17	PP
COLLEGE	149.14	313.8	19 41	-5	26 44	-9	23 38	PP
ULAN-BATOR	151.34	84.4	19 51	2				
IRKUTSK	151.84	74.6	19 49	-1			23 42	PP
PEKING	152.03	106.2	19 50	0			23 36	PP
CHANGCHUN	159.63	110.5	20 2	2			24 19	PP
MATUSIRO	159.68	146.2	20 1	1			20 42	PKP2
TUKUBASAN	159.96	150.6	20 12	11			24 41	PP
TIKSI	160.07	21.5	19 54	-7				
VLADIVOSTOK	162.59	122.4	20 4	1				
Y.-SAKHLINSK	170.48	137.7	20 12	3			32 25	SKKS
MAGADAN	174.85	7.3	20 12	1				
PETROPAVLOVK	175.85	252.4	20 12	0			25 47	PP

OCTOBER 23 16.H 54.M 22.S EPICENTRE 33.34 58.84 DEPTH= 0.KM

A= 0.43311 B= 0.71642 C= 0.54696 D= 0.8558 E=-0.5174
G= 0.2830 H= 0.4681 K=-0.8372 HT= 0.7

SE= 2.29

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SHIRAZ	6.53	237.5	1 43K	3	2 59	3		
QUETTA	7.58	112.3	1 55K	0	3 24	1		2 2 PP
WARSAK DAM	10.61	82.9	2 37	0				
DEHRA DUN	16.60	95.2	4 1	5	6 5	-56		
SOTCHI	18.10	310.0	5 17	62				
BOMBAY	19.05	135.5	4 26	0	7 50	-6		6 7
KSARA	19.14	277.8	4 30	3	7 47	-11		4 46 FP
POONA	19.95	134.0	4 35	-2				
JERUSALEM	19.97	272.0	4 36	-1	8 20	3		
SIMFEROPOL	22.32	308.5	5 5	4				
SVERDLOVSK	23.53	2.5	5 17	4				
CHATRA	25.31	97.3	5 28	-2				
MOSCOW	26.81	333.0	5 45	1				
ADDIS ABABA	30.46	222.0	6 20	3				
KRAKOW	33.07	312.1	6 38	-2				
PRUHONICE	36.43	310.6	7 8	-1				
APATITY	37.30	344.2	7 16	0				
COLLMBERG	37.64	312.5	7 20K	1				8 46
UPPSALA	37.81	327.1	7 20K	0				
JENA	38.46	311.6	7 24	-2				7 44
SODANKYLA	38.88	340.8	7 28	-1				8 54 PP
STUTTGART	39.70	308.0	7 35	-1				
GOTEBORG	39.76	322.2	7 33	-3				
KIRUNA	40.98	338.9	8 33	46				
TAMANRASSET	47.77	271.6	8 38	-3				9 37
ELISABTHVLLE	53.81	219.2	9 24	-3				
MATUSIRO	63.34	62.3	10 33	-1				11 5
COLLEGE	79.91	11.2	12 11	-2				
CAPE HALLETT	127.88	158.9	18 40	-28				

OCTOBER 24 23.H 40.M 35.S EPICENTRE 41.59 69.98 DEPTH= 0.KM

A= 0.25675 B= 0.70478 C= 0.66133 D= 0.9396 E=-0.3423
G= 0.2264 H= 0.6214 K=-0.7501 HT= -2.3

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SE= 2.51

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LUNACHARSKOE	0.56	242.0									0	13	PG
TASHKENT	0.60	242.9									0	14	PG
TCHIMKENT	0.76	338.1									0	15	PG
NAMANGAN	1.41	115.2									0	28	PG
FERGANA	1.82	131.1	0	35	2						1	2	SG
ANDIJAN	1.99	114.3									0	39	PG
GARM	2.60	174.6	0	47	3						1	27	SG
SAMARKAND	2.99	230.9	0	52	3								
STALINABAD	3.16	197.5									0	58	P*
FRUNSE	3.66	68.7	1	2	3						1	54	S*
KULYAB	3.69	182.9	1	2	3	1	53	9					
KHOROG	4.28	163.3	1	12	4	2	4	5			2	26	
NARYN	4.52	90.1	1	10	-1								
FABRICHNAYA	5.02	70.0	1	19	1						1	40	
ALMATA	5.42	69.7	1	26	2						2	46	S*
ILI	5.73	63.7	1	30	2								
KURMENTY	6.31	74.4	1	37	1						2	5	
BAIRAM-ALI	7.26	239.3									3	51	SG
WARSAK DAM	7.68	170.2	1	54	-2								
ASHKABAD	9.67	251.7				4	6	-8			4	38	
LAHORE	10.61	159.4	2	33	-3								
KIZYL-ARVAT	10.73	261.6				4	30	-10			5	41	
SEMIPALATNSK	11.33	35.5	2	42	-4	4	48	-6					
QUETTA	11.65	193.1	2	49	-1	5	5	3			5	23	SS
DEHRA DUN	13.00	147.3	3	8	1	5	21	-14			3	18	PP
AGRA	15.87	152.9	3	42A	-4	6	30	-13			3	56	PP
SVERDLOVSK	16.40	341.6	3	49	-4						7	7	SS
KARACHI	16.90	189.2	3	57	-2								
GORIS	18.09	271.2	4	13	-1						7	41	
TIFLIS	18.80	278.8	4	22	-1	7	50	0			4	39	PP
SEHORE	19.31	159.9	4	52	23						8	47	
LHASA	20.80	118.3	4	47A	2	8	39	6					
BOKARO	22.09	138.4	4	57K	-1	8	59	1	5	6	5	6	PP
BOMBAY	22.75	173.0	5	7	2	9	19	9			5	49	PP
POONA	23.22	170.7	5	10	1	9	24	6					
SHILLONG	24.14	124.6	5	18	0	9	37	3			6	17	PP
CALCUTTA	24.49	135.3	5	21A	-1	9	54	14					
HYDERABAD	25.16	160.7	5	26K	-2	9	57	6			5	41	PP
TOCKLAI	25.18	118.2	5	29	1								
MOSCOW	25.34	315.0	5	29	-1	9	49	-5					
IRKUTSK	25.53	53.5	5	32	0	10	0	2			11	25	SSS
SIMFEROPOL	26.19	289.5	5	37A	-1						6	45	
BAYANDAI	26.40	52.1	5	39	-1						6	33	
KYAKHTA	26.59	58.2	5	40	-1						10	27	
ULAN-BATOR	26.78	63.7	5	47	4								
LANCHOW	26.83	90.7	5	44A	0	10	20	1					
KSARA	27.94	265.1	5	54	0	10	25	-12			6	30	PP
JERUSALEM	29.38	261.8	6	2K	-5						8	6	
CHENGTU	29.40	100.8	6	7A	0	11	0	0			6	59	PP
MADRAS	29.84	159.7	5	44	-27	11	7	0			13	43	SS
PULKOVO	30.39	320.3	6	15	-1	11	15	-1			12	45	SCP
IASI	30.53	295.1	6	15	-2						8	50	
KUNMING	31.68	110.9	6	27A	0	11	37	1					
BUCHAREST	31.93	290.1	6	36K	7	11	55	15			17	28	
CAMPULUNG	32.53	291.9									7	47	PP
APATITY	32.64	334.9	6	34A	-1	11	47	-4			7	37	PP
LWOW	32.69	300.4	6	36	0	11	52	0			7	48	PP
HELSINKI	33.09	319.6	6	41	2	12	2	4			7	50	PP
NURMIJARVI	33.32	320.2	6	41	0						7	44	PP
SOFIA	34.27	287.8	6	40	-10	12	0	-17			7	53	PP
WARSAW	34.48	305.0	6	54	3	12	20	0			8	21	PPP
PEKING	34.67	76.9	6	52	-1	12	24	1			8	8	PP
SODANKYLA	34.83	332.3	6	54	0	12	16	-9			8	2	PP
SKALNATE PL.	35.20	299.7	7	6	8								
KRAKOW	35.31	301.2	6	56	-2						8	19	PP
ATHENS	35.41	279.8	7	0	1								
BELGRADE	35.80	292.2	7	3K	0						8	34	
CHORZOW	35.89	301.7				12	43	1			15	49	SSS
RACIBORZ	36.41	301.5	7	8	0						8	32	PP
UPPSALA	36.66	318.0	7	9	-1	12	58	4			8	26	PP
HURBANOVO	36.74	297.8				12	1	-54					
PHU-LIEN	37.20	112.5	7	13	-1	13	1	-1			8	46	PP
KIRUNA	37.20	331.5	7	13A	-1						18	37	
WUHAN	37.32	92.6	7	16A	1	13	4	0			8	50	PP

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BRATISLAVA	37.41	298.5	7	15	-1	12	7	-58	8	43	PP
ZAGREB	38.65	295.0	7	33	6				9	3	PP
PRUHONICE	38.76	301.9	7	28A	0	13	25	-1	8	58	PP
PRAGUE	38.82	302.0	7	29	1				9	30	PCP
POTSDAM	39.33	305.9	7	32	0	13	33	-1	9	4	PP
COPENHAGEN	39.37	311.1	7	33K	0	13	36	1			
KHEYS	39.40	356.9							7	40	
COLLMBERG	39.52	304.2	7	34A	0				9	5	PP
GOTEBORG	39.53	314.3	7	30	-4				9	3	PP
SKALSTUGAN	39.58	323.6	7	34	0				17	51	SCS
LJUBLJANA	39.58	295.8	7	34A	0				9	12	PP
NANKING	39.75	87.6	7	35A	-1	13	41	1	9	15	PP
CHANGCHUN	40.07	67.6	7	38	0	13	45	0	9	14	PP
CHEB	40.12	302.4	7	41	2				9	13	PP
HALLE	40.14	304.7	7	38	-1	13	45	-1	9	12	PP
TRIESTE	40.20	295.4	7	40	0	13	47	0	9	20	PP
JENA	40.47	303.8	7	41	-1	13	51	0	9	16	PP
TOLMEZZO	40.50	296.7	7	50	8				9	30	
CANTON	40.53	103.4	7	40	-2	13	49	-3	9	23	PP
SONNEBERG	40.81	303.1	7	44	0				9	22	
MESSINA	41.32	283.9	7	48	-1	14	1	-3	9	27	PP
TIKSI	41.40	24.2	7	49	0	14	1	-4	9	24	PP
HONG KONG	41.61	103.6	7	51K	0	14	13	5			
ZO-SE	42.00	87.4	7	54	0	14	13	-1	17	10	SS
ROME	42.20	290.4	7	57	1	14	18	1	9	35	PP
STUTTGART	42.38	301.1	7	58A	1	14	33	14	9	38	PP
RAVENSBURG	42.40	299.6	7	58	0				9	40	
PRATO	42.52	293.6	8	8	10	14	22	0			
ADDIS ABABA	42.54	229.2	8	3	4				9	43	PP
TUBINGEN	42.57	300.8	7	59	0						
CHUR	42.71	298.3	8	3	3				9	45	PP
MUNSTER	42.71	306.1	8	1	1						
EBINGEN	42.72	300.4	7	59	-1				9	43	PP
WITTEVEEN	43.11	307.5							9	43	PP
BENSBERG	43.20	304.7	8	4	0				9	48	PP
STRASBOURG	43.39	301.2	8	6	0	14	43	9	9	49	PP
PAVIA	43.43	296.1							17	47	SS
BASLE	43.80	299.8	8	13	4				10	2	PCP
DE BILT	44.15	306.7							17	55	SS
NEUCHATEL	44.36	299.2	8	12	-1						
VLADIVOSTOK	44.85	66.4							12	1	
UCCLE	44.97	305.1	8	18	0	14	57	0			
DOURBES	45.00	304.1	8	19	0						
MONACO	45.08	294.7	8	19	0						
PARIS	46.68	302.9	8	32	0				15	3	PCP
CLERMONT-FD.	47.26	298.8	8	35	-2						
DURHAM	47.43	311.7	8	36K	-2						
KEW	47.61	307.1	8	43A	4				19	19	SS
OKHA	48.55	49.6	8	47	0				10	41	PP
FOLINIERE	48.56	303.7	8	45	-2						
RATHFARNHAM	50.52	310.9	9	2	0						
Y.-SAKHLINSK	50.61	57.7	9	4	2						
ABUYAMA	50.85	74.9	9	3A	-1						
ALGIERS UNI.	50.94	287.9	9	2	-3	16	14	-7	10	57	PP
MAGADAN	50.94	40.4	9	3	-2				10	59	PP
MANILA	51.51	105.8	9	12	3	16	2	-27			
MATUSIRO	51.97	71.7	9	10A	-3				11	15	PP
ALICANTE	52.71	291.3	9	14	-4	16	38	-8	30	14	SS
SIDA	52.85	326.2	9	21	2						
RELIZANE	53.20	288.0	9	19	-3				11	20	PP
TOLEDO	54.47	294.6	9	30A	-1						
TAMANRASSET	56.42	271.8	9	43A	-2	17	33	-3	11	48	PP
LWIRO	57.43	231.3	9	52	-1	17	57	8			
BANGUI	58.86	245.5	9	58	-5	18	10	2			
RESOLUTE	63.58	355.6	10	32A	-2	19	5	-3	12	49	PP
TANANARIVE	63.69	203.8	10	33	-2						
ELISABTHVLLE	65.86	226.5	10	49A	0						
LEOPOLDVILLE	67.56	241.7	10	58A	-2						
BROKEN HILL	67.66	224.0	11	1	0						
COLLEGE	69.82	16.2	11	13	-1	20	26	3	36	51	
BULAWAYO	72.39	220.7	11	27	-3						
MBOUR	78.36	278.9	12	4	0	21	58	-1			
PIETERMZBURG	79.74	214.3	12	11	0						
KIMBERLEY	81.51	219.1	12	19K	-1						
HALIFAX	84.63	328.7	12	40	4						
MUNDARING	84.69	141.9	12	35	-2						
SEVEN FALLS	85.06	334.3	12	39	0						
SHAWINIGAN	86.19	335.3	12	44A	0						

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PORT MORESBY	86.73	105.5	12	45A	-2	23	25	1	13	5	12 51 PCP
BREBEUF	87.39	335.3	12	50	0						
OTTAWA	88.12	336.6	12	53	-1						
HUNGRY HORSE	90.37	2.7	13	4	0						
BOZEMAN	93.12	0.7	13	17	0						
CHARTERS TS.	93.36	113.8	13	18	0						13 58
CORVALLIS	93.39	9.5	13	19K	1						
RAPID CITY	94.49	355.1	13	27	4						
ADELAIDE	98.85	129.2	13	44	1						
EUREKA	99.13	4.7	13	45	1						
BOULDER CITY	102.68	4.0	13	3	-57						
TUCSON TELE.	106.43	0.6	14	29	777						18 33 PKP
KARAPIRO	124.33	112.7	19	OK	-1						22 5
WELLINGTON	125.38	116.7	19	7	4						
SCOTT BASE	131.69	163.6	19	16	1						
CAPE HALLETT	132.10	156.1	19	16	0						
HUANCAYO	137.78	304.1	19	31	5						
BYRD STATION	141.28	177-4	19	27	-6						

OCTOBER 25 6.H 51.M 24.S EPICENTRE 45.34 -28.14 DEPTH= 0.KM

A= 0.62197 B=-0.33265 C= 0.70887 D=-0.4716 E=-0.8818
G= 0.6251 H=-0.3343 K=-0.7053 HT= -3.7

SE= 4.01

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PONTA DELGDA	7.82	165.5	1	57	-1						2	20
LISBON	15.57	108.5	3	38	-4				3	48		
RATHFARNHAM	16.28	52.9	3	54	3							
TOLEDO	18.52	98.6	4	19K	0							
FOLINIERE	19.11	69.7	4	28	1							
KEW	19.39	61.5	4	34	4	8	14	11				
GRANADA	20.11	105.3	4	29	-9							
ALMERIA	21.06	104.7	4	50	2							
PARIS	21.08	69.5	4	49	1							
TORTOSA	21.35	92.0	3	50	-61							
CLERMONT-FD.	21.83	77.6	4	46	-10	9	6	13				
UCCLE	22.27	64.1	5	4	4	9	10	9				
DOURBES	22.42	65.9	5	5	3	9	19	15				
RELIZANE	23.70	103.8	5	14	0						5	47 PP
BENSBERG	24.06	63.7	5	20	2							
NEUCHATEL	24.24	73.4	5	23	4						6	47
MUNSTER	24.35	61.3	5	16	-4						6	5
STRASBOURG	24.58	69.4	5	4	-19	9	19	-23				
BASLE	24.58	72.0	5	25	2							
ALGIERS UNI.	24.91	99.1	5	28	2	9	41	-6			6	4 PP
MONACO	25.28	80.9	5	32	3							
EBINGEN	25.42	70.2	5	34	3							
TUBINGEN	25.45	69.3	5	33	2							
STUTTGART	25.56	68.7	5	23	-9						6	7 PP
RAVENSBURG	25.91	70.9	5	29	-6							
PAVIA	26.11	76.9									14	6
SONNEBERG	26.65	64.8	5	41	-1							
JENA	26.85	63.6	5	39	-5						6	17 PP
CHEB	27.43	65.3	5	46	-3							
POTSDAM	27.71	60.3	5	54	2							
COLLMBERG	27.72	62.6	5	43	-9						7	48
PRUHONICE	28.83	65.2	5	55	-7	10	50	-1				
TRIESTE	29.13	74.2	6	7	2							
LJUBLJANA	29.55	73.1	6	9	1						6	32
VIENNA-H.	30.29	68.3	6	17	2							
RACIBORZ	31.14	64.3	6	23	1							
MBOUR	32.27	159.4	6	36	4	11	53	7				
MESSINA	33.03	86.8									12	0
PALISADES	33.31	279.1				12	8	6			7	4 PP
KIRUNA	33.59	31.0	6	45K	1							
BELGRADE	33.90	73.1	6	49K	2						13	7 PCS
NURMIJARVI	34.21	44.5	6	51	2							
TAMANRASSET	35.44	118.1	7	0	0	12	30	-5			8	22 PP
SODANKYLA	35.80	32.7	7	3	0							
RESOLUTE	40.77	338.0	7	46K	2	14	2	6				
SAN JUAN	41.40	242.1	7	58	9							
KSARA	49.46	80.0	8	56	2	16	7	6			10	55 PP
JERUSALEM	50.14	82.6	8	44	-15							

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RAPID CITY	51.50	297.2	9 3	-6			
HUNGRY HORSE	55.82	306.5	9 42	1			
COLLEGE	60.54	334.8	10 12	-2			
EUREKA	61.99	298.8	10 16	-8			
TUCSON TELE.	62.97	289.5	10 33	2			
TUCSON	63.10	289.5	10 27	-4			
SHIRAZ	63.35	74.0	10 29	-4	19 8	3	
BOULDER CITY	63.41	295.1	10 37	4			
RENO	64.31	300.9	10 35	-4			
MINERAL	64.87	302.6	10 45K	2			
FRESNO	66.04	298.6	10 52	1			
LICK	66.81	300.1	10 58K	3			
ADDIS ABABA	67.43	100.3	11 2	3			
HUANCAYO	71.22	229.3	11 17	-6			
LA PAZ	71.44	220.6	11 26	2			
QUETTA	72.52	64.7	11 28	-2			
ELISABTHVLLE	75.64	123.4	11 48	-1			
ULAN-BATOR	79.12	28.9	12 10	2			
PORT MORESBY	143.97	7.9	19 37	0			
SCOTT BASE	146.84	185.7	19 47	5			
CAPE HALLETT	151.59	191.7	19 59	9			

OCTOBER 25 15.H 57.M 52.S EPICENTRE 39.14 41.60 DEPTH= 0.KM

A= 0.58154 B= 0.51629 C= 0.62869 D= 0.6639 E=-0.7478
G= 0.4701 H= 0.4174 K=-0.7777 HT= -1.4

SE= 3.11

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
LENINAKAN	2.38	45.9	0 44	3				1 24 SG
EREVAN	2.47	64.3	0 44	2	1 15	1		
BOGDANOVKA	2.62	35.2	0 43	-1				1 25 SG
AKHALKALAKI	2.68	32.0	0 45	0				1 28 SG
ABASTUMANJ	2.77	19.4	0 46	-1				1 30 SG
STEPANAVAN	2.83	48.1	0 49	2	1 23	0		
NAKHICHEVAN	2.96	87.7	0 50	1	1 26	0		
BAKURIANA	2.97	29.0	0 48	-1				
BORZHOMI	3.01	26.3	0 48	-2				1 36 SG
GEGECHKORI	3.26	10.2	0 52	-2				1 45 SG
ZUGDIDI	3.38	3.5	0 54	-1				
GORI	3.42	33.3	0 53	-3				
TIFLIS	3.55	42.5	0 57	-1	1 38	-3		
GORIS	3.69	83.0	1 3	3	1 47	3		
DUZHETI	3.77	37.8	1 1	0				
KIROVOBAD	3.94	66.0	1 5	2				
KRASNAYA	4.64	347.4	1 11	-2				1 39
SOTCHI	4.65	342.9	1 12	-1				2 12
PIATIGORSK	5.01	12.3	1 19	1	2 15	-3		
GROZNY	5.22	35.5	1 27	6				1 50
MAKHACH-KALA	5.87	47.5	1 48	17				3 1
KSARA	7.03	222.7	1 47	0	3 6	-3		2 23 PG
SIMFEROPOL	8.04	318.6	2 9	8				3 46
JERUSALEM	9.00	217.2	2 15	1	4 19	21		
KIZYL-ARVAT	11.39	85.1	2 48	1				
IASI	13.01	312.8	3 17	8				4 18
SHIRAZ	13.07	133.2	2 58	-12				
ASHKABAD	13.17	89.9	3 14	3				
ATHENS	14.04	270.8						3 39 PP
BAIRAM-ALI	16.17	89.0	3 55	5				7 1
LWOW	16.42	316.3	3 55	1				4 11
BELGRADE	16.70	296.7	3 57K	0	7 17	14		4 30
MOSCOW	16.81	352.2	3 56	-2				
BUDAPEST	18.38	304.3	4 18	0				6 58
KRAKOW	18.82	312.5	4 29	6				
WARSAW	19.35	319.3	4 27	-2	8 5	2		
SAMARKAND	19.61	80.4	4 33	0				12 35
BRATISLAVA	19.82	305.1	4 33	-2				4 46 PP
RACIBORZ	19.84	311.1	4 36	1				
ZAGREB	19.99	297.8	4 48	11				
VIENNA-H.	20.31	304.8	4 39	-1				5 7 PPP
MESSINA	20.34	275.6	4 38K	-3	8 26	2		5 0 PP
LJUBLJANA	21.03	297.9	4 46	-2				6 38
STALINABAD	21.14	82.9	4 49	0				8 53
TASHKENT	21.21	75.2	4 45	-4	8 39	-2		

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TCHIMKENT	21.42	72.5	4 50	-2			5 58	
TRIESTE	21.50	296.6	4 53	0	9 5	18	5 31	PP
SVERDLOVSK	21.67	29.0	4 51	-3				
PULKOVO	21.85	344.6					6 2	
PRUHONICE	21.99	308.4	4 57	-1	9 2	6		
KULYAB	22.03	84.3	4 57	-1			9 6	
ROME	22.26	286.5	5 2	2	9 13	12	5 48	
QUETTA	22.63	105.5	5 4	0	9 9	1		
FERGANA	23.19	77.3	5 10	1			9 26	
PRATO	23.25	291.6	5 34	24	9 40	21		
CHEB	23.35	307.5	5 14	3				
COLLMBERG	23.36	310.7	5 11K	0			5 47	PP
HELSINKI	23.51	339.0	5 16	4	9 30	7		
ANDIJAN	23.59	76.2	5 14	1			10 42	
PLAUEN	23.61	308.4	5 11	-2				
POTSDAM	23.72	313.3	5 18	3				
NURMIJARVI	23.88	339.1	5 17	1	9 40	10	5 53	PP
JENA	24.09	309.1	5 17	-1			5 30	PP
SONNEBERG	24.16	307.7	5 18	-1				
SONNEBERG	24.16	307.7	5 17	-2	9 28	-7	8 31	
WARSAK DAM	24.53	92.7	5 21	-1				
CHUR	24.56	298.7	5 21K	-2				
RAVENSBURG	24.62	301.0	5 21	-2				
STUTTGART	25.01	303.2	5 25	-2			6 3	PP
FRUNSE	25.11	70.9					5 24	
TUBINGEN	25.11	302.6	5 27	-1				
EBINGEN	25.12	301.8	5 28	0				
UPPSALA	25.65	331.7	5 31	-2	10 2	2		
MONACO	25.91	291.3	5 38	2				
BASLE	25.96	300.0	5 36	0	15 12	307		
STRASBOURG	25.97	302.4	5 38	2				
NEUCHATEL	26.33	298.7	5 37	-2				
GOTEBORG	26.70	323.8	5 41	-2				
MUNSTER	26.76	309.8	5 43	0				
BENSBERG	26.79	307.5	5 47	3				
DOURBES	28.24	305.0	6 1	4				
UCCLE	28.51	306.4	5 56	-3				
CLERMONT-FD.	28.94	295.8	6 14	11				
SODANKYLA	29.49	348.3	6 7	-1			6 40	
ADDIS ABABA	30.09	185.6	6 15	2				
KIRUNA	31.03	344.6	6 20	-2			7 15	PP
DEHRA DUN	31.06	95.2	6 46	24	12 14	47	21 17	
POONA	34.65	117.1	6 56	3				
TAMANRASSET	34.70	252.7	6 52A	-2				
TOLEDO	34.93	286.1	6 53	-3				
GRANADA	35.32	281.4	7 6K	7				
LWIRO	42.84	199.0	9 2	60				
SHILLONG	44.05	92.4	8 9	-2				
CHITTAGONG	45.70	96.3	8 22	-3			10 9	PP
ULAN-BATOR	46.86	56.9	8 32	-2				
LANCHOW	48.55	73.1	8 49	2				
LEOPOLDVILLE	49.66	215.5	8 53	-3				
ELISABTHVLLE	52.22	197.6	9 13	-2				
TIKSI	52.56	23.5	9 14	-4				
BROKEN HILL	54.70	195.6	9 33	0				
YAKUTSK	55.50	34.9	9 36	-3				
PEKING	55.83	63.5	9 39	-3				
BULAWAYO	60.21	194.1	10 10	-2				
CHANGCHUN	60.30	55.9	10 14	1				
NANKING	61.41	70.6	10 21	1				
RESOLUTE	62.87	348.1	10 29	-1	18 50	-9	23 30	SS
ZO-SE	63.66	70.3	10 36	1				
WINDHOEK	65.53	204.9	10 47	0				
PRETORIA	65.76	193.3	10 8	-41				
KIMBERLEY	69.34	195.8	11 9	-2				
COLLEGE	76.06	4.1	11 48	-3				
SHAWINIGAN	76.50	319.7	11 56	2				
HUNGRY HORSE	90.24	344.0	13 3	-1				
EUREKA	99.10	342.6	13 44	0				
RABAUL	108.56	80.1	13 33	777				
BRISBANE	122.52	100.5					20 25	PP
KARAPIRO	144.25	103.0	19 35A	-3				
TONGARIRO	144.58	105.1	19 38	-1				

OCTOBER 26 7.H 35.M 9.S EPICENTRE 37.58 142.83 DEPTH= 19.KM

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A=-0.63311 B= 0.48000 C= 0.60727 D= 0.6042 E= 0.7969
G=-0.4839 H= 0.3669 K=-0.7945 HT= -0.8

SE= 2.52

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ISINOMAKI	1.47	305.9	0 27A	1	0 49	4		
ONAHAMA	1.66	248.4	0 29A	0	0 55	5		
SENDAI	1.68	294.9	0 28A	-1	0 52	2		
HUKUSIMA	1.88	275.9	0 33	1	0 59	4		
MIZUSAWA	2.05	319.7	0 37	3	1 15	15		
YAMAGATA	2.07	289.6	0 35	0	1 5	5		
SHIRAKAWA	2.13	258.4	0 36A	1	1 5	3		
MIYAKO	2.18	342.2	0 35A	-1	1 5	2		
MITO	2.24	238.4	0 36	-1	1 23	19		
TYOSI	2.45	221.3	0 40K	0	1 11	1		
MORIOKA	2.49	328.9	0 42A	2	1 19	8		
KAKIOKA	2.52	238.4	0 41A	0	1 6	-5		
TUKUBASAN	2.58	239.1	0 39A	-3				7 47 PCP
UTUNOMIYA	2.58	247.5	0 41	-1	1 18	5		
SAKATA	2.71	300.1	0 49	5	1 24	8		
NIIGATA	3.02	277.6	0 52	4	1 33	9		
AKITA	3.02	315.8	0 51A	3	1 33	9		
HONGO	3.09	233.8	0 49K	0	1 36	10		1 56
KUMAGAYA	3.11	243.8	0 50A	1	1 34	7		
HATINOHE	3.12	341.4	0 49A	0	1 30	3		
TOKYO C.M.O.	3.12	233.5	0 48	-1	1 31	4		
MAEBASI	3.23	249.8	0 52	1	1 29	-1		
YOKOHAMA	3.34	231.0	0 53A	0	1 37	5		
TITIBU	3.41	243.2	0 53	-1	1 42	8		
MERA	3.60	223.3	0 56K	0	1 51	12		
AOMORI	3.61	334.4	0 58	2	1 46	7		
OIWAKE	3.65	251.3	1 0	3				
AIKAWA	3.66	278.3	0 56A	-1	1 53	13		
TAKADA	3.68	263.9	0 57	0	1 54	13		
NAGANO	3.81	257.6	1 1A	2	2 4	20		
MATUSIRO	3.84	255.7	1 0A	0	1 46	1		
HUNATU	3.87	238.8	1 1	1	1 49	3		
KOHU	3.93	242.3	1 4	3	2 2	15		
AJIRO	3.93	231.2	1 2	1	1 57	10		1 29
OSIMA	3.96	225.9	1 1A	0	2 7	19		1 38
MISIMA	3.98	233.1	1 2A	0	2 1	12		
MATUMOTO	4.12	252.7	1 6	2	1 56	4		
NAGATURO	4.39	228.5	1 11	4	2 16	17		3 18
SHIZUOKA	4.43	235.3	1 7	-1				2 32
HAKODATE	4.52	339.9	1 11A	2	2 12	10		
IIDA	4.52	244.5	1 13A	4	2 5	3		
URAKAWA	4.57	359.5	1 11	1	2 6	3		
TOYAMA	4.58	260.7	1 14A	4	2 29	25		
TAKAYAMA	4.70	254.0	1 14	2	2 30	23		
HIROO	4.71	4.4	1 12	0	2 33	26		1 38
WAZIMA	4.72	269.4	1 15A	3	2 17	10		2 35
OMAESAKI	4.77	232.9	1 15A	2	2 21	12		
MORI	4.84	339.6	1 16A	2	2 35	25		
MURORAN	4.94	343.9	1 17	2	2 30	17		2 12
HAMAMATU	5.02	236.9	1 20	4	2 32	17		
KANAZAWA	5.05	259.9	1 19	2	2 37	21		
HATIDYOZIMA	5.11	210.0	1 24	6	2 19	2		
TOMAKOMAI	5.14	349.6	1 21	3				
NAGOYA	5.31	244.8	1 21	1	2 32	10		
OBIHIRO	5.34	2.9	1 21	0	2 34	11		1 42
GIHU	5.35	247.8	1 21A	0	2 31	8		
HUKUI	5.51	255.9	1 27A	4	2 38	11		
KUSIRO	5.53	12.0	1 21A	-3	2 24	-4		
SUTTSU	5.58	339.9	1 26	2	2 39	10		
SAPPORO	5.60	348.8	1 21	-4	2 34	5		1 53
TSURUGA	5.77	252.5	1 30	3	2 43	9		
HIKONE	5.79	248.5	1 27A	0	3 5	31		
KAMEYAMA	5.82	244.0	1 30A	2	2 34	-1		3 17
NEMURO	6.11	19.2	1 29	-3	2 34	-8		1 58
ASAHIGAWA	6.20	356.9	1 31	-2	2 46	1		1 59
KYOTO	6.28	248.1	1 35A	1	2 45	-1		
MAIZURU	6.35	252.9	1 36	1	2 57	9		
NARA	6.36	245.1	1 35	0	2 53	5		
OWASE	6.42	239.0	1 36	0	3 18	28		
ABUYAMA	6.46	247.4	1 35A	-2				
ABASHIRI	6.53	9.2	1 36	-2	2 53	0		
OSAKA	6.59	245.9	1 39A	0	3 11	17		3 52

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TOYOOKA	6.76	254.8	1	43	2	3	30	31	3	1
KOBE	6.83	247.3	1	44	2	3	23	23	3	13
WAKAYAMA	7.06	244.0	1	44	-1	3	18	12		
SIOMISAKI	7.08	236.5	1	47	2	3	21	15		
SUMOTO	7.19	245.7	1	45K	-2	3	28	19	2	17
TOTTORI	7.26	256.1	1	48	0	3	19	8		
TORISIMA	7.39	197.3	1	48	-2					
HIMEJI	7.49	248.3	1	49	-2	3	40	23		
TOKUSIMA	7.56	244.9	1	52	0	3	30	12		
SAIGO	7.74	262.6	1	57	2	3	37	14		
OKAYAMA	7.77	250.8	1	56	1	3	50	26		
TAKAMATU	7.83	248.1	1	56	0	3	36	11	4	1
WAKKANAI	7.88	354.1	2	10	13	3	35	8		
YONAGO	7.93	257.2	2	1	4	3	37	9		
MATSUE	8.14	257.8	2	3	3	3	51	18		
KOTI	8.58	244.8	2	7A	1	4	2	18		
MATUYAMA	8.98	248.5	2	13	1	4	0	6	2	45
HIROSIMA	9.02	252.3	2	12	0	4	6	11	3	7
HAMADA	9.10	256.1	2	14K	1	3	55	-2	2	55
SIMIDU	9.38	242.3	2	16	-1	4	4	0	4	45
Y.-SAKHLINSK	9.44	359.5	2	18	0	4	9	4	2	47
UWAZIMA	9.45	245.7	2	19A	1	4	18	13	5	5
OOITA	10.13	248.0	2	27K	-1	4	57	35		
SIMONOSEKI	10.33	253.0	2	31	1	4	39	12		
ASOSAN	10.69	247.6	2	36	1	5	3	27		
HUKUOKA	10.90	252.2	2	39A	1	4	49	8		
MIYAZAKI	10.95	242.3	2	29	-10	5	27	45		
KUMAMOTO	11.00	248.0	2	40A	0	5	32	49		
SAGA	11.10	250.8	2	41	0				6	4
UNZENDAKE	11.38	248.6	2	46A	1	4	57	4		
ITUHARA	11.50	257.0	2	47	1	5	3	8		
NAGASAKI	11.65	249.3	2	47A	-1	5	29	30		
KAGOSIMA	11.76	243.0	2	51A	1	5	44	42	3	11
YAKUSIMA	12.45	238.8	2	58K	-1	5	21	2	3	33 PP
TOMIE	12.53	250.9	3	2	2	5	23	2	6	46
CHANGCHUN	14.67	300.7	3	28A	-1	6	20	8		
PETROPAVLOVK	18.96	30.4	4	25	2				4	49 PP
ZO-SE	18.99	256.5	4	21A	-2	8	1	10		
NANKING	20.48	261.6	4	37A	-2	8	30	7	5	37
PEKING	20.90	285.0	4	40	-4	8	34	3	5	17 PPP
TAIPEI	22.03	241.5	4	59	4					
ILAN	22.04	240.6	5	17	22	9	18	25		
HSINCHU	22.56	241.9	4	35	-25					
MAGADAN	22.58	10.6	5	4	3	9	14	12		
HWALIEN	22.65	239.2	5	8	7	9	37	33		
TAICHUNG	23.18	241.0	5	5	-2					
ALISHAN	23.51	239.7	5	16	6	9	33	14		
TAITUNG	23.79	237.7	5	15	3	9	27	3		
GUAM	24.08	175.4	5	13	-2	9	29	0		
TAWU	24.23	237.4	5	18	1	9	36	5		
TAINAN	24.25	239.6	5	11	-6	9	47	15		
WUHAN	24.40	261.7	5	18	0	9	39	5	6	11 PPP
SIAN	27.58	273.4	5	49A	1					
ULAN-BATOR	28.11	303.1	5	52	-1					
BAGUIO CITY	28.80	229.0	5	57	-2	10	45	-1		
HONG KONG	28.99	246.4	6	0K	-1	10	53	4		
CANTON	29.12	248.7	6	2	0	10	59	7	7	6
MANILA	29.89	226.0	6	11	2	11	15	11		
IRKUTSK	30.56	311.2	6	15	0	11	19	5		
LANCHOW	31.11	279.2	6	18	-2	11	30	7		
CHENGTU	32.70	269.5	6	32	-1	11	54	6		
TIKSI	34.87	352.3	6	49	-3				8	11 PP
PHU-LIEN	35.49	252.1	6	59	2	12	35	4	8	17 PP
KUNMING	36.16	261.6	7	2	-1	12	45	4	8	30 PP
TOCKLAI	41.70	269.4	7	58	9					
RABAUL	42.46	166.1	7	55	-1					
LHASA	43.40	275.3	8	6	3				9	54 PP
SHILLONG	44.55	269.6	8	12A	0	14	53	6	9	49 PP
SEMIPALATNSK	45.51	307.2	8	21	1	15	3	3		
CHITTAGONG	46.18	265.8	8	25A	0	15	7	-3	8 45	10 18 PP
CHATRA	47.70	273.9	8	37	0	15	36	5		
COLLEGE	48.03	32.5	8	41	1	15	42	6	10	57 PP
CALCUTTA	48.83	268.2	8	57	11	16	1	14	10	48 PP
BOKARO	50.22	271.2	8	58A	1	16	11	4	10	5 PCP
FRUNSE	51.08	298.6	9	3	0	16	21	2	11	4 PP
PORT BLAIR	51.60	253.6	9	9	2	16	31	5	18	58 SCS
KHEYS	52.35	348.1	9	13	0	16	38	2	11	15 PP
MEDAN	52.65	241.0	9	18K	3	17	33	53		

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HONOLULU	53.12	90.3	9	21	2	16	53	6			19	11 SCS
KIPAPA	53.12	90.1	9	21	2						10	26 PCP
DEHRA DUN	53.29	282.6	9	20	0	16	54	5			11	22 PP
AGRA	54.77	279.2	9	30A	-1	17	10	1			11	34 PP
DJAKARTA	54.96	225.5	9	32A	0	17	10	-1				
LEMBANG	55.05	224.3	9	32K	-1	17	12	-1				
SITKA	55.24	41.2	9	37	3							
TASHKENT	55.33	298.6	9	34	-1	17	18	2			21	27 SS
SVERDLOVSK	55.49	318.6	9	35	-1	17	24	5			21	21 SS
WARSAK DAM	56.64	289.6	9	44	0							
STALINABAD	56.77	295.7	9	47	2	17	44	9			13	22 PPP
HYDERABAD	59.42	269.1	10	5A	1	18	17	7			12	30 PP
MADRAS	60.56	263.8	10	13A	1	18	37	12			12	31 PP
NORD	60.58	356.6	10	10	-2							
RESOLUTE	61.79	14.8	10	19A	-1	18	31	-10			12	42 PP
QUETTA	61.86	287.8	10	20A	0	18	41	0	10	40	12	47 PP
POONA	62.47	272.9	10	44A	20	18	53	4				
APATITY	62.66	335.9	10	25A	-1						10	50 PCP
BOMBAY	63.09	273.8	10	30	1	19	4	7			12	54 PP
KODAIKANAL	64.33	263.1	10	33	-4	19	6	-6			13	3 PP
ASHKABAD	64.39	299.2	10	41	4	19	22	9			13	8 PP
COLOMBO	64.47	258.5	10	52	14	19	22	8			33	32
KARACHI	64.48	282.6	10	35	-3							
THULE	64.57	7.8	10	35	-3				11	3		
HORSESHOE B.	64.89	46.1	10	38	-2							
SODANKYLA	64.90	337.5	10	39	-1	19	21	2			13	0 PP
VICTORIA	65.22	46.9	10	43A	1	19	25	2				
BRISBANE	65.30	170.3	10	43	0						20	44
KIRUNA	66.41	339.5	10	49	-1	19	38	0			13	15 PP
CORVALLIS	67.26	50.6	10	57A	2							
MOSCOW	67.49	323.8	10	58	1	19	52	1			13	24 PP
PULKOVO	68.29	329.8	11	2	0	20	3	3			13	29 PP
ARCATA	68.69	54.4	11	15	11							
SHASTA	69.87	53.8	11	12	0							
NURMIJARVI	69.99	332.3	11	12	0	20	22	1			13	46 PP
HELSINKI	70.11	332.0	11	14	1	20	27	5			15	41 PPP
UKIAH	70.18	55.6	11	17	4							
MINERAL	70.57	53.8	11	17A	1				11	34		
HUNGRY HORSE	70.61	43.5	11	18	2							
TIFLIS	71.37	308.5	11	21	0	20	40	4			14	0 PP
SAN FRANCSCO	71.42	56.4				20	45	8				
RIVERVIEW	71.46	172.7	11	33A	12	20	43	5				
BERKELEY	71.49	56.3	11	23A	2	20	41	3				
GORIS	71.63	305.9	11	22	0						14	10 PP
SCORESBY SD.	71.69	354.7	11	25A	2	20	47	7			21	30 SKS
SKALSTUGAN	71.82	339.0	11	24A	1						14	3 PP
RENO	72.16	53.7	11	27A	2							
LICK	72.20	56.4	11	28A	2							
ADELAIDE	72.28	183.5	11	28K	2	20	50	3			13	57 PP
CANBERRA	72.76	174.7	11	29	0				11	57	11	45 PCP
BUTTE	72.78	44.9	11	35	6							
SHIRAZ	72.84	294.3	11	29	0	20	54	1				
UPPSALA	72.96	334.4	11	29A	-1	20	56	1			14	31 PP
MUNDARING	73.52	203.4	11	33	0	20	47	-14				
PERTH	73.62	203.7	11	35	1	20	48	-14	11	57		
FRESNO	73.73	56.1	11	36	1							
BOZEMAN	73.84	44.5	11	36	1							
EUREKA	74.62	51.9	11	41	1							
MELBOURNE	75.06	178.2	11	43A	1	21	20	2			14	36 PP
SIMFEROPOL	75.72	316.1	11	46	0	21	30	4			12	13
PASADENA	76.33	57.5	11	51	1	21	37	5			26	38 SS
SALT LAKE C.	76.37	48.9	11	50	0						12	58
GOTEBORG	76.51	335.3	11	48	-3						14	42 PP
WARSAW	77.22	327.6	11	55	0	21	45	3			14	47 PP
LWOW	77.60	324.5	11	59	2	21	52	6			14	40 PP
IASI	77.70	320.9	11	58	1	21	57	10			14	44
SIDA	77.84	351.4	12	4A	6							
REYKJAVIK	77.91	353.2	12	3K	5							
COPENHAGEN	77.94	333.8	12	1A	2	21	56	6	12	21	14	57 PP
BACAU	78.47	320.7	12	5	4	21	59	4				
FOCSANI	78.91	319.9	12	9	5							
RAPID CITY	79.14	42.1	12	7	2							
CHORZOW	79.51	327.2	12	10	3						12	17 PCP
LARAMIE	79.68	45.4	12	10	2							
SKALNATE PL.	79.78	325.8	12	10	1	22	18	9				
RACIBORZ	80.01	327.4	12	11	1						12	20 PCP
CAMPULUNG	80.31	320.7	12	17	6	22	23	8				
POTSDAM	80.31	331.4	12	15	4	22	16	1	12	31	15	34 PP
BUCHAREST	80.36	319.5	12	14A	2	22	24	9			15	44 PP

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ABERDEEN	81.08	341.5			22	29	6			27	57 SS
COLLMBERG	81.19	330.8	12	16A	0	22	24	0		15	22 PP
HALLE	81.43	331.4	12	17	0	22	29	3		15	23 PP
PRAGUE	81.58	329.3	12	20A	2	22	39	11		15	34 PP
BUDAPEST	81.59	325.3	12	20	2	22	48	20			
PRUHONICE	81.61	329.2	12	19A	1					15	31 PP
HURBANOVO	81.66	325.9	12	23	5	22	36	7			
KSARA	81.75	306.4	12	21	2	22	35	5	12	46	15 22 PP
TIMISOARA	81.84	323.0	12	21	2	22	40	10			17 4
BRATISLAVA	81.92	326.7	12	21K	1	22	36	5			15 27 PP
JENA	82.03	331.3	12	22	2	22	33	1			15 34 PP
TONGGRIRO	82.11	154.9	12	20	-1						12 59
PLAUEN	82.16	330.7	12	20	-1	22	33	-1	12	41	
VIENNA-H.	82.18	327.1	12	23	2	22	27	-7			12 32 PCP
WITTEVEEN	82.25	334.9	12	23	1						
TUCSON	82.35	55.1	12	23	1	22	40	4			15 57 PP
TUCSON TELE.	82.37	55.0	12	24	2				12	56	
CHEB	82.40	330.4	12	24	2	22	42	6			15 39 PP
SONNEBERG	82.61	331.1	12	23	0	22	42	4			
MUNSTER	82.63	333.9	12	25	2						12 52
BELGRADE	82.89	322.7	12	25A	0	22	49	8			15 40 PP
SOFIA	83.00	319.7	12	29	4	21	58	-44	12	52	15 29 PP
DURHAM	83.08	340.1	12	28A	2	22	42	-1	12	56	15 40 PP
DE BILT	83.35	335.3	12	29A	2	22	51	5			15 45 PP
JERUSALEM	83.48	305.2	12	28	0	23	0	13			
BENSBERG	83.63	333.6	12	28	-1	22	51	2			
WELLINGTON	83.74	156.4	12	29	0						
ZAGREB	84.21	325.8	12	32A	0	22	52	-2			
SKOPJE											
STUTTGART	84.65	331.2	12	34A	0	22	53	-6	12	44	17 44 PPP
LJUBLJANA	84.68	326.7	12	35	1				12	43	15 42 PP
UCCLE	84.73	335.0	12	37	3	23	1	1			
TUBINGEN	84.93	331.2	12	35	0				12	44	
TOLMEZZO	85.05	327.8	12	37	1						13 1
DOURBES	85.24	334.5	12	37	0	23	3	-1			
EBINGEN	85.25	331.0	12	38	1				12	47	
TRIESTE	85.33	326.9	12	38A	1	23	3	-2	12	47	16 3 PP
RAVENSBURG	85.33	330.4	12	38	1				12	47	
STRASBOURG	85.38	331.9	12	38K	1	23	8	2	12	47	15 57 PP
RATHFARNHAM	85.61	342.0	12	40A	1	23	17	9	12	52	18 27
KEW	85.63	337.9	12	40A	1	23	17	9			15 48 PP
ROXBURGH	86.06	161.7									23 5
CHUR	86.12	330.0	12	43	2	23	5	-8			16 5 PP
ATHENS	86.18	316.2	12	43	2						
BASLE	86.32	331.4	12	37	-5						23 5 SCS
LAWRENCE	86.97	41.5	12	46	1						
NEUCHATEL	87.00	331.5	12	47	2	23	13	-8			
PARIS	87.06	335.0	12	47	1	23	17	-5			
BOLOGNA	87.28	327.6	12	49	2	23	1	-23			
PAVIA	87.63	329.2	12	50A	2				13	15	18 27 PPP
TARANTO	87.71	321.6									19 41
PRATO	87.88	327.3	12	51	1	23	38	8			
FOLINIERE	88.06	336.7	12	51	1						
JERSEY	88.19	337.8	13	7	16						25 21 PPS
ROME	88.85	325.3	12	57A	3	23	57	18			16 27 PP
CLERMONT-FD.	89.46	333.1	12	58A	1	23	51	7			
MONACO	89.53	329.4	12	59	2						
FLORISSANT	89.59	38.7				23	29	-17			
FAYETTEVILLE	89.66	42.8	12	59K	1						
ST. LOUIS 1	89.79	38.8	12	59	0	23	49	2			23 26 SKS
MESSINA	90.30	321.2	13	2A	1	23	49	-3	13	12	16 38 PP
REGGIO CALA.	90.33	321.1									16 19
SHAWINIGAN	90.37	23.7	13	4	3						
OTTAWA	90.39	26.0	13	2	1						
SEVEN FALLS	90.46	22.2	13	5	3						
BREBEUF	91.02	24.7	13	5K	1						
CLEVELAND	91.50	31.7				24	10	7			
CUGLIERI	91.98	326.7	15	11	777						26 1 PPS
PENNSYLVANIA	93.55	29.7	13	19	3	24	25	4			
MORGANTOWN	93.70	31.7	13	20K	3						16 59 PP
TORTOSA	94.70	332.3	13	20	-1						17 15 PP
HALIFAX	94.76	18.6				24	27	-4			31 9 SS
PALISADES	94.87	27.0	13	30	8	24	32	0			16 54 PP
ADDIS ABABA	95.51	285.7	13	29	4	24	12	13			
TOLEDO	97.14	334.9	13	34A	2	23	59	-8	13	44	17 30 PP
ALGIERS UNI.	97.19	328.5	13	33	0	24	55	48			17 31 PP
ALICANTE	97.22	331.7	13	27	-6	24	47	39			17 27 PP
SERRA PILAR	97.42	338.6	13	33	-1				13	45	17 33 PP

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RELIZANE	99.09	329.7	13	38	-3				17	35	PP
GRANADA	99.40	333.4	14	5	22	25	4	45	17	53	PP
DUMONT	103.94	181.2				24	21	-19	18	12	PP
TERRE ADELIE	104.08	180.6				24	21	-20	18	12	PP
BERMUDA	105.82	24.0				25	1	12	18	39	PP
WILKES	106.54	193.0				24	55	3	21	43	SKP
TAMANRASSET	107.77	318.9	14	21	777	25	6	9	18	44	PP
LWIRO	110.30	283.3							19	9	PP
CAPE HALLETT	111.25	171.3							19	13	PP
ELISABTHVLLE	117.08	276.2	18	47	3				19	55	PP
BROKEN HILL	117.91	273.0	18	49	4						
SAN JUAN	118.03	31.4							20	1	PP
BULAWAYO	120.94	267.5	18	51	0				19	21	
LEOPOLDVILLE	121.95	291.4				25	54	3	20	42	PP
CHINCHINA	124.58	48.8	19	1	3						
CARACAS	124.64	36.4	20	11	72				22	8	PP
MBOUR	124.94	335.9							20	48	PP
FUQUENE	125.29	46.6	19	2	2				20	54	PP
BOGOTA	125.78	47.5	19	18	17	26	10	7	21	0	PP
SOUTH POLE	127.39	180.0	19	4	0						
BYRD STATION	128.05	167.3	19	6	1				21	9	PP
KIMBERLEY	128.22	260.5	19	6	1						
HERMANUS	134.84	256.2							23	7	PKS
HUANCAYO	137.48	63.4	19	21	-2				22	13	PP
HALLEY BAY	141.65	184.3	19	26	-4						
LA PAZ	145.59	60.8	19	42	5				19	49	PKP2
ARGENTINE I.	148.06	158.7	19	44	3						

OCTOBER 26 10.H 29.M 12.S EPICENTRE 51.90 157.03 DEPTH= 144.KM

A=-0.57049 B= 0.24181 C= 0.78490 D= 0.3903 E= 0.9207
G=-0.7227 H= 0.3063 K=-0.6196 HT= -6.1

DEPTH OF FOCUS= 0.018R

SE= 1.31

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SEVERO-KUR.	1.36	205.7	0	25	-3	0	46	-4					
PETROPAVLOVK	1.50	40.8	0	29	0	0	50	-2					
KLYUCHI	4.97	25.5	1	15	2						1	46	*SP
MAGADAN	8.43	337.9	2	4	4						3	36	
YAKUTSK	17.86	315.1	3	59	-1	7	19	7					
TUKUBASAN	19.76	224.1	4	23	3						7	59	PCP
MATUSIRO	20.34	228.4	4	26K	0	8	10	9			11	58	SCP
CHANGCHUN	22.62	261.7	4	48	-1	8	38	-4	5	16	15	49	
ABUYAMA	22.95	230.5	4	53K	1								
TIKSI	23.42	337.9	4	56	0				5	25			
PEKING	30.38	263.3	5	59	-1				6	29	16	21	SCS
COLLEGE	30.58	43.5	6	2	0				6	34			
ULAN-BATOR	32.01	283.1	6	45	31								
ZO-SE	33.46	245.7	6	27	0								
NANKING	34.13	249.5	6	31	-1				7	0			
WUHAN	37.71	252.3	7	4	1						17	1	SCS
SIAN	38.52	262.0	7	9	0								
LANCHOW	40.48	268.4	7	27K	2				7	57	17	16	SCS
KHEYS	40.68	345.6									7	58	
CHENGTU	43.99	262.3	7	56A	2	14	14	0	8	26	17	37	SCS
HONG KONG	44.21	244.6	7	57	1	14	21	3					
RESOLUTE	45.13	20.9	8	3K	0	14	32	1			9	52	PP
SEMIPALATNSK	46.07	300.1	8	10	-1								
NORD	46.70	358.7	8	15	0								
HORSESHOE B.	48.20	59.6	8	21A	-6								
VICTORIA	48.62	60.6	8	31A	1								
THULE	48.72	12.9	8	29	-2	15	14	-7	8	59	13	34	SCP
KUNMING	48.76	258.2	8	31K	0						18	11	SCS
HAWAII V.OB.	49.22	112.8	8	35	0								
CORVALLIS	51.06	64.7	8	50A	1								
SVERDLOVSK	51.85	316.0	8	53	-2								
ALMATA	52.12	294.3	8	57	0						9	30	
HUNGRY HORSE	53.67	55.9	9	8	0				10	12			
FRUNSE	53.71	295.2	9	9	0						9	42	
SHASTA	54.06	67.9	9	12A	1								
MINERAL	54.74	67.7	9	16A	0				9	45			
SHILLONG	55.11	267.8	9	18K	-1								
SODANKYLA	55.37	339.0	9	19	-2						10	19	PCP

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BUTTE	55.95	57.2	9 24	-1			9 57			
BERKELEY	56.02	70.4	9 25	0			9 56			
RABAUL	56.04	185.8	9 25	-1			9 53			
KIRUNA	56.27	341.7	9 28	1						
RENO	56.31	67.3	9 28A	1						
LICK	56.74	70.4	9 31A	1				10 25		
BOZEMAN	56.97	56.7	9 32	0						
CHATRA	57.11	272.5	9 33	0						
CHITTAGONG	57.49	265.2	9 35A	-1						
TASHKENT	57.68	297.1	9 37	0						
SCORESBY SD.	57.93	359.6	9 40A	1						
FRESNO	58.20	69.7	9 41	0						
EUREKA	58.52	65.0	9 43	0				9 52	PP	
STALINABAD	59.86	295.0	9 52	0						
PASADENA	60.98	70.8	9 59	-1			10 31	11 3	*SP	
WARSAK DAM	61.48	289.5	10 2	-1						
NURMIJARVI	61.61	335.4	10 4	0				12 22	PP	
MOSCOW	61.63	325.9	10 3	-1			10 34			
PORT MORESBY	61.64	191.1	9 1	-63	18 0	-13		10 32		
HELSINKI	61.82	335.1	10 5	0						
UPPSALA	63.89	338.5	10 18	-1			10 51			
TUCSON TELE.	66.59	67.2	10 37	1						
TUCSON	66.60	67.3	10 37	1			11 18	12 57	PP	
QUETTA	66.93	289.7	10 38A	0						
TIFLIS	69.82	312.4	10 55	-1						
POONA	71.47	276.5	11 7	1						
CHARTERS TS.	72.30	190.6	11 10A	-1	20 19	-2				
FAYETTEVILLE	72.62	53.5	11 13	0						
COLLMBERG	72.78	337.3	11 13	-1				14 15	PP	
OTTAWA	72.98	35.9	11 14	-1						
SHAWINIGAN	73.02	33.4	11 18	3						
JENA	73.45	338.0	11 17	-1				14 31		
PRUHONICE	73.61	335.8	11 19A	0				14 30	PP	
BREBEUF	73.64	34.5	11 19	0				12 9	PCP	
RATHFARNHAM	74.24	349.7	11 23	1						
BRATISLAVA	74.59	333.4	11 25	1			11 57			
SHIRAZ	75.45	299.5	11 29K	0	20 59	3				
DOURBES	75.71	342.1	11 30	-1						
STUTTGART	76.00	338.7	11 32	0						
MORGANTOWN	76.13	41.8	11 35K	2						
STRASBOURG	76.52	339.6	11 37	2			12 9			
PARIS	77.34	343.1	11 41A	1						
FOLINIERE	77.89	345.0	12 13	30						
BRISBANE	79.03	183.8	11 50	1						
CLERMONT-FD.	80.15	341.8	11 55	0						
MONACO	81.19	338.2	12 0	0						
TARANTO	81.58	330.1						25 38		
MESSINA	84.18	330.4						25 52		
CANBERRA	87.13	186.6	12 31A	1						
ADELAIDE	87.98	195.0	12 35A	1						
MELBOURNE	89.98	189.5	12 45A	1			13 15			
SAN JUAN	100.56	41.3	13 0	-32						
TAMANRASSET	101.56	333.3	13 36	0				17 41	PP	
HUANCAYO	122.21	66.3						20 54	*PPP	
ELISABTHVLLE	122.96	295.8	18 41	2			19 14			
PRETORIA	133.60	284.1						22 42	PKS	
KIMBERLEY	137.85	284.4						22 32	PKS	
BYRD STATION	139.51	164.5	19 1	-9			19 43	20 3	*SPKP	
SOUTH POLE	141.71	180.0	19 7	-7						

OCTOBER 27 6.H 12.M 18.S EPICENTRE 42.44—126.41 DEPTH= 0.KM

A=—0.43945 B=—0.59574 C= 0.67229 D=—0.8047 E= 0.5936
G=—0.3991 H=—0.5410 K=—0.7403 HT= -2.6

SE= 2.98

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ARCATA	2.34	130.9	0	37	-3	1	4	-6				
CORVALLIS	3.12	45.5	0	51K	0	1	28	-2				
SHASTA	3.48	118.5	0	55A	-1							
UKIAH	4.10	142.7	1	2	-3	1	54	0				
MINERAL	4.18	118.3	1	4A	-2	1	50	-6				
BERKELEY	5.56	143.7	1	23	-3	2	26	-5				
SAN FRANCSCO	5.56	145.6	1	35	9							

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RENO	5.77	117.9	1	28K	-1	2	43	6			
BRANNER	5.97	145.6	1	36	4						
LICK	6.28	142.6	1	32A	-4	2	44	-5			
VICTORIA	6.48	18.1	1	37K	-2	2	37	-18			
ALBERNI	6.92	8.7	1	42	-3						
HORSESHOE B.	7.28	16.4	1	56K	6						
FRESNO	7.62	135.8	1	55A	0						
EUREKA	8.44	107.0	2	5	-1				30	18	PKPPKP
PASADENA	10.50	139.3	2	34	-1						
HUNGRY HORSE	10.52	51.6	2	34	-1	4	55	20			
BUTTE	10.56	65.5	2	34	-1	5	25	49			
SALT LAKE C.	11.03	93.8	2	41	-1	5	41	54			
BOULDER CITY	11.05	121.9	2	46	4				3	35	
BANFF	11.47	36.7	2	47K	-1						
BOZEMAN	11.52	68.5	1	43	-66						
LARAMIE	15.56	87.1	3	40	-2						
TUCSON	16.01	124.4	3	49	1	7	12	26			
TUCSON TELE.	16.01	123.9	3	49	1						
SASKATOON	16.51	47.2				7	17	19			
RAPID CITY	16.98	76.6	3	58	-2						
LAWRENCE	23.81	87.8	5	16	1						
COLLEGE	25.55	338.8	5	30	-2	10	21	23			
FAYETTEVILLE	25.64	93.5							10	20	
MORGANTOWN	34.83	78.6	6	56	2						
RESOLUTE	35.32	13.9	6	56K	-3	12	28	-5	8	9	PP
PENNSYLVANIA	35.94	75.8	7	4	0	12	49	7			
OTTAWA	36.15	67.5	7	8	2						
COLUMBIA	36.28	88.1	7	6	-1						
CHAPEL HILL	36.90	84.0	7	11	-1						
WASHINGTON	37.17	78.4	7	15	1						
BREBEUF	37.56	66.8	7	8	-9						
SHAWINIGAN	37.87	64.9	7	21	1						
PALISADES	38.70	73.8				13	25	0	8	55	PP
HALIFAX	44.59	64.8				14	54	2	18	15	SS
BERMUDA	49.09	80.5				16	6	10	19	49	SS
SAN JUAN	56.01	95.8	9	39	-3						
CHINCHINA	58.40	115.0	10	0	1						
FUQUENE	59.31	113.0	10	5	-1						
BOGOTA	59.70	113.9	10	9	1	18	32	14			
CARACAS	60.57	103.4	10	12	-2	18	36	6			
KIRUNA	67.25	13.0	10	59	1						
SODANKYLA	68.62	10.9	11	12	5						
MATUSIRO	69.96	301.4	11	12	-3	20	26	1	24	52	SS
HUANCAYO	71.61	126.7	11	26	1						
COLLMBERG	80.19	24.5	12	15	2				12	28	
STUTTGART	81.16	27.9	12	33	14						
SCOTT BASE	126.54	194.0	19	5	0						
SOUTH POLE	132.24	180.0	19	17	1						
ELISABTHVLLE	141.82	44.2	19	30	-3						
BROKEN HILL	144.69	45.4	19	40	2						

OCTOBER 27 6.H 52.M 49.S EPICENTRE 45.91 151.15 DEPTH= 44.KM

A=-0.61162 B= 0.33688 C= 0.71584 D= 0.4825 E= 0.8759
G=-0.6270 H= 0.3454 K=-0.6983 HT= -3.9

DEPTH OF FOCUS= 0.002R

SE= 2.83

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S
KURILSK	2.40	254.8	0	41	3						1	23
GORNY	2.71	250.0	0	44	2							
SHIKOTAN	3.69	238.1	0	56	0							
KOSMODEMANSK	4.15	246.1	1	4	1							
NEMURO	4.74	239.1	1	11A	0	2	1	-4				
ABASHIRI	5.23	251.3	1	22A	4	2	22	4				
KUSIRO	5.65	241.2	1	25A	1	2	30	2				
SEVERO-KUR.	5.80	32.9	1	28	2						2	29
Y.-SAKHLINSK	5.93	283.9	1	32	4	2	43	8				
OBIHIRO	6.43	245.2	1	36	1	2	51	3				
ASAHIGAWA	6.60	254.3	1	39A	2	3	4	12				
WAKKANAI	6.66	269.2	1	46	8	3	2	9				
HIROO	6.70	240.1	1	40A	1	2	58	3				
UGLEGORSK	6.92	300.6	1	47	5							
URAKAWA	7.11	241.1	1	46	2	3	9	4				

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SAPPORO	7.56	251.5	1	53A	3	3	23	7		2	17
TOMAKOMAI	7.61	247.9	1	57	6	3	21	4			
MURORAN	8.15	247.5	1	54K	-5	3	28	-2			
SUTTSU	8.42	252.3	2	1	-1	3	40	3		3	53
MORI	8.52	247.3	2	4A	0	3	33	-7			
HAKODATE	8.55	245.1	2	3A	-1	3	35	-5		2	24
PETROPAVLOVK	8.63	31.7	2	12	7					3	44
HATINOHE	8.84	236.0	2	8	0	3	37	-11			
AOMORI	9.10	239.7	2	9	-3	3	45	-9			
MIYAKO	9.20	230.4	2	9A	-4	3	47	-9			
OKHA	9.32	328.2	3	2	47					4	17
MORIOKA	9.60	233.3	2	15A	-4	3	57	-9			
MIZUSAWA	10.02	231.1	2	21	-3	4	1	-16			
AKITA	10.20	236.6	2	24A	-3	4	15	-6		3	22
ISINOMAKI	10.44	227.8	2	28	-2	4	20	-7		5	46
SENDAI	10.78	228.5	2	30	-5	4	23	-12			
SAKATA	10.91	234.1	2	39K	2	4	33	-5			
YAMAGATA	11.08	230.2	2	32	-7	4	33	-9			
HUKUSIMA	11.39	228.1	2	41	-2	4	50	0			
ONAHAMA	11.79	224.3	2	48	0	4	45	-15		3	21
SHIRAKAWA	12.00	226.8	2	48	-3	4	57	-8			
NIIGATA	12.03	232.7	2	57	5	5	17	12		3	46
KLYUCHI	12.07	26.7	2	51	-1					5	29
MITO	12.45	223.9	2	55	-2	5	19	3			
UTUNOMIYA	12.62	226.2	2	54	-5	5	9	-11		5	58
KAKIOKA	12.71	224.4	2	56	-5	5	7	-15			
TUKUBASAN	12.76	224.6	2	57A	-4	5	11	-12		3	33 *SP
TYOSI	12.81	221.0	3	3	1	5	12	-12			
TAKADA	13.06	232.2	3	1	-4						
MAEBASI	13.14	228.0	3	4	-2	5	31	-1		4	14
KUMAGAYA	13.18	226.4	3	4	-3	5	22	-11			
HONGO	13.33	224.2	3	9	0					6	48
TOKYO C.M.O.	13.36	224.1	3	5	-4	5	27	-10		4	5
NAGANO	13.40	231.0	3	13	3	6	1	23			
TITIBU	13.46	226.8	3	8	-3	5	26	-14			
OIWAKE	13.47	229.2	3	10	-1	5	29	-11			
MATUSIRO	13.49	230.6	3	8A	-3	5	40	0			
YOKOHAMA	13.61	223.8	3	12	-1	5	39	-4		6	42
WAZIMA	13.63	236.3	3	12	-1	5	29	-15			
MAGADAN	13.67	359.2	3	16	3					5	57
MATUMOTO	13.84	230.4	3	15	-1	5	23	-26			
TOYAMA	13.93	233.6	3	15A	-2	5	19	-32			
MERA	13.94	222.0	3	18K	1	5	46	-5			
KOHU	13.97	227.4	3	19	2	5	32	-20		6	33
HUNATU	13.99	226.4	3	20	2	5	31	-21			
VLADIVOSTOK	14.02	265.4	3	20	2	5	57	4		6	10
AJIRO	14.18	224.4	3	16	-4	5	50	-7		6	30
MISIMA	14.20	224.9	3	22A	2	5	45	-12		16	7 SCS
OSIMA	14.28	222.9	3	22	1	5	48	-11			
TAKAYAMA	14.30	231.9	3	20	-2						
KANAZAWA	14.36	234.4	3	21	-1						
IIDA	14.46	228.8	3	27	3	5	39	-24		8	36
SHIZUOKA	14.60	226.0	3	29	4	6	33	26			
HUKUI	14.94	234.0	3	30	0						
OMAESAKI	14.98	225.6	3	34	4	6	32	16			
GIHU	15.12	231.1	3	31	-1	6	28	9			
HAMAMATU	15.14	227.1	3	34	2					7	3
NAGOYA	15.18	230.0	3	34	1	6	21	1			
TSURUGA	15.32	233.3	3	28	-7	6	32	8			
HATIDYOZIMA	15.48	218.3								6	19
HIKONE	15.50	232.0	3	38	1	6	41	13			
KAMEYAMA	15.69	230.4	3	39	-1	6	45	13		5	41
MAIZURU	15.83	234.4	3	39	-2	6	31	-4			
KYOTO	15.97	232.5	3	43	0	6	52	13			
TOYOOKA	16.12	235.7	3	44A	-1	6	45	3		5	28
NARA	16.17	231.5	3	45	-1	6	49	6			
ABUYAMA	16.17	232.5	3	45A	-1						
OSAKA	16.35	232.1	3	47A	-1	7	0	12			
OWASE	16.43	229.2	3	48	-1	6	59	10			
TOTTORI	16.50	237.0	3	51	1	6	49	-2			
KOBE	16.53	232.9	3	54	4	6	58	7			
SAIGO	16.54	240.4	3	49	-1	6	50	-2			
WAKAYAMA	16.87	231.9	3	55	1	7	7	8		9	38
SUMOTO	16.93	232.7	3	55A	0	7	9	8		5	42
YONAGO	17.05	238.4	3	57	0	7	15	12		4	56
HIMEJI	17.10	234.1	3	50	-7	7	8	3			
SIOMISAKI	17.14	228.8	4	2A	4	7	18	13			
MATSUE	17.20	239.0	3	59	0	7	23	16			

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OKAYAMA	17.24	235.5	4	0	1					
TOKUSIMA	17.31	232.7	3	59	-1	7	18	9		
TORISIMA	17.58	212.6	4	6	3					
HAMADA	18.18	239.5	4	10A	-1	7	27	-2		
KOTI	18.28	233.7	4	11	-1	7	36	5	5	1 PP
HIROSIMA	18.33	237.6	4	11A	-2	7	41	9		
CHANGCHUN	18.41	272.8	4	12A	-2					
MATUYAMA	18.50	235.8	4	15	0	7	42	6	8	32
UWAZIMA	19.07	234.9	4	23	1	7	57	8		
SIMIDU	19.17	233.2	4	23A	0	7	58	7	4	52
SIMONOSEKI	19.51	239.4	4	32	6	8	2	3		
OOITA	19.61	236.6	4	29A	2	8	10	9		
HUKUOKA	20.10	239.5	4	33A	0	8	13	2		
ASOSAN	20.17	236.9	4	35	2	8	21	9		
YAKUTSK	20.32	330.2	4	33	-2	8	13	-2		
ITUHARA	20.35	242.6	4	29	-6	8	8	-8		
SAGA	20.37	239.0	4	38A	2	8	29	13		
KUMAMOTO	20.44	237.4	4	38A	2	8	24	6		
MIYAZAKI	20.68	234.4	4	42	3	8	33	11		
UNZENDAKE	20.77	238.0	4	51A	11	8	44	20		
NAGASAKI	20.99	238.6	4	43A	1	8	36	8		
KAGOSIMA	21.44	235.3	4	49	3	8	47	10	5	8
TOMIE	21.73	240.2	4	50A	1	8	49	7		
YAKUSIMA	22.30	233.4	4	57A	2	9	0	7	5	20
PEKING	26.12	269.6	5	32A	0	9	55	-3		
ZO-SE	27.53	248.0	5	46	1	10	21	0		
NANKING	28.49	252.4	5	54A	1	10	34	-2		
ULAN-BATOR	29.99	290.1	6	6	-1	11	6	6		
IRKUTSK	30.88	299.1	6	12	-3					
TAIPEI	31.59	238.9	6	21	0					
ILAN	31.65	238.3	6	50	29					
WUHAN	32.27	254.5	6	28	1	11	34	-2		
HWALIEN	32.34	237.5	6	44	17					
TAICHUNG	32.76	238.9	6	30	-1					
GUAM	32.79	191.6	6	21	-10					
HSINKONG	33.15	236.8	6	36	2	11	52	2		
ALISHAN	33.16	238.0	6	39	4	11	55	5		
TAITUNG	33.55	236.7	6	41	3	11	44	-12		
TAINAN	33.90	238.1	6	44	3					
SIAN	33.98	265.1	6	43A	1					
TAWU	34.00	236.5	6	47	5	11	58	-5		
HENGCHUN	34.36	236.3	6	48	3					
LANCHOW	36.58	271.5	7	6A	2	12	35	-8	7	21
COLLEGE	37.65	37.7	7	13	0	12	51	-8		
CANTON	38.08	246.2	7	18A	2	13	5	-1	8	48 PP
HONG KONG	38.13	244.5	7	18A	1	13	8	2	8	50 PP
BAGUIO CITY	38.92	231.0	7	24	1	13	25	7		
CHENGTU	39.42	264.1	7	29A	2	13	23	-3	9	4 PP
MANILA	40.10	228.9	7	33	0	13	37	1		
KUNMING	43.75	258.7	8	4A	1	14	25	-5	9	53 PP
PHU-LIEN	44.07	250.6	8	5	-1	14	28	-6	8 23	9 50 PP
KHEYS	45.58	346.7	8	18	0				10	2 PP
SEMIPALATNSK	45.87	302.6	8	18	-2					
KIPAPA	47.86	103.1	8	43	7					
HONOLULU	47.89	103.3	8	46	10	15	33	4		
TOCKLAI	48.23	266.8	8	42	4					
LHASA	49.07	272.5	8	48A	3	15	50	5	10	39 PP
RABAUL	49.89	178.7	8	50	-1	15	57	0		
SHILLONG	50.99	267.7	9	0A	0	16	14	2	10	57 PP
ALMATA	51.12	295.5	9	1	0				10	16 PCP
RESOLUTE	52.07	17.9	9	6A	-2	16	22	-5	9 37	11 11 PP
NORD	52.58	357.8	9	9	-2					
FRUNSE	52.81	296.1	9	13	0				12	50
CHITTAGONG	53.10	264.7	9	16	1	16	44	3	9 43	11 20 PP
CHATRA	53.48	272.3	9	19	1	16	49	3		
SVERDLOVSK	53.52	316.9	9	16	-3	16	41	-6	11	26 PP
ALBERNI	53.95	53.7	9	18	-4					
HORSESHOE B.	54.75	52.9	9	23	-5					
VICTORIA	55.13	53.9	9	29A	-1	17	11	3		
PORT MORESBY	55.17	184.8	9	30A	-1	17	10	1	10	22 PCP
CALCUTTA	55.39	267.4	9	38A	6	17	23	11	10	49 PCP
TASHKENT	56.96	297.2	9	42	-1	17	33	0	11	54 PP
CORVALLIS	57.35	57.8	9	46A	0					
APATITY	57.58	336.2	9	45A	-3	17	35	-6	12	13 PP
DEHRA DUN	57.65	281.7	9	49	1	17	42	0	11	49 PP
BANFF	57.94	47.9	9	48K	-2					
STALINABAD	58.87	294.8	9	56	-1				12	4 PP
ARCATA	59.00	61.8	10	9	11					

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LAHORE	59.43	285.1	10	1A	0							
SODANKYLA	59.54	338.3	9	59	-2						12	4 PP
AGRA	59.65	278.8	10	1A	-1	18	6	-2			12	16 PP
WARSAK DAM	59.79	289.0	10	3A	0							
PORT BLAIR	59.87	254.8	10	3	-1	18	11	0			12	7 PP
SHASTA	60.14	61.0	10	5A	-1							
HUNGRY HORSE	60.38	49.9	10	7	0	18	22	5			39	23 PKPPKP
UKIAH	60.57	62.9	10	8	0				10	18		
KIRUNA	60.70	340.7	10	5A	-4	18	13	-8			20	16
MINERAL	60.84	60.9	10	10A	0							
VIZIANAGRAM	61.76	267.2	10	16	0							
BERKELEY	61.93	63.5	10	17A	-1	18	42	5			22	48 SS
MEDAN	62.04	243.7	10	19	1						20	15
RENO	62.42	60.7	10	20A	-1							
BUTTE	62.60	51.3	10	21	-1							
LICK	62.65	63.7	10	21A	-1							
SEHORE	62.85	276.0	10	25	1							
BOZEMAN	63.64	50.8	10	28	-1				10	39		
SCORESBY SD.	63.82	357.4	10	29A	-1	19	2	2				
PULKOVO	64.13	331.1	10	30	-2						23	17 SS
FRESNO	64.15	63.1	10	31A	-1							
EUREKA	64.77	58.7	10	36	0						38	51 PKPPKP
DJAKARTA	65.16	230.0	10	36	-3	19	20	3				
QUETTA	65.22	288.4	10	40A	1	19	17	-1	10	57	13	4 PP
NURMIJARVI	65.38	334.1	10	40	0						13	16 PP
HELSINKI	65.55	333.7	10	41	0	19	18	-4			11	13 PCP
ASHKABAD	65.71	300.0	10	42	0	19	23	-1			13	10 PP
HYDERABAD	65.71	270.3	10	44A	2	19	24	0			13	7 PP
CHARTERS TS.	65.83	185.0	10	41	-2	19	24	-1				
SKALSTUGAN	66.11	341.2	10	44	-1							
SALT LAKE C.	66.36	55.4	10	45	-1							
PASADENA	66.85	64.4	10	48	-2	19	40	3				
MADRAS	67.55	265.6	10	55A	1	19	46	0			13	25 PP
BOULDER CITY	67.73	61.0	10	55	0						39	11 PKPPKP
UPPSALA	67.96	336.7	10	55A	-2						13	10 PP
POONA	68.18	274.4	10	58A	0	19	53	0				
SUVA	68.38	152.0				20	2	6				
BOMBAY	68.64	275.4	11	3	2	19	56	-3			13	34 PP
KARACHI	68.65	284.0	11	1	0							
RAPID CITY	68.87	48.1	11	1	-1						42	45
REYKJAVIK	70.17	356.8	11	11A	1							
SIDA	70.33	354.9	11	13A	2							
TIFLIS	70.89	310.5				20	27	2			13	55 PP
GOTEBORG	71.32	338.3	11	14A	-3							
KODAIKANAL	71.37	265.5	11	4A	-13	20	22	-9			13	44 PP
GORIS	71.62	308.0	11	20	1						15	44 PPP
COLOMBO	72.07	261.3	11	27	6	21	7	28				
IVIGTUT	72.11	9.7				20	34	-5				
TUCSON	72.68	61.5	11	25	0	20	49	3			39	7 PKPPKP
TUCSON TELE.	72.69	61.4	11	25	0						39	1 PKPPKP
BRISBANE	72.96	178.5	11	27A	0	20	53	4				
COPENHAGEN	72.97	337.0	11	26	-1	20	48	-1			15	56 PPP
WARSAW	73.29	330.6	11	28A	-1	20	48	-5	11	48	14	16 PP
SIMFEROPOL	73.82	318.8	11	31A	-1	20	59	0			14	17 PP
LWOW	74.19	327.5	11	33	-1	21	2	-1			21	31 SCS
SHIRAZ	74.87	296.9	11	39A	1	21	9	-1				
ABERDEEN	74.89	345.3				21	21	10			22	4 PS
IASI	74.92	324.0	11	38	0				11	58		
KRAKOW	75.49	329.9	11	42	1							
CHORZOW	75.61	330.6	11	42	0						12	3 PCP
POTSDAM	75.70	335.0	11	43	0	21	11	-9	11	59		
BACAU	75.70	324.0	11	42	-1	21	23	3				
RACIBORZ	76.06	330.9	11	44A	-1						12	29 PCP
SKALNATE PL.	76.11	329.3	11	45	0	21	23	-1				
COLLMBERG	76.67	334.5	11	47A	-1	21	26	-4	12	20	14	21 PP
HALLE	76.80	335.2	11	49	0						12	1 PCP
DURHAM	77.07	344.2	11	50K	0				12	7	14	54 PP
PRAGUE	77.30	333.1	11	49A	-3	21	35	-2			22	26 PS
PRUHONICE	77.34	333.0	11	52A	0	21	35	-2			22	23 PS
JENA	77.41	335.1	11	52	0	21	31	-7	12	14	14	53 PP
CAMPULUNG	77.52	324.3	11	50	-3						12	34
MUNSTER	77.58	337.9	11	53	0				12	21		
BUCHAREST	77.77	323.1	11	54K	0	21	40	-2	12	17	22	1 SKS
CHEB	77.93	334.3	11	54	-1				12	20	15	52 PP
HURBANOVO	77.94	329.7	11	56	1	21	45	1				
SONNEBERG	78.01	335.1	11	54	-2				12	16		
BRATISLAVA	78.07	330.5	11	56K	0	21	43	-2	12	55	14	58 *PPP
DE BILT	78.09	339.3				21	53	8			27	41 SS
VIENNA-H.	78.25	331.0	11	58	1	21	49	2				

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BENSBERG	78.62	337.7	11	58	-1				12	21		
TIMISOARA	78.62	326.8	12	0	1	21	56	5				
FLORISSANT	79.25	44.4	12	3A	1	21	58	0				
RATHFARNHAM	79.31	346.4	11	52	-11						12	32
RIVERVIEW	79.36	180.0	12	5A	2	22	6	7				
ST. LOUIS 1	79.44	44.4	12	3A	0	21	57	-3				
UCCLE	79.49	339.3	12	3	-1	21	58	-2				
BELGRADE	79.70	326.7	12	4A	-1	22	5	2			14	29
KEW	79.93	342.3	12	5A	-1	22	1	-4			23	9 PPS
STUTTGART	80.02	335.5	12	7A	0	22	3	-3	12	25	15	35 PP
DOURBES	80.07	338.9	12	8	1							
OTTAWA	80.11	31.5	12	5A	-2							
SHAWINIGAN	80.16	29.1	12	7A	0	22	7	0				
TUBINGEN	80.29	335.5	12	8A	0							
SEVEN FALLS	80.30	27.6	12	8	0							
SOFIA	80.33	323.8	12	9	1	22	9	0	12	34	15	22 PP
ZAGREB	80.48	330.0	12	10A	1	22	30	19			22	5 SKS
STRASBOURG	80.62	336.3	12	11A	1	22	21	9	12	33	15	11 PP
EBINGEN	80.64	335.4	12	10A	0				12	33		
BREBEUF	80.78	30.1	12	10A	-1	22	0	-14				
LJUBLJANA	80.78	331.0	12	10A	-1				12	31	14	17
RAVENSBURG	80.81	334.8	12	11A	0							
CANBERRA	80.87	181.8	12	11A	0	22	19	4			15	19 PP
TOLMEZZO	80.98	332.1	12	10	-2						14	15
CLEVELAND	81.12	37.2	12	12	0	22	16	-1				
ADELAIDE	81.28	190.3	12	13	0	22	21	2			14	43
TRIESTE	81.39	331.3	12	11	-3							
KSARA	81.47	310.4	12	17	3	22	29	8	12	40	17	17 PPP
BASLE	81.62	336.0	12	15	0	22	23	1				
CHUR	81.67	334.5	12	15A	0	22	22	-1				
SKOPJE	81.71	324.6	12	16K	1	22	21	-2			17	31 PPP
PARIS	81.79	339.7	12	17	1	22	19	-5				
NEUCHATEL	82.29	336.2	12	26	8						22	54
FOLINIERE	82.51	341.5	12	20	0							
PENNSYLVANIA	83.20	35.3	12	22	-1	22	49	11			13	38
BOLOGNA	83.21	332.3	12	21	-2						13	51
PAVIA	83.28	334.0	12	22A	-1	22	33	-6			24	14
MORGANTOWN	83.33	37.2	12	24A	0	22	34	-6				
JERUSALEM	83.39	309.6	12	23K	-1	22	43	3				
MELBOURNE	83.54	184.9	12	25A	0	22	44	2				
MUNDARING	83.73	209.3	12	25	-1	22	44	0				
PRATO	83.84	332.2	12	29	3	22	43	-2				
PERTH	83.84	209.6	12	28	2	22	55	10			15	31 PP
CLERMONT-FD.	84.46	338.1	12	30A	1	22	49	-2				
PALISADES	84.57	32.6	12	29A	-1	22	50	-2	13	24	15	46 PP
FORDHAM	84.72	32.6	12	31	0	22	47	-7				
MONACO	85.12	334.5	12	33A	0	22	53	-5				
ROME	85.13	330.3	12	35A	2	22	53	-5			15	51 PP
WASHINGTON	85.14	35.7	12	34	1				12	58		
GEORGETOWN	85.14	35.7	12	33	0	22	46	-12				
KARAPIRO	86.29	160.9	12	38	0						15	30
MESSINA	87.26	326.5	12	41	-2	23	16	-2			15	58 PP
REGGIO CALA.	87.31	326.4	12	42	-1							
COLUMBIA	87.55	41.1	12	44	-1							
CUGLIERI	87.99	332.2									24	51 PPS
FORT NELSON	88.51	182.8				23	36	6			36	4 SSS
COBB RIVER	88.72	163.9	12	55	5							
WELLINGTON	89.33	162.4	12	52A	-1	23	14	-23			24	55 PS
KAIMATA	89.87	165.2	13	0	4							
GEBBIES PASS	91.24	164.6	13	10	8							
SERRA PILAR	91.48	344.8	12	48K	-15	23	29	-28	13	14	16	23 PP
TOLEDO	91.75	341.2	13	4	0	23	37	-22			27	57
ALICANTE	92.34	338.0	12	57	-10	23	46	-18			16	41 PP
ROXBURGH	92.40	167.3	13	11	4						29	41 SS
LISBON	93.92	344.7				24	5	-13			25	33
GRANADA	94.23	340.0	13	19K	3						16	43 PP
ALMERIA	94.26	339.1	13	8	-8							
RELIZANE	94.50	336.4	13	16	-1				13	41		
BERMUDA	95.59	29.9	13	26	4	24	27	34			17	13 PP
ADDIS ABABA	98.69	292.5	13	39	3						17	42 PP
TAMANRASSET	104.85	327.4	14	2	-1				14	20	18	21 PP
SAN JUAN	107.66	37.1	18	33	777						19	19 *SPP
DUMONT	112.57	184.8	19	19	47							
TERRE ADELIE	112.64	184.2	19	19	47							
TANANARIVE	112.72	265.9									19	17 PP
LWIRO	113.66	292.8	14	45A	777						40	8 PKPPKP
CARACAS	114.26	41.7	19	25	50	26	27	69				
CHINCHINA	114.51	52.9	18	33	-2						19	34 PP

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WILKES	116.17	197.0				26	37	72			19	41 PP
CAPE HALLETT	118.67	173.5	18	44	1						20	13 PP
MBOUR	119.05	346.8									19	3 PP
MIRNY	120.57	203.3	18	47	0							
ELISABTHVLLE	121.53	287.0	18	52A	3	25	56	12			20	24 PP
BROKEN HILL	122.87	283.9	18	54	2						20	32
LEOPOLDVILLE	123.66	303.5	18	55A	2	25	57	7			20	39 PP
SCOTT BASE	123.86	176.1	18	52	-2						28	42 PKKP
BULAWAYO	126.72	278.8	19	1	2						20	56
HUANCAYO	128.23	64.6	19	5K	3						30	56 SP
PIETERMZBURG	131.52	268.1	19	10	2							
BYRD STATION	134.70	165.8	19	2	-12				19	35	20	42 PP
SOUTH POLE	135.71	180.0	19	13	-3						21	55 PP
LA PAZ	136.10	61.2	19	19	2						22	1 PP
WINDHOEK	136.22	286.2	19	7	-10							
GRAHAMSTOWN	136.32	266.6	19	15	-2							
HERMANUS	142.04	270.2	19	26	-2						22	39 PP
HALLEY BAY	150.27	181.1	19	43	2							
ARGENTINE I.	152.73	147.8	19	50	5							

OCTOBER 27 13.H 18.M 52.S EPICENTRE 45.95 151.22 DEPTH= 0.KM

A=-0.61157 B= 0.33588 C= 0.71635 D= 0.4814 E= 0.8765
G=-0.6279 H= 0.3448 K=-0.6977 HT= -3.9

SE= 2.57

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
Y.-SAKHLINSK	5.97	283.4	1	33	2	3	2	21				
TÜKUBASAN	12.83	224.7	3	3K	-3						5	0
MATUSIRO	13.56	230.7	3	14K	-2	5	35	-13			5	47
MAGADAN	13.63	359.1	3	13	-4							
VLADIVOSTOK	14.07	265.3				6	4	3				
CHANGCHUN	18.46	272.7	4	20	1							
YAKUTSK	20.31	330.1	4	43	3							
PEKING	26.17	269.6	5	38	1							
ZO-SE	27.59	248.0	5	51	1							
TIKSI	27.87	345.1	5	52	-1							
NANKING	28.55	252.4	6	0	1							
WUHAN	32.33	254.5	6	33	0							
SIAN	34.03	265.1	6	49A	2							
LANCHOW	36.63	271.5	7	12A	2							
COLLEGE	37.59	37.7	7	18	0							
HONG KONG	38.19	244.5	7	23	0	13	32	15				
CHENGTU	39.48	264.1	7	35A	2							
KUNMING	43.81	258.7	8	9A	0	14	38	-2				
LHASA	49.12	272.5	8	53	2							
SHILLONG	51.04	267.8	9	4	-2							
RESOLUTE	52.01	18.0	9	11A	-2	16	38	2			10	22 PCP
CHITTAGONG	53.15	264.7	9	22	1	16	53	1			11	23 PP
THULE	55.33	10.5	9	34	-3							
CORVALLIS	57.29	57.9	9	51K	0							
SODANKYLA	59.52	338.3	10	5	-2							
WARSAK DAM	59.83	289.0	10	9	0							
SHASTA	60.08	61.1	10	11	0							
HUNGRY HORSE	60.32	49.9	10	13	0							
KIRUNA	60.68	340.8	10	14	-1							
MINERAL	60.77	61.0	10	15	-1							
RENO	62.36	60.8	10	35A	9							
BOZEMAN	63.58	50.9	10	33	-1							
FRESNO	64.09	63.2	10	35	-3							
EUREKA	64.71	58.8	10	40	-2							
QUETTA	65.25	288.4	10	45	0							
NURMIJARVI	65.36	334.1	10	46	0							
HELSINKI	65.54	333.7	10	46	-1							
CHARTERS TS.	65.87	185.1	10	47	-2							
PASADENA	66.79	64.5	11	4	9							
BOULDER CITY	67.66	61.0	11	1	0							
UPPSALA	67.94	336.8	11	1	-1							
POONA	68.22	274.4	11	4A	0							
RAPID CITY	68.80	48.1	11	7	-1							
TIFLIS	70.90	310.5	11	22	1							
TUCSON	72.62	61.6	11	40	9							
TUCSON TELE.	72.63	61.4	11	30	-1							
BRISBANE	73.00	178.6	11	33	0							

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SHIRAZ	74.89	297.0	11	44A	0						
COLLMBERG	76.65	334.5	11	53	-1				12	26	
PRUHONICE	77.33	333.0	11	58K	0				12	6	PCP
STUTTGART	80.00	335.5	13	4	52						
DOURBES	80.05	338.9	12	13	0						
SHAWINIGAN	80.10	29.1	12	12	-1						
BREBEUF	80.72	30.2	12	15	-1						
MUNDARING	83.79	209.4	12	30	-2						
ATHENS	84.08	320.9	12	35K	1						
ELISABTHVLLE	121.57	287.1	18	57	2						
LEOPOLDVILLE	123.67	303.6	19	0	1						
BYRD STATION	134.73	165.8	19	18	-3						

OCTOBER 29 10.H 35.M 27.S EPICENTRE 45.82 151.18 DEPTH= 52.KM

A=-0.61265 B= 0.33712 C= 0.71485 D= 0.4821 E= 0.8761
G=-0.6263 H= 0.3446 K=-0.6993 HT= -3.9

DEPTH OF FOCUS= 0.003R

SE= 2.61

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
NEMURO	4.71	240.0	1	10	-1	2	2	-3				
ABASHIRI	5.22	252.2	1	20	2	2	21	3				
KUSIRO	5.63	242.1	1	24	0	2	25	-3				
Y.-SAKHLINSK	5.97	284.6	1	30	2	2	42	6				
OBIHIRO	6.41	245.9	1	34	0							
ASAHIGAWA	6.59	255.1	1	37	0							
HIROO	6.68	240.8	1	37	-1	3	6	12				
URAKAWA	7.08	241.7	1	44	0	3	2	-2				
SAPPORO	7.55	252.1	1	52	2	3	20	4				
TOMAKOMAI	7.60	248.6	2	1	10	3	30	13				
MURORAN	8.13	248.1	2	0	2	3	46	16				
SUTTSU	8.41	252.8	2	15	13							
MORI	8.51	247.8	2	5	1	3	36	-3				
HAKODATE	8.53	245.7	2	3	-1	3	34	-6			2	33
PETROPAVLOVK	8.69	31.3	2	21	15							
HATINOHE	8.81	236.5				3	36	-11			2	51
AOMORI	9.08	240.3	2	12	1	3	48	-5				
MORIOKA	9.57	233.8	2	16	-2	3	54	-11				
AKITA	10.17	237.1									3	22
ISINOMAKI	10.39	228.2				4	16	-9			3	24
SENDAI	10.73	228.9				4	38	5			3	25
SAKATA	10.87	234.5									4	50
HUKUSIMA	11.35	228.5	2	41	-1							
ONAHAMA	11.75	224.6				4	51	-8				
MITO	12.41	224.3				5	5	-10				
UTUNOMIYA	12.57	226.5				5	3	-16				
KAKIOKA	12.67	224.7	2	57	-3						5	17
TUKUBASAN	12.72	224.9	2	57K	-4	5	14	-8				
KUMAGAYA	13.13	226.8				5	25	-6			5	0
NAGANO	13.36	231.4	3	27	18							
MATUSIRO	13.45	231.0	3	8K	-2	5	29	-10			5	21
KOHU	13.92	227.7	3	19	3							
VLADIVOSTOK	14.03	265.8	3	22	4							
MISIMA	14.16	225.2									5	43
NAGOYA	15.14	230.3									5	45
CHANGCHUN	18.43	273.1	4	13	-1							
PEKING	26.14	269.8	5	31	0	9	58	1				
ZO-SE	27.51	248.2	5	44	0							
NANKING	28.48	252.5	5	53	0							
WUHAN	32.26	254.6	6	26	0							
SIAN	33.98	265.2	6	42A	1							
LANCHOW	36.60	271.7	7	5A	2							
COLLEGE	37.71	37.6	7	13	0							
HONG KONG	38.11	244.6	7	17	1						9	41
CHENGTU	39.43	264.2	7	28	1	13	25	0				
MANILA	40.06	229.0	7	33	1							
KUNMING	43.75	258.8	8	4A	2	14	31	3				
SHILLONG	51.01	267.8	8	58	-1							
RESOLUTE	52.14	17.9	9	6A	-2	16	45	18			10	19 PCP
CHITTAGONG	53.11	264.8	9	12	-3							
CHATRA	53.50	272.4	9	19	1							
VICTORIA	55.16	53.8	9	30	0							
THULE	55.45	10.5	9	28	-4							
CORVALLIS	57.38	57.8	9	47A	1							

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SODANKYLA	59.62	338.3	10 0	-1	
WARSAK DAM	59.84	289.1	10 2	-1	
SHASTA	60.17	61.0	10 6K	1	
HUNGRY HORSE	60.42	49.8	10 6	-1	
KIRUNA	60.78	340.8	10 7	-2	
RENO	62.45	60.7	10 23	3	
FRESNO	64.17	63.1	10 43	11	
EUREKA	64.80	58.7	10 35	-1	10 54
QUETTA	65.26	288.5	10 39A	0	
NURMIJARVI	65.46	334.1	10 40	0	11 16 PCP
HELSINKI	65.63	333.7	10 42	1	
CHARTERS TS.	65.75	185.1	10 42	0	
SKALSTUGAN	66.20	341.3	10 44	-1	
UPPSALA	68.04	336.8	10 55	-1	11 21 PCP
POONA	68.20	274.5	10 59A	2	
RAPID CITY	68.91	48.1	11 2	0	
TIFLIS	70.95	310.5	10 55	-19	
GOTEBORG	71.41	338.3	11 16A	-1	
TUCSON	72.71	61.5	11 26	1	
TUCSON TELE.	72.71	61.4	11 25	0	
BRISBANE	72.88	178.5	11 28	2	
COPENHAGEN	73.06	337.0	11 26K	-1	
SHIRAZ	74.92	297.0	11 26	-11	
COLLMBERG	76.75	334.5	11 47K	-1	12 15
HALLE	76.88	335.2	11 48	-1	
DURHAM	77.15	344.2	11 43K	-7	
PRUHONICE	77.42	333.0	11 52A	0	12 52
JENA	77.50	335.2	11 51	-1	
MUNSTER	77.67	337.9	11 53	0	
BENSBERG	78.70	337.7	11 59	0	
RIVERVIEW	79.28	180.0	12 4A	2	
RATHFARNHAM	79.39	346.5	12 19	17	
FAYETTEVILLE	79.45	48.5	12 3	0	
KEW	80.02	342.4	12 6	0	
STUTTGART	80.10	335.5	12 7K	1	
DOURBES	80.15	338.9	12 8	1	
OTTAWA	80.17	31.5	12 6K	-1	
SHAWINIGAN	80.22	29.1	12 7	0	
TUBINGEN	80.37	335.5	12 9	1	
STRASBOURG	80.70	336.4	12 8	-1	
EBINGEN	80.72	335.4	12 10	0	
BREBEUF	80.84	30.1	12 10K	0	
LJUBLJANA	80.86	331.0	12 10	0	
TRIESTE	81.47	331.3			15 9 PP
KSARA	81.53	310.4	12 15	1	
PARIS	81.87	339.7	12 17K	1	
FOLINIERE	82.60	341.5	12 20	1	
JERUSALEM	83.46	309.6	12 26	2	
CLERMONT-FD.	84.54	338.2	12 31	2	15 0
KARAPIRO	86.21	160.9	12 35	-2	
ELISABTHVLLE	121.57	286.9	18 51K	3	
LEOPOLDVILLE	123.72	303.5	18 55K	3	
HUANCAYO	128.25	64.6	19 5K	4	
BYRD STATION	134.62	165.8	19 14	1	19 43
HALLEY BAY	150.19	181.1	19 46	6	

OCTOBER 29 14.H 19.M 59.S EPICENTRE -28.78-177.41 DEPTH= 57.KM

A=-0.87697 B=-0.03968 C=-0.47890 D=-0.0452 E= 0.9990
G= 0.4784 H= 0.0216 K=-0.8779 HT= 2.2

DEPTH OF FOCUS= 0.004R

SE= 2.74

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
RAOUL ISLAND	0.65	223.3	0 15	0				
ONERAHI	9.85	222.8	2 27	6	5 19	68		2 44
KARAPIRO	10.86	211.0	2 31	-4	4 49	13		
TUAI	10.97	202.9	2 37	1	4 32	-6		5 24
SUVA	11.24	339.3	2 42	2	4 16	-29		
WELLINGTON	14.01	205.1	3 8	-9	5 38	-13		6 41
COBB RIVER	14.69	210.7	3 25	0	5 55	-12		
APIA	15.79	20.5	3 35	-5	6 17	-16		
KAIMATA	16.42	210.4	3 49	1	6 41	-6		6 34
GEBBIES PASS	16.89	205.5	3 49	-4	6 47	-11		

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ROXBURGH	19.70	208.6	4 28	1						
BRISBANE	26.31	265.8	5 32A	0	10 25	27				
RIVERVIEW	27.27	251.4	5 41A	1					6 32	PP
CANBERRA	29.12	248.4	5 59A	2						
FORT NELSON	31.61	233.9			10 51	-32			12 51	
MELBOURNE	32.53	244.0	6 28	1						
CHARTERS TS.	34.08	276.4	6 41	0	11 47	-14				
ADELAIDE	37.54	249.1	7 11	1	13 19	25			9 30	
RABAUL	37.83	304.6	7 10	-2	13 15	16			9 29	
PORT MORESBY	38.42	293.0	7 18	1	13 12	4	7 35		7 41	*SP
CAPE HALLETT	44.10	185.4	8 6A	2	14 42	10	8 20		18 12	SCS
TERRE ADELIE	45.47	201.5	8 15	0	14 53	2				
DUMONT	45.83	202.1	8 15	-3	14 53	-4			10 10	PP
SCOTT BASE	49.69	184.3	8 49	1	16 3	12			10 24	PCP
HONOLULU	53.16	22.7	9 13	-1						
KIPAPA	53.29	22.7	9 14	-1						
GUAM	55.69	313.7	9 30	-2			9 50			
BYRD STATION	56.43	169.8	9 39	1					9 56	
MUNDARING	56.55	249.0	9 35	-3					10 33	PCP
WILKES	56.82	207.3	9 39A	-1	17 24	-4			14 39	PCS
PERTH	56.86	248.9	9 40	-1						
SOUTH POLE	61.39	180.0	10 11	-1						
ARGENTINE I.	73.19	156.1	11 26	0						
MANILA	73.46	297.5	11 26	-2	20 49	-2				
HALLEY BAY	74.30	172.7	11 53	21						
BAGUIO CITY	74.88	298.6	11 36	0						
TUKUBASAN	76.01	325.7	11 35	-7	21 6	-14			16 29	PPP
MATUSIRO	77.21	324.7	11 49K	0					21 53	
ABUYAMA	77.32	321.9	11 48K	-2						
HONG KONG	83.20	299.9	12 21	0						
ZO-SE	83.44	310.7	12 22A	0						
PORT STANLEY	83.94	147.0	12 25	0						
PASADENA	83.99	45.8	12 25	0	22 54	11				
LICK	84.01	41.5	12 26K	1						
BERKELEY	84.02	40.8	12 26A	1	22 54	11				
CANTON	84.28	300.1	12 27A	1						
FRESNO	84.71	42.9	12 29A	0						
NANKING	85.64	310.2	12 34A	1						
MINERAL	86.09	39.3	12 35A	0						
RENO	86.55	40.9	12 38A	0						
BOULDER CITY	87.26	46.1	12 43	2						
TUCSON	87.63	51.1	12 44	1			13 7			
WUHAN	87.63	306.8	12 44A	1						
TUCSON TELE.	87.76	51.1	12 45	2			13 5			
CORVALLIS	88.12	35.4	12 56	11						
EUREKA	88.76	42.8	12 48	0			13 6			
ALBERNI	90.72	31.4	12 56	-1						
VICTORIA	90.83	32.5	12 58	0						
SALT LAKE C.	92.04	43.8	13 6	2						
KUNMING	93.55	296.6	13 12A	2						
SIAN	93.66	307.2	13 13A	2						
CHENGTU	95.35	302.0	13 22	3						
HUNGRY HORSE	95.42	36.8	13 18	-1						
BOZEMAN	95.43	40.2	13 21	2						
COLLEGE	96.15	12.2	13 21	-1						
BANFF	96.40	34.0	13 21	-2						
LANCHOW	98.16	306.6	13 34	3						
LA PAZ	98.22	113.8			24 11	8			26 21	PS
RAPID CITY	99.20	44.6	13 38	2						
RESOLUTE	115.55	17.0	18 35	0					29 19	PS
OTTAWA	117.72	51.2	18 40	1						
KIMBERLEY	118.99	202.3	18 27	-15						
THULE	122.23	15.3	18 47	-1						
BERMUDA	122.83	68.3			25 52	8			27 21	SKKS
BULAWAYO	125.26	210.3	18 58	4						
NORD	126.55	3.5	19 5A	9	26 3	8	20 52		23 3	SCP
BROKEN HILL	130.27	213.7	19 8	4						
ELISABTHVLLE	133.17	214.4	19 4	-5					22 46	PKS
SHIRAZ	136.69	283.8	19 4	-12					19 21	
KIRUNA	139.48	349.7	19 22	1						
LWIRO	140.21	223.6	19 16	-6						
ADDIS ABABA	140.77	247.2	19 27	4					22 11	PP
SKALSTUGAN	144.63	352.5	19 29K	-1						
LEOPOLDVILLE	144.87	202.3	19 32A	2					33 49	PS
NURMIJARVI	144.96	341.1	19 29	-1						
HELSINKI	145.14	340.5	19 30	-1						
UPPSALA	147.29	346.0	19 36	2						
GOTEBORG	150.35	349.8	19 41A	2						

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KSARA	151.19	288.5	19	43	3	26	59	19		23	33 PP
BANGUI	151.36	215.1	19	50	9					33	10
JERUSALEM	151.72	284.2	19	51	10					28	26
COPENHAGEN	152.20	348.0	19	50K	8					23	20 PKS
LWOW	153.40	328.1	19	47	4					29	35
COLLMBERG	156.18	343.7	19	50	3					20	16
HALLE	156.24	345.4	19	50	3					20	17
JENA	156.86	345.4	19	49	1					20	15
MBOUR	156.90	124.2	19	53	5					23	58 PP
PRUHONICE	156.95	340.0	19	49	1					20	21 PKP2
BRATISLAVA	157.62	333.9	19	50	1						
STUTTGART	159.38	347.4	19	54	3					20	32 PKP2
EBINGEN	160.01	347.4	19	56	4					20	33 PKP2
RAVENSBURG	160.26	345.9	19	56	4						
TAMANRASSET	173.47	204.5	20	4	2					25	5 PP

OCTOBER 29 14.H 30.M 26.S EPICENTRE 42.84 131.13 DEPTH= 547.KM
A=-0.48381 B= 0.55409 C= 0.67743 D= 0.7533 E= 0.6577
G=-0.4456 H= 0.5103 K=-0.7356 HT= -2.7

DEPTH OF FOCUS= 0.081R

SE= 1.73

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
VLADIVOSTOK	0.63	63.1	1	9	3	2	2	4					
CHANGCHUN	4.36	285.2	1	27	2	2	32	0					
SUTTSU	6.70	87.2	1	46K	1	3	10	1			13	41	SCS
SAIGO	6.84	164.9	1	49	2	3	15	3					
WAZIMA	7.02	139.0	1	50K	2	3	17	2					
MORI	7.02	92.8	1	49	1	3	16	1					
HAKODATE	7.21	94.9	1	50K	0	3	17	-1			4	0	
AIKAWA	7.26	129.1	1	51K	0	3	20	1					
MURORAN	7.29	90.7	1	51K	0	3	18	-2					
AKITA	7.44	111.7	1	53K	0								
AOMORI	7.49	102.3	1	53K	0	3	17	-6			13	44	SCS
SAPPORO	7.51	84.7	1	53K	0	3	21	-3			13	43	SCS
MATSUE	7.53	167.8	1	54	1	3	27	3					
YONAGO	7.59	166.1	1	55K	1	3	27	2					
KANAZAWA	7.60	144.1	1	54	0								
SAKATA	7.68	117.9	1	58K	3								
TOTTORI	7.69	161.0	1	56K	1	3	33	6					
TOYAMA	7.71	140.6	1	56	1	3	30	3					
TOMAKOMAI	7.72	88.8	1	56	1	3	27	0					
NIIGATA	7.79	126.4	1	57	1						3	2	
TOYOOKA	7.84	157.3	1	57K	1	3	29	-1			13	44	SCS
HUKUI	7.84	148.1	1	57	0								
TAKADA	7.92	134.0	1	56	-1	3	30	-1					
HAMADA	7.96	174.4	1	59K	1	3	34	2					
WAKKANAI	8.02	67.6	2	0K	2	3	35	2					
MAIZURU	8.07	154.4	2	0K	1	3	34	0					
HATINOHE	8.12	103.0	1	57K	-2	3	31	-4					
TSURUGA	8.13	150.3	2	0	1	3	33	-2					
TAKAYAMA	8.18	142.7	2	0	0								
MORIOKA	8.19	109.1	1	59K	-1	3	32	-4					
NAGANO	8.22	136.2	2	2K	2	3	36	0			13	44	SCS
ASAHIGAWA	8.26	79.6	1	58	-3	3	34	-3					
MATUSIRO	8.32	136.7	2	0K	-1	3	35	-3			10	9	SCP
YAMAGATA	8.38	120.0	2	2K	0	3	44	5					
MIZUSAWA	8.42	112.7	2	2	0	3	37	-3					
OKAYAMA	8.43	164.1	2	3K	1	3	41	1					
MATUMOTO	8.44	139.0	2	3	1	3	43	3			13	44	SCS
HIROSIMA	8.51	172.7	2	3	0	3	43	1					
HIKONE	8.54	150.5	2	2K	-1	3	40	-2			13	43	SCS
KYOTO	8.59	153.8	2	4K	0	3	43	0					
GIHU	8.62	147.6	2	4K	0	3	43	-1			13	45	SCS
URAKAWA	8.64	90.6	2	5K	1	3	44	0					
OIWAKE	8.66	136.1	2	3	-2						3	25	
ABUYAMA	8.67	155.0	2	5K	0								
HIMEJI	8.71	161.8	2	4	-1	3	44	-1					
SENDAI	8.72	118.2	2	3K	-2	3	39	-7					
ITUHARA	8.74	190.1	2	5	-1	3	45	-1					
HUKUSIMA	8.76	122.3	2	4K	-2	3	44	-2					
MIYAKO	8.77	107.6	2	3K	-3	3	40	-6					
TAKAMATU	8.80	164.0	2	7K	1	3	47	0					

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OSAKA	8.87	155.7	2 7K	0				
OBIHIRO	8.87	85.4	2 7K	0	3 48	0		
SIMONOSEKI	8.87	181.1	2 9	2	3 52	4		
MAEBASI	8.88	133.7	2 6K	-1	3 46	-2		2 36
NAGOYA	8.90	147.4	2 7	0	3 48	-1		
ISINOMAKI	8.91	116.2	2 6	-1	3 47	-2		
NARA	8.93	154.2	2 7K	0	3 52	3		
IIDA	8.97	142.3	2 10	2	3 52	2		
SUMOTO	8.98	159.5	2 8K	0	3 52	2		13 45 SCS
KAMEYAMA	8.99	150.7	2 8K	0	3 53	2		
SHIRAKAWA	9.01	126.3	2 7K	-1	3 48	-3		
HIROO	9.02	89.4	2 7	-1	3 48	-3		
MATUYAMA	9.07	171.2	2 9	0	3 50	-2		6 28
WAKAYAMA	9.16	158.5	2 10K	0				3 37
TOKUSIMA	9.16	161.7	2 10K	0	3 51	-3		
KOHU	9.19	138.7	2 8K	-2	3 53	-1		13 45 SCS
TITIBU	9.20	135.4	2 8	-2	3 52	-2		
UTUNOMIYA	9.21	130.1	2 9K	-1	3 51	-3		13 45 SCS
Y.-SAKHLINSK	9.23	59.1	2 12	2	3 58	3		
KUMAGAYA	9.23	133.6	2 9	-1				
HUKUOKA	9.26	183.9	2 14K	3	4 2	7		
HUNATU	9.42	138.5	2 11	-1	4 2	4		13 47 SCS
KOTI	9.46	167.7	2 14K	1	3 58	-1		13 47 SCS
ONAHAMA	9.53	124.8	2 11K	-3	3 56	-5		3 1
TUKUBASAN	9.57	130.7	2 11A	-3	3 52	-9		13 45 SCS
SAGA	9.59	184.2	2 16K	2	4 5	3		
HAMAMATU	9.60	145.4	2 17	3	4 27	25		3 2
OOITA	9.60	177.5	2 15K	1	4 0	-2		
KAKIOKA	9.61	130.3	2 12K	-2	3 57	-5		
OWASE	9.61	153.9	2 13K	-1	4 1	-1		
ABASHIRI	9.65	78.5	2 15	0	4 2	-1		
UWAZIMA	9.66	172.9	2 15	0	4 2	-1		
MITO	9.67	128.7	2 13	-2	3 58	-5		
SHIZUOKA	9.68	141.8	2 14K	-1	4 3	0		
KUSIRO	9.74	84.6	2 14K	-2	4 0	-4		13 46 SCS
TOKYO C.M.O.	9.78	134.1	2 13K	-3	4 3	-2		
MISIMA	9.82	139.1	2 13K	-3	4 0	-6		13 45 SCS
OMAESAKI	9.91	143.7	2 16K	-1	4 7	-1		
ASOSAN	9.92	180.3	2 17	0	4 11	3		
YOKOHAMA	9.92	135.4	2 15	-2	4 4	-4		
AJIRO	9.95	138.8	2 15	-3	4 5	-3		
SIOMISAKI	10.06	157.2	2 18K	-1	4 9	-1		
NAGASAKI	10.14	186.0	2 21	1	4 16	4		
SIMIDU	10.14	171.1	2 20K	0	4 9	-3		
OSIMA	10.31	138.7	2 21	0	4 10	-5		
TYOSI	10.35	130.1	2 19K	-3	4 14	-2		
TOMIE	10.37	191.1						3 21
MERA	10.41	136.5	2 20	-2	4 11	-6		
NEMURO	10.59	82.4	2 24K	0	4 20	0		13 48 SCS
MIYAZAKI	10.90	178.7	2 28	1	4 25	-1		
KAGOSIMA	11.25	182.5	2 33	2	4 38	6		
PEKING	11.57	261.0	2 35K	1	4 35	-3		
HATIDYOZIMA	11.87	142.1	2 41	4				
YAKUSIMA	12.37	182.5	2 40	-2	4 47	-6		
OKHA	13.28	32.1	2 57	6				5 22
ZO-SE	14.14	217.3	3 1	1	5 23	-3		
NANKING	14.54	226.3	3 4	0	5 28	-5		
ULAN-BATOR	17.73	295.0	3 37	2	6 33	4		
WUHAN	18.05	232.5	3 39K	1	6 34	-1		
SEVERO-KUR.	18.76	56.7	3 45	0				
YAKUTSK	19.23	358.0	3 49	0	6 53	-2		
SIAN	19.33	251.1	3 51	1				
IRKUTSK	20.30	307.0	4 0	1	7 14	2		6 14 *SP
PETROPAVLOVK	20.94	51.4	4 5	0				14 19 SCS
LANCHOW	22.08	261.3	4 16K	0				
CHENGTU	24.78	249.6	4 40K	0	8 21	-4		
HONG KONG	24.88	219.9	4 23	-18	8 42	14		6 7 *SP
TIKSI	28.89	358.5	5 16	0	9 28	-1		
KUNMING	29.23	241.9	5 18K	-1	9 30	-4	6 50	
PHU-LIEN	30.07	230.7	5 25	-1	9 43	-4	6 58	12 33 *SS
GUAM	31.55	154.0	5 39	0	10 7	-3	7 9	8 22 *SP
TOCKLAI	33.59	253.3	5 58	2				
LHASA	34.59	261.0	6 6K	2	10 56	0		
SEMIPALATNSK	35.16	300.4	6 9	0	11 2	-3	7 46	
SHILLONG	36.37	254.5	6 18	-1	11 19	-4		7 21 PP
CHITTAGONG	38.45	250.6	6 20	-16				
CHATRA	38.99	260.3	6 41	1	12 0	-1		
ALMATA	39.00	289.8	6 41	1				8 28 PP

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FRUNSE	40.76	290.0	6	55	1	12	27	0			8	46 PP
DEHRA DUN	43.75	271.5	7	20	2	13	7	-2			9	13 PPP
TASHKENT	45.01	290.1	7	27	-1	13	25	-2	9	10	9	27 PP
KHEYS	45.30	347.2	7	30	0	13	30	-1				
SVERDLOVSK	45.50	313.4	7	32	0	13	32	-2	9	12	9	30 PP
AGRA	45.51	267.7	7	31K	-1	13	30	-4			9	29 PPP
LAHORE	45.84	275.3	7	33	-1	13	35	-4	9	10		
STALINABAD	46.52	286.9	7	39	0	13	46	-2				
WARSAK DAM	46.64	279.9	7	41K	1	13	49	-1				
COLLEGE	48.59	34.2	7	56	1	14	19	2	9	38		
RABAUL	50.55	152.4	8	10	0							
HYDERABAD	51.14	257.2									14	48
QUETTA	51.95	278.2	8	19K	-1	15	2	0	10	5	10	30 PP
POONA	53.75	261.8	8	32K	-1						15	24
PORT MORESBY	54.00	160.3	8	34A	0				10	30	9	29 PCP
APATITY	54.01	331.9	8	33K	-1	15	26	-3	10	23	10	41 PP
ASHKABAD	54.05	291.1	8	35	0	15	31	1	10	21	10	44 PP
BOMBAY	54.27	262.9	8	34	-2	15	30	-2			11	38
KARACHI	54.90	272.7	8	40	-1	15	37	-4	10	26		
KODAIKANAL	56.73	251.5									14	37
SITKA	57.15	40.5	8	57	1							
MOSCOW	57.78	318.1	8	58	-2	16	12	-6	10	47	17	47 SCS
KIRUNA	58.12	335.3	9	1	-2	16	20	-2			11	18 PP
RESOLUTE	58.85	12.9	9	7A	-1	16	29	-2			10	58 PP
PULKOVO	59.04	324.6	9	7	-2	16	30	-4			11	25 PP
THULE	60.38	5.2	9	15	-3	16	50	0	11	4	11	45 PP
TIFLIS	61.03	301.4	9	21	-1	16	56	-2			17	19
GORIS	61.26	298.5	9	23	-1	16	58	-3	11	13		
KIPAPA	61.92	86.1	9	28	0				11	22		
HONOLULU	61.93	86.3	9	28	0				11	23	10	48
SHIRAZ	62.62	286.1							11	40	18	25
SKALSTUGAN	63.44	334.0	9	37	-1	17	25	-3	11	27		
UPPSALA	64.10	329.0	9	40	-2	17	32	-4			12	10 PP
CHARTERS TS.	64.15	164.2	9	41	-1	17	34	-2				
SCORESBY SD.	65.32	350.4	9	49A	0	17	53	2				
SIMFEROPOL	65.59	309.3	9	50	-1	17	51	-3	11	40	12	25 PP
ALBERNI	66.74	43.8	9	59K	1							
HORSESHOE B.	67.45	43.0	10	0	-3							
GOTEBORG	67.72	329.6	9	59	-5	18	12	-7				
IASI	67.80	314.3	10	2	-3	18	16	-4				
LWOW	67.91	318.1	10	5	0	18	18	-3	11	59	12	46 PP
VICTORIA	67.93	43.7	10	6A	1							
COPENHAGEN	69.00	327.8	10	11	-1				12	4		
KRAKOW	69.73	320.2	10	16	0	18	37	-5			12	45
BANFF	69.95	38.0	10	17K	0							
RACIBORZ	70.52	321.0	10	22	1						10	58
CORVALLIS	70.57	46.9	10	23A	2							
POTSDAM	71.15	325.1	10	22	-3	18	55	-3	12	18	12	58
KSARA	71.38	299.0	10	18	-8	18	52	-8	12	20	13	17 *SP
COLLMBERG	71.97	324.4	10	19K	-10				12	24	13	16 PP
PRUHONICE	72.25	322.7	10	31	0				12	26	13	20 PP
HALLE	72.27	325.0	10	30	-1	19	7	-3	12	22	13	7 PP
BRATISLAVA	72.38	320.1	10	32A	0	19	8	-3			13	20 PP
ARCATA	72.59	50.2	10	35A	2							
HUNGRY HORSE	72.63	39.4	10	34	1	19	17	3			14	26 *SP
BRISBANE	72.67	159.9	10	35A	2	19	16	1				
JENA	72.84	324.8	10	35	1	19	13	-4	12	28	13	26 PP
BELGRADE	73.08	315.9	10	36A	0							
SHASTA	73.66	49.4	10	40A	1				12	36		
MUNSTER	73.68	327.5	10	39	0							
MINERAL	74.34	49.3	10	44A	1							
BENSBERG	74.64	327.0	10	44	0						13	41 PP
DURHAM	74.75	333.8	10	44K	-1							
BUTTE	75.00	40.3	10	48	2				12	39		
LJUBLJANA	75.13	319.9	10	46	-1				12	45	11	11
STUTTGART	75.45	324.5	10	50A	1				12	45	13	49 PP
BERKELEY	75.66	51.5	10	51A	1				12	49	13	56 PP
MUNDARING	75.69	193.0	10	49	-1							
TUBINGEN	75.73	324.5	10	51	1							
TRIESTE	75.79	320.0									15	47 PPP
UCCLE	75.87	328.4	10	50	-1	19	45	-4				
RENO	75.89	48.9	10	53A	2							
BOZEMAN	75.98	39.7	10	53	1						11	5 PCP
EBINGEN	76.04	324.3	10	53A	1						13	55 PP
ATHENS	76.05	309.0	10	51A	-1							
RAVENSBURG	76.06	323.7	10	53A	1							
STRASBOURG	76.24	325.2	10	54	1	19	51	-2	12	49		
DOURBES	76.33	327.8	10	55	1							

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LICK	76.38	51.6	10	55A	1			12	53	16	54
CHUR	76.81	323.1	10	56	0	19	57 -2				
KEW	77.06	331.2	10	58A	0	20	0 -2	12	54	13	56 PP
RATHFARNHAM	77.48	335.4	10	57	-3					14	21
ADELAIDE	77.74	173.6	11	2A	1					13	4
NEUCHATEL	77.82	324.6	11	2	0						
FRESNO	77.83	50.9	11	3A	1						
EUREKA	78.03	46.8	11	4	1			13	1		
PARIS	78.19	328.2	11	4	0			13	1		
SALT LAKE C.	79.23	43.5	11	11	2						
FOLINIERE	79.35	329.8	11	9	-1						
CANBERRA	79.48	165.2	11	12A	2			13	16	14	23 PP
CLERMONT-FD.	80.40	326.0	11	16	1	20	36 0				
PASADENA	80.63	51.8	11	17A	1	20	45 6	13	16	14	37 PP
RAPID CITY	80.77	36.4	11	19	2	20	17 -23			40	25 SKPPKP
BOULDER CITY	81.19	48.6	11	22	3					11	54
MELBOURNE	81.27	168.9	11	20A	0			13	24		
LARAMIE	81.88	39.5	11	25	2						
TUCSON TELE.	86.17	48.4	11	46	2			13	47	15	19 *SP
TUCSON	86.18	48.5	11	46	2			13	46	15	20 *SP
ONERAHI	87.62	146.1	11	56	5						
SEVEN FALLS	88.34	14.8	11	53A	-1						
LAWRENCE	88.36	34.4	11	55	1						
SHAWINIGAN	88.51	16.2	11	55A	0			13	55		
SERRA PILAR	88.86	330.8	11	55A	-1			13	56	15	37 PP
OTTAWA	88.95	18.6	11	57A	0						
BREBEUF	89.33	17.1	11	59A	0					15	42 PP
KARAPIRO	89.95	146.4	12	3A	1					14	1
FAYETTEVILLE	91.24	35.2	12	9	2			14	10		
PENNSYLVANIA	92.72	21.6	12	15	1					15	58 PP
DALLAS	92.83	38.7	12	16	1						
MORGANTOWN	93.22	23.5	12	18A	1					16	6 PP
FORDHAM	93.69	18.7	12	18	-1					16	7 PP
ELISABTHVLLE	107.82	270.5	17	29	777						
BULAWAYO	112.44	262.9	17	36	3						
MBOUR	115.97	325.3				23	44 4				
SAN JUAN	117.05	18.4								18	59 PP
CAPE HALLETT	118.06	167.4	17	44	0						
KIMBERLEY	120.39	257.6								28	0 PS
SCOTT BASE	122.37	171.6	17	52K	-1						
CARACAS	124.41	21.7	17	48	-9					19	45 PP
CHINCHINA	126.59	33.9	17	50	-11						
BOGOTA	127.54	32.4	18	6	3					21	26 PP
BYRD STATION	135.20	166.5	18	9	-8			19	55		
HUANCAYO	141.70	44.7	18	28	-2					21	46 PP
HALLEY BAY	145.78	189.8	18	35	-1					21	22
LA PAZ	149.03	37.9	18	44	3			20	56	18	51 PKP2

OCTOBER 30 0.H 32.M 30.S EPICENTRE 8.34 137.66 DEPTH= 0.KM

A=-0.73146 B= 0.66648 C= 0.14413 D= 0.6735 E= 0.7392
G=-0.1065 H= 0.0971 K=-0.9896 HT= 6.7

SE= 1.74

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
GUAM	8.61	53.2	2	10	1	3	38	-10				
MANILA	17.42	292.7	4	5	-1	7	37	18				
BAGUIO CITY	18.50	297.3	4	21	2	7	54	11				
RABAUL	19.09	130.2	4	26	0							
PORT MORESBY	20.00	151.6	4	36K	-1	8	24	7				
HONG KONG	26.51	304.2	5	48	7							
CANTON	27.56	304.9	5	49	-1							
MATUSIRO	28.07	0.9	5	53	-2	10	32	-7			6	43 PP
NANKING	29.41	326.0	6	8	1							
SIAN	36.92	318.5	7	13A	1							
PEKING	36.93	332.1	7	14A	2							
CHANGCHUN	36.96	345.1	7	13A	1	12	55	-3			8	40 PP
KUNMING	37.21	300.9	7	17	2	13	3	1			8	41 PP
BRISBANE	38.42	158.1	7	30	5	13	9	-11				
CHENGTU	38.47	309.9	7	25	0	13	16	-5				
LANCHOW	41.36	316.9	7	51	2							
ADELAIDE	43.09	178.7	8	5K	2							
RIVERVIEW	43.85	163.7				14	46	5			17	52 SS
MUNDARING	45.02	206.1	8	17	-2							
CHITTAGONG	46.16	293.0	9	15	47							

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SHILLONG	46.76	297.3	8	34	1					
ULAN-BATOR	47.26	332.1	8	38	1					
PETROPAVLOVK	47.70	17.0							13	17
LHASA	48.50	302.3	8	48	2					
IRKUTSK	51.56	334.5	9	10	0					
KARAPIRO	58.03	145.1	10	14	17					
AGRA	59.26	296.5	10	3A	-2					
POONA	62.62	286.5	10	28	0					
WARSAK DAM	65.60	303.5	10	47	-1					
KARACHI	68.99	293.3	11	9A	0					
QUETTA	69.20	299.0	11	10A	0	20	12	-4		
DUMONT	74.84	179.0	11	42	-2					
TERRE ADELIE	75.02	178.5	11	42	-3					
COLLEGE	75.93	25.1	11	50	0					
SVERDLOVSK	75.97	326.5	11	50	0					
SHIRAZ	81.73	298.8	12	21	-1				23	58 PPS
CAPE HALLETT	83.24	170.5	12	30	1				12	49 PCP
MAKHACH-KALA	84.50	312.5	12	36	0					
TIFLIS	86.64	311.5	12	46	0					
SCOTT BASE	87.57	174.1	12	52	1					
APATITY	87.73	338.1	12	50	-2					
MOSCOW	88.78	326.1	12	56	-1					
SODANKYLA	90.26	338.8	13	2	-2					
RESOLUTE	91.20	12.2	13	4	-4	24	6	1	25	10 PS
SHASTA	92.08	48.5	13	13A	1					
KIRUNA	92.21	340.3	13	10	-3					
THULE	94.03	6.0	13	19	-2					
RENO	94.28	49.2	13	25	3					
HUNGRY HORSE	95.74	39.5	13	29	0					
PASADENA	96.91	54.1							37	38 SS
EUREKA	97.16	48.5	13	35	0					
BUTTE	97.46	41.4	13	37	0					
LEOPOLDVILLE	122.67	270.1	19	0K	2					
TAMANRASSET	123.87	304.5	19	2	2					
CHINCHINA	144.27	69.4	19	40	2					
SAN JUAN	144.56	41.3	19	39	1					
FUQUENE	145.82	67.4	19	40	0					
BOGOTA	145.83	69.0	19	44	4					
MBOUR	146.19	311.7	19	46K	5				20	28
HUANCAYO	147.33	99.3	19	50A	7				20	31
CARACAS	149.19	53.0	19	54A	8					
ST. VINCENT	151.53	41.5	19	58	9					
LA PAZ	153.56	110.4	19	57	5					

OCTOBER 30 4.H 0.M 25.S EPICENTRE 65.93 137.03 DEPTH= 0.KM

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G=-0.6673 H= 0.6217 K=-0.4101 HT=-10.7

SE= 1.88

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
YAKUTSK	5.08	222.7	1	18	-2							
TIKSI	6.44	336.3	1	40	1	2	51	-3			3	14
PETROPAVLOVK	16.84	129.8	4	2	3						6	27
UGLEGORSK	17.11	168.7	4	13	11							
Y.-SAKHLINSK	19.21	168.1	4	27	-1	8	12	12				
KABANSK	20.64	242.4	4	45	1						8	35
IRKUTSK	21.32	246.0	4	49	-2	8	41	-3				
VLADIVOSTOK	23.04	189.6	5	9	1	9	19	4			5	39 PP
CHANGCHUN	23.08	202.0	5	8	0						5	36 PP
ULAN-BATOR	24.01	236.1	5	19	1	9	43	11				
PEKING	28.53	214.9	5	59A	-1							
MATUSIRO	29.44	178.1	6	5	-3	11	10	8			9	11 PCP
COLLEGE	29.59	56.7	6	10	1						11	27
NORD	32.00	352.9	6	30	0							
SEMIPALATNSK	32.37	269.5	6	34	0							
SVERDLOVSK	35.42	292.8	7	1	1							
LANCHOW	35.66	229.6	7	3A	1							
RESOLUTE	35.71	21.0	7	2A	0	12	41	2			9	29 PCP
SIAN	35.85	221.8	7	4A	0							
ZO-SE	36.18	203.4	7	4	-2							
APATITY	36.38	321.0	7	8	0							
THULE	37.00	9.7	7	12	-1							
WUHAN	38.00	212.4	7	21A	-1							
SODANKYLA	38.22	324.1	7	24	0						9	42 PCP

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CHILIK	38.59	264.1	7	28A	1				
KURMENTY	39.12	263.8	7	32	1				
KIRUNA	39.27	327.6	7	33A	1				
FABRICHNAYA	39.77	265.7	7	36	0				
CHENGTU	40.62	226.2	7	44	1				
FRUNSE	40.76	267.1	7	47A	2				
NARYN	41.36	264.6	7	54	4				
TCHIMKENT	43.25	271.3	8	5A	0				
PULKOVO	43.36	315.1	8	7	1				
ANDIJAN	43.42	267.5	8	7	1				
TASHKENT	44.20	270.8	8	12A	-1				
NURMIJARVI	44.33	319.1	8	15	1			10	3 PP
MOSCOW	44.42	307.1	8	15	0				
HELSINKI	44.53	318.6	8	16	1			10	3 PP
SKALSTUGAN	44.67	328.5	8	17	0				
LHASA	45.83	240.8	8	28	2				
KUNMING	46.20	225.0	8	28	-1				
KHOROG	46.54	265.9	8	31	0				
UPPSALA	46.71	322.8	8	32	-1				
STALINABAD	46.74	269.2	8	34	1	15	34 11		
SHILLONG	49.26	237.7	8	51A	-2				
WARSAK DAM	49.53	263.5	8	53	-2				
HORSESHOE B.	49.82	57.5	8	55A	-2				
GOTEBORG	49.99	325.0	8	56	-2				
ASHKABAD	51.52	278.0	9	11	1				
COPENHAGEN	51.70	323.5	9	16A	5				
GROZNY	51.92	292.0	9	13	0				
LWOW	53.77	312.3	9	27	0				
HUNGRY HORSE	53.80	51.4	9	26	-1			10	32
CORVALLIS	53.93	60.6	9	29A	1				
SOTCHI	53.94	296.9	9	28	0				
KIROVOBAD	53.98	289.8	9	28	0				
QUETTA	54.75	265.5	9	33A	-1				
SIMFEROPOL	54.75	302.1	9	33	-1				
KRAKOW	54.77	315.4	9	34	0				
ALUSHTA	54.87	301.7	9	32	-3				
YALTA	55.13	301.7	9	31	-6				
RACIBORZ	55.24	316.6	9	37	0				
RAKHOV	55.40	311.2	9	38	-1				
COLLMBERG	55.54	320.9	9	39A	-1			12	35
DURHAM	55.59	332.3	9	16K	-24				
HALLE	55.63	321.7	9	39	-1			10	39 PCP
JENA	56.24	321.7	9	44	-1			11	54 PP
MUNSTER	56.25	324.9	9	50	5				
BUTTE	56.32	51.7	9	46	1				
PRUHONICE	56.33	319.1	9	46A	1			10	48 PP
BOZEMAN	57.12	50.8	9	52	1				
BRATISLAVA	57.28	316.4	9	54	2				
SHASTA	57.64	62.2	9	56A	1				
UCCLE	58.10	326.7	9	59	1				
MINERAL	58.24	61.8	9	59A	0				
DOURBES	58.70	326.2	10	1	-1				
STUTTGART	58.81	322.3	10	3A	0				
TUBINGEN	59.09	322.3	10	3	-2				
STRASBOURG	59.36	323.3	10	6	-1			10	53
EBINGEN	59.44	322.3	10	7	0				
RENO	59.60	60.8	10	9A	1				
BERKELEY	60.18	63.7	10	14	2				
PARIS	60.38	327.2	10	14A	0				
LICK	60.88	63.4	10	19A	2				
RAPID CITY	60.95	45.7	10	17	0			11	2
EUREKA	61.00	57.8	10	19	1				
NEUCHATEL	61.04	323.2	10	17	-1				
FOLINIERE	61.06	329.3	10	18	0				
SHIRAZ	61.11	278.3	10	18A	-1			11	23
SALT LAKE C.	61.25	53.9	10	20	1				
FRESNO	62.06	62.3	10	26	1				
POONA	62.38	252.9	10	26	-1				
LARAMIE	62.76	48.8	10	30	0				
CLERMONT-FD.	63.11	325.6	10	33	1				
KSARA	63.94	294.6	10	38	1			13	56
ATHENS	64.50	306.5	10	41K	0				
BOULDER CITY	64.54	58.6	11	11	30				
PASADENA	64.99	62.2	10	44	0				
SEVEN FALLS	65.25	20.6	10	44	-2				
SHAWINIGAN	65.52	22.1	10	47A	-1				
JERUSALEM	66.01	294.2	10	50K	-1				
OTTAWA	66.16	24.6	10	50	-2				

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BREBEUF	66.41	23.0	10	52A	-1						
LAWRENCE	67.93	41.7	11	1	-2						
HALIFAX	68.63	15.7	11	7A	0						
TUCSON TELE.	69.26	56.9	11	13	2						
TUCSON	69.31	57.0	11	12	1						
PALISADES	70.73	24.3	11	19	-1	20 43	9	11 24		25 55	SS
FORDHAM	70.89	24.4	11	20	-1						
FAYETTEVILLE	70.92	41.9	11	16A	-5						
MORGANTOWN	70.95	29.4	11	21K	0						
DALLAS	73.23	45.2	11	35	0						
PORT MORESBY	75.50	169.7	11	35	-13						
COLUMBIA	76.15	31.8	11	50	-2						
TAMANRASSET	84.24	316.0	12	35A	0					15 49	PP
ADDIS ABABA	85.18	281.2	12	43	3						
ELISABTHVLLE	108.51	283.2	18	37	777					18 56	PP
HUANCAYO	121.87	38.1	19	0K	3						
KIMBERLEY	124.94	277.5	19	3	0						
LA PAZ	127.84	31.1	19	10	2						
SOUTH POLE	155.79	180.0	20	3	7						
BYRD STATION	156.16	155.2	19	56	0						

OCTOBER 30 7.H 4.M 43.S EPICENTRE -19.03-177.65 DEPTH= 343.KM

A=-0.94522 B=-0.03876 C=-0.32412 D=-0.0410 E= 0.9992
G= 0.3238 H= 0.0133 K=-0.9460 HT= 4.9

DEPTH OF FOCUS= 0.049R

SE= 1.78

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SUVA	3.82	282.6	1	6	-1	2	17	17					
APIA	7.67	48.2	1	53	2	3	18	0			2	15	
RAOUL ISLAND	10.18	181.3	2	21	0	4	12	-1			2	41	
ONERAHI	18.10	201.3	3	53	3						11	0	
KARAPIRO	19.75	196.1	4	7	1						5	9	
TUAI	20.21	191.8	4	9	-2						7	42	
TONGARIRO	20.95	195.0	4	16	-2						11	8	
WELLINGTON	23.10	194.7	4	36	-2								
COBB RIVER	23.47	198.5	4	43	1								
KAIMATA	25.18	199.2	5	0	3								
GEBBIES PASS	25.91	196.2	5	6	2						11	24	
BRISBANE	28.37	247.4	5	25	-1	9	32	-15					
CANBERRA	33.61	234.3	6	11A	0				7	30	8	25	PCP
PORT MORESBY	35.37	280.7	6	27	1								
MELBOURNE	37.51	232.1	6	43	-1								
ADELAIDE	41.64	238.5	7	17	0						12	21	SCP
HONOLULU	44.42	26.5	7	40	0								
KIPAPA	44.56	26.5	7	36	-5								
GUAM	49.14	308.3	8	17	1								
TERRE ADELIE	54.51	198.6	8	55	0								
DUMONT	54.84	199.2	8	55	-3								
SCOTT BASE	59.35	183.8	9	29	0				10	55	13	34	*PPP
MUNDARING	60.26	243.5	9	34	-1				10	2			
BYRD STATION	66.03	170.7	11	11	59						11	36	
MATUSIRO	69.23	323.1	10	32K	0								
SOUTH POLE	71.09	180.0	12	8	85								
BERKELEY	76.87	42.0	11	17	0								
LICK	76.95	42.7	11	18A	1								
PASADENA	77.45	47.0	11	20	0								
FRESNO	77.82	44.1	11	21K	-1								
HONG KONG	78.26	298.6	10	57	-27	19	46	-63					
SHASTA	78.50	39.6	11	25K	0								
MINERAL	78.77	40.3	11	27A	0								
NANKING	79.26	309.3	11	30K	1								
RENO	79.41	41.8	11	30K	0								
CORVALLIS	80.37	36.1	11	35K	0								
BOULDER CITY	80.74	47.0	12	6	29								
CHANGCHUN	81.44	322.1	11	41K	0								
WUHAN	81.68	306.2	11	39K	-3								
TUCSON	81.76	51.9	11	43	1								
EUREKA	81.83	43.5	11	42	-1								
TUCSON TELE.	81.88	51.9	11	45	2								
VICTORIA	82.79	32.9	11	48K	0								
HORSESHOE B.	83.41	32.3	11	48K	-3								
HALLEY BAY	83.95	173.0	11	52	-2								

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PEKING	85.08	315.2	12	OK	1					
COLLEGE	86.71	12.3	12	5	-2			13	41	
SIAN	87.60	307.4	12	12K	1					
HUNGRY HORSE	87.77	36.7	12	9	-3					
BANFF	88.47	33.8	12	21	6					
KUNMING	88.98	296.9	12	19	1					
LARAMIE	89.64	45.8	12	21	0					
CHENGTU	89.98	302.4	12	24	2					
LANCHOW	92.14	307.4	12	34K	2					
QUETTA	120.89	294.3	18	12	0					
BULAWAYO	133.33	214.9						21	43	PP
SHIRAZ	133.39	293.1	18	21K	-15			21	29	SKP
NURMIJARVI	135.62	344.4	18	34	-6					
BROKEN HILL	137.94	219.6						21	43	PP
ELISABTHVLLE	140.72	221.1	18	43	-7			21	50	SKP
ADDIS ABABA	143.37	259.4	18	55	0					
LWIRO	146.48	233.7	19	0	0					
COLLMBERG	146.72	347.8	19	2K	2			19	27	
KSARA	146.73	303.0	19	3	3					
JERUSALEM	147.84	299.7	19	5	3					
UCCLE	148.26	357.6	19	16	14					
VIENNA-H.	148.71	341.8	19	7	4					
DOURBES	148.95	357.2	19	3	0					
STUTTGART	149.81	350.9	19	4	0					
FOLINIERE	150.25	3.8	19	10	5					
LJUBLJANA	151.24	342.2	19	13K	6					
LEOPOLDVILLE	153.50	209.9	19	11	1					
TAMANRASSET	175.23	322.1	19	28K	-1			21	17	25 0 PP

OCTOBER 30 13.H 58.M 27.S EPICENTRE -23.72-175.54 DEPTH= 0.KM

A=-0.91372 B=-0.07127 C=-0.40004 D=-0.0778 E= 0.9970
G= 0.3988 H= 0.0311 K=-0.9165 HT= 3.7

SE= 2.40

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
RAOUL ISLAND	5.90	200.7	1	28	-3	2	33	-7				
SUVA	7.90	313.4	2	1	2						5	45
APIA	10.49	20.5	2	31	-4	4	18	-16				
KARAPIRO	16.09	206.3	3	54A	5						4	28
TUAI	16.27	200.8				6	36	-17				
TONGARIRO	17.19	204.1	4	1	-2							
WELLINGTON	19.30	202.6	4	28	-1						6	40
COBB RIVER	19.91	206.8				8	5	-10				
KAIMATA	21.65	206.9				8	34	-16				
GEBBIES PASS	22.17	203.2	5	5	6	8	42	-17				
BRISBANE	28.77	256.0	5	33A	-29	11	5	14				
RIVERVIEW	30.77	243.3				11	24	2			7	19 PP
CHARTERS TS.	35.56	268.3	6	59	-2	12	29	-8				
MELBOURNE	36.45	237.9	5	6	-123							
RABAUL	36.70	296.9	7	12	1							
PORT MORESBY	38.35	285.4	7	22A	-3				7	32	9	4
ADELAIDE	41.10	243.5	7	46	-1							
CAPE HALLETT	49.27	185.7	8	54	1	16	5	6			10	47 PP
TERRE ADELIE	50.77	200.4	9	4	0	16	6	-13				
DUMONT	51.13	201.0	9	4	-3	16	26	2			11	13
SCOTT BASE	54.84	184.5	9	35	1	17	21	6			19	25 SCS
BYRD STATION	61.10	170.5	10	17	-1							
WILKES	62.07	206.0	10	22	-3	18	47	-2			10	55 PCP
SOUTH POLE	66.42	180.0	10	52	-1						11	18
MATUSIRO	74.14	322.8	11	38	-2	21	17	4			21	52 SCS
BERKELEY	79.10	40.2	12	8A	0							
LICK	79.12	41.0	12	9K	1							
PASADENA	79.26	45.3	12	11	2							
FRESNO	79.87	42.4	12	13K	1							
SHASTA	80.91	38.0	12	18	0							
MINERAL	81.12	38.7	12	19K	0							
ZO-SE	81.50	309.2	12	21	0	22	48	16			22	37 SKS
RENO	81.64	40.2	12	22	1							
VLADIVOSTOK	82.21	324.1									23	45
HONG KONG	82.22	298.4	12	42	17	22	46	6				
BOULDER CITY	82.55	45.5	12	56	30							
CORVALLIS	83.04	34.7	12	29K	0							
TUCSON	83.15	50.5	12	30	1							

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TUCSON YELE.	83.27	50.5	12	31	1						
CANTON	83.28	298.7	12	31	1						
NANKING	83.73	308.9	12	22A	-10	22	55	0			
EUREKA	83.92	42.2	12	33	0						
WUHAN	86.01	305.7	12	44A	0	23	36	19	23	13	SKS
CHANGCHUN	86.33	321.5	12	46A	1	23	38	18	23	14	SKS
PEKING	89.77	314.5	13	2A	0	24	2	9	23	32	SKS
BUTTE	89.81	38.4	13	1	-1						
HUNGRY HORSE	90.37	35.9	13	3	-2						
BOZEMAN	90.48	39.3	13	6	1						
COLLEGE	90.88	11.5	13	5	-2						
LARAMIE	91.52	45.1	13	10	0						
SIAN	91.98	306.6	13	13A	1						
KUNMING	92.82	296.1	13	18A	2	23	54	-26			
CHENGTU	94.13	301.6	13	23	1	24	42	11	23	57	SKS
HUANCAYO	94.36	105.1	13	24	1	24	0	-33			
RAPID CITY	94.41	43.5	13	23	0						
LANCHOW	96.51	306.4	13	33	0	24	10	1			
RESOLUTE	110.24	16.2				25	15	2	28	41	PS
PALISADES	113.66	54.0							29	11	PS
BOMBAY	116.67	280.0				25	46	8	15	15	
BERMUDA	119.30	65.0							20	5	PP
KIMBERLEY	124.28	201.7	19	3	2						
QUETTA	124.52	291.2	19	2	0						
SVERDLOVSK	127.93	324.6	19	1	-7						
SHIRAZ	136.90	288.6	19	17	-8				23	11	
MAKHACH-KALA	139.76	309.1							23	9	
MOSCOW	139.80	331.3	19	33	3						
NURMIJARVI	140.64	344.4	19	27	-5						
HELSINKI	140.86	343.9	19	27	-5						
TIFLIS	142.02	308.1	19	30	-4						
UPPSALA	142.73	349.1	19	29	-6						
ADDIS ABABA	144.11	251.8	19	40	2						
LWIRO	144.97	225.8	19	40K	1						
GOTEBORG	145.62	352.9	19	38	-2				19	52	
COPENHAGEN	147.54	351.6	19	47	3						
SIMFEROPOL	147.91	318.6	19	45	1						
WARSAW	148.84	340.2	19	51	5				23	24	PP
LWOW	149.78	334.5	19	52	5				21	4	
LEOPOLDVILLE	150.16	202.0	19	50	2						
POTSDAM	150.64	349.2	19	53	4						
KSARA	150.78	297.3	19	49	0				23	37	PP
RACIBORZ	151.58	341.2	19	57	7						
HALLE	151.67	350.1	19	56	6				20	14	PKP2
COLLMBERG	151.69	348.7	19	57A	7				23	27	PP
MUNSTER	151.69	355.9	19	54	4						
JENA	152.28	350.3	19	58	7				20	41	
PRUHONICE	152.63	345.8	20	0	9				23	44	PP
BENSBERG	152.73	356.3	20	10	18						
BRATISLAVA	153.62	340.8	19	53	0						
DOURBES	153.67	359.8	20	13	20						
VIENNA-H.	153.76	341.8	19	33	-20						
FOLINIERE	154.70	7.7	20	3	9						
STUTTGART	154.71	352.5	19	55	1						
STRASBOURG	155.05	354.8	19	52	-3				20	23	PKP2
MBOUR	157.74	110.8	20	0	2				37	42	PPS
TAMANRASSET	178.65	226.3	20	12	0				25	52	PP

OCTOBER 30 21.H 37.M 40.S EPICENTRE -19.38-177.40 DEPTH= 599.KM

A=-0.94307 B=-0.04281 C=-0.32983 D=-0.0453 E= 0.9990
G= 0.3295 H= 0.0150 K=-0.9440 HT= 4.8

DEPTH OF FOCUS= 0.089R

SE= 2.27

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
SUVA	4.13	286.5	1	32	6						2	29
APIA	7.73	45.0	1	54	-3	3	25	-5				
RAOUL ISLAND	9.84	182.7	2	14	-3	4	10	3				
ONERAHI	17.87	202.3	3	39	4							
KARAPIRO	19.48	196.9	3	50K	0						5	30
TUAI	19.92	192.6	3	52	-2	6	57	-5				
WELLINGTON	22.83	195.3	4	18	-2	7	43	-6				

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KAIMATA	24.93	199.9	4	36	-3	8	22	0				
GEBBIES PASS	25.65	196.8	4	44	-1	8	31	-2			8	56
BRISBANE	28.45	248.1	5	6K	-3							
CANBERRA	33.61	234.8	5	53K	0							
CHARTERS TS.	34.17	262.6	5	57	-1	10	40	-5				
PORT MORESBY	35.67	281.1	6	9	-1	11	5	-2				
MELBOURNE	37.49	232.6	6	25K	0							
ADELAIDE	41.67	238.9	6	58K	-1							
TERRE ADELIE	54.26	198.7	8	35	3							
DUMONT	54.59	199.3	8	35	0							
SCOTT BASE	59.02	183.9	9	7	2							
MUNDARING	60.32	243.7	9	13	0							
BYRD STATION	65.65	170.7	9	49	2						10	14
MATUSIRO	69.65	323.1	10	10A	-1							
SOUTH POLE	70.74	180.0	10	20	2							
EUREKA	81.92	43.4	11	20	1							
HALLEY BAY	83.58	172.9	11	29	2							
COLLEGE	87.00	12.2	11	43	0				13	45		-
OTTAWA	111.64	47.9	17	10	-17							
BREBEUF	113.12	48.0	17	36K	6							
QUETTA	121.25	294.1	17	48	3							
SODANKYLA	129.63	348.2	18	2	0						20	33 SKP
SHIRAZ	133.74	292.8	17	40	-29						20	48 SKP
NURMIJARVI	136.02	344.5	18	15	2							
ELISABTHVLLE	140.61	220.5	18	18	-5							
ADDIS ABABA	143.53	258.8	18	31	3							
RACIBORZ	146.94	341.5	18	37	4							
COLLMBERG	147.10	348.0	18	38K	5				20	49	21	24
HALLE	147.11	349.2	18	37	4							
KSARA	147.11	302.7	18	39	6							
JENA	147.72	349.3	18	35	1	20	52					
PRUHONICE	148.01	345.4	18	41K	7	20	53					
SONNEBERG	148.32	349.5	18	40	5							
UCCLE	148.62	357.9	18	21	-14						18	33 PKP2
DOURBES	149.31	357.5	18	44	8							
STUTTGART	150.19	351.1	18	39	1							
STRASBOURG	150.57	353.0	18	47	9							
FOLINIERE	150.57	4.1	18	46	8							
PARIS	150.64	0.1	18	47K	9							
LJUBLJANA	151.64	342.4	18	49	9							
LEOPOLDVILLE	153.32	209.1	18	46	4	21	9					
TAMANRASSET	175.65	321.6	19	3K	2	21	17		20	45 PKP2		

OCTOBER 31 4.H 27.M 12.S EPICENTRE -16.72-177.86 DEPTH= 416.KM

A=-0.95759 B=-0.03584 C=-0.28589 D=-0.0374 E= 0.9993
G= 0.2857 H= 0.0107 K=-0.9583 HT= 5.4

DEPTH OF FOCUS= 0.060R

SE= 1.42

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SUVA	3.82	247.6	1	17	5	2	17	8					
APIA	6.54	64.5	1	36	-4	2	54	-5			13	3	SCS
RAOUL ISLAND	12.47	180.3	2	48	1	5	0	-1					
ONERAHI	20.20	198.6	4	9	3	7	34	10					
KARAPIRO	21.92	194.1	4	23	1						8	4	
TUAI	22.43	190.3	4	26	-1	7	57	-5			14	50	SCS
TONGARIRO	23.13	193.2	4	31	-2						8	31	
WELLINGTON	25.29	193.1	4	51	-2	8	47	-1			15	2	SCS
COBB RIVER	25.60	196.6	4	54	-2	8	52	-1			15	6	SCS
KAIMATA	27.30	197.5	5	9	-2	9	21	1			15	6	SCS
GEBBIES PASS	28.08	194.7	5	16	-2	9	30	-2					
ROXBURGH	30.62	197.9				10	8	-4			12	49	
RABAUL	31.93	289.6	5	49	-2						10	12	
RIVERVIEW	32.63	232.7	5	57A	0	10	44	1					
PORT MORESBY	34.81	277.6	6	16A	1	11	17	1			11	47	SCP
CANBERRA	34.85	231.5	6	16	0	11	19	2			7	26	
MELBOURNE	38.81	229.8	6	48A	-1	12	18	2			8	28	PP
MACQUARIE I.	41.76	200.2	7	13	1								
HONOLULU	42.46	27.8	7	18	0								
KIPAPA	42.60	27.8	7	19	0				8	40			
ADELAIDE	42.72	236.3	7	19A	-1	13	13	0			9	13	
GUAM	47.59	306.8	7	57	-1				9	19	12	35	SCP
CAPE HALLETT	56.02	184.4	9	1	1	16	21	6			10	38	PCP

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TERRE ADELIE	56.64	198.0	9	5	1	16	29	6				
DUMONT	56.95	198.6	9	5	-1	16	29	2				
MUNDARING	61.13	242.4	9	33	-1	17	16	-4				
SCOTT BASE	61.63	183.7	9	38K	0	17	34	8			18	53 SCS
TUKUBASAN	65.97	323.6				18	18	-1			19	25 SKS
MATUSIRO	67.28	322.7	10	11A	-3	18	33	-1	11	43	21	15 *SS
WILKES	67.45	204.5	10	13	-2	18	35	-1	11	44	12	29 *SP
MANILA	67.87	293.9	10	16	-1						11	54
BYRD STATION	68.33	170.8	10	20	0				12	13	38	28 PKPPKP
LEMBANG	73.28	267.8	10	48	-1	19	42	-1				
SOUTH POLE	73.39	180.0	10	50	0						19	46
DJAKARTA	74.21	268.2									19	33
BERKELEY	75.30	42.5	11	0K	-1							
LICK	75.40	43.2	11	1K	0				12	36		
UKIAH	75.42	40.9	11	2	1				12	34		
ARCATA	75.94	39.1	11	5K	1							
PASADENA	76.03	47.5	11	5K	0	20	13	0	12	37	21	1 PS
FRESNO	76.31	44.5	11	7K	1							
SHASTA	76.86	40.0	11	9	0							
HONG KONG	77.00	298.2	11	10	0	20	28	5			23	2 *SS
MINERAL	77.15	40.7	11	11K	0							
RENO	77.83	42.2	11	16K	2							
CANTON	78.02	298.6	11	16	0	20	36	2				
CORVALLIS	78.63	36.4	11	19K	0							
BOULDER CITY	79.32	47.4	10	55	-27							
CHANGCHUN	79.51	322.0	11	23	0	20	52	3	12	58		
WUHAN	80.17	305.9	11	27A	0	21	1	5	13	3	23	54 *SS
EUREKA	80.30	43.8	11	27	-1						40	48 SKPPKP
TUCSON	80.50	52.3	11	30	1				13	5	41	6 SKPPKP
TUCSON TELE.	80.62	52.2	11	31	2				13	4	41	7 SKPPKP
VICTORIA	80.97	33.2	11	30	-1							
HORSESHOE B.	81.57	32.6	11	32A	-2							
SITKA	81.58	21.9	11	34	0							
PEKING	83.31	315.1	11	43A	0	21	34	6	13	19	24	26 *SS
SALT LAKE C.	83.69	44.3	11	46	1							
COLLEGE	84.51	12.4	11	47	-2	21	29	-10	13	23	37	59 PKPPKP
TACUBAYA	85.21	68.2	11	52K	0							
BUTTE	85.75	39.4	11	55	0							
HUNGRY HORSE	86.04	36.9	11	56	0	21	44	-10			29	54 PKKP
HALLEY BAY	86.26	173.0	11	59	2							
BOZEMAN	86.51	40.2	12	0	1							
BANFF	86.67	33.9	11	27A	-32							
KUNMING	87.76	296.9	12	6A	2							
LARAMIE	88.18	45.9	12	7	1							
CHENGTU	88.58	302.5	12	12	4	22	25	8	13	47	24	25 *SS
LANCHOW	90.58	307.5	12	18	0							
RAPID CITY	90.89	44.0	12	20	1						29	42 PKKP
DALLAS	91.67	56.3	12	23	0							
PORT STANLEY	94.26	147.3	12	36	1							
FAYETTEVILLE	94.71	53.9	12	37K	0						16	29 *PPP
LAWRENCE	94.76	50.9	12	37	0							
SHILLONG	97.29	294.4	12	23	-25						22	45
HUANCAYO	98.28	105.2	12	56K	3						16	59 PP
FLORISSANT	98.37	52.1	12	54	1							
LA PAZ	103.27	111.9									17	39 PP
RESOLUTE	104.14	15.8	13	18K	-1	24	28	71			19	24 *PPP
OTTAWA	110.17	47.2	17	44	1							
THULE	110.71	13.8	17	45	1						18	23 PP
PALISADES	111.20	52.0	16	11	-94				17	57	25	37 SP
BREBEUF	111.65	47.2	17	47K	1							
POONA	112.07	283.6	18	15	28							
CARACAS	112.85	85.5	18	34	46						36	32 SS
SAN JUAN	115.25	77.2	17	54	1							
BERMUDA	118.13	61.9									19	18 PP
QUETTA	119.75	295.5	18	4A	2							
APATITY	125.34	345.8	18	21K	8							
SODANKYLA	126.95	348.4	18	14	-2				19	57		
KIRUNA	127.58	351.4	18	16	-1							
KIMBERLEY	129.78	206.1	17	43	-38							
PRETORIA	130.77	211.5									21	30 PP
SHIRAZ	132.27	295.0	18	26K	0	23	58	-57				
MOSCOW	132.62	333.5	18	46	19							
SKALSTUGAN	132.66	353.9	18	27A	0						21	16 SKP
NURMIJARVI	133.35	344.9	18	15	-13						21	19 SKP
HELSINKI	133.56	344.5	18	28	0						21	19 SKP
BULAWAYO	135.09	216.4	18	21	-10						21	35
UPPSALA	135.48	348.9	18	22	-10						21	25 SKP
TIFLIS	135.82	313.3	18	33	1							

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GOTEBORG	138.43	352.1	18 33	-4				21 39	SKP
BROKEN HILL	139.57	221.5	18 35	-4					
DURHAM	141.92	3.5	18 42	-2				21 29	SKP
ELISABTHVLLE	142.30	223.3	18 42K	-3				21 48	PP
LWOW	142.54	336.6	18 42	-3					
RATHFARNHAM	142.90	8.4	18 43K	-3				19 46	
ADDIS ABABA	143.53	262.5	18 49	2					
KRAKOW	143.78	340.5	18 45	-2					
CHORZOW	143.86	341.6	18 46	-1					
RACIBORZ	144.29	342.2	18 48K	0					
COLLMBERG	144.43	348.3	18 46A	-2				22 4	PP
HALLE	144.43	349.5	18 46	-2				21 18	
MUNSTER	144.56	354.2	18 48	-1					
JENA	145.04	349.6	18 49	0			20 31	21 57	PP
KSARA	145.27	305.8	18 53	3			20 34	21 13	*SPKP
KEW	145.27	2.7	18 49	-1			20 36		
PRAGUE	145.28	346.1	18 51	1					
PRUHONICE	145.34	345.9	18 50	0			20 33	19 4	PP
BENSBERG	145.60	354.4	18 50	0				20 56	
SONNEBERG	145.64	349.7	18 51	1			20 35		
CHEB	145.71	348.3	18 54	4					
UCCLE	145.96	357.5	18 53	2			20 39		
BRATISLAVA	146.32	341.8	18 52A	1				19 25	PKP2
VIENNA-H.	146.46	342.7	18 53K	1					
DOURBES	146.64	357.1	18 54	2					
JERSEY	147.44	5.2	19 50	57					
STUTTGART	147.51	351.2	18 54	1			20 38	20 59	*SPKP
LWIRO	147.63	236.9	18 56K	3				20 39	
TUBINGEN	147.77	351.4	18 54	1					
STRASBOURG	147.89	353.0	18 55A	2	25 48	28	20 36	19 2	PKP2
FOLINIERE	147.96	3.3	18 54	0					
PARIS	147.99	359.6	18 59K	5				21 23	*SPKP
BELGRADE	148.03	335.0	18 54K	0					
EBINGEN	148.13	351.3	18 55	1					
SOFIA	148.41	329.4	18 56	2				20 40	
RAVENSBURG	148.42	350.4	18 55	1					
ZAGREB	148.77	341.2	19 2	7					
BASLE	148.95	352.8	18 55	0				28 51	
LJUBLJANA	148.98	343.2	18 56K	1			20 41	21 22	*SPKP
NEUCHATEL	149.54	353.5	18 59	3				21 6	
TRIESTE	149.56	343.8	19 1	5			20 43	20 58	*PPKP2
CLERMONT-FD.	151.02	358.6	19 7	9					
ATHENS	151.57	322.4	19 6K	7					
MONACO	152.70	351.6	19 10	9					
SERRA PILAR	153.96	18.7	18 58K	-4	25 17	-10		19 22	PKP2
LEOPOLDVILLE	155.37	212.9	19 7A	3					
LISBON	155.95	22.1	19 36A	31					
TOLEDO	156.30	11.9	19 8	2				19 38	PKP2
GRANADA	159.00	12.9	19 47A	38			21 37		
ALMERIA	159.54	10.6	19 12	2				19 50	PKP2
RELIZANE	160.99	4.0	17 59	-72			19 40	19 16	PKP2
MBOUR	161.44	94.6	19 15A	4				20 2	PKP2
TAMANRASSET	173.18	332.7	19 21A	1			20 51	24 40	PP

NOVEMBER 2 8.H 43.M 55.S EPICENTRE 21.87 144.47 DEPTH= 0.KM

A=-0.75598 B= 0.53981 C= 0.37027 D= 0.5811 E= 0.8138
G=-0.3013 H= 0.2152 K=-0.9289 HT= 4.2

SE= 3.88

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
GUAM	8.36	178.2	2	17	11	4	11	29				
MERA	13.63	343.6	3	13	-4							
OMAESAKI	13.83	337.9									6	11
AJIRO	13.95	341.4	3	22	0	5	46	-12			6	11
MISIMA	14.06	341.1	3	22	-1	5	46	-15				
SHIZUOKA	14.10	339.1	3	42	18							
YOKOHAMA	14.16	343.7	3	22	-2	5	42	-21			6	16
TOKYO C.M.O.	14.37	344.3	3	27	0	5	50	-18				
HUNATU	14.47	341.1	3	27	-1	6	12	1				
KOHU	14.69	340.7	3	32	1	5	59	-17				
IIDA	14.79	338.3	3	40	7	6	14	-4				
KAKIOKA	14.79	346.3	3	31	-2	5	58	-20				
NAGOYA	14.80	335.2	3	36	3							
TUKUBASAN	14.80	346.0	3	28A	-5	6	0	-19			4	15

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NARA	14.85	331.1	3	33	0					4	57
MITO	14.88	347.3	3	42	8					6	4
KUMAGAYA	14.91	343.8	3	30	-4	6	2	-19			
OSAKA	14.96	330.2	3	45	10						
SUMOTO	15.01	327.9	3	36	1					5	8
GIHU	15.08	335.1	3	39	3	6	27	2			
ABUYAMA	15.13	330.8	3	34K	-3						
KOTI	15.13	322.6	3	42	5	6	21	-5			
YAKUSIMA	15.17	307.2	3	47	9	6	26	-1			
UTUNOMIYA	15.17	345.7	3	36	-2	6	6	-21		4	7
KYOTO	15.18	331.6	3	38	0	6	15	-13			
MAEBASI	15.23	343.2	3	40	2	6	17	-12		4	11
OIWAKE	15.31	341.6	3	39	0	6	33	3			
MIYAZAKI	15.34	313.5	3	40	0	6	35	4			
ONAHAMA	15.35	349.1	3	45	5	6	13	-18		5	25
MATUMOTO	15.41	339.9								4	22
TAKAMATU	15.43	325.8	3	42	1						
MATUSIRO	15.60	340.9	3	38K	-5	6	14	-23		4	43
SHIRAKAWA	15.64	347.3	3	42	-2	6	21	-17			
NAGANO	15.73	341.1	3	50A	5	6	45	5		8	27
KAGOSIMA	15.74	310.8	3	49	4					7	11
HUKUI	15.86	334.8	3	46	0						
TOYOOKA	16.02	330.3	3	48	-1	6	49	2			
OOITA	16.05	317.6	3	52K	3	6	46	-2			
TOYAMA	16.08	338.4	3	53	4	6	51	3			
HUKUSIMA	16.20	348.6	3	48	-3	6	35	-16			
HIROSIMA	16.35	322.2	3	54	1	6	57	2			
KUMAMOTO	16.38	314.7	4	2	9						
SENDAI	16.64	350.1	3	52	-4	6	39	-22			
NIIGATA	16.67	344.9	4	2	5						
YAMAGATA	16.71	348.7	3	56	-1					7	10
ISINOMAKI	16.73	351.4	3	56	-2	6	46	-18			
SAGA	16.91	315.1	4	5	5	7	13	5			
HAMADA	16.94	322.7	4	2	2	7	9	1			
HUKUOKA	17.06	316.1	4	29	27	7	14	3		8	55
SAKATA	17.44	347.8	4	14	7						
MIZUSAWA	17.45	351.3	4	7	0	7	17	-3			
MIYAKO	17.86	353.7	4	12	0	7	7	-22			
MORIOKA	18.00	351.7	4	14	0	7	17	-16			
AKITA	18.18	349.1	4	22	6	7	38	1			
HATINOHE	18.77	353.0	4	22	-1	7	49	-1			
AOMORI	19.15	351.4	4	30	2						
HAKODATE	20.13	351.9	4	32	-7						
URAKAWA	20.28	356.4	4	45	5	8	9	-14			
HIROO	20.38	357.5	4	51	10						
MORI	20.44	351.7	4	54	12	7	52	-34			
OBIHIRO	21.02	357.4	5	7	19	8	41	3			
KUSIRO	21.06	359.9	4	47	-1	8	24	-15			
ILAN	21.06	282.3	5	4	16	8	54	15			
HWALIEN	21.15	280.1	4	43	-6						
SUTTSU	21.17	351.3	4	51	2	8	42	1			
TAIPEI	21.29	283.0	4	54	3						
SAPPORO	21.30	353.7	4	50	-1	8	38	-5			
NEMURO	21.42	2.2	4	55	3					7	7
ALISHAN	21.90	278.8	5	1	4						
HENGCHUN	22.00	274.8	5	21	23						
TAINAN	22.44	277.5	5	12	10						
ZO-SE	22.75	298.7	5	3K	-2	9	1	-9		5	29 PP
BAGUIO CITY	23.20	260.7	5	10	0	9	11	-7			
MANILA	23.32	256.1	5	9	-2	8	29	-51			
WAKKANAI	23.61	355.1	5	24	10	9	32	7			
VLADIVOSTOK	23.64	336.6	5	12	-2						
NANKING	24.99	299.4	5	24K	-3	9	42	-7			
Y.-SAKHLINSK	25.14	357.2	5	39	11						
RABAUL	26.98	162.9	5	46	0					7	20
UGLEGORSK	27.22	356.5	5	53	5						
HONG KONG	28.06	276.6	5	57	2	10	27	-13		6	43 PP
WUHAN	28.13	294.1	5	53	-3	10	28	-13		11	23
CANTON	28.77	278.4	6	3	1	10	46	-5		6	49 PP
PEKING	30.09	313.4	6	10	-4	10	59	-13			
PORT MORESBY	31.18	174.9	6	25A	2	11	25	-4		13	59
SIAN	33.54	299.4	6	41	-3						
PHU-LIEN	35.21	275.4	6	57	-1					8	14 PP
LANCHOW	37.99	301.0	7	19	-3	13	0	-14			
KUNMING	38.30	283.2	7	23	-1	13	10	-9		8	45 PP
ULAN-BATOR	39.72	320.1	7	33	-3	13	25	-16			
YAKUTSK	41.39	349.5	7	48	-2	13	50	-16			
CHARTERS TS.	41.73	177.5	7	55	2					25	51

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IRKUTSK	43.25	324.7	8 3	-2	14 12	-21				
LEMBANG	46.02	235.9	8 43	16						
DJAKARTA	46.23	237.2			15 8	-7				
MEDAN	47.98	254.4	8 42	-1						
SHILLONG	48.05	285.3	8 42A	-1						
LHASA	48.39	290.8	8 46K	0	15 38	-9				
CHITTAGONG	48.57	281.0	8 45	-2	15 37	-12			10 31	PP
BRISBANE	49.62	170.3	8 59	4	15 51	-13				
TIKSI	50.59	353.7	8 57	-6						
CHATRA	52.07	287.6	9 10	-4						
RIVERVIEW	55.75	173.3	9 43A	2						
ADELAIDE	56.78	185.6	9 51A	2					11 58	PP
CANBERRA	57.03	175.6	9 52A	2					10 47	
MELBOURNE	59.38	179.5	10 7A	0						
DEHRA DUN	59.52	293.1	10 14	6	18 5	-12				
COLLEGE	60.97	26.9	10 15	-3						
LAHORE	62.47	295.1	10 24	-4	18 39	-15				
ONERAHI	63.93	153.2	10 44	7						
WARSAK DAM	64.36	298.2	10 38	-2					11 9	PCP
POONA	65.83	281.2	10 47	-3	19 21	-15				
KARAPIRO	66.26	153.5	10 54A	2						
BOMBAY	66.67	281.9	11 5	10	19 37	-9			20 32	PPS
TONGARIRO	67.34	154.3	11 1	2						
SVERDLOVSK	68.65	324.1	11 5	-2	19 57	-13				
QUETTA	68.96	295.1	11 8	-1	20 6	-8			11 32	PCP
GEBBIES PASS	70.19	158.7	11 10	-7						
VICTORIA	75.29	43.4	11 48	1						
CORVALLIS	76.52	47.3	11 55A	1						
RESOLUTE	76.64	13.6	11 52A	-3	21 32	-9			22 21	SCS
APATITY	77.66	338.5	11 56A	-4						
UKIAH	78.25	52.5	12 25	21			12 37			
SHASTA	78.36	50.8	12 4	0						
MINERAL	79.04	51.0	12 2A	-6						
BERKELEY	79.37	53.5	12 10	0	22 7	-3				
THULE	79.91	7.5	12 11	-2						
SODANKYLA	80.01	339.7	12 11	-2						
LICK	80.01	53.8	12 13A	0						
MAKHACH-KALA	80.29	312.3			22 3	-17				
RENO	80.61	51.3	12 16A	0						
MOSCOW	81.19	326.8	12 18	-1						
HUNGRY HORSE	81.24	41.4	12 19	-1			12 38		14 16	
FRESNO	81.59	53.9	12 22	1						
KIRUNA	81.65	341.5	12 19	-3						
TIFLIS	82.61	311.9	12 25	-2						
PULKOVO	82.70	332.3	12 25	-2						
BUTTE	83.08	43.2	12 29	0						
EUREKA	83.39	50.2	12 29	-2			12 47			
PASADENA	83.79	55.8	12 33	0	23 4	8			28 35	SS
BOZEMAN	84.20	43.0	12 34	-1			12 47			
NURMIJARVI	84.65	334.5	12 35	-2						
HELSINKI	84.72	334.1	12 36	-1					12 57	
SOTCHI	85.27	315.2			22 35	-35				
BOULDER CITY	85.60	53.1	12 20	-22						
SALT LAKE C.	85.76	47.7	12 42	-1					13 12	*SP
SKALSTUGAN	87.02	340.6	12 47	-2					16 8	PP
UPPSALA	87.80	336.2	12 49	-4					13 9	
SIMFEROPOL	88.21	318.2	12 52	-3	23 14	-24				
DUMONT	88.33	181.8	12 55	0	23 36	-3			16 25	PP
TERRE ADELIE	88.44	181.2	12 55	-1	23 36	-4				
RAPID CITY	89.87	41.8	13 3	1			13 21			
TUCSON	90.18	55.0	13 6	2						
TUCSON TELE.	90.22	54.9	13 6	2			13 24			
LWOW	91.30	326.0	13 14	5						
GOTEBORG	91.41	336.7	13 7	-3						
KSARA	92.37	307.8	13 15	1	24 13	-3			16 50	PP
CAPE HALLETT	95.55	172.3	13 33	4						
COLLMBERG	95.62	331.8	13 30	1					17 26	PP
PRUHONICE	95.86	330.2	13 41	11					17 20	PP
DURHAM	98.32	340.9	13 41	0						
STUTTGART	99.11	331.8	13 52	7						
STRASBOURG	99.91	332.5							32 29	SS
SCOTT BASE	100.36	175.3							17 55	PP
MESSINA	103.40	320.9							24 30	
PALISADES	108.00	29.6							29 24	PPS
SOUTH POLE	111.73	180.0	18 38	1					19 22	
BYRD STATION	112.43	169.2	18 39	1						
GRANADA	114.01	332.5							19 18	PP
BROKEN HILL	119.10	265.2	18 53	2						

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BERMUDA	119.28	28.2							29	47 PS
TAMANRASSET	120.27	315.4	18	54K	0				20	44 PP
BULAWAYO	120.49	258.9	18	55	1					
LEOPOLDVILLE	127.86	281.9	19	10	2					
SAN JUAN	130.04	39.1	19	11	-1				22	29 SKP
WINDHOEK	131.49	258.7							22	35
CHINCHINA	132.54	60.6	19	19	2				22	40 SKP
FUQUENE	133.76	58.5	19	21	2				23	13
CARACAS	135.46	46.9							22	48 SKP
HUANCAYO	140.80	82.2	19	28	-4				23	6 PP
LA PAZ	148.79	85.9	19	49	3					

NOVEMBER 2 12.H 2.M 42.S EPICENTRE 40.39 73.31 DEPTH= 0.KM

A= 0.21930 B= 0.73159 C= 0.64551 D= 0.9579 E=-0.2871
G= 0.1854 H= 0.6183 K=-0.7638 HT= -1.8

SE= 2.57

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ANDIJAN	0.80	296.6									0	21	PG
FERGANA	1.17	269.8									0	26	PG
NAMANGAN	1.38	295.6									0	31	PG
DZERGETAL	1.99	234.5	0	40	4						1	11	S*
MURGAB	2.08	166.5	0	41	4						1	12	SG
NARYN	2.28	62.2	0	41	1						1	16	SG
FRUNSE	2.62	21.5	0	49	4						1	23	S*
GARM	2.71	240.0	0	50	4						1	31	
LUNACHARSKOE	3.16	288.5	0	53	1	1	33	2			0	53	
TASHKENT	3.20	288.1	0	55	2						1	47	SG
TCHIMKENT	3.38	305.5	0	57	1						1	50	
ALMATA	3.95	42.2				1	53	2			1	14	P*
STALINABAD	3.96	244.1	1	9	5						2	11	
PRZHEVALSK	4.35	59.8	1	12	3						2	20	
SAMARKAND	4.92	263.6	1	18	1								
WARSAK DAM	6.54	193.0	1	40	0								
LAHORE	8.86	174.4	2	9	-4	3	49	-6					
BAIRAM-ALI	9.15	255.8	2	19	2								
SEMIPALATNSK	11.12	23.6									2	41	
QUETTA	11.44	208.9	2	46	-2	4	56	-2					
ASHKABAD	11.87	262.9	2	53	-1								
KIZYL-ARVAT	13.16	270.3	3	9	-2								
SVERDLOVSK	18.41	337.5									4	21	
SHILLONG	21.40	128.0	4	50	-2								
TIFLIS	21.51	282.9	4	52	-1						9	18	SS
POONA	21.80	178.6	4	54A	-2								
CHITTAGONG	23.85	133.4	4	56	-20	9	31	1			5	49	PP
ULAN-BATOR	25.09	61.3	5	30	2								
MOSCOW	27.97	315.3	5	49	-6								
KSARA	30.40	269.6	6	17	1								
HELSINKI	35.63	320.1	7	3	1								
NURMIJARVI	35.85	320.6	7	4	0								
UPPSALA	39.23	318.8	7	31	-1						9	6	PP
KIRUNA	39.45	331.6	7	33	-1								
YAKUTSK	39.78	37.9									7	38	
TIKSI	41.48	23.3	7	48	-3								
PRUHONICE	41.53	303.6	7	51	0						9	28	PP
SKALSTUGAN	42.03	324.2	7	56	1								
COLLMBERG	42.28	305.8	7	55	-2						9	28	
STUTTGART	45.15	303.0	8	20	-1								
FOLINIERE	51.31	305.5	9	6	-2								
TAMANRASSET	59.01	274.6	10	0	-4						11	8	
RESOLUTE	64.94	356.6	10	47	3								
ELISABTHVLLE	66.94	229.8	10	55	-2								
COLLEGE	70.24	17.4	11	15	-2						11	49	
KIMBERLEY	82.23	221.6									19	53	

NOVEMBER 2 13.H 15.M 37.S EPICENTRE 21.51 92.38 DEPTH= 30.KM

A=-0.03873 B= 0.93037 C= 0.36457 D= 0.9991 E= 0.0416
G=-0.0152 H= 0.3643 K=-0.9312 HT= 4.3

SE= 2.74

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	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
CHITTAGONG	0.99	328.3	0 20	2				
CALCUTTA	3.86	286.0	1 1	2	1 33	-11		
SHILLONG	4.07	353.4	1 0	-2	1 46	-3		
TOCKLAI	5.65	22.2	1 25	0	2 23	-6		
BOKARO	6.50	292.0	1 36	-1	2 47	-4		1 45 PPP
CHATRA	7.12	319.1	1 42	-3				4 8
LHASA	8.18	351.8	2 0	0	3 28	-4		2 11 PP
VIZIANAGRAM	9.06	249.7	2 20	8				3 39
PORT BLAIR	9.79	178.1	2 19	-3	4 6	-6		
KUNMING	10.17	67.3	2 28	1	4 23	1		
PHU-LIEN	13.31	90.5	3 7	-3				3 29 PP
HYDERABAD	13.75	255.2	3 9	-7				
AGRA	14.23	296.0	3 11	-11	5 41	-19		
SEHORE	14.26	279.5			5 44	-16		
MADRAS	14.40	236.0	3 22A	-2	5 52	-12		3 39 PPP
DEHRA DUN	15.58	307.2	3 43	4	6 21	-10		3 59 PPP
LANCHOW	17.60	32.1	4 5K	0	7 16	-2		4 18 PP
POONA	17.67	263.6	4 3	-3	7 8	-11		
BOMBAY	18.54	265.4	4 16	-1	7 28	-11		4 39 PPP
MEDAN	18.85	160.2	4 23	3	7 47	1		
LAHORE	18.97	305.5	4 14	-8	7 34	-15		
SIAN	19.32	45.4	4 25	-1	7 56	-1		
CANTON	19.45	81.4	4 26	-1	8 2	2		4 46 PP
HONG KONG	20.23	83.7	4 34	-2	8 15	-1		11 13 PCS
WUHAN	21.83	61.2	4 51	-1	8 46	-1		
WARSAK DAM	22.19	308.5	4 57	1	8 54	1		
KARACHI	23.52	283.0	5 11	2				
QUETTA	24.42	295.9	5 19	2	9 36	3	5 38	6 4 PP
NANKING	25.74	60.4	5 31K	1	10 0	5		
PEKING	27.40	42.3	5 47	2	10 24	2		
ULAN-BATOR	28.82	20.5	6 0	2				
SVERDLOVSK	42.29	334.5	7 54	1				
MATUSIRO	42.38	59.0	7 53A	-1	14 10	-3		
TIFLIS	44.61	308.1	8 15	3				
YAKUTSK	47.88	22.7	8 37	-1	15 23	-9		
MOSCOW	52.80	324.5	9 14	-1				
ADDIS ABABA	52.95	265.1	9 53	37				
TIKSI	54.33	13.4	9 23	-3	16 58	-3		
APATITY	58.60	337.3	9 56	-1				
HELSINKI	60.36	327.9	10 9	0				
NURMIJARVI	60.56	328.3	10 11	1				
SODANKYLA	61.04	336.2	10 11	-3			10 35	
PORT MORESBY	61.91	114.0	10 20A	1				
KIRUNA	63.46	336.2	10 30	0				
RABAUL	63.84	106.2	10 34	2				
UPPSALA	64.00	327.2	10 32	-1				
PRUHONICE	66.10	316.3	10 48	1				11 31 *SP
LJUBLJANA	66.55	312.1	10 50	0				
SKALSTUGAN	66.57	331.3	10 50A	0				
CHARTERS TS.	66.95	124.4	10 52	0				
COLLMBERG	66.95	317.9	10 51	-1				
GOTEBORG	66.99	324.9	10 51A	-1				
STUTTGART	69.67	315.5	11 10	1				
ADELAIDE	71.34	141.2	11 20	1				
ELISABTHVLLE	71.72	249.1	11 23	2				
BROKEN HILL	72.17	246.1	11 23	-1				
BRISBANE	75.98	127.2	11 48	2				
TAMANRASSET	79.20	290.3	12 5	1			12 46	15 19 PP
COLLEGE	82.41	22.0	12 21	0				12 51
RESOLUTE	83.92	1.9	12 28	-1	22 23	-26		17 29 PPP
KARAPIRO	97.78	127.6	13 35	1				
CAPE HALLETT	106.69	161.8			24 13	-37		
EUREKA	113.79	23.7	18 39	3				
BYRD STATION	119.79	173.9	18 49	1				

NOVEMBER 2 20.H 3.M 36.S EPICENTRE -5.59 150.96 DEPTH= 67.KM

A=-0.87014 B= 0.48322 C=-0.09673 D= 0.4855 E= 0.8742
G= 0.0846 H=-0.0470 K=-0.9953 HT= 7.0

DEPTH OF FOCUS= 0.005R

SE= 2.64

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	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
RABAUL	1.83	41.3	0 30	0					
PORT MORESBY	5.35	224.7	1 18K	-1	2 17	-3			
CHARTERS TS.	15.12	197.2	3 29K	-2	6 19	2			
BRISBANE	21.75	175.6	4 47K	0	8 44	6			
RIVERVIEW	28.10	179.7	5 49	2	10 29	3			
CANBERRA	29.64	183.2	6 1K	0	11 8	18		12 39	SS
ADELAIDE	31.35	199.5	6 16A	0	11 18	1	6 28	12 49	SCP
MELBOURNE	32.55	188.8	6 26A	-1	11 36	0	6 36		
MANILA	35.81	304.5	6 57	3	12 17	-9			
ONERAHI	36.96	147.5	7 18	14					
BAGUIO CITY	37.16	306.5	7 8	2	12 51	4			
FORT NELSON	37.32	184.4	7 17K	10	12 52	3			
AUCKLAND	38.02	148.2			13 6	6			
KARAPIRO	39.20	148.6	7 22	-1				9 31	PCP
TONGARIRO	40.16	149.9	7 31	0					
KAIMATA	41.02	156.8	7 48	10					
WELLINGTON	41.42	152.6	7 42	1	13 40	-11		9 10	PP
PERTH	42.01	227.0	7 47	1	14 13	13		17 16	SS
GEBBIES PASS	42.49	156.6	7 51	1					
ABUYAMA	42.78	341.3	7 52A	0					
TUKUBASAN	42.82	347.1	7 50A	-3	14 10	-1		9 48	PCP
ROXBURGH	42.83	161.0			14 10	-2		9 54	PPP
LEMBANG	43.09	266.0	7 49	-6	14 39	24			
MATUSIRO	43.57	345.1	7 57A	-2	14 21	-1		9 45	PP
D JAKARTA	43.89	266.9						9 4	
HONG KONG	45.43	308.9	8 16A	2	15 14	25	8 24	8 41	*SP
ZO-SE	46.26	323.9	8 22A	2	15 6	5		10 16	PP
CANTON	46.51	309.2	8 25A	3	15 11	6		15 26	PS
NANKING	48.38	322.8	8 38A	1	15 38	7			
MACQUARIE I.	49.19	173.8	8 58A	15					
WUHAN	50.03	318.1	8 53A	4	16 4	10		11 6	PP
PHU-LIEN	50.80	302.5	8 52	-3	16 6	1		16 28	
VLADIVOSTOK	51.47	342.2						10 4	PCP
Y.-SAKHLINSK	52.88	352.9	8 50	-21					
CHANGCHUN	54.36	337.3	9 22A	0					
PEKING	55.55	327.9	9 30A	0	17 13	4		17 47	PS
KUNMING	55.92	305.3	9 34A	1	17 20	6		11 40	PP
SIAN	56.07	318.1	9 35A	1					
HONOLULU	56.64	60.1	9 37	-1					
KIPAPA	56.76	60.0	9 39	0					
LANCHOW	60.52	317.0	10 6A	1	18 19	5			
DUMONT	61.45	184.9	10 9	-2	18 28	2		18 46	PS
TERRE ADELIE	61.49	184.3	10 9	-3	18 28	2			
CHITTAGONG	64.15	298.0	10 38	9	19 7	8			
MAGADAN	64.93	359.9			19 19	10			
SHILLONG	65.14	301.4	10 36	0	19 29	17			
ULAN-BATOR	65.82	329.2	10 41	1					
WILKES	66.78	196.5			19 33	1		24 1	SS
CAPE HALLETT	67.71	173.7	10 53A	1	19 52	9	11 5	24 11	SS
YAKUTSK	69.37	349.5	11 0	-2					
CHATRA	69.55	301.2	11 2	-1					
IRKUTSK	69.90	331.6	11 6A	1	20 14	5		20 36	PS
MIRNY	72.54	200.8	11 20	-1	20 41	2		11 32	PCP
SCOTT BASE	72.70	176.5	11 21K	-1	20 43	2			
KODAIKANAL	74.85	282.1			21 13	8			
AGRA	77.50	299.2	11 44A	-6					
DEHRA DUN	78.21	302.4	11 54	0	22 1	20			
TIKSI	78.42	353.0	11 51	-4					
POONA	79.62	289.9	12 1A	0	21 52	-4			
BOMBAY	80.64	290.1	12 8	1	22 17	10			
LAHORE	81.59	302.9	12 13	1					
SEMIPALATNSK	82.18	322.4	12 14	-1				15 33	PP
COLLEGE	83.27	22.1	12 18	-2	22 47	13		27 1	
FRUNSE	83.83	314.0	12 24	1	22 40	1		23 0	SCS
WARSAK DAM	84.36	304.9	12 25	-1					
SOUTH POLE	84.45	180.0	12 26	0			12 38	13 41	
BYRD STATION	84.45	169.9	12 26	0	22 33	-13	12 38	14 57	PP
STALINABAD	87.36	309.0	12 41	0					
TASHKENT	87.43	311.8	12 39	-2	23 1	-13		16 4	PP
QUETTA	87.61	300.5	12 40A	-2	23 9	-7	12 57	23 0	SKS
CORVALLIS	90.85	45.5	12 57	0					
BERKELEY	90.86	52.2	12 57A	0			13 19		
SHASTA	91.07	49.4	12 58A	0					
LICK	91.29	52.8	13 0A	1					
MINERAL	91.63	49.8	13 0A	-1					
FRESNO	92.70	53.5	13 6	0					

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RENO	92.93	50.7	13	8K	1							
PASADENA	93.82	56.2	13	11	0	24	9	-3			17	1 PP
SVERDLOVSK	94.81	326.5	13	15	0							
ASHKABAD	95.45	307.5									17	12 PP
EUREKA	95.89	51.0	13	20A	0				13	38	17	21 PP
KHEYS	95.95	350.5	13	18	-2						24	0 SKKS
BOULDER CITY	96.66	54.5	13	5A	-19							
HUNGRY HORSE	97.48	42.1	13	27A	0							
SALT LAKE C.	99.07	49.7	13	34	0							
TUCSON	99.90	58.4	13	41	3							
RESOLUTE	101.62	14.3	13	42	-4	25	36	78			17	40 PP
GORIS	104.82	309.2									18	19 PP
TIFLIS	105.75	311.7									18	30 PP
SODANKYLA	107.84	340.4	14	11	777						19	5 PP
KIRUNA	109.57	342.2	18	23	1							
PULKOVO	109.88	332.4									18	57 PP
TACUBAYA	110.54	71.5									18	53 PP
NURMIJARVI	112.06	334.5	18	29	2							
ADDIS ABABA	112.73	277.4									18	33 PP
SIMFEROPOL	112.78	316.6									19	18 PP
KSARA	113.88	304.4	18	27	-4						19	32 PP
JERUSALEM	114.76	302.3	18	35	2							
SKALSTUGAN	114.89	341.0	18	34	1							
UPPSALA	115.36	336.0	18	33	-1						36	23
BULAWAYO	117.86	243.9	18	41	2							
GOTEBORG	119.00	336.2	18	43A	2							
BROKEN HILL	119.60	250.0	18	45	3							
ELISABTHVLLE	121.24	252.9	18	49K	4						20	24 PP
LWIRO	121.70	263.9	18	49K	3						36	44
BRATISLAVA	122.24	325.2	18	46	-1				19	6		
PRUHONICE	122.63	328.1	18	50K	2						20	28 PP
COLLMBERG	122.64	330.0	18	49K	1						19	23 PKP2
OTTAWA	123.35	37.9	18	51	2							
JENA	123.57	330.4	18	49	-1				19	18	20	30 PP
SONNEBERG	124.10	330.0	18	52	1							
BREBEUF	124.57	36.8	18	53K	1							
MUNSTER	124.74	333.3	18	53	1							
LJUBLJANA	124.87	324.2	18	54K	2							
STUTTGART	126.10	329.5	18	55	1				19	8	20	47 PP
DURHAM	126.20	340.7	18	45A	-10							
EBINGEN	126.63	329.1	18	57	2							
PALISADES	126.66	41.7									20	51 PP
STRASBOURG	126.98	330.1	18	57	1						19	22 *SPKP
DOURBES	127.42	333.3	18	59	2							
MESSINA	128.17	315.3				26	2	4			21	6 PP
KEW	128.42	337.4	19	0	1							
BESANCON	128.76	329.9	18	58	-2							
RATHFARNHAM	128.92	342.6	18	23	-37							
PARIS	129.30	333.5	19	5	4							
FOLINIERE	130.61	335.4	19	3	0							
HUANCAYO	130.75	111.0	19	8K	5						22	29 PKS
BANGUI	132.51	270.8	20	12	65						23	40
CHINCHINA	133.63	88.5	19	11	2						21	57 PP
LEOPOLDVILLE	134.67	258.3	19	13	2				19	27	21	45 PP
BOGOTA	135.15	89.1	19	11	-1						22	45 SKP
FUQUENE	135.53	87.9	19	15	3						21	51 PP
LA PAZ	135.55	120.3	19	29	17						23	20
SETIF	136.12	318.7	19	14	1				19	27	22	41
BERMUDA	137.39	46.7	19	19	3						22	1 PP
TOLEDO	139.11	330.2	19	21	2						35	52
RELIZANE	139.49	321.8	19	14	-6				19	36		
SAN JUAN	141.67	67.4	19	19	-5						19	26 PKP
CARACAS	142.19	80.1	19	21A	-3	26	34	9				
TAMANRASSET	142.53	300.6	19	22A	-3				19	40	22	55 PP
ST. KITTS	145.05	67.6	19	30	1							
GRENADA	147.09	76.5	19	35	2							
FORT FRANCE	147.16	71.5	19	36	3							
ST. VINCENT	147.36	74.3	19	36	3						19	53
TRINIDAD	147.59	79.0	19	38	4							
BARBADOS	148.96	73.9	19	45	9							
MBOUR	165.25	307.2	20	0	4						24	44 PP

NOVEMBER 2 21.H 53.M 6.S EPICENTRE -23.46-175.98 DEPTH= 0.KM

A=-0.91608 B=-0.06436 C=-0.39581 D=-0.0701 E= 0.9975
G= 0.3948 H= 0.0277 K=-0.9183 HT= 3.8

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SE= 2.90

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
APIA	10.40	23.2	2 30	-3	4 17	-15		
ONERAHI	14.85	212.1	3 48	15				
KARAPIRO	16.15	204.8	3 54	4				
GEBBIES PASS	22.26	202.2			8 45	-16		
BRISBANE	28.44	255.5	5 58	0				6 52 PP
RIVERVIEW	30.53	242.8	6 15K	-2				
CANBERRA	32.56	240.7	6 36A	1				
CHARTERS TS.	35.16	268.1	6 58	1				
PORT MORESBY	37.89	285.4	7 21	1				
CAPE HALLETT	49.49	185.5	8 56	2	16 21	20	9 19	19 45 SS
TERRE ADELIE	50.88	200.2	9 1	-3				
DUMONT	51.23	200.8	9 1	-6				
SCOTT BASE	55.07	184.4	9 35A	-1				
BYRD STATION	61.43	170.5	10 20	0				
SOUTH POLE	66.68	180.0	10 54	-1				
MATUSIRO	73.69	323.0	11 36	-1				
LICK	79.19	41.2	12 7A	-1				
FRESNO	79.95	42.6	12 14	2				
SHASTA	80.95	38.3	12 18	0				
MINERAL	81.17	39.0	12 19	0				
HONG KONG	81.74	298.5	12 23	1				
TUCSON TELE.	83.42	50.7	12 31	1				
EUREKA	84.00	42.4	12 34	1				
HUNGRY HORSE	90.39	36.1	13 14	10				
COLLEGE	90.70	11.6	13 5	-1				
QUETTA	124.04	291.5	19 2	2				
ELISABTHVLLE	138.24	215.8	19 26	-1				
TIFLIS	141.54	308.2	19 59	26				
UPPSALA	142.39	348.8	19 44	9				
ADDIS ABABA	143.81	252.5	19 46	9				
LWIRO	144.86	226.7	19 40A	1				
GOTEBORG	145.31	352.5	19 42	2				19 56
SIMFEROPOL	147.44	318.6	19 48	5				
DURHAM	148.45	6.2	19 49	4				
LWOW	149.37	334.2	19 53A	7				
IASI	149.72	327.3	20 2	15				
LEOPOLDVILLE	150.25	203.0	19 54A	6				
KSARA	150.30	297.5	19 57	9				22 33 PP
JERUSALEM	151.21	293.6	19 57A	8				
COLLMBERG	151.35	348.2	19 56	7				23 34 PP
MUNSTER	151.40	355.3	19 47	-2				
JENA	151.95	349.8	19 58	8				23 37 PP
PRUHONICE	152.27	345.3	19 59A	8				
BENSBERG	152.44	355.7	20 12	21				
SONNEBERG	152.55	350.0	19 59	8				
BRATISLAVA	153.23	340.3	19 58	6				20 26 PKP2
DOURBES	153.40	359.2	20 11	19				
STUTTGART	154.40	351.9	20 4	10				
TAMANRASSET	178.46	244.3	20 14	2				25 55 PP

NOVEMBER 3 9.H 40.M 5.S EPICENTRE -10.79 110.76 DEPTH= 0.KM

A=-0.34824 B= 0.91878 C=-0.18596 D= 0.9351 E= 0.3544
G= 0.0659 H=-0.1739 K=-0.9826 HT= 6.4

SE= 2.46

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
LEMBANG	5.01	321.5	0 20A	-58				
DJAKARTA	6.00	319.4	1 30A	-2	2 26	-17		
MEDAN	18.66	319.3	4 17A	-5				
PERTH	21.58	168.2	4 52	-1	8 55	7		8 38
MUNDARING	21.67	167.4	4 52A	-2	8 41	-9		
MANILA	27.28	22.2	5 51	3	10 19	-8		
PORT BLAIR	28.62	320.7	5 57	-3	10 47	-1		12 55
BAGUIO CITY	28.73	19.9	6 1	0	10 20	-30		
PHU-LIEN	31.65	352.6	6 29	2	11 39	3		6 48 PPP
HONG KONG	33.05	5.8	6 41K	2	12 0	2		7 41 PP
CANTON	33.76	4.3	6 47K	1	12 11	2		
HENGCHUN	34.03	16.7	5 55	-53				
TAWU	34.40	16.8	6 53	2	12 19	0		
TAINAN	34.83	15.4	7 6	11				

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ADELAIDE	35.03	137.9	6	56K	-1	12	30	1	14	31 SS
CHARTERS TS.	35.38	109.5	7	1K	1	12	33	-1		
COLOMBO	35.41	298.4	6	58	-2	12	35	0		
HWALIEN	36.14	17.0	7	12	6					
KUNMING	36.54	347.7	7	13K	4	12	56	4	8	46 PP
ILAN	36.93	16.8	7	15	2	12	58	0		
TAIPEI	37.11	16.3	7	6	-8	12	59	-2		
CHITTAGONG	37.82	330.7	7	22	2	13	11	-1	8	50 PP
MADRAS	38.47	307.1	7	28K	3	13	19	-3	9	0 PP
KODAIKANAL	39.14	301.1	7	16	-15				9	7 PP
VIZIANAGRAM	39.39	316.6	7	31	-2					
CALCUTTA	39.72	326.6	7	37	1	13	39	-1	9	12 PP
TOCKLAI	40.42	337.7	7	45	3	13	51	0		
SHILLONG	40.55	333.3	7	45	2	13	54	1	9	21 PP
MELBOURNE	40.80	137.1	7	47K	2	13	58	1	7 55	14 4 PS
WUHAN	41.24	5.0	7	49K	1	13	59	-4		
RABAUL	41.54	84.1	7	52	1				9	49
BOKARO	42.18	324.9	7	58	2	14	16	-1		
CANBERRA	42.43	131.4	7	59K	1	14	23	2	9	44 PP
HYDERABAD	42.49	310.9	7	59K	0	14	21	-1	9	48 PP
BRISBANE	42.77	118.8	8	4	3	14	29	3		
ZO-SE	42.83	13.2	8	3K	2	14	26	-1	10	11 PPP
RIVERVIEW	43.45	128.3	8	7K	0	14	35	-1		
CHATRA	43.85	328.9	8	8	-2	14	36	-5		
LHASA	44.46	335.2	8	18K	3	14	50	0		
SIAN	44.82	357.8	8	19	1					
FORT NELSON	45.12	141.8	8	58A	38	15	5	5		
POONA	46.63	308.4	8	33K	1	15	21	0		
MIYAZAKI	46.85	24.3	8	33	-1	15	24	0		
NAGASAKI	46.97	22.2	8	35K	0	15	23	-3		
LANCHOW	47.04	352.3	8	38K	3	15	27	0		
SEHORE	47.18	315.9	8	36	0					
KUMAMOTO	47.36	23.0	8	37	-1	15	33	1		
SAGA	47.59	22.3	8	59	19					
BOMBAY	47.64	308.0	8	41	1	15	35	-1	10	40 PP
HUKUOKA	47.91	22.2	8	43	1	15	39	-1	11	9
OOITA	48.08	23.7	8	46	3				10	7
SIMIDU	48.23	25.3	8	44	-1	15	38	-6	10	37
KOTI	49.13	25.3	8	53	2	15	54	-3	9 56	10 51 PP
AGRA	49.29	320.5	8	50	-3	15	47	-12	11	1 PP
TOKUSIMA	50.03	25.9	8	58	0					
SIOMISAKI	50.03	27.5	9	1	3	16	5	-4		
SUMOTO	50.40	26.1	9	1	0	16	11	-3	10	39
OWASE	50.74	27.4	9	4	0	16	15	-4		
KOBE	50.80	26.1	9	5	1	16	20	0		
PEKING	50.81	5.4	9	4K	0	16	16	-4		
OSAKA	50.93	26.4	9	5	0	16	20	-2	11	47
ABUYAMA	51.13	26.3	9	6K	-1					
KYOTO	51.33	26.3	9	8	0	16	24	-3		
TOYOOKA	51.38	25.2	9	8	-1	16	20	-8		
KAMEYAMA	51.51	27.1	9	9K	-1	16	28	-2		
DEHRA DUN	51.57	323.4	9	8	-2	16	26	-4	11	16 PP
HIKONE	51.77	26.6	9	11	-1	16	28	-5		
NAGOYA	52.01	27.3	9	14	1	16	28	-8		
GIHU	52.11	27.0	9	13K	-1	16	32	-6		
OMAESAKI	52.11	28.8	9	11	-3	15	59	-39		
HUKUI	52.42	26.1	9	14	-2					
SHIZUOKA	52.50	28.7	9	17	0	16	41	-2		
IIDA	52.69	27.8	9	21	2	16	45	-1		
MISIMA	52.88	29.1	9	18K	-2	16	35	-13		
HUNATU	53.11	28.6	9	22	0	16	46	-5		
KOHU	53.15	28.3	9	21	-1	16	36	-16		
MATUMOTO	53.35	27.4	9	25	2	16	51	-4		
TOYAMA	53.39	26.5	9	18	-6	16	52	-3		
YOKOHAMA	53.47	29.4							9	58
TITIBU	53.65	28.5	9	27	1	16	53	-6		
MATUSIRO	53.70	27.4	9	24K	-2	16	55	-5	19	15 SCS
TOKYO C.M.O.	53.72	29.3	9	27	1	16	51	-9		
NAGANO	53.81	27.3	9	26	-1	16	58	-3	11	56 PP
KUMAGAYA	53.92	28.7	9	28	0					
MAEBASI	53.98	28.2	9	24	-4				10	4
TUKUBASAN	54.32	29.2	9	27A	-4	16	58	-10	11	50 PP
UTUNOMIYA	54.48	28.8	9	32	0	17	1	-9		
MITO	54.63	29.4	9	31	-2	17	5	-7		
LAHORE	54.68	321.6	9	34	1	17	11	-2		
SHIRAKAWA	55.10	28.6	9	36	0	17	39	21		
ONAHAMA	55.29	29.3	9	37	-1	17	20	-1		
KARACHI	55.42	310.3	9	39K	0				10	43 PCP

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WILKES	55.48	180.1	9	37	-2	17	18	-5		15 2 PCS
HUKUSIMA	55.73	28.4	9	41	0	17	23	-4		
CHANGCHUN	55.95	12.7	9	41	-1	17	24	-6		
YAMAGATA	56.08	27.9	9	42	-1	17	31	0		
SENDAI	56.35	28.3	9	43	-2	17	26	-9		
SAKATA	56.37	27.1	9	55	10	18	0	25		
ISINOMAKI	56.67	28.6	9	47	-1	17	37	-2		
MIRNY	56.98	188.4	9	47	-3				10 12	17 57 PS
VLADIVOSTOK	57.02	18.4				17	42	-2		
AKITA	57.16	26.7	9	50	-1	17	43	-3		
MORIOKA	57.63	27.5	9	52	-2	17	45	-7		
MACQUARIE I.	57.78	149.1	9	55	0				10 11	
MIYAKO	57.95	28.2	9	51	-6	17	52	-4		
WARSAK DAM	58.06	321.8	9	57K	0	17	53	-5		
AOMORI	58.36	26.5	10	0	1					
ULAN-BATOR	58.55	357.0	10	1	0	18	3	-1		
QUETTA	58.60	315.4	10	1K	0	18	2	-3		12 16 PP
MORI	59.32	25.5	10	6	0					
ROXBURGH	60.48	136.4	10	15	1	18	27	-2		10 55 PCP
OBIHIRO	61.12	26.7								10 22
KAIMATA	61.24	132.7	10	22	3					10 34
TANANARIVE	61.37	254.3	10	20K	0					11 1 PCP
COBB RIVER	61.92	130.9	10	25	1					
GEBBIES PASS	62.37	133.8	10	28	1					
ONERAHI	62.40	124.7	10	28	1					
FRUNSE	62.76	330.8	10	30	1	18	53	-5	10 53	12 50 PP
STALINABAD	62.80	323.9	10	27	-3	18	47	-11		
AUCKLAND	62.87	125.9				19	5	6		
IRKUTSK	63.04	355.6	10	31K	0				10 54	12 53 PP
WELLINGTON	63.47	130.8	10	33	-1	19	5	-2		13 27 PP
KARAPIRO	63.59	127.0	10	35K	0					11 12
TONGARIRO	63.74	128.4	10	35K	-1					
TASHKENT	64.39	326.4	10	39	-1	19	12	-6		13 1 PP
SEMIPALATNSK	66.49	339.2	10	54	0	19	41	-3		11 19 PCP
CAPE HALLETT	70.75	163.8	11	20K	0	20	39	4		14 22 PP
SCOTT BASE	72.65	169.4	11	30	-2	20	57	1		21 41 SCS
YAKUTSK	74.08	9.2	11	39	-1	21	8	-4		
ADDIS ABABA	74.27	282.6	11	44	3	21	31	16		
APIA	75.45	101.5	11	48	0					18 29
PETROPAVLOVK	75.53	27.6	11	48	0	21	28	-1	12 12	14 44 PP
PIETERMZBURG	76.42	242.0	11	54A	1					
MAGADAN	77.11	19.6	11	57	0	21	44	-2		
GORIS	77.86	314.4	12	1	0	21	50	-4		22 10 SKS
PRETORIA	78.77	245.7	12	36	30					
SVERDLOVSK	78.99	334.5	12	8	1	22	2	-4	12 32	22 18 SKS
BULAWAYO	79.06	251.4	12	8	0					
SOUTH POLE	79.28	180.0	12	8	-1	22	2	-7		17 42 PPP
GRAHAMSTOWN	79.34	238.0	12	8K	-1					
TIFLIS	79.84	316.0	12	13	1	22	13	-2		15 18 PP
ELISABTHVLLE	81.38	259.8	12	21K	1	22	30	-1		15 27 PP
KIMBERLEY	81.40	242.4	11	19A	-61					
LWIRO	81.69	269.3	12	33A	11	21	57	-37		
TIKSI	83.12	5.7	12	28	-1	22	43	-6		15 42 PP
KSARA	83.66	306.0	12	34	2	22	54	0		15 42 PP
HERMANUS	85.24	236.0	12	42	2	23	12	2		
BYRD STATION	85.78	172.3	12	43	0	23	6	-9		17 14 PP
SIMFEROPOL	88.26	316.3	12	56K	1	23	39	0	13 22	16 25 PP
MOSCOW	89.54	327.2	13	1	0	23	49	-1	13 26	16 35 PP
HALLEY BAY	90.11	189.8	13	2	-1					
BANGUI	92.90	273.9	13	18	2	23	57	-23		
IASI	93.24	317.3	13	16	-2	23	50	-33		17 24 PP
BUCHAREST	93.68	314.4	13	20K	0					17 42 PP
ATHENS	94.23	307.7	13	21K	-1	23	57	-35		
PULKOVO	94.46	330.0	13	24	1	23	50	-44		
LEOPOLDVILLE	94.59	264.7	13	25K	1	24	37	2		17 11 PP
KHEYS	94.92	352.5								24 58
APATITY	95.10	337.9	13	26K	0					
SOFIA	95.34	312.3	13	27	0					17 18
LWOW	96.05	319.4	13	31	0	23	59	-8		17 13
HELSINKI	97.18	329.8	13	38	2					
NURMIJARVI	97.38	330.1	13	38	1					17 38 PP
SODANKYLA	97.62	337.1	13	36	-2					17 3 PP
BELGRADE	97.72	314.1	13	38K	0	24	17.	1		19 43 PPP
TARANTO	99.56	309.4								17 15 PP
KIRUNA	100.03	337.3	13	48K	-1					
BRATISLAVA	100.38	317.2	13	50A	0					
MESSINA	100.65	307.0	13	28	-23	25	26	56	13 57	18 2 PP
UPPSALA	100.81	329.1	13	52	0					17 55 PP

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ZAGREB	100.96	314.8						18	1 PP
LJUBLJANA	101.99	314.9	13	50	-8			18	9 PP
PRUHONICE	102.16	319.0	13	59K	1	24	31 -7	18	9 PP
PRAGUE	102.24	319.1						18	12 PP
TRIESTE	102.51	314.5						18	13 PP
POTSDAM	103.15	321.4						18	16 PP
COLLMBERG	103.18	320.3	14	3	0			18	17 PP
ROME	103.26	310.6				24	46 3	18	23 PP
SKALSTUGAN	103.36	332.9						18	21 PP
GOTEBORG	103.73	326.9						18	28 PP
HALLE	103.84	320.5	14	12	6	24	45 0	18	21 PP
JENA	104.07	319.9	14	6	-1			18	20 PP
SONNEBERG	104.32	319.3						18	23 PP
COLLEGE	104.55	25.6	14	8	-1			17	55 PP
CHUR	105.46	315.7						18	34 PP
STUTTGART	105.59	317.7	14	14	777			18	33 PP
EBINGEN	105.81	317.1						18	35 PP
MUNSTER	106.51	321.1						18	41 PP
STRASBOURG	106.60	317.5	14	17	777			18	42 PP
BASLE	106.77	316.4						18	42 PP
BENSBERG	106.86	320.0	18	40	777				
MONACO	107.00	312.5						18	47 PP
NEUCHATEL	107.22	315.9						18	46 PP
BESANCON	107.87	316.2	18	29	777			18	45 PP
TAMANRASSET	108.05	290.5	14	25	777	26	4 60	18	50 PP
DOURBES	108.56	319.3	14	33	777				
SETIF	108.65	304.6						19	3 PP
UCCLE	108.65	320.0	20	2	777				
PARIS	110.07	318.1	18	35	2			19	8 PP
ALGIERS UNI.	110.54	305.2	18	14	-20			19	7 PP
DURHAM	111.59	324.8						19	30 PP
RELIZANE	112.60	304.2						19	34 PP
THULE	114.38	359.8	18	43	1			29	27 PKKP
RESOLUTE	114.50	7.3	18	43K	1	27	15 105	19	43 PP
ALMERIA	114.95	305.6	18	46	3			19	45 PP
GRANADA	115.82	306.1						19	48 PP
TOLEDO	115.85	309.1	18	46	1			19	44 PP
VICTORIA	121.42	39.2	18	58K	2				
CORVALLIS	122.84	43.5	19	2	4				
ARCATA	123.39	47.9	19	2	3				
UKIAH	124.49	49.8	19	5	3			21	0 PP
SHASTA	124.67	47.7	19	4K	2			20	48
MINERAL	125.35	47.9	19	5K	2				
BERKELEY	125.55	51.0	19	6K	2				
LICK	126.17	51.5	19	8K	3			20	58 PP
RENO	126.91	48.3	19	9K	3				
HUNGRY HORSE	127.14	36.1	19	8	1			21	5 PP
FRESNO	127.74	51.6	19	10K	2				
MBOUR	128.94	279.8	19	13	3			21	15 PP
BUTTE	129.16	38.1	19	13	2				
EUREKA	129.72	47.1	19	6	-6			21	13 PP
PASADENA	129.74	54.4	19	3	-9			31	22 SKKS
BOZEMAN	130.25	37.8	19	14	1				
BOULDER CITY	131.80	51.0	19	18	2				
SALT LAKE C.	132.08	43.9	19	18	2				
RAPID CITY	135.75	35.2	19	25	2			22	7 PP
LARAMIE	135.94	39.9	19	25	2				
TUCSON	136.18	54.3	19	14	-10			22	5 PP
TUCSON TELE.	136.23	54.1	19	14	-10			22	5 PP
CHIHUAHUA	141.25	57.4						21	31
LAWRENCE	143.60	35.2	19	36	-1				
SEVEN FALLS	143.76	1.8	19	36A	-1			22	49 PP
OTTAWA	145.07	8.0	19	40K	1			22	58 PP
MANZANILLO	145.17	72.2	18	34	-66				
BREBEUF	145.21	5.4	19	42K	2	25	42 -65		
GUADALAJARA	145.82	69.1	19	45	4			20	2
HALIFAX	145.94	352.8	19	48K	7			23	4 PP
FAYETTEVILLE	146.17	37.8	19	33K	-8			20	15
PENNSYLVANIA	149.15	12.8	19	49	3			23	23 PP
PALISADES	149.62	7.0	19	49	2			23	26 PKS
MORGANTOWN	149.74	16.5	19	50K	3			23	26 PP
FORDHAM	149.78	7.0	19	48	1				
TACUBAYA	149.88	69.9	19	51K	4			23	59 PP
VERA CRUZ	152.75	69.0						21	5
LA PAZ	152.87	182.3	19	57K	5	27	7 9	23	45 PP
CHAPEL HILL	153.45	18.0	19	56	3			23	44 PP
COLUMBIA	154.50	23.2	20	0	6				
HUANCAYO	156.52	164.9	20	2K	5			24	56 PP
MERIDA	157.97	60.2						21	31

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BERMUDA	158.10	349.6	19 59	0			24 12	PP
ST. KITTS	170.93	316.6	20 13	3				
FORT FRANCE	171.19	297.2	20 13	3				
CHINCHINA	171.44	132.0	20 12	2			25 24	PP
ST. VINCENT	171.85	287.7	20 13	3			25 29	PP
SAN JUAN	171.87	338.5	20 12	2			21 35	
BOGOTA	172.23	141.7	20 14	3			25 22	PP
FUQUENE	173.10	139.6	20 12	1			25 28	PP
GALERAZAMBA	174.08	89.5	20 17	6			25 46	PP
CARACAS	177.71	263.0	20 13K	1			25 55	PP

NOVEMBER 5 10.H 59.M 41.S EPICENTRE -5.28 68.50 DEPTH= 0.KM

A= 0.36499 B= 0.92651 C=-0.09145 D= 0.9304 E=-0.3665
G=-0.0335 H=-0.0851 K=-0.9958 HT= 7.0

SE= 1.53

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
POONA	24.24	12.4	5 20	1				
BOMBAY	24.40	9.9	5 23	2				
TANANARIVE	24.52	234.6	5 25	3				6 14
ADDIS ABABA	32.87	295.5	6 38	1				
QUETTA	35.29	357.7	7 0A	2	12 36	4		
DEHRA DUN	36.56	13.9	7 11	2				13 8
SHILLONG	38.15	35.4	7 24K	2				
LEMBANG	38.93	94.3	7 29A	0				
BROKEN HILL	40.41	254.0	7 39	-2				
BULAWAYO	41.48	245.5	7 49	-1				
MOSCOW	65.91	341.5	10 48	-1				
LWOW	67.01	330.5	10 55	-1				
TAMANRASSET	67.52	297.2	11 0	0				
ADELAIDE	70.80	125.1	11 19	-1				
COLLMBERG	73.56	327.4	11 36	0				12 9
NURMIJARVI	73.98	339.1	11 39	0				
STUTTGART	74.42	323.8	11 41A	0				
UPPSALA	76.21	336.2	11 50	-2				
CHARTERS TS.	76.72	109.3	11 54	0				
MATUSIRO	77.06	50.8	11 54	-2				
PORT MORESBY	77.98	98.5	12 1	0				
KIRUNA	80.33	343.4	12 13A	-1				
SKALSTUGAN	80.45	337.8	12 14	-1				
SOUTH POLE	84.75	180.0	12 37	0				
RATHFARNHAM	85.19	324.5	12 22	-17				
TIKSI	86.02	16.0	12 40	-3				
HALLEY BAY	86.20	194.5	12 46	2				
BYRD STATION	94.70	178.6	13 25	1				
HUNGRY HORSE	137.03	2.5						22 9 PP
RENO	145.08	11.3	19 40A	1				
EUREKA	145.72	6.1	19 42	2				
BERKELEY	146.11	15.4	19 43	2				21 31
LICK	146.77	14.8	19 45A	3				
FRESNO	147.75	12.5	19 47	4				
BOULDER CITY	149.30	5.3	19 53	7				
PASADENA	150.62	11.3	19 56	8				
TUCSON TELE.	153.07	358.5	20 2	10				23 46 PP
TUCSON	153.16	358.7	20 2	10				

NOVEMBER 5 11.H 50.M 29.S EPICENTRE -13.27 166.24 DEPTH= 145.KM

A=-0.94571 B= 0.23158 C=-0.22804 D= 0.2378 E= 0.9713
G= 0.2215 H=-0.0542 K=-0.9737 HT= 6.1

DEPTH OF FOCUS= 0.018R

SE= 3.02

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	12.70	114.0	2 58	2				
RABAUL	16.56	301.7	3 42	-3				
BRISBANE	18.86	219.8	4 10A	-1	7 45	12		
PORT MORESBY	19.11	279.6	4 13A	-1	7 52	14	4 29	
CHARTERS TS.	20.30	247.8	4 27A	1	8 17	17		

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APIA	21.38	94.0	4 37	0	9 56	96	4 45	
RIVERVIEW	24.65	211.3	5 9A	1	9 32	16		
AUCKLAND	24.72	163.4	5 41	32	9 46	28		
KARAPIRO	25.92	163.0	5 21	1			5 35	
CANBERRA	26.91	212.4	5 29A	0	9 51	-3		11 31 SS
TONGARIRO	27.10	164.0	5 39	8				
WELLINGTON	28.88	166.6	5 45	-2				6 44 PP
GEBBIES PASS	30.82	170.9	6 3	-1			6 28	
MELBOURNE	30.94	214.0	6 5A	0				
ROXBURGH	32.21	175.9			11 25	8		7 37 PP
ADELAIDE	32.94	224.3	6 24K	1	11 43	14		9 15
MACQUARIE I.	41.53	186.4	7 34	0				
KIPAPA	49.19	46.0	8 19	-16			8 35	
MUNDARING	49.33	239.2	8 36A	0	15 41	11		
PERTH	49.64	239.3	8 41	3				19 40
BAGUIO CITY	53.91	301.9	9 11	1	16 49	17		
TERRE ADELIE	56.00	191.6	9 25	0	17 31	31		
ABUYAMA	56.03	329.6	9 26A	0				
DUMONT	56.15	192.2	9 25	-2	17 31	29		
MATUSIRO	56.15	332.9	9 24A	-3	17 10	8		20 49 SS
LEMBANG	57.97	270.2	9 41A	2	17 41	15		
DJAKARTA	58.87	270.8	9 44A	-2	17 50	12		
CAPE HALLETT	59.06	178.6	9 45A	-2	17 57	17	9 56	24 51 SSS
ZO-SE	61.79	316.4	10 3	-2	18 25	10		
HONG KONG	62.08	304.2	10 8A	1	18 36	17		
CANTON	63.13	304.6	10 15A	1	18 42	10		
NANKING	63.99	315.9	10 20A	0	18 55	12		
WILKES	64.53	201.7	10 22	-1	18 58	9		20 3 SCS
SCOTT BASE	64.59	179.9	10 21	-3				
WUHAN	66.07	312.2	10 33A	0				
PHU-LIEN	67.65	299.2	10 44	1				19 39
CHANGCHUN	67.98	329.2	10 44	-1				
MEDAN	69.10	279.1	10 53A	1	20 5	21		
PEKING	70.50	321.3	11 0	-1	20 12	12		
MIRNY	71.26	203.9	11 4	-1				
SIAN	72.08	312.9	11 13	3				
KUNMING	72.69	301.8	11 16A	2	20 42	17		
CHENGTU	74.03	307.5	11 23A	2	20 53	13		
BYRD STATION	74.30	170.0	11 20	-3			11 45	11 35 PCP
LANCHOW	76.60	312.4	11 38A	2	21 24	15		
SOUTH POLE	76.82	180.0	11 36	-1				
YAKUTSK	80.33	343.5	11 53	-3				
ULAN-BATOR	80.49	324.1	11 57	0	22 2	12		
CHITTAGONG	81.04	295.5	12 3	3	22 17	22	12 35	15 22 PP
SHILLONG	82.01	298.6	12 8K	3				21 55
UKIAH	83.74	47.5	12 22	8				
BERKELEY	83.97	49.0	12 13	-2	22 32	7		12 39 PCP
IRKUTSK	84.16	327.0	12 15A	-1				12 24 PCP
LICK	84.23	49.7	12 15K	-1				
SHASTA	84.93	46.3	12 17	-3				
COLLEGE	85.24	17.9	12 17	-4	22 38	1	12 42	23 42 PS
MINERAL	85.36	46.9	12 20A	-2				
FRESNO	85.40	50.7	12 31	9				
PASADENA	85.78	53.7	12 23	-1	22 51	8		22 41 SKS
CORVALLIS	85.80	42.5	12 24	0				
RENO	86.35	48.1	12 17	-10				
VICTORIA	87.28	38.8	12 38	7				
TIKSI	88.33	348.9	12 33	-3				
BOULDER CITY	88.95	52.8	12 38	-1				
EUREKA	89.14	49.2	12 38	-2			13 3	30 16 PKKP
TUCSON	91.12	57.3	12 49	0				13 36
TUCSON TELE.	91.23	57.2	12 50	0			13 15	16 37 PP
BANFF	92.98	38.1	12 55	-3				
HUNGRY HORSE	93.10	41.1	13 6	8				
DEHRA DUN	95.05	299.8	13 19	12	23 41	12		
POONA	96.35	287.5	13 15	2				
BOMBAY	97.38	287.6			23 49	8		19 30
ALMATA	98.45	312.4						14 21
NARYN	98.82	310.4	13 13	-11				13 36
TASHKENT	103.82	309.6						27 11 PS
QUETTA	104.49	298.0						17 7 PP
RESOLUTE	105.05	15.8			24 25	8		18 7 PP
OTTAWA	118.97	45.3	18 52	21				
SODANKYLA	119.82	343.2	18 30	-3				
BREBEUF	120.39	44.8	18 58A	24				
PALISADES	121.05	50.0						20 1 PP
KIRUNA	121.11	345.6	18 36	1				
TIFLIS	122.10	311.1						20 16 PP

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PULKOVO	123.41	335.1					20 21	PP
PRETORIA	123.69	226.4	19 21	41				
NURMIJARVI	125.14	337.9	18 45	2				
SKALSTUGAN	126.53	345.9	18 45	-1				
BULAWAYO	126.72	232.2	18 47	1				
ADDIS ABABA	128.36	271.1	19 9	20				
SIMFEROPOL	128.63	317.6					20 47	PP
BROKEN HILL	129.93	238.1	18 53	1				
KSARA	130.64	303.3	19 0	6			21 14	PP
ELISABTHVLLE	132.19	240.6	19 0	3			22 26	SKP
LWOW	132.23	327.6					21 24	PP
WINDHOEK	133.28	220.6	19 3	4				
BUCHAREST	134.00	320.3					21 29	PP
LWIRO	135.05	253.1	19 4	2			22 33	
COLLMBERG	136.33	335.8	19 6	2			21 45	PP
PRUHONICE	136.68	333.5	19 20	15			22 1	PP
JENA	137.18	336.5	19 19	13	20 1		22 0	PP
DURHAM	137.51	349.6	19 7	1				
STUTTGART	139.80	336.4	19 14	3	19 23		22 0	PP
FOLINIERE	142.93	345.4	19 12	-4				
MESSINA	144.03	319.0	19 16	-2	19 37		22 35	PP
CLERMONT-FD.	144.59	339.5	19 19	0				
LEOPOLOVILLE	146.28	240.6	19 25A	3				
BANGUI	146.85	257.5	19 29	6			25 32	
SETIF	151.40	326.3	19 37	7			23 17	PP
TOLEDO	152.15	343.9	19 39	8	19 55		19 49	PKP2
ALGIERS UNI.	152.17	330.2	19 16	-15	19 48		23 17	PP
RELIZANE	154.17	332.5	19 50K	16			20 35	PKP2
GRANADA	154.51	340.9					23 24	PP
TAMANRASSET	159.39	300.0	19 41A	0	20 10		24 1	PP
MBOUR	176.69	70.1	19 54	2			25 28	PP

NOVEMBER 5 14.H 59.M 40.S EPICENTRE 30.42 129.21 DEPTH= 255.KM

A=-0.54612 B= 0.66933 C= 0.50373 D= 0.7748 E= 0.6322
G=-0.3185 H= 0.3903 K=-0.8639 HT= 1.7

DEPTH OF FOCUS= 0.035R

SE= 1.82

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
YAKUSIMA	1.11	87.9	0	36	-1	1	1	-4				
KAGOSIMA	1.63	44.6	0	42A	1	1	13	1				
TOMIE	2.23	350.4	0	47	1	1	17	-4				
NAGASAKI	2.38	13.7	0	47A	0	1	22	-2				
MIYAZAKI	2.41	51.0	0	48A	0	1	23	-1				
UNZENDAKE	2.47	20.7	0	48	0	1	24	-1				
KUMAMOTO	2.71	27.5	0	51A	0	1	29	-1				
ASOSAN	2.94	32.1	0	53	0	1	37	5				
SAGA	2.97	17.9	0	56A	3							
HUKUOKA	3.31	17.2	0	59A	2	1	43	2				
OOITA	3.47	35.5	0	57A	-2	1	21	-23			1	15
ITUHARA	3.77	0.9	1	4	2	1	50	0				
SIMIDU	3.98	52.7	1	3A	-2	1	48	-7				
UWAZIMA	3.99	44.5	1	1	-4	1	50	-5				
MATUYAMA	4.56	40.6	1	10	-1	2	4	-3				
HIROSIMA	4.79	33.8	1	11A	-3	2	8	-4				
KOTI	4.82	48.5	1	14A	-1	2	8	-5			1	34
HAMADA	5.08	27.6	2	15	57						2	48
TAKAMATU	5.65	45.2	1	23	-2	2	26	-5				
OKAYAMA	5.82	41.8	1	24	-3	2	30	-5				
TOKUSIMA	5.83	49.9	1	25	-2	2	30	-5				
MATSUE	5.98	31.8	1	28	-1	2	37	-1				
SUMOTO	6.21	49.4	1	30A	-2	2	37	-6			3	19
WAKAYAMA	6.32	51.4	1	26	-7	2	36	-10				
OSAKA	6.80	50.0	1	38A	-1						3	41
TOYOOKA	6.94	41.3	1	39	-2	2	57	-3				
ZO-SE	6.95	277.7	1	40K	-1	3	0	0				
OWASE	6.95	56.6	1	40A	-1	2	59	-1				
ABUYAMA	6.96	48.7	1	40A	-1							
NARA	7.02	51.0	1	42	0							
KYOTO	7.16	48.4	1	43	-1	3	20	15				
KAMEYAMA	7.55	52.3	1	48	-1	3	28	15				
HIKONE	7.65	48.9	1	51	1							
TSURUGA	7.77	46.0	1	52	1	3	19	1				

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GIHU	8.07	50.0	1	55A	0	3	27	2		
NAGOYA	8.07	52.0	1	57	2					
HUKUI	8.13	44.4	1	57	1					
OMAESAKI	8.67	58.9	2	4	1					
NANKING	9.08	283.1	2	8K	0	3	53	5		
TOYAMA	9.15	44.6	2	7	-2	3	59	9		
KOHU	9.43	53.8	2	14	2	4	14	18		
WAZIMA	9.43	40.6	2	12	0	4	19	23		
MISIMA	9.44	57.7	2	13A	1	4	19	23		
HUNATU	9.49	55.2	2	14	1	4	21	23		
AJIRO	9.52	58.4	2	15	2	4	19	21		
OSIMA	9.61	60.5	2	16A	1	4	24	24		
MATUSIRO	9.68	48.5	2	15A	0	4	21	19		14 47 SCS
NAGANO	9.75	47.9	2	18	2	4	28	25		
OIWAKE	9.78	50.5	2	17	0					
TITIBU	9.95	53.5	2	20	1	4	27	19		
MERA	10.01	60.6	2	21	1	4	23	14		
TAKADA	10.05	46.0	2	21	1	4	30	20		
YOKOHAMA	10.09	57.6	2	23K	2	4	23	12		
MAEBASI	10.17	51.5	2	22	0	4	37	24		
KUMAGAYA	10.25	53.4	2	24	1	4	31	16		
TOKYO C.M.O.	10.28	56.5	2	26A	3	4	28	13		
AIKAWA	10.65	42.2	2	26	-2					
TUKUBASAN	10.79	54.7	2	29K	0	4	33	6		2 49
UTUNOMIYA	10.80	52.7	2	31	2	4	36	9		
KAKIOKA	10.85	54.8	2	31	1	4	34	6		
NIIGATA	11.06	44.8	2	32	-1					
MITO	11.13	54.7	2	35	1	4	47	12		
SHIRAKAWA	11.34	50.9	2	37	1	4	47	8		
ONAHAMA	11.71	53.1	2	42	1	4	53	5		
HUKUSIMA	11.85	48.9	2	43	0	4	57	6		
YAMAGATA	12.07	46.7	2	46	1					
SAKATA	12.16	43.0	2	52	5					
SENDAI	12.43	47.8	2	49	-1	5	3	-1		
WUHAN	12.64	274.2	2	54	2	5	16	7		
ISINOMAKI	12.79	48.1	2	53	-1					3 13
VLADIVOSTOK	12.86	8.9	2	54	-1					
AKITA	12.86	40.9	2	53	-2	5	22	8		
MIZUSAWA	13.09	45.2	2	57	-1	5	23	4		
MORIOKA	13.47	43.3	3	1	-2	5	28	1		
CHANGCHUN	13.74	348.0	3	8	2	5	41	8		
PEKING	14.33	315.5	3	15	2	5	55	9		
MORI	14.81	35.0	3	20	1					
HONG KONG	15.71	242.6	3	29A	-1					
URAKAWA	16.00	39.3	3	32	-1					6 21
BAGUIO CITY	16.01	211.5	3	32	-1	6	33	10		
MANILA	17.37	207.3	3	49	1	6	57	6		
KUSIRO	17.45	39.9								6 47
SIAN	17.57	287.9	3	50	0	6	58	3		
NEMURO	18.33	40.8								7 8
Y.-SAKHLINSK	19.60	28.5	4	8	-3	7	16	-17		
LANCHOW	21.93	291.6	4	34	0	8	21	7		
PHU-LIEN	22.47	250.1	4	39	0	8	34	11		5 28
KUNMING	23.98	263.8	4	53	0	8	57	8		
ULAN-BATOR	24.45	321.9	5	42	45					
YAKUTSK	31.61	0.5	6	25	24					
SHILLONG	33.22	271.0	6	15A	0					
CHITTAGONG	34.32	265.6	6	17	-7	11	20	-12	7 12	7 46 PP
MEDAN	39.29	233.2	7	7A	1	12	47	0		
RABAUL	40.83	143.5	7	19	1					
LEMBANG	42.43	212.8	7	29	-2	13	39	6		
PORT MORESBY	43.18	153.6	7	37K	0	13	43	-1		9 37 PCP
CHARTERS TS.	52.82	159.8	8	51K	0					
QUETTA	53.12	286.6	8	59	5					
COLLEGE	59.96	29.3	9	41	-1				10 40	
BRISBANE	61.74	156.2	9	54	0					
MUNDARING	63.26	192.4	10	3	0					
APATITY	64.43	334.9	10	9K	-2					
ADELAIDE	65.65	171.4	10	19K	0					
NORD	66.85	354.9	10	25	-1					
SODANKYLA	66.94	335.8	10	26	-1					
KIRUNA	68.87	337.3	10	37K	-2					
NURMIJARVI	70.71	329.5	10	50	0					
HELSINKI	70.73	329.1	10	51	1					
RESOLUTE	71.30	11.3	10	52K	-2	19	40	-9	11 54	24 46 SS
SKALSTUGAN	74.01	335.5	11	8	-2					
UPPSALA	74.07	330.8	11	9	-1					
KARAPIRO	80.60	144.6	11	47	1					

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COLLMBERG	81.23	325.3	11 48	-1	12 51	13 19	*SP
PRUHONICE	81.26	323.6	11 50K	1	12 52	13 15	*SP
JENA	82.16	325.5	11 54	0			
HUNGRY HORSE	83.35	36.8	12 1	1	13 2		
LJUBLJANA	83.68	320.5	12 2K	1			
STUTTGART	84.69	324.8	12 7	1	13 9		
ADDIS ABABA	85.87	278.0	12 16	4			
BYRD STATION	123.41	168.8	18 28	1			
HUANCAYO	150.83	56.5	19 26K	10			

NOVEMBER 5 17.H 38.M 19.S EPICENTRE -8.91 157.56 DEPTH= 67.KM

A=-0.91324 B= 0.37723 C=-0.15394 D= 0.3818 E= 0.9243
G= 0.1423 H=-0.0588 K=-0.9881 HT= 6.7

DEPTH OF FOCUS= 0.005R

SE= 2.75

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
RABAUL	7.11	310.9	1 21	-22				3 8	
PORT MORESBY	10.29	266.5	2 28	1	4 39	18		2 55	
CHARTERS TS.	15.58	223.3	3 8	-29					
BRISBANE	18.92	193.2	4 16	-2				5 38	
RIVERVIEW	25.49	192.5	5 24	1	9 58	15			
CANBERRA	27.42	195.3	5 42A	1				6 39	PP
MELBOURNE	30.95	199.6	6 13K	0					
ADELAIDE	31.15	210.8	6 13	-1					
KARAPIRO	33.13	153.5	6 32A	0					
TONGARIRO	34.19	154.7	6 41A	0					
WELLINGTON	35.66	157.5						8 15	PP
ROXBURGH	37.82	166.5			13 3	6		8 44	PP
BAGUIO CITY	44.41	304.4	8 6	0	14 42	7			
PERTH	44.93	233.2	8 11	1	15 2	20		10 5	PP
ABUYAMA	48.26	335.6	8 34K	-2					
MATUSIRO	48.73	339.2	8 36	-4	15 40	4		18 36	SCS
LEMBANG	49.48	268.6	8 46A	1	15 52	6			
HONG KONG	52.63	306.8	9 8	-1	16 43	13			
ZO-SE	52.89	320.4	9 9	-2	16 42	9			
CANTON	53.69	307.2	9 17	0	16 56	12			
NANKING	55.06	319.6	9 26	-1	17 10	8			
VLADIVOSTOK	56.82	337.7			17 32	6			
WUHAN	56.92	315.4	9 39	-1	17 34	7		10 59	
PHU-LIEN	58.10	301.2	9 49	0	17 56	13	10 36	19 5	
TERRE ADELIE	58.86	137.4	9 53	-1	18 3	10			
DUMONT	58.91	188.1	9 53	-1	18 3	10			
MEDAN	59.99	279.4	10 18	16				11 8	
CHANGCHUN	60.09	333.5	10 1	-1	18 16	8			
PETROPAVLOVK	61.70	0.8			18 39	10			
PEKING	61.93	324.9	10 14	-1	18 40	8			
SIAN	62.96	315.7	10 28	6					
KUNMING	63.18	303.9	10 22	-1	18 56	8			
CHENGTU	64.67	309.9	10 31	-2	19 15	9			
WILKES	65.63	198.9	10 36	-3	19 26	8		23 36	SS
LANCHOW	67.45	315.0	10 51	1	19 49	9			
MAGADAN	68.45	356.3			19 59	7			
SCOTT BASE	69.08	177.9	11 1	0					
ULAN-BATOR	72.09	326.9	11 21	2					
SHILLONG	72.46	300.3	11 21	0	20 44	6			
YAKUTSK	73.96	346.8	11 28	-2	21 3	8			
CHATRA	76.86	300.2	11 43	-3					
BOKARO	77.21	296.9						21 39	
BYRD STATION	80.05	169.9	12 4	0				13 16	*SP
SOUTH POLE	81.14	180.0	11 59	-10					
KODAIKANAL	81.94	281.7			22 37	17			
TIKSI	82.60	351.2	12 12	-5					
COLLEGE	83.97	20.5	12 22	-2					
DEHRA DUN	85.51	301.5	12 39	7	22 59	3			
POONA	86.90	289.2	12 40	2	23 17	8			
BERKELEY	87.75	51.3	13 24	42					
BOMBAY	87.92	289.4	12 47	4	23 30	11		23 16	SKKS
LICK	88.12	51.9	13 16K	32				13 45	
SHASTA	88.29	48.5	12 46	1					
MINERAL	88.80	49.0	12 48K	1					
FRESNO	89.44	52.8	12 55	5					

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RENO	89.98	50.1	12	54A	1					
PASADENA	90.24	55.6	12	56	2	23	31	-9		
QUETTA	94.94	299.6	13	16	0	24	29	8	23	55 SKS
RESOLUTE	103.16	15.1				24	33	8	25	41 S
TIFLIS	112.84	311.5	18	31	2				27	7 SKKKS
MOSCOW	113.94	327.6							19	23 PP
SOTCHI	116.17	314.3							19	40 PP
KSARA	121.15	304.1	18	50	5				20	21 PP
PALISADES	124.50	45.9				26	3	16	30	45 PS
ELISABTHVLLE	126.33	248.5	18	59	4					
LWIRO	127.74	260.2	19	2	4				21	3
PRUHONICE	128.83	330.1	19	3	3					
BERMUDA	134.51	52.9							22	47 PKS
BANGUI	138.98	266.4							23	1
LEOPOLDVILLE	140.17	252.2	19	25	4					
TOLEDO	145.07	334.9	19	34	4					
RELIZANE	146.04	325.3	19	28	-3					
TAMANRASSET	149.85	300.5	19	46A	9				23	25 PP

NOVEMBER 6 1.H 7.M 33.S EPICENTRE -8.78 157.66 DEPTH= 0.KM

A=-0.91423 B= 0.37575 C=-0.15164 D= 0.3801 E= 0.9249
G= 0.1403 H=-0.0576 K=-0.9884 HT= 6.7

SE= 2.38

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
RABAUL	7.10	309.5	1	53	6								
PORT MORESBY	10.39	265.8	2	35	2						5	11	
CHARTERS TS.	15.74	223.2	3	42	-2	7	46	66					
BRISBANE	19.08	193.4	4	25	-1								
RIVERVIEW	25.64	192.6	5	32A	0	10	5	6					
CANBERRA	27.58	195.4	5	53A	3								
MELBOURNE	31.11	199.7	6	22A	0	11	26	-1					
ADELAIDE	31.31	210.9	6	22K	-2								
KARAPIRO	33.21	153.7	6	39	-1						9	23	PCP
ROXBURGH	37.92	166.6				13	1	-12			8	56	PP
BAGUIO CITY	44.42	304.2	8	14	0						12	20	
MUNDARING	44.80	233.0	8	16	-1	14	55	1					
MATUSIRO	48.64	339.1	8	44	-3	15	58	9					
LEMBANG	49.58	268.5	8	53K	-1						12	56	
HONG KONG	52.63	306.7	9	14	-3	16	49	5					
ZO-SE	52.85	320.2	9	19	0	16	49	2			19	7	SCS
CANTON	53.69	307.0	9	27	2	17	5	6					
NANKING	55.02	319.4	9	35A	0	17	20	3			19	25	SCS
VLADIVOSTOK	56.73	337.6									13	16	PPP
WUHAN	56.90	315.3	9	48	-1	17	43	1					
PHU-LIEN	58.12	301.1	9	58	1	18	4	6					
TERRE ADELIE	59.01	187.4	10	11	8	18	22	13					
DUMONT	59.05	188.1	10	11	7	18	22	12					
UGLEGORSK	59.22	348.1									11	35	
CHANGCHUN	60.02	333.4	10	10	0	18	24	2					
PETROPAVLOVK	61.56	0.7				18	46	4			12	24	PP
PEKING	61.88	324.8	10	24	1	18	49	3			20	18	SCS
SIAN	62.93	315.6	10	30	0	19	2	3					
KUNMING	63.19	303.8	10	33A	1	19	8	5			20	30	SCS
CAPE HALLETT	63.94	175.8	10	34	-3	19	9	-3			11	3	PCP
CHENGTU	64.66	309.8	10	41A	0	19	21	0			20	38	SCS
WILKES	65.79	198.9	10	47	-2	19	35	0			20	49	SCS
LANCHOW	67.42	314.9	11	0A	1	19	57	3					
MAGADAN	68.33	356.2				20	8	3					
SCOTT BASE	69.21	177.9	11	9	-1								
MIRNY	72.04	202.3	11	26	-1	20	51	2					
SHILLONG	72.48	300.3	11	31K	1	20	59	5					
YAKUTSK	73.85	346.7	11	36	-2	21	12	3					
CHATRA	76.88	300.1	11	52	-3								
BOKARO	77.24	296.8				21	52	5					
BYRD STATION	80.16	169.9	12	12	-1								
SOUTH POLE	81.28	180.0	12	18	-1								
TIKSI	82.48	351.1	12	23	-2	22	42	0					
COLLEGE	83.81	20.5	12	29	-3	22	45	-10					
DEHRA DUN	85.53	301.4				23	10	-2			13	39	
POONA	86.95	289.2	12	46	-2	23	26	0					
BERKELEY	87.59	51.3	12	54	3								
LICK	87.95	51.9	12	53A	1						14	13	
BOMBAY	87.97	289.4	12	49	-4	23	32	-3			23	17	SKKS

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SHASTA	88.13	48.5	12 55	2						
MINERAL	88.64	49.0	12 56	0						
FRESNO	89.28	52.8	12 59	0						
RENO	89.82	50.1	13 1	0						
PASADENA	90.09	55.6	13 4	1	23 39	-16				
BOULDER CITY	93.09	54.2	13 18	2						
QUETTA	94.96	299.6	13 26	1	24 38	1			16 48	PP
RESOLUTE	103.00	15.1			24 41	0			25 45	S
TIFLIS	112.83	311.5							22 32	PPP
KSARA	121.16	304.2							20 29	PP
BULAWAYO	122.22	239.6	18 57	0						
HUANCAYO	123.41	110.6	19 3	4						
PALISADES	124.34	45.9			26 5	2			30 57	PS
BROKEN HILL	124.57	245.8	19 1	0						
ELISABTHVLLE	126.47	248.5	19 8	3						
LWIRO	127.86	260.3	19 9	2					21 9	PP
DURHAM	131.23	344.1							23 13	PP
STUTTGART	132.11	332.1	20 20	64						
BERMUDA	134.35	52.8							22 53	PKS
LEOPOLDVILLE	140.31	252.3	19 34	3						
RELIZANE	145.99	325.6	19 39	-1					20 32	
TAMANRASSET	149.87	300.8	19 54	7					20 15	PKP2

NOVEMBER 6 7.H 37.M 12.S EPICENTRE 41.58 20.74 DEPTH= 0.KM

A= 0.70160 B= 0.26571 C= 0.66117 D= 0.3542 E=-0.9352
G= 0.6183 H= 0.2342 K=-0.7502 HT= -2.3

SE= 4.25

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SKOPJE	0.65	53.1									0	21	PG
SOFIA	2.23	59.0									0	48	PG
TARANTO	2.87	248.4	0	57	9						1	24	
BELGRADE	3.24	356.3	0	54	1						1	4	PG
TIMISOARA	4.18	4.6	1	17	10	1	52	-5			1	24	PG
ATHENS	4.27	146.6				2	0	1			1	26	PG
CAMPULUNG	4.83	38.8	2	5	49	2	17	4					
BUCHAREST	4.85	52.4	1	20	4	2	18	4			1	50	PG
MESSINA	5.23	231.5	1	28	6	2	24	1			1	49	
REGGIO CALA.	5.24	230.1	1	25	3	2	24	0			2	20	
ZAGREB	5.46	322.4	1	28	3	2	35	6			1	56	PG
ROME	6.19	275.7	0	44	-51	2	2	-46					
FOCSANI	6.24	46.5	2	8	32						3	19	
LJUBLJANA	6.34	316.9	1	35A	-2						1	58	PG
TRIESTE	6.50	311.1	1	39	0	2	56	1			3	23	
HURBANOVO	6.54	344.8				2	51	-5			2	4	PG
BRATISLAVA	7.08	339.8	1	46	-2	2	59	-11			2	11	PG
TOLMEZZO	7.36	313.5	1	48	-4						3	51	
IASI	7.45	38.7	2	10	17	4	8	49			2	57	
BOLOGNA	7.49	296.1	3	11	78						4	20	
KRAKOW	8.49	356.4	2	6	-1								
LWOW	8.55	14.5	2	23	15	4	18	31					
RACIBORZ	8.68	349.1	2	7	-3								
PAVIA	9.16	297.0	2	19	2	4	15	13			5	23	
PRUHONICE	9.44	334.9	2	21	0	4	11	2			3	13	PG
CHUR	9.62	307.0	2	21A	-2						4	2	
RAVENSBURG	10.05	311.8	2	26	-3	4	57	33					
SIMFEROPOL	10.32	66.5	2	52	19								
ESINGEN	10.64	312.3	2	32	-5								
PLAUEN	10.72	329.2	2	36	-2								
TUBINGEN	10.78	314.0	2	36	-3	5	1	19					
STUTTGART	10.81	315.5	2	35	-4	4	48	6					
SONNEBERG	11.01	326.3	2	37	-5	5	8	21			6	8	
COLLMBERG	11.08	333.9	2	43	0	4	51	2			2	49	PP
BASLE	11.11	306.8	2	33	-10						4	48	
NEUCHATEL	11.27	303.4	2	37	-9						5	18	
JENA	11.29	329.0	3	2	16	5	21	27			6	11	
STRASBOURG	11.53	311.7	2	49	0	4	57	-3			4	16	
HALLE	11.61	331.7	2	30	-20	5	3	1			6	18	SG
BESANCON	11.97	303.2	2	54	-1						3	36	
BENSBERG	13.25	319.6	3	16	4								
MUNSTER	13.72	323.7									4	19	
DOURBES	14.09	312.7	3	25	2	6	1	-1					
KSARA	14.26	118.0	3	3	-22								

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UCCLE	14.60	314.7	3 37	7	6 24	10					
WITTEVEEN	14.73	324.5	4 2A	30							
FOLINIERE	16.57	302.9	3 56	1							
RELIZANE	16.80	256.3	3 54	-4							
GOTEBORG	17.08	343.8	4 1	-1							
KEW	17.49	311.6	4 11	4							
MOSCOW	17.95	32.2	4 19	6							
UPPSALA	18.39	355.0	4 23	5							
HELSINKI	18.80	6.6	4 26	3							
NURMIJARVI	19.11	5.9	4 28	1							
PULKOVO	19.16	14.9	4 44	16							
RATHFARNHAM	21.57	312.1	4 56A	3						6 16	
SKALSTUGAN	22.59	350.1	5 2	-2							
TAMANRASSET	22.68	218.9	5 10K	6	9 27	18				5 46	PP
SODANKYLA	26.04	5.2	5 39	2						6 18	
KIRUNA	26.31	359.7	5 36	-3							
RESOLUTE	56.56	343.3	9 49	2							
COLLEGE	73.51	354.9	11 40	3							
HUNGRY HORSE	81.95	331.4	12 24	1							

NOVEMBER 6 11.H 43.M 8.S EPICENTRE -24.04-174.92 DEPTH= 0.KM

A=-0.91070 B=-0.08097 C=-0.40506 D=-0.0886 E= 0.9961
G= 0.4035 H= 0.0359 K=-0.9143 HT= 3.6

SE= 2.24

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
RAOUL ISLAND	5.84	206.7	1	30	0	2	34	-5					
SUVA	8.53	312.1	2	11	3								
APIA	10.61	16.8	2	31	-6	4	16	-21					
KARAPIRO	16.07	208.3	3	48	-1								
TUAI	16.19	202.8				6	37	-14					
WELLINGTON	19.23	204.2	4	29	1	7	41	-19					
COBB RIVER	19.89	208.4				7	57	-18					
KAIMATA	21.63	208.3				8	40	-10					
GEBBIES PASS	22.11	204.5	5	3	4	8	47	-12					
BRISBANE	29.25	256.5	6	2	-4	11	41	43					
RIVERVIEW	31.14	244.0	6	33A	10								
CHARTERS TS.	36.12	268.5	7	3	-3	12	37	-9					
MELBOURNE	36.77	238.5	7	10A	-1								
PORT MORESBY	38.98	285.4	7	28K	-2	13	20	-9			7	44	
ADELAIDE	41.47	243.8	7	49A	-1								
CAPE HALLETT	49.02	186.0	8	48	-3	15	57	2	9	10	9	46	PCP
TERRE ADELIE	50.67	200.7	9	6	3						10	20	
DUMONT	51.04	201.3	9	6	0								
SCOTT BASE	54.57	184.7	9	33A	1								
MUNDARING	60.43	245.7	10	12	-2								
BYRD STATION	60.70	170.5	10	15	-1						10	54	
WILKES	62.04	206.1				18	47	-2			11	34	PCP
SOUTH POLE	66.11	180.0	10	51	0						12	35	PP
MATUSIRO	74.74	322.5	11	42K	-2	21	17	-3			25	59	SS
LEMBANG	75.82	268.8	11	49K	-1								
HALLEY BAY	78.68	172.3	12	4	-2								
BERKELEY	78.97	39.9	12	8K	1	22	59	53					
LICK	78.98	40.6	12	8K	1								
PASADENA	79.08	44.9	12	8	0	22	14	7					
UKIAH	79.27	38.4	12	9	0								
FRESNO	79.72	42.0	12	11K	0								
ARCATA	80.00	36.7	12	14	1								
SHASTA	80.81	37.7	12	17K	0								
MINERAL	81.02	38.4	12	18K	0								
RENO	81.51	39.9	12	22K	1								
ZO-SE	82.14	309.0	12	25	1	22	48	9					
BOULDER CITY	82.36	45.2	12	27	2								
HONG KONG	82.87	298.1	12	29A	1	22	50	4					
TUCSON	82.91	50.2	12	29	1						13	2	
CORVALLIS	82.97	34.4	12	29	1								
TUCSON TELE.	83.04	50.2	12	30	1								
CANTON	83.92	298.4	12	34K	1	23	2	5			22	54	SKS
NANKING	84.37	308.6	12	36K	0	23	7	6					
TACUBAYA	85.46	66.6	12	41	0								
VICTORIA	85.65	31.5	12	41K	-1								
WUHAN	86.66	305.4	12	48K	1	23	25	1					
CHANGCHUN	86.93	321.2	12	49K	1	23	34	8			23	16	SKS

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SALT LAKE C.	87.08	42.7	12	50	1						
MEDAN	88.16	274.7	12	55	1						
BUTTE	89.71	38.1	13	2	0						
HUNGRY HORSE	90.29	35.6	13	3	-1						
BOZEMAN	90.37	39.0	13	3	-2						
PEKING	90.39	314.2	13	5K	0	24	5	7	23	36	SKS
COLLEGE	91.07	11.2	13	7	-1	24	8	4	25	13	PS
BANFF	91.23	32.8	13	9	0						
LARAMIE	91.34	44.8	13	9	0						
SIAN	92.62	306.4	13	20	5						
KUNMING	93.47	295.8	13	19K	0	24	31	6	23	55	SKS
HUANCAYO	93.73	104.8	13	3	-17						
CHENGTU	94.77	301.3	13	27	2	24	44	7	24	11	SKS
LANCHOW	97.16	306.2	13	36	0						
LA PAZ	97.99	112.0	13	44	5						
RESOLUTE	110.39	16.2	18	34	0	26	58	104	28	36	PS
PALISADES	113.39	54.0							29	2	PS
THULE	117.09	14.7	18	46	-1						
WARSAK DAM	121.92	296.2	18	57	0						
KIMBERLEY	124.20	201.0	19	3A	2						
QUETTA	125.16	290.9	19	5	2						
BULAWAYO	130.47	209.5	19	13	0						
SODANKYLA	134.64	348.5	19	17	-4				23	5	PKS
BROKEN HILL	135.44	213.2	19	25	3						
ELISABETHVLLE	138.32	214.1	19	27	-1				22	24	PP
NURMIJARVI	141.10	344.7	19	30	-3						
HELSINKI	141.32	344.2	19	33	0						
UPPSALA	143.15	349.5	19	31A	-5						
ADDIS ABABA	144.55	250.8	19	41	2						
LWIRO	145.15	224.7	19	42K	2						
GOTEBORG	146.00	353.4	19	42	1				20	1	
SIMFEROPOL	148.52	318.7	19	49	4						
DURHAM	148.91	7.5	19	50A	4						
RATHFARNHAM	149.54	13.5	19	52A	5				20	38	
IASI	150.73	327.8	19	54	5				22	32	
POTSDAM	151.05	349.9	19	55	6						
WITTEVEEN	151.24	358.0	19	57K	8						
KSARA	151.43	297.0	19	47	-3				23	38	PP
KRAKOW	151.57	339.7	19	57	7				20	9	PKP2
MUNSTER	152.04	356.6	19	51	0				19	56	PP
RACIBORZ	152.06	341.8	19	52	1				20	8	PKP2
HALLE	152.08	350.8	19	51	0				20	12	PKP2
COLLMBERG	152.11	349.3	19	52A	1				23	50	PP
KEW	152.30	7.3	19	51	0						
JERUSALEM	152.34	292.9	20	0A	9						
JENA	152.69	351.0	19	52	0				20	40	
PRUHONICE	153.07	346.4	19	54	2				23	41	PP
BENSBERG	153.08	357.1	19	52	0				20	12	PP
SONNEBERG	153.28	351.3	19	52	0						
UCCLE	153.28	1.0	20	1	9						
DOURBES	153.98	0.7	19	56	3						
BRATISLAVA	154.10	341.4	20	3A	9				20	15	
FOLINIERE	154.93	8.7	19	57	2						
STUTTGART	155.09	353.4	19	55	0						
PARIS	155.19	4.1	19	58	3						
STRASBOURG	155.41	355.7	20	10	15				20	23	PKP2
LJUBLJANA	156.75	343.2	19	58A	1						
BESANCON	156.83	358.4	20	24	27						
MBOUR	157.10	110.8	20	1A	3				27	31	
GRANADA	164.93	27.6	20	10K	4	27	52	43	25	5	PP
RELIZANE	167.69	17.5	20	9K	1				20	37	
TAMANRASSET	178.68	198.0	20	14K	2				25	55	PP

NOVEMBER 7 2.H 32.M 7.S EPICENTRE 36.39 2.50 DEPTH= 0.KM

A= 0.80613 B= 0.03526 C= 0.59068 D= 0.0437 E=-0.9990
G= 0.5901 H= 0.0258 K=-0.8069 HT= -0.4

SE= 2.39

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ALGIERS UNI.	0.58	49.0									12	17	
RELIZANE	1.71	248.6	0	29A	-2								
ALICANTE	3.08	310.3	0	49	-2	1	24	-5			0	58	PG
ALMERIA	4.03	278.0	1	3A	-1	1	46	-7			2	0	SG
TORTOSA	4.69	341.1	1	13	-1	2	2	-8					

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GRANADA	4.96	281.0	1	24K	6	2	21	4	2	C
BARCELONA	5.03	356.8				2	4	-14		
TOLEDO	6.23	306.0	1	35A	0	2	35	-13	2	0 PG
MONACO	8.24	25.7	2	8	4					
CLERMONT-FD.	9.38	2.6	2	20	1				5	33
COIMBRA	9.40	297.2	2	19A	-1					
LISBON	9.54	287.6	2	21K	-1	4	12	1	4	33 SSS
SERRA PILAR	9.88	302.0	2	24A	-2	4	16	-3	2	32 PP
PRATO	9.96	38.7	2	26	-1					
MESSINA	10.55	76.2	3	32	56					
NEUCHATEL	11.11	16.0							2	41 PP
BESANCON	11.16	12.3	2	39	-5					
CHUR	11.69	24.5							2	55 PP
BASLE	11.75	17.1							2	58 PP
PARIS	12.41	360.0	3	3	2					
RAVENSBURG	12.54	22.6	3	2	-1					
TRIESTE	12.54	39.0	3	5	2				4	11
FOLINIERE	12.57	350.9	3	0	-3					
EBINGEN	12.71	20.0	3	4	-1					
STRASBOURG	12.78	16.0	3	5	-1				6	23
JERSEY	13.22	346.7	4	7	55				5	11
STUTTGART	13.33	19.8	3	13	0				4	9
DOURBES	13.79	5.7	3	20	1	5	56	2		
TAMANRASSET	13.81	168.3	3	15	-4	5	45	-10	3	30 PPP
ZAGREB	13.84	42.9	3	20	0					
UCCLE	14.47	4.7	3	31	3	6	11	1		
KEW	15.21	353.3	3	45A	7					
SONNEBERG	15.33	21.5	3	37	-2					
CHEB	15.44	24.5	3	41	0					
VIENNA-H.	15.64	36.4	3	43	0					
JENA	15.93	21.3	3	45	-2				4	5 PP
BRATISLAVA	15.94	37.9	3	45	-2					
MUNSTER	16.00	11.5	3	49	1					
BELGRADE	16.00	52.7	3	47A	-1				6	13
PRUHONICE	16.15	29.0	3	48	-2				5	24
HALLE	16.54	21.1	3	56	1	5	36	-83	4	4 PP
COLLMBERG	16.69	23.5	3	56	-1				6	10
SOFIA	17.24	62.2	4	2	-2					
POTSDAM	17.65	21.8	4	10	1				7	39
RACIBORZ	17.78	34.8	4	14	4				4	28 PP
RATHFARNHAM	17.99	342.7	4	16A	3					
SKALNATE PL.	18.19	39.8	4	16	0					
KRAKOW	18.58	37.3	4	20	0	7	50	5		
DURHAM	18.60	352.6	4	23	2					
CAMPULUNG	19.17	55.5	4	30	3					
BUCHAREST	19.63	58.6	4	19A	-14	8	14	5	5	6
COPENHAGEN	20.45	16.3	4	41	-1	8	17	-9		
WARSAW	20.55	33.8				7	50	-38	4	49 PP
LWOW	20.57	42.6	5	41	58	9	32	63		
BACAU	20.84	53.2	4	24	-22	8	48	14	5	3
ABERDEEN	21.02	353.0				8	42	4		
IASI	21.49	52.0	4	50	-2	8	41	-6	5	36
GOTEBORG	22.23	13.5	4	57	-3					
SIMFEROPOL	25.33	60.5	5	27	-3					
UPPSALA	25.43	17.9	5	29	-2					
KSARA	27.35	85.5	5	51	2	10	27	-1	11	43 SS
SKALSTUGAN	27.87	9.4	5	52	-1					
MBOUR	28.00	223.5				11	10	32		
PULKOVO	29.47	28.7							6	58
NURMIJARVI	27.99	23.4	5	53	-2					
MOSCOW	30.64	39.7	6	16	-2					
KIRUNA	33.08	12.4	6	38	-2					
SODANKYLA	33.94	16.5	6	45	-2					
APATITY	35.78	19.7	7	0	-3					
ADDIS ABABA	42.71	120.5	8	5	5					
SVERDLOVSK	43.31	42.9	8	4	-1					
LWIRO	45.59	141.7	8	29	5					
ELISABTHVLLE	53.26	148.9	9	23	0					
QUETTA	53.35	76.8	9	20	-3					
BROKEN HILL	56.20	149.3	9	45	1					
BREBEUF	56.22	304.8	9	42A	-2					
RESOLUTE	57.20	341.7	9	50K	-1	19	45	119	10	36 PCP
OTTAWA	57.64	305.3	9	54	0					
BULAWAYO	61.40	151.9							10	19 PCP
MORGANTOWN	62.80	300.6	10	31A	1					
KIMBERLEY	68.10	159.0	11	0	-4					
LAWRENCE	73.44	306.3	11	35	-1					
SHILLONG	74.83	69.3	11	41A	-3					

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RAPID CITY	75.40	314.2	11 48	1				
COLLEGE	76.42	347.4	11 54	1				
CHITTAGONG	76.56	72.1	11 55	1			14 49	PP
LARAMIE	78.48	313.0	12 4	0				
HUNGRY HORSE	78.49	322.5	12 4	0				
BUTTE	79.32	320.0	12 9	0				
SALT LAKE C.	82.44	315.7	12 26	1				
LA PAZ	84.84	245.3	12 40	2			16 7	PP
EUREKA	85.62	317.0	12 42	0				
HUANCAYO	87.49	253.2	12 55K	4				
MINERAL	87.98	320.7	12 54A	1				
FRESNO	89.67	317.3	13 4	3				
SOUTH POLE	126.21	180.0	19 4	-1				
SCOTT BASE	137.88	175.1	19 29	2				
CHARTERS TS.	144.42	72.8	19 37	-1				
KARAPIRO	174.23	107.5					21 24	PKP2

NOVEMBER 7 15.H 17.M 55.S EPICENTRE -5.30 68.74 DEPTH= 0.KM
A= 0.36104 B= 0.92803 C=-0.09168 D= 0.9320 E=-0.3626
G=-0.0332 H=-0.0854 K=-0.9958 HT= 7.0

SE= 3.92

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
COLOMBO	16.43	42.6			6 55	-1		
KODAIKANAL	17.70	29.4			7 42	16		
MADRAS	21.44	31.9	4 54	2	8 55	9		
POONA	24.20	11.9	5 20	0				
BOMBAY	24.38	9.4	5 22	1	9 53	14		
TANANARIVE	24.71	235.0	5 25	1				
ADDIS ABABA	33.09	295.3	6 40	0				
QUETTA	35.31	357.3	6 57	-2				
CHITTAGONG	35.57	38.6	7 0	-1				
DEHRA DUN	36.52	13.6	7 12	3				12 49
CHATRA	36.58	28.3	7 6	-4				
SHILLONG	38.02	35.2	7 20	-2				
LEMBANG	38.68	94.3	7 32K	4				
LWIRO	39.96	272.8	7 38	0				
BROKEN HILL	40.64	254.0	7 45	1				
ELISABTHVLLE	41.27	258.4	7 50	1	14 5	1		
PIETERMZBURG	43.52	231.7	8 8	1				
KIMBERLEY	47.68	235.5	8 39A	-2				
LEOPOLDVILLE	53.30	268.5	9 22	-1				
TAMANRASSET	67.74	297.1	11 0	-2				
COLLMBERG	73.71	327.3	11 37	-1				
UPPSALA	76.32	336.1	11 57	4				
CHARTERS TS.	76.49	109.3	12 5	11				
MATUSIRO	76.88	50.8	11 58	2				
DUMONT	77.80	157.3	11 52	-9				
TERRE ADELIE	78.36	157.3	11 52	-12				
SOUTH POLE	84.74	180.0	12 47	9				
HALLEY BAY	86.25	194.5	12 47	2				
HUNGRY HORSE	137.04	2.7						22 12
HUANCAYO	140.34	244.1	19 45	13				
MINERAL	143.88	13.5	19 34	-4				
RENO	145.04	11.6	19 57	17				
EUREKA	145.70	6.5	19 43	2				
BERKELEY	146.06	15.7	19 45	4				
LICK	146.72	15.2	19 47K	4				
FRESNO	147.71	12.9	19 50	6				
TUCSON TELE.	153.09	359.0	20 5	13				

NOVEMBER 7 22.H 16.M 16.5 EPICENTRE -23.62-175.61 DEPTH= 0.KM
A=-0.91455 B=-0.07015 C=-0.39834 D=-0.0765 E= 0.9971
G= 0.3972 H= 0.0305 K=-0.9172 HT= 3.7

SE= 1.62

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
RAOUL ISLAND	5.98	199.7	1 30	-2	2 37	-5		

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SUVA	7.78	313.2	1	59	2	3	54	27							
APIA	10.42	21.1	2	29	-5	4	4	-29							
ONERAHI	14.90	213.4	3	51	17										
KARAPIRO	16.15	205.9	3	51	1										
WELLINGTON	19.37	202.3				7	48	-15							
GEBBIES PASS	22.24	202.9				8	49	-12							
BRISBANE	28.73	255.8	5	59K	-2	11	21	31							
RIVERVIEW	30.75	243.2	6	21	2	11	29	7							
CANBERRA	32.78	241.0	6	50A	13										
CHARTERS TS.	35.49	268.2	7	0	0	12	32	-4							
FORT NELSON	36.09	228.7											14	54	SS
MELBOURNE	36.45	237.8	7	8	-1								9	0	PPP
PORT MORESBY	38.26	285.4	7	23	-1	13	10	-8	7	35			13	27	*SS
ADELAIDE	41.09	243.4	7	46	-1				7	59					
HONOLULU	47.79	22.3				15	58	20							
KIPAPA	47.93	22.3	8	41	-1										
CAPE HALLETT	49.37	185.7	8	57	4	17	10	70	9	18			18	52	SCS
TERRE ADELIE	50.85	200.4	9	6	1										
DUMONT	51.20	200.9	9	6	-1										
SCOTT BASE	54.94	184.5	9	36	1										
MUNDARING	60.02	245.6	10	9	-2										
BYRD STATION	61.22	170.5	10	18	-1										
WILKES	62.14	206.0	10	23	-2	18	49	-1					20	19	SCS
SOUTH POLE	66.53	180.0	10	53	-1										
MIRNY	69.13	205.4	11	10	0	20	19	3							
TUKUBASAN	72.74	323.8	11	8	-24	21	0	3					14	27	PP
MATUSIRO	74.02	322.8	11	38A	-1	21	13	1					26	10	SS
ABUYAMA	74.34	320.0	11	43A	2										
LEMBANG	75.19	268.9	11	45	-1	21	51	26							
DJAKARTA	76.17	269.2	11	50	-2										
BERKELEY	79.06	40.3	12	6	-2										
LICK	79.08	41.0	12	8A	0										
PASADENA	79.24	45.4	12	9	0	22	14	5					15	30	PP
UKIAH	79.34	38.8	12	11	2										
PETROPAVLOVK	79.53	344.5	12	8	-2	22	14	2							
Y.-SAKHLINSK	79.73	332.5	12	12	1	22	17	3							
FRESNO	79.84	42.4	12	13	1										
SHASTA	80.86	38.1	12	17	0										
MINERAL	81.08	38.8	12	18A	-1										
ZO-SE	81.38	309.2	12	20A	0	22	44	13					22	37	SKS
RENO	81.60	40.3	12	23A	2										
UGLEGORSK	81.61	333.4	12	22	1										
HONG KONG	82.11	298.4	12	26	2	22	47	9							
CORVALLIS	82.99	34.7	12	32	4										
TUCSON	83.13	50.5	12	31	2								12	55	
CANTON	83.17	298.7	12	30	1	23	3	14					22	56	SKS
EUREKA	83.89	42.2	12	32	-1										
VICTORIA	85.63	31.8	12	40	-2										
WUHAN	85.89	305.7	12	45A	2										
CHANGCHUN	86.20	321.5	12	45A	0	23	33	14					23	11	SKS
SALT LAKE C.	87.20	43.0	12	51	1										
MAGADAN	87.34	343.6				23	16	-14							
PHU-LIEN	87.63	293.8	12	52	0	23	29	-4							
PEKING	89.65	314.5	13	1A	0	24	4	13					23	31	SKS
HUNGRY HORSE	90.32	35.9	13	5	1										
BOZEMAN	90.44	39.3	13	5	0										
COLLEGE	90.79	11.5	13	5	-1	24	5	3					25	31	PS
SIAN	91.86	306.7	13	13	2	24	24	13							
KUNMING	92.72	296.1	13	17A	2	24	33	14					23	45	SKS
CHENGTU	94.01	301.6	13	22A	1	24	42	12					23	57	SKS
HUANCAYO	94.45	105.1											25	10	
YAKUTSK	95.80	337.2	13	29	-1										
LANCHOW	96.40	306.4	13	33	1	25	4	55							
ULAN-BATOR	99.27	318.3											17	46	PP
CHITTAGONG	100.88	289.7	13	56	4	24	35	4					18	11	PP
ST. LOUIS 1	100.95	52.7											25	31	SCS
CHINCHINA	101.12	89.4				24	33	0							
SHILLONG	101.97	292.7											24	28	
BOGOTA	102.41	90.4				24	41	2					25	33	SKKS
RESOLUTE	110.16	16.2				25	14	1					26	50	S
CARACAS	111.17	87.5											27	4	
PALISADES	113.65	54.0											29	14	PS
BOMBAY	116.58	280.1											22	3	
BERMUDA	119.31	65.0											20	10	PP
KIMBERLEY	124.36	201.8	19	20	19										
QUETTA	124.42	291.3	19	4	3										
ELISABTHVLLE	138.31	215.3	19	33	5								22	19	PP
PULKOVO	139.55	340.1											22	19	PP
MOSCOW	139.68	331.4	19	30	0										

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NURMIJARVI	140.52	344.4	19	37	5					
UPPSALA	142.61	349.0	19	32	-3					
ADDIS ABABA	144.08	252.0	19	44	6					
LWIRO	144.99	226.0	19	42K	3					
GOTEBORG	145.51	352.8	19	41	1				20	8
COPENHAGEN	147.42	351.5	19	48	5					
SIMFEROPOL	147.78	318.7	19	46	2				23	22 PKS
DURHAM	148.57	6.6	19	50K	5					
WARSAW	148.72	340.2	19	40	-6				19	55 PKP2
RATHFARNHAM	149.28	12.6	19	23	-23					
LWOW	149.66	334.5	19	53K	6				20	39
IASI	150.03	327.5	19	56	8					
LEOPOLDVILLE	150.23	202.2	19	51	3				42	54 SS
POTSDAM	150.52	349.2	19	49	1				20	23
KSARA	150.67	297.4	19	52	3				23	36 PP
WITTEVEEN	150.79	357.2	19	58	9					
KRAKOW	150.95	339.2	20	4	15					
RACIBORZ	151.46	341.2	19	59	9					
HALLE	151.56	350.1	19	50	0				23	44 PP
COLLMBERG	151.57	348.6	19	52	2				23	36 PP
MUNSTER	151.58	355.8	19	54	4					
JERUSALEM	151.59	293.5	19	53	3				20	13 PP
JENA	152.17	350.2	19	50	-1				23	37 PP
PRUHONICE	152.51	345.7	19	54	3				22	6
BENSBERG	152.62	356.2	20	1	10				20	13
BUCHAREST	152.68	324.7	19	54	2					
UCCLE	152.86	0.1	19	57	5					
BRATISLAVA	153.49	340.7	19	55	2				20	15
DOURBES	153.56	359.7	19	56	3	27	0	2		
VIENNA-H.	153.64	341.8	19	44	-9					
STUTTGART	154.60	352.4	19	54	0				43	13 SS
FOLINIERE	154.60	7.5	20	6	12					
STRASBOURG	154.94	354.7	20	5	10				23	58 PP
BELGRADE	155.11	332.1	19	55A	0				29	18
BASLE	156.00	354.7	20	10A	14					
LJUBLJANA	156.16	342.3	19	59	3				20	29 PKP2
BESANCON	156.38	357.3	20	28	32					
TRIESTE	156.74	343.2	19	59	2					
MBOUR	157.84	110.7	20	14	16				31	5 SKKS
TOLEDO	162.28	21.8	20	18	15					
MESSINA	162.61	329.3	20	28	24				21	24
GRANADA	164.84	25.1							21	10 PKP2
RELIZANE	167.46	14.5	20	9	1	28	1	51	25	16 PP
TAMANRASSET	178.67	231.6	20	15	3				25	51 PP

NOVEMBER 8 13.H 54.M 57.S EPICENTRE 44.05 140.64 DEPTH= 0.KM

A=-0.55748 B= 0.45735 C= 0.69285 D= 0.6343 E= 0.7731
G=-0.5357 H= 0.4394 K=-0.7211 HT= -3.2

SE= 2.65

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
RUMOE	0.72	97.6	0	15	-2	0	26	-3				
SAPPORO	1.11	151.8	0	19K	-4	0	32	-7				
ASAHIGAWA	1.28	101.5	0	24K	-1	0	37	-6				
SUTTSU	1.28	193.4	0	21	-4	0	35	-8				
WAKKANAI	1.56	28.2	0	33	4	1	0	10				
TOMAKOMAI	1.68	155.7	0	28K	-3	0	46	-7				
MURORAN	1.75	171.6	0	28A	-4	0	49	-6				
OBIHIRO	2.18	120.3	0	39A	1	1	7	1				
HAKODATE	2.24	177.6	0	35	-4	0	58	-10				
URAKAWA	2.46	139.7	0	40	-2	1	11	-2				
ABASHIRI	2.63	89.4	0	45A	1	1	23	6				
KUSIRO	2.94	110.0	0	49	0	1	32	7				
AOMORI	3.23	178.0	0	50	-3	1	32	-1				
Y.-SAKHLINSK	3.31	25.5	0	58	4				2	2		
HATINOHE	3.58	169.0	0	55K	-3	1	36	-6				
NEMURO	3.66	99.6	0	59A	0	1	43	-1				
KOSMODEMANSK	3.78	87.4	1	1	0				1	11		
AKITA	4.34	185.5	1	10	1	2	4	3				
MORIOKA	4.36	174.6	1	9A	0	1	58	-3				
MIYAKO	4.51	166.8	1	6	-5	1	56	-9				
MIZUSAWA	4.93	175.5	1	17	0	2	26	10				
UGLEGORSK	5.13	10.6	1	23	3							

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SAKATA	5.18	187.0	1 26	5	2 26	4		
KURILSK	5.30	74.6	1 6	-16			1 37	
ISINOMAKI	5.64	174.5	1 24	-3	2 30	-3		
SENDAI	5.78	177.9	1 27	-2	2 32	-5	1 54	
YAMAGATA	5.80	182.2	1 28	-1	2 35	-3		
NIIGATA	6.24	191.6	1 41	5	2 54	5		
AIKAWA	6.29	197.5	1 39	3	2 57	7		
HUKUSIMA	6.29	181.2	1 35	-1	2 50	0		
VLADIVOSTOK	6.41	264.7	1 36	-2	2 50	-3		
SHIRAKAWA	6.93	182.8	1 45	0	3 9	3		
ONAHAMA	7.09	178.3	1 49	1	3 28	18	2 8	
TAKADA	7.17	195.5	1 49	0	3 15	3		
WAZIMA	7.24	204.3	1 55	5	3 17	3		
UTUNOMIYA	7.51	184.7	1 56	3	3 40	20	2 22	
NAGANO	7.60	195.0	1 55	0	3 24	1		
MITO	7.66	181.0	1 54	-2	4 1	37		
MATUSIRO	7.73	194.7	1 54A	-2	3 15	-11	15 38	SCS
MAEBASI	7.73	189.4	1 57K	0	3 26	0	2 52	
TOYAMA	7.79	200.8	1 56	-1	3 35	8	2 13	
KAKIOKA	7.82	182.7	1 54	-4	3 44	16		
TUKUBASAN	7.83	183.2	1 53	-5	3 20	-8	2 27	
OIWAKE	7.87	192.4	2 0	1	3 42	13	4 41	
KUMAGAYA	7.95	187.4	2 3A	3	3 43	12		
MATUMOTO	8.05	195.6	2 2	1	3 52	18		
KANAZAWA	8.10	203.4	2 5	3				
TITIBU	8.15	188.9	2 2	0	3 55	19		
TAKAYAMA	8.30	199.3	2 6	1				
TYOSI	8.32	178.8	1 58	-7				
TOKYO C.M.O.	8.39	184.9	2 5A	-1	3 47	5	4 29	
YOKOHAMA	8.64	185.4	2 10	1	4 0	11	2 35	
HUNATU	8.66	190.2	2 12	3	3 58	9	2 39	
HUKUI	8.67	204.4	2 10	0				
IIDA	8.79	195.1	2 13	2	3 52	0	4 45	
MISIMA	9.01	188.9	2 19	5	3 53	-5		
AJIRO	9.07	188.0	2 19	4	4 12	13	4 30	
TSURUGA	9.09	204.2	2 17	2	3 49	-11		
GIHU	9.14	200.3	2 16A	0	4 20	19		
MERA	9.14	184.2	2 30	14	4 15	14		
SHIZUOKA	9.23	191.5	2 21	4	4 3	0		
NAGOYA	9.31	198.9	2 19	1	4 12	7		
OSIMA	9.32	186.4	2 33	14	4 23	18	5 3	
HIKONE	9.40	202.5	2 30	10	4 26	19		
MAIZURU	9.47	207.0	2 23	2			5 35	
HAMAMATU	9.59	194.6	2 23	1			4 50	
TOYOOKA	9.61	209.7	2 26	3	4 19	6		
OMAESAKI	9.62	192.0	2 26	3	4 29	16		
SAIGO	9.63	218.0	2 27	4	4 24	11		
KAMEYAMA	9.73	200.7	2 25	1	4 28	12		
KYOTO	9.78	204.4	2 28	3	4 26	9		
TU	9.86	200.2	2 29	3				
TOTTORI	9.87	212.4	2 28	2	4 13	-6		
ABUYAMA	9.97	204.8	2 27A	-1				
NARA	10.07	203.3	2 28	-1	4 27	3		
OSAKA	10.18	204.5	2 30K	0	4 19	-8	3 18	
KOBE	10.26	206.1	2 32	0	4 36	7	2 46	
YONAGO	10.27	215.5	2 40	8	4 51	22		
MATSUE	10.37	216.7	2 31	-2	4 39	8		
OWASE	10.54	200.5	2 34	-1	4 44	9		
SUMOTO	10.66	206.5	2 35K	-2	4 41	3	3 7	
WAKAYAMA	10.68	205.2	2 39	2	4 57	18		
HIMEJI	10.69	208.9	2 36	-1	4 35	-4		
OKAYAMA	10.70	211.3	2 37	-1	4 41	2		
TAKAMATU	10.97	209.9	2 45	4	4 53	7		
TOKUSIMA	11.02	207.3	2 41	-1	4 47	0		
CHANGCHUN	11.06	274.2	2 44	2	4 55	7		
SIOMISAKI	11.24	201.3	2 45	0	5 5	12		
HAMADA	11.28	218.8	2 50	5	4 48	-5		
HIROSIMA	11.57	216.1	2 53	4	5 13	13		
KOTI	11.85	210.2	2 53	0	5 14	7		
MATUYAMA	11.88	213.5	2 58	4	5 10	2		
SEVERO-KUR.	12.39	52.3	3 2	1			5 35	
UWAZIMA	12.51	213.0	3 3	1	5 28	5		
SIMONOSEKI	12.59	220.0	3 7	4	5 26	1		
SIMIDU	12.75	210.6	3 6	1	5 17	-12		
OOITA	12.89	216.1	3 5	-2	5 34	1		
HUKUOKA	13.15	220.8	3 9K	-2	5 50	11		
ITUHARA	13.19	225.6	3 13	2				
ASOSAN	13.41	217.1	3 19	5			3 56	

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SAGA	13.46	220.2	3	18	3						
KUMAMOTO	13.64	218.0	3	19	2	5	43	-8			
UNZENDAKE	13.92	219.2	3	22	1	6	15	18			
NAGASAKI	14.09	220.3	3	23A	0	6	9	8			
MIYAZAKI	14.11	214.0	3	27A	4	6	12	10			
TOMIE	14.71	223.1	3	33K	2				7	21	
KAGOSIMA	14.77	215.9	3	33	1	6	29	11	8	0	
PETROPAVLOVK	14.90	46.6	3	38	4				3	52	*SP
YAKUSIMA	15.77	214.0	3	44K	-1	6	46	5	4	41	
MAGADAN	16.71	18.2	4	2	5						
KLYUCHI	17.77	39.2	4	11	1				7	25	
PEKING	18.59	266.0	4	20K	0	7	46	0			
YAKUTSK	19.11	344.2	4	28	1	8	5	8			
ZO-SE	20.06	236.4	4	34K	-4	8	13	-5	4	51	PP
NANKING	20.89	242.4	4	42	-4	8	33	-2			
ULAN-BATOR	23.65	291.3	5	13	-1	9	26	0			
TAIPEI	24.55	225.6	5	22	0						
WUHAN	24.62	245.5	5	22	-1	9	40	-2			
ILAN	24.65	224.9	5	24	1						
IRKUTSK	25.36	301.8	5	30K	0	9	58	3			
HWALIEN	25.37	224.1	5	36	6	11	6	71			
TAICHUNG	25.71	226.0	5	44	11						
ALISHAN	26.16	224.9	6	3	25						
SIAN	26.33	259.0	5	39	0	10	13	2			
TAINAN	26.89	225.3	5	16	-28						
TAWU	27.09	223.4	5	47	1						
TIKSI	28.24	352.1	5	55	-2				6	57	PPP
LANCHOW	29.09	266.8	6	2K	-2						
CANTON	30.66	235.9	6	16	-2	11	18	-3			
HONG KONG	30.77	233.8	6	17	-2	11	18	-4	7	4	PP
CHENGTU	31.76	257.6	6	27	-1	11	36	-2	7	29	PP
BAGUIO CITY	32.36	217.9	6	29	-4						
MANILA	33.70	215.7	6	42	-3	12	4	-4			
KUNMING	36.07	251.0	7	2	-3	12	40	-5	8	31	PP
PHU-LIEN	36.50	241.6	7	8	-1	12	53	2	8	35	PP
SEMIPALATNSK	40.50	301.0	7	41	-1	13	48	-4			
TOCKLAI	40.61	260.4	7	56	13						
LHASA	41.60	266.9	7	52K	1	13	11	-57	9	37	PP
SHILLONG	43.39	261.4	8	2	-4	14	28	-7	9	42	PCP
COLLEGE	43.62	36.0	8	7	-1	14	27	-11	39	17	PKPPKP
ALMATA	45.03	292.3	8	21	2	14	57	-1	18	35	
CHITTAGONG	45.44	257.9	8	22	0	15	5	1	10	9	PP
KHEYS	45.67	346.9							10	16	PP
CHATRA	46.00	266.4	8	24	-3	15	10	-2			
FRUNSE	46.77	292.7	8	33	0	15	22	-1	12	50	
CALCUTTA	47.78	260.9	8	45	4	15	34	-3	10	29	PP
BOKARO	48.80	264.2	8	48K	-1	15	51	-1	10	31	PP
RABAUL	49.14	164.7	8	49	-2				11	51	
SVERDLOVSK	49.64	314.7	8	55	0	16	3	-1	10	54	PP
DEHRA DUN	50.57	276.4	9	1	-1	16	15	-1	11	5	PP
TASHKENT	51.00	293.3	9	9	3	16	26	4	20	9	SS
SITKA	51.60	43.9	9	11	1						
PORT BLAIR	52.22	246.9	9	15	0	16	38	-1	14	21	PCS
AGRA	52.42	273.1	9	13A	-3	16	38	-4	10	38	PCP
STALINABAD	52.69	290.5	9	18	0	16	35	-11	11	23	PP
WARSAK DAM	53.17	284.2	9	20A	-2						
PORT MORESBY	53.52	172.0	9	21	-3	16	54	-3	9	31	10 36 PCP
VIZIANAGRAM	54.14	260.5	10	29	60						
MEDAN	54.68	234.9	9	31	-2	17	11	-1			
KIPAPA	54.99	93.3	9	35	0						
HONOLULU	55.01	93.5	9	34	-1						
SEHORE	55.49	269.9	8	36	-63				16	23	
RESOLUTE	55.98	15.3	9	40A	-2	17	26	-4	11	24	PP
APATITY	56.10	333.8	9	42A	-1	17	29	-2	11	45	PP
HYDERABAD	58.16	263.6	10	1K	3	17	58	-1	10	43	PCP
SODANKYLA	58.31	335.5	9	57	-2				10	48	PCP
THULE	58.39	7.7	9	52	-8				39	25	PKPPKP
QUETTA	58.54	283.0	9	58A	-3	18	1	-3	12	7	PP
DJAKARTA	58.56	220.4	9	59	-2	18	2	-2			
LEMBANG	58.76	219.3	9	58A	-4	17	58	-9			
KIRUNA	59.78	337.7	10	7	-2	18	18	-2	19	53	SCS
MADRAS	59.91	258.5	10	11K	1	18	22	1	12	28	PP
POONA	60.76	267.9	10	14A	-2	18	29	-3	12	32	PP
ALBERNI	60.92	48.3	10	15	-2						
BOMBAY	61.26	269.0	10	18	-1	18	38	-1	12	26	PP
KARACHI	61.68	278.1	10	21	-1	18	46	2			
PULKOVO	61.91	327.5	10	22	-2	18	44	-3	12	39	PP
VICTORIA	62.10	48.4	10	24A	-1						
NURMIJARVI	63.52	330.2	10	32	-2				11	11	PCP

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HELSINKI	63.65	329.8	10	35	0						
KODAIKANAL	63.73	258.4	10	40	4						
CHARTERS TS.	64.03	174.1	10	34	-4	19	1	-13			
COLOMBO	64.38	253.9							19	19	
CORVALLIS	64.52	51.9	10	41A	0						
BANFF	64.54	42.6	9	39K	-62						
SKALSTUGAN	65.20	337.3	10	53	8						
TIFLIS	66.14	305.5	10	51	0				11	42	
ARCATA	66.34	55.5	10	53A	0						
UPPSALA	66.43	332.5	10	51	-2				11	28	PCP
GORIS	66.61	302.8	10	54	0				20	9	PS
HUNGRY HORSE	67.11	44.3	10	57	0				39	16	PKPPKP
SHASTA	67.45	54.8	11	0A	0						
UKIAH	67.95	56.5	11	3	0				13	33	PP
MINERAL	68.14	54.7	11	4A	0				13	38	PP
BERKELEY	69.33	57.1	11	11A	0	20	28	10	13	43	PP
BUTTE	69.41	45.5	11	13	1				11	36	
RENO	69.71	54.4	11	14A	0						
GOTEBORG	69.96	333.5	11	14K	-1						
SIMFEROPOL	69.98	313.6	11	14A	-1				15	32	PPP
LICK	70.05	57.2	11	16A	0						
BOZEMAN	70.42	45.0	11	16	-2				11	49	PCP
VINEYARD	70.59	57.5	11	20	1						
WARSAW	70.91	325.5	11	39	18	21	15	39	14	33	PP
LWOW	71.42	322.3	11	23	-1	20	41	-1	11	41	PCP
COPENHAGEN	71.43	332.0	11	23	-1	20	45	3			
FRESNO	71.53	56.6	11	24	-1						
IASI	71.69	318.6	11	28	2	21	35	50			
BRISBANE	71.96	168.7	11	25	-2	20	49	1			
EUREKA	71.97	52.4	11	28	1				12	7	
APIA	72.04	131.1	11	28	0						
BACAU	72.46	318.5	11	33	3	21	3	9			
FOCSANI	72.95	317.7	11	41	8						
KRAKOW	73.00	324.6	11	33	0	20	59	-1	13	4	
CHORZOW	73.21	325.2	11	40	5	20	55	-8			
SALT LAKE C.	73.39	49.1	11	37	1				12	11	
SKALNATE PL.	73.53	323.8	11	37	1	21	8	2			
RACIBORZ	73.70	325.5	11	38	1				11	55	
POTSDAM	73.86	329.6	11	41	3				14	18	
PASADENA	74.27	57.7	11	40A	-1	21	17	3	12	1	14 29 PP
CAMPULUNG	74.30	318.6	11	44	3				12	19	
BUCHAREST	74.41	317.4	11	41A	-1	21	17	1	14	29	PP
COLLMBERG	74.76	329.0	11	43	-1	21	23	3	14	47	PP
HALLE	74.98	329.7	11	45	0	21	21	-1	14	37	PP
BOULDER CITY	75.02	54.4	11	46	1						
PRAGUE	75.21	327.5	11	48	2	21	24	-1	14	13	PP
PRUHONICE	75.23	327.3	11	46A	0	21	27	2	12	1	PCP
HURBANOVO	75.41	324.0	11	53	6	21	33	6			
RAPID CITY	75.45	41.9	11	48	0				14	41	PP
JENA	75.58	329.5	11	47	-1	21	27	-2	14	46	PP
BRATISLAVA	75.64	324.8	11	48K	-1	21	31	1	16	23	PP
WITTEVEEN	75.71	333.2	11	50K	1						
TIMISOARA	75.72	321.0	11	52	3	21	32	2			
PLAUEN	75.73	328.9	11	47	-2				14	26	
VIENNA-H.	75.88	325.3	11	50	0	21	33	1	12	2	PCP
CHEB	75.98	328.6	11	51	0	21	34	1	21	53	SKS
MUNSTER	76.11	332.2	11	51	0						
SONNEBERG	76.17	329.4	11	50	-2	21	33	-2	12	17	
LARAMIE	76.32	45.2	11	53	1						
DURHAM	76.44	338.6	11	54A	1	21	38	0			
KSARA	76.65	304.2	11	55	1	21	43	2	14	50	PP
BELGRADE	76.78	320.8	11	54K	-1	21	43	1	14	54	PP
SOFIA	77.04	317.8	11	57	1	21	37	-8	21	50	SKS
BENSBERG	77.12	331.9	11	57	0				12	13	
ZAGREB	77.97	324.0	12	2A	0	21	57	2	30	57	SSS
RIVERVIEW	78.10	171.1	12	2K	0	22	4	8			
UCCLE	78.19	333.4	12	3	0	21	59	2			
STUTTGART	78.21	329.5	12	3	0	21	57	-1	30	33	SSS
LJUBLJANA	78.39	324.9	12	4	0				14	56	PP
JERUSALEM	78.47	303.1	12	5	1	22	44	44			
TUBINGEN	78.49	329.5	12	4	0						
ADELAIDE	78.66	181.6	12	4A	-1	22	5	3	12	47	
DOURBES	78.71	332.9	12	4	-2						
TOLMEZZO	78.72	326.0	11	0	-66						
EBINGEN	78.82	329.4	12	6	0						
MUNDARING	78.88	201.0	12	3	-4	22	0	-5			
RAVENSBURG	78.91	328.8	12	8	1						
STRASBOURG	78.92	330.3	12	6A	-1	22	3	-2	31	21	SSS

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RATHFARNHAM	78.96	340.5	12	8	1	22	9	3	14	27	
KEW	79.03	336.3	12	7	0	22	8	2	22	22	SKS
TRIESTE	79.03	325.1	11	58	-9	22	3	-3	22	45	SP
CANBERRA	79.36	173.0	12	8K	-1				15	17	PP
CHUR	79.72	328.3	12	11A	0	22	12	-2			
BASLE	79.87	329.8	12	11A	-1	22	21	6			
TUCSON	80.00	54.7	12	14	1	22	51	35	15	19	PP
TUCSON TELE.	80.00	54.5	12	13	0				15	20	PP
ATHENS	80.41	314.4	12	14	-1						
PARIS	80.51	333.4	12	16	1						
NEUCHATEL	80.55	329.9	12	15	-1	22	20	-2			
BESANCON	80.68	330.6	12	15	-1						
PAVIA	81.25	327.6	12	17A	-2				32	7	SSS
OROPA	81.34	328.5	12	23	3						
FOLINIERE	81.48	335.2	12	19	-1						
PRATO	81.57	325.7	12	22	1	22	35	2			
MELBOURNE	81.59	176.5	12	19A	-2	22	37	4	12	25	PCP
TARANTO	81.65	319.9	12	36	15	22	36	2			
ROME	82.62	323.7	12	26A	0	22	43	-1	15	31	PP
CLERMONT-FD.	82.96	331.6	12	26	-2						
MONACO	83.14	327.8	12	28A	-1				15	37	PP
MESSINA	84.25	319.6	12	33	-2	22	53	-7	15	47	PP
REGGIO CALA.	84.29	319.5	12	35	0						
SEVEN FALLS	85.06	21.0	12	38	-1	23	1	-7			
SHAWINIGAN	85.07	22.4	12	38A	-1						
ONERAHI	85.15	153.0	12	41	2				13	30	
OTTAWA	85.27	24.8	12	39	-1	23	8	-2			
CHIHUAHUA	85.43	54.1							15	5	
FLORISSANT	85.54	37.5	12	41	0	23	9	-3			
ST. LOUIS 1	85.73	37.5	12	43A	1	23	10	-4			
SREBEUF	85.79	23.4	12	42A	0	23	17	2			
FAYETTEVILLE	85.99	41.6	12	42A	-1	23	5	-12	13	7	PP
CLEVELAND	86.81	30.3	12	49	2	23	15	-10			
KARAPIRO	87.51	153.1	12	48A	-3				16	13	PP
TORTOSA	88.22	330.9	13	6	12	23	44	6			
TONGARIRO	88.66	153.6	12	55	-1						
PENNSYLVANIA	88.71	28.2	12	57	0	23	42	-1			
MORGANTOWN	89.01	30.2	12	59A	1	23	44	-1			
COBB RIVER	89.53	156.3	13	0	0						
PALISADES	89.80	25.4	13	1	-1	24	21	28	16	43	PP
WELLINGTON	90.32	155.0	13	2	-2						
TOLEDO	90.59	333.6	13	7A	2	24	4	4	29	27	SS
GEORGETOWN	90.68	28.5	13	6A	0						
ALICANTE	90.76	330.4	13	2	-4	23	55	-6	16	39	PP
SERRA PILAR	90.81	337.3	13	7K	1						
ALGIERS UNI.	90.83	327.2	13	6	-1	24	0	-2			
ADDIS ABABA	92.20	284.7	13	16	3	23	56	-18			
CHAPEL HILL	92.62	31.3	13	16	1				17	1	
RELIZANE	92.69	328.5	13	14	-1	24	12	-6	16	54	PP
ALMERIA	92.80	331.2	13	18	2						
GRANADA	92.89	332.1	13	19A	3	24	18	-2	16	15	PP
TACUBAYA	96.50	55.2	13	38	5				17	38	PP
BERMUDA	100.50	21.6	13	47	-4	25	23	54	17	55	PP
TAMANRASSET	101.82	318.3	13	57	0	25	37	61	18	4	PP
TANANARIVE	105.07	258.2							18	29	PP
LWIRO	107.16	283.9							18	47	PP
BANGUI	109.18	296.5							18	58	
DUMONT	110.39	180.3							19	6	PP
TERRE ADELIE	110.54	179.7							19	6	PP
WILKES	112.47	192.7							19	21	PP
SAN JUAN	113.22	27.7							19	19	PP
ELISABTHVLLE	114.64	277.7	18	44	2				19	39	PP
BROKEN HILL	115.81	274.7	18	47	2						
MIRNY	116.13	199.2	18	43	-2				19	47	PP
CAPE HALLETT	117.90	170.2	18	47	-2				20	5	PP
LEOPOLDVILLE	117.96	293.0	18	50K	1	25	42	-1	20	3	PP
MBOUR	118.37	335.2							20	10	PP
BULAWAYO	119.42	269.8	18	52	0						
CARACAS	120.21	31.8	20	4	71	27	57	126			
CHINCHINA	121.31	43.6	18	56	1				20	27	PP
BOGOTA	122.38	42.2				25	54	-4	20	37	PP
SCOTT BASE	122.68	173.6	18	56	-2				20	39	PP
PRETORIA	123.21	265.0	19	31	32						
SOUTH POLE	133.86	180.0	19	16	-3				21	45	PP
BYRD STATION	134.73	166.0	19	5	-16				21	59	PP
HUANCAYO	135.61	55.2	19	17	-5				22	16	PP
LA PAZ	143.32	50.6	19	37K	1				22	52	PP
ANTOFAGASTA	147.48	61.6	19	47	4						

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HALLEY BAY 147.94 186.0 19 45 1

NOVEMBER 10 20.H 56.M 13.S EPICENTRE 36.14 88.67 DEPTH= 0.KM

A= 0.01880 B= 0.80927 C= 0.58713 D= 0.9997 E=-0.0232
G= 0.0136 H= 0.5870 K=-0.8095 HT= -0.3

SE= 2.17

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LHASA	6.78	162.2	1	46A	3	3	7	5			2	11	PG
CHATRA	9.37	188.3	2	19	0						5	12	
DEHRA DUN	10.61	239.9	2	38	2	4	39	2			4	55	SS
TOCKLAI	10.71	149.2	3	43	66								
SHILLONG	10.89	164.5	2	38	-2	4	44	1					
BOKARO	12.51	192.2	3	1	-1						6	50	
FRUNSE	12.74	305.9	3	5	0						5	57	
AGRA	12.76	228.2	3	1	-4								
LAHORE	12.77	253.1	3	4	-1								
CALCUTTA	13.56	181.2				6	6	18			4	8	
CHENGTU	13.93	108.7	3	18A	-2	5	54	-3			6	7	
CHITTAGONG	14.00	167.9	3	21	0	5	58	-1			3	32	PP
WARSAK DAM	14.18	266.3	3	23	-1								
TASHKENT	15.98	294.7	3	44	-3						7	8	
STALINABAD	16.01	284.7	3	46	-2						7	10	
KUNMING	16.33	128.4	3	49A	-3	7	2	9					
ULAN-BATOR	17.89	43.2	4	15	4	7	39	10					
QUETTA	19.11	258.1	4	24	-2	7	47	-10			4	43	PP
IRKUTSK	19.58	29.7	4	32K	0								
HYDERABAD	20.72	208.6	4	42K	-2	8	34	3			9	13	SS
KARACHI	21.73	244.8	4	53	-1								
POONA	21.88	220.6	4	56	0	9	0	7					
PHU-LIEN	21.92	129.4	4	55	-1	9	4	10					
PEKING	21.96	71.5	4	57A	0	8	56	1			9	8	
BOMBAY	22.14	223.3	5	2	4	9	6	8			9	49	SS
WUHAN	22.31	97.1	5	0K	0	9	5	4					
ASHKABAD	24.22	283.4	5	23	4						10	5	
MADRAS	24.27	200.5	5	28	9	9	59	23					
PORT BLAIR	24.63	170.4	5	25	2	9	56	14					
CANTON	25.00	114.6	5	30	4	9	59	11					
NANKING	25.21	90.5	5	30K	2	9	56	4			10	9	
HONG KONG	26.08	114.9	5	33	-3	10	23	16					
ZO-SE	27.46	91.1	5	49K	0	10	35	6			10	56	
KODAIKANAL	27.72	204.3									10	58	
SVERDLOVSK	27.97	326.6	5	53	-1								
COLOMBO	30.20	197.6									12	27	
TIFLIS	34.29	293.0	6	51	1	12	13	-4			8	9	PP
MOSCOW	39.46	316.2	7	31	-2						9	1	PP
MATUSIRO	39.55	74.2	7	32	-2	13	37	0			16	27	SS
SIMFEROPOL	41.69	299.6	7	51	0								
KSARA	42.88	283.0	8	5	4	14	31	4			9	46	PP
PULKOVO	43.83	321.5	8	9	0	14	43	3			16	47	PSP
APATITY	44.00	333.0				15	34	51			18	6	SS
JERUSALEM	44.09	280.5	8	13A	2						9	56	PP
SODANKYLA	46.51	331.9	8	31	1								
NURMIJARVI	46.71	322.3	8	33	1								
LWOW	47.79	307.8	8	40	0								
KIRUNA	48.92	332.1	8	51	2						19	59	SS
UPPSALA	50.24	321.6	9	0K	1								
KRAKOW	50.35	308.7	9	1	1								
ATHENS	50.90	292.7	9	4K	0								
SKALSTUGAN	52.39	326.7	9	14	-2								
ADDIS ABABA	52.66	251.9	9	34	16								
PRUHONICE	53.74	309.6	9	26K	0								
PRAGUE	53.80	309.8	9	27	1								
COLLMBERG	54.35	311.5	9	30A	0						12	31	PPP
LJUBLJANA	54.88	305.0	9	34K	0								
HALLE	54.93	312.0	9	36	2						32	29	
JENA	55.31	311.4	9	35	-2						10	1	
TRIESTE	55.51	304.7	9	38	-1								
MESSINA	56.85	295.8	9	44	-4	17	42	1			21	36	SS
STUTTGART	57.39	309.5	9	52	0								
ABERDEEN	60.89	321.4									24	51	
DURHAM	61.54	318.8	10	17K	-4								
RATHFARNHAM	64.68	318.6	10	55	14								

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SETIF	65.04	297.6	10 42	-2						
COLLEGE	70.12	22.2	11 14	-2						
PORT MORESBY	71.20	117.3	11 21	-1	20 42	3			11 44	PCP
BANGUI	71.34	261.6							20 34	
TAMANRASSET	71.63	285.1	11 23	-2					13 58	PP
MUNDARING	72.50	155.7	11 31	1					11 53	
ELISABTHVLLE	74.68	242.9	11 44	1						
CHARTERS TS.	78.04	125.8	12 2	0						
LEOPOLDVILLE	79.29	256.6	12 8	0						
BULAWAYO	79.71	235.8	12 10	-1						
HUNGRY HORSE	93.48	14.9	13 19	1						
MAWSON	105.24	190.0	11 51	777						
HUANCAYO	152.01	324.9	20 1	11					21 1	

NOVEMBER 13 10.H 6.M 19.S EPICENTRE -23.18 179.11 DEPTH= 597.KM

A=-0.92011 B= 0.01429 C=-0.39140 D= 0.0155 E= 0.9999
G= 0.3914 H=-0.0061 K=-0.9202 HT= 3.9

DEPTH OF FOCUS= 0.089R

SE= 1.85

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	5.05	352.6	1 37	3	2 42	-6		
APIA	12.71	44.4	2 39	-7	4 49	-10		
ONERAHI	13.20	197.1	2 52	1	5 18	10		
KARAPIRO	15.02	191.0	3 9	1	5 48	8		
TUAI	15.66	185.7			5 50	-1		
TONGARIRO	16.26	190.0	3 20	0	6 12	11		
WELLINGTON	18.41	190.4	3 39	-1	6 36	-2		
COBB RIVER	18.64	195.2			6 41	0		
KAIMATA	20.32	196.6	3 59	1	7 6	-3		
GEBBIES PASS	21.15	193.1	4 4	-2	7 21	-2		
BRISBANE	24.16	254.5	4 31	-2	8 14	3		
RIVERVIEW	26.69	240.4			8 52	2		
CANBERRA	28.81	238.4	5 13A	0				
CHARTERS TS.	30.66	269.4	5 29	0	9 52	0		
MELBOURNE	32.63	235.5	5 46	1				
PORT MORESBY	33.50	288.9	5 52A	-1				
ADELAIDE	36.97	242.2	6 22A	1				
SCOTT BASE	55.05	183.2	8 39	1				
MUNDARING	55.77	246.2	8 42	-1				
BYRD STATION	62.46	170.1	9 28	0				
SOUTH POLE	66.96	180.0	9 56	0				
MATUSIRO	70.84	326.1	10 18	-1				
HALLEY BAY	80.20	173.6	11 10	0				
LICK	82.03	43.8	11 19K	-1				
FRESNO	82.88	45.1	11 25	1				
MINERAL	83.87	41.4	11 31K	2				
TUCSON	86.67	52.9	11 45	3				
TUCSON TELE.	86.80	52.9	11 45	2				
EUREKA	86.90	44.6	11 44	1				
COLLEGE	91.41	13.5	12 3	-1			14 11	PP
CHITTAGONG	96.19	291.6	12 26	0				
LEOPOLDVILLE	148.41	211.9	18 43K	7				
COLLMBERG	149.94	342.5	18 45	7				
PRUHONICE	150.64	339.5	18 47A	8				
JENA	150.65	343.8	18 47	8				
TAMANRASSET	174.08	267.4	19 4	3				

NOVEMBER 15 10.H 25.M 10.S EPICENTRE 38.76 75.34 DEPTH= 0.KM

A= 0.19787 B= 0.75641 C= 0.62346 D= 0.9674 E=-0.2531
G= 0.1578 H= 0.6032 K=-0.7819 HT= -1.2

SE= 2.51

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
MURGAB	1.17	251.1						0 29 PG
NARYN	2.72	10.5	0 50	4				
ANDIJAN	3.03	311.9	0 55	5				
FERGANA	3.19	301.6	0 57	4				1 37 S*

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DZERGETAL	3.24	279.5	1	0	7				1	53 SG
KHOROG	3.26	248.2	1	3	9				1	53 SG
NAMANGAN	3.59	309.3	1	4	6					
GARM	3.94	275.1	1	9	6				2	13 SG
FRUNSE	4.10	352.6	1	9	3				2	19 SG
PRZHEVALSK	4.39	31.1							1	25 P*
OBI-GARM	4.41	271.0	1	14	4	2	0	-3		
FABRICHNAYA	4.45	10.3	1	15	4					
KULYAB	4.48	260.7	1	15	4				2	31 SG
ALMATA	4.67	14.6	1	18	4	2	13	4	2	33
NUREK	4.72	267.5	1	18	4				2	43 SG
CHUIAN-GARON	4.83	270.6	1	19	3					
KARA-SU	4.99	268.8	1	22	4					
ZIMCHURUD	5.11	272.2	1	23	3				2	52 SG
STALINABAD	5.15	270.0	1	24	4				2	53 SG
LUNACHARSKOE	5.28	301.0	1	24	2	2	26	1	1	53
TASHKENT	5.31	300.7	1	24	1				2	54 SG
TCHIMKENT	5.63	310.8	1	31	4	2	32	-2	1	53
WARSAK DAM	5.65	213.9	1	32	4					
DEHRA DUN	8.71	164.3	2	14	4	3	50	-1	2	22 PP
QUETTA	11.00	221.5	2	43	1	4	47	0		
AGRA	11.81	168.3	2	50A	-3	4	58	-9		
SEMIPALATNSK	12.15	15.1	2	58	0	5	9	-6	5	25
ASHKABAD	13.36	271.8	3	11	-3	5	37	-7	5	0
KIZYL-ARVAT	14.84	277.7	3	33	0				5	9
CHATRA	15.49	136.7	3	35	-7	6	24	-11		
KARACHI	15.56	209.3	3	43	0	6	25	-11		
SEHORE	15.61	174.0	3	40	-3	6	26	-12	3	52 PP
LHASA	15.84	120.3	3	49A	3					
BOKARO	17.34	146.1	4	3A	-2	7	24	6	4	24 PPP
SHILLONG	19.16	128.5	4	24A	-4	8	4	5	4	42 PP
CALCUTTA	19.64	141.7	4	33A	0	8	11	1	4	56 PPP
BOMBAY	19.91	187.0	4	36	0	8	21	6	4	56 PP
POONA	20.20	184.1	4	39A	0	8	22	1		
TOCKLAI	20.21	120.6	4	37	-3	8	20	-2		
SVERDLOVSK	20.53	336.5	4	42	-1	8	17	-11	8	32
HYDERABAD	21.42	171.8	4	57A	5	8	50	4	5	23 PP
CHITTAGONG	21.59	134.5	4	55A	1	8	50	1	5	20 PP
VIZIANAGRAM	21.74	158.8	4	54	-1	8	55	3		
GORIS	22.48	281.1	5	5	2				5	40 PP
LANCHOW	22.76	87.9	5	6A	1				5	26 *SP
TIFLIS	23.44	287.0	5	15	3				9	29
IRKUTSK	24.19	46.6	5	21A	2	9	38	2		
ULAN-BATOR	24.57	57.9	5	25	2				9	44
CHENGTU	24.84	100.2	5	28A	2	9	49	2		
MADRAS	26.01	169.2	5	44	7	10	30	24	6	37 PP
KUNMING	26.82	112.4	5	45A	1	10	18	-1		
SIAN	27.27	89.0	5	49	1					
KODAIKANAL	28.47	175.6							7	27
MOSCOW	30.23	316.6	6	14	-1	11	10	-4	7	25 PPP
SIMFEROPOL	31.06	294.9	6	22	0	11	19	-8	7	25 PP
PORT BLAIR	31.10	145.5	6	25	2	11	34	6	7	25 PP
PEKING	31.39	74.6	6	26A	1	11	34	2		
COLOMBO	31.98	171.5				11	40	-2	14	0
KSARA	32.01	273.5	6	31	0	11	46	4	7	41 PF
PHU-LIEN	32.31	114.6	6	33	0				7	40 PP
WUHAN	33.09	92.3	6	42A	2	11	59	0		
JERUSALEM	33.29	270.4	6	45	3	12	12	10		
PULKOVO	35.17	321.6	6	57	-1	12	26	-5	8	17 PP
IASI	35.48	299.5	7	0	0					
NANKING	35.77	87.2	7	3	0	12	40	0	7	16 *SP
CANTON	35.86	104.6	7	4A	0	12	39	-3		
BUCHAREST	36.81	295.0	7	13A	1				8	34
HONG KONG	36.94	104.9	7	13A	0	12	59	1		
APATITY	36.95	334.7	7	12A	-1	12	55	-4	15	27 SS
CHANGCHUN	37.42	65.8	7	17	0	13	2	-4	8	46 PP
CAMPULUNG	37.44	296.6	7	23	6					
LWOW	37.67	304.2	7	18	-1				8	44 PP
HELSINKI	37.88	321.2	7	21	0	13	3	-10		
ZO-SE	38.03	87.3	7	24	2	13	15	0	8	52 PP
NURMIJARVI	38.10	321.7	7	22	-1	13	11	-5	8	49 PP
SOFIA	39.10	292.9	7	36	5	13	26	-5	9	7 PP
SODANKYLA	39.24	332.6	7	30	-2				8	59 PP
WARSAW	39.46	308.2	7	32	-2	13	28	-9	9	9 PP
TIMISOARA	40.01	298.1	7	42	4	13	43	-2		
ATHENS	40.04	285.6	7	40A	1				9	42 PCP
YAKUTSK	40.14	36.5	7	38	-2	13	38	-9		
SKALNATE PL.	40.18	303.5	7	56	16					

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KRAKOW	40.29	304.8	7	41	0			9	36 PCP
BELGRADE	40.71	296.8	7	46A	2			9	21 PP
MEDAN	40.96	142.9	9	4	78	14	6 7		
BUDAPEST	41.22	301.1	7	51	3			17	7 SS
RACIBORZ	41.40	305.1	7	50	0			9	54 PPP
UPPSALA	41.49	319.9	7	49A	-2	14	2 -5	9	28 PP
KIRUNA	41.63	332.1	7	50	-2	14	5 -4	13	41 PCS
HURBANOVO	41.70	301.8				14	30 20		
VLADIVOSTOK	42.26	65.3	7	57	0	14	15 -3	9	36 PP
BRATISLAVA	42.38	302.4	7	57K	-1	14	17 -3	9	31 PP
KHEYS	42.48	355.9	8	0	1	14	20 -2	9	51 PCP
VIENNA-H.	42.85	302.6	8	0A	-2	14	20 -7		
ZAGREB	43.59	299.2	8	8A	0				
PRUHONICE	43.74	305.4	8	9A	0	14	42 2	10	2 PP
PRAGUE	43.80	305.6	8	7	-3			10	1 PP
ADDIS ABABA	44.15	237.7	8	15	3				
SKALSTUGAN	44.27	325.2	8	12	-1				
COPENHAGEN	44.31	313.8	8	13	-1	14	48 0		
POTSDAM	44.31	309.0	8	16	2			9	59 PP
GOTEBORG	44.42	316.7	8	13A	-2			11	19
COLLMBERG	44.51	307.5	8	14A	-1	14	56 5	10	10 PP
LJUBLJANA	44.53	299.9	8	16	1			9	58 PP
CHEB	45.10	305.9	9	5	45				
HALLE	45.13	307.9	8	19	-1	14	58 -2	10	3 PP
TRIESTE	45.15	299.5	8	20A	0	14	58 -2	10	3 PP
PLAUEN	45.17	306.5	8	19	-2			10	39
JENA	45.45	307.2	8	21	-2	15	2 -3	10	2 PP
SONNEBERG	45.79	306.5	8	25	0				
MESSINA	46.06	289.0	8	28K	0	15	8 -5	10	20 PP
MANILA	46.76	107.9	9	23	50	14	57 -26		
ROME	47.07	294.9	8	37	1	15	27 -1	10	27 PP
STUTTGART	47.36	304.7	8	38	0	15	29 -3	10	31 PP
RAVENSBURG	47.38	303.3	8	37A	-1				
PRATO	47.44	297.9	8	36	-3				
TUBINGEN	47.55	304.4	8	40A	1				
ABUYAMA	47.62	75.1	8	40K	0				
CHUR	47.68	302.1	8	39K	-1	15	31 -5		
MUNSTER	47.68	309.3	8	41	1				
EBINGEN	47.70	304.0	8	40	-1				
WITTEVEEN	48.08	310.6	8	35	-9				
BENSBERG	48.18	308.0	8	43	-1			11	21
STRASBOURG	48.38	304.8	8	45	-1			10	40 PP
PAVIA	48.38	300.1	8	47	1			20	16 SS
Y.-SAKHLINSK	48.67	57.3	8	48	0			10	10 PCP
BASLE	48.78	303.5	8	48	-1				
MATUSIRO	48.95	71.9	8	48K	-2	15	50 -4	11	1 PP
NEUCHATEL	49.34	303.0	8	52	-1				
BESANCON	49.90	303.5	8	57	-1			9	35
UCCLE	49.95	308.4	8	58	0	16	8 0		
DOURBES	49.98	307.5	8	56	-2	16	15 6		
MONACO	50.01	298.8	8	57K	-1	15	58 -11		
MAGADAN	50.47	39.7	9	2	0	16	12 -3		
TUKUBASAN	50.48	71.5	8	57	-5	16	8 -8	9	30
PARIS	51.67	306.4	9	11	0				
NORD	52.22	349.3	9	13A	-2	16	35 -4		
CLERMONT-FD.	52.24	302.5	9	16A	1			10	40
DURHAM	52.36	314.5	9	14K	-2	16	29 -12		
KEW	52.59	310.3	9	16	-2	16	39 -5	20	20 SS
FOLINIERE	53.54	307.1	8	54	-31				
SETIF	54.30	290.7	9	28	-3			11	34 PP
RATHFARNHAM	55.46	313.9	9	37K	-2			10	59
ALGIERS UNI.	55.77	292.3	9	39	-2			10	38 PCP
SCORESBY SD.	56.37	336.4	9	46	0				
PETROPAVLOVK	56.51	46.0						11	56 PP
SIDA	57.45	328.3	9	53	0				
ALICANTE	57.60	295.5	9	40	-14	17	32 -20		
RELIZANE	58.03	292.3	9	55K	-2			11	56 PP
REYKJAVIK	58.87	329.4	10	3	0				
LWIRO	59.13	237.7	10	4A	-1				
TOLEDO	59.41	298.5	10	5A	-2				
ALMERIA	59.69	294.7	10	8A	-1	18	13 -6		
GRANADA	60.33	295.6	10	0A	-13	18	47 20		
TAMANRASSET	60.73	276.7	10	14	-2	18	28 -4	10	37 PCP
BANGUI	61.64	251.3	10	20	-2				
THULE	62.81	350.9	10	26	-4			39	31 PKPPKP
TANANARIVE	63.01	209.7	10	32A	1			11	2
GUAM	65.68	92.0	10	48	-1			13	11 PP
RESOLUTE	66.66	357.2	10	52	-3	19	38 -8	13	21 PP

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ELISABTHVLLE	67.12	232.1	10	58A	0						
BROKEN HILL	68.70	229.4	11	8	0						
LEOPOLDVILLE	70.03	246.9	11	16	0	20	21	-5			
COLLEGE	71.32	18.0	11	22	-2	20	38	-3		25	20 SS
BULAWAYO	73.13	225.6	11	33	-1						
PRETORIA	77.87	222.6	12	1	0						
PERTH	79.79	145.9	12	11	-1						
PIETERMZBURG	79.90	218.7	12	13K	1						
MUNDARING	79.98	145.6	12	11A	-2	22	12	-5			
SITKA	81.11	16.4	12	18	-1						
WINDHOEK	81.81	232.6	12	24A	1						
PORT MORESBY	81.97	108.8	12	24A	1	22	36	-1	12 37	12	44 *SP
KIMBERLEY	82.08	223.2	12	22	-2						
RABAUL	82.40	101.6	12	25	-1						
MBOUR	82.92	282.6	12	29	1	22	52	5			
CHARTERS TS.	88.43	117.3	12	54	-2						
HALIFAX	89.12	332.0								23	20 PS
BANFF	89.94	6.8	13	1	-2						
SHAWINIGAN	90.40	338.6	13	5K	0						
OTTAWA	92.27	340.1	13	14	1						
HUNGRY HORSE	92.87	6.2	13	15	-1					17	2 PP
ADELAIDE	93.90	132.6	13	21	0					14	27
BUTTE	95.31	5.5	13	26	-1						
RAPID CITY	97.53	358.9	13	36	-2						
SHASTA	99.28	13.6	13	45K	0					17	43 PP
MINERAL	99.76	13.1	13	46A	-2					17	6
SALT LAKE C.	100.58	5.5	13	52	1						
RENO	100.85	11.9								17	54 PP
EUREKA	101.45	8.9	13	55	0						
LICK	102.68	13.8	13	58	-3					18	2 PP
FRESNO	103.56	12.5								18	11 PP
BOULDER CITY	105.04	8.5								18	23 PP
PASADENA	106.39	11.7	14	16	777	25	0	3		18	34 PP
WILKES	108.21	165.8								18	53 PP
TUCSON TELE.	109.04	5.4	18	34	777					19	4 PP
TUCSON	109.12	5.5	18	35	777					19	6 PP
DUMONT	116.02	156.4	18	44	-1						
TERRE ADELIE	116.55	156.1	18	44	-2						
CARACAS	119.69	316.2	19	30	38					36	52 SS
FUQUENE	127.49	319.8	19	10	3						
SCOTT BASE	127.83	164.4	19	7K	-1						
CAPE HALLETT	127.87	157.3	19	8K	0					21	8 PP
BOGOTA	128.39	319.7	19	12	3					22	29 SKP
SOUTH POLE	128.57	180.0	19	8	-2					21	11
CHINCHINA	128.86	321.6	19	8	-2					21	16 PP
HALLEY BAY	130.10	198.8	19	3	-10					22	33
BYRD STATION	138.22	176.1	19	21	-7					20	9 PP
LA PAZ	141.14	294.5	19	34	1					22	38 PP
HUANCAYO	142.76	307.6	19	36	0					22	6 PP
PORT STANLEY	145.20	232.6	19	39	-1						
ANTOFAGASTA	147.32	287.2	19	48	5						

NOVEMBER 15 17.H 8.M 43.S EPICENTRE 37.83 20.47 DEPTH= 0.KM

A= 0.74185 B= 0.27698 C= 0.61069 D= 0.3498 E=-0.9368
G= 0.5721 H= 0.2136 K=-0.7919 HT= -0.9

SE= 3.27

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ATHENS	2.57	85.8	0	45	2	1	18	2				
TARANTO	3.64	317.5	0	58	0							
REGGIO CALA.	3.82	275.6	1	OK	-1	1	41	-6				
MESSINA	3.91	277.0	1	2K	0	1	44	-6				
SKOPJE	4.20	9.9	1	8A	1						2	27 SG
SOFIA	5.34	23.3	1	24	1	2	27	1			2	58 SG
BELGRADE	6.99	359.9	1	45A	-1	3	11	4			1	59 PP
ROME	7.37	306.0	1	52	1						3	2
ISTANBUL KA.	7.40	61.4	1	49A	-3							
BUCHAREST	7.84	31.0	1	58A	0	3	50	22			2	37 PG
TIMISOARA	7.94	3.8	1	58	-1	3	29	-2			2	38 PG
CAMPULUNG	8.18	23.2	2	3	0							
ZAGREB	8.66	338.7	2	5A	-4	3	45	-4			2	49 PG
KECSKEMET	9.11	356.6									2	35 PG
TRIESTE	9.29	329.4	2	16	-2	4	5	1			3	1 PGPG

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PRATO	9.32	313.4	2	22	4	4	12	7				
FOCSANI	9.33	30.4	2	26	8							
LJUBLJANA	9.33	333.6	2	16A	-3	4	14	9	2	38		
CUGLIERI	9.56	287.9	2	37	15	3	32	-39				
BOLOGNA	9.59	316.9	2	26	4				4	40		
BUDAPEST	9.71	354.1	2	17	-7				4	28	SG	
BACAU	9.95	26.5	2	33	6							
HURBANOVO	10.18	351.3	2	29	-1	4	23	-3				
TOLMEZZO	10.20	329.5	2	30	0	4	21	-6				
BRATISLAVA	10.63	347.7	2	35K	-1	4	25	-12	2	46	PP	
IASI	10.73	26.9	2	39	1	4	7	-33	3	14	PG	
VIENNA-H.	10.84	345.3	2	38	-1	4	47	5	3	35	PG	
CERNAUTI-2	11.20	19.1	2	54	10	5	3	12				
PAVIA	11.21	314.5	2	49	5	4	56	4	5	22		
SKALNATE PL.	11.35	359.3	2	43K	-3	4	44	-11				
MONACO	11.51	304.9	2	49	1							
CHUR	12.11	321.6	2	58	2	5	7	-6				
OROPA	12.15	313.8	2	59	2	5	12	-2				
SETIF	12.16	266.9	2	57A	0	4	50	-25	5	59		
KRAKOW	12.23	358.3	2	59	1	5	19	3	3	16	PPP	
LWOW	12.26	10.9	2	59	1	5	20	3	4	20		
RACIBORZ	12.36	353.1	2	59	-1	5	31	12	3	19	PPP	
SIMFEROPOL	12.47	50.9	3	0A	-1				7	34		
CHORZOW	12.51	355.6	2	59	-3	5	24	1	3	16	PP	
MARSEILLES	12.69	300.2	3	4	0							
RAVENSBURG	12.73	324.8	3	7	2	5	21	-8				
PRUHONICE	12.87	342.6	3	4A	-3	5	19	-13				
PRAGUE	12.98	342.4	3	4A	-4	5	24	-11				
KSARA	13.13	103.1	3	6	-4	5	32	-6	5	46	SS	
EBINGEN	13.32	324.6	3	14	1	5	45	2				
JERUSALEM	13.53	112.1	3	12K	-3	4	57	-51				
TUBINGEN	13.54	325.8	3	15	0	5	54	6				
NEUCHATEL	13.54	316.9	3	14	-2	5	56	8				
BASLE	13.55	319.8	3	8	-8				6	3	SSS	
CHEB	13.55	337.2	3	14	-2	5	48	0	3	29	PP	
STUTTGART	13.62	327.0	3	16	-1	5	54	4				
ALGIERS UNI.	13.91	271.0	3	19K	-1	5	57	0	3	29	PP	
PLAUEN	13.98	337.5	3	18	-3				3	34		
STRASBOURG	14.17	323.4	3	25A	1	6	1	-2				
SONNEBERG	14.19	335.1	3	22	-2				3	35	PP	
BESANCON	14.22	316.1	3	24A	-1							
WARSAW	14.41	1.4	3	27	0				3	42	PP	
COLLMBERG	14.47	340.9	3	27	-1	6	25	15	3	48	PP	
JENA	14.55	337.1	3	29	0	6	23	11	4	30		
BARCELONA	14.58	290.0	3	27	-2	6	27	14				
HALLE	14.94	338.9	3	35	1	6	42	21	3	44	PP	
CLERMONT-FD.	15.16	307.0	3	38K	1	6	28	2				
POTSDAM	15.45	342.8	3	40	-1	6	51	18	3	59	PP	
TORTOSA	15.74	287.2	3	43	-1	6	50	10				
GARCHY	15.90	312.0	3	46K	0							
RELIZANE	16.10	268.7	3	46K	-3	7	12	24	4	7	PP	
BENSBERG	16.18	328.5	3	51	1	6	39	-11				
ALICANTE	16.51	278.3	3	54	0	6	59	1	4	9	PP	
DOURBES	16.72	322.3	3	56	-1	7	9	6				
MUNSTER	16.78	331.5	3	59	1							
PARIS	17.04	315.8	4	4	3	7	7	-3				
HAMBURG	17.26	338.3	4	4	0	7	18	3				
UCCLE	17.31	323.7	4	6A	2	7	15	-1				
WITTEVEEN	17.81	331.7	4	14	3							
DE BILT	17.86	328.0	4	16A	5	7	41	12				
ALMERIA	18.27	274.0	4	14K	-2	7	38	0				
COPENHAGEN	18.66	345.7	4	22	1	7	52	5				
FOLINIERE	18.70	312.5	4	21	-1							
TIFLIS	19.08	70.6	4	25	-1				4	49	PPP	
GRANADA	19.10	275.5	4	25A	-1	7	58	1	4	40	PP	
TOLEDO	19.20	283.8	4	26K	-1	7	59	0	4	38	PP	
TAMANRASSET	19.75	224.8	4	33K	-1	8	16	5				
JERSEY	19.84	312.1	4	33	-2	8	15	2				
KEW	20.03	319.6	4	36	-1	8	15	-2				
GORIS	20.24	77.2	4	38	-1	8	26	4				
GOTEBORG	20.66	347.0	4	37A	-7							
MOSCOW	21.31	27.3	4	49	-1	8	45	2				
UPPSALA	22.12	356.2	4	57A	-1	8	57	-1				
COIMBRA	22.54	285.1	5	2	-1	9	2	-4	5	29	PP	
HELSINKI	22.55	5.9	5	2	-1	9	0	-6				
DURHAM	22.63	325.6	5	5K	2	9	10	3	5	29	PP	
SERRA PILAR	22.64	287.5	4	59A	-5	9	1	-6	8	54	PCP	
PULKOVO	22.85	12.9	5	4	-2	9	9	-2	5	32	PP	
NURMIJARVI	22.86	5.3	5	5	-1	9	13	1				

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LISBON	23.23	281.4	5	10K	1	8	59	-19				
EDINBURGH	24.07	326.4	5	17	0	9	37	4	5	52	PP	
RATHFARNHAM	24.10	318.6	5	21A	3	9	32	-1	5	43	PP	
ABERDEEN	24.43	329.6	5	19A	-2	9	37	-2	5	48	PP	
BERGEN	24.56	341.8	5	22A	0	9	41	0	6	9	PPP	
SKALSTUGAN	26.26	351.7	5	37A	-1							
ASHKABAD	29.76	77.9	6	9	-1							
SODANKYLA	29.80	4.8	6	8	-2	11	14	7				
KIRUNA	30.06	360.0	6	11A	-2	11	6	-5	9	52		
APATITY	30.66	9.7	6	17A	-1	11	17	-3	12	59	SS	
SVERDLOVSK	32.56	41.2	6	34	-1				7	48	PP	
ADDIS ABABA	33.09	145.4	6	40K	1	12	7	9				
BANGUI	33.33	183.4	6	41	0				17	10		
SIDA	34.68	330.9	6	54	1							
VIK	34.88	330.0	7	10	15	12	27	1				
PONTA DELGDA	36.19	284.4	7	8	2							
REYKJAVIK	36.35	330.1	7	9	2	13	0	11	8	36	PP	
TASHKENT	37.39	69.0	7	14	-2	13	3	-2	8	50	PPP	
STALINABAD	37.61	73.5	7	16	-2				8	46	PP	
QUETTA	38.95	87.1	7	27	-2	13	27	-1	8	56	PP	
SCORESBY SD.	39.50	339.1	7	37A	3	13	37	0	9	7	PP	
MBOUR	40.54	245.0	7	42	0	13	44	-8				
LWIRO	40.61	167.2	7	43K	0	13	53	0				
FRUNSE	40.99	65.4	7	45	-1				9	49	PPP	
WARSAK DAM	41.13	79.3	7	45	-2							
KARACHI	41.44	94.4	7	48	-2	14	10	4	9	56	PPP	
LEOPOLDVILLE	42.26	187.8	7	56	0	14	13	-5	9	35	PP	
SEMIPALATNSK	43.59	53.3	8	6	-1	14	32	-5	10	1		
LAHORE	44.22	81.4	8	13	1	14	58	12				
KHEYS	45.14	8.1	8	20	0	14	58	-2	10	8	PP	
NORD	45.82	352.9	8	25A	0	15	6	-3	18	16	SS	
DEHRA DUN	47.63	81.1	8	38	-1	15	32	-3	10	39	PP	
AGRA	49.03	84.9	8	46A	-4	15	43	-12	10	48	PP	
BOMBAY	49.11	97.5	8	48	-3	15	53	-3	10	45	PP	
ELISABTHVLLE	49.65	171.0	8	54K	-1	16	2	-1				
POONA	50.13	97.2	8	56A	-3	16	5	-5	10	51	PP	
BROKEN HILL	52.54	170.2	9	17	0							
THULE	53.32	342.9	9	21	-2	17	0	6	9	58		
HYDERABAD	54.36	95.2	9	34A	4	17	2	-6				
CHATRA	56.35	80.3	9	43	-2	17	24	-11				
BOKARO	56.77	84.2	9	45A	-3	17	40	0	11	54	PP	
IRKUTSK	57.73	46.3	9	52A	-3	17	46	-7	19	42	SCS	
KODAIKANAL	57.84	102.8	9	0	-55	16	54	-60				
LHASA	58.00	75.5	9	56A	-1	17	53	-3	10	36		
BULAWAYO	58.16	171.0	9	57	-1							
MADRAS	58.28	98.3	9	57	-1	17	57	-3	13	33	PPP	
CALCUTTA	59.46	84.1	10	3A	-4	18	11	-4	12	25	PP	
RESOLUTE	60.10	343.9	10	9A	-2	18	21	-3	12	23	PP	
WINDHOEK	60.16	183.6	10	10K	-1							
SHILLONG	60.64	79.2	10	12A	-3	18	25	-6	12	28	PP	
HALIFAX	60.93	305.6	10	15A	-2	18	31	-3				
ULAN-BATOR	60.98	50.1	10	16	-1	18	28	-7				
COLOMBO	61.76	104.1	10	22	0	18	22	-23				
TANANARIVE	61.92	150.8	10	23A	-1	18	48	1	12	42	PP	
CHITTAGONG	62.26	82.3	10	24	-2	18	49	-2	12	43	PP	
TOCKLAI	62.29	76.5	9	32	-54							
PRETORIA	63.65	172.2	11	5	30							
SEVEN FALLS	64.29	310.7	10	37	-2	19	15	-1	13	8	PP	
LANCHOW	64.40	63.2	10	37	-3	19	14	-4	11	19		
LCO. MARQUES	64.47	167.9	10	45A	5	19	25	6	23	13	SS	
YAKUTSK	65.46	29.3	10	44	-3	19	25	-6	13	11	PP	
SHAWINIGAN	65.73	310.9	10	49A	1							
KIMBERLEY	66.35	175.9	10	51A	-1							
BREBEUF	66.77	310.2	11	56	61	21	43	116				
CHENGTU	67.25	68.2	10	56A	-2	19	48	-5				
BERMUDA	67.54	294.2	11	0	0	19	57	1	13	17	PP	
PIETERMZBURG	67.73	170.7	11	0	-1							
OTTAWA	68.09	311.0	11	3	0	20	5	2	21	1	SCS	
SIAN	68.91	62.6	11	7	-1							
PORT BLAIR	68.95	91.4	11	9	0	20	8	-5	11	42	PCP	
KUNMING	69.24	73.9	11	8A	-2	20	11	-5	11	45		
PALISADES	69.31	306.2	11	13	2	20	19	2	13	33	PP	
FORDHAM	69.37	306.:	11	11	0	20	15	-3				
PEKING	70.68	54.1	11	18A	-1	20	31	-2	14	0	PP	
GRAHAMSTOWN	71.01	174.6	11	8K	-13							
HERMANUS	71.89	181.1	11	26	-1	20	47	0	14	11	PP	
PENNSYLVANIA	71.93	307.8	11	36	9	20	47	-1				
GEORGETOWN	72.49	305.8	11	33	3	20	54	0				

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WASHINGTON	72.49	305.8	11	23	-7					
CLEVELAND	73.79	310.1	11	39	1	21	10	1		
WAYNESBURG	73.89	308.1	11	39	1					
MORGANTOWN	73.90	307.8	11	41A	3	21	10	0		
CHANGCHUN	74.06	46.7	11	37A	-2	21	9	-3	14	31 PP
BARBADOS	74.29	274.5	11	50	9					
FORT FRANCE	74.58	276.8	11	45	3	21	24	6		
PHU-LIEN	74.62	75.5	11	39	-4	21	16	-2	21	9
MAGADAN	74.66	23.7	11	43	0	21	18	-1	14	24 PP
WUHAN	74.93	63.0	11	43A	-1	21	19	-3	14	37 PP
CHAPEL HILL	75.50	304.2	11	51	3					
SAN JUAN	76.34	282.7	11	52	0				14	53 PP
GRENADA	76.60	274.9	11	57	3					
NANKING	76.97	59.6	11	54A	-2	21	39	-5	12	25
COLLEGE	77.23	354.9	11	57	0	21	47	0	27	39 SS
COLUMBIA	77.95	303.7	12	4	3					
VLADIVOSTOK	78.22	44.1	12	0	-3	21	53	-4	14	59 PP
CANTON	78.37	69.9	12	2A	-2	21	57	-2		
MEDAN	78.50	94.4	12	8A	4	22	12	12		
ZO-SE	79.18	59.1	12	7	-1	22	7	-1	15	9 PP
HONG KONG	79.45	70.1	12	10	0	22	3	-7		
FLORISSANT	80.74	312.3	12	18	2	22	23	-1		
ST. LOUIS 1	80.76	312.1	12	15	-1				15	27
Y.-SAKHLINSK	81.01	35.9	12	18	0	22	25	-2	15	24 PP
CARACAS	81.61	276.7	12	16K	-5	22	27	-6		
WAKKANAI	81.69	37.5	12	48	27	22	32	-2		
PETROPAVLOVK	82.52	24.0	12	23	-3	22	35	-7	15	38 PP
SUTTSU	82.87	40.1	12	37	10	22	51	5	13	1
TOMIE	83.23	53.8	12	31	2	22	47	-2		
SAPPORO	83.24	39.3	12	30K	1	22	48	-2	13	0
SITKA	83.30	347.0	12	33	3					
BANFF	83.35	333.9	12	30A	0					
LAWRENCE	83.42	315.0	12	31	1					
MORI	83.55	40.4	12	33	2	22	44	-9		
HUKUOKA	83.62	52.2	12	46	15	22	48	-5	15	43
TOMAKOMAI	83.68	39.5	12	53	21	22	54	0		
HAMADA	83.79	50.2				22	48	-7	34	0
SAGA	83.79	52.5	12	39	7					
HAKODATE	83.86	40.5	12	33	1					
RAPID CITY	83.86	322.9	12	32	-1					
NAGASAKI	83.87	53.1	12	32A	-1	22	47	-9		
YONAGO	84.20	49.1				22	49	-10		
OBIHIRO	84.27	38.4	12	37	2					
KUMAMOTO	84.32	52.6	12	44	9				22	35
HIROSIMA	84.36	50.4	12	34	-1	22	53	-8		
AOMORI	84.58	41.2	12	50	14	23	5	2		
OOITA	84.63	51.7	12	38	2	22	38	-25	16	25
FAYETTEVILLE	84.81	312.3	12	37	0				13	47
KUSIRO	84.81	37.7	12	39	2	23	1	-4		
TOYOOKA	85.01	48.2	12	40	2	22	59	-8		
AKITA	85.02	42.3				23	4	-3		
KAGOSIMA	85.06	53.6	12	48	9	22	58	-10		
NEMURO	85.11	36.8	12	49	10	22	58	-10		
HUNGRY HORSE	85.14	331.5	12	39	0	23	2	-6		
HATINOHE	85.19	40.9	12	42	3	23	6	-3		
TAKAMATU	85.38	49.6	12	42	2	22	57	-14		
HUKUI	85.47	47.1	13	5	24					
TOYAMA	85.57	46.1	12	45	4					
KOTI	85.59	50.4	12	42	1	23	3	-10		
MORIOKA	85.60	41.7	12	44	3	23	2	-11		
SIMIDU	85.77	51.3	12	39	-3	23	0	-14		
YAKUSIMA	85.77	54.4	12	40	-2	22	50	-24		
KOBE	85.81	48.7				23	2	-13		
SUMOTO	85.88	49.1	12	43K	0	23	5	-11	13	18
KYOTO	85.90	48.1	12	39	-4				13	7
ABUYAMA	85.91	48.3	12	42A	-1					
MIZUSAWA	86.00	42.1	12	49	6	23	6	-11		
HIKONE	86.03	47.6				23	4	-13		
OSAKA	86.04	48.5	12	43	0	23	20	3		
MIYAKO	86.06	41.3				23	2	-15		
BOZEMAN	86.14	328.3	12	49	5	23	11	-7	13	16
NAGANO	86.16	45.5	12	42	-2	23	7	-11		
NARA	86.19	48.3	12	44	0					
YAMAGATA	86.22	43.2	12	57	13					
GIHU	86.24	47.2	12	47	3	23	4	-15	24	6
MATUSIRO	86.26	45.6	12	43	-1	23	5	-14	16	5 PP
MATUMOTO	86.33	45.9	12	55	10	23	8	-12	18	40
KAMEYAMA	86.45	47.8	12	51	6	22	58	-23		

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BUTTE	86.48	329.3	12	47	1	23	11	-10			
SENDAI	86.50	42.8	13	8	22	23	2	-20			
NAGOYA	86.52	47.3	12	57	11	23	11	-11			
OIWAKE	86.60	45.5	12	46	0				22	13	
ISINOMAKI	86.61	42.5	13	8	22	23	24	1			
HUKUSIMA	86.65	43.4	12	58	12	23	10	-13			
SHIRAKAWA	86.97	44.0	13	3	15	23	6	-20			
SIOMISAKI	87.01	49.2				23	13	-13			
KOHU	87.08	46.0	13	2	14	23	14	-13			
UTUNOMIYA	87.19	44.6	12	58	9						
KUMAGAYA	87.20	45.2	12	44	-5	23	17	-11			
HUNATU	87.32	46.0	12	58	8	22	49	-40			
ONAHAMA	87.46	43.7	13	17	27	23	13	-18			
SHIZUOKA	87.49	46.6				23	15	-16			
TUKUBASAN	87.55	44.7	12	49A	-2	23	11	-21	16	10	PP
KAKIOKA	87.59	44.7	12	58	7						
MITO	87.64	44.4	13	12	21	23	30	-2			
OMAESAKI	87.65	46.9	13	12	21	23	5	-27			
MISIMA	87.69	46.2	13	20	29	23	25	-8			
TOKYO C.M.O.	87.75	45.3	13	3	11	23	16	-17	14	1	
BAGUIO CITY	87.81	71.0	12	52	0	23	13	-21			
YOKOHAMA	87.87	45.5	13	42	50	23	14	-20	23	40	
GALERAZAMBA	87.96	282.0	12	58	5	23	25	-10	17	46	
OSIMA	88.19	46.1				23	22	-15			
VICTORIA	88.23	336.9	12	55A	1	23	26	-12			
MERA	88.34	45.8				22	51	-48			
SALT LAKE C.	90.44	325.8	14	6	62	23	39	-19			
BOGOTA	90.78	276.4	13	7	1	23	33	-28	16	30	PP
DJAKARTA	90.88	97.1	13	7	1	23	38	-24			
CORVALLIS	91.68	335.0	13	13K	3						
CHINCHINA	91.79	277.6	12	54	-17	23	43	-27	17	13	PP
MERIDA	92.13	298.5	13	25	13	24	26	13	17	5	PP
BALBOA HTS.	92.40	283.2	13	15	2						
EUREKA	93.29	327.7	13	18	0				29	50	PKKP
SHASTA	94.78	332.6	13	26	2				30	29	PKKP
MINERAL	94.79	331.9	13	25A	1						
RENO	94.81	330.3	13	27	2						
ARCATA	95.22	333.8	13	41	15						
BOULDER CITY	95.70	325.0	13	27	-2						
UKIAH	96.46	332.4	13	42	10				17	37	PP
TUCSON TELE.	96.68	320.1	13	36	3				17	43	PP
TUCSON	96.81	320.1	13	37	3	24	23	12	17	45	PP
CHIHUAHUA	97.09	314.6	13	41	6	24	57	45	20	53	
FRESNO	97.18	328.9	13	42	7				30	10	PKKP
BERKELEY	97.21	331.1	13	38	3	25	2	49	17	38	PP
KERGUELEN I.	97.26	149.9	14	1	25	25	8	55			
LICK	97.43	330.4	13	34K	-2				30	19	PKKP
VERA CRUZ	97.79	301.5				24	25	9	17	25	
PASADENA	98.73	326.3	13	44	2	25	11	51	17	47	PP
LA PAZ	98.85	256.1	13	49K	6	24	19	-2	17	53	PP
TACUBAYA	99.69	303.7				25	19	54	17	59	PP
HUANCAYO	101.83	263.9	14	0	4	25	47	71			
BUENOS AIRES	102.71	236.1	14	1	1						
ANTOFAGASTA	104.80	251.4				24	47	-2	18	27	PP
PERTH	112.61	113.5	14	59	777	27	5	103	19	27	PP
MUNDARING	112.90	113.4	18	39	0	25	20	-4			
MIRNY	117.68	154.5							19	55	PP
KIPAPA	121.05	358.4	18	58	3						
HONOLULU	121.18	358.4	19	57	62	26	1	7	20	33	PP
WILKES	123.99	150.9	19	3	3	25	54	-9	20	49	PP
PORT MORESBY	124.46	73.7	19	4	3	26	6	2	20	46	PP
RABAUL	124.73	65.0	19	3	1				21	5	
SOUTH POLE	127.64	180.0	19	6	-1				21	11	
CHARTERS TS.	130.07	85.1	19	12	0	26	17	-3			
ADELAIDE	131.01	106.5	19	19	5				21	27	PP
BYRD STATION	135.00	189.1	19	22	1	24	23	-128	22	3	PP
DUMONT	135.70	150.3				26	48	16	32	44	PS
MELBOURNE	136.73	107.8	19	29	5				22	11	PP
SCOTT BASE	137.42	170.0	19	28	2				22	10	PP
BRISBANE	138.88	89.7	19	18	-10				29	14	SKKS
CANBERRA	139.01	102.7	19	23	-5						
FORT NELSON	139.77	114.5							40	46	SS
RIVERVIEW	140.18	99.7	19	29A	-2				22	32	PP
CAPE HALLETT	142.24	165.4	19	35	1	27	41	59	21	32	PP
MACQUARIE I.	147.34	134.2	20	1	18				21	3	PKP2
ROXBURGH	155.61	118.2							20	32	PKP2
KAIMATA	157.37	111.1							20	41	PKP2
GEBBIES PASS	158.18	114.4							20	37	PKP2

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ONERAHI	159.01	92.4								20	46	PKP2
AUCKLAND	159.58	95.2								44	7	SS
WELLINGTON	159.91	107.9								44	16	SS
KARAPIRO	160.33	98.0	20	26	25					24	37	PP
TONGARIRO	160.44	101.8								20	44	PKP2

NOVEMBER 16 0.H 59.M 23.S EPICENTRE -35.30 -70.81 DEPTH= 71.KM

A= 0.26881 B=-0.77256 C=-0.57523 D=-0.9445 E=-0.3286
G=-0.1890 H= 0.5433 K=-0.8180 HT= 0.0

DEPTH OF FOCUS= 0.006R

SE= 2.65

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PORT STANLEY	18.85	154.4	4	15	-2	7	42	1					
LA PAZ	18.87	8.0	4	19	2	7	47	5	4	38	4	50	*SP
HUANCAYO	23.50	348.9	5	7	3	10	3	53					
BOGOTA	39.82	354.9	7	29	1	13	27	0					
CHINCHINA	40.31	352.6	7	33	1	13	36	2					
HALLEY BAY	45.23	165.7	8	12	0								
CARACAS	45.69	5.3	7	46A	-30	14	38	-15					
GALERAZAMBA	46.02	353.9				15	25	27					
GRENADA	47.87	12.0	8	30	-3								
BYRD STATION	48.66	190.1	8	41	2				9	5			
SANTIAGO MA.	51.32	337.8				17	43	91					
SAN JUAN	53.57	5.5	9	12	-4						9	50	
SOUTH POLE	54.88	180.0	9	26	0	17	12	12	9	52	10	3	*SP
SCOTT BASE	62.02	191.7	10	15	0								
CAPE HALLETT	64.75	197.2	10	34A	1						11	1	PCP
MBOUR	70.99	55.9	11	13	1	20	21	0					
FAYETTEVILLE	74.29	340.5	11	30K	-2						12	9	*SP
PALISADES	75.99	357.6	11	49	8	21	29	12			30	19	
GRAHAMSTOWN	76.91	121.5	11	43K	-4								
TUCSON	76.97	326.0	11	47	0						28	19	PKKP
TUCSON TELE.	77.00	326.1	11	47	0				12	15	12	27	*SP
LAWRENCE	77.28	340.7	11	47	-2								
WILKES	78.68	180.5	12	4	8	21	47	1			22	31	*SS
BREBEUF	80.46	358.0	12	6K	0								
BOULDER CITY	81.91	325.3	12	11	-3								
PASADENA	82.06	322.0	12	14K	0				12	42			
PRETORIA	82.35	116.0	12	47	31								
LARAMIE	82.65	334.3	12	17	0								
LEOPOLDVILLE	84.29	91.3	12	27	1	22	42	-2			23	35	PS
SALT LAKE C.	84.58	329.9	13	27	60								
KARAPIRO	84.68	226.7	12	24	-4				12	52			
FRESNO	84.94	322.5	12	24	-5								
EUREKA	85.29	326.6	12	31	0				12	59	13	12	*SP
BULAWAYO	85.93	111.7	12	34	0						13	4	
LICK	86.31	321.7	12	36K	0								
BERKELEY	87.03	321.7	12	39	0								
RENO	87.12	324.2	12	40K	0								
MINERAL	88.61	323.7	12	45K	-2								
SHASTA	89.26	323.4	12	49K	-1								
BUTTE	89.28	332.3	12	56	6								
ELISABTHVLLE	90.00	104.2	12	55	2				13	24	16	24	PP
HUNGRY HORSE	91.77	332.8	13	0	-1								
TAMANRASSET	92.47	63.8	13	4K	-1	24	1	1	13	32	16	44	PP
CORVALLIS	92.66	325.4	13	6A	0								
RESOLUTE	110.85	353.3									28	41	PS
COLLEGE	116.21	332.4	18	34	-2								
SODANKYLA	124.85	27.9	18	51	-1								
QUETTA	144.31	86.0	19	28	0				20	1	22	50	PP
POONA	144.57	108.8	19	28	-1								
WARSAK DAM	149.13	81.4	19	28	-8								
MATUSIRO	156.50	281.5	19	52	5								

NOVEMBER 16 10.H 21.M 17.S EPICENTRE 0.89 -26.35 DEPTH= 0.KM

A= 0.89601 B=-0.44376 C= 0.01534 D=-0.4438 E=-0.8961
G= 0.0137 H=-0.0068 K=-0.9999 HT= 7.2

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SE= 3.03

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
MBOUR	16.30	34.2	3	57	5	6	43	-11					
FORT FRANCE	37.04	293.5	7	14	0								
TAMANRASSET	37.85	52.6	7	20K	0	13	10	-2			8	47	PP
CARACAS	41.44	284.8	7	42K	-8	13	59	-7					
GRANADA	41.78	27.6	7	56A	3	14	43	32			9	19	PP
LEOPOLDVILLE	41.89	97.5	7	55K	1	14	15	2			9	41	PP
ALMERIA	42.05	29.0	7	56	1						9	36	PP
SAN JUAN	42.73	296.4	8	1	0								
RELIZANE	42.75	32.8	8	1	0	14	32	6			9	47	PP
TOLEDO	43.81	24.9	8	11A	1	13	51	-50			18	11	SS
ALICANTE	44.20	29.5	8	11	-2	14	44	-3			9	55	PP
LA PAZ	44.69	245.4	8	17	0	14	59	5			10	19	PP
ALGIERS UNI.	44.88	34.0	8	18K	0	14	59	3			10	2	PP
BANGUI	45.05	84.7	8	21	1						15	10	
SETIF	45.83	36.4	8	25	-1						10	11	PP
FUQUENE	47.51	276.6	8	41	2	15	37	3			10	33	PP
BERMUDA	47.79	314.9	8	52	11	15	43	5			11	43	PP
BOGOTA	47.80	275.4	8	42K	1	15	41	3					
CHINCHINA	49.36	275.8	8	52K	-1	16	0	0			10	48	PP
GALERAZAMBA	49.58	283.4	9	4	9	16	8	5					
HUANCAYO	50.30	253.6	9	0A	-1	16	17	4					
CLERMONT-FD.	51.66	26.0	9	12K	1	16	40	8					
FOLINIERE	52.65	21.3	9	17	-1								
MESSINA	53.43	40.9	9	25	1	17	1	5			11	28	PP
REGGIO CALA.	53.44	41.1	9	25	1								
BALBOA HTS.	53.56	280.4	9	25	0								
ROME	53.72	35.5	9	27A	1	17	8	8			12	49	PPP
PARIS	53.80	23.3	9	28	1						11	31	PP
BESANCON	54.07	26.7	9	28	-1								
PAVIA	54.09	30.5	9	41	12						13	19	PPP
NEUCHATEL	54.32	27.6	9	24	-7								
RATHFARNHAM	54.83	14.6	9	34A	-1						30	50	
ELISABTHVLLE	54.89	104.8	9	35K	0	17	18	2			11	34	PP
KEW	54.97	19.6	9	34	-2	17	25	8					
BASLE	55.00	27.5	9	34K	-2								
LWIRO	55.22	93.3	9	37K	0	17	27	7					
DOURBES	55.67	23.6	9	42	1	17	32	6					
STRASBOURG	55.86	26.7	9	42A	0	17	33	4			10	52	PP
UCCLE	56.12	23.0	9	43	-1	17	33	1					
EBINGEN	56.12	27.8	9	41	-3								
RAVENSBURG	56.14	28.5	9	43	-1								
BROKEN HILL	56.34	107.9									9	46	PCP
TUBINGEN	56.42	27.5	9	45	-1								
STUTTGART	56.69	27.5	9	48A	0	17	46	6			10	43	PCP
TRIESTE	56.81	32.7	9	49	0	17	51	10					
TOLMEZZO	56.90	31.6	9	56	7								
KIMBERLEY	57.07	125.5	9	49K	-2								
BENSBERG	57.38	24.5	9	53	0						12	19	
DURHAM	57.41	16.7	9	53K	0	17	48	-1			12	10	PP
DE BILT	57.46	22.5	9	57	4	17	55	5					
LJUBLJANA	57.48	32.7	9	53K	-1						11	56	PP
BULAWAYO	57.71	114.5									9	54	PCP
MUNSTER	58.33	24.0	9	59	0								
WITTEVEEN	58.60	22.8	10	1	0								
PALISADES	58.63	319.1	10	1	-1	18	9	4			12	41	PP
SONNEBERG	58.71	27.2	10	1	-1						12	1	
ATHENS	58.89	45.1	10	3A	0								
JENA	59.27	26.9	10	5	-1						12	15	PP
ABERDEEN	59.37	15.1				18	22	7			15	11	
GEORGETOWN	59.77	315.6	10	14	5								
WASHINGTON	59.77	315.6	10	8	-1								
HALLE	59.84	26.6	10	10	0						12	22	PP
CHAPEL HILL	59.95	311.8	10	10	-1								
PRUHONICE	60.02	29.2	10	10K	-1	18	25	2			12	21	PP
PRAGUE	60.02	29.1	10	11	0								
BELGRADE	60.14	36.7	10	13A	1						12	23	PP
COLLMBERG	60.17	27.3	10	13A	1	18	31	6			12	28	PP
BRATISLAVA	60.18	32.0	10	11A	-1						10	48	PCP
HURBANOVO	60.59	32.8	10	27	12								
COLUMBIA	60.74	309.0	10	17	1								
SOFIA	60.83	40.1	10	17	0								
POTSDAM	60.95	26.4	10	7	-10						11	7	
RACIBORZ	61.91	30.8	10	24	0								
OTTAWA	61.99	322.7	10	22	-3								
MORGANTOWN	62.10	315.3	10	25A	0								

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LCO. MARQUES	62.77	119.9	10	26	-4						
KRAKOW	62.79	31.6	10	29	-1				11	4	PCP
COPENHAGEN	63.00	23.5	10	31	0	19	13	12			
CAMPULUNG	63.15	38.2	10	43	11						
BUCHAREST	63.42	39.4	10	33K	-1	19	13	7	12	53	PP
CLEVELAND	63.95	316.6	10	37A	-1						
GOTEBORG	64.27	21.7	10	38	-2						
WARSAW	64.62	30.1	10	41	-1	19	21	0	11	11	PCP
LWOW	64.87	33.4	10	43	0				13	57	
ADDIS ABABA	65.29	80.5	10	48	2	19	50	21			
IASI	65.62	37.2	10	34	-14				14	23	PPP
KSARA	66.65	53.4	10	56A	1	19	49	3	13	26	PP
UPPSALA	67.89	22.2	11	2A	-1	20	3	2			
SKALSTUGAN	68.71	17.4	11	8A	0						
SIMFEROPOL	68.85	41.5	11	6	-3	20	11	-1			
ST. LOUIS 1	69.25	311.2	11	9A	-2						
NURMIJARVI	71.06	24.0	11	23	1						
FAYETTEVILLE	71.67	307.8	11	24K	-2						
SOTCHI	72.22	44.2	11	28	-1	20	54	2			
PULKOVO	73.07	26.2	11	31	-3	20	59	-2			
LAWRENCE	73.13	310.5	11	33	-2						
TACUBAYA	73.54	289.9	12	1	24				14	15	PP
KIRUNA	74.09	16.7	11	40A	0	21	10	-3			
MOSCOW	74.88	31.8	11	45	0						
TANANARIVE	75.07	109.7	11	49A	3						
TIFLIS	75.40	47.1	11	48	0	21	32	5			
SODANKYLA	75.69	18.6	11	49	0				14	20	PP
MAKHACH-KALA	77.61	46.2	12	1	1						
APATITY	78.03	19.8	12	3	1	22	2	6	14	43	PP
THULE	79.01	350.7	12	8	0						
RAPID CITY	79.95	314.5	12	12	-1						
LARAMIE	81.33	311.5	12	21	1						
RESOLUTE	83.57	345.6	12	30	-2	22	53	0	23	49	PPS
TUCSON TELE.	84.77	302.2	12	39	1						
TUCSON	84.86	302.1	12	39	1						
BOZEMAN	85.66	315.6	12	46	4						
SALT LAKE C.	86.01	310.6	12	45	1						
BUTTE	86.74	315.9	12	49	2						
SVERDLOVSK	87.60	33.3	12	53	1	23	38	5			
HUNGRY HORSE	87.80	318.2	12	52	-1						
KHEYS	88.21	9.4	12	56	1	23	49	11			
BOULDER CITY	88.25	305.8	12	53	-2						
BANFF	88.81	321.0	12	55	-2						
EUREKA	89.15	309.3	12	59	0						
PASADENA	91.02	304.0	13	7	-1	24	7	3	17	36	PP
RENO	92.12	309.4	13	14A	1						
FRESNO	92.25	306.7	13	14	1						
QUETTA	92.41	59.9	13	15K	1						
MINERAL	93.44	310.3	13	39A	20						
LICK	93.68	307.3	13	21A	1						
SHASTA	94.02	310.7	13	24	2						
WARSAK DAM	96.06	55.8	13	30	-1						
BOMBAY	98.39	70.9							17	43	PP
DEHRA DUN	101.96	58.9							18	14	PP
TIKSI	105.86	7.9	17	35	777						
CAPE HALLET	107.92	185.3							18	55	PP
ULAN-BATOR	116.71	33.3							19	57	
MATUSIRO	140.09	19.5	19	32	1				22	53	PP
TUKUBASAN	140.99	17.5	19	34	1				22	47	PP
CANBERRA	145.47	173.3	19	42K	2						
RIVERVIEW	147.14	176.2	19	46K	3						
BRISBANE	153.63	178.3	19	50	-3	26	29	-30			
CHARTERS TS.	159.59	159.7	20	2	1				24	21	
PORT MORESBY	169.35	142.8	20	12	3				25	13	PP

NOVEMBER 17 2.H 32.M 35.S EPICENTRE -11.52 66.37 DEPTH= 0.KM

A= 0.39279 B= 0.89795 C=-0.19850 D= 0.9162 E=-0.4008
G=-0.0796 H=-0.1819 K=-0.9801 HT= 6.3

SE= 2.48

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
TANANARIVE	19.58	245.7	4	31	-2							
COLOMBO	22.70	36.9	4	36	-29							

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KODAIKANAL	24.26	27.5								5	43 PP
POONA	30.76	14.0	6	9A	-11	11	6	-17			
ADDIS ABABA	34.21	305.5	6	52	2						
MEDAN	35.46	66.8	7	4K	4	12	40	4			
KARACHI	36.14	1.0	7	7A	1						
BROKEN HILL	37.02	261.3	7	15	1						
BULAWAYO	37.25	251.9	7	16	1						
ELISABTHVLLE	38.09	265.8	7	24A	2	13	22	6			
LWIRO	38.38	281.0	7	27	2						
QUETTA	41.47	0.8	7	51A	1	14	7	0		9	32 PP
DEHRA DUN	43.09	14.8				13	55	-36		10	52 PPP
LAHORE	43.50	9.9	8	13A	6						
SHILLONG	44.46	33.7	8	14K	-1						
WARSAK DAM	45.54	6.0	8	23	0						
MUNDARING	50.07	122.1	8	55	-4						
KUNMING	50.83	43.9	9	5A	0	16	24	4			
LEOPOLDVILLE	51.07	273.7	9	6A	0	16	25	1			
JERUSALEM	52.39	326.2	9	17	1						
KSARA	53.62	328.4	9	27	1						
CHENGTU	55.38	39.7	9	39	1	17	24	2			
LANCHOW	59.06	35.1	10	4	-1						
WUHAN	62.39	46.5	10	27A	0	18	58	5			
SIMFEROPOL	63.33	334.9	10	31	-2						
NANKING	66.24	47.3	10	52A	0						
BUCHAREST	66.58	329.7	10	53K	-1					11	59
SVERDLOVSK	68.27	356.6								15	7 PPP
MESSINA	68.56	319.0	11	6	-1						
TAMANRASSET	68.65	300.1	11	7	0					11	39
PEKING	68.98	38.9	11	8	-2	20	15	1			
ADELAIDE	69.06	123.1	11	11K	1						
ULAN-BATOR	69.25	27.9	11	11	0						
BELGRADE	69.77	327.0	11	14A	0					11	37
MOSCOW	71.19	343.3	11	22	-1						
IRKUTSK	71.44	23.5	11	22	-2						
LWOW	71.46	332.6	11	24	-1						
DUMONT	73.02	156.4	11	33	-1						
TERRE ADELIE	73.59	156.5	11	33	-4						
LJUBLJANA	73.79	325.2	11	37A	-1					12	1
TRIESTE	73.99	324.6	11	38	-1						
VIENNA-H.	74.13	327.8	11	40	0						
TOLMEZZO	74.84	324.9	11	44	0					12	45
PRUHONICE	76.14	328.5	11	51	-1					12	9 PCP
CHARTERS TS.	76.73	108.1	11	56	1						
CHANGCHUN	76.76	39.6	11	56	1						
CANBERRA	77.46	123.8	12	1K	2						
RAVENSBURG	77.53	324.7	12	1	1						
COLLMBERG	77.73	329.0	12	0K	-1					13	56
EBINGEN	78.12	324.8	12	3	0						
SONNEBERG	78.12	327.5	12	2	-1						
JENA	78.24	328.1	12	1	-2					14	49
TUBINGEN	78.25	325.2	12	2	-2						
STUTTGART	78.26	325.4	12	3	-1						
POTSDAM	78.33	329.9	12	3	-1						
HALLE	78.38	328.7	12	4	0					12	20
SOUTH POLE	78.55	180.0	12	5	0						
BASLE	78.57	323.7	12	3	-2					21	51 SCS
STRASBOURG	79.01	324.7	12	8K	0						
PORT MORESBY	79.21	97.5	12	10	1					12	45
BESANCON	79.36	322.9	12	9	-1						
SCOTT BASE	80.99	167.8	12	19	1						
UPPSALA	81.09	337.4	12	20	1						
DOURBES	81.57	325.0	12	26	5						
PARIS	82.17	323.2	12	25	1						
MATUSIRO	82.62	50.5	12	27A	0	22	50	6		28	19 SS
CAPE HALLETT	83.26	162.6	12	32A	2						
SODANKYLA	83.76	345.6	12	33	0						
KIRUNA	85.70	344.1	12	42	0						
DURHAM	87.05	327.5	13	0K	11						
BYRD STATION	88.54	179.0	12	58	2						
TIKSI	92.56	16.4	13	14	-1						
KARAPIRO	97.64	131.1	13	39	1						
LA PAZ	127.09	239.1	19	21	14						
HUANCAYO	135.34	239.6	19	13	-9						
BUTTE	145.61	358.7	19	42	1						
BOZEMAN	145.90	356.8	19	49	8						
CORVALLIS	146.03	12.4	19	44A	3						
RAPID CITY	146.34	346.4	19	45	3					21	23 PP
MINERAL	150.44	12.4	19	56A	8						

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UKIAH	151.21	15.6	19	58	8						
RENO	151.56	10.1	20	OK	10						
EUREKA	152.08	3.9	19	53	2					23	39 PP
BERKELEY	152.65	15.0	20	0	8						
LICK	153.31	14.3	19	55	2						
FRESNO	154.26	11.5	20	19	25						
TUCSON TELE.	159.11	353.1	20	41	41					24	21 PP
TUCSON	159.21	353.3	20	42	42					24	21 PP

NOVEMBER 17 23.H 55.M 1.S EPICENTRE 30.56 94.08 DEPTH= 0.KM

A=-0.06140 B= 0.86039 C= 0.50593 D= 0.9975 E= 0.0712
G=-0.0360 H= 0.5046 K=-0.8626 HT= 1.6

SE= 3.95

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LHASA	2.79	251.5	0	50	4						0	53	PG
TOCKLAI	3.85	170.8	1	12	11						2	0	
SHILLONG	5.34	202.0	1	15	-7	2	13	-13					
CHATRA	7.12	240.2	1	44	-3						3	47	
CHITTAGONG	8.42	194.5	2	4	-2	3	39	-3			2	9	PP
CHENGTU	8.56	86.8	2	12	4	3	51	5			2	43	PG
KUNMING	9.38	123.2	2	22	3	4	13	6			4	58	SG
CALCUTTA	9.49	213.9									4	36	S*
LANCHOW	9.82	53.6	2	28	3	4	24	7					
BOKARO	9.96	229.7				4	22	0					
SIAN	13.07	69.8	3	8	-2								
DEHRA DUN	13.84	273.1	3	28	9						7	34	
LAHORE	16.96	278.4	4	9	9								
WUHAN	17.64	84.9	4	7	-1								
NARSAK DAM	19.35	286.1	4	26	-3								
HONG KONG	19.76	109.8	4	31	-3	8	28	17					
ULAN-BATOR	19.93	26.0	4	36	0								
PEKING	20.31	56.3	4	41	1	8	27	4					
NANKING	21.15	79.6	4	49	1								
POONA	21.92	241.5	4	54	-2								
ZO-SE	23.26	81.7	5	2	-7								
QUETTA	23.40	276.0	5	11	0	9	20	-1			5	41	PP
KARACHI	24.58	263.2	5	23	1								
CHANGCHUN	28.00	53.1	5	52	-2								
SODANKYLA	53.52	333.6	9	24	0								
KIRUNA	55.93	333.9	9	41	-1								
UPPSALA	57.40	324.4	9	52	0								
SKALSTUGAN	59.50	329.1	10	6K	-1								
GOTEBORG	60.63	322.4	10	12	-2								
MUNDARING	65.64	159.4	10	48	0								
CHARTERS TS.	71.07	128.3	11	23	2								
COLLEGE	73.50	23.1	11	34	-2								
RESOLUTE	74.86	2.5	11	43	-1								
ELISABTHVLLE	76.47	247.6	11	53	0								
BROKEN HILL	77.31	244.7	11	57	-1								
TAMANRASSET	77.60	289.1	12	0	1								
BULAWAYO	80.60	240.0	12	10	-5								

NOVEMBER 19 5.H 25.M 53.S EPICENTRE -24.62-176.75 DEPTH= 0.KM

A=-0.90866 B=-0.05162 C=-0.41434 D=-0.0567 E= 0.9984
G= 0.4137 H= 0.0235 K=-0.9101 HT= 3.5

SE= 1.58

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
APIA	11.74	24.4	2	47	-5	4	47	-18				
KARAPIRO	14.80	204.5	3	50	17							
TUAI	15.05	198.7				6	10	-14				
WELLINGTON	18.05	201.0				7	15	-19				
COBB RIVER	18.61	205.6				7	35	-11				
GEBBIES PASS	20.92	201.9	4	46	-1	8	16	-20				
BRISBANE	27.49	257.6	5	51	1							
CANBERRA	31.39	242.1	6	27K	2							
CHARTERS TS.	34.44	270.0	6	52	0							
MELBOURNE	35.04	238.7	6	57A	0							

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PORT MORESBY	37.55	287.4	7	18K	0						
CAPE HALLETT	48.27	185.3	9	7	22	15	47	2			
TERRE ADELIE	49.54	200.3	8	55	0						
DUMONT	49.90	200.9	8	55	-2						
SCOTT BASE	53.86	184.3	9	27	0						
MUNDARING	58.66	246.4	10	0	-2						
BYRD STATION	60.40	170.3	10	12	-2					10	38
SOUTH POLE	65.52	180.0	10	47	-1					11	51
MATUSIRO	74.20	323.7	11	39	-2					11	53
LICK	80.52	41.5	12	17A	1						
FRESNO	81.28	42.9	12	21	1						
SHASTA	82.29	38.6	12	26	1						
MINERAL	82.52	39.2	12	26A	0						
RENO	83.04	40.8	12	29A	0						
BOULDER CITY	83.96	46.0	12	36	2						
TUCSON	84.57	51.0	12	38	1						
TUCSON TELE.	84.70	51.0	12	39	2						
EUREKA	85.33	42.7	12	40	0						
BUTTE	91.20	38.9	13	9	1						
COLLEGE	91.98	11.9	13	12	0						
SODANKYLA	134.86	347.5	19	21	0						
KIRUNA	135.51	350.8	19	18	-5						
ELISABTHVLLE	136.89	216.0	19	26	1						
NURMIJARVI	141.20	343.2	19	31	-2						
HELSINKI	141.40	342.7	19	29	-4						
UPPSALA	143.39	347.9	19	32	-5						
LWIRO	143.55	226.5	19	36	-1						
GOTEBORG	146.36	351.5	19	45	3						
LEOPOLDVILLE	148.91	203.7	19	52K	6						
KSARA	150.19	295.5	19	48	0						
JERUSALEM	151.01	291.5	19	57	8						
COLLMBERG	152.33	346.8	19	58K	7					21	5
PRUHONICE	153.20	343.7	20	12	20					22	25
DOURBES	154.55	358.0	20	22	28						
TAMANRASSET	177.23	229.0	20	58	46					21	56 PKP2

NOVEMBER 19 11.H 8.M 47.S EPICENTRE -5.91 146.42 DEPTH= 115.KM

A=-0.82875 B= 0.55020 C=-0.10224 D= 0.5531 E= 0.8331
G= 0.0852 H=-0.0565 K=-0.9948 HT= 7.0

DEPTH OF FOCUS= 0.013R

SE= 2.12

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PORT MORESBY	3.54	168.3	0	53A	-2								
RABAUL	5.97	73.8	1	27	-1								
CHARTERS TS.	14.10	180.6	3	14	-2	5	46	-4					
GUAM	19.31	355.1	4	18A	-1								
BRISBANE	22.20	164.9	4	49A	1	8	43	3					
RIVERVIEW	28.13	171.6	5	42A	-1	10	20	1					
CANBERRA	29.37	175.7	5	53A	-1	10	41	3			12	33	SCP
ADELAIDE	29.78	192.8	5	59A	1	10	48	3			6	57	PP
MELBOURNE	31.80	182.2	6	15A	-1	11	22	6	6	43	7	54	*SPP
MANILA	32.39	309.4	6	21	0	11	7	-19					
BAGUIO CITY	33.85	311.3	6	31	-3	11	43	-5					
FORT NELSON	36.88	178.9	7	1	2	12	36	1					
HENGCHUN	37.44	318.6	7	5	1								
TAWU	37.59	319.2	7	9	4	12	42	-3					
TAITUNG	37.71	319.9	6	58	-8								
HWALIEN	38.30	321.8	7	14	3								
MUNDARING	38.32	223.6	7	11A	0	12	58	1					
ALISHAN	38.49	320.4	7	13	0	12	53	-6					
TAINAN	38.49	319.2	7	13	0								
LEMBANG	38.57	266.5	7	13K	0	13	3	3					
PERTH	38.57	223.9	7	15	2	13	6	6			9	18	PPP
ILAN	38.82	322.7	7	19	4	13	7	3					
TAIPEI	39.15	322.8	7	18	0								
YAKUSIMA	39.24	338.0	7	19K	0	13	10	0			7	48	
ONERAHI	39.28	143.0	7	22	3								
DJAKARTA	39.37	267.5	7	18K	-2	13	17	5					
KAGOSIMA	40.23	338.8	7	29A	2	13	26	1					
MIYAZAKI	40.24	340.1	7	28	1	13	27	2					
AUCKLAND	40.28	143.9	7	53	26	13	36	10			16	45	SS

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SIOMISAKI	40.42	346.2	7	29	0	13	28	0			
SIMIDU	40.54	342.5	7	31	1	13	29	-1		8	2
OWASE	40.92	347.0	7	32	-1	13	34	-1			
OSIMA	41.00	351.2	7	33	0					14	31
OMAESAKI	41.03	349.7	7	34	0	13	28	-9			
MERA	41.08	351.7	7	33	-1	13	36	-2			
UWAZIMA	41.09	342.2	7	35	1	13	37	-1		8	29
KOTI	41.10	343.5	7	36A	2	13	38	0	8 7	9	9 PP
TOKUSIMA	41.31	345.0	7	37	1	13	40	-1			
KUMAMOTO	41.31	339.8	7	36	0	13	41	0			
WAKAYAMA	41.31	345.8	7	36	0	13	40	-1			
AJIRO	41.32	350.9	7	35	-1	13	40	-1			
SHIZUOKA	41.35	350.0	7	37	1	13	41	-1			
OOITA	41.38	341.1	7	38K	2						
MISIMA	41.41	350.7	7	45	8	13	47	4		14	40
KARAPIRO	41.43	144.4	7	38A	1	14	9	26		9	46 PP
SUMOTO	41.48	345.6	7	39K	2	13	39	-5		9	33
NAGASAKI	41.52	338.8	7	37K	-1	13	36	-8			
MATUYAMA	41.59	342.8	7	40	2	13	46	1		9	41 PPP
NARA	41.59	346.8	7	38	0	13	43	-2			
YOKOHAMA	41.61	351.7	7	37	-1	13	44	-1			
KAMEYAMA	41.61	347.6	7	40	2	13	45	-1		9	41
OSAKA	41.63	346.4	7	39K	1	13	41	-5		10	3
TAKAMATU	41.68	344.5	7	39	0	13	46	-1			
KOBE	41.74	346.0	7	41	2	13	47	0			
HUNATU	41.81	350.6	7	39	-1	13	45	-3			
NAGOYA	41.82	348.4	7	42	2	13	47	-2		8	13
ABUYAMA	41.83	346.6	7	39A	-1						
TOMIE	41.83	337.4	7	42	2	13	48	-1			
TOKYO C.M.O.	41.84	351.8	7	40	0	13	47	-2		9	47
SAGA	41.84	339.6	7	43	3	13	50	1			
APIA	41.87	104.0	7	40	0				7 55	8	45 PP
IIDA	41.99	349.5	7	42	1	13	51	0			
KOHU	42.01	350.4	7	41	-1	13	49	-2			
HIKONE	42.06	347.5	7	45	3	13	50	-2		17	9
GIHU	42.08	348.2	7	43A	1	13	50	-2		8	16
HUKUOKA	42.11	339.9	7	43	1	13	52	-1		14	46
COBB RIVER	42.18	150.1	7	46	3	14	0	6		17	28 SS
HIROSIMA	42.18	342.7	7	43	0	13	53	-1			
HONG KONG	42.22	312.7	7	44K	1	13	57	2		9	43 PCP
TITIBU	42.23	351.1	7	44	1	13	52	-3			
SIMONOSEKI	42.27	340.7	7	44	0	13	55	0			
KAKIOKA	42.32	352.5	7	44	0	13	52	-4			
TUKUBASAN	42.32	352.4	7	42K	-2	13	42	-14		9	20 PP
KUMAGAYA	42.35	351.5	7	44	0	13	54	-2		17	10
MITO	42.43	352.9	7	45	0	13	57	-1		8	15
MAIZURU	42.44	346.6	7	43A	-2	13	53	-5			
TOYOOKA	42.64	346.0	7	47A	0	13	59	-2			
MAEBASI	42.64	351.2	7	46	-1	13	59	-2		8	27
OIWAKE	42.66	350.6	7	45	-2					12	55
KAIMATA	42.66	152.5	7	50	3	14	5	4	8 32	8	3
MATUMOTO	42.68	349.9	7	47	0	14	1	0			
UTUNOMIYA	42.68	352.2	7	45	-2	13	57	-4		8	18
TAKAYAMA	42.71	349.0	7	43	-4						
HAMADA	42.78	342.5	7	50	2	14	3	0			
HUKUI	42.82	347.8	7	48	0						
YONAGO	42.92	344.3								10	15
MATUSIRO	42.92	350.3	7	47A	-2	14	0	-5		14	55
ONAHAMA	42.94	353.5	7	50	1	14	3	-2		9	21
MATSUE	43.01	344.0	7	50	0	14	6	0			
NAGANO	43.05	350.3	7	51	1	14	4	-3			
SHIRAKAWA	43.19	352.8	7	52	1	14	7	-2			
TOYAMA	43.25	349.2	7	50	-2	14	7	-3			
WELLINGTON	43.36	148.6	7	54K	1	14	9	-2	8 34	15	23 *SS
TAKADA	43.46	350.5	7	51	-2	14	12	-1			
HUKUSIMA	43.78	353.2	7	56	0	14	15	-2			
WAZIMA	43.97	349.1	7	59	1	14	19	-1			
ZO-SE	44.00	328.2	7	57	-1	14	20	0	8 33	9	43 PP
NIIGATA	44.14	351.6	7	57	-2	14	25	3			
GEBBIES PASS	44.14	152.6	8	0	1	14	26	4		13	27 PCS
ROXBURGH	44.16	156.9				14	25	2		17	52 SS
SENDAI	44.25	353.8	8	0	0	14	23	-1		9	15
YAMAGATA	44.29	353.2	8	2	2	14	24	-1			
AIKAWA	44.36	350.8	8	1	0	14	24	-2			
ISINOMAKI	44.36	354.3	8	1	0	14	27	1			
SAKATA	45.00	352.7	8	8	2	14	38	3			
MIZUSAWA	45.08	354.2	8	7	1	14	33	-3			
MIYAKO	45.51	355.2	8	10	0	14	38	-4			

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MORIOKA	45.64	354.3	8	10	-1	14	31	-13			8	41	
AKITA	45.77	353.2	8	13A	1	14	47	1	8	46			
NANKING	46.03	326.8	8	15K	1	14	52	3	8	48	10	4	PP
HATINOHE	46.43	354.9	8	9	-8	14	55	0					
AOMORI	46.78	354.1	8	21	1	15	0	0					
PHU-LIEN	47.23	305.3	8	22	-1	15	9	3			10	9	PP
WUHAN	47.36	321.7	8	24K	0								
HAKODATE	47.77	354.3	8	26A	-2	15	13	-1			9	3	
URAKAWA	47.94	356.4	8	30	1	15	20	4			9	0	
HIROO	48.04	356.9	8	29	-1								
MORI	48.07	354.1	8	33	3	15	19	1					
MURORAN	48.25	354.6	8	32	1	15	20	-1					
TOMAKOMAI	48.51	355.2	8	38	5								
MEDAN	48.60	280.0	8	34K	0	15	30	4					
OBIHIRO	48.68	356.9	8	35	0	15	28	1					
KUSIRO	48.69	358.0	8	34	-1	15	27	0	9	3			
SUTTSU	48.80	353.9	8	34	-1	15	28	0			9	27	
SAPPORO	48.96	355.1	8	36A	-1	15	21	-10			9	6	
NEMURO	49.01	359.2	8	37	0	15	32	1			9	11	
MACQUARIE I.	49.50	170.4	8	43	2				9	9			
ABASHIRI	49.73	358.0	8	43	0	15	43	2			9	18	
VLADIVOSTOK	50.54	346.2	8	48	-1	15	54	1			10	51	PP
KUNMING	52.48	307.9	9	5K	2	16	23	4	9	39	17	27	*SS
Y.-SAKHLINSK	52.80	356.8	9	4	-2	16	23	0			11	0	PP
CHANGCHUN	53.05	341.0	9	7	-1	16	26	-1	9	43	17	24	*SS
SIAN	53.38	321.1	9	9	-1				9	43			
PEKING	53.54	331.3	9	9K	-2	16	31	-2	9	45	17	28	*SS
CHENGTU	54.48	314.4	9	18K	0	16	48	2	9	55	11	18	PP
PORT BLAIR	56.20	288.2	9	31	1	17	12	3			11	48	PP
LANCHOW	57.75	319.6	9	41K	0	17	32	3	10	16			
TOCKLAI	59.59	305.6	9	56	2								
PETROPAVLOVK	59.61	8.5	9	53	-1	17	51	-2			10	42	PCP
CHITTAGONG	60.35	299.7	9	55	-4	18	6	3			12	8	PP
HONOLULU	60.74	61.7	10	1A	-1	18	14	6					
DUMONT	60.82	182.9	10	1	-2	18	12	3			12	15	PP
KIPAPA	60.85	61.6	10	1A	-2						10	35	
TERRE ADELIE	60.91	182.3	10	1	-2	18	12	2					
SHILLONG	61.50	303.2	10	7K	0	18	22	4			12	19	PP
HAWAII V.OB.	62.65	64.7	10	14	-1	18	36	4					
CALCUTTA	63.40	298.7	10	23	3	18	44	3			11	18	PCP
LHASA	63.79	307.0	10	23K	1	18	49	3	10	59			
ULAN-BATOR	63.86	331.5	10	13	-10	18	50	3					
WILKES	65.24	195.1	10	33	1	19	6	2			11	3	PCP
MAGADAN	65.34	2.5	10	31	-1	19	7	2			11	7	PCP
CHATRA	65.88	302.7	10	29	-7	19	13	1					
BOKARO	66.06	299.2	10	37	0	19	16	2			11	7	PCP
VIZIANAGRAM	66.53	292.5				19	22	2					
COLOMBO	67.61	279.9	10	45	-2	19	33	0					
CAPE HALLETT	67.94	172.3	10	40	-9	19	43	6			13	19	PP
IRKUTSK	68.10	333.6	10	49K	-1	19	41	2			11	26	PCP
MADRAS	68.42	286.4	10	52	0	19	49	7			13	8	PP
YAKUTSK	68.95	351.6	10	54	-1	19	47	-2					
MIRNY	70.67	199.9									11	20	PCP
HYDERABAD	70.99	290.6	11	7K	0	20	14	2			13	32	PP
SCOTT BASE	72.69	175.6	11	18	1	20	23	-9			11	48	PCP
AGRA	73.74	300.3	11	22K	-1	20	43	0			14	10	PP
DEHRA DUN	74.59	303.5	11	29	1	20	54	1			15	49	PPP
POONA	75.50	290.8	11	33K	0	21	1	-2					
BOMBAY	76.53	290.9	11	39	0	21	21	7			12	7	PCP
KERGUELEN I.	76.65	220.8	11	43	3	21	24	9					
TIKSI	78.24	354.4	13	47	118								
FRUNSE	80.83	314.9	12	3	0	22	1	1			16	59	PPP
WARSAK DAM	80.86	305.7	12	2K	-1	22	0	0					
KARACHI	82.88	295.8	12	14K	1	22	22	1			12	23	PCP
QUETTA	83.90	301.1	12	19K	1	22	30	-1			15	20	PP
STALINABAD	84.07	309.7	12	19	0	22	33	1			16	7	
SOUTH POLE	84.13	180.0	12	19	-1	22	39	6	12	37	15	17	PP
TASHKENT	84.29	312.4	12	17	-3	22	35	0			15	42	PP
BYRD STATION	84.93	169.9	12	24	0	22	42	1	12	53	16	19	PP
COLLEGE	85.30	23.0	12	24K	-1	22	34	-10			30	33	PKKP
SITKA	88.57	32.4	11	43K	-58								
ASHKABAD	92.07	307.8	12	58	1						16	46	PP
SVERDLOVSK	92.59	326.7	12	57	-3	23	19	-32			23	45	SCS
ARCATA	93.44	49.4	13	5K	1								
ALBERNI	93.62	41.0	13	2K	-3								
UKIAH	93.96	51.2	13	7K	1						16	52	PP
CORVALLIS	94.30	45.8	13	7K	-1								
VICTORIA	94.49	41.8	13	7A	-1								

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BERKELEY	94.62	52.5	13	9A	0	23	30	-39	13 43	16 57 PP
HORSESHOE B.	94.63	41.0	13	9A	0					
SHASTA	94.71	49.7	13	9A	-1					
LICK	95.08	53.1	13	12A	1					17 1 PP
MINERAL	95.29	50.1	13	12A	0					16 49 PP
KHEYS	95.52	350.5	13	12	-1	24	13	36		17 5 PP
TANANARIVE	96.45	250.3	13	19K	2	24	53	71		23 50 SKS
FRESNO	96.52	53.8	13	17	-1					
RENO	96.63	51.0	13	19A	1					17 9 PP
PASADENA	97.75	56.4	13	24A	1	24	44	55	13 55	17 22 PP
HALLEY BAY	98.60	181.8	13	30	3					17 32 PP
EUREKA	99.60	51.1	13	31A	-1					38 13 PKPPKP
BOULDER CITY	100.52	54.6	13	37K	1					17 33 PP
HUNGRY HORSE	100.73	48.0	13	37A	0					17 34 PP
GORIS	101.51	309.0	13	43	3	24	10	3		17 55 PP
BUTTE	101.87	44.3	13	41A	-1					17 49 PP
TIFLIS	102.58	311.3	13	49	4	24	16	4		25 16 SCS
SALT LAKE C.	102.71	49.7	13	46K	0					17 56 PP
BOZEMAN	102.96	44.6	13	47A	0					
RESOLUTE	103.03	13.9	13	43	-4	25	19	65		17 53 PP
TUCSON	103.91	58.4	13	54K	3	24	26	8		18 10 PKP
TUCSON TELE.	104.00	58.3	13	53A	2					18 33 PP
APATITY	104.10	338.6	13	53	1	24	17	-2		17 58 PP
SODANKYLA	106.59	339.5	17	56	777					18 22 PP
LARAMIE	107.39	48.7	14	7	777					
PULKOVO	108.04	331.5				25	27	50		18 42 PP
CHIHUAHUA	108.16	61.9								33 31 SS
ADDIS ABABA	108.29	277.5	14	17	777	24	52	14		
KIRUNA	108.45	341.1	18	24	777					18 43 PP
SIMFEROPOL	109.88	315.7				25	36	51		18 46 PP
KSARA	110.32	303.8	18	6	-12					19 6 PP
NURMIJARVI	110.36	333.3	18	32	14					18 50 PP
JERUSALEM	111.10	301.7	18	19	-1					
PRETORIA	112.35	239.2								20 25
BULAWAYO	113.65	245.1	18	28	3					
SKALSTUGAN	113.66	339.5	18	21	-4					19 6 PP
UPPSALA	113.76	334.5	18	48	23					19 21 PP
TACUBAYA	114.92	71.4								19 23 PP
LWOW	115.03	322.9								19 14 PP
SCORESBY SD.	115.07	355.7								19 18 PP
BROKEN HILL	115.24	251.1	18	31	3					
BUCHAREST	115.54	316.7	18	2	-27					20 17 PP
LAWRENCE	115.60	49.5	18	29	0					
ELISABTHVLLE	116.82	253.9	18	35A	4	25	22	11		19 48 PP
FAYETTEVILLE	117.09	52.4	18	30	-2					19 40 PP
LWIRO	117.18	264.4	18	36A	4					29 22 PS
KRAKOW	117.36	324.3	19	24	52					28 23
SKALNATE PL.	117.54	323.3								28 29 PS
PORT STANLEY	118.96	163.0	18	41	6					
BUDAPEST	119.01	322.0				28	25	186		20 12 PP
BELGRADE	119.19	318.7	19	24K	48					24 29
ST. LOUIS 1	119.46	48.7				25	25	4		19 58 PP
BRATISLAVA	119.86	323.3	18	38	1	27	31	129		19 53 PP
POTSDAM	119.96	329.0	19	28	51					20 7 PP
VIENNA-H.	120.26	323.7	18	39	1					30 1 PS
PRUHONICE	120.45	326.1	18	39A	1					20 11 PP
PRAGUE	120.47	326.2								20 12 PP
COLLMBERG	120.59	328.0	18	39K	1					20 15 PP
HALLE	121.02	328.6	18	41	2	25	41	15	19 2	20 15 PP
JENA	121.54	328.2	18	34	-6				19 16	19 59 PP
CHEB	121.58	327.1								20 4 PP
ZAGREB	121.62	321.3								30 14 PS
SONNEBERG	122.05	327.9								20 47 PP
LJUBLJANA	122.41	322.1	18	43K	1					20 13 PP
MUNSTER	122.91	331.0	18	44	1					
WINDHOEK	122.93	238.4	18	45K	2					
TRIESTE	123.08	322.0								20 24 PP
TOLMEZZO	123.15	323.1	18	47	4					20 16 PP
ABERDEEN	123.22	340.1								37 24 SS
BENSBERG	123.76	330.2	18	43	-2					21 4 PP
DE BILT	123.98	332.2								37 19 SS
STUTTGART	123.99	327.1	18	46	1					20 33 PP
TUBINGEN	124.25	327.0								20 46 PP
RAVENSBURG	124.37	326.0	18	46	0					20 46 PP
EBINGEN	124.50	326.7	18	46	0					
DURHAM	124.90	338.0	18	14K	-33	25	41	3		37 22 SS
STRASBOURG	124.91	327.7	18	47	0					20 40 PP
REGGIO CALA.	125.12	313.1								20 57 PP
MESSINA	125.16	313.2	18	37	-10	25	53	14		20 41 PP

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UCCLE	125.23	331.5	18	44	-3					30	41 PS
DOURBES	125.58	330.7	18	48	0					37	41 SS
PRATO	125.60	321.3	18	53	5						
BASLE	125.64	326.7	18	48	0					21	11 PP
ROME	125.69	318.6								20	43 PP
PAVIA	126.08	323.6								31	43 PPS
OTTAWA	126.32	35.9	18	50	1					20	44 PP
MORGANTOWN	126.51	44.1	18	52	2					20	40 PP
BESANCON	126.68	327.2	18	48	-2					20	48 PP
KEW	126.87	334.6	18	46	-4	25	48	4		27	54
SHAWINIGAN	127.31	33.3	18	51K	0				19 27	20	45 PP
PENNSYLVANIA	127.38	41.8								20	50 PP
PARIS	127.46	330.6	18	54	2						
BREBEUF	127.47	34.8	18	52K	0	25	52	6			
RATHFARNHAM	127.76	339.6	19	15	23					23	53
SEVEN FALLS	127.98	31.6	18	53	0					32	1 PS
BANGUI	128.00	270.9	18	53	0					30	53
COLUMBIA	128.01	51.0	18	53	0					22	33
CHAPEL HILL	128.75	47.9	18	57	3					19	28
WASHINGTON	128.83	43.6	18	30K	-24					20	34 PP
GEORGETOWN	128.83	43.6	18	55	1					23	3 PP
FOLINIERE	128.90	332.3	18	56	2						
CUGLIERI	129.11	318.5								22	43 PKS
PALISADES	129.85	39.6	15	40	777					21	2 PP
FORDHAM	129.95	39.8	18	57	1						
LEOPOLDVILLE	130.18	259.3	19	1A	4				19 28	21	8 PP
SETIF	133.28	315.7	19	5	2					21	36 PP
BUENOS AIRES	133.36	151.5								22	28
HALIFAX	133.37	29.4								21	30 PP
ANTOFAGASTA	133.54	130.7	19	8	5					22	28
TORTOSA	133.78	323.9	19	42	38						
ALGIERS UNI.	134.58	317.7	19	2	-3	26	27	24		21	39 PP
HUANCAYO	134.81	113.3	19	4	-2	27	26	83			
RELIZANE	136.83	318.2	19	8	-1					21	47 PP
TOLEDO	137.00	326.2	19	12	2					22	2 PP
ALMERIA	138.09	321.6	19	13	1					21	59 PP
CHINCHINA	138.15	89.1	19	1	-11						
GRANADA	138.57	322.9	19	41K	29					22	5 PP
TAMANRASSET	138.75	298.0	19	9	-4					22	5 PP
LA PAZ	139.21	123.6	19	9	-5	26	43	33		22	41 PP
BOGOTA	139.67	89.8	19	11	-3	26	17	6		22	7 PP
FUQUENE	140.05	88.5	19	11	-4					22	10 PP
BERMUDA	140.82	43.8								23	2 PP
SAN JUAN	145.93	65.8	19	27A	1					19	59
CARACAS	146.69	79.9	19	20A	-7					19	53 PKP2
FORT FRANCE	151.52	69.9	19	38	4						
GRENADA	151.55	75.6	19	34	0					19	42 PKP2
TRINIDAD	152.08	78.4	19	43	8						
BARBADOS	153.37	72.5	20	26	49						
MBOUR	161.62	298.5	19	49	2				20 21		

NOVEMBER 19 14.H 0.M 28.S EPICENTRE 38.91 26.59 DEPTH= 0.KM

A= 0.69771 B= 0.34927 C= 0.62547 D= 0.4476 E=-0.8942
G= 0.5593 H= 0.2800 K=-0.7802 HT= -1.3

SE= 2.67

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
ATHENS	2.44	248.4	0	41A	0						1	19	SG
ISTANBUL KA.	2.88	40.6									1	31	PG
SOFIA	4.53	327.9	1	12	1						2	39	
SKOPJE	4.98	309.5	1	0A	-18	2	28	11			1	11	P*
BUCHAREST	5.52	356.3	1	28	3	2	34	4			2	0	PG
CAMPULUNG	6.47	350.2	1	40	2						1	55	PG
TARANTO	7.37	285.2	1	32	-19								
BELGRADE	7.48	324.2	1	52	-1						2	29	PP
BACAU	7.66	1.6	1	9	-46								
TIMISOARA	7.91	331.6	1	59	0						3	53	
SIMFEROPOL	8.24	40.5	2	1	-2								
REGGIO CALA.	8.62	268.1	2	4	-5	4	2	14					
MESSINA	8.68	268.8	2	9	0	3	43	-6			2	18	PP
KSARA	9.05	121.3	2	13	-1	3	53	-5			4	45	SG
JERUSALEM	10.00	132.7	2	25	-3	4	13	-9					
BUDAPEST	10.19	329.7	2	33	3	4	19	-8					

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ZAGREB	10.45	314.8	2	40	6				5	54 PS
HURBANOVO	10.84	328.5	2	47	8	4	47	5		
SOTCHI	10.93	60.5	2	30	-10					
LWOW	11.06	351.3	2	42	0				5	48
SKALNATE PL.	11.23	338.2	2	45	0					
LJUBLJANA	11.41	312.6	2	46A	-1	5	0	4	4	45
BRATISLAVA	11.53	326.5	2	48	-1				3	30 PPP
TRIESTE	11.65	309.5	2	50	0				3	45 PGPG
VIENNA-H.	11.91	324.9	2	54A	0				6	43 SGSG
KRAKOW	12.11	339.1	2	56	0				3	6 PP
TOLMEZZO	12.48	311.3	2	59	-2				7	9
PRATO	12.65	298.1	3	37	33					
RACIBORZ	12.67	334.6	3	5	1					
WARSAW	13.88	345.6				6	2	6	8	37 PCP
PRUHONICE	14.00	326.2	3	21A	-1					
PRAGUE	14.12	326.2	3	24	1					
TIFLIS	14.18	72.8	3	26	2					
CHUR	14.80	307.9	3	32	0				8	39 PCP
CHEB	15.06	322.5							4	13
MONACO	15.18	294.6	3	35	-2					
RAVENSBURG	15.18	311.2	3	39	2					
COLLMBERG	15.64	326.8	3	42A	-1				3	50 PP
EBINGEN	15.76	311.7	3	45	1					
SONNEBERG	15.83	321.5	3	44	-1				4	14
TUBINGEN	15.87	313.0	3	51	5					
STUTTGART	15.88	314.0	3	44	-2				3	58 PP
JENA	16.01	323.5	3	51	3	6	59	13	4	11
HALLE	16.24	325.6	3	54	3				7	29
BASLE	16.29	308.1	3	43	-8	7	5	12		
MAKHACH-KALA	16.30	68.9	3	54	2					
POTSDAM	16.42	329.5	3	51	-2				4	6
NEUCHATEL	16.47	305.8	3	54	0					
STRASBOURG	16.65	311.6	4	0	4					
SETIF	17.02	267.5	4	4	3	7	25	15	4	22 PP
BESANCON	17.18	305.7	4	1	-2					
BENSBERG	18.22	317.7	4	18	2				5	2
MOSCOW	18.38	20.1	4	17	-1					
MUNSTER	18.58	320.9	4	22	2					
ALGIERS UNI.	18.71	270.8	4	21	-1	7	51	3	4	48 PP
DOURBES	19.19	312.8	4	28	1					
COPENHAGEN	19.26	335.2	4	25	-3					
WITTEVEEN	19.56	321.8	4	32	0					
UCCLE	19.66	314.4	4	33	0	8	12	3		
PARIS	19.93	307.6	4	36	0					
RELIZANE	20.93	269.5	5	30	44				5	47 PP
PULKOVO	21.02	5.3	4	45	-2					
GOTEBORG	21.08	337.9	4	45	-3					
HELSINKI	21.31	357.8	4	50	0					
NURMIJARVI	21.66	357.4	4	52	-2	9	2	12		
UPPSALA	21.72	347.7	4	53A	-1	8	52	1	5	5
FOLINIERE	21.77	305.7	4	54	-1					
KEW	22.60	312.6	5	4	1	9	17	10	5	21
ALMERIA	22.99	274.0	5	7	0	9	1	-13		
GRANADA	23.79	275.4	5	23K	8				6	22 PP
TAMANRASSET	24.1'	234.3	5	19	1	9	36	3	5	44 PP
SKALSTUGAN	26.15	345.5	5	35	-2					
RATHFARNHAM	26.67	313.5	5	56	14					
SODANKYLA	28.52	0.0	5	57	-2				6	41 PP
SVERDLOVSK	28.61	40.0	6	0	0					
APATITY	28.95	5.4	6	1K	-2	10	54	1	14	57
KIRUNA	29.18	355.2	6	4K	-1				12	47 PCS
ADDIS ABABA	31.69	156.6	6	31	4					
QUETTA	34.14	92.3	6	50	2	12	20	6	14	30 SS
WARSAK DAM	36.21	83.5	7	5	-1					
SCORESBY SD.	40.30	337.1	7	41	1					
LWIRO	41.00	176.6	7	46	0					
KHEYS	43.43	7.2	8	6	0					
LEOPOLDVILLE	44.32	196.3	8	11	-2				9	52 PP
NORD	45.39	351.9	8	20K	-2					
POONA	45.57	102.6	8	27	4					
SHILLONG	55.72	83.1	9	38K	-2					
CHITTAGONG	57.37	86.4	9	37	-15					
RESOLUTE	60.36	344.9	10	11	-2					
TANANARIVE	60.78	157.2	10	18	2					
COLLEGE	76.47	357.5	11	52	-1					
SAN JUAN	80.74	286.0	12	16	0					
MATUSIRO	81.99	49.1	12	25	2					
RAPID CITY	85.77	326.3	12	41	-1					
LAWRENCE	85.94	318.4	12	42	-1					

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CARACAS	86.21	280.3	12	10A	-34						
HUNGRY HORSE	86.35	334.9	12	45	0						
FAYETTEVILLE	87.51	315.9	12	48	-3				14	14	
BOZEMAN	87.61	331.8	12	52	1						
BUTTE	87.86	332.9	12	52	0						
EUREKA	94.78	331.8	13	24	0						
PASADENA	100.31	330.9	14	55	66				15	7	
CHARTERS TS.	125.21	88.3	19	7	5						

NOVEMBER 19 23.H 53.M 49.S EPICENTRE 42.45-126.24 DEPTH= 0.KM

A=-0.43754 B=-0.59693 C= 0.67249 D=-0.8065 E= 0.5912
G=-0.3976 H=-0.5424 K=-0.7401 HT= -2.6

SE= 1.98

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ARCATA	2.26	133.4	0	37A	-2								
CORVALLIS	3.02	44.2	0	49	-1				1	13	-14		
SHASTA	3.38	119.9	0	54	-1								
UKIAH	4.03	144.4	1	2	-2								
MINERAL	4.07	119.5	1	4A	-1								
BERKELEY	5.50	145.0	1	22	-3								
SAN FRANCSCO	5.50	146.9	1	24	-1								
RENO	5.67	118.7	1	29	2								
BRANNER	5.91	146.8	2	27K	56								
LICK	6.21	143.8	1	33A	-2								
VICTORIA	6.38	17.1	1	37K	0								
VINEYARD	6.82	145.0	1	44	0								
ALBERNI	6.89	7.8	1	44	-1								
HORSESHOE B.	7.23	15.6	1	51	2								
FRESNO	7.54	136.7	1	52	-2								
EUREKA	8.32	107.5	2	4	-1								
HUNGRY HORSE	10.41	51.3	2	32	-1								
PASADENA	10.43	140.0	2	33	-1								
BUTTE	10.44	65.4	2	34	0								
LOGAN	10.75	88.9	2	39	1								
SALT LAKE C.	10.91	94.0	2	41	1								
BOULDER CITY	10.95	122.4	2	45	4								
BANFF	11.38	36.3	2	44A	-3								
LARAMIE	15.43	87.3	5	37	117								
TUCSON	15.91	124.8	3	51	4								
TUCSON TELE.	15.91	124.3	3	49	2								
SASKATOON	16.41	47.1				7	11	15					
RAPID CITY	16.85	76.6	3	56	-3								
LAWRENCE	23.68	88.0	5	15	1								
FAYETTEVILLE	25.51	93.7	5	30A	-1	10	10	13			6	17	PP
COLLEGE	25.58	338.7	5	31	-1	10	13	15					
MORGANTOWN	34.70	78.7	6	54	1								
RESOLUTE	35.28	13.9	6	57	-1	12	29	-3			8	12	PP
OTTAWA	36.02	67.6	7	5	0								
COLUMBIA	36.15	88.2	7	5	-1	12	31	-15					
CHAPEL HILL	36.77	84.1	7	13	2								
BREBEUF	37.43	66.8	7	14	-2								
PALISADES	38.57	73.9	7	30	4	13	31	8			8	57	PP
THULE	41.73	17.5	7	51	-1								
HALIFAX	44.47	64.9	8	14K	0						18	9	SS
BERMUDA	48.96	80.6				16	3	9			10	49	PP
TIKSI	54.73	338.0									11	30	PP
SAN JUAN	55.88	96.0	9	42	0								
CHINCHINA	58.29	115.1	9	59	0	18	10	10					
BOGOTA	59.58	114.1	10	10	2	18	27	10			18	59	PS
KIRUNA	67.20	13.1	10	57	-1	19	48	-4					
SODANKYLA	68.58	10.9	11	6	-1								
SKALSTUGAN	69.31	18.5	11	10	-1								
MATUSIRO	70.06	301.5	11	13	-3	20	27	1			25	1	SS
HUANCAYO	71.52	126.8	11	26	2								
NURMIJARVI	74.67	14.4	11	43	0								
PULKOVO	76.32	12.0	11	59	7								
LA PAZ	79.32	124.0	12	11	2								
COLLMBERG	80.13	24.6	12	14	1								
SVERDLOVSK	80.92	356.2	12	18	1								
MOSCOW	81.24	9.1	12	21	2								
TRIESTE	85.32	26.9	12	56	16								
TERRE ADELIE	129.02	210.6	19	7	-3								

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SOUTH POLE	132.26	180.0	19 23	7							
ELISABTHVLLE	141.72	44.5	19 41	8							
BROKEN HILL	144.59	45.6	19 38	0							

NOVEMBER 20 19.H 29.M 39.S EPICENTRE 0.81 -26.32 DEPTH= 0.KM

A= 0.89627 B=-0.44329 C= 0.01405 D=-0.4433 E=-0.8964
G= 0.0126 H=-0.0062 K=-0.9999 HT= 7.2

SE= 3.25

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
MBOUR	16.35	34.0	3 56	4	6 42	-12		
TAMANRASSET	37.87	52.5	7 20	0				8 44 PP
LEOPOLDVILLE	41.85	97.4	7 54A	1	14 21	9		9 32 PP
SAN JUAN	42.79	296.5	8 0	-1				
RELIZANE	42.80	32.8	8 3	2				9 43 PP
LA PAZ	44.69	245.4	8 15	-1	14 51	-2		10 5 PP
BANGUI	45.02	84.7	8 19	0				10 20
SETIF	45.87	36.3	8 25	-1				10 16 PP
FUQUENE	47.55	276.6	8 43	4	15 41	7		
BOGOTA	47.84	275.5	8 49	8	16 4	26		
HUANCAYO	50.31	253.7	8 59	-1				12 11 PPP
CLERMONT-FD.	51.72	26.0	9 20A	9				
MESSINA	53.46	40.9			17 2	6		11 28 PP
HALIFAX	54.69	328.0	9 31	-2				
ELISABTHVLLE	54.84	104.8	9 34	0	17 17	2		
LWIRO	55.19	93.3	9 37	0				
DOURBES	55.72	23.6	9 48	8				
STRASBOURG	55.91	26.7	9 41	-1				
BROKEN HILL	56.28	107.9	9 43	-2				
STUTTGART	56.74	27.4	9 45	-3				
TRIESTE	56.85	32.6	9 47	-2				12 25
TOLMEZZO	56.95	31.6	9 54	5				10 55
DURHAM	57.47	16.7	9 50	-3				
LJUBLJANA	57.52	32.7	9 53A	0				
BULAWAYO	57.65	114.5	9 52	-2				
MUNSTER	58.38	23.9	10 0	1				
CHAPEL HILL	60.02	311.8	10 10	-1				
COLLMBERG	60.23	27.3	10 11A	-1				
OTTAWA	62.07	322.7	10 23	-2				
GOTEBORG	64.33	21.7	10 29A	-11				
ADDIS ABABA	65.28	80.5	10 49	3				
JERUSALEM	65.59	55.3	10 48	0				
KSARA	66.67	53.3	10 54	-1				
NURMIJARVI	71.11	24.0	11 21	-1				
PULKOVO	73.12	26.2	11 27	-7				
KIRUNA	74.15	16.7	11 39	-1				
MOSCOW	74.93	31.8	11 43	-1				
TANANARIVE	75.02	109.7	11 48A	3				12 46
TIFLIS	75.43	47.0	11 48	1				
THULE	79.09	350.7	12 7	-1				
RAPID CITY	80.02	314.5	12 13	0				15 25 PP
RESOLUTE	83.65	345.6	12 30	-2				
TUCSON TELE.	84.83	302.2	12 38	0				
SALT LAKE C.	86.08	310.6	12 44	0				
HUNGRY HORSE	87.87	318.2	12 51	-1				
BOULDER CITY	88.32	305.8	12 54	-1				
EUREKA	89.22	309.3	12 59	0				
SOUTH POLE	90.81	180.0	13 6	0				
BYRD STATION	91.35	190.0	13 10	1				
QUETTA	92.43	59.9	13 15	1				
KARACHI	92.71	65.2	13 9	-6				
CANBERRA	145.39	173.2	19 41K	1				
PORT MORESBY	169.27	142.9	20 12	3				20 30 PKP2

NOVEMBER 22 12.H 47.M 56.S EPICENTRE -3.10 139.74 DEPTH= 0.KM

A=-0.76205 B= 0.64528 C=-0.05379 D= 0.6462 E= 0.7632
G= 0.0411 H=-0.0348 K=-0.9986 HT= 7.1

SE= 2.15

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	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PORT MORESBY	9.66	130.7	2	26	3						3	22	
RABAUL	12.45	95.4	3	2	1								
CHARTERS TS.	18.04	159.9	4	15	2						4	36	
BRISBANE	27.18	154.0	5	48	1	10	24	-1					
ADELAIDE	31.72	181.6	6	28	1						7	28	
RIVERVIEW	32.37	162.1				11	42	-5			8	36	
CANBERRA	33.18	166.1	6	42K	2						8	0	PP
MELBOURNE	34.89	172.8	6	58	3	12	28	2			17	16	SCS
MUNDARING	36.25	215.0	7	6	0	14	21	94					
ZO-SE	38.34	333.9	7	25	1	13	19	0					
MATUSIRO	39.46	358.1	7	32K	-1	13	28	-8					
NANKING	40.24	332.0	7	41	1	13	52	4					
MEDAN	41.57	278.9	7	52	1								
KUNMING	45.56	310.2	8	24	1								
KARAPIRO	47.67	141.3	8	38	-2						9	19	
PEKING	48.07	335.6	8	41	-2	15	42	1					
CHANGCHUN	48.49	346.1	8	51	5								
GEBBIES PASS	49.83	149.0	8	55	-1								
LANCHOW	51.40	322.5	9	9	1								
CHITTAGONG	53.19	300.9	9	23	1	16	53	1			11	22	PP
SHILLONG	54.42	304.5	9	29A	-2								
DUMONT	63.45	179.9	10	30	-3								
TERRE ADELIE	63.61	179.3	10	30	-4								
HONOLULU	65.45	65.0	10	44	-2								
KIPAPA	65.55	64.9	10	46	-1								
WILKES	66.36	192.4				19	34	-8			23	52	SS
POONA	68.29	291.2	11	2	-2								
WARSAK DAM	73.85	306.6	11	37	-1								
KARACHI	75.68	296.4	11	52	4								
SCOTT BASE	76.05	174.3	11	50A	-1								
QUETTA	76.77	301.8	11	54	-1								
COLLEGE	85.41	24.1	12	38	-2								
SOUTH POLE	86.92	180.0	12	45	-3								
BYRD STATION	88.82	170.1	12	56	-1								
RESOLUTE	101.86	12.8	13	54	-2								
EUREKA	102.99	50.3	14	0	-1								
TAMANRASSET	131.57	297.9									21	32	PP
LA PAZ	146.27	126.1	19	44	3								
SAN JUAN	150.47	57.2	19	54	6								

NOVEMBER 22 16.H 26.M 36.5 EPICENTRE -54.57-136.04 DEPTH= 0.KM

A=-0.41917 B=-0.40427 C=-0.81293 D=-0.6942 E= 0.7198
G= 0.5851 H= 0.5643 K=-0.5824 HT= -7.1

SE= 3.89

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
BYRD STATION	26.12	173.5	5	35	-2	10	0	-7			6	5	PP
CAPE HALLETT	28.44	211.2	6	2	4	10	54	9			7	4	PP
SCOTT BASE	30.54	200.5	6	19	2	11	31	12			23	57	SS
ROXBURGH	35.43	261.8				12	40	5					
SOUTH POLE	35.62	180.0	7	2	1						8	14	PP
KARAPIRO	36.56	276.8	7	10	1								
DUMONT	39.63	218.4	7	38	3						16	49	SS
HALLEY BAY	42.44	159.4	8	58	60								
WILKES	49.44	209.2	9	8	14	16	1	0			18	36	SCS
RIVERVIEW	53.58	261.2	9	22	-3	16	53	-5					
MELBOURNE	54.23	253.3	9	30	0	17	13	7					
BRISBANE	57.38	267.7	9	48	-4	17	44	-4					
HUANCAYO	63.43	72.5	10	33	-1	19	15	9					
LA PAZ	63.92	81.7	10	35	-2	19	22	10			13	4	PP
CHARTERS TS.	66.79	267.7	10	55	0	19	50	3					
MUNDARING	73.89	237.4	11	30K	-8								
PORT MORESBY	74.75	275.3	11	46	3	21	27	7			26	6	SS
RABAUL	76.08	282.6	11	50	-1								
BOGOTA	78.01	64.1	12	0	-2	21	59	4			22	39	PS
GALERAZAMBA	82.62	59.8									23	6	PS
CARACAS	86.73	67.0	12	36	-11	23	14	-10					
HERMANUS	88.85	159.8									24	42	PS
TUCSON	89.15	21.2	13	0	1						14	30	
TUCSON TELE.	89.26	21.2	13	0	1								
PASADENA	89.69	14.7	13	7	6	23	51	0			29	48	SS

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EUREKA	95.25	15.5	13	26	-1						
BERMUDA	106.01	56.5								27	40 PS
PALISADES	108.99	45.0								28	32 PS
MATUSIRO	116.56	296.1								35	54 SS
COLLEGE	119.45	354.3	18	57	5						
LWIRO	122.00	162.0	19	21	25					37	36 SS
RESOLUTE	131.84	13.6	19	14	-1					39	0 SS
CHITTAGONG	132.01	247.5	19	17	1						
SHILLONG	134.55	250.1	19	19	-1						
TAMANRASSET	137.22	122.3	19	19	-6					22	11 PP
TIKSI	141.94	329.2	18	28	-66						
TOLEDO	144.98	94.7	19	44	5						
KARACHI	145.72	219.2	19	42	2						
SCORESBY SD.	147.73	35.1	19	45	1						
NORD	147.79	13.9	19	43	-1						
SETIF	147.81	108.8	19	28	-16						
LAHORE	148.46	235.6	19	46	1						
QUETTA	150.56	223.5	19	45	-3						
WARSAK DAM	151.80	234.5	19	54	4						
FOLINIERE	152.21	83.5	20	2	11						
DOURBES	155.77	84.3	20	24	29						
UCCLE	155.92	82.6	19	45	-11						
JERUSALEM	156.39	161.1	20	1	5					24	22 PP
STRASBOURG	156.91	90.0	20	2	5						
STUTTGART	157.88	90.8	20	0	2						
KSARA	158.49	161.4	20	0	1	27	4	1		24	18 PP
JENA	160.16	87.2	20	11	10					20	53
PRUHONICE	161.50	92.2								20	54
TIFLIS	167.13	182.8	20	13	6						
SIMFEROPOL	168.47	142.6								25	7
SOTCHI	168.66	164.1								25	2

NOVEMBER 22 19.H 34.M 38.S EPICENTRE -21.44-178.92 DEPTH= 523.KM

A=-0.93144 B=-0.01749 C=-0.36348 D=-0.0188 E= 0.9998
G= 0.3634 H= 0.0068 K=-0.9316 HT= 4.3

DEPTH OF FOCUS= 0.077R

SE= 1.88

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SUVA	4.12	322.3	1	23	2	2	28	2			14	15	SCS
RAOUL ISLAND	7.82	173.5	1	54	-2	3	28	0			5	56	
ONERAHI	15.43	200.9	3	16	2	6	0	9			5	32	*SP
KARAPIRO	17.11	195.0	3	31A	1	6	32	12			5	43	*SP
TUAI	17.62	190.2	3	36	1	6	30	1					
WELLINGTON	20.48	193.7	4	1	-1	7	12	-6			6	28	*SP
COBB RIVER	20.81	198.0	4	6	0	7	21	-2					
KAIMATA	22.52	198.9	4	21	0	7	47	-4					
GEBBIES PASS	23.27	195.6	4	26	-2	7	58	-5			4	33	
ROXBURGH	25.84	199.2									7	19	*SP
BRISBANE	26.40	251.4	4	55K	-1	8	50	-3					
RIVERVIEW	29.13	238.5	5	17	-3	9	37	2					
CANBERRA	31.27	236.8	5	40K	2	10	9	1	7	12	8	10	PCP
CHARTERS TS.	32.54	266.0	5	50	1				6	19			
RABAUL	32.88	297.4	5	49	-3						8	22	
PORT MORESBY	34.74	284.9	6	7K	0	11	1	0			8	19	PCP
MELBOURNE	35.12	234.2	6	12A	2	11	7	0					
ADELAIDE	39.40	240.7	6	46K	1	12	9	-1			8	42	PCP
KIPAPA	47.24	26.9	7	45	-2								
CAPE HALLETT	51.26	184.2	8	19	2	15	4	8			10	27	PP
TERRE ADELIE	51.86	198.7	8	22	1	15	8	4					
DUMONT	52.18	199.3	8	22	-1	15	8	0			17	15	
SCOTT BASE	56.88	183.6	8	58	2	16	16	6			10	45	PP
MUNDARING	58.14	244.9	9	4K	-1	16	17	-9					
WILKES	62.76	205.3				17	20	-3			12	19	PP
BYRD STATION	63.86	170.4	9	42	0	17	40	3	11	29	38	18	PKPPKP
SOUTH POLE	68.69	180.0	10	12	0	18	35	1	12	1	38	9	PKPPKP
MANILA	68.94	296.1	10	4	-10								
TUKUBASAN	69.21	325.4	10	14	-1						12	10	
MIRNY	69.78	205.2	10	19	0						19	30	SCS
BAGUIO CITY	70.23	297.4	10	20	-1								
MATUSIRO	70.46	324.5	10	22K	-1	18	56	2			13	8	*SP
ABUYAMA	70.73	321.6	10	25K	1								
LEMBANG	72.16	269.6	10	27K	-6	19	3	-10					

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ZO-SE	77.64	310.6	11	2	-1	20	15	3			
HONG KONG	78.39	299.6	11	8K	1						
VLADIVOSTOK	78.56	325.6	11	8	0					20	27
CANTON	79.44	299.9	11	14K	1	20	35	4			
BERKELEY	79.46	42.3	11	12	-1						
LICK	79.53	43.0	11	14K	1					12	46
NANKING	79.88	310.2	11	15K	0	20	38	3		14	25 PP
PASADENA	79.96	47.3	11	15	0					13	13
ARCATA	80.22	39.0	11	17	0						
FRESNO	80.37	44.3	11	17	0						
ARGENTINE I.	80.44	157.2	10	32	-46					20	41
SHASTA	81.11	39.9	11	21	0						
MINERAL	81.37	40.6	11	22K	-1						
HALLEY BAY	81.71	173.2	11	24	0						
RENO	81.99	42.1	11	26K	0						
WUHAN	82.15	307.0	11	28K	1				13	25	
CHANGCHUN	82.62	322.9	11	32K	3	21	9	7	13	31	24 40 *SS
CORVALLIS	83.01	36.5	11	32K	1						
BOULDER CITY	83.25	47.3	11	33	1				13	26	
TUCSON	84.18	52.2	11	38	1	21	14	-3	13	33	29 48 PKKP
MEDAN	84.23	276.1	11	38	1						14 22
TUCSON TELE.	84.30	52.2	11	39	2	21	14	-5	13	33	29 47 PKKP
EUREKA	84.39	43.8	11	37	-1	21	13	-7	13	32	
PEKING	85.96	315.8	11	45K	0	21	39	5	13	44	
SALT LAKE C.	87.75	44.4	11	54	0				13	50	
TACUBAYA	87.89	68.3	11	56	2	21	44	-8	13	56	15 30 PP
SIAN	88.12	307.9	11	56	1						
KUNMING	89.01	297.4	12	2K	2						
COLLEGE	89.31	12.7	11	59	-2	22	0	-5	14	3	29 32 PKKP
BUTTE	90.02	39.7	12	4	0						
CHENGTU	90.27	302.9	12	7K	2	22	21	8			
HUNGRY HORSE	90.41	37.2	12	5	-1	21	49	-26	14	5	15 45 PP
BOZEMAN	90.75	40.5	12	7	-1				14	6	
PORT STANLEY	90.84	147.8	12	6	-2						
LARAMIE	92.17	46.2	12	15	1						
LANCHOW	92.65	307.7	12	17	1	22	43	9	14	19	
RAPID CITY	94.96	44.5	12	26	-1				14	27	
CHITTAGONG	97.25	291.1	12	38	1						
SHILLONG	98.30	294.1	12	42K	0						
RESOLUTE	108.94	16.2	17	27	777						28 53 PKKP
POONA	112.12	282.0									18 36
OTTAWA	114.07	48.7	17	38A	-1						
PALISADES	114.85	53.7									28 0 SKKS
THULE	115.51	14.2	17	40	-2						
BREBEUF	115.55	48.8	17	41K	-1						
FRUNSE	116.13	308.2									19 11 PP
KHEYS	116.22	351.2	17	43	0						
SAN JUAN	117.18	79.8	17	45	0						
WARSAK DAM	117.45	298.1	17	46	0						
NORD	119.34	2.9	17	47	-2						
KARACHI	119.77	287.1	17	54	4						
TASHKENT	119.98	306.2	17	49	-2						19 24 PP
STALINABAD	120.19	303.0	17	52	1						19 28 PP
QUETTA	120.77	293.1	17	53	1						
HALIFAX	122.62	50.0	17	56A	0						
SVERDLOVSK	124.27	325.0	17	59	0						
KIMBERLEY	125.11	205.6	17	55A	-6						
ASHKABAD	128.37	302.0	18	7	0						20 15 PP
APATITY	129.63	344.5	18	8	-1						
BULAWAYO	130.68	214.9	17	57	-14						20 50
SODANKYLA	131.33	347.2	18	11	-1						20 50 SKP
KIRUNA	132.06	350.2	18	1	-13						20 52 SKP
BROKEN HILL	135.33	219.3	18	22	2						
MOSCOW	136.31	330.8	18	22	0						21 5 PP
PULKOVO	136.45	339.0	18	21	-1						21 54 PKS
SKALSTUGAN	137.21	352.6	18	11	-12						21 15 SKP
NURMIJARVI	137.59	342.9	18	14	-10				20	33	21 11 SKP
HELSINKI	137.79	342.5	18	14	-10						18 26
TIFLIS	138.16	309.1	18	26	1						22 4 PKS
UPPSALA	139.87	347.1	18	19	-9						
ADDIS ABABA	141.70	257.1	18	31	-2						
GOTEBORG	142.92	350.3	18	26K	-8						
LWIRO	144.08	232.4	18	38	2				20	45	
SIMFEROPOL	144.14	318.6	18	35	-1						
COPENHAGEN	144.77	348.8	18	37K	0						
WARSAW	145.61	338.2	18	30	-9				20	44	
LWOW	146.36	332.9	18	40	0						20 48
IASI	146.55	326.5	18	42	2						

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DURHAM	146.67	2.8	18 40K	0	20 50		
KSARA	146.95	299.4	18 42	2	20 43	22 12	PP
BACAU	147.32	326.2	18 46	5			
POTSDAM	147.76	346.2	18 43	1	20 47		
JERUSALEM	147.90	295.9	18 42A	0	20 51		
RACIBORZ	148.38	338.8	18 43	1			
WITTEVEEN	148.38	353.5	18 44K	2	20 54		
COLLMBERG	148.78	345.5	18 44A	1	20 54	22 20	PP
HALLE	148.82	346.8	18 41	-2	20 50	21 33	SKP
MUNSTER	149.11	352.1	18 44	0			
BUCHAREST	149.14	323.8	18 48	4			
CAMPULUNG	149.16	326.0	18 52	8			
JENA	149.44	346.9	18 44	0	20 49	22 22	PP
PRAGUE	149.55	342.9	18 50	6	21 2		
PRUHONICE	149.59	342.7	18 46A	2	20 54	22 28	PP
PLAUEN	149.73	345.9	18 45	0			
KEW	150.01	1.7	18 45	0	20 55		
SONNEBERG	150.04	347.0	18 52	7			
CHEB	150.06	345.3	18 53	8	20 55		
BENSBERG	150.16	352.2	18 45	0	20 57		
BRATISLAVA	150.39	338.0	18 46K	0	20 58	19 2	PKP2
VIENNA-H.	150.57	339.0	18 46K	0	20 47		
UCCLE	150.59	355.8	18 52	6		19 11	PKP2
LEOPOLDVILLE	150.83	210.1	18 48K	2	20 52	22 29	PP
DOURBES	151.27	355.3	18 46	-1			
BELGRADE	151.74	330.1	18 55K	7		20 44	
STUTTGART	151.96	348.4	18 47	-1	21 1	21 32	SKP
TUBINGEN	152.23	348.6	18 48	0			
STRASBOURG	152.40	350.4	18 50	1	21 2	19 10	PKP2
EBINGEN	152.58	348.5	18 50	1			
PARIS	152.67	358.0	18 51	2	21 4		
FOLINIERE	152.71	2.2	18 49	0			
RAVENSBURG	152.84	347.3	18 49	0	21 3		
LJUBLJANA	153.11	339.0	18 50	0		21 4	
TOLMEZZO	153.27	341.4	18 47	-3	20 58	19 12	PKP2
BASLE	153.45	350.1	18 47	-3			
BESANCON	153.95	352.4	18 53	2		19 15	PKP2
BANGUI	155.96	227.6	18 52	-1		34 36	
TOLEDO	161.11	12.3	19 3A	4		19 49	PKP2
SETIF	164.82	346.5	19 3	0	21 13	24 14	PP
TAMANRASSET	175.67	288.7	19 11K	2	21 16	24 46	PP

NOVEMBER 23 16.H 14.M 51.S EPICENTRE -19.64 174.08 DEPTH= 0.KM

A=-0.93749 B= 0.09724 C=-0.33415 D= 0.1032 E= 0.9947
G= 0.3324 H=-0.0345 K=-0.9425 HT= 4.8

SE= 3.36

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SUVA	4.38	70.9	1	9	0	2	3	1					
APIA	14.73	68.9	3	24	-7								
ONERAHI	16.07	179.1	3	53	4	6	58	10			4	39	
AUCKLAND	17.18	178.0	4	11	8	7	27	14					
KARAPIRO	18.27	176.3	4	15	-1								
WELLINGTON	21.58	178.6	4	54	1	8	59	11			5	54	
GEBBIES PASS	24.02	182.5	5	10	-7								
RIVERVIEW	24.80	230.6	5	25	0	9	31	-14					
ROXBURGH	26.07	187.6				10	15	9			10	58	
CHARTERS TS.	26.16	264.3	5	39	2	10	16	8					
RABAUL	26.31	302.9	5	38	-1								
CANBERRA	27.07	229.6									6	33	PPP
PORT MORESBY	27.94	287.5	5	57	3	10	38	1			11	47	
MELBOURNE	31.11	228.2	6	21	-1								
ADELAIDE	34.72	236.6	6	54	1								
TERRE ADELIE	51.62	195.8									11	8	PP
CAPE HALLETT	52.72	181.5	9	18	0	16	49	3					
MUNDARING	52.98	244.4	9	19	-1				9	26			
WILKES	61.63	204.2				18	41	-2			22	49	SS
MATUSIRO	65.35	328.7	10	45K	-1	19	37	7					
BYRD STATION	66.74	170.0	10	50	-5								
SOUTH POLE	70.48	180.0	11	13	-5								
LICK	82.87	46.4	12	27A	0								
FRESNO	83.85	47.6	12	38	6								
SHASTA	84.13	43.2	11	59	-35								

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MINERAL	84.45	43.8	12 38	2	
RENO	85.22	45.2	13 2	23	
EUREKA	87.80	46.7	12 51	-1	
COLLEGE	89.17	15.3	12 55	-4	
SALT LAKE C.	91.20	46.9	13 9	1	
RESOLUTE	109.06	16.3			34 21 SS
RACIBORZ	144.07	333.3	19 35	-2	
DURHAM	144.78	355.6	19 48	9	
COLLMBERG	145.07	339.2	19 39A	0	20 16
HALLE	145.24	340.3	19 41	2	20 3
PRUHONICE	145.61	336.4	19 40K	0	
JENA	145.85	340.2	19 40	0	20 49
MUNSTER	146.04	345.0	19 52	11	
LEOPOLDVILLE	148.33	223.3	19 52	7	
STUTTGART	148.46	340.6	19 48	3	19 59 PKP2
DOURBES	148.47	347.0			19 49 PKP2
LJUBLJANA	148.75	332.0	19 52K	7	20 11 PKP2
STRASBOURG	149.09	342.2	19 50	4	
BESANCON	150.80	343.3			20 21

NOVEMBER 23 21.H 5.M 21.S EPICENTRE 24.96 123.27 DEPTH= 0.KM

A=-0.49793 B= 0.75894 C= 0.41961 D= 0.8361 E= 0.5486
G=-0.2302 H= 0.3508 K=-0.9077 HT= 3.4

SE= 3.68

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ILAN	1.39	262.6	0 33	6	0 46	-1		
TAIPEI	1.59	273.0	0 36	6	0 51	0		
HWALIEN	1.80	237.1	0 35	2	0 52	-5		
HSINCHU	2.09	266.2	1 42	65	2 2	58		
TAICHUNG	2.49	251.7	0 46	3	1 9	-5		
YUSHAN	2.58	235.7	0 48	4	1 11	-6		
ALISHAN	2.67	238.1	0 44	-1	1 9	-10		
TAITUNG	2.93	221.9	0 51	2	1 19	-7		
TAWU	3.38	220.4	0 57	1	1 28	-9		
TAINAN	3.40	235.7	0 57	1	1 29	-9		
PENGHU	3.68	248.0	1 30	30	2 5	20		
HENGCHUN	3.74	218.7	1 4	3	1 39	-7		
ZO-SE	6.39	343.7	1 47A	9				
NANKING	8.10	331.9	2 8K	6	3 44	8		
HONG KONG	8.75	254.3	2 9	-2	3 35	-17		
BAGUIO CITY	8.86	197.0	2 16	3	3 46	-8		
CANTON	9.26	260.5	2 17	-1				
WUHAN	9.50	307.7	2 23K	1				
SIAN	15.53	309.9	3 43	1				
HU-LIEN	15.88	258.2	3 47	0				3 57 PP
PEKING	16.17	340.1	3 58	7	7 3	12		
MATUSIRO	17.24	44.5	4 12	8	7 30	14		8 13
CHENGTU	17.98	292.8	4 12K	-1	7 31	-1		
KUNMING	18.60	274.9	4 20K	-1	7 42	-4		
CHANGCHUN	18.90	4.6	4 30A	5	8 1	8		4 57
LANCHOW	20.03	308.1	4 37K	-1	8 14	-4		
SHILLONG	28.37	278.0	5 53K	-5				
CHITTAGONG	28.89	271.4	5 59	-4				
CHATRA	32.46	281.2	6 33	-2				
RABAUL	40.36	131.9	7 44	3				
PORT MORESBY	41.33	142.8	7 50	1	13 39	-26		
WARSAK DAM	45.51	293.9	8 20	-3				
TIKSI	46.81	2.4	8 31	-3				
QUETTA	49.78	289.3	8 48	-9				
CHARTERS TS.	50.05	151.4	8 59	0				10 17
BRISBANE	59.31	149.4	10 7	1				
ADELAIDE	61.37	165.6	10 19	-1				10 57 PCP
APATITY	67.14	335.4	10 54	-4				11 22
COLLEGE	67.24	27.6	10 58	-1				
MOSCOW	67.35	322.3	10 58	-1				
SODANKYLA	69.74	335.8	11 10	-4				11 40 PCP
PULKOVO	70.23	327.5	11 31	14				
KIRUNA	71.84	337.1	11 23	-4				
HELSINKI	72.67	328.8	11 29	-3				
UPPSALA	76.19	330.0	11 48	-4				
RESOLUTE	77.60	9.7	11 57A	-3				
THULE	78.60	2.8	12 1	-5				
KARAPIRO	79.49	140.5	12 3	-7				

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COLLMBERG	82.58	323.6	12 24	-3
ALBERNI	84.54	37.6	13 36	59
HORSESHOE B.	85.33	37.0	12 42K	1
VICTORIA	85.72	37.8	13 0K	17
CORVALLIS	87.96	41.0	12 57	4
BANFF	88.28	32.6	12 55	0
SHASTA	90.68	43.8	13 7	1
HUNGRY HORSE	90.83	34.2	13 8	1
MINERAL	91.38	43.8	13 11K	2
BERKELEY	92.35	46.1	13 12	-2
RENO	92.97	43.7	13 18A	1
LICK	93.06	46.3	13 18A	1
FRESNO	94.59	45.9	13 24	0
EUREKA	95.37	41.9	13 28	0
BOULDER CITY	98.26	44.1	13 42	1
SOUTH POLE	114.81	180.0	18 40	-3
BYRD STATION	119.05	169.8	18 49	-2
HUANCAYO	158.22	57.2		
LA PAZ	166.42	53.9		

										12 54	
										13 49	PCP
										20 37	PKP2
										21 11	PKP2

NOVEMBER 24 20.H 6.M 34.S EPICENTRE 7.59 -36.76 DEPTH= 0.KM

A= 0.79425 B=-0.59326 C= 0.13122 D=-0.5984 E=-0.8012
G= 0.1051 H=-0.0785 K=-0.9914 HT= 6.8

SE= 3.16

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
MBOUR	20.55	69.1	4	39	-4	8	23	-5					
CARACAS	29.93	277.8									10	50	
BERMUDA	35.80	317.4									15	10	
FUQUENE	36.79	269.0	7	13	2								
BOGOTA	37.21	267.7				13	4	2			15	40	SS
LA PAZ	39.20	232.2	7	26	-6	13	38	6					
HUANCAYO	43.03	243.4	8	3	0						10	0	PP
TAMANRASSET	43.32	64.8	8	3	-2	14	38	4			9	44	PP
BREBEUF	49.37	326.2	8	48	-5								
PARIS	52.70	31.7	9	17	-2								
KEW	53.04	27.7				16	49	-1					
LEOPOLDVILLE	53.23	101.2	8	29	-53	16	56	3					
DOURBES	54.58	31.5	9	32	0								
ROME	55.21	43.5				17	22	2					
STRASBOURG	55.43	34.4	9	42	3								
STUTTGART	56.38	34.9	9	45	0	17	31	-4					
JENA	58.76	33.6	10	2	0						10	21	
COLLMBERG	59.72	33.7	10	8	-1						10	32	
PRUHONICE	59.98	35.6	9	55	-16								
VIENNA-H.	60.32	38.0	10	11	-2								
LAWRENCE	60.92	310.5	10	17	0								
ELISABTHVLLE	66.68	106.1	10	56	1								
RAPID CITY	67.88	314.5	11	2	0								
BROKEN HILL	68.29	108.8	11	7	2								
BULAWAYO	69.92	114.6	11	16	1								
THULE	70.90	352.5	11	20	-1								
KIRUNA	71.02	19.7	11	30	8								
PULKOVO	72.03	29.3	10	37	-51								
TUCSON TELE.	72.44	301.4	11	33	3								
BOZEMAN	73.64	315.3	11	37	0								
RESOLUTE	74.60	346.5	11	41	-2	21	10	-8			25	48	SS
ADDIS ABABA	74.62	82.7	12	0	17								
MOSCOW	74.98	34.3	11	48	3								
HUNGRY HORSE	75.91	317.9	11	46	-4								
EUREKA	76.90	308.7	11	57	1								
MINERAL	81.21	309.6	12	18A	-1								
LICK	81.39	306.6	12	28	8								
SHASTA	81.80	310.0	12	25	3								

NOVEMBER 26 0.H 41.M 38.S EPICENTRE 0.98 127.55 DEPTH= 0.KM

A=-0.60931 B= 0.79275 C= 0.01697 D= 0.7929 E= 0.6094
G=-0.0103 H= 0.0135 K=-0.9999 HT= 7.2

SE= 3.07

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	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
GUAM	21.06	53.2	4	48	0								
PORT MORESBY	22.08	118.3	5	1	3	9	8	10	5	14	5	29	PP
RABAUL	25.14	102.0	5	27	-1								
CHARTERS TS.	27.84	139.8	5	55	2								
MUNDARING	34.48	197.2	6	49	-3						10	7	PP
MATUSIRO	36.74	14.4	7	5	-6	12	55	0			17	36	SCS
BRISBANE	37.21	141.2	7	19	4						15	40	
ADELAIDE	37.26	164.8	7	16	1				7	19	8	42	PP
CHITTAGONG	40.73	304.1	7	45	1	13	58	3			9	23	PP
CANBERRA	41.30	153.1	7	49A	0								
MELBOURNE	41.84	159.2	7	54A	1								
SHILLONG	42.19	308.3	7	56K	0								
POONA	55.46	291.8	9	37	-2								
LAHORE	58.67	306.8	10	6	4								
KARAPIRO	58.75	136.6	10	5	3								
WARSAK DAM	61.71	308.5	10	21K	-1								
QUETTA	64.31	303.2	10	47K	7								
DUMONT	68.08	174.7	11	1	-3								
TERRE ADELIE	68.36	174.1	11	1	-4								
CAPE HALLETT	77.96	167.8	12	0	-2								
SCOTT BASE	81.52	172.2	12	18	-3								
COLLEGE	86.83	25.2	12	28	-20								
BYRD STATION	94.86	170.7	12	24	-61								
RESOLUTE	100.36	10.5	13	50	0								
COLLMBERG	104.33	323.9									19	29	
STUTTGART	107.49	322.3									19	37	PP
EUREKA	109.53	47.3	13	5	777								
TAMANRASSET	118.87	296.7									19	56	PP

NOVEMBER 26 7.H 6.M 20.S EPICENTRE -5.42 102.88 DEPTH= 0.KM

A=-0.22184 B= 0.97057 C=-0.09374 D= 0.9749 E= 0.2228
G= 0.0209 H=-0.0914 K=-0.9956 HT= 7.0

SE= 3.05

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
DJAKARTA	4.01	101.1	1	6	2	1	58	6					
LEMBANG	4.92	106.8	1	18A	1								
MEDAN	9.87	334.8	2	28	2						3	16	
PORT BLAIR	19.75	329.3	4	34	0	8	14	3			4	52	PP
COLOMBO	26.01	297.8	6	1	25								
PHU-LIEN	26.31	7.9	5	41	2	10	11	1					
MANILA	26.91	41.9	5	57	13	10	11	-9					
BAGUIO CITY	27.88	38.6	5	54	1	11	14	38					
MADRAS	29.04	309.2	6	9	6	10	54	0			7	21	PPP
PERTH	29.05	156.9	6	2	-1	10	55	0					
MUNDARING	29.22	156.3	6	2	-3				6	6			
CHITTAGONG	29.65	339.0	6	9A	0	11	4	0			7	5	PP
HONG KONG	29.68	21.5	6	20	11	11	27	22					
KODAIKANAL	29.70	301.5	6	17	8	11	8	3			7	38	PPP
CANTON	30.12	19.5	6	14A	1	11	12	0			11	31	
VIZIANAGRAM	30.24	321.1	6	13	-1								
KUNMING	30.35	359.8	6	16A	1	11	15	0			6	31	
CALCUTTA	31.19	333.4	6	38	16	11	50	22			7	57	PPP
SHILLONG	32.60	341.3	6	35A	0	11	46	-5			13	41	SS
TOCKLAI	32.92	346.6	6	44	6								
HYDERABAD	33.12	313.7	6	39K	0	11	55	-4			9	25	PCP
BOKARO	33.50	330.8	6	40A	-3	12	1	-4			7	40	PP
CHATRA	35.48	335.4	7	5	5	12	58	23					
CHENGTU	35.89	1.7	7	2A	-1	12	39	-2			8	23	PP
LHASA	36.66	342.6	7	10A	0	12	51	-2			7	24	
POONA	37.21	310.4	7	14A	0	13	0	-2			8	39	PP
WUHAN	37.45	16.7	7	16A	0						7	30	
BOMBAY	38.22	310.0	7	20	-3	13	15	-2			8	53	PP
SIAN	39.86	7.8	7	37	1						7	48	
NANKING	40.23	21.1	7	40A	0	13	47	0			7	54	
ZO-SE	40.30	24.6	7	41	1	13	49	0			9	14	PP
AGRA	40.31	324.6	7	38A	-2	13	43	-6			9	25	PP
LANCHOW	41.25	1.2	7	49A	1	14	1	-2	8	1			
DEHRA DUN	42.76	327.7	8	2	2	14	21	-4			9	2	PP
PORT MORESBY	44.06	97.9	8	10A	-1	14	38	-6			9	57	PP

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ADELAIDE	44.25	136.4	8	13	1	14	42	-5	8	16	18	4
CHARTERS TS.	44.60	113.1	8	15A	0	14	47	-5				
GUAM	45.60	65.3	8	20	-3	14	47	-19				
LAHORE	45.74	325.3	8	23A	-1	15	0	-8				
KARACHI	46.03	312.3	8	28A	1							
PEKING	46.85	14.0	8	33A	0	15	23	-1			8	47
RABAUL	49.13	90.9	8	24	-27						8	47
WARSAK DAM	49.13	325.2	8	50A	-1	15	53	-3				
QUETTA	49.37	318.0	8	52A	-1	15	55	-4			10	49 PP
MELBOURNE	50.04	136.2	9	2A	4	16	4	-5	9	16		
ABUYAMA	50.54	35.1	9	1A	-1							
CANBERRA	51.81	131.4	9	10A	-1	16	32	-1	9	22	22	3 SSS
KERGUELEN I.	51.82	206.8				16	36	3				
BRISBANE	52.19	120.6	9	15	1	16	40	2				
RIVERVIEW	52.88	128.8	9	21A	2	16	48	0				
CHANGCHUN	53.04	20.2	9	20A	0	16	49	-1			9	34
ULAN-BATOR	53.22	3.4	9	22	0	17	0	8				
MATUSIRO	53.23	35.6	9	20A	-2	16	45	-8			21	3 SS
TUKUBASAN	54.13	37.1	9	22A	-7	17	5	0			22	56 SSS
FORT NELSON	54.17	140.6				17	13	8			22	45 SSS
FRUNSE	54.43	334.7	9	30	-1	17	8	-1				
VLADIVOSTOK	55.00	25.7	9	34	-1	17	14	-2			11	42 PP
TANANARIVE	55.50	250.8	9	43	4						10	48 PCP
TASHKENT	55.74	329.7	9	38	-2	17	22	-4			17	35 PS
MIZUSAWA	56.69	35.2	9	49	1							
IRKUTSK	57.47	1.1	9	52A	-1	17	52	3			18	11 PS
SEMIPALATNSK	58.93	343.3	10	2	-1	18	7	-1				
ASHKABAD	59.75	320.1	10	8	-1	18	18	-1				
WILKES	61.05	176.5	10	14	-3	18	30	-6			10	55 PCP
MIRNY	61.42	184.5	10	20	0							
ADDIS ABABA	65.49	282.4	10	50	3	19	38	7				
DUMONT	66.29	164.8	10	49	-3	19	31	-10			12	51 PP
TERRE ADELIE	66.77	164.4	10	49	-6	19	31	-16				
GORIS	68.58	316.1	11	4	-2	20	6	-2			20	34 PS
ROXBURGH	69.72	136.6				20	16	-6			21	21 PS
YAKUTSK	70.35	13.1	11	15	-2							
KAIMATA	70.59	133.2	11	34	15							
TIFLIS	70.61	317.7	11	17	-2	20	30	-2			15	43 PPP
SVERDLOVSK	70.92	337.0	11	19	-2						13	55 PP
COBB RIVER	71.30	131.5	11	34	11							
GEBBIES PASS	71.69	134.2	11	33	8							
ONERAHI	71.85	125.8	11	37	11							
WELLINGTON	72.85	131.4	11	40	8							
KARAPIRO	73.02	127.9	11	33	0						14	24 PP
BULAWAYO	73.39	250.7	11	34	-1							
BROKEN HILL	73.59	256.6	11	35	-1							
PRETORIA	73.89	244.9	11	56	18							
LWIRO	73.94	269.2	11	39	1	21	11	1				
JERUSALEM	74.14	305.0	11	37K	-3	21	58	45				
KSARA	74.22	307.2	11	41A	1	21	10	-3			14	27 PP
ELISABTHVLLE	74.66	259.4	11	42	-1	21	16	-2				
PETROPAVLOVK	74.72	31.2	11	41	-2						11	54 PCP
MAGADAN	74.98	23.0	11	44	0	21	38	16				
CAPE HALLETT	78.08	163.2	12	1	-1	21	54	-2	12	12	26	56 SS
TIKSI	78.76	8.1	12	3	-3						27	10 SS
SIMFEROPOL	79.04	317.6	12	6A	-1	22	0	-6			12	18 PCP
SCOTT BASE	79.37	168.8	12	7	-2				12	29	12	18 PCP
MOSCOW	80.88	328.6	12	17	0	22	26	1			15	21 PP
HERMANUS	81.73	236.1									22	47 SCS
IASI	84.05	318.5	12	32	-1	23	0	3			16	6 PP
APIA	84.22	103.3	12	33	-1							
BUCHAREST	84.39	315.5	12	37A	2	23	9	8			16	5 PP
SOUTH POLE	84.62	180.0	12	34	-2	22	48	-15			30	48 PKKP
BANGUI	84.71	274.9	12	35	-2	23	0	-4				
ATHENS	84.80	308.8	12	36	-1							
PULKOVO	85.98	331.1	12	40	-3	23	13	-3			16	5 PP
SOFIA	85.99	313.4	12	43	0	23	12	-4				
LWOW	86.94	320.5	12	47	-1						16	21 PP
LEOPOLDVILLE	87.24	265.9	12	49	0	23	26	-2			16	13 PP
APATITY	87.27	338.9	12	51	2	23	27	-2			23	40
TIMISOARA	88.04	316.1	12	56	3	23	34	-2				
BELGRADE	88.42	315.1	12	54A	-1						16	10 PP
KHEYS	88.66	353.4	12	54	-2	23	13	-29			16	28 PP
HELSINKI	88.68	330.7	13	0	4	23	50	8			24	49 PS
NURMIJARVI	88.90	331.0	12	57	0	23	56	12			16	39 PP
WARSAW	89.26	322.5	12	58	-1	23	42	-5			23	53 SCS
KRAKOW	89.59	320.2	13	2	2	23	46	-4			23	30 SKS
SODANKYLA	89.70	337.9	12	59	-2						16	52 PP
BUDAPEST	89.80	317.6	13	19	18	23	49	-3				

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RACIBORZ	90.70	320.1	13	7	2					
MESSINA	91.21	308.1	13	6	-2	24	2	-3	16 47	PP
VIENNA-H.	91.67	318.1	13	10	0	23	50	-19		
ZAGREB	91.68	315.7	13	31A	21					
BYRD STATION	92.06	173.2	13	18	6	23	40	-32	30 16	PKKP
KIRUNA	92.12	337.9	13	9	-3	24	6	-7	13 25	
UPPSALA	92.25	329.8	13	11	-2	24	26	12	16 57	PP
LJUBLJANA	92.71	315.8	13	14A	-1				16 59	PP
PRUHONICE	93.03	319.7	13	15A	-1	24	20	-1	16 58	PP
PRAGUE	93.11	319.8	13	48	31	23	22	-60	16 52	PP
TRIESTE	93.22	315.4	13	16	-1				24 52	
TOLMEZZO	93.78	316.1	13	34	14	24	2	-25	13 59	
ROME	93.87	311.6	13	37	17	24	33	5		
COLLMBERG	94.11	321.0	13	20A	-1				16 59	PP
POTSDAM	94.13	322.1	13	41	20				17 10	PP
COPENHAGEN	94.67	325.4				24	55	20	24 22	SKKS
HALLE	94.77	321.2	13	27	3				17 18	PP
JENA	94.98	320.6	13	24	-1				17 6	PP
PRATO	94.99	313.5	13	8	-17	24	6	-32		
GOTEBORG	95.02	327.4							17 19	PP
SKALSTUGAN	95.08	333.3	13	25	-1				17 23	PP
STUTTGART	96.41	318.4	13	32	0	24	45	37	19 21	PPP
TAMANRASSET	98.84	292.1							17 30	PP
DE BILT	98.98	321.8				25	10	48		
SETIF	99.20	305.7							17 33	PP
DOURBES	99.44	319.8							18 5	PP
NORD	99.49	352.5	13	44	-2					
KEW	102.43	321.4				25	1	23	31 52	SS
DURHAM	102.73	324.9							18 10	PP
COLLEGE	103.02	24.4	14	6	5				18 15	PP
ALMERIA	105.50	306.6	14	7	-6					
SCORESBY SD.	106.22	343.3							18 39	PP
TOLEDO	106.43	309.9							28 7	PS
THULE	108.88	357.8	14	29	777				18 59	PP
RESOLUTE	110.03	5.0	14	36	777	25	4	-8	19 8	PP
HORSESHOE B.	121.45	33.5	18	56	1					
VICTORIA	121.83	34.5	19	23	27					
CORVALLIS	123.93	38.4	19	5K	5					
SHASTA	126.42	42.2	19	9	4					
UKIAH	126.58	44.3	19	5	0					
HUNGRY HORSE	126.93	30.1	19	6	0					
MINERAL	127.11	42.2	19	6A	0					
BERKELEY	127.82	45.2	19	11	4				21 13	PP
LICK	128.49	45.6	19	11K	2				21 14	PP
RENO	128.71	42.2	19	11	2					
BUTTE	129.23	31.4	19	10	0				21 19	PP
FRESNO	130.06	45.3	19	13	1					
BOZEMAN	130.25	30.8	19	13	1					
EUREKA	131.26	40.2	19	10	-4				21 33	PP
PASADENA	132.46	47.6	19	18	2	26	43	17	22 43	PP
SALT LAKE C.	133.04	36.3	19	16	-1				22 42	PKS
BOULDER CITY	133.93	43.5	19	24	5				22 51	PP
RAPID CITY	135.19	26.7	19	26	5				22 54	PKS
LARAMIE	136.14	31.2	19	28	5					
TUCSON	138.73	45.5	19	26	-2				22 18	PP
TUCSON TELE.	138.76	45.3	19	26	-2				22 17	PP
SHAWINIGAN	138.85	355.4	19	31K	3				22 21	PP
BREBEUF	139.96	356.2	19	36	6				22 40	PP
OTTAWA	140.15	358.5	19	12	-18				22 27	SKP
LAWRENCE	142.78	23.6	19	36	1					
CLEVELAND	143.88	5.6	19	50	13					
PALISADES	144.44	355.8	19	37	-1				23 6	PKS
ST. LOUIS 1	144.85	18.0	19	34	-4					
WAYNESBURG	145.56	4.2	19	40	0					
GEORGETOWN	146.67	359.9	19	43	1					
WASHINGTON	146.67	359.9	19	43	1					
CHAPEL HILL	149.59	3.1	19	53	7				20 44	
BERMUDA	150.76	338.1	20	0	12				33 40	SKSP
COLUMBIA	151.33	6.8	19	55	6				23 4	PP
TACUBAYA	154.40	55.2	20	18	25					
LA PAZ	156.48	202.1	20	10	14				24 15	PP
MERIDA	160.37	37.0	20	40	39					
ANTIGUA	161.03	309.1	20	10	9					
HUANCAYO	162.56	185.9	20	15	12				24 50	PP
CARACAS	168.71	297.2	20	7K	-1				25 10	PP
FUQUENE	176.62	271.1	20	14	3	25	57	-76		
BOGOTA	176.86	255.6				26	57	-16		
CHINCHINA	178.44	253.6	20	28	16				32 35	SKKS

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NOVEMBER 26 23.H 9.M 24.S EPICENTRE -5.33 102.89 DEPTH= 0.KM

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	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LEMBANG	4.94	107.8	1	18A	1								
MEDAN	9.79	334.5	2	26	1	3	56	-21					
PORT BLAIR	19.68	329.1	4	33	0	8	18	8			4	55	PP
COLOMBO	25.98	297.6	5	41	5								
PHU-LIEN	26.22	7.9	5	39	1	10	5	-4			6	23	PP
MANILA	26.84	42.0	5	47	3	10	21	2					
BAGUIO CITY	27.81	38.7	5	54	1	11	21	46					
MADRAS	28.99	309.1	6	8K	4	10	56	2			7	3	PP
PERTH	29.13	157.0	6	6	1	11	12	16			8	1	
MUNDARING	29.29	156.4	6	4	-2	10	52	-7					
CHITTAGONG	29.57	338.9	6	9A	0	11	2	-1			7	7	PP
HONG KONG	29.60	21.5	6	9	0	11	28	24					
KODAIKANAL	29.66	301.4	6	13K	3	11	1	-4			7	7	PP
CANTON	30.03	19.5	6	13A	0	11	12	1			7	15	PP
VIZIANAGRAM	30.18	321.0	6	14	0								
KUNMING	30.26	359.7	6	17A	2	11	16	2			7	24	PP
CALCUTTA	31.12	333.4	6	34	12	11	36	8			8	36	PP
SHILLONG	32.52	341.3	6	34A	-1	11	50	0			7	56	PPP
TOCKLAI	32.84	346.5	6	40	2								
HYDERABAD	33.07	313.6	6	36K	-4	11	54	-4			8	0	PP
BOKARO	33.43	330.8	6	41A	-2	12	0	-4			7	52	PP
CHATRA	35.40	335.3	7	5	5	12	58	23					
CHENGTU	35.80	1.7	7	2A	-1	12	37	-4			8	22	PP
LHASA	36.58	342.5	7	10A	0	12	40	-13			8	43	PP
POONA	37.17	310.3	7	12A	-3	13	0	-2			9	9	PPP
WUHAN	37.36	16.7	7	17A	1						7	34	
BOMBAY	38.17	309.9	7	22	-1	13	15	-2			8	54	PP
SIAN	39.77	7.8	7	37	1	13	39	-2					
NANKING	40.14	21.1	7	40A	1	13	47	0			7	57	
ZO-SE	40.22	24.6	7	40	0						9	41	PP
AGRA	40.24	324.5	7	38A	-2	13	41	-7			9	16	PP
LANCHOW	41.17	1.2	7	49A	1	13	59	-3					
DEHRA DUN	42.69	327.6	8	2	2	14	22	-2			9	38	PP
PORT MORESBY	44.06	98.0	8	11A	0	14	41	-3	8	21	13	48	PCS
ADELAIDE	44.31	136.5	8	14	1	14	44	-4			17	58	SS
CHARTERS TS.	44.62	113.2	8	15	-1	14	50	-2					
GUAM	45.55	65.4	8	23	0								
LAHORE	45.68	325.2	8	24A	0	15	2	-6					
KARACHI	45.98	312.3	8	28	1								
PEKING	46.76	14.0	8	33A	0	15	22	-1			8	49	
WARSAK DAM	49.06	325.1	8	51A	0	15	53	-3					
RABAUL	49.12	90.9	8	50	-1						13	15	
QUETTA	49.31	317.9	8	52A	-1	15	55	-4			10	49	PP
MELBOURNE	50.10	136.2	9	0	1	15	59	-11	9	15			
ABUYAMA	50.46	35.2	9	2A	0								
CANBERRA	51.86	131.5	9	12A	0	16	33	-1			11	22	PP
KERGUELEN I.	51.90	206.8	9	4	-9	16	31	-4					
BRISBANE	52.22	120.6	9	16	1	16	41	2					
RIVERVIEW	52.92	128.9	9	33	13	16	50	1					
CHANGCHUN	52.95	20.2	9	20A	0	16	45	-4			9	35	
ULAN-BATOR	53.14	3.4	9	22	0	16	53	1					
MATUSIRO	53.16	35.6	9	19A	-3	17	1	9			20	57	SS
STALINABAD	53.92	327.0	9	22	-6	16	54	-8					
TUKUBASAN	54.06	37.2	9	21	-8	17	20	16			21	7	SS
FORT NELSON	54.23	140.6	9	39	9	17	1	-6					
FRUNSE	54.36	334.6	9	29	-2	17	5	-3					
VLADIVOSTOK	54.92	25.7	9	35	0	17	14	-2			10	26	PCP
TANANARIVE	55.54	250.8	9	39	0						10	36	PCP
TASHKENT	55.67	329.7	9	38	-2	17	20	-6			17	40	PS
IRKUTSK	57.39	1.0	9	52A	-1	17	48	-1			18	13	PS
SEMIPALATNSK	58.85	343.3	10	2	-1	18	6	-2					
ASHKABAD	59.69	320.0	10	8	-1	18	18	-1					
WILKES	61.14	176.5	10	15	-4	18	31	-6			12	34	PP
MIRNY	61.50	184.5	10	18	-3	18	35	-7			12	31	PP
ADDIS ABABA	65.48	282.4	10	52	5	19	40	8					
MACQUARIE I.	66.47	148.1	11	7	13								

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GORIS	68.52	316.1	11	3	-3	20	4	-4		20	30 PS
ROXBURGH	69.78	136.6				20	19	-4		24	56 SS
YAKUTSK	70.26	13.1	11	15	-2					13	50 PP
TIFLIS	70.55	317.6	11	17	-2	20	29	-3		13	55 PP
KAIMATA	70.64	133.2	11	36	17						
SVERDLOVSK	70.85	337.0	11	20	-1					13	55 PP
GEBBIES PASS	71.74	134.2	11	36	10						
ONERAHI	71.89	125.8	11	30	3						
WELLINGTON	72.90	131.5				20	52	-7		14	58 PP
KARAPIRO	73.07	127.9	11	34	0					14	38 PP
BULAWAYO	73.43	250.7	11	36	0						
BROKEN HILL	73.62	256.6	11	37	0						
PRETORIA	73.94	244.9	11	23	-16					13	59
LWIRO	73.95	269.2	11	39K	0	21	10	-1			
JERUSALEM	74.10	305.0	11	37K	-3	20	41	-32			
KSARA	74.17	307.2	11	41	1	21	15	2		14	5 PP
PETROPAVLOVK	74.64	31.2	11	40	-3	21	12	-7		14	35 PP
ELISABTHVLLE	74.69	259.4	11	44	1	21	17	-2		14	57
MAGADAN	74.90	23.0	11	44	-1	21	20	-2			
GRAHAMSTOWN	75.66	237.1	11	46	-3						
CAPE HALLETT	78.16	163.2	12	5A	2	21	40	-17	12 15	14	52 PP
TIKSI	78.68	8.1	12	2	-4					15	11 PP
SIMFEROPOL	78.98	317.6	12	4A	-3	21	58	-8		15	0 PP
SCOTT BASE	79.45	168.8	12	8	-2	22	7	-4		12	20 PCP
MOSCOW	80.81	328.6	12	15	-2	22	19	-6		15	17 PP
HERMANUS	81.79	236.1	12	36	14	22	36	1		23	27 PS
IASI	83.99	318.4	12	33A	-1	22	52	-5		15	54 PP
APIA	84.23	103.3	12	35	0						
BACAU	84.28	317.7				23	22	22		24	22 PS
BUCHAREST	84.33	315.5	12	34A	-1	23	24	23		15	42 PP
SOUTH POLE	84.71	180.0	12	36	-1	22	45	-20		15	59 PP
BANGUI	84.71	274.9	12	37	0	22	57	-8			
CAMPULUNG	85.26	316.2				23	7	-3			
PULKOVO	85.91	331.1	12	42	-1					18	6 PPP
SOFIA	85.94	313.4	12	46	3	23	14	-3		24	14 PS
LWOW	86.88	320.5	12	47	-1					23	15 SKKS
APATITY	87.19	338.9	12	48	-1	23	25	-3		16	1 PP
LEOPOLDVILLE	87.25	265.9	12	51	1	23	27	-2		16	4 PP
TIMISOARA	87.98	316.1	13	0	7	24	34	58			
BELGRADE	88.37	315.1	12	56K	1					16	7 PP
KHEYS	88.58	353.4	12	55	-1					16	30 PP
HELSINKI	88.61	330.7	12	57	1	23	40	-2		16	22 PP
NURMIJARVI	88.83	331.0	12	58	1	23	44	0		16	22 PP
SKALNATE PL.	89.19	319.4				23	54	7			
WARSAW	89.20	322.5	13	1K	2	23	44	-3		16	34 PP
KRAKOW	89.53	320.2	13	2	1	23	43	-7		16	36 PP
SODANKYLA	89.63	337.9	12	59	-2					16	25 PP
BUDAPEST	89.75	317.6	13	5	3	23	50	-2			
TARANTO	90.10	310.5	12	52	-11	23	36	-20			
CHORZOW	90.16	320.4				23	51	-5			
HURBANOVO	90.35	317.9	13	46	42	23	58	0			
RACIBORZ	90.64	320.1	14	7	61	24	3	3			
REGGIO CALA.	91.08	308.0	13	11	3	24	3	-1			
BRATISLAVA	91.12	318.1	13	8A	0	24	1	-4		16	58 PP
MESSINA	91.17	308.1	13	9	1	24	6	1		16	52 PP
VIENNA-H.	91.61	318.1	13	10	0	24	5	-4		16	24
ZAGREB	91.62	315.7	13	13	3	23	58	-11			
KIRUNA	92.05	337.9	13	11	-1	24	8	-5		23	38 SKS
BYRD STATION	92.15	173.2	13	13	0	23	41	-33		16	27 PP
UPPSALA	92.18	329.8	13	11	-2	24	10	-4		23	57 SKS
LJUBLJANA	92.66	315.8	13	16K	1					16	46 PP
PRUHONICE	92.97	319.7	13	17A	1	24	16	-5		16	42 PP
PRAGUE	93.05	319.8	13	29	12	24	45	23		24	11 SKS
TRIESTE	93.16	315.4	13	30	13	24	47	24		17	26 PP
TOLMEZZO	93.73	316.1	13	36	16	24	7	-20		16	51 PP
ROME	93.82	311.6	13	19A	-1	24	8	-20		17	15 PP
COLLMBERG	94.05	321.0	13	22A	1	24	3	-27		16	59 PP
POTSDAM	94.07	322.1	13	23	1					17	6 PP
CHEB	94.37	319.8								30	54 SS
COPENHAGEN	94.61	325.4				24	42	7		24	12 SKKS
HALLE	94.71	321.2	13	25	1	23	56	-40		17	13 PP
JENA	94.92	320.6	13	25	0					17	9 PP
PRATO	94.94	313.5	13	28	2	24	40	2			
SKALSTUGAN	95.00	333.3	13	26K	0					13	43
STUTTGART	96.35	318.4	13	33	1	24	49	41		17	31 PP
PAVIA	96.36	314.8								26	18 PPS
STRASBOURG	97.35	318.2	13	43	7	25	6	52		17	36 PP
BENSBERG	97.71	320.6								18	9
BESANCON	98.57	316.8								17	51 PP

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TAMANRASSET	98.82	292.1	13	38	-5	24	16	-5	17	40 PP
DE BILT	98.91	321.8				25	6	44		
SETIF	99.16	305.7				24	19	-4	17	35 PP
DOURBES	99.38	319.8	13	44	-2				17	48 PP
NORD	99.41	352.6	13	44	-2				17	49 PP
PARIS	100.84	318.5							18	10 PP
KEW	102.37	321.4							25	7
DURHAM	102.67	324.9							17	37 PP
COLLEGE	102.94	24.4	14	3	2	24	50	9		
RELIZANE	103.10	305.3	14	3	1	25	20	38	18	17 PP
ALICANTE	103.77	308.0	14	6	1	24	46	1		
ALMERIA	105.46	306.6				25	50	57	18	31 PP
SCORESBY SD.	106.14	343.3	18	39	777					
GRANADA	106.33	307.1				26	31	94	19	13 PP
TOLEDO	106.39	309.9				26	13	76	18	5 PP
THULE	108.79	357.8	17	38K	777				18	58 PP
RESOLUTE	109.94	5.0	14	35	777	25	6	-6	19	4 PP
MBOUR	120.21	283.5							20	43 PP
HORSESHOE B.	121.37	33.5	18	56	0					
VICTORIA	121.75	34.4	19	26	30					
CORVALLIS	123.86	38.4	19	2	2					
BANFF	124.25	28.3	19	1	0					
SHASTA	126.34	42.1	19	7	2					
UKIAH	126.51	44.2	18	52	-13				22	3: PP
HUNGRY HORSE	126.85	30.0	19	6A	0				22	31 PKS
MINERAL	127.04	42.1	19	7K	1				22	21
BERKELEY	127.75	45.2	19	10	2				21	10 PP
LICK	128.43	45.5	19	11A	2				22	22
RENO	128.64	42.2	19	11	1					
BUTTE	129.15	31.4	19	17K	7					
FRESNO	129.99	45.3	19	15	3					
EUREKA	131.19	40.2	19	10	-4				22	39 PKS
PASADENA	132.39	47.5	19	18	1				21	41 PP
SALT LAKE C.	132.96	36.3	19	20A	2				22	48 PKS
BOULDER CITY	133.85	43.5	19	7K	-12				23	48 PKS
RAPID CITY	135.11	26.7	19	27	5				22	13 PP
LARAMIE	136.06	31.2	19	18	-5					
BUENOS AIRES	136.57	202.5							22	10 PP
SEVEN FALLS	138.01	353.6	19	39	12					
TUCSON	138.66	45.4	19	24A	-4				22	17 PP
TUCSON TELE.	138.69	45.2	19	23A	-5				21	1
SHAWINIGAN	138.76	355.5	19	19	-9				22	17 PP
BREBEUF	139.87	356.2	19	32	2				22	31 PP
OTTAWA	140.07	358.5	19	35	4				22	23 SKP
LAWRENCE	142.70	23.6	19	32	-3					
CLEVELAND	143.79	5.6	19	36	-1					
CHIHUAHUA	144.08	46.5							24	22 PKS
PALISADES	144.36	355.8	19	37	-1				22	50 PKS
FORDHAM	144.51	355.8	19	41	3				22	52
ST. LOUIS 1	144.77	17.9	19	37	-2					
WASHINGTON	146.58	359.9	19	43K	1				23	8 SKP
GEORGETOWN	146.58	359.9	19	44	2				22	57 PP
CHAPEL HILL	149.50	3.1	19	50	3					
BERMUDA	150.68	338.2	19	52	3	26	52	-3	23	4 PKS
COLUMBIA	151.24	6.8	19	52A	3				23	21 PP
TACUBAYA	154.34	55.0	20	11	17					
LA PAZ	156.56	202.1	20	12	15	27	48	47	24	16 PP
MERIDA	160.29	36.9							21	45
ANTIGUA	160.99	309.4							20	36 PKP2
HUANCAYO	162.65	185.9	20	10	6				24	43 PP
SAN JUAN	163.16	321.3	20	8	4				25	0 PP
BOGOTA	176.89	257.1	20	26	14				26	2 PP
CHINCHINA	178.47	256.6	20	19	7				25	59 PP

NOVEMBER 27 O.H 22.M 22.S EPICENTRE 37.71 20.16 DEPTH= 0.KM

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	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ATHENS	2.83	83.6	0	50	3	1	26	3				
TARANTO	3.57	321.5	0	54	-4	1	30	-11				
REGGIO CALA.	3.59	277.6	0	58	0	1	41	-1				
MESSINA	3.68	279.1	0	58K	-1	1	40	-4			1	8 PG

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SKOPJE	4.37	12.6	1	12K	3						1	28 PG
SOFIA	5.54	25.0	1	26	0						3	16
BELGRADE	7.11	1.7	1	47K	-1	3	13	3			2	21 PP
ROME	7.24	307.7	1	54	4	3	23	9			4	39
BUCHAREST	8.06	31.9	2	1A	0						2	15
TIMISOARA	8.07	5.3	2	35	34							
ZAGREB	8.68	340.3									2	8 PG
PRATO	9.23	314.7	1	56	-21	3	1	-62				
TRIESTE	9.27	330.9	2	15	-3	4	3	-1			3	2 PGPGPG
LJUBLJANA	9.33	335.0	2	16K	-3	4	0	-6			3	45
BUDAPEST	9.80	355.4	3	19	54						5	58 SSS
TOLMEZZO	10.17	330.9	2	33	3	4	26	0			5	2 SS
HURBANOVO	10.26	352.6	3	2	31							
BRATISLAVA	10.69	348.9	2	33	-4							
IASI	10.94	27.6	2	42	1							
MONACO	11.37	305.9	2	46	-1							
SETIF	11.91	267.2	2	53K	-1	5	5	-4			3	11 PPP
CHUR	12.05	322.7	2	56	0	5	3	-9				
KRAKOW	12.34	359.3	2	58	-2						5	29 SS
LWOW	12.42	11.7	3	2	1						7	13
RACIBORZ	12.45	354.1	3	4	3						3	13 PP
RAVENSBURG	12.69	325.8	3	10	6	5	18	-10				
PRUHONICE	12.91	343.6	3	4K	-3							
PRAGUE	13.02	343.4	3	10	1	6	12	36				
EBINGEN	13.28	325.6	3	12	0	5	31	-11				
KSARA	13.34	102.2	3	11	-2	5	33	-10			3	21 PP
NEUCHATEL	13.46	317.8	3	12	-3	5	33	-13				
BASLE	13.48	320.7	3	14A	-1	5	36	-11			6	13 SS
TUBINGEN	13.50	326.8	3	14	-1							
CHEB	13.57	338.2	3	8	-8							
STUTTGART	13.59	327.9	3	16	0	5	35	-14				
ALGIERS UNI.	13.67	271.3	3	15	-2						3	32 PPP
JERUSALEM	13.72	111.1	3	12	-6	5	39	-13				
STRASBOURG	14.12	324.2	3	23	0	6	3	1				
BESANCON	14.14	316.9	3	21	-3							
SONNEBERG	14.20	336.0	3	28	4							
COLLMBERG	14.51	341.8	3	27A	-1	6	6	-5	3	36	3	44 PPP
JENA	14.56	337.9	3	39	10	6	27	15			6	42
HALLE	14.96	339.8	3	40	6							
CLERMONT-FD.	15.04	307.8	2	39	-56						3	23
POTSDAM	15.49	343.5	3	48	7						4	43
TORTOSA	15.54	287.6	3	49	7							
RELIZANE	15.85	268.9	3	40	-6						3	51 PP
BENSBERG	16.15	329.3	3	54A	4	7	44	54				
ALICANTE	16.28	278.6	3	53	2	6	54	1			4	6 PP
DOURBES	16.66	323.0	4	0	4	7	8	6				
MUNSTER	16.77	332.2	4	2	4							
PARIS	16.95	316.5	3	53	-7						7	53
FOLINIERE	18.60	313.0	4	19	-2							
GRANADA	18.87	275.7	4	26K	2	8	17	25			4	53 PP
TOLEDO	18.97	284.1	4	24A	-1							
TIFLIS	19.35	70.4	4	29	0							
TAMANRASSET	19.49	224.4	4	31	0	8	7	1			4	51 PP
KEW	19.96	320.1	4	40	4	8	29	13				
GOTEBORG	20.72	347.5	4	44	0						5	4
MAKHACH-KALA	21.44	67.2	4	51	-1							
MOSCOW	21.53	27.6	4	51	-2							
UPPSALA	22.22	356.6	4	58A	-2						6	30
SERRA PILAR	22.44	287.7	4	56K	-6						5	22 PP
DURHAM	22.59	326.0	5	2A	-1							
PULKOVO	23.02	13.2	5	3	-5							
SKALSTUGAN	26.34	352.1	5	38	-1							
KIRUNA	30.17	0.2	6	11	-3							
APATITY	30.81	9.9	6	24	4							
ADDIS ABABA	33.13	144.8	6	45	5							
QUETTA	39.21	86.8	7	31	0	13	30	-2			9	28 PPP
SCORESBY SD.	39.52	339.3	7	35K	1							
LWIRO	40.56	166.7	7	44	1							
WARSAK DAM	41.39	79.0	7	48	-1							
LEOPOLDVILLE	42.11	187.3	7	57A	2							
KHEYS	45.29	8.2	8	34	13							
NORD	45.91	353.0	8	24	-2							
ELISABTHVLLE	49.57	170.6	8	56	1							
POONA	50.36	96.8	9	1A	0						10	22 PCP
BROKEN HILL	52.46	169.8	9	18	1							
THULE	53.35	342.9	9	21	-2							
CHATRA	56.62	80.1	9	50	3							
BULAWAYO	58.09	170.6	9	58	1							

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RESOLUTE	60.14	343.9	10 0A	-12			
HALIFAX	60.80	305.6	10 19K	3			
SHILLONG	60.90	78.9	10 14	-3			
TANANARIVE	61.94	150.4	10 26	2			10 56
CHITTAGONG	62.52	82.1	10 27	-1	18 46	-9	
YAKUTSK	65.68	29.2	10 46	-2			
COLLEGE	77.32	354.8	11 57	-1			
LAWRENCE	83.33	314.9	12 28	-2			
BANFF	83.35	333.7	12 41	11			
RAPID CITY	83.81	322.7	12 34	2			16 28 PP
HUNGRY HORSE	85.13	331.3	12 40	1			
BUTTE	86.45	329.1	12 46	0			
EUREKA	93.26	327.5	13 24	6			
TUCSON TELE.	96.61	319.9	13 35	2			
TUCSON	96.74	319.9	13 36	2			
BYRD STATION	134.85	189.2	19 24	3			

NOVEMBER 27 0.H 26.M 11.S EPICENTRE 37.82 20.12 DEPTH= 0.KM
A= 0.74364 B= 0.27243 C= 0.61055 D= 0.3440 E=-0.9390
G= 0.5733 H= 0.2100 K=-0.7920 HT= -0.9

SE= 3.93

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ATHENS	2.85	85.8	0 58	11	1 34	11		1 3 PG
TARANTO	3.46	320.8	0 35	-21				0 51
REGGIO CALA.	3.54	275.9	0 56	-1	1 39	-2		
MESSINA	3.63	277.5	1 0	2	1 40	-3		
SKOPJE	4.27	13.3	1 21A	13				2 12 SG
SOFIA	5.46	25.7						3 0 SG
BELGRADE	7.00	1.9			3 22	15		
ROME	7.15	307.1	2 35	47				4 2 S*
TRIESTE	9.16	330.7			4 6	5		5 10 SGSG
LJUBLJANA	9.22	334.9	3 36	79				6 38
TOLMEZZO	10.06	330.7			4 29	5		5 10
VIENNA-H.	10.78	346.5	3 6	27				6 32
MONACO	11.29	305.5	2 47	2				
SKALNATE PL.	11.36	0.4	2 41	-5				
SETIF	11.88	266.7	2 52	-2				3 0 PP
CHUR	11.94	322.4			4 59	-11		
CHORZOW	12.50	356.6	3 34	32				5 4 PCP
KSARA	13.40	102.6	3 11	-3	5 34	-11		3 21 PP
JERUSALEM	13.79	111.4	3 12	-7				
STRASBOURG	14.01	324.1	3 24	2				4 16
BESANCON	14.04	316.7	3 3	-19				
COLLMBERG	14.39	341.8	3 22	-5	6 13	5		
WARSAW	14.43	2.2	2 10	-77				5 2 PCP
JENA	14.45	337.9	3 39	11				
HALLE	14.85	339.7	3 39	6				
RELIZANE	15.82	268.5	3 45	0				
SOTCHI	15.93	62.7	3 51	4				
DOURBES	16.56	322.8	4 3	8				
UCCLE	17.15	324.2	4 3	1				
FOLINIERE	18.51	312.8	4 18	-1				
TOLEDO	18.93	283.8	4 24	0				
TIFLIS	19.35	70.7	4 29	0				
TAMANRASSET	19.54	224.1	4 32	0				4 52 PP
GOTEBORG	20.60	347.5	4 50	7				
MAKHACH-KALA	21.43	67.5	4 50	-2				
MOSCOW	21.45	27.7	4 51	-1	8 41	-5		
UPPSALA	22.11	356.7	4 57	-1				
SERRA PILAR	22.37	287.5	4 56A	-5	9 36	33		5 23 PP
DURHAM	22.48	325.9	4 58A	-4				
HELSINKI	22.59	6.3	5 5	2				
NURMIJARVI	22.90	5.8	5 5	-1	9 19	7		
PULKOVO	22.92	13.3	5 4	-2	9 8	-5		
SKALSTUGAN	26.23	352.1	5 38	0				
SODANKYLA	29.83	5.1	6 10	-1				6 58 PP
KIRUNA	30.07	0.2	6 12	-1				
APATITY	30.71	10.0	6 18	-1				
ADDIS ABABA	33.24	144.8	6 45	4				
LWIRO	40.67	166.6	7 46A	3				
LEOPOLDVILLE	42.21	187.2	7 57K	1				
KHEYS	45.19	8.2	8 21	1				

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NORD	45.80	352.9	8	25	0							
ELISABTHVLLE	49.68	170.5	8	58	2							
RESOLUTE	60.03	343.9	10	11	0							
TANANARIVE	62.05	150.4	10	25	0							
BYRD STATION	134.95	189.2	19	37	16							

NOVEMBER 27 18.H 51.M 27.S EPICENTRE -5.48 102.79 DEPTH= 0.KM

A=-0.22032 B= 0.97081 C=-0.09480 D= 0.9752 E= 0.2213
G= 0.0210 H=-0.0924 K=-0.9955 HT= 7.0

SE= 3.12

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
DJAKARTA	4.08	100.1	1	8A	3	1	54	-1					
MEDAN	9.89	335.4	3	6A	39								
PHU-LIEN	26.38	8.1				10	29	17					
MUNDARING	29.20	156.1	6	3	-3								
CHITTAGONG	29.67	339.2	6	12	2	11	7	2			7	8	PP
HONG KONG	29.77	21.6	6	3	-8	11	13	6					
KUNMING	30.41	359.9	6	18	2								
SHILLONG	32.63	341.5	6	35	-1								
CHATRA	35.50	335.5	7	2	1								
LHASA	36.69	342.7	7	12A	1	12	53	-2					
POONA	37.19	310.6	7	38	23								
BOMBAY	38.19	310.1				13	16	-1			17	35	
SIAN	39.93	7.9	7	38	0								
LANCHOW	41.32	1.3	7	50A	1								
PORT MORESBY	44.14	97.8	8	12	0	14	42	-4	8	22	9	51	PP
ADELAIDE	44.27	136.3	8	14	1								
CHARTERS TS.	44.65	113.1	8	17	1	14	51	-2					
LAHORE	45.74	325.4	8	25	0	15	4	-5					
KARACHI	46.01	312.5	8	28	1								
PEKING	46.93	14.1	8	35A	1	15	21	-5					
WARSAK DAM	49.13	325.3	8	52A	0								
QUETTA	49.35	318.1	8	53A	0	15	51	-9					
CANBERRA	51.84	131.3	9	13K	1								
BRISBANE	52.24	120.5	9	17	2	16	38	-2					
CHANGCHUN	53.12	20.3	9	21	-1								
ULAN-BATOR	53.29	3.5	9	12	-11								
MATUSIRO	53.34	35.6	9	32K	9	16	47	-8			21	11	SS
IRKUTSK	57.54	1.1	9	54	0								
WILKES	61.00	176.4				18	42	6			22	45	SS
DUMONT	66.26	164.7	10	52	0								
TERRE ADELIE	66.74	164.4	10	52	-3								
YAKUTSK	70.43	13.1	11	15	-3								
TIFLIS	70.60	317.7	11	13	-6								
SVERDLOVSK	70.94	337.0	11	20	-1								
KARAPIRO	73.06	127.9	11	51	17								
BULAWAYO	73.29	250.7	11	36	1								
BROKEN HILL	73.49	256.6	11	36	0								
JERUSALEM	74.11	305.1	11	48	8								
KSARA	74.18	307.3	11	43	3								
ELISABTHVLLE	74.56	259.5	11	42	-1								
CAPE HALLETT	78.05	163.2	12	3	1								
TIKSI	78.84	8.2	12	4	-3								
MOSCOW	80.88	328.7	12	17	-1								
SOUTH POLE	84.56	180.0	12	35	-2								
LEOPOLDVILLE	87.14	265.9	12	50	1								
KHEYS	88.71	353.4	12	56	-1								
NURMIJARVI	88.91	331.0	12	59	1								
SODANKYLA	89.73	337.9	13	1	-1								
BRATISLAVA	91.16	318.1	13	9	1								
BYRD STATION	92.01	173.3	13	13	1								
KIRUNA	92.15	337.9	13	12	-1								
RESOLUTE	110.09	4.9	18	34	0								
CORVALLIS	124.04	38.4	19	7	6								
SHASTA	126.52	42.1	19	8	2								
HUNGRY HORSE	127.03	30.0	19	7	1								
MINERAL	127.22	42.2	19	9	2								
LICK	128.60	45.6	19	11A	1								
EUREKA	131.36	40.2	19	17	2								
PALISADES	144.50	355.7	19	37	-2								
CHAPEL HILL	149.66	3.0	19	55	8								

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NOVEMBER 28 2.H 45.M 48.S EPICENTRE -19.74 174.40 DEPTH= 0.KM

A=-0.93747 B= 0.09191 C=-0.33572 D= 0.0976 E= 0.9952
G= 0.3341 H=-0.0328 K=-0.9420 HT= 4.7

SE= 2.57

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	4.13	68.1	1 0	-6				
APIA	14.49	68.1	3 22	-6				
ONERAHI	15.97	180.1	3 56	8				4 26
AUCKLAND	17.07	178.9	4 2	0	7 52	41		
KARAPIRO	18.15	177.1	4 16K	1				4 29
BRISBANE	21.21	244.9	4 48	-2	8 50	8		
WELLINGTON	21.47	179.2	4 51	-1	8 57	11	5 10	10 7 SS
GEBBIES PASS	23.94	183.1	5 15	-2				
RIVERVIEW	24.98	231.1	5 28A	1	9 53	4		
ROXBURGH	26.01	188.2						10 56 SS
CHARTERS TS.	26.45	264.4	5 41	0	10 15	2		
RABAUL	26.61	302.6	5 40	-2				8 15
CANBERRA	27.24	230.0	5 50	2	10 34	8		
PORT MORESBY	28.26	287.4	5 56	-1	10 47	4		6 33 PP
MELBOURNE	31.28	228.5	6 23A	-1	11 35	5		
FORT NELSON	32.44	218.5						13 52 SS
ADELAIDE	34.92	236.8	6 56K	0	12 28	1		8 15 PP
GUAM	44.05	316.2	8 12	1				9 15
TERRE ADELIE	51.61	196.0	9 10	0	16 34	3		
DUMONT	51.86	196.6	9 10	-2	16 34	0		18 58 SCS
CAPE HALLETT	52.64	181.6	9 17	-1	17 7	22		
MUNDARING	53.21	244.4	9 21K	-1	16 50	-3		
PERTH	53.53	244.4	9 29	4	17 32	35		
SCOTT BASE	58.27	181.9	9 57	-2				
WILKES	61.67	204.3			18 42	-2		10 50 PCP
MATUSIRO	65.59	328.5	10 47	-1	19 38	5		
BYRD STATION	66.60	170.0	10 51	-3				
SOUTH POLE	70.38	180.0	11 14	-4				11 26
ZO-SE	71.87	313.7	11 25	-2	20 53	6		
Y.-SAKHLINSK	72.33	337.8	11 31	1				
PETROPAVLOVK	73.73	350.2	12 9	31				
NANKING	74.08	313.2	11 39	-1	21 16	4		
UGLEGORSK	74.31	338.6	11 44	3				
WUHAN	76.19	309.8	11 52	0				
CHANGCHUN	77.60	325.9	11 59	-1	21 56	5		
PEKING	80.46	318.6	12 14A	-1	22 26	5		
BERKELEY	82.57	45.5	12 19	-7				22 54 SCS
KUNMING	82.71	299.8	12 27	0	22 52	7		
LICK	82.71	46.2	12 27K	0				
PASADENA	83.56	50.4	12 32	1	23 3	10		12 46
FRESNO	83.69	47.5	12 34	2				
SHASTA	83.99	43.0	12 36	2				
MINERAL	84.31	43.7	12 37A	2				
RENO	85.08	45.1	12 42	3				
LANCHOW	86.72	310.0	12 48	1	23 34	10		
BOULDER CITY	86.83	50.1	12 49	1				
EUREKA	87.64	46.6	12 53	1				
TUCSON	88.20	54.9	12 58	4				13 14
TUCSON TELE.	88.32	54.8	12 59	4				
YAKUTSK	88.86	340.6	12 56	-2				
COLLEGE	89.18	15.2	12 58	-1				
SHILLONG	91.92	296.4	13 12	0				
ELISABTHVLLE	134.91	229.0	19 30	9				
LWIRO	139.78	241.0						23 4
KSARA	140.67	299.5	19 30	-2				22 32 PP
RACIBORZ	144.29	333.5	19 37	-1				20 16
POTSDAM	144.32	340.3	19 37	-1				20 23
DURHAM	144.89	355.9	20 0	21				
COLLMBERG	145.27	339.4	19 40K	0				22 48 PP
HALLE	145.43	340.6	19 40	0	26 29	-19	19 52	21 1
WITTEVEEN	145.63	346.8	19 42	2				
PRUHONICE	145.82	336.7	19 41A	0				21 0
JENA	146.04	340.4	19 40	-1				22 18 PP
MUNSTER	146.21	345.3	19 43	2				
BRATISLAVA	146.21	332.3	19 42K	1				20 8 PKP2
VIENNA-H.	146.47	333.1	19 45	3				
RATHFARNHAM	146.50	0.7	20 23	41				

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BENSBERG	147.25	345.0	19 42	-1				
UCCLE	148.02	348.1	19 54	10				
LEOPOLDVILLE	148.47	222.7	19 50K	5			42 30	SS
STUTTGART	148.65	340.9	19 49	4				
LJUBLJANA	148.97	332.3	19 50K	4			20 7	PKP2
STRASBOURG	149.27	342.5	19 44	-2			19 56	PKP2
TOLMEZZO	149.33	334.3	19 51	5			20 28	
TRIESTE	149.62	332.6	19 51	4			23 29	PP
PARIS	150.27	349.2	19 56	8			20 17	
BASLE	150.27	341.8	19 48	0				
FOLINIERE	150.75	353.1	20 0	11				
NEUCHATEL	150.94	342.2	19 55	6				
BESANCON	150.98	343.6	19 47	-2				
ROME	153.11	329.2					21 13	
MESSINA	154.02	319.5	19 56	3			20 46	
TOLEDO	159.88	356.5	20 46	45				
SETIF	160.97	331.8					20 42	
TAMANRASSET	169.20	288.2	20 19	10			25 16	PP

NOVEMBER 28 3.H 20.M 26.S EPICENTRE 26.04 128.40 DEPTH= 0.KM

A=-0.55881 B= 0.70503 C= 0.43666 D= 0.7837 E= 0.6212
G=-0.2712 H= 0.3422 K=-0.8996 HT= 3.0

SE= 2.85

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
HWALIEN	6.49	252.9	2 35	56				
TAICHUNG	7.25	256.6						2 24 PG
NANKING	10.33	307.7	2 36	4				
MATUSIRO	13.40	36.3	3 12	-2				3 32
PEKING	17.29	326.8	4 5A	1	7 24	8		
CHANGCHUN	17.92	352.7	4 11A	-1	7 35	5		
GUAM	19.80	126.1	4 33	-2				
PHU-LIEN	20.64	259.9			8 52	22		9 16 SS
KUNMING	23.16	273.4	5 10A	1	9 23	6		
LANCHOW	23.24	301.3	5 9	-1	9 26	8		
Y.-SAKHLINSK	23.81	24.8	5 14	-1				
UGLEGORSK	25.34	21.3	5 30	0	9 53	-1		
ULAN-BATOR	27.61	327.9	5 52	1				
SHILLONG	32.82	277.3	6 37K	0				
LHASA	33.14	284.9	6 39	-1				
CHITTAGONG	33.50	271.6	6 44	1	12 18	13		
CHATRA	36.81	280.6	7 12	1				
PORT MORESBY	39.67	150.2	7 34	-1				
DEHRA DUN	44.30	287.6	8 20	7	14 53	5		10 8 PP
RABAUL	37.87	139.1	7 5	-15				
TIKSI	45.62	0.2	8 31	7				
CHARTERS TS.	49.03	157.6	8 48	-2				10 18
WARSAK DAM	49.33	293.5	8 52A	-1				
POONA	50.73	273.2	9 4	1				
QUETTA	53.79	289.5	9 25A	-1				
KARACHI	54.96	283.1	9 32	-3				
SVERDLOVSK	56.51	322.4	9 43	-3				
BRISBANE	58.08	154.4	9 57	0				
KHEYS	61.29	349.9	10 18	-1				
ADELAIDE	61.46	170.4	10 19K	-1				
CANBERRA	64.07	161.3	10 42A	4				
COLLEGE	64.12	28.2	10 37	-1				
APATITY	68.09	335.6	11 1A	-2				
TIFLIS	68.62	307.0	10 59	-8				
MOSCOW	69.31	322.8	11 10	-1				
SODANKYLA	70.63	336.3	11 16	-3				
KIRUNA	72.62	337.8	11 28	-3				11 55
NURMIJARVI	74.11	330.0	11 38	-2				
THULE	77.25	4.0	11 54	-3				
UPPSALA	77.53	331.1	11 57	-2				
SKALSTUGAN	77.68	335.7	11 57	-3				
KSARA	77.94	301.7	12 2	1				
LWOW	79.16	320.3	12 10	2				
JERUSALEM	79.26	300.1	12 27	18				
COPENHAGEN	82.13	329.1			22 40	2		
RACIBORZ	82.31	322.4	12 24	-1				
BRATISLAVA	83.94	321.2	12 33K	0				
VIENNA-H.	84.30	321.5	12 35	0				

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PRUHONICE	84.34	323.6	12 35K	0						
HALLE	84.82	325.8	12 37	0						
JENA	85.34	325.5	12 39	-1					12 59	
SHASTA	86.64	46.0	12 47	1						
MUNSTER	86.66	327.8	12 53	6						
TRIESTE	87.25	320.3	12 48	-1						
HUNGRY HORSE	87.27	36.3	12 49	-1						
MINERAL	87.34	46.0	12 57A	7						
STUTTGART	87.83	324.7	12 55	3						
LICK	88.91	48.5	13 4	7						
BUTTE	89.49	37.5	12 59	-1						
MESSINA	90.36	313.4							23 16	
EUREKA	91.41	44.3	13 8	-1						
PASADENA	93.02	49.6	13 18	2						
BOULDER CITY	94.20	46.6	13 24	2						
SCOTT BASE	106.10	172.1							22 53 P▸	
TAMANRASSET	106.42	306.1							18 38 PP	
BYRD STATION	119.27	169.3	18 56	5						
HUANCAYO	153.67	62.6	20 2	9						
LA PAZ	161.92	61.6							20 54 PKP2	

NOVEMBER 28 12.H 34.M 54.S EPICENTRE -28.62 -71.08 DEPTH= 0.KM

A= 0.28504 B=-0.83165 C=-0.47656 D=-0.9460 E=-0.3242
G=-0.1545 H= 0.4508 K=-0.8791 HT= 2.3

SE= 2.85

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ANTOFAGASTA	4.94	7.1	1 16	-2				
LA PAZ	12.37	13.3	3 6A	5	5 34	14		3 21 PP
HUANCAYO	16.96	345.6	4 6K	5	7 32	23		
PORT STANLEY	25.09	160.4	5 27	-1				
BOGOTA	33.18	354.6	6 44A	3	12 5	5		7 47 PP
ARGENTINE I.	36.89	175.2	7 19	7				
CARACAS	39.10	6.5	7 24A	-7	13 26	-5		
TRINIDAD	40.15	14.9	7 40	0				
GRENADA	41.43	13.9	7 50	0				
ST. VINCENT	42.62	14.2	7 59	-1				
FORT FRANCE	44.15	13.9	8 12	0				
SAN JUAN	46.97	6.5	8 32	-3				10 27 PP
HALLEY BAY	51.75	167.0	9 7	-5				
TACUBAYA	54.93	327.1	9 44	9	17 26	10		11 45 PP
BYRD STATION	55.18	189.1	9 30	-7	17 16	-4		11 30 PP
BERMUDA	60.97	6.2	10 12	-6	18 40	5		14 6 PPP
SOUTH POLE	61.54	180.0	10 19	-2				11 25 PP
COLUMBIA	62.99	350.7	10 29	-2				
CHAPEL HILL	64.64	352.8	10 42	0				
GEORGETOWN	67.40	354.9	11 0	0				
WASHINGTON	67.40	354.9	10 59	-1				
MBOUR	67.55	58.2	11 1A	0	20 17	20		
SCOTT BASE	68.49	191.1	11 14	8	20 6	-2		
ST. LOUIS 1	69.27	344.1	11 8	-3	20 13	-4		
PALISADES	69.33	357.7	11 10	-2	20 28	10		21 8 PPS
PENNSYLVANIA	69.36	354.5	11 11	-1	20 15	-3		
FLORISSANT	69.45	344.0	11 12	0	20 19	0		
CLEVELAND	70.42	351.7	11 18	0				
LAWRENCE	70.93	340.3	12 20	59				
CAPE HALLETT	71.05	196.5	11 20A	-2	20 34	-4		21 18 SCS
TUCSON	71.36	325.1	11 25	1				
TUCSON TELE.	71.37	325.3	11 25	1				
HALIFAX	73.21	5.6	11 37A	2				
OTTAWA	73.79	356.6	11 37	-1				
BREBEUF	73.80	358.1	11 38A	0				
HERMANUS	74.68	121.0			21 35	16		
SHAWINIGAN	74.83	358.8	11 43A	-1				
SEVEN FALLS	75.39	0.2	11 47A	-1	21 36	9		
BOULDER CITY	76.33	324.7	11 53A	0				
LARAMIE	76.56	334.0	11 55	1				
PASADENA	76.70	321.4	11 55A	0	21 43	1	12 23	15 1 PP
RAPID CITY	78.10	336.9	12 2	-1				39 12 PKPPKP
SALT LAKE C.	78.71	329.6	12 5	-1				12 37
FRESNO	79.53	322.1	12 9A	-2				
EUREKA	79.61	326.3	12 11	0				38 49 PKPPKP
GRAHAMSTOWN	80.65	122.7	12 15	-1				

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LICK	80.95	321.4	12	18A	0					15	36 PP
RENO	81.59	324.0	12	22A	1						
BERKELEY	81.67	321.5	12	22A	0	22	39	5			
TERRE ADELIE	81.72	192.4	12	21	-1	22	32	-3			
DUMONT	82.11	192.0	12	21	-3	22	32	-7		23	25 PS
BOZEMAN	82.38	333.0	12	26	1						
UKIAH	83.10	321.8	12	30	1						
MINERAL	83.12	323.5	12	28A	-1						
BUTTE	83.28	332.3	12	30A	0						
SHASTA	83.78	323.3	12	32A	-1						
MIRNY	84.35	173.7	12	40	4	22	48	-13			
LEOPOLDVILLE	84.71	92.1	12	39A	2	23	16	11		16	0 PP
PIETERMZBURG	85.30	121.1	12	40	0						
WILKES	85.33	180.6	12	40	-1	23	3	-8		28	42 SS
HUNGRY HORSE	85.74	332.9	12	42	-1						
CORVALLIS	87.04	325.6	12	49A	0						
WELLINGTON	87.59	223.5	12	58K	6						
ROXBURGH	88.10	217.7				23	16	-21			
BULAWAYO	88.62	112.1	12	57	0						
KARAPIRO	89.09	226.5	12	58A	-1				13 6	13	38
TAMANRASSET	89.74	63.9	13	3A	1	23	51	-1		16	29
VICTORIA	89.93	328.2	13	40K	37						
HORSESHOE B.	90.49	328.9	14	4A	59						
BROKEN HILL	91.33	107.1	13	11	2						
BANGUI	91.81	86.0	13	12	1					23	57
ELISABTHVLLE	91.86	104.2	13	14A	2	24	34	23		30	21 SS
TOLEDO	92.31	45.2	13	15	1	24	2	-13		25	42 PS
RELIZANE	92.97	50.6	13	18A	1	24	5	-16			
ALGIERS UNI.	95.22	50.9	13	27	0	24	14	11		17	15 PP
SETIF	96.55	52.3	13	34	1					17	26 PP
LWIRO	97.60	96.7	13	40K	2					27	1
RATHFARNHAM	99.00	33.4								15	22
FOLINIERE	99.45	39.2	13	7	-39						
CLERMONT-FD.	99.95	43.1								24	48
KEW	100.99	37.0								27	18 PS
ABERDEEN	103.17	31.5				24	55	12		27	25 PS
STRASBOURG	104.09	42.2								27	42 PS
ROME	104.09	49.9	14	9	2	25	3	16		27	49 PS
RESOLUTE	104.22	353.6	14	6	-1	25	56	69		18	22 PP
MESSINA	104.64	54.4	13	42	-27					18	25 PP
BENSBERG	104.83	39.8								18	32 PP
STUTTGART	105.07	42.5	14	8	777	25	6	15		18	37 PP
RIVERVIEW	106.13	215.6								18	47 PP
TRIESTE	106.51	46.8	18	54	777					30	9
TARANTO	106.77	52.8								23	30
LJUBLJANA	107.16	46.6	18	43	777						
JENA	107.33	41.1	18	34	777					18	53 PP
ZAGREB	108.01	47.3								18	49 PP
COLLMBERG	108.30	41.1	18	41	777					18	54 PP
PRAGUE	108.67	42.7								28	29 PS
PRUHONICE	108.71	42.8	18	41	777					18	56 PP
COPENHAGEN	109.67	36.7				25	26	15		28	37 PS
COLLEGE	110.17	333.7	14	33	777						
ADDIS ABABA	111.67	91.4	19	1	24					19	35 PP
UPPSALA	113.67	33.4								29	13 SKSP
BUCHAREST	114.28	51.3								19	37 PP
LWOW	114.44	45.1								19	43 PP
IASI	116.02	48.6								18	56 PP
KIRUNA	116.72	25.1				25	50	11		29	36 SKSP
NURMIJARVI	117.24	33.6	18	48	0						
JERUSALEM	117.38	67.0								19	37 PP
KSARA	118.52	65.0	18	39	-11					20	9 PP
SODANKYLA	119.02	26.0	18	51	0						
CHARTERS TS.	119.62	221.0	18	53	1					25	49
PULKOVO	119.93	34.9	19	3	10					30	11 PS
APATITY	121.64	25.9	18	56A	0						
MOSCOW	123.54	40.0	19	7	7						
KHEYS	124.13	8.8	19	2	1						
TIFLIS	127.10	57.6								20	41 PP
RABAUL	127.15	239.0	19	6	-1						
PORT MORESBY	127.16	230.0	19	8	1					21	11 PP
MAKHACH-KALA	129.23	56.3	19	12	1						
TIKSI	135.56	351.1								21	51 PP
SVERDLOVSK	136.03	36.2	19	25	1						
KARACHI	142.54	85.8	19	34	-1						
GUAM	143.49	253.1	19	35	-2						
QUETTA	143.55	77.1	19	36A	-1	26	46	1		22	59 PP
YAKUTSK	143.88	343.5	19	33	-5						
DJAKARTA	145.34	176.3	19	41A	1						

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BOMBAY	145.69	98.3	19 40	-1							
POONA	146.43	99.6	19 44A	2						23 5	PKS
UGLEGORSK	147.46	318.0	19 48	4							
WARSAK DAM	147.75	70.9	19 45A	1							
FRUNSE	148.99	53.6	19 48	2							
LAHORE	150.00	75.8	19 57	9							
AGRA	152.68	85.7	19 53A	1							
TUKUBASAN	152.69	294.1	19 51A	-1							
DEHRA DUN	153.11	78.8	20 3	11						23 47	PP
MATUSIRO	154.16	295.3	19 53A	-1						30 50	
										23 51	PP
IRKUTSK	156.13	7.0	19 58	2							
CHANGCHUN	159.93	323.5	20 2	1				20 10		24 27	PP
ULAN-BATOR	160.67	4.1	20 3	1							
CHITTAGONG	163.36	108.1	20 6	2	27 8	0				24 53	PP
LHASA	164.34	82.0	20 9A	4				20 17		24 59	PP
SHILLONG	164.51	97.3	20 1A	-5							
PEKING	167.15	334.2	20 9A	1				20 18		25 0	PP
ZO-SE	169.07	286.0	20 10	1				20 19			
NANKING	170.82	294.3	20 11A	1				20 20		21 37	PKP2
LANCHOW	171.44	28.9	20 13A	3						25 22	PP
CANTON	173.20	216.9	20 13	2				20 22		25 31	PP
KUNMING	173.47	120.9	20 13A	2				20 22		25 36	PP
SIAN	174.39	360.0	20 13	1						25 31	PP

NOVEMBER 28 22.H 39.M 14.S EPICENTRE -13.14 167.06 DEPTH= 0.KM

A=-0.94940 B= 0.21814 C=-0.22595 D= 0.2239 E= 0.9746
G= 0.2202 H=-0.0506 K=-0.9741 HT= 6.1

SE= 1.86

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SUVA	12.03	115.9	3	16	21								
RABAUL	17.18	299.8	4	8	5	7	30	17					
BRISBANE	19.47	221.1	4	34	3	8	3	-2					
PORT MORESBY	19.87	278.7	4	38K	3	8	14	0	4	51	5	4	PP
APIA	20.59	94.3	4	49	6								
CHARTERS TS.	21.08	248.1	4	50	2	8	32	-7					
RIVERVIEW	25.17	212.4	5	29A	1	9	9	-43					
KARAPIRO	25.82	164.5	5	36	2						6	9	PP
CANBERRA	27.45	213.4	5	50A	1	10	33	4			9	6	PCP
GEBBIES PASS	30.83	172.1	6	20	0								
MELBOURNE	31.49	214.8	6	26	1	11	23	-10					
ADELAIDE	33.59	224.8	6	44A	0						7	21	
MACQUARIE I.	41.75	187.1	7	55K	3								
MUNDARING	50.08	239.3	8	57A	-1				9	23			
BAGUIO CITY	54.53	301.3	9	32	0								
TERRE ADELIE	56.28	191.9	9	43	-1	17	26	-8					
ABUYAMA	56.33	328.9	9	44A	-1								
MATUSIRO	56.41	332.2	9	44A	-1	17	23	-12					
DUMONT	56.44	192.5	9	43	-3	17	26	-10					
CAPE HALLETT	59.17	178.9	10	4A	-1	18	4	-8	10	22	10	38	PCP
ZO-SE	62.25	315.9	10	25	-1	18	38	-13					
HONG KONG	62.67	303.8	10	28	-1	18	47	-9					
CANTON	63.72	304.1	10	35A	0	19	0	-10					
Y.-SAKHLINSK	63.74	341.7	10	36	0								
NANKING	64.46	315.4	10	40A	0	19	8	-11			11	13	
SCOTT BASE	64.71	180.1	10	39	-3								
WILKES	64.94	201.8	10	40	-3	19	6	-19			23	22	SS
UGLEGORSK	65.77	342.3	10	49	0	19	37	2					
CHANGCHUN	68.28	328.8	11	4A	-1	19	55	-10			11	38	
PEKING	70.91	320.9	11	20A	-1	20	14	-22			21	13	PS
MIRNY	71.69	203.9	11	22	-3								
SIAN	72.58	312.5	11	30	-1								
KUNMING	73.30	301.5	11	36A	1	20	54	-9					
BYRD STATION	74.28	170.0	12	38	57				13	24	17	32	
SOUTH POLE	76.94	180.0	11	54	-2				12	31			
LANCHOW	77.10	312.1	11	58A	1	21	35	-10					
YAKUTSK	80.44	343.1	12	11	-4	22	6	-15					
ULAN-BATOR	80.86	323.8	12	16	-1	22	13	-12					
CHITTAGONG	81.70	295.2	12	21A	0	22	22	-12			15	30	PP
SHILLONG	82.65	298.3	12	25A	-1								
UKIAH	83.07	47.3	12	30	1						13	7	
BERKELEY	83.28	48.8	12	29A	-1				13	7			
LICK	83.54	49.4	12	32K	1				13	8			

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SHASTA	84.27	46.1	12 35A	0		13 12	
IRKUTSK	84.49	326.7	12 35	-1			
LHASA	84.62	301.9	12 37	1	22 52 -11		22 44 SKS
MINERAL	84.69	46.7	12 36	-1		13 14	
COLLEGE	84.88	17.7	12 36	-2			13 12
PASADENA	85.07	53.4	12 41	2			13 15
CORVALLIS	85.17	42.3	12 42	3			
RENO	85.68	47.9	12 41A	-1		13 20	
CHATRA	87.06	298.3	12 48	0			
BOULDER CITY	88.24	52.6	12 54	0			13 31
TIKSI	88.37	348.7	12 54	-1			
EUREKA	88.46	49.0	12 56	1			13 33
TUCSON	90.38	57.1	13 5	1			13 42
TUCSON TELE.	90.50	57.0	13 6	1			13 43
SALT LAKE C.	91.86	48.7	13 10	-1			
HUNGRY HORSE	92.48	40.9	13 13	-1			38 38 PKPPKP
BUTTE	92.78	43.5	13 13	-2			13 51
ARGENTINE I.	92.94	160.8	13 15	-1			
POONA	97.07	287.3	13 33	-2			
RESOLUTE	104.72	15.8			25 46 57		18 20 PP
THULE	110.51	12.0	18 32	-2			
APATITY	117.83	341.7	18 46	-2			
SODANKYLA	119.93	343.5	18 49	-3			
PALISADES	120.36	50.1					29 56 PS
KIRUNA	121.19	345.9	18 52A	-3			
MOSCOW	122.43	328.8	19 7	10			
PULKOVO	123.63	335.4	18 59	-1			
PRETORIA	124.35	225.9	19 35	34			
NURMI JARVI	125.33	338.3	19 2	-1			
SKALSTUGAN	126.61	346.3	19 3	-2			
BULAWAYO	127.42	231.7	19 6	-1			
UPPSALA	128.20	340.9	19 6K	-2			
KSARA	131.23	303.6	19 13	-1			21 36 PP
GOTEBORG	131.68	342.4	19 12A	-3			22 24 SKP
LWOW	132.55	328.1	19 15	-2			
ELISABTHVLLE	132.95	240.2	19 18	1			21 45 PP
RACIBORZ	135.23	331.8	19 20	-2			
POTSDAM	135.66	337.4	19 22	0			
LWIRO	135.85	252.8	19 23	0			23 51
COLLMBERG	136.54	336.5	19 22A	-2			22 5 PP
HALLE	136.78	337.4	19 24	0			22 44 PP
PRUHONICE	136.92	334.1	19 24	-1			22 7 PP
VIENNA-H.	137.38	331.1	19 25	0			22 47 PKS
JENA	137.38	337.2	19 24	-1			22 12 PP
DURHAM	137.52	350.3	19 26	0			
MUNSTER	137.88	341.1	19 26	0			
SONNEBERG	137.96	337.0	19 26	-1			
BENSBERG	138.90	340.7	19 27	-1			
LJUBLJANA	139.83	330.1	19 28	-2			22 28 PP
STUTTGART	140.00	337.1	19 24	-6			22 53 PP
TUBINGEN	140.28	337.1	19 33	2			
TOLMEZZO	140.28	331.7	19 33	2			23 3
TRIESTE	140.49	330.3	19 30	-1			
EBINGEN	140.60	336.8	19 30	-1			
RAVENSBURG	140.67	335.9	19 30	-1			
STRASBOURG	140.72	338.2	19 31	-1			
BASLE	141.67	337.5	19 25	-8			22 24 PP
PARIS	142.21	343.3	19 32	-2			
FOLINIERE	143.01	346.3	19 31	-4			
CLERMONT-FD.	144.75	340.4	19 39	0			19 58
MONACO	144.85	334.0	19 36A	-3			
LEOPOLDVILLE	147.04	240.0	19 42A	0			23 7 SKP
BANGUI	147.65	257.3	19 44	1			
SETIF	151.74	327.5	19 50K	0			23 38 PP
TOLEDO	152.24	345.2	19 49	-2			20 8
ALGIERS UNI.	152.45	331.4	19 49	-2			23 40 PP
RELIZANE	154.42	333.9	19 52	-2			24 50 PP
TAMANRASSET	160.01	301.2	20 1A	0			24 26 PP
MBOUR	175.90	72.1	20 2A	-10			25 44 PP

NOVEMBER 29 5.H 46.M 49.S EPICENTRE -26.74-178.16 DEPTH= 177.KM

A=-0.89381 B=-0.02870 C=-0.44753 D=-0.0321 E= 0.9995
G= 0.4473 H= 0.0144 K=-0.8943 HT= 2.8

DEPTH OF FOCUS= 0.023R

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SE= 1.48

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
RAOUL ISLAND	2.51	175.2	0 43	0	1 13	-4		
KARAPIRO	12.36	203.9	2 53	2				3 50 *SP
APIA	14.19	26.1	3 13	-1	5 33	-15		
WELLINGTON	15.63	200.1			6 6	-14		
BRISBANE	25.86	261.9	5 16	-1	9 41	9		
RIVERVIEW	27.36	247.6						6 31 PP
CHARTERS TS.	33.24	273.8	6 22	0				9 0
PORT MORESBY	37.04	291.2	6 56	1				9 11 PCP
BYRD STATION	58.54	169.9	9 37	-3				12 27
MATUSIRO	75.17	324.9	11 24K	-1				
LICK	82.94	42.1	12 7A	1				
PASADENA	83.06	46.3	12 7	0				
FRESNO	83.69	43.5	12 10	0				
SHASTA	84.74	39.1	12 17	2				
MINERAL	84.95	39.8	12 16	-1				
TUCSON	86.88	51.5	12 28	2			13 19	
TUCSON TELE.	87.01	51.5	12 29	2			13 20	
EUREKA	87.74	43.2	12 29	-1				
COLLEGE	94.31	12.5	12 59	-1				
RESOLUTE	113.80	16.8	18 15	-3				
THULE	120.44	14.9	18 27	-4				
ELISABTHVLLE	134.43	216.4	18 52	-5				
SODANKYLA	136.62	346.3	18 58	-3				
SKALSTUGAN	142.53	352.3	19 10K	-2				
NURMIJARVI	142.82	341.5	19 9	-4				
UPPSALA	145.16	346.1	19 15	-2				
LEOPOLDVILLE	146.46	204.7	19 20K	1			20 11	
GOTEBORG	148.23	349.7	19 22A	0				
RACIBORZ	153.52	336.0	19 51	22				
COLLMBERG	154.05	343.9	19 39	9				19 53
PRUHONICE	154.82	340.5	19 41	10				
VIENNA-H.	155.71	335.9	20 1	29				
STUTTGART	157.26	347.2	19 33	-1				
TAMANRASSET	174.83	221.1	19 49K	1				21 23 PKP2

NOVEMBER 29 23.H 49.M 43.S EPICENTRE 36.00 23.83 DEPTH= 0.KM
A= 0.74175 B= 0.32763 C= 0.58521 D= 0.4040 E=-0.9147
G= 0.5353 H= 0.2364 K=-0.8109 HT= -0.2

SE= 3.52

	DELTA DEG.	AZ. D.G.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ATHENS	1.97	357.4	0 36K	1	1 5	5		0 41 PG
SOFIA	6.70	356.8	1 42	0				3 9
TARANTO	6.83	312.7	2 25	41				
REGGIO CALA.	6.87	290.2	2 15	31				2 51
MESSINA	6.97	290.8	2 53	67				
BUCHAREST	8.59	11.0	2 57K	49				3 9
KSARA	10.13	98.9	2 32	3	4 23	-2		5 26 SG
JERUSALEM	10.36	110.7	2 33	0	4 27	-4		
ZAGREB	11.46	331.3	3 1	13				6 31 SG
SIMFEROPOL	11.88	38.0	3 58	65				
LJUBLJANA	12.25	327.9	2 55	-3				5 26
TRIESTE	12.29	324.8			4 58	-20		5 31
TOLMEZZO	13.18	325.3	3 11	0	5 39	0		4 28
LWOW	13.81	0.5	3 31	12				
SETIF	14.91	276.2	3 28	-5				3 37 PP
PRUHONICE	15.51	337.1	3 45A	4				4 37
STUTTGART	16.65	324.5	3 43	-13				4 38
BASLE	16.68	318.7	3 57	1				
NEUCHATEL	16.72	316.3	4 1	4				
ALGIERS UNI.	16.75	278.8	3 56	-1				
COLLMBERG	17.15	336.4	4 3K	1				4 35
JENA	17.33	333.2	4 11	6				4 30 PP
HALLE	17.67	334.9	4 12	3				5 42
PARIS	20.22	315.9	4 46	7				
TAMANRASSET	20.65	235.3	4 43	0				5 11 PPP
MOSCOW	21.87	21.2	4 56	0				
FOLINIERE	21.92	313.1	4 53	-3				
PULKOVO	24.15	8.0	5 16	-2				

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HELSINKI	24.20	1.4	5 18	-1
UPPSALA	24.20	352.4	5 16	-3
NURMIJARVI	24.53	1.0	5 20	-2
RATHFARNHAM	27.24	318.9	6 19	32
SKALSTUGAN	28.50	349.2	5 58	-1
SODANKYLA	31.46	2.1	6 21	-4
KIRUNA	31.94	357.6	6 27	-2
APATITY	32.07	6.9	6 28	-2
LWIRO	38.33	172.0	7 26	2
KHEYS	46.58	7.3		
ELISABTHVLLE	47.52	175.2	8 40	2
SHILLONG	58.33	79.8	9 58K	-1
RESOLUTE	62.58	344.8	10 25	-3
HUNGRY HORSE	88.00	333.4	12 53	0

NOVEMBER 30 11.H 12.M 55.S EPICENTRE 44.49 80.60 DEPTH= 0.KM

A= 0.11685 B= 0.70616 C= 0.69834 D= 0.9866 E=-0.1632
G= 0.1140 H= 0.6890 K=-0.7158 HT= -3.4

SE= 2.67

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
CHILIK	1.82	240.6	0 36	3				1 3 SG
KURMENTY	2.25	229.4	0 43	4				1 16 SG
PRZHEVALSK	2.57	219.4	0 48	4				1 30 SG
ILI	2.58	258.5	0 45	1				1 35
ALMATA-2	2.64	243.6	0 47	2				1 25 SG
ALMATA	2.91	246.5	0 52	3				1 28 S*
FABRICHNAYA	3.31	247.3	0 56	2				1 46 SG
NARYN	4.56	229.5	1 14	2				2 26
FRUNSE	4.65	251.2	1 15	2				2 28
SEMIPALATNSK	5.92	357.8	1 33	2	2 42	1		1 51
ANDIJAN	7.13	241.3	1 50	2				2 15
NAMANGAN	7.45	245.0	1 54	1				2 26
FERGANA	7.71	240.9	1 57	0				2 27
MURGAB	7.90	221.6	2 2	3				2 29
TCHIMKENT	8.31	258.6	2 5	0				3 53
DZERGETAL	8.75	236.3	2 14	3				2 53
LUNACHARSKOE	8.86	253.0	2 12	0	3 54	0		2 52
TASHKENT	8.89	253.1	2 11	-2				4 43
KHOROG	9.80	227.5	2 27	1				5 27
KULYAB	10.49	234.9	2 34	-1				5 35
STALINABAD	10.66	240.4	2 39	2				5 15
SAMARKAND	11.21	249.3	2 45	0				3 35
WARSAK DAM	12.60	216.8	3 1	-3				
LAHORE	13.82	203.0	3 18A	-2	5 56	1		3 27 PP
DEHRA DUN	14.29	189.0	3 27	1	5 58	-8		3 34 PP
BAIRAM-ALI	15.53	250.1	3 39	-3				6 51
LHASA	16.98	147.3	4 2K	1	7 14	5		
AGRA	17.45	187.7	3 58K	-9	7 24	4		4 7 PP
IRKUTSK	17.52	55.2	4 7	0	7 26	4		
SVERDLOVSK	17.61	321.6	4 8	-1	7 24	0		4 37 PPP
QUETTA	17.90	221.7	4 9A	-3	7 29	-1		4 24 PP
ASHKABAD	17.94	256.4	4 12	-1				7 42
CHATRA	18.40	161.1	4 17	-1	7 46	4		
ULAN-BATOR	18.49	70.0	4 20	0				
KIZYL-ARVAT	18.86	262.2	4 24	0				8 10
LANCHOW	19.58	107.5	4 32K	0	8 5	-3		
SHILLONG	20.97	150.5	4 45K	-2	8 35	-2		5 5 PP
BOKARO	21.04	166.6	4 44	-4	8 41	3		5 16 PPP
TOCKLAI	21.06	142.5	4 48	0				
KARACHI	22.50	213.8	5 1	-2	9 6	0		9 48 SS
CALCUTTA	22.81	161.2	4 48	-18	9 15	4		5 29 PP
CHITTAGONG	23.93	153.6	5 17A	0	9 35	4		5 53 PP
SIAN	24.05	105.4	5 18K	0				
GORIS	25.84	270.9	5 36	1				11 35 SS
TIFLIS	26.16	276.6	5 33	-5				6 8 PP
BOMBAY	26.33	196.8	5 47	7	10 24	13		6 26 PP
KUNMING	26.38	129.8	5 40	0	10 13	1		
POONA	26.49	194.5	5 40	-1	10 18	4		
HYDERABAD	27.04	184.5	6 10	24	10 22	-1		
MOSCOW	29.29	308.0	6 5	-1				7 0 PP
MADRAS	31.38	180.8						12 49
SIMFEROPOL	32.68	287.5	6 36A	0	11 52	-1		13 6 SCP

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YAKUTSK	33.20	40.6	6 40	-1	11 55	-6		7 58	PP
PULKOVO	33.51	315.2	6 41	-3				7 56	PP
APATITY	33.73	329.5	6 46	1	12 8	-1		10 57	
KODAIKANAL	34.24	185.5			12 10	-7			
HONG KONG	35.33	117.7	6 22	-37					
TIKSI	35.57	24.0	6 59	-2	12 37	0		8 41	PPP
KSARA	35.88	268.4	7 5	1	12 31	-11	7 15	8 25	PP
SODANKYLA	36.21	328.0	7 6	-1				9 37	PCP
HELSINKI	36.22	315.7	7 7	0					
NURMIJARVI	36.37	316.3	7 8	0	12 40	-10		8 20	PP
IASI	36.46	293.5	7 21	12					
VLADIVOSTOK	36.55	73.6						7 59	
KHEYS	37.12	354.0	7 16	2				8 7	
JERUSALEM	37.43	266.0	7 17	0					
LWOW	38.05	298.7	7 23	1				8 51	PP
BUCHAREST	38.29	289.7	7 25	1				9 21	
KIRUNA	38.63	328.2	7 26	-1				9 3	PP
CAMPULUNG	38.72	291.4						9 11	
UPPSALA	39.91	315.5	7 37	-1				9 16	PP
KRAKOW	40.55	300.2	7 44	1	13 56	3		9 23	PP
SKALNATE PL.	40.60	298.8						9 59	PP
SOFIA	40.79	288.3	7 45	0					
RACIBORZ	41.61	300.7	7 52	0					
BUDAPEST	41.91	296.7						19 43	
BELGRADE	41.92	292.5						17 15	
SKALSTUGAN	42.03	321.6	7 55	0				9 38	PP
HURBANOVO	42.30	297.6	7 57	0					
ATHENS	42.53	281.7	8 0K	1					
BRATISLAVA	42.90	298.3	8 2K	0					
GOTEBORG	43.18	313.1	8 14	10				17 55	
VIENNA-H.	43.33	298.7	8 4	-2				10 3	PCP
COPENHAGEN	43.42	310.1	8 14	8					
MATUSIRO	43.71	79.7	8 7K	-2	14 32	-8		17 55	
PRUHONICE	43.87	301.6	8 10A	0	14 56	14			
PRAGUE	43.92	301.8	8 13	3	14 47	4		11 19	PPP
POTSDAM	43.99	305.4	8 11	0	15 8	24		10 6	PPP
COLLMBERG	44.38	303.9	8 14A	0				9 31	PP
HALLE	44.93	304.5	8 19	0	14 40	-17		10 5	PP
PLAUEN	45.15	303.1	8 19	-1				10 3	PP
JENA	45.34	303.8	8 21	-1	14 44	-19		10 8	PP
TOLMEZZO	46.13	297.5	8 26	-2				10 25	
MUNSTER	47.29	306.4	8 38	1					
NORD	47.36	348.6	8 37	-1					
STUTTGART	47.52	301.8	8 39	0					
RAVENSBURG	47.71	300.5	8 39	-2					
TUBINGEN	47.75	301.6	8 40	-1					
BENSBERG	47.93	305.3	8 42	0					
EBINGEN	47.95	301.2	8 43	1					
CHUR	48.15	299.3	8 44	0				11 17	PPPP
BESANCON	50.17	301.2	9 0	0					
PARIS	51.58	304.3	9 8	-2					
FOLINIERE	53.34	305.4	9 21	-3					
RATHFARNHAM	54.42	312.5						14 30	
SETIF	56.05	289.5	9 41	-2					
RESOLUTE	61.09	358.6	10 17	-1	18 33	-4		14 10	PPP
TAMANRASSET	63.97	277.0	10 37	-1	19 56	43		13 6	PP
COLLEGE	64.62	20.7	10 41	-1					
LWIRO	65.48	239.7	10 46	-1					
TANANARIVE	69.95	213.3	11 13	-2					
ELISABTHVLLE	73.71	234.7	11 39	1					
BULAWAYO	79.92	228.8	11 47	-26					
RABAUL	79.93	106.1	12 18	5					
PORT MORESBY	80.34	113.3	12 9	-6	22 11	-9			
MUNDARING	82.72	150.1	12 27	0					
HUNGRY HORSE	86.66	9.7	12 53	6					
BREBEUF	87.53	342.2	13 1K	10					
CHARTERS TS.	87.77	121.0	12 52	0					
CORVALLIS	88.80	16.8	12 59	2					
BUTTE	89.13	9.1	12 5	-54					
PALISADES	91.86	341.0						31 9	SS
SHASTA	92.71	17.3	13 17	2					
MINERAL	93.22	16.8	13 18A	0					
LARAMIE	94.41	4.7	13 29	6					
EUREKA	95.09	12.8	13 27	1					
BYRD STATION	143.60	174.2	19 35	-2				24 0	PKS

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NOVEMBER 30 15.H 18.M 35.S EPICENTRE 59.70-151.58 DEPTH= 0.KM

A=-0.44596 B=-0.24133 C= 0.86191 D=-0.4759 E= 0.8795
G=-0.7580 H=-0.4102 K=-0.5071 HT= -8.8

SE= 2.19

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
COLLEGE	5.48	17.1	1	28	3	2	34	4					
SITKA	8.94	100.2	2	9	-5	3	50	-6					
ALBERNI	18.59	112.3	4	21	0								
HORSESHOE B.	19.24	109.9	4	28A	0								
VICTORIA	19.77	112.0	5	20	45								
CORVALLIS	22.78	119.0	5	7K	2								
HUNGRY HORSE	24.46	100.9	5	22	0	9	1	-39					
RESOLUTE	25.18	31.5	5	30K	1	9	59	7			6	5	PP
ARCATA	25.45	125.4	5	32A	1								
SHASTA	26.31	123.2	5	40K	1								
BUTTE	26.78	103.2	5	43	-1								
MINERAL	26.93	122.5	5	44	-1						9	6	PCP
BOZEMAN	27.78	102.1	5	52	-1								
PETROPAVLOVK	27.79	278.4									13	0	
MAGADAN	28.35	295.1									12	25	
RENO	28.37	121.1	5	58K	0								
BERKELEY	28.75	126.3	6	1K	0								
LICK	29.45	126.0	6	3K	-5						9	11	PCP
EUREKA	30.13	116.1	6	13	-1						9	15	PCP
FRESNO	30.70	124.1	6	19K	0								
SALT LAKE C.	31.04	109.7	6	21	-1								
THULE	31.62	26.6	6	27	0								
TIKSI	32.16	324.1	6	32	0								
BOULDER CITY	33.52	118.5	6	44	0								
PASADENA	33.63	124.5	6	44	-1						14	55	
LARAMIE	33.68	102.2	6	45	0								
YAKUTSK	36.21	308.5	7	9	2								
TUCSON TELE.	38.42	117.0	7	27	2	13	35	14					
TUCSON	38.45	117.2	7	28	3								
KHEYS	38.93	352.6	7	29	0								
LAWRENCE	40.62	94.8	7	43	0								
SCORESBY SD.	45.33	21.3	8	22A	0								
OTTAWA	45.66	72.8	8	23	-1								
SHAWINIGAN	46.24	69.6	8	28A	-1						10	22	PP
BREBEUF	46.60	71.2	8	30K	-2								
SEVEN FALLS	46.74	67.7	8	33A	0								
MORGANTOWN	47.86	81.3	8	40K	-2								
PENNSYLVANIA	48.01	78.6	8	43	0								
MATUSIRO	49.52	274.9	8	53	-2	15	56	-6			19	52	SS
PALISADES	49.81	75.4									20	7	SS
WASHINGTON	49.86	79.6	8	56	-1								
FORDHAM	49.94	75.5	8	55	-3								
HALIFAX	51.97	65.0	9	13K	0								
KIRUNA	52.64	3.8	9	17K	-1								
APATITY	53.00	357.6	9	20	-1								
SODANKYLA	53.23	0.9	9	21	-2						10	32	PCP
ULAN-BATOR	55.27	306.7	9	43	5								
SKALSTUGAN	56.43	8.6	9	45	-1								
NURMIJARVI	60.09	2.1	10	11	-1						10	58	PCP
HELSINKI	60.44	2.0	10	13	-1								
UPPSALA	60.49	6.2	10	13K	-1								
PULKOVO	60.86	358.9	10	14	-3	18	32	-2					
GOTEBORG	62.23	9.9	10	22	-4								
RATHFARNHAM	63.95	22.4	11	24K	47								
MOSCOW	64.68	354.3	10	46	4								
MUNSTER	67.42	13.8	11	0	0								
POTSDAM	67.59	10.1	10	59	-2								
HALLE	68.36	11.0	11	5	-1	20	14	8			13	38	PP
BENSBERG	68.36	14.3	11	4	-2								
COLLMBERG	68.65	10.3	11	7A	0						11	27	
JENA	68.89	11.3	11	8	-1								
FOLINIERE	69.35	20.0	10	41	-31								
PRUHONICE	70.10	9.5	11	17A	1								
RACIBORZ	70.26	7.0	11	18	1								
KRAKOW	70.39	5.8	11	18	0								
STUTTGART	70.77	13.3	11	20	0								
STRASBOURG	70.77	14.4	11	22	2						12	4	
BESANCON	71.84	15.9	11	31	4								
VIENNA-H.	71.96	8.4	11	27	-1								
SAN JUAN	72.05	84.3	11	26	-2								

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BRATISLAVA	72.09	7.9	11	38A	10					
LJUBLJANA	74.00	10.0	11	38	-1					
SIMFEROPOL	75.61	355.8	11	49	0					
RABAUL	77.39	238.2	11	57	-2					
CARACAS	78.31	89.3	11	50K	-14	21	59	0	13	29
WARSAK DAM	80.08	324.8	12	11	-2					
SHILLONG	80.49	305.0	12	12K	-4					
CHATRA	81.26	309.4	12	25	5					
ATHENS	82.61	3.7	12	25	-2					
CHITTAGONG	83.35	303.6	12	33	3				12	39 PCP
PORT MORESBY	84.22	240.4	12	34	-1	23	1	1		
QUETTA	84.97	327.2	12	39	0				15	57 PP
HUANCAYO	93.49	107.8	13	37	18				17	29 PP
CHARTERS TS.	94.11	236.4	13	22	0					
TAMANRASSET	95.70	21.2	13	34	5					
LWIRO	122.70	359.5	19	0A	2				20	37
LEOPOLDVILLE	123.89	15.9	19	1	0					
ELISABTHVLLE	132.04	1.3	19	19	3				21	36 PP
BYRD STATION	140.69	171.6	19	25	-7					
PRETORIA	146.07	0.4							20	43 PKP2
SOUTH POLE	149.53	180.0	19	43	-4					
PIETERMZBURG	149.89	356.6	19	53K	6					
MIRNY	151.28	228.8	19	54	4					
GRAHAMSTOWN	153.58	3.5	20	1	8					

DECEMBER 1 12.H 38.M 45.S EPICENTRE 37.76 20.23 DEPTH= 0.KM

A= 0.74362 B= 0.27408 C= 0.60984 D= 0.3458 E=-0.9383
G= 0.5722 H= 0.2109 K=-0.7925 HT= -0.9

SE= 2.92

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ATHENS	2.77	84.7	0	51A	4	1	31	10					
REGGIO CALA.	3.64	276.7	0	58	-1	1	38	-6					
MESSINA	3.73	278.1	0	59	-1	1	41	-5					
SKOPJE	4.30	12.1	1	8K	-1						1	14	P*
SOFIA	5.47	24.7	1	26	1	2	22	-8			2	47	SG
BELGRADE	7.05	1.3	1	45K	-2	3	14	5			3	54	SS
BUCHAREST	7.99	31.8	2	2A	1	3	38	5			2	40	PG
TIMISOARA	8.01	5.0	2	5	4	3	40	7			2	47	PG
BUCHAREST	7.99	31.8	2	2A	1	3	38	5			2	40	PG
TIMISOARA	8.01	5.0	2	5	4	3	40	7			2	47	PG
CAMPULUNG	8.32	24.1	2	4	-1	3	52	11			2	58	PG
ZAGREB	8.65	339.8	2	8	-2	3	44	-5			4	39	SG
PRATO	9.23	314.3	2	53K	35	3	42	-22					
TRIESTE	9.25	330.5	2	17	-1	3	53	-11			4	44	
LJUBLJANA	9.31	334.6	2	26	7	4	23	17			5	19	
BACAU	10.09	27.2	2	37	7						2	55	P*
HURBANOVO	10.21	352.3				4	3	-25					
BRATISLAVA	10.65	348.6	2	31	-6	4	19	-20					
IASI	10.87	27.5	2	40	0						3	27	PG
SKALNATE PL.	11.41	0.1	2	51	3	4	42	-15					
SETIF	11.97	267.0	2	55K	0								
CHUR	12.04	322.3	2	53	-3						5	2	SS
KRAKOW	12.28	359.1									3	10	PP
LWOW	12.36	11.6	3	3	2	5	25	5					
RACIBORZ	12.40	353.9	3	4	3						3	21	PPP
CHORZOW	12.55	356.3	2	50	-13						3	6	PP
SIMFEROPOL	12.65	51.1	3	4	-1								
RAVENSBURG	12.67	325.5	3	15	10								
PRUHONICE	12.87	343.3	3	5K	-2	5	31	-2					
PRAGUE	12.99	343.1	3	6	-3								
EBINGEN	13.26	325.3	3	11	-2								
KSARA	13.30	102.5	3	13	0	5	37	-6			3	23	PP
NEUCHATEL	13.46	317.5	3	13	-2	5	33	-14			8	31	
BASLE	13.47	320.4	3	15A	0								
TUBINGEN	13.48	326.5	3	16	1								
CHEB	13.54	337.9	3	26	10								
STUTTGART	13.57	327.6	3	15	-2	5	40	-9					
ALGIERS UNI.	13.72	271.1	3	18	-1						3	30	PP
PLAUEN	13.97	338.2	3	28	6								
STRASBOURG	14.10	324.0	3	24	0	6	17	15					
BESANCON	14.13	316.6	3	28	4						4	34	
SONNEBERG	14.17	335.8	3	19	-6								

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COLLMBERG	14.47	341.6	3	26	-3	6	6	-5	3	37 PP
WARSAW	14.48	1.9				6	2	-9	3	34 PP
JENA	14.53	337.7	3	27	-2	6	2	-10	3	37 PP
HALLE	14.93	339.5				6	11	-11	3	42 PP
CLERMONT-FD.	15.05	307.5	3	15	-21					
POTSDAM	15.45	343.3	3	48	7	6	48	14	4	2 PP
SOTCHI	15.87	62.4	3	46	-1					
BENSBERG	16.13	329.0	3	50	0	7	13	23		
MUNSTER	16.75	332.0	3	59	1					
PARIS	16.95	316.3	4	6	6	5	54	-75		
UCCLE	17.25	324.1	4	8	4	7	18	2		
WITTEVEEN	17.78	332.2	4	15	4					
DE BILT	17.81	328.4	4	13	2	7	43	15		
FOLINIERE	18.61	312.8	4	19	-2					
COPENHAGEN	18.68	346.1	4	24K	2	7	55	7		
GRANADA	18.92	275.5	3	38K	-47	8	23	29	7	41
TOLEDO	19.03	283.9	4	23	-3				4	52
TIFLIS	19.28	70.5	4	23	-6					
TAMANRASSET	19.57	224.4	4	32K	-1	8	15	7	4	49 PP
KEW	19.95	319.9	4	37K	0					
GOTEBORG	20.67	347.4	4	43A	-1					
MAKHACH-KALA	21.37	67.3	4	53	1	8	51	6		
MOSCOW	21.46	27.5	4	51	-1	8	45	-1		
UPPSALA	22.17	356.5	4	58A	-2	9	3	3	5	26 PP
DURHAM	22.58	325.9	5	2K	-2	9	6	-1	5	34 PP
HELSINKI	22.63	6.2	5	3	-1					
NURMIJARVI	22.94	5.6	5	6	-1	9	12	-2	5	35 PP
PULKOVO	22.95	13.1	5	7	0	9	15	1		
RATHFARNHAM	24.02	318.8	5	18A	0				5	46 PP
ABERDEEN	24.39	329.9	5	21A	0	9	46	7	13	43
SKALSTUGAN	26.29	352.0	5	37	-2					
SODANKYLA	29.87	5.0	6	11	-1					
KIRUNA	30.12	0.1	6	12A	-2					
APATITY	30.75	9.9	6	19A	-1	11	21	-1	13	22 SS
SVERDLOVSK	32.73	41.2	6	34	-3					
ADDIS ABABA	33.14	144.9	6	44	4	12	10	10		
BANGUI	33.26	182.9	6	42	0					
QUETTA	39.15	86.9	7	30A	-1	13	31	-1	9	5 PP
SCORESBY SD.	39.49	339.2	7	35K	1					
MBOUR	40.34	244.8	7	42A	1	13	17	-33		
LWIRO	40.60	166.8	7	45K	2	13	48	-6		
WARSAK DAM	41.33	79.1	7	47	-2					
KARACHI	41.62	94.2	7	52A	0				9	29 PP
LEOPOLDVILLE	42.17	187.4	7	57K	1	14	12	-5	9	39
LAHORE	44.41	81.2	8	17	2				10	45 PPP
KHEYS	45.23	8.1	8	22	1					
NORD	45.86	352.9	8	25	-1					
AGRA	49.22	84.7	8	48A	-4					
BOMBAY	49.29	97.2	8	54	1	16	17	18	10	50
ELISABTHVLLE	49.62	170.7	8	57	1				10	25
POONA	50.31	96.9	9	1A	0					
THULE	53.32	342.9	9	23	0				10	24 PCP
CHATRA	56.55	80.2	9	48	1					
IRKUTSK	57.91	46.2	9	56	-1					
BULAWAYO	58.13	170.7	9	58	0					
LHASA	58.21	75.3	9	58	-1	18	1	1		
WINDHOEK	60.08	183.3	10	11	-1					
RESOLUTE	60.11	343.9	10	10A	-2	18	29	5		
TIKSI	60.13	20.3	10	11	-1					
HALIFAX	60.81	305.6	10	15K	-2					
SHILLONG	60.84	79.0	10	13	-4					
ULAN-BATOR	61.17	50.0	10	19	0					
TANANARIVE	61.96	150.5	10	26K	1					
CHITTAGONG	62.46	82.1	10	27	-1	18	54	0	12	43 PP
PRETORIA	63.62	172.0	10	47	12					
LANCHOW	64.60	63.1	10	41A	-1					
YAKUTSK	65.60	29.2	10	46	-2	19	31	-2		
KIMBERLEY	66.30	175.6	10	52K	-1					
BREBEUF	66.67	310.2	10	55K	0					
CHENGTU	67.45	68.1	10	59A	-1	19	55	-1		
OTTAWA	67.98	310.9	11	5A	2					
KUNMING	69.44	73.7	11	12	0	20	18	-1		
PEKING	70.87	53.9	11	21A	0	20	37	1		
WASHINGTON	72.38	305.7	11	31	1					
MORGANTOWN	73.79	307.7	11	43	5					
CHANGCHUN	74.24	46.6	11	41A	0	21	16	1		
WUHAN	75.13	62.9	11	46A	0					
NANKING	77.17	59.4	11	57A	-1					

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COLLEGE	77.27	354.8	11	58	0					12	37
VLADIVOSTOK	78.40	44.0	12	3	-1						
MEDAN	78.68	94.3	12	5K	-1						
ZO-SE	79.38	59.0	12	9	-1						
HONG KONG	79.65	69.9	12	17	6						
HUNGRY HORSE	85.10	331.3	12	39	0						
BOZEMAN	86.09	328.1	12	45	1						
BUTTE	86.44	329.2	12	46	0						
MATUSIRO	86.44	45.4	12	46K	0	23	24	2			
LARAMIE	87.04	322.3	12	51	2						
CORVALLIS	91.66	334.9	13	13	2						
EUREKA	93.24	327.6	13	18	0						
SHASTA	94.74	332.4	13	24	-1						
MINERAL	94.76	331.7	13	25	0						
RENO	94.77	330.1	13	26	1						
TUCSON TELE.	96.61	319.9	13	36	3						
TUCSON	96.73	320.0	13	37	3						
LICK	97.39	330.3	13	45	8						
PORT MORESBY	124.66	73.6	19	4	2					20	43
CHARTERS TS.	130.27	85.0	19	14	1					21	27 PP
BYRD STATION	134.91	189.2	19	22	0						
DUMONT	135.74	150.3	19	23	0						
TERRE ADELIE	136.25	150.7	19	23	-1						
KARAPIRO	160.51	98.1	20	45	43					21	6

DECEMBER 1 14.H 59.M 44.S EPICENTRE -62.92 155.70 DEPTH= 0.KM

A=-0.41710 B= 0.18832 C=-0.88914 D= 0.4115 E= 0.9114
G= 0.8104 H=-0.3659 K=-0.4576 HT= -9.8

SE= 3.87

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
TERRE ADELIE	7.23	231.0	1	55	6								
DUMONT	7.67	233.8	1	55	-1	3	24	0			2	12	PG
MACQUARIE I.	9.61	12.8	2	3K	-6	3	41	-7			2	27	
SCOTT BASE	15.40	171.2	3	36	-4	6	46	14					
ROXBURGH	19.13	30.4	4	24	-3						7	10	
WILKES	19.32	239.9	4	31	2						8	2	
FORT NELSON	20.62	342.4	4	46	3	8	35	6					
GEBBIES PASS	21.62	35.0	4	52	-2								
KAIMATA	22.42	31.7	5	10	8								
COBB RIVER	24.10	32.8	5	19	1								
WELLINGTON	24.45	36.5	5	23	2	9	44	5			7	9	PP
MELBOURNE	25.96	340.3	5	36	0	10	10	5			10	29	
MIRNY	26.00	234.2	5	43	7								
SOUTH POLE	27.24	180.0	5	48	1						6	35	PP
KARAPIRO	27.79	35.1	5	49	-3								
CANBERRA	27.94	348.3	5	52K	-2	10	57	20					
BYRD STATION	28.02	158.3	5	52	-3	10	6	-32			7	8	PP
RIVERVIEW	29.25	352.2	6	15K	9	11	0	2					
ADELAIDE	29.92	331.3	6	12A	0						13	46	
BRISBANE	35.58	355.5	6	57	-4	12	38	1					
MUNDARING	39.77	302.3				13	39	-2			7	35	
PERTH	39.93	301.9	7	40	3	13	41	-2			9	16	
CHARTERS TS.	43.29	347.0	8	3	-2	14	33	0					
PORT MORESBY	53.78	349.5	9	24	-2	17	4	4	9	43	20	58	SS
RABAUL	58.65	355.9	9	59	-2								
LEMBANG	65.88	305.9	10	49A	-1								
GUAM	76.62	349.0	11	52	-2								
HERMANUS	76.94	215.8									22	4	SCS
MEDAN	78.84	301.4	12	10K	4								
TANANARIVE	81.28	245.5	12	33	14								
MANILA	81.91	326.3	12	30	7	22	8	-28					
BULAWAYO	87.42	228.6	12	53	3								
HONG KONG	91.04	322.1	12	48	-19	23	53	-11			30	12	SS
KUNMING	97.21	313.2				24	20	7			17	43	PP
ZO-SE	97.67	330.6									17	42	PP
MATUSIRO	100.11	345.8				24	31	4			17	46	PP
SHILLONG	101.50	304.2									17	56	PP
LHASA	105.48	305.3				24	57	4			18	38	PP
PEKING	107.37	329.2									18	46	PP
CHANGCHUN	109.14	337.2									18	58	PP
DEHRA DUN	111.22	295.0									19	15	PP
LAHORE	113.85	292.6	18	18	-23								
QUETTA	115.85	285.8	18	54	9	26	4	29			22	29	PKS

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ULAN-BATOR	117.07	325.4								19	49 PP
EUREKA	123.55	68.2	19	3	3						
KSARA	133.00	261.0	18	16	-62					28	37 SKKS
COLLEGE	134.11	29.7	19	21	1						
TAMANRASSET	135.13	220.6	19	23	1					22	0 PP
MAKHACH-KALA	135.14	278.7								22	40 PP
TIFLIS	135.37	275.4								22	19 PP
TIKSI	135.54	348.2	19	20	-2						
SIMFEROPOL	142.77	269.2								22	13 PP
PALISADES	143.67	103.4								36	26 PPS
OTTAWA	146.31	96.8	19	43	2						
BREBEUF	147.34	98.8	19	52K	9						
SETIF	147.60	228.4	19	49	6					20	36
MOSCOW	148.76	285.7	19	54	9						
SEVEN FALLS	149.83	99.6	19	54	7						
KHEYS	152.51	339.4	20	1	10						
RESOLUTE	153.84	34.7	19	52	-1					23	46 PP
PULKOVO	154.29	288.0	20	6	13						
PRUHONICE	155.38	256.5	20	19	24						
STUTTGART	156.78	248.1	20	32	35						
COLLMBERG	157.02	257.0	20	22	25						
NURMIJARVI	157.12	286.3	20	16	19					20	45
JENA	157.38	254.7	20	23	25						
SODANKYLA	158.67	304.3	20	29	30					20	44
THULE	160.35	29.2	20	6	5					24	26 PP
KIRUNA	161.09	304.5								20	55 PKP2

DECEMBER 1 18.H 11.M 54.S EPICENTRE 5.46 124.94 DEPTH= 396.KM

A=-0.57016 B= 0.81607 C= 0.09460 D= 0.8197 E= 0.5727
G=-0.0542 H= 0.0775 K=-0.9955 HT= 7.0

DEPTH OF FOCUS= 0.057R

SE= 1.30

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
MANILA	9.90	337.7	2	17	-1	4	12	5				
BAGUIO CITY	11.70	338.9	2	38	0	4	46	1				
HONG KONG	19.71	329.1	4	2	0	7	26	8				
PORT MORESBY	26.61	123.6	5	4A	-2						11	15 *SS
NANKING	27.08	348.5	5	10	0							
RABAUL	28.84	108.9	5	26	1						7	15
KUNMING	28.90	314.9	5	26	0							
ABUYAMA	30.87	17.2	5	44K	1							
CHENGTU	31.87	324.3	5	51	0	10	34	1				
CHARTERS TS.	32.93	141.1	6	0A	0						11	45
MATUSIRO	33.24	19.7	6	3K	0	10	56	2			11	47
PEKING	35.31	348.3	6	20	-1							
TOCKLAI	35.71	309.7	5	27	-57							
LANCHOW	36.10	330.3	6	29	2	11	43	5				
CHITTAGONG	36.14	300.9	6	29K	1	11	45	7	7	49	8	6 PP
SHILLONG	37.43	305.8	6	38	0							
MUNDARING	38.14	192.1	6	42	-2							
LHASA	40.01	311.0	7	1	2	12	40	4				
CHATRA	41.79	304.8	7	15	1							
ADELAIDE	42.26	163.1	7	18A	0						12	20
BRISBANE	42.32	141.9	7	19	1	12	22	-47				
CANBERRA	46.45	152.6	7	51A	0				9	15	9	30 PP
MELBOURNE	46.93	158.2	7	55	1							
LAHORE	53.94	305.3	8	45	-1	15	51	1				
WARSAK DAM	56.92	307.3	9	7K	0							
KARACHI	58.66	295.7	9	18K	-1							
QUETTA	59.72	301.8	9	26K	0							
KARAPIRO	63.78	137.1	9	53A	0							
TANANARIVE	79.91	249.8	11	27	0							
COLLEGE	83.91	25.4	11	48	1							
KSARA	86.22	303.5	12	3	4							
SODANKYLA	88.19	337.5	12	5	-3							
HELSINKI	90.24	330.5	12	17	-1							
NURMIJARVI	90.33	330.9	12	18	0							
KIRUNA	90.41	338.4	12	17	-1							
NORD	91.21	354.8	12	21	-1							
UPPSALA	93.89	331.1	12	32	-2							
RESOLUTE	96.43	9.9	12	47K	1							

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DECEMBER 2 7.H 29.M 59.S EPICENTRE -5.30 103.17 DEPTH= 72.KM

A=-0.22688 B= 0.96960 C=-0.09168 D= 0.9737 E= 0.2278
G= 0.0209 H=-0.0893 K=-0.9958 HT= 7.0

DEPTH OF FOCUS= 0.006R

SE= 2.58

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
DJAKARTA	3.75	103.7	0 57	0	1 39	-1		
LEMBANG	4.68	109.2	1 11A	1				2 5 SG
PORT BLAIR	19.80	328.4	4 26	-1				
PHU-LIEN	26.15	7.4						10 25
COLOMBO	26.22	297.3			9 51	-5		
MANILA	26.62	41.6	5 36	2	10 24	23		
MADRAS	29.19	308.7						11 53 SS
MUNDARING	29.21	156.9	5 52	-5				
HONG KONG	29.46	21.1	6 17	18	11 14	27		15 54 SCS
CHITTAGONG	29.64	338.4	6 0	-1				
KODAIKANAL	29.88	301.1			11 4	5		
KUNMING	30.23	359.2	6 7A	1	11 5	6		
SHILLONG	32.58	340.8	6 24A	-3				
BOKARO	33.54	330.3	6 34	-1	11 52	1		
CHENGTU	35.76	1.2	6 55	1	12 30	5		
LHASA	36.64	342.1	7 2	1	12 34	-4	7 29	
POONA	37.36	310.0	7 6A	-1	12 50	1		
BOMBAY	38.37	309.6	7 15	-1	13 6	1		8 47 PP
AGRA	40.38	324.2	7 30A	-2				
LANCHOW	41.13	0.8	7 40	1	13 53	7		
DEHRA DUN	42.81	327.3	7 56	4	14 13	2		17 49 SSS
PORT MORESBY	43.79	98.0	8 0A	0	14 30	5	8 12	17 59 SCS
ADELAIDE	44.14	136.7	8 3A	0				
CHARTERS TS.	44.37	113.3	8 6	1	14 40	7		
LAHORE	45.82	325.0	8 16	0				10 7 PP
PEKING	46.66	13.7	8 23A	0	15 8	2		
WARSAK DAM	49.20	324.9	8 41	-2				
QUETTA	49.47	317.7	8 43	-2	15 25	-21	9 17	10 41 PP
MELBOURNE	49.92	136.4	8 50	2				
CANBERRA	51.67	131.6	9 2A	0				
BRISBANE	52.00	120.7	9 7K	3	16 33	13		
RIVERVIEW	52.72	129.0			17 37	67		
CHANGCHUN	52.82	20.0	9 10A	0				
MATUSIRO	52.97	35.4	9 10	-1	16 57	23		20 55 SS
ULAN-BATOR	53.09	3.1	9 13	1	16 39	4		
TANANARIVE	55.82	250.8	9 37	5				
IRKUTSK	57.35	0.8	9 44	1	16 51	-41		
WILKES	61.15	176.6						18 19 *SS
ADDIS ABABA	65.75	282.3	10 49	10				
DUMONT	66.33	164.9	10 41	-2	19 26	0		
TERRE ADELIE	66.81	164.5	10 41	-5	19 26	-5		
YAKUTSK	70.17	13.0	11 4	-3				
TIFLIS	70.72	317.5	11 9	-1	20 23	5		
KARAPIRO	72.87	127.9	11 25	2				17 30
CHATEAU	73.02	129.3	11 23	-1				11 36
BROKEN HILL	73.90	256.5	11 28	-1				11 38
KSARA	74.38	307.1	11 32	0			11 56	
ELISABTHVLLE	74.97	259.4	11 33	-2				
CAPE HALLETT	78.11	163.3	11 53	0	21 49	9		12 1
TIKSI	78.61	8.1	11 55	-1				
PULKOVO	86.01	331.0	12 38	4				
APATITY	87.26	338.9	12 39	-1	23 17	5		
LEOPOLDVILLE	87.54	265.9	12 50A	9	23 15	0		
KHEYS	88.58	353.3	12 46	0				
HELSINKI	88.72	330.7	12 46	-1				
NURMIJARVI	88.94	331.0	12 48	0				
SODANKYLA	89.70	337.9	12 51	0				
RACIBORZ	90.79	320.1	12 57	0				13 8 PCP
KIRUNA	92.12	337.9	13 2	-1				
BYRD STATION	92.14	173.2	13 2	-1			13 41	13 13
UPPSALA	92.30	329.8	13 2	-1				
SKALSTUGAN	95.00	333.3	13 16	-1				
COLLEGE	102.79	24.5						18 10 PP
RESOLUTE	109.88	5.0	18 23	-1	25 1	7		28 25 PS
CORVALLIS	123.66	38.5	18 53	3				

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SHASTA	126.13	42.2	18 58	4				
HUNGRY HORSE	126.68	30.2	18 56	1				
MINERAL	126.83	42.3	18 57K	1				
LICK	128.20	45.6	19 2A	4				
RENO	128.42	42.3					19 31	
EUREKA	130.98	40.3	19 2	-2				
PASADENA	132.16	47.6	19 17	11				
TUCSON TELE.	138.46	45.4	19 13	-4				
BREBEUF	139.86	356.5	19 24K	4				
PALISADES	144.35	356.2	19 28	0			23 3	PKS
FORDHAM	144.50	356.1	19 27	-1				
MORGANTOWN	145.70	4.3	19 32K	2				
CHAPEL HILL	149.46	3.5	19 42	6			20 2	PKP2
COLUMBIA	151.17	7.2	19 47	8				
LA PAZ	156.70	201.5	19 11	-36				

DECEMBER 2 7.H 43.M 57.S EPICENTRE 21.54 94.48 DEPTH= 133.KM
A=-0.07269 B= 0.92817 C= 0.36500 D= 0.9969 E= 0.0781
G=-0.0285 H= 0.3639 K=-0.9310 HT= 4.3

DEPTH OF FOCUS= 0.016R

SE= 1.71

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
SHILLONG	4.67	329.7	1	6	-4	1	55	-9				
TOCKLAI	5.19	2.9	1	21	4							
CALCUTTA	5.75	281.0	1	25	1	2	20	-10				
BOKARO	8.33	287.5				3	19	-12				
KUNMING	8.39	63.3	2	1A	1							
LHASA	8.64	339.7	2	1	-2	3	37	-2				
LANCHOW	16.60	27.4	3	46	0							
POONA	19.61	264.9	4	20K	0	7	46	-3				
WARSAK DAM	23.72	306.4	5	3	2							
QUETTA	26.17	294.9	5	24	0							
MATUSIRO	40.70	58.6	7	28K	-1				7	51		
MUNDARING	57.13	158.0	9	33	-2							
NURMIJARVI	61.57	328.1	10	5	0							
SODANKYLA	61.81	336.0	10	6	-1							
KIRUNA	64.23	336.1	10	23	0							
UPPSALA	65.04	327.2	10	27	-1				10	51		
CHARTERS TS.	65.37	125.7	10	29	-1							
SKALSTUGAN	67.48	331.3	10	43	-1				11	5		
ADELAIDE	70.15	142.5	11	0	0							
ELISABTHVLLE	73.56	250.1	11	23	2							
BRISBANE	74.46	128.3	11	27	2				11	53		
CANBERRA	76.60	136.8	11	37	0							
TAMANRASSET	81.02	290.9	12	5	4							
COLLEGE	81.65	22.5	12	4	-1						12	32
THULE	81.69	355.9	12	5	0							
RESOLUTE	83.82	2.5	12	15A	-1							
EUREKA	112.96	25.2	18	31	10				18	52		
BYRD STATION	119.61	173.6	18	56	22							

DECEMBER 2 9.H 34.M 16.S EPICENTRE -1.05 123.11 DEPTH= 111.KM
A=-0.54615 B= 0.83749 C=-0.01812 D= 0.8376 E= 0.5462
G= 0.0099 H=-0.0152 K=-0.9998 HT= 7.2

DEPTH OF FOCUS= 0.012R

SE= 2.60

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
MANILA	15.74	352.7	3	36	0	6	24	-3				
LEMBANG	16.48	249.2	3	43K	-3	7	5	21				
DJAKARTA	17.02	252.2	3	49K	-3	7	6	10				
BAGUIO CITY	17.53	351.9	3	56	-2	8	4	56				
HENGCHUN	23.02	354.4	5	0	4	9	9	15				
TAWU	23.35	354.8	5	0	1	9	11	11				
KAOHSIUNG	23.68	353.5	5	6	4							
TAITUNG	23.73	355.5	5	2	0	9	16	10				

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HSINKONG	24.06	356.1	5	7	1						
TAINAN	24.06	353.5	5	8	2						
YUSHAN	24.47	355.2	5	15	5	9	38	19			
ALISHAN	24.52	354.9	5	15	5	9	41	21			
HONG KONG	24.79	339.9	5	12A	-1	9	16	-8			
MEDAN	24.85	280.8	5	14K	1	9	47	22			
HWALIEN	24.91	356.8	5	18	4						
TAICHUNG	25.15	354.8	5	16	0						
PORT MORESBY	25.32	109.9	5	16K	-2	9	40	7			6 11 PPP
ILAN	25.70	357.1	5	29	8	8	58	-41			
HSINCHU	25.77	355.5	5	33	11	9	49	8			
CANTON	25.81	339.0	5	23A	1	9	46	5			5 58 PP
GUAM	25.84	55.4	5	22	0	10	1	19			
TAIPEI	25.97	356.7	5	26	2	10	13	29			
PHU-LIEN	27.05	324.3	5	32	-2	10	9	8			6 22 PP
RABAUL	29.19	96.7	5	52	-1	10	48	12			7 15
CHARTERS TS	29.51	131.4	5	53	-3	10	42	1			
MUNDARING	31.44	191.3	6	8	-5						6 59 PP
PERTH	31.50	191.9	6	17	4	11	34	22			
ZO-SE	32.02	356.9	6	17A	-1	11	28	8			7 23 PP
YAKUSIMA	32.10	12.1	6	16	-2						12 41
WUHAN	32.44	346.2	6	21A	0	11	30	3			7 32 PP
KUNMING	32.64	324.2	6	24A	1	11	34	4			7 36 PP
PORT BLAIR	32.73	293.6	6	24	0	11	40	9			16 44 SCS
NANKING	33.18	353.3	6	27A	-1	11	41	3			6 50
MIYAZAKI	33.72	12.8	6	34	2	12	16	30			
NAGASAKI	34.20	10.2	6	38K	2						12 59
SIMIDU	34.91	14.6	6	41	-2	12	3	-2			8 5
OOITA	35.02	12.5	6	49	6						7 56
HUKUOKA	35.11	10.6	6	43	-1	12	9	1			
KOTI	35.78	15.0	6	49	-1	12	54	36			8 24 PP
MATUYAMA	35.87	13.8	6	49	-2						8 4
HIROSIMA	36.30	13.1	6	53	-1	12	45	19			8 13 PP
SIOMISAKI	36.32	18.0	6	52	-3	12	48	21			
CHENGTU	36.39	331.6	6	55A	0	12	32	4			7 26
TOKUSIMA	36.55	16.1	6	56	0	12	36	6			
TAKAMATU	36.65	15.3	6	56	-1						8 28
ADELAIDE	36.76	158.3	6	56K	-2	12	42	9	7	6	
WAKAYAMA	36.87	16.8	6	58	-1						
SUMOTO	36.90	16.4	6	57	-2	12	46	11			8 12
OWASE	37.03	18.2	7	0	0						
KOBE	37.30	16.5	7	2	-1	12	56	15			
OSAKA	37.37	17.0	7	5K	2						13 25
MATSUE	37.48	13.4	7	3	-1						
NARA	37.49	17.3	7	2	-2						
YONAGO	37.53	13.8	7	6	1	12	46	1			
ABUYAMA	37.59	16.9	7	4A	-1						
KYOTO	37.77	17.0	7	7	0	12	53	4			
KAMEYAMA	37.84	18.0	7	8	1	12	54	4			
TOYOOKA	37.99	15.6	7	8	0	12	53	1			
HIKONE	38.16	17.5	7	8	-2	12	58	4			16 17 SCS
OMAESAKI	38.18	20.4	7	14	4	13	0	5			
NAGOYA	38.29	18.5	7	11	0	13	39	43			8 33
CHITTAGONG	38.36	309.2	7	13	1	13	12	15			8 45 PP
GIHU	38.44	18.1	7	11	-1	13	1	2			8 59
SHIZUOKA	38.58	20.3	7	16	3						
BRISBANE	38.67	135.2	7	16	2	13	0	-2			
OSIMA	38.75	21.6	7	20	5						16 27
TOCKLAI	38.85	317.4	7	22	6						
HUKUI	38.88	17.0	7	14	-2						
IIDA	38.89	19.3	7	26	10						
AJIRO	38.90	21.1	7	16	0						8 59
MISIMA	38.91	20.9	7	15	-1						8 52
MERA	39.05	22.0	7	14	-3						15 43
HUNATU	39.19	20.4	7	19	1	13	22	12			
KOHU	39.27	20.0	7	18	-1	13	16	5			
YOKOHAMA	39.44	21.5	7	21	1						9 1
MATUMOTO	39.60	19.0	7	22	0						
TOKYO C.M.O.	39.70	21.4	7	23	0	13	31	13			8 18
TITIBU	39.73	20.4	7	23	0						
TOYAMA	39.77	17.8	7	22	-1	13	38	19			
OIWAKE	39.86	19.6	7	21	-3	13	24	4			9 6
MATUSIRO	39.94	19.1	7	22A	-3	13	20	-1			8 46 PP
KUMAGAYA	39.99	20.7	7	24	-1						9 27
NAGANO	40.06	19.0	7	25	-1	13	42	19			
MAEBASI	40.10	20.1	7	24	-2						8 54
SHILLONG	40.15	313.4	7	27A	1						
TUKUBASAN	40.31	21.4	7	22A	-6	14	4	37			8 52 PP

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WAZIMA	40.31	17.1	7	30	2	13	30	3			
UTUNOMIYA	40.52	20.9	7	30	1	13	24	-6		9	34
MITO	40.59	21.7	7	33	3						
LANCHOW	41.04	336.0	7	34A	0						
SHIRAKAWA	41.15	20.9	7	35	0	13	36	-3			
CALCUTTA	41.17	306.8	7	42	7	13	53	14			
ONAHAMA	41.25	21.8	7	35	0					14	18
PEKING	41.37	351.9	7	34A	-2					9	10 PP
NIIGATA	41.47	19.1	7	37	0					8	54
CANBERRA	41.76	147.6	7	38A	-1	13	56	8	7 47	9	20 PP
MELBOURNE	41.77	153.7	7	42A	2	14	2	14	7 48	17	6 SS
HUKUSIMA	41.81	20.8	7	39	-1	13	55	6			
RIVERVIEW	41.87	144.1	7	42K	2	14	0	10			
SENDAI	42.42	20.9	7	44	-1	13	51	-7			
SAKATA	42.62	19.4	7	51	4					15	20
ISINOMAKI	42.72	21.2	7	46	-1	14	13	11			
LHASA	43.22	317.5	7	53A	2	14	17	8		17	28 SS
MIZUSAWA	43.27	20.6	7	51	-1	14	9	-1			
AKITA	43.45	19.1	7	53	0					14	57
MORIOKA	43.79	20.2	7	55	-1	14	18	0			
COLOMBO	43.86	281.0	7	56	-1	14	29	10		9	59
BOKARO	43.87	306.8	7	59A	2	14	25	6		17	27 SS
MIYAKO	44.03	21.0	7	57	-1	14	44	23			
CHATRA	44.34	311.4	8	2	2	14	33	7			
HATINOHE	44.66	20.0	8	2	-1	14	34	4			
AOMORI	44.67	19.1	8	4	1	14	21	-9			
VLADIVOSTOK	44.67	9.2	8	0	-3						
CHANGCHUN	44.72	2.3	8	1A	-2	14	37	6		9	46 PCP
MADRAS	44.81	289.6	8	7A	3	14	41	9		9	54 PP
HAKODATE	45.55	18.5	8	8	-2						
MORI	45.76	18.2	8	13	1	14	50	4			
MURORAN	46.08	18.4	8	13	-1						
SUTTSU	46.29	17.4	8	14	-2	14	52	-1		10	12
URAKAWA	46.53	20.2	8	18	0	15	2	5			
TOMAKOMAI	46.56	18.8	8	38	20						
KODAIKANAL	46.77	285.0	8	20	0	15	10	10		10	11 PP
SAPPORO	46.88	18.3	8	20	-1	15	3	1		10	6 PP
FORT NELSON	47.01	155.7	8	22	0	15	22	18			
OBIHIRO	47.35	20.1	8	26	2						
HYDERABAD	47.66	294.8	8	28A	1	15	27	14		10	14 PP
KUSIRO	47.83	21.1	8	28	0	15	15	0			
ASAHIGAWA	47.84	18.8	8	30	2						
NEMURO	48.56	21.8	8	34	0	15	35	10			
ABASHIRI	48.69	20.3	8	34	-1						
ULAN-BATOR	50.77	346.0	8	50	-1						
Y.-SAKHLINSK	50.86	17.2	8	48	-3	16	2	5		10	46 PP
AGRA	51.62	306.4	8	55A	-2	16	11	3		11	5 PP
POONA	52.16	294.5	8	59	-2	16	11	-4		10	27 PCP
UGLEGORSK	52.55	15.6	9	2	-2	16	27	7			
DEHRA DUN	53.02	310.0	9	9	2	16	33	6		11	19 PP
BOMBAY	53.20	294.6	9	6	-3	16	34	5		11	5 PP
IRKUTSK	55.43	346.1	9	24A	-1	17	6	7		11	42 PP
IRKUTSK	55.43	346.1	9	23	-2	17	1	2			
LAHORE	56.42	309.6	9	29	-3	17	17	5			
ONERAHI	58.71	132.1	9	51	3	18	6	24			
WARSAK DAM	59.58	311.0	9	53	-1	18	1	8			
KAIMATA	59.75	140.3	10	6	11	18	17	21			
COBB RIVER	59.90	138.3	9	59	3						
ROXBURGH	60.02	144.1	10	2	5	18	7	8		20	0 SCS
KARAPIRO	60.45	133.9	10	0	0					12	31
MACQUARIE I.	60.82	157.0	10	2	-1				10 11	10	30 PCP
CHATEAU	60.98	135.2	10	4	0					10	42
GEBBIES PASS	61.12	140.9	10	6	1						
WELLINGTON	61.36	137.7	10	5	-1	18	24	8		19	59 SCS
PETROPAVLOVK	61.51	23.6	10	6	-1	18	27	9			
FRUNSE	61.63	321.2	10	4	-4	18	28	9			
QUETTA	61.77	305.3	10	7	-2	18	17	-4		12	20 PP
TUAI	61.96	134.2	10	14	4						
YAKUTSK	63.10	3.5	10	15	-3	18	43	5			
MAGADAN	64.19	15.2	10	24	-1						
TASHKENT	64.37	317.6	10	24	-2	19	3	9		10	54 PCP
APIA	65.60	104.6	10	34	0						
WILKES	65.77	185.5	10	32	-3	19	17	6		12	51 PP
TERRE ADELIE	66.89	172.2	10	38	-4					22	30
MIRNY	68.73	192.4	10	52	-2	19	55	9		15	2 PPP
ASHKABAD	70.98	310.9	11	7	0	20	22	9		15	32 PPP
TIKSI	72.65	1.9	11	14	-3					13	54 PP
TANANARIVE	76.00	250.9	11	36A	0	21	20	11		14	28 PP
SVERDLOVSK	76.18	329.9	11	35	-2	21	16	5		14	35 PP

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CAPE HALLETT	76.98	166.7	11	42K	0	21	29	10		
HONOLULU	79.94	68.3	12	1	3					
KIPAPA	80.02	68.2	12	3	5					
SCOTT BASE	80.16	171.5	11	59	0	22	14	21	12	9 PCP
MAKHACH-KALA	80.21	313.8	11	57	-2	21	59	5		
GORIS	80.48	310.2	12	0	-1	22	2	6	16	59 PPP
TIFLIS	81.97	312.2	12	9	0	22	20	8	22	58 PS
HAWAII V.OB.	82.44	70.4	12	15	4					
ADDIS ABABA	84.57	279.1	12	26	4	22	56	18		
SOTCHI	85.92	313.6	12	29	1	22	52	1		
KHEYS	87.06	351.4	12	34	0				16	0 PP
KSARA	88.27	303.7	12	41A	1	23	29	16	16	7 PP
MOSCOW	88.30	325.7	12	40	0				24	16 PS
SOUTH POLE	88.96	180.0	12	43	0				26	13
SIMFEROPOL	90.01	314.8	12	48A	0				16	25 PP
COLLEGE	90.54	25.3	12	50	0	24	14	40	30	14 PKKP
APATITY	90.84	337.4	12	50A	-2	23	44	8	16	56 PP
PULKOVO	92.31	329.6	12	58	-1	23	27	-22	16	44 PP
SODANKYLA	93.46	337.3	13	3	-1				16	49 PP
BYRD STATION	93.57	171.1	13	6	2	24	28	28	16	56 PP
BULAWAYO	93.87	249.9	13	7	1					
BROKEN HILL	94.24	255.5	13	9	2					
LWIRO	94.27	267.7	13	9	1	24	21	15		
IASI	94.53	317.1							16	51
HELSINKI	94.96	330.2	13	16	5					
NURMIJARVI	95.07	330.6	13	14	3					
ELISABTHVLLE	95.31	258.3	13	16	4	23	53	17	17	9 PP
KIRUNA	95.74	338.2	13	13	-1	24	20	41	17	9 PP
LWOW	96.66	319.9	13	19	1				17	19 PP
NORD	97.48	354.5	13	19	-3	23	57	9	26	7 PS
WARSAW	98.23	322.6							17	22
UPPSALA	98.65	330.5				24	1	7	17	33 PP
KRAKOW	99.25	320.5							17	40
SKALSTUGAN	100.09	334.9	13	44	10					
RACIBORZ	100.35	320.7	13	53	18					
HERMANUS	100.84	234.8	13	54	17	24	23	18	26	50
BRATISLAVA	101.42	319.0	13	43	3				17	56 PP
COPENHAGEN	102.40	327.1				24	26	14	18	1 PP
PRUHONICE	102.67	321.1	13	48	3				17	56 PP
PRAGUE	102.72	321.3				24	25	12	18	2 PP
RESOLUTE	103.12	9.7	13	46	-1	25	24	69	18	1 PP
COLLMBERG	103.29	322.7	13	49	1	24	28	12	17	53 PP
HALLE	103.87	323.1	13	52	1	24	33	14	18	9 PP
TRIESTE	104.21	316.9							17	58 PP
JENA	104.25	322.6	13	54	2				18	16 PP
MESSINA	104.41	309.1	15	5	72					
THULE	104.43	2.8	13	52	-1				18	12 PP
BANGUI	104.53	274.2							18	8 PP
VICTORIA	106.16	39.4	18	10	777					
MUNSTER	106.29	324.4							18	14 PP
STUTTGART	106.31	320.9	14	4	777				18	34 PP
BENSBERG	106.90	323.5	18	29	777				18	58 PP
STRASBOURG	107.32	321.0							18	34 PP
CORVALLIS	107.37	43.3	18	20	777					
PAVIA	107.44	317.3							27	39 PS
LEOPOLDVILLE	107.72	265.1	14	13	777	24	50	14	18	46 PP
UCCLE	108.62	324.1				26	17	97	18	48 PP
ABERDEEN	109.22	331.9							27	57 PS
MINERAL	109.76	47.2	18	21	777				29	36
SAN FRANCSCO	109.81	50.1							28	27 PS
BERKELEY	109.93	49.9	18	22	777				18	54 PP
DURHAM	110.15	329.5	18	20A	2					
PARIS	110.50	322.6							19	3 PP
LICK	110.54	50.3	18	23	4					
KEW	111.02	326.0	18	44	24	25	8	18	29	32 PPS
RENO	111.31	47.7	18	26	6					
HUNGRY HORSE	112.05	37.2	15	9	777				19	7 PP
FRESNO	112.11	50.5	18	22	0				19	12 PP
SETIF	112.75	309.1	18	26	3				19	16 PP
RATHFARNHAM	113.29	329.7							20	54
BUTTE	113.94	39.0	18	25	-1				29	22 PKKP
PASADENA	114.12	52.8	18	30	4	25	20	18	19	28 PP
EUREKA	114.15	46.7	18	30	4				29	11 PKKP
BOZEMAN	115.05	38.9	18	33	5				19	29 PP
TAMANRASSET	115.74	294.8	18	34K	5	25	27	19	19	38 PP
BOULDER CITY	116.17	50.0	18	35	5					
SALT LAKE C.	116.60	44.1	18	35	4				19	44 PP
TOLEDO	118.44	315.8	18	56	22				29	59

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TUCSON	120.55	52.7	18 43	5			19 9
TUCSON TELE.	120.61	52.6	18 41	2			20 10 PP
LAWRENCE	128.50	38.2	19 7	13			
FLORISSANT	131.53	35.2	19 4	4			21 24 PP
ST. LOUIS 1	131.71	35.2					21 27 PP
SEVEN FALLS	132.53	12.9	19 5	4			22 31 PKS
SHAWINIGAN	132.60	14.9	19 5K	3			22 30 PKS
OTTAWA	132.81	18.1	19 5	3			22 31 PKS
BREBEUF	133.34	16.2	19 9K	6			21 32
CLEVELAND	134.01	25.8					22 36 SKP
TACUBAYA	134.74	63.5	19 5	-1	26 20	17	22 57
PUEBLA	135.76	63.5					18 51 PP
PENNSYLVANIA	136.10	23.1	19 14	6			21 54 PP
HALIFAX	136.20	6.9					19 12 PP
MORGANTOWN	136.22	25.9	19 12A	4			22 45 PKS
PALISADES	137.34	19.1	19 16	6			21 58 PP
FORDHAM	137.49	19.2	19 16	5			21 57 PP
GEORGETOWN	138.04	23.7	19 14	2			22 46 PKS
MBOUR	138.38	290.6	19 17A	5	25 58	-12	
CHAPEL HILL	139.66	28.2	19 18	4			22 18 PP
COLUMBIA	140.18	32.0	19 15	0			
MERIDA	142.43	56.0	19 50	30			
BERMUDA	147.98	12.5	19 34	5			20 14 PKP2
HUANCAYO	157.54	125.9	19 51A	9			24 9 PP
LA PAZ	159.34	148.0	19 54	9			20 44 PKP2
SAN JUAN	160.54	27.2	19 49	3			24 16 PP
CHINCHINA	160.90	77.8	19 52	6			20 43 PKP2
BOGOTA	162.48	78.0	19 54	6			20 47 PKP2
DOMINICA	165.15	17.2	19 56	5			
CARACAS	166.30	46.4	19 56A	5			24 44 PP
TRINIDAD	169.46	25.0	19 58	5			

DECEMBER 2 18.H 20.M 8.S EPICENTRE 44.80 15.10 DEPTH= 0.KM

A= 0.68734 B= 0.18547 C= 0.70226 D= 0.2605 E=-0.9655
G= 0.6780 H= 0.1830 K=-0.7119 HT= -3.5

SE= 2.71

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ZAGREB	1.19	31.0									0	24	PG
TRIESTE	1.28	312.1									0	28	PG
LJUBLJANA	1.31	342.1	0	28A	3	0	49	5					
TOLMEZZO	2.17	318.3	0	39	2	1	7	2			0	44	PG
ROME	3.47	214.3	1	6	10								
VIENNA-H.	3.56	13.8	0	59A	2	1	42	1			1	13	PG
BRATISLAVA	3.64	21.6	0	57K	-1	1	40	-3			1	15	PG
HURBANOVO	3.74	33.9				1	44	-1					
BELGRADE	3.81	87.8	1	6K	5						2	4	PS
PAVIA	4.22	277.2				2	0	3			2	36	
CHUR	4.40	299.7	1	11	2	2	9	7					
TIMISOARA	4.42	75.5	1	33	24						2	15	
TARANTO	4.61	159.1									1	55	
RAVENSBURG	4.83	310.0	1	15	0								
PRUHONICE	5.19	356.1	1	21A	1	2	42	20			1	44	PG
PRAGUE	5.29	355.3	1	23	1	2	22	-2			1	50	PG
EBINGEN	5.42	310.8	1	22	-2	2	28	1			1	48	PG
TUBINGEN	5.58	314.1	1	26	0	2	34	2			1	56	PG
CHEB	5.59	341.7	1	26	0	2	29	-3			1	48	PG
MONACO	5.61	261.7	1	25	-1	2	36	4					
SKALNATE PL.	5.62	37.0				2	32	-1					
STUTTGART	5.63	316.9	1	27A	0	2	33	0			3	21	SG
RACIBORZ	5.68	20.6	1	27	-1								
BASLE	5.89	300.2	1	29	-1	2	43	4					
PLAUEN	6.03	341.8	1	29	-3	2	39	-4			1	57	PG
NEUCHATEL	6.10	294.0	1	33	0						3	22	SSSS
SONNEBERG	6.17	336.1	1	32	-2	2	45	-1			2	3	PG
KRAKOW	6.19	30.2	1	40	5								
STRASBOURG	6.30	309.5	1	35	-1	2	49	-1			2	2	PG
SOFIA	6.32	106.5	1	31	-5						3	30	
JENA	6.57	340.2	1	40	0	2	56	0			2	24	PG
COLLMBERG	6.65	348.5	1	41	0	3	1	3			3	48	SG
BESANCON	6.81	294.3	1	42	-1						3	35	SG
HALLE	7.03	343.7	1	46	0	3	12	4			1	57	PP
POTSDAM	7.70	350.7									4	19	SG

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BENSBERG	8.14	322.0	2 2	0					4 23	SG
CLERMONT-FD.	8.51	280.8			3 33	-12				
UCCLE	9.39	313.5			4 8	1			2 25	PP
FOLINIERE	11.39	295.9	2 45	-2						
UPPSALA	15.15	4.9	3 42A	6						
GRANADA	16.02	248.1	4 18K	30					8 57	
NURMIJARVI	16.74	16.6	3 57	0						
SKALSTUGAN	18.89	356.1	4 22	-2						
KSARA	19.41	117.3	4 29	-1						
KIRUNA	23.26	5.1	5 9	0						
TAMANRASSET	23.33	202.8	5 10	0						
SODANKYLA	23.44	11.2	5 11	0						
ELISABTHVLLE	57.29	165.6	9 46	-5						
COLLEGE	69.85	352.3	11 15	1						
HUNGRY HORSE	77.09	327.9	11 54	-2						

DECEMBER 7 3.H 1.M 50.S EPICENTRE -18.03-178.09 DEPTH= 622.KM

A=-0.95100 B=-0.03173 C=-0.30757 D=-0.0333 E= 0.9994
G= 0.3074 H= 0.0103 K=-0.9515 HT= 5.1

DEPTH OF FOCUS= 0.093R

SE= 2.09

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
SUVA	3.31	267.3	1 25	2	2 41	12			
AFIAMALU	7.32	56.9	1 51	-3	3 20	-5			
ONERAHI	18.90	199.2	3 51	7	6 49	5			
KARAPIRO	20.60	194.4	3 58A	-1					
COBB RIVER	24.29	197.0			8 4	-7			
KAIMATA	26.00	197.9			8 31	-6			
GEBBIES PASS	26.76	195.0	4 52	-2	8 41	-8			
BRISBANE	28.38	245.6	5 5K	-3				12 9	
RIVERVIEW	31.67	234.2	5 36K	0					
RABAUL	32.18	291.7	5 39	-1	10 11	-2			
CHARTERS TS.	33.72	260.7	5 53K	0				12 47	
CANBERRA	33.87	232.9	5 54K	0			7 34		
PORT MORESBY	34.79	279.6	6 3K	1	10 55	3		13 58	*SS
MELBOURNE	37.81	230.9	6 26K	-1					
ADELAIDE	41.82	237.5	6 59	0			8 58		
GUAM	48.20	308.0	7 48	1					
MUNDARING	60.34	243.1	9 11	-1			11 6		
BYRD STATION	67.08	170.7	9 53	-2			11 54		
MATUSIRO	68.18	323.2	10 1K	0					
LICK	76.50	43.1					12 50		
PASADENA	77.08	47.4	10 52	0			12 53		
FRESNO	77.39	44.4					12 54		
SHASTA	78.00	39.9					12 59		
MINERAL	78.28	40.6					13 2		
EUREKA	81.40	43.8	11 15	1			13 17		
TUCSON	81.47	52.2	11 17	2			13 21		
TUCSON TELE.	81.59	52.2	11 17	2			13 19		
COLLEGE	85.82	12.5	11 35	-1			13 41		
SHILLONG	97.62	294.3	13 30	60					
NURMIJARVI	134.54	344.4	18 10	1					
ELISABTHVLLE	141.19	222.4	18 19	-3					
ADDIS ABABA	143.13	260.9	18 28	3					
KRAKOW	144.93	339.7	18 29	1				19 2	
RACIBORZ	145.45	341.4	18 32	3				18 42	PKP2
COLLMBERG	145.65	347.6	18 33K	4			20 54		
HALLE	145.66	348.9	18 29	0					
KSARA	145.83	304.1	18 36	7					
JENA	146.28	349.0	18 36	6					
PRUHONICE	146.54	345.2	18 35K	5			20 49	18 59	PKP2
LWIRO	146.72	235.4	18 33	3				20 53	
JERUSALEM	146.98	300.9	18 36A	5					
STUTTGART	148.76	350.6	18 35	2					
TUBINGEN	149.02	350.7	18 41K	7					
FOLINIERE	149.27	3.1	18 41	7					
PARIS	149.29	359.3	18 43	9					
EBINGEN	149.38	350.7	18 42	8					
LJUBLJANA	150.16	342.2	18 44K	9					
TAMANRASSET	174.18	325.0	19 2K	3			21 21	24 33	PP

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DECEMBER 7 5.H 15.M 25.S EPICENTRE 31.64 140.48 DEPTH= 0.KM

A=-0.65791 B= 0.54278 C= 0.52206 D= 0.6364 E= 0.7714
G=-0.4027 H= 0.3322 K=-0.8529 HT= 1.3

SE= 3.36

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
TORISIMA	1.17	187.5	0 46	23				
HATIDYOZIMA	1.56	338.4	0 33	4	0 47	-3		
OSIMA	3.25	343.9	0 53	0	1 23	-10		
MERA	3.31	350.8	0 54A	0	1 29	-6		
OMAESAKI	3.50	327.9	0 58	1	1 27	-12		
AJIRO	3.59	341.6	0 59	1	1 31	-11		1 17
MISIMA	3.70	340.2	1 0A	1	1 35	-9		
SHIZUOKA	3.75	332.9	1 4	4	1 38	-8		
YOKOHAMA	3.84	349.9	1 5	4	1 40	-8		
TOKYO C.M.O.	4.07	351.6	1 5	0	1 49	-5		
TYOSI	4.08	4.3	1 4	-1				
HONGO	4.10	351.9	1 11	6				
KOHU	4.32	338.8	1 9	1	1 56	-4		
TITIBU	4.48	345.3	1 11	0	1 56	-8		
TUKUBASAN	4.58	356.2	1 10K	-2	1 56	-11		
NAGOYA	4.58	321.1	1 13	1	2 12	5		
KAKIOKA	4.58	357.0	1 12	0				
KUMAGAYA	4.59	348.8	1 13	1	2 0	-7		
KAMEYAMA	4.64	314.7	1 13	0				
MITO	4.73	359.9	1 15	1				
MAEBASI	4.89	346.6	1 17	1	2 13	-1		
UTUNOMIYA	4.92	354.3	1 20	3	2 1	-14		
NARA	4.94	309.1	1 18	1	2 9	-7		
OIWAKE	4.94	341.6	1 19	2	2 9	-7		1 42
MATUMOTO	5.05	336.3	1 20	1	2 14	-4		
HIKONE	5.06	316.8	1 21	2	2 15	-4		
KYOTO	5.21	311.6	1 23	2	2 15	-8		
ABUYAMA	5.22	309.4	1 22A	1				
MATUSIRO	5.23	339.6	1 20A	-1	2 12	-11		1 50
TAKAYAMA	5.24	330.0	1 22	1				
ONAHAMA	5.31	3.7	1 25	3				
NAGANO	5.36	340.0	1 25	2				2 46
SUMOTO	5.40	301.4	1 25	2	2 12	-15		
SHIRAKAWA	5.47	357.8	1 26	1	2 14	-15		
HUKUI	5.64	322.4			2 32	-2		
TOYAMA	5.73	332.6	1 31	3				
HUKUSIMA	6.09	359.9	1 31	-2	2 32	-13		
SENDAI	6.62	2.9	1 37	-4	2 39	-19		
ISINOMAKI	6.81	5.6	1 39	-4	2 44	-19		
MATSUE	7.26	303.5	1 54	4				
MIZUSAWA	7.49	3.9	3 1	68	3 32	12		
MORIOKA	8.06	3.8	1 55	-6	3 13	-21		
URAKAWA	10.65	9.3						4 10
HIROO	10.86	11.3						4 22
KUSIRO	11.74	14.3						4 41
NEMURO	12.35	17.7						4 46
PORT MORESBY	41.31	170.0	7 54	5				
SHILLONG	42.82	274.6	7 56	-5				
CHITTAGONG	44.03	270.3	8 6	-5				
CHARTERS TS.	51.73	173.1	9 15	4				
COLLEGE	54.10	30.0	9 25	-4				
RIVERVIEW	65.90	170.3	10 54	4				
ADELAIDE	66.28	181.6	10 55	3				
CANBERRA	67.09	172.4	11 0A	3				
MUNDARING	67.31	202.2	11 0	1			11 25	
RESOLUTE	68.01	13.6	10 58A	-5				11 43
SODANKYLA	69.64	337.8	11 6	-7				
KIRUNA	71.28	339.7	11 17K	-6				
NURMIJARVI	74.34	332.4	11 34	-7				
HELSINKI	74.42	332.1	11 37	-4				
HUNGRY HORSE	76.29	41.4	11 51	-1				
KARAPIRO	76.56	152.2	11 58	4				12 26
UPPSALA	77.46	334.2	11 53	-6				
EUREKA	79.87	49.8	12 11	-1				
RACIBORZ	83.92	326.8	12 29	-4				
COLLMBERG	85.38	330.0	12 35K	-5				
PRUHONICE	85.66	328.4	12 37A	-5				
BYRD STATION	122.68	168.2	18 58	0			19 27	

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HUANCAYO 141.72 67.5 19 30 -3

DECEMBER 8 2.H 59.M 59.S EPICENTRE 37.34 141.88 DEPTH= 0.KM

A=-0.62700 B= 0.49197 C= 0.60402 D= 0.6173 E= 0.7867
G=-0.4752 H= 0.3729 K=-0.7970 HT= -0.7

SE= 3.34

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ONAHAMA	0.88	243.6	0 18K	-1	0 30	-3		
ISINOMAKI	1.17	337.9	0 25K	1	0 39	-2		
HUKUSIMA	1.19	290.3	0 23K	-1	0 36	-5		
SENDAI	1.21	320.2	0 24K	0	0 37	-4		
SHIRAKAWA	1.34	260.9	0 25K	-1	0 39	-6		
MITO	1.49	230.0	0 28	0	0 43	-6		
YAMAGATA	1.51	307.2	0 30K	1	0 46	-3		
KAKIOKA	1.76	231.3	0 30K	-2	0 49	-7		
UTUNOMIYA	1.80	244.4	U 32	-1	0 51	-5		
TUKUBASAN	1.82	232.4	0 31A	-2				
TYOSI	1.82	207.4	0 31	-2	0 51	-6		
MIZUSAWA	1.88	341.9	0 36	2	0 56	-3		
SAKATA	2.24	314.5	0 41	2	1 7	-1		
MIYAKO	2.30	1.7	0 41	1	1 8	-1		
NIIGATA	2.32	285.2	0 43	3	1 9	-1		
KUMAGAYA	2.34	240.1	0 39	-1	1 11	1		
HONGO	2.36	226.8	0 40	-1	1 5	-6		
TOKYO C.M.O.	2.39	226.6	0 40K	-1	1 6	-5		
MORIOKA	2.42	346.9	0 43K	2	1 11	-1		
MAEBASI	2.44	248.1	0 41K	-1	1 9	-4		
YOKOHAMA	2.62	224.0	0 45	1	1 14	-3		
TITIBU	2.63	239.7	0 44	-1	1 16	-2		
AKITA	2.75	330.1	0 48	2	1 17	-4		
OIWAKE	2.86	250.2	0 50	2				
TAKADA	2.91	266.3	0 49	0	1 23	-2		
MERA	2.93	215.1	0 51A	2	1 29	4		
AIKAWA	2.96	284.3	0 48	-1	1 29	3		
NAGANO	3.02	258.2	0 50	0	1 33	5		
MATUSIRO	3.05	255.8	0 49K	-2	1 23	-5		1 37
HUNATU	3.11	234.7	0 54	3	1 31	1		
KOHU	3.15	239.0	0 51A	-1	1 34	3		
HATINOHE	3.19	355.2	0 53	0	1 31	-1		
AJIRO	3.21	225.3	0 51	-2	1 19	-13		
MISIMA	3.25	227.7	0 53	0	1 31	-2		
OSIMA	3.27	219.0	0 55	1				
MATUMOTO	3.32	252.0	0 54	0	1 34	-1		
AOMORI	3.57	346.5	1 1	3	1 49	7		
SHIZUOKA	3.68	231.0	1 1	2	1 42	-2		
IIDA	3.74	242.1	1 4	4	1 48	2		
TOYAMA	3.80	261.7	1 0	-1	1 49	2		
TAKAYAMA	3.91	253.6	1 3	0				
WAZIMA	3.97	272.0	1 8	4				
OMAESAKI	4.04	228.4	1 9	4	1 55	2		
HAMAMATU	4.27	233.4	1 23	15	2 6	7		
NAGOYA	4.52	242.8	1 13	2	2 4	-2		1 40
HAKODATE	4.54	349.4	1 15	3	2 8	2		2 52
GIHU	4.56	246.3	1 12	0	2 4	-2		
HATIDYOZIMA	4.57	202.6						1 59
HUKUI	4.72	255.8	1 16	2				
URAKAWA	4.85	7.9	1 19	3	2 15	1		
MORI	4.86	348.4	1 19	3	2 18	4		
HIKONE	5.00	247.2	1 19	1	2 15	-3		
MURORAN	5.02	352.3	1 24	6	2 20	2		
KAMEYAMA	5.04	242.0	1 21	2	2 18	-1		
HIROO	5.05	12.2	1 20	1	2 16	-3		
TU	5.08	240.3	1 30	11				
TOMAKOMAI	5.28	357.6	1 37	15	2 27	2		
KYOTO	5.49	246.8	1 27	2	2 51	21		
NARA	5.58	243.3	1 27	1	2 33	1		
SUTTSU	5.59	347.4	1 30	3	2 35	2		
OWASE	5.66	236.4	1 29	1	2 32	-2		
OBIHIRO	5.66	9.9	1 28	0	2 33	-1		
ABUYAMA	5.67	246.1	2 27A	59				
SAPPORO	5.73	356.1	2 3	34				
OSAKA	5.81	244.3	1 46	16	2 44	6		2 37

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KUSIRO	5.95	18.1	1	25	-7	2	36	-5			
TOYOOKA	5.97	254.5	1	32	0	2	29	-13			
KOBE	6.05	245.9	2	21	48				3	3	
SIOMISAKI	6.32	233.9	2	1	24				3	4	
SUMOTO	6.41	244.2	1	44	6	3	2	9	4	2	
ASAHIGAWA	6.44	3.2	1	49	10	3	13	19			
NEMURO	6.61	24.1	2	0	19				2	49	
TOKUSIMA	6.78	243.4	1	44	1	3	30	28			
ABASHIRI	6.91	14.5				2	59	-6			
MATSUE	7.35	257.7	1	57	6						
OOITA	9.34	247.0	2	26	7				4	29	
VLADIVOSTOK	9.56	310.2	2	22	0						
HUKUOKA	10.10	251.6							3	21	
KUMAMOTO	10.21	247.1							2	39	
SAGA	10.31	250.1							3	34	
CHANGCHUN	14.15	302.4	3	21	-3						
ZO-SE	18.20	256.1	4	12	-4						
PEKING	20.23	285.6	4	33	-7						
WUHAN	23.61	261.4	5	11	-2						
SIAN	26.84	273.4	5	40	-4						
MANILA	29.18	224.8	6	1	-4						
LANCHOW	30.40	279.3	6	12	-4						
CHENGTU	31.94	269.3	6	24	-6						
KUNMING	35.38	261.2	6	56A	-3						
LHASA	42.66	275.1	7	57	-3						
SHILLONG	43.79	269.3	8	5	-4				11	52	
CHITTAGONG	45.41	265.4	8	20	-2	15	2	-2	10	7	PP
PORT MORESBY	46.76	172.9	8	38	5						
COLLEGE	48.63	32.4	8	48	0						
KHEYS	52.42	348.1	9	13	-3						
SVERDLOVSK	55.17	318.6	9	32	-5						
NORD	60.77	356.5	10	12	-4						
QUETTA	61.21	287.4	10	15	-4						
RESOLUTE	62.21	14.6	10	22A	-4						
APATITY	62.56	335.8	10	24A	-4						
SODANKYLA	64.82	337.2	10	39	-4						
THULE	64.91	7.5	10	39	-5						
KIRUNA	66.36	339.3	10	49	-4						
MOSCOW	67.23	323.5	10	55	-3						
CORVALLIS	68.00	50.2	11	4	1						
PULKOVO	68.11	329.5	11	0	-4						
NURMIJARVI	69.85	332.1	11	12	-3						
HELSINKI	69.95	331.7	11	13	-2						
SHASTA	70.62	53.3	11	20	1						
HUNGRY HORSE	71.30	43.1	11	23	0						
MINERAL	71.31	53.3	11	28K	4						
SKALSTUGAN	71.76	338.7	11	23	-3						
CANBERRA	72.60	173.9	11	35A	4						
UPPSALA	72.84	334.1	11	40	7						
RENO	72.91	53.2	11	34	1						
LICK	72.96	55.9	11	33A	0						
MUNDARING	73.01	202.6	11	39	5						
BUTTE	73.48	44.4	11	36	0						
EUREKA	75.36	51.4	11	46	-1						
PASADENA	77.10	56.9	12	9	12						
COLLMBERG	81.02	330.3	12	15	-3				12	29	
PRUHONICE	81.42	328.7	12	19A	-1						
JENA	81.87	330.8	12	20	-3				12	33	
TUCSON	83.10	54.6	12	43	14						
TUCSON TELE.	83.12	54.5	12	29	0						
STUTTGART	84.49	330.7	12	34	-2						
PARIS	86.95	334.5	12	48	0						
FAYETTEVILLE	90.35	42.2	13	13A	9						
TACUBAYA	99.46	56.9							27	13	PPS
TAMANRASSET	107.44	318.1							18	42	PP
SOUTH POLE	127.16	180.0	19	5	-2						
BYRD STATION	127.99	167.4	19	7	-1						
HUANCAYO	138.26	62.7	19	30	3						
LA PAZ	146.36	60.0	19	45	3						

DECEMBER 8 4.H 30.M 7.S EPICENTRE -1.20 123.24 DEPTH= 0.KM

A=-0.54800 B= 0.83622 C=-0.02082 D= 0.8364 E= 0.5481
G= 0.0114 H=-0.0174 K=-0.9998 HT= 7.2

SE= 2.84

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	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
MANILA	15.91	352.4	3 55	8	7 4	20		
LEMBANG	16.55	249.8	4 1	6	7 5	6		
DJAKARTA	17.10	252.8	4 5	3	7 19	7		
HONG KONG	24.98	339.8	5 27	0	10 18	29		
MEDAN	25.00	281.0	5 27K	0	9 51	2		
PORT MORESBY	25.14	109.7	5 29	1	9 55	4	5 38	6 11 PP
GUAM	25.82	55.0	5 40	5	9 31	-32		
PHU-LIEN	27.25	324.3			10 34	8		
RABAUL	29.05	96.5	6 5	1				6 48
MUNDARING	31.31	191.5	6 22	-2				6 45
ZO-SE	32.18	356.7	6 30	-2				
KUNMING	32.84	324.2	6 40	2	11 57	2		
ADELAIDE	36.57	158.4	7 9	0				8 32
CHENGTU	36.59	331.6	7 10	0	12 51	-2		
ABUYAMA	37.70	16.7	7 18A	-1				
SIAN	37.74	340.4	7 18A	-1				
BRISBANE	38.47	135.2	7 26	1	13 24	3		
CHITTAGONG	38.56	309.3	7 27	1				
MATUSIRO	40.05	18.9	7 36K	-3	13 47	2		
SHILLONG	40.35	313.4	7 40A	-1				
LANCHOW	41.24	335.9	7 48	0				
PEKING	41.54	351.8	7 49	-2				
CANBERRA	41.56	147.6	7 51A	0			7 58	9 33 PP
MELBOURNE	41.57	153.8	7 52K	1				17 16 SS
RIVERVIEW	41.67	144.1	7 57	5	14 13	4		
LHASA	43.42	317.6	8 7	1	14 34	-1		
ULAN-BATOR	50.95	345.9	9 8	3				
BOMBAY	53.39	294.6			16 48	-7		20 38
WARSAK DAM	59.78	311.0	10 6	-3				
QUETTA	61.96	305.3	10 20	-4				
DUMONT	66.40	172.8	10 50	-3				
TERRE ADELIE	66.72	172.3	10 50	-5				
MIRNY	68.61	192.5	11 6	-1				
TIKSI	72.80	1.9	11 39	7				
TANANARIVE	76.07	250.9	11 51K	0				
SVERDLOVSK	76.38	329.9	11 49	-4				
CAPE HALLETT	76.80	166.7	11 56	1				
SCOTT BASE	79.98	171.5	12 12	-1				
ADDIS ABABA	84.72	279.1	12 40	3				
KHEYS	87.23	351.4	12 48	-2				
MOSCOW	88.50	325.7	12 53	-3				
SOUTH POLE	88.81	180.0	12 56	-1				14 18
COLLEGE	90.63	25.3	13 3	-3				16 19 PP
BYRD STATION	93.40	171.1	13 20	2				
SODANKYLA	93.65	337.3	13 16	-4				
BULAWAYO	93.94	249.8	13 20	-1				
BROKEN HILL	94.32	255.5	13 23	0				
LWIRO	94.39	267.7	13 23K	0				
ELISABTHVLLE	95.41	258.3	13 28	0				
RESOLUTE	103.25	9.7	14 2	-1				18 3 PP
SHASTA	109.10	47.1	19 1	777				19 1 PP
MINERAL	109.77	47.3	18 35A	2				
LICK	110.54	50.4	17 57K	-37				
RENO	111.32	47.7						19 23 PP
HUNGRY HORSE	112.09	37.3	18 39	2				19 28 PP
PASADENA	114.11	52.9	18 44	3				
EUREKA	114.16	46.8	18 44	3				
BOZEMAN	115.09	39.0	18 47	4				
TAMANRASSET	115.92	294.7	18 47	2				20 3 PP
BOULDER CITY	116.17	50.1	18 47	2				
TUCSON	120.54	52.8	18 57	3				
TUCSON TELE.	120.60	52.7	18 57	3				
FAYETTEVILLE	130.94	40.7	19 15	1				21 44 PP
HUANCAYO	157.34	126.0	20 4	6				20 58 PKP2
LA PAZ	159.14	147.9	20 4	4				20 41 PKP2
SAN JUAN	160.61	27.7	20 43	42				

DECEMBER 8 8.H 8.M 19.S EPICENTRE 66.98 -18.44 DEPTH= 0.KM

A= 0.37304 B=-0.12439 C= 0.91944 D=-0.3163 E=-0.9486
G= 0.8722 H=-0.2909 K=-0.3932 HT=-11.0

SE= 2.61

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	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
AKUREYRI	1.33	173.9	0	22	-4	0	39	-6					
REYKJAVIK	3.21	208.2	0	51	-2	1	33	0					
SIDA	3.22	177.0	0	50	-3	1	35	2					
VIK	3.59	184.2	1	3	4	1	51	9					
SCORESBY SD.	3.74	341.6	0	57	-4								
SKALSTUGAN	13.21	90.5	3	18	6								
NORD	14.71	1.0	3	33	1								
KIRUNA	14.80	68.9	3	33	0								
SODANKYLA	17.20	67.9	4	2	-2								
THULE	17.58	323.3	4	11	3								
APATITY	19.58	64.4	4	31	-2								
NURMIJARVI	19.77	88.4	4	33	-2								
HALLE	21.61	120.8	4	59	5								
COLLMBERG	22.14	119.6	5	1	2						5	33	PP
PULKOVO	22.45	85.1	5	2	0	9	11	6			9	40	
KHEYS	22.77	24.3	5	9	3						6	53	
STUTTGART	23.11	128.4	5	11	2								
PRUHONICE	23.78	119.3	5	19	4								
RESOLUTE	24.38	321.2	5	20	-1	9	53	14			6	2	PP
MOSCOW	28.07	85.9	5	54	-2								
COLLEGE	43.54	331.4	8	7	-1								
TAMANRASSET	46.72	149.0	8	34	1								
HUNGRY HORSE	48.74	298.0	8	48	-1								
FAYETTEVILLE	51.86	273.4	9	10	-3								
EUREKA	57.16	294.0	9	49	-2								
MINERAL	58.36	299.1	10	0	0								
LICK	61.07	297.6	10	19	1								
TUCSON TELE.	61.56	285.9	10	21	-1								
TUCSON	61.68	285.9	10	24	1								

DECEMBER 8 9.H 35.M 10.S EPICENTRE 36.98 29.05 DEPTH= 0.KM

A= 0.70008 B= 0.38878 C= 0.59894 D= 0.4855 E=-0.8742
G= 0.5236 H= 0.2908 K=-0.8008 HT= -0.6

SE= 2.79

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ATHENS	4.35	284.7	1	8A	-1						1	17	PG
KSARA	6.41	117.4	1	39	1	2	57	4			2	10	PG
SOFIA	7.21	324.2	2	18	29						3	26	
JERUSALEM	7.28	133.7	1	46	-4	3	7	-7					
BUCHAREST	7.76	344.2									4	9	SG
SIMFEROPOL	8.84	24.1	2	13	1	3	37	-16					
TARANTO	9.85	294.3	2	44	18								
IASI	10.27	354.3	2	31	-1								
SOTCHI	10.48	47.7	2	36	2								
MESSINA	10.78	280.6	2	38	-1						4	31	
TIFLIS	13.08	63.9	3	13	3								
LWOW	13.34	345.8	3	27	14								
KRAKOW	14.63	336.1	3	46	16						4	8	
PRUHONICE	16.68	325.7	4	1	5						4	24	
PLAUEN	18.14	323.4	4	15	0								
COLLMBERG	18.31	326.5	4	17	0						4	56	
TUBINGEN	18.60	314.6	4	30	10								
STUTTGART	18.61	315.5	4	22A	1								
HALLE	18.92	325.5	4	24	0								
SETIF	19.00	274.8	4	26	1	7	49	-6					
STRASBOURG	19.38	313.4	4	30	0								
MOSCOW	19.64	14.6	4	32	-1								
PULKOVO	22.82	1.7	5	5	-1								
NURMIJARVI	23.72	354.6	5	16	2								
TAMANRASSET	24.74	241.7	5	23	-1	9	48	4			5	55	PP
SVERDLOVSK	28.92	36.5	6	2	-1								
ADDIS ABAB	29.19	160.0	6	8	3								
SODANKYLA	30.47	358.2	6	11	-5								
KIRUNA	31.28	353.7	6	22	-2								
LWIRO	39.03	180.4	7	33	3								
LEOPOLDVILLE	43.10	200.4	8	3	0								
THULE	56.10	343.6	9	40	-3								
RESOLUTE	62.71	345.6	10	25A	-4								
COLLEGE	78.45	358.6	12	3	-1								
HUNGRY HORSE	88.90	336.4	12	56	-1								

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EUREKA	97.38	333.4	13 36	0								
HUANCAYO	108.59	268.8									18	3

DECEMBER 8 12.H 20.M 59.S EPICENTRE 37.78 72.98 DEPTH= 0.KM

A= 0.23190 B= 0.75767 C= 0.61005 D= 0.9562 E=-0.2927
G= 0.1785 H= 0.5833 K=-0.7924 HT= -0.9

SE= 2.70

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
MURGAB	0.95	51.5						0 17 PG
KHOROG	1.19	255.9						0 22 PG
DZERGETAL	1.99	316.8	0 35	0				1 2 SG
GARM	2.43	300.8	0 43	2				1 19 SG
KULYAB	2.56	273.7	0 47	4				1 24 SG
OBI-GARM	2.74	290.6						0 49 P*
FERGANA	2.76	340.6	0 48	2				1 28 SG
NUREK	2.95	283.2	0 52	3				1 34 SG
ANDIJAN	3.00	351.1	0 52	3				1 32 S*
CHUIAN-GARON	3.13	287.3	0 54	3				1 40
KARA-SU	3.23	283.7	0 56	3				
NAMANGAN	3.35	342.8	0 56	2				1 42 S*
STALINABAD	3.41	284.7	0 57	2				1 55 SG
ZIMCHURUD	3.44	288.0	0 58	3				1 50
WARSAK DAM	3.95	197.6	1 5	2				
NARYN	4.33	31.7	1 12	4	2 3	3		
TASHKENT	4.55	322.2	1 10	-1				2 31 SG
SAMARKAND	5.06	293.7	1 21	2				2 48 SG
FRUNSE	5.20	13.4	1 23	3	2 22	0		2 46
TCHIMKENT	5.21	331.2	1 21	0				2 51 SG
ALMATA	6.26	27.6	1 36	1				3 12
PRZHEVALSK	6.27	39.8	1 38	2				
LAHORE	6.31	169.5	1 40	4	2 45	-5		1 58 *SP
DEHRA DUN	8.55	149.1	2 12	5	3 46	0		2 26 PPP
BAIRAM-ALI	8.61	272.1	2 6	-2	3 42	-5		2 33
QUETTA	9.08	215.2	2 15	0	3 59	0		2 43 *SP
ASHKABAD	11.57	275.3						3 47
KIZYL-ARVAT	13.17	281.3	3 7	-4				
KARACHI	13.87	203.1	3 16	-4	5 46	-10		
CHATRA	16.20	128.3	3 47	-3				
BOKARO	17.71	138.1						7 30
BOMBAY	18.81	180.5						8 56
SHILLONG	20.12	121.8	4 33	-5	8 56	37		
SVERDLOVSK	20.76	340.6	4 40	-4				
GORIS	20.87	283.0	4 52	6				
TIFLIS	21.98	289.1	4 57	-1				
CHITTAGONG	22.34	128.1	5 5	6	9 11	9		5 45 PP
LWOW	36.70	305.2	7 10	0				
HELSINKI	37.50	322.4	7 16	-1				
NURMIJARVI	37.74	322.9	7 18	-1				
SODANKYLA	39.27	333.7	7 30	-2				
KRAKOW	39.34	305.6	7 46	14				
KIRUNA	41.65	333.0	7 50	-1				
ADDIS ABABA	42.07	236.0	8 17	22				
PRUHONICE	42.80	306.0	8 1	0				9 31
LJUBLJANA	43.41	300.3	8 6K	0				
COLLMBERG	43.64	308.0	8 5A	-2				9 57 PP
TIKSI	43.99	22.2	8 9	-1				
SKALSTUGAN	44.02	325.8	8 9	-2				
STUTTGART	46.39	305.0	8 29	-1				
MATUSIRO	51.02	70.2	9 2A	-3				18 45 SCS
TAMANRASSET	58.99	276.0	10 2	-1				
THULE	63.47	350.5	10 30	-4				
RESOLUTE	67.53	356.5	10 56	-4				
COLLEGE	72.81	17.0	11 29	-3				
CHARTERS TS.	89.66	115.8	12 59	-2				

DECEMBER 8 12.H 50.M 47.S EPICENTRE 31.00 57.03 DEPTH= 0.KM

A= 0.46732 B= 0.72041 C= 0.51247 D= 0.8389 E=-0.5442
G= 0.2789 H= 0.4299 K=-0.8587 HT= 1.5

SE= 2.28

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S

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QUETTA	8.59	92.9	2 9	0	3 45	-3		
KARACHI	10.77	122.3	2 37	-2				
WARSAK DAM	12.62	72.5	3 3	-1				
TIFLIS	14.53	320.8	3 35	6				
KSARA	18.08	284.5	4 14	0	7 38	4	4 29	PP
DEHRA DUN	18.10	86.7	4 22	7	7 51	16	4 41	PP
JERUSALEM	18.64	278.1	4 18	-3				
BOMBAY	18.68	126.5	4 22	0	8 1	13	4 41	PP
AGRA	18.75	96.6	4 22A	-1				
SVERDLOVSK	25.95	4.5	5 38	2				
BOKARO	26.47	98.6			10 33	19		
CHATRA	26.67	91.3	5 43	0	10 32	15		
ADDIS ABABA	27.70	221.7	5 54	2	11 5	31		
ATHENS	28.22	293.4	6 4	7				
MOSCOW	28.26	336.6	5 57	0				
LHASA	29.33	83.8	6 6	-1				
SHILLONG	31.07	91.3	6 20	-2				
CHITTAGONG	32.15	97.0	6 31	-1	11 43	-1	7 37	PP
KRAKOW	33.56	315.3	6 57	13			7 20	
PULKOVO	33.88	335.9	6 46	-1				
NURMIJARVI	36.47	333.5	7 8	-1				
HALLE	38.83	315.1	7 28	-1				
LANCHOW	39.05	69.7	7 31	0				
APATITY	39.16	345.9	7 31	0				
STUTTGART	39.98	310.3	7 35	-3				
CHENGTU	40.11	78.0	8 8	29				
KUNMING	40.54	86.6	7 43	0	13 53	0		
SODANKYLA	40.61	342.5	7 43	0			9 20	PP
ULAN-BATOR	41.28	51.2	7 52	3				
LWIRO	42.61	224.3	8 0	0				
KIRUNA	42.63	340.5	7 59	-1			9 41	PP
DOURBES	43.18	311.8	8 4	0			9 8	PP
SIAN	43.44	71.4	8 7	0				
BANGUI	44.78	241.6	8 18	1				
TAMANRASSET	46.33	272.9	8 28	-2			10 22	PP
TANANARIVE	50.46	191.7	9 4	2				
ELISABTHVLLE	51.03	218.4	9 6	0				
LEOPOLDVILLE	53.15	236.1	9 24	2				
BULAWAYO	57.71	211.9	9 55	0				
MATUSIRO	65.81	60.7	10 47K	-2	19 42	6	11 20	PCP
KIMBERLEY	66.89	210.6	10 56A	0				
THULE	67.63	348.0	10 59	-2				
RESOLUTE	72.99	352.5	11 32A	-2			25 25	SS
COLLEGE	82.49	10.4	12 25	-1				
MUNDARING	84.04	132.8	12 32	-2				
PORT MORESBY	94.87	98.0	13 26	1				

DECEMBER 8 13.H 33.M 59.S EPICENTRE 41.27 43.91 DEPTH= 0.KM

A= 0.54304 B= 0.52277 C= 0.65713 D= 0.6935 E=-0.7204
G= 0.4734 H= 0.4557 K=-0.7538 HT= -2.2

SE= 3.33

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
AKHALKALAKI	0.35	291.6						0 6	PG
TIFLIS	0.80	55.9						0 16	PG
ZUGDIDI	1.96	310.1						0 44	PG
GORIS	2.56	133.0	0 43	0				1 26	SG
MAKHACH-KALA	3.16	56.4	1 0	8	1 43	12			
SOTCHI	3.86	308.0	1 3	1	1 49	0			
SIMFEROPOL	8.05	300.4	2 1	0					
KSARA	9.79	273.1	2 27	2	4 22	5	2 42	PPP	
JERUSALEM	11.77	219.1	2 50	-2					
IASI	13.12	302.3	3 8	-2					
BACAU	13.35	299.1	3 26	13					
BUCHAREST	13.44	289.5			5 26	-20	5 37	SS	
MOSCOW	15.04	346.2	3 35	0	6 21	-3			
SOFIA	15.37	282.2	3 1	-39	5 23	-68	3 9	PP	
ATHENS	15.90	264.6	3 46A	-1			7 2	SS	
LWOW	16.30	308.3	3 50	-2	7 9	16			
TIMISOARA	17.04	292.8	4 7A	6					
BELGRADE	17.50	289.5	4 10A	3			4 27		
KRAKOW	18.85	305.8	4 36	12	6 20	-91	4 46	PP	
SVERDLOVSK	18.95	29.1	4 22	-3	7 53	-1			

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WARSAW	19.05	312.9							15	9 SCS
CHORZOW	19.50	305.9	4	32	1					
RACIBORZ	19.93	304.9	4	38	2	6	17	-118	4	51 PP
TARANTO	20.15	276.5							8	8
PULKOVO	20.36	340.0	4	38	-3	8	22	-2		
VIENNA-H.	20.69	299.0	4	46	2				6	17
ZAGREB	20.70	292.1	4	47	3	8	41	10		
QUETTA	21.67	113.4	4	53	-1	8	59	9	5	23 PP
LJUBLJANA	21.73	292.6	4	54K	-1				5	21 PP
REGGIO CALA.	21.94	271.0	4	54	-3	9	5	10		
MESSINA	21.98	271.3	4	55	-2	9	3	7	5	20 PP
PRUHONICE	22.19	303.0	5	1	2	9	6	7		
HELSINKI	22.25	334.6	4	58	-2	9	9	8		
TRIESTE	22.25	291.5	5	1	1				5	42 PP
PRAGUE	22.28	303.2	5	2	2	9	15	14		
NURMIJARVI	22.61	334.9	5	2	-1	9	4	-3		
TOLMEZZO	22.78	293.4	5	6	1	9	21	11	5	44
WARSAK DAM	23.00	99.4	5	5A	-2					
COLLMBERG	23.44	305.8	5	14A	3	9	35	13	5	55 PP
ROME	23.45	282.0				9	19	-3		
CHEB	23.58	302.6	5	14	1				10	47 SS
POTSDAM	23.66	308.5	5	15	1					
PLAUEN	23.79	303.6	5	14	-1					
HALLE	24.12	305.9	5	19	1	9	44	10	6	8 PP
UPPSALA	24.71	327.7	5	21	-3	9	54	10		
KARACHI	25.28	123.3	5	27	-2					
STUTTGART	25.43	298.9	5	31K	0				6	6 PP
TUBINGEN	25.55	298.3	5	34	2					
EBINGEN	25.60	297.5	5	34	2					
GOTEBORG	26.12	319.8	5	36K	-1				5	55
LAHORE	26.22	101.9	5	45	7	10	33	24		
STRASBOURG	26.42	298.3	5	41	1				5	50 PP
BASLE	26.52	296.0	5	42	1				6	54 PPPP
MUNSTER	26.85	305.8	5	32	-12					
MONACO	26.87	287.5	6	7	23					
APATITY	26.95	351.1	5	43	-2	10	18	-3		
NEUCHATEL	26.96	294.8	5	45	0					
BESANCON	27.61	295.4	6	2	11				6	41
SODANKYLA	27.81	345.7	5	50	-3					
DOURBES	28.56	301.4	6	3	4				6	53 PP
KIRUNA	29.50	342.1	6	5A	-3				12	0
DEHRA DUN	29.59	100.7	6	26	17	11	42	38	13	35 SS
KEW	31.73	303.9	6	25	-3					
ADDIS ABABA	32.43	189.5	6	33	-1					
BOMBAY	33.25	123.4				12	9	8	8	5 PP
RATHFARNHAM	35.39	307.2	6	29	-30				7	1
GRANADA	36.67	279.5	7	9K	-1					
TAMANRASSET	37.04	252.1	7	10	-3	12	56	-3	8	58 PPP
CHATRA	38.23	98.3	7	22	-1	13	22	4		
BOKARO	38.94	103.4							13	32
LHASA	39.67	91.6	7	40	5	15	13	94	8	29
KHEYS	39.81	3.6	7	35	-1					
IRKUTSK	41.66	53.5	9	27	95					
SHILLONG	42.44	96.3	7	56A	-2					
BANGUI	43.16	218.5	8	2	-2					
CHITTAGONG	44.25	100.1	8	14	1	14	47	0	9	59 PP
NORD	45.22	349.6	8	14	-6					
LWIRO	45.45	201.4	8	1	-21				18	52 SS
CHENGTU	48.91	82.4	8	53	4	15	59	6		
TIKSI	49.89	24.4	8	55	-2					
SIAN	50.81	75.6	9	8	4					
KUNMING	50.87	89.3	9	6	2	16	18	-2	16	31 PS
PORT BLAIR	51.80	110.3							16	37
LEOPOLDVILLE	52.43	217.1	9	14	-2	16	44	2		
YAKUTSK	52.74	36.2	9	29	10					
PEKING	53.32	65.8	9	22	-1	16	50	-4		
ELISABTHVLLE	54.80	199.8	9	33	-1					
THULE	55.17	344.5	9	31	-5					
WUHAN	56.79	76.7	9	42	-6					
CHANGCHUN	57.65	57.9	9	57	3					
MBOUR	58.83	261.7	10	1	-1	18	34	27		
CANTON	59.99	84.6	10	14	4	18	27	5		
RESOLUTE	61.14	348.5	10	14	-4	18	35	-2	11	5 PCP
ZO-SE	61.30	72.5	10	22	3	18	43	4		
BULAWAYO	62.73	196.2	10	29	0					
PRETORIA	68.26	195.3	11	3	-2					
MATUSIRO	69.88	58.8	11	11	-4	20	24	0	21	4 SCS
TUKUBASAN	71.29	58.1	12	0	37					

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KIMBERLEY	71.89	197.6	11 25	-2			
COLLEGE	73.80	5.2	11 35	-3			14 4 PP
SHAWINIGAN	76.00	320.5	11 52A	1			
MORGANTOWN	84.66	319.9	12 38K	1			
HUNGRY HORSE	88.65	345.5	12 55	-1			
BOZEMAN	90.59	342.7	13 7	2			
LAWRENCE	91.89	329.3	13 12	1			
LARAMIE	93.27	337.5	13 19	1			
FAYETTEVILLE	93.96	327.2	13 22	1			13 43 PCP
EUREKA	97.57	344.4	13 36	-1			
BRISBANE	121.16	100.5					23 42
SOUTH POLE	131.08	180.0	19 13	-1			21 36 PP
BYRD STATION	140.63	184.5	19 33	2			
KARAPIRO	142.96	101.1	19 32	-3			

DECEMBER 9 14.H 4.M 27.S EPICENTRE -17.05-177.56 DEPTH= 378.KM

A=-0.95576 B=-0.04071 C=-0.29132 D=-0.0426 E= 0.9991
G= 0.2911 H= 0.0124 K=-0.9566 HT= 5.3

DEPTH OF FOCUS= 0.054R

SE= 1.05

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	3.98	253.4	0 39	-32	2 22	15		
AFIAMALU	6.39	61.6	1 35K	-2	2 51	-2		
APIA	6.44	60.7	1 39	1	2 55	1		
KARAPIRO	21.67	194.9	4 24	2				5 31
BRISBANE	29.25	244.2	5 29K	-2	9 51	-4		
RABAUL	32.31	289.8	7 56	119				
CHARTERS TS.	34.39	259.2	6 14K	-1	11 11	-4		
CANBERRA	34.87	232.0	6 19K	0				
PORT MORESBY	35.14	277.9	6 22K	1	11 27	1		
MELBOURNE	38.82	230.2	6 52K	1				7 26
KIPAPA	42.76	27.3	7 23	0				
ADELAIDE	42.77	236.7	7 24K	1				
GUAM	48.01	306.8	8 5	1				
MUNDARING	61.23	242.5	9 37	-1				
MATUSIRO	67.71	322.6	10 18K	-1	18 43	-3		19 45 SCS
BYRD STATION	67.96	170.8	10 20	-1			11 54	
SOUTH POLE	73.06	180.0	10 51	0			12 29	
BERKELEY	75.35	42.3	11 4A	0				
LICK	75.45	43.0	11 5A	0				
UKIAH	75.48	40.8	11 4	-1				
PASADENA	76.04	47.3	11 8	0				
FRESNO	76.34	44.3	11 10A	0				
SHASTA	76.93	39.8	11 13A	0				
MINERAL	77.21	40.5	11 14A	-1				
HONG KONG	77.40	298.2	11 17	1	20 51	17		
RENO	77.88	42.0	11 19A	1				
CORVALLIS	78.72	36.3	11 23A	0				
BOULDER CITY	79.33	47.2	11 27	1				
EUREKA	80.34	43.7	11 31	0				14 39 PP
TUCSON	80.47	52.1	11 34	2				
TUCSON TELE.	80.60	52.1	11 34	1				
VICTORIA	81.09	33.1						13 56
HORSESHOE B.	81.69	32.4						13 37
SALT LAKE C.	83.72	44.1	11 49	0				
COLLEGE	84.76	12.3	11 52	-2				
HALLEY BAY	85.90	173.0	11 58	-1				
HUNGRY HORSE	86.14	36.8	11 59	-1				15 24 PP
BOZEMAN	86.58	40.1	12 3	0				
BANFF	86.78	33.8	12 5K	2				
RAPID CITY	90.92	44.0	12 23	0				
FAYETTEVILLE	94.67	53.8	13 11A	31				
COLLMBERG	144.80	348.5	18 53A	0				19 3
JENA	145.41	349.8	18 54	0				
PRUHONICE	145.72	346.1	18 56A	2			20 38	
UCCLE	146.29	357.8	18 41	-14				
DOURBES	146.98	357.4	18 40	-16				
STUTTGART	147.87	351.5	19 2	5				
FOLINIERE	148.27	3.7	18 58	0				
LJUBLJANA	149.38	343.4	19 5	5				
TAMANRASSET	173.60	333.6	19 26	2				

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DECEMBER 11 O.H 31 M 43.S EPICENTRE -4.90 130.15 DEPTH= 0.KM

A=-0.64246 B= 0.76160 C=-0.08488 D= 0.7644 E= 0.6448
G= 0.0547 H=-0.0649 K=-0.9964 HT= 7.0

SE= 1.95

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PORT MORESBY	17.45	105.8	4 6A	0	7 24	5		7 56
MANILA	21.42	335.3	4 54	3	8 51	6		
CHARTERS TS.	21.76	135.3	4 54	-1				
RABAUL	21.96	89.1	4 58	1	9 17	22		6 24
LEMBANG	22.49	264.0	5 23K	21	9 4.	38		
DJAKARTA	23.25	265.8	4 33	-36	9 50	32		
ADELAIDE	30.95	166.2	6 21K	0				
BRISBANE	31.07	138.5	6 22	0	11 24	-3		
HONG KONG	31.23	330.5	6 21	-2	11 33	4		
MEDAN	32.55	284.4						8 27
PHU-LIEN	34.43	318.7	6 49K	-2	12 22	3		
CANBERRA	34.92	152.5	6 55K	0				8 23 PP
MELBOURNE	35.46	159.6	7 1	1			7 9	
ZO-SE	36.81	347.1	7 10A	-1				
WUHAN	38.26	338.0	7 24A	1	13 16	-2		
NANKING	38.32	344.3	7 25A	1	13 15	-4		
ABUYAMA	39.89	7.0	7 37A	0				
KUNMING	40.00	319.5	7 39A	1	13 42	-2		9 18 PP
MATUSIRO	41.91	9.7	7 52A	-1	14 0	-13		9 49 PCP
CHITTAGONG	46.26	307.4	8 29	0	15 19	3		10 18 PP
PEKING	46.53	345.2	8 30A	-1	15 14	-5		
LANCHOW	47.62	330.9	8 40A	1	15 32	-3		
SHILLONG	47.93	311.1	8 40A	-2				
CHANGCHUN	48.70	355.3	8 46A	-2				
LHASA	50.85	314.9	9 5	1	16 17	-3		
CHATRA	52.17	309.5	9 16	2				
KARAPIRO	52.75	135.0	9 18A	-1				
CHATEAU	53.33	136.4	9 23K	0				
APIA	57.85	103.1	10 8	13				
AFIAMALU	57.86	103.3	10 4	8				
POONA	60.15	294.5	9 52A	-19				
BOMBAY	61.19	294.6	10 21	3	18 30	-8		
DUMONT	62.04	175.6	10 23	-1	18 44	-4		
TERRE ADELIE	62.30	175.0	10 23	-3	18 44	-8		
KARACHI	68.04	299.1	11 2A	-1				
QUETTA	69.72	304.5	11 13A	0				11 22
CAPE HALLETT	71.70	168.0	11 24	-1	20 42	-3		11 34
HONOLULU	74.91	66.5	11 45	1				
SCOTT BASE	75.38	172.5	11 46	-1				11 55 PCP
TIKSI	76.39	359.6	11 50	-3				
TANANARIVE	81.44	251.7	12 22K	2				
SVERDLOVSK	83.07	328.8	12 28	0				
BYRD STATION	88.67	170.6	12 55	-1				16 33 PP
TIFLIS	89.76	311.7	13 1	0				
COLLEGE	91.02	25.0	13 5	-2				
ADDIS ABABA	92.12	278.8	13 15	3				
MOSCOW	95.44	325.4	13 26	-1				
APATITY	97.07	337.4	13 33	-2				
SODANKYLA	99.70	337.6	13 45	-2				
ELISABTHVLLE	101.38	257.1	13 55	1				
KIRUNA	101.90	338.6	13 55K	-2				
RESOLUTE	105.60	11.3	14 12	777				18 26 PP
HUNGRY HORSE	110.65	39.9	14 46	777				18 35 PP
EUREKA	111.46	49.5	14 43	777				18 36 PP
STUTTGART	113.70	321.7	18 40	0				
TUCSON	117.04	56.3	18 59	12				
RAPID CITY	119.18	41.5	19 52	61				
SETIF	120.62	309.4	18 54	0				
TAMANRASSET	123.73	294.1	19 3	3				20 43 PP
LAWRENCE	126.77	43.9	19 6	1				
FAYETTEVILLE	128.83	46.6	19 11	2				
BREBEUF	134.56	23.4	19 22A	2				
COLUMBIA	139.06	41.0	19 30	1				
MBOUR	146.29	288.6	19 45	4				19 55 PKP2
HUANCAYO	149.58	123.8	19 51	5				20 26 PKP2
LA PAZ	152.09	140.0	19 53	3				20 9 PKP2

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SAN JUAN 159.21 48.6 20 39 PKP2

DECEMBER 11 1.H 38.M 35.S EPICENTRE -23.15-175.39 DEPTH= 0.KM

A=-0.91743 B=-0.07402 C=-0.39094 D=-0.0804 E= 0.9968
G= 0.3897 H= 0.0314 K=-0.9204 HT= 3.9

SE= 1.79

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	7.63	309.6	1 53	-3				4 20
BRISBANE	29.05	255.0	5 51	-13	10 34	-21		
RIVERVIEW	31.15	242.5	6 25	2	11 34	5		
CANBERRA	33.18	240.5	6 38	-3				
CHARTERS TS	35.72	267.4	7 1A	-2	12 37	-3		
MELBOURNE	36.87	237.3	7 11	-1				
PORT MORESBY	38.34	284.6	7 23A	-2				9 10 PPP
CAPE HALLETT	49.85	185.7	8 59K	2	16 17	10		11 2 PP
TERRE ADELIE	51.35	200.3	9 12	3	16 33	5		
DUMONT	51.71	200.9	9 12	1	16 33	0		18 58 SCS
SCOTT BASE	55.41	184.5	9 51	12				
BYRQ STATION	61.64	170.6	10 21	-1				20 19
WILKES	62.65	205.9	10 26	-3	18 55	-2		
MIRNY	69.64	205.3	11 11	-3				
MATUSIRO	73.77	322.6	11 38	0	21 5	-4		22 1 SCS
LICK	78.60	41.0	12 6K	1				
PASADENA	78.76	45.3	12 6	0				
Y.-SAKHLINSK	79.42	332.3	12 12	2				
MINERAL	80.59	38.7	12 16	0				
RENO	81.11	40.2	12 30	11				
ZO-SE	81.25	309.1	12 20	0	22 39	9		
UGLEGORSK	81.30	333.3	12 21	1				
BOULDER CITY	82.05	45.5	12 19	-5				
HONG KONG	82.08	298.2	12 26	2	22 46	8		
TUCSON	82.68	50.5	12 29	2				12 51
TUCSON TELE.	82.80	50.5	12 28	0				
CANTON	83.13	298.5	12 30A	1	23 0	11		22 53 SKS
EUREKA	83.40	42.1	12 30	-1				
NANKING	83.49	308.8	12 32A	1	23 3	10		22 54 SKS
WUHAN	85.79	305.6	12 44A	1	23 27	12		23 10 SKS
CHANGCHUN	85.97	321.4	12 44A	0	23 28	11		23 8 SKS
PEKING	89.47	314.4	13 1A	0	24 0	10		23 33 SKS
HUNGRY HORSE	89.82	35.8	13 1	-1				
COLLEGE	90.29	11.4	13 3	-1				
SIAN	91.75	306.6	13 13	2				
KUNMING	92.70	296.1	13 17A	2	24 31	12		23 54 SKS
CHENGTU	93.95	301.6	13 23	2	24 42	12		23 57 SKS
LANCHOW	96.29	306.4	13 34	2	25 1	12		
LA PAZ	98.72	112.0						25 19 SKKS
BOGOTA	102.20	90.2			24 39	1		27 56 PPS
SVERDLOVSK	127.54	324.9	19 19	11				
APATITY	132.12	345.5						20 58
ELISABTHVLLE	138.80	215.3	19 34	5				
MOSCOW	139.37	331.7						23 20 PKS
TIFLIS	141.77	308.7	19 31	-3				
ADDIS ABABA	144.42	252.4	19 43	5				
GOTEBORG	145.08	353.1	19 51	11				
LWIRO	145.46	226.2	19 43	3				
COPENHAGEN	147.00	351.8	19 52	9				
SIMFEROPOL	147.57	319.3	19 53	9				
WARSAW	148.35	340.7	19 54	9				
RATHFARNHAM	148.78	12.6	20 52	66				
LWOW	149.33	335.0	19 53	6				
KRAKOW	150.59	339.7	20 5	16				
KSARA	150.64	298.2	19 49	0				23 31 PP
HALLE	151.14	350.5						20 9 PKP2
JERUSALEM	151.59	294.3	19 57	7				
JENA	151.75	350.7						20 9 PKP2
PRUHONICE	152.11	346.2	20 11	20				
TAMANRASSET	179.09	246.3	20 15	3				26 1 PP

DECEMBER 12 20.H 0.M 5.S EPICENTRE 35.72 -0.56 DEPTH= 0.KM

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A= 0.81374 B=-0.00799 C= 0.58118 D=-0.0098 E=-1.0000
G= 0.5811 H=-0.0057 K=-0.8138 HT= -0.1

SE= 2.46

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
RELIZANE	0.91	87.5	0	19	-1								
ALMERIA	1.91	306.8									0	32	PG
ALICANTE	2.63	1.4									0	46	PG
GRANADA	2.85	301.7	0	48K	1	1	21	-2			1	13	
ALGIERS UNI.	3.10	69.1	0	50	-1	1	29	0			1	1	PG
SETIF	4.86	82.6	1	15A	-1	2	45	31			1	41	PG
TOLEDO	4.99	327.4	1	16	-2	2	1	-16			1	31	PG
TORTOSA	5.16	9.0	1	22	2	2	13	-8					
CLERMONT-FD.	10.42	14.4	2	32	-2	4	36	4					
GARCHY	11.87	12.1	2	50	-3	4	56	-12					
FOLINIERE	13.05	0.2	3	5	-4								
PARIS	13.28	8.8	3	10	-2								
TAMANRASSET	13.94	156.0	3	19	-2	5	58	1			5	47	
STRASBOURG	14.25	23.0									5	15	
DOURBES	14.86	13.1	3	39	6						3	54	PP
STUTTGART	14.92	26.0	3	39	5								
VIENNA-H.	17.71	39.8	4	10	1								
COLLMBERG	18.37	27.8	4	20	2								
RACIBORZ	19.79	37.7	4	33	-1								
KIRUNA	34.30	14.0	6	48	-2								
ELISABTHVLLE	54.05	145.3	9	29	1								
BULAWAYO	62.05	148.8	10	26	2								
SHILLONG	77.39	67.6	11	57	-1								
EUREKA	84.39	315.4	12	36	1								
TUCSON TELE.	85.87	307.2	12	45	2								
CHARTERS TS.	147.00	70.8	19	47	5								

DECEMBER 13 5.H 39.M 28.S EPI.ENTRE -9.13 106.26 DEPTH= 0.KM

A=-0.27647 B= 0.94801 C=-0.15758 D= 0.9600 E= 0.2800
G= 0.0441 H=-0.1513 K=-0.9875 HT= 6.6

SE= 2.52

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LEMBANG	2.65	30.7	0	46	1								
DJAKARTA	2.98	11.0	0	50	0	1	28	1					
MUNDARING	24.54	159.3	5	24	2	9	50	9					
KUNMING	34.21	354.3	6	51	2	12	18	2			7	4	
CHITTAGONG	34.34	335.8	6	57	6	12	25	7					
SHILLONG	37.22	338.2	7	13	-2								
ADELAIDE	39.27	135.9	7	31	-1						7	43	
CHENGTU	39.62	357.0	7	34	-1						7	46	
CHARTERS TS.	40.11	110.3	7	38	-1								
PORT MORESBY	40.34	93.8	7	41	0						9	17	PP
LHASA	41.23	339.7	7	48	0								
ZO-SE	42.48	19.1	7	59	0	14	22	1			8	11	
NANKING	42.67	15.8	7	59	-1	14	23	-1			8	12	
SIAN	43.21	3.2	8	3	-1	14	29	-3			8	14	
LANCHOW	44.99	357.2	8	19	0	14	56	-2					
BRISBANE	47.45	118.9	8	44	6						19	24	SS
PEKING	49.76	10.0	8	55	-1	16	4	-1			9	7	
WARSAK DAM	54.08	324.3	9	27	-2								
QUETTA	54.35	317.5	9	28	-3								
MATUSIRO	54.45	31.6	9	26	-5	17	13	3			9	34	
CHANGCHUN	55.47	16.7	9	40	1	17	23	0			9	50	
WILKES	57.21	178.0				17	41	-5					
TANANARIVE	57.57	253.4	9	53	-1								
DUMONT	61.87	165.5	10	23	0								
TERRE ADELIE	62.33	165.1	10	23	-4								
CAPE HALLETT	73.59	163.4	11	39	2								
SCOTT BASE	75.11	169.0									15	57	PP
BROKEN HILL	76.03	257.3	11	51	0								
ELISABTHVLLE	77.31	260.1	11	58	0								
KSARA	79.12	307.0	12	14	6								
SOUTH POLE	80.93	180.0	12	16	-2								
BYRD STATION	87.99	172.8	12	53	0								
KIRUNA	96.81	337.6	13	32A	-2								

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RESOLUTE	113.38	6.0	18	39	-1							
HUNGRY HORSE	128.31	33.3	19	9	0							
LAWRENCE	144.58	29.5	19	37	-2							
FAYETTEVILLE	147.34	31.6	19	46K	3							
MORGANTOWN	149.12	9.4	19	51A	5							
LA PAZ	153.94	192.3	20	4	11						20	32 PKP2

DECEMBER 13 17.H 36.M 9.S EPICENTRE -17.72-173.29 DEPTH= 0.KM

A=-0.94662 B=-0.11143 C=-0.30248 D=-0.1169 E= 0.9931
G= 0.3004 H= 0.0354 K=-0.9532 HT= 5.2

SE= 3.03

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
APIA	4.16	20.6	1	2	-4	1	43	-13				
SUVA	7.90	265.6	2	11	12						4	23
ONERAHI	21.05	208.9	4	47	-1							
KARAPIRO	22.39	203.7	5	OK	-1							
KAIMATA	27.94	204.6	5	59	5							
GEBBIES PASS	28.50	201.7	6	4	5							
BRISBANE	32.69	246.8	6	32	-4	11	24	-28				
RIVERVIEW	35.61	236.3	7	0	-1	13	9	31				
CHARTERS TS.	38.28	259.9	7	21	-3	12	56	-22				
PORT MORESBY	39.27	276.8	7	33	1	13	47	14	7	42	13	56
MELBOURNE	41.59	232.6	7	49	-2							
ADELAIDE	45.86	238.3	8	35	9							
CAPE HALLETT	55.43	186.1	9	38	0	17	30	7			19	31 SCS
TERRE ADELIE	57.10	199.6	9	51	1	17	49	4				
DUMONT	57.46	200.1	9	51	-2	17	49	0			19	41 SCS
SCOTT BASE	60.96	184.7	10	16	-1							
MUNDARING	64.55	242.5	10	40	-1							
BYRD STATION	66.66	171.2	10	52	-3							
WILKES	68.37	204.9	11	3	-2	20	6	0			26	47 SSS
MATUSIRO	70.77	320.3	11	18A	-2	20	40	5			20	57
SOUTH POLE	72.39	180.0	11	28	-2							
FRESNO	74.03	42.2	11	42	3							
SHASTA	74.89	37.7	11	47	3							
RENO	75.71	39.9	11	52K	3							
TUCSON	77.71	50.3	12	4	4							
TUCSON TELE.	77.84	50.2	12	1	0							
EUREKA	78.06	41.7	11	59	-3							
ZO-SE	79.45	307.4	12	12	2	22	34	23				
SALT LAKE C.	81.41	42.4	12	23	3							
NANKING	81.71	307.3	12	22	0	22	49	15			22	59 SKS
CANTON	82.35	297.1	12	26	1	22	55	14				
CHANGCHUN	83.03	320.2	12	29A	1							
HUNGRY HORSE	84.28	35.2	12	31	-4							
BOZEMAN	84.51	38.6	12	30	-6							
COLLEGE	84.61	10.6	12	34	-2							
PEKING	87.13	313.5	12	50A	1	23	47	19			23	21 SKS
FAYETTEVILLE	91.80	52.7	13	14	3							
KUNMING	92.12	295.6	13	14A	2	24	31	18			23	56 SKS
CHENGTU	92.82	301.2	13	18	2	24	37	18			23	50 SKS
LANCHOW	94.68	306.2	13	26	2							
RESOLUTE	103.92	15.6				25	57	71			27	41 PS
QUETTA	124.13	294.8	19	2	1							
SVERDLOVSK	124.14	327.5	18	49	-12							
SIMFEROPOL	144.47	325.8	19	37	-1							
WITTEVEEN	144.97	0.0	19	41	2						19	51 PKP2
LWOW	145.07	340.3	19	39	0						20	1 PKP2
MUNSTER	145.82	359.0	19	42	1						19	52 PKP2
HALLE	146.04	354.1	19	41	0						20	55
KRAKOW	146.04	344.7	19	45	4						20	46
COLLMBERG	146.12	352.9	19	42A	1						21	53
RACIBORZ	146.42	346.6	19	39	-3						20	10
JENA	146.64	354.4	19	42	0						21	9
SKALNATE PL.	146.76	343.7	19	45K	3							
BENSBERG	146.83	359.5	19	44	2						19	55 PKP2
UCCLE	146.94	2.7	19	46	4						19	55 PKP2
PLAUEN	147.02	353.6	19	43	0							
PRUHONICE	147.20	350.6	19	45A	2							
SONNEBERG	147.22	354.7	19	45	2							
CHEB	147.40	353.2	19	55	12							
DOURBES	147.65	2.5	19	46	2							

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ADDIS ABABA	147.68	258.7	19 51	7						
FOLINIERE	148.48	9.1	19 49	4						
STUTTGART	148.96	356.7	19 50	4					20 0	PKP2
STRASBOURG	149.21	358.6	19 51	5					20 1	PKP2
KSARA	149.37	307.2	19 51	5	26 16	-37			23 29	PP
BESANCON	150.54	1.0	20 4	16						
LWIRO	150.55	229.8	20 0	12						
JERUSALEM	150.68	303.9	20 0	12						

DECEMBER 14 17.H 58.M 36.S EPICENTRE 5.36 125.63 DEPTH= 173.KM

A=-0.58008 B= 0.80925 C= 0.09286 D= 0.8128 E= 0.5826
G=-0.0541 H= 0.0755 K=-0.9957 HT= 7.0

DEPTH OF FOCUS= 0.022R

SE= 2.28

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
MANILA	10.28	334.5	2	26	2	4	19	2					
BAGUIO CITY	12.05	336.1	2	46	-1	5	4	6					
HENGCHUN	17.20	344.5	3	49	-2	7	8	13					
TAWU	17.50	345.3	3	35	-19								
TAINAN	18.30	343.9	4	1	-2								
ALISHAN	18.64	346.0	4	7	0								
HWALIEN	18.90	348.6	4	27	18								
ILAN	19.65	349.5	4	21	4	7	38	-6					
TAIPEI	19.95	349.0	4	14	-6								
HONG KONG	20.16	327.7	4	23K	1	8	0	6	5	2	5	25	*SP
GUAM	20.48	65.5	4	22	-4						8	19	PCP
CANTON	21.24	327.2	4	35	2	8	19	5					
LEMBANG	21.68	236.2	4	36K	-1	8	26	5					
DJAKARTA	22.00	238.8	4	39K	-2				5	11			
PHU-LIEN	23.99	311.5	4	59	-1	9	5	4	5	28	5	36	PP
YAKUSIMA	25.37	9.8	5	12A	-1	9	24	0			5	52	
ZO-SE	25.94	351.2	5	18	0	9	35	2	5	49			
PORT MORESBY	25.98	124.3	5	17A	-1	9	37	3	5	57	10	37	*SS
KAGOSIMA	26.47	9.4	5	23A	0	9	47	5					
MEDAN	26.93	267.4	5	28	1	9	54	5					
MIYAZAKI	26.97	10.9	5	27A	0	9	56	6					
WUHAN	27.12	338.7	5	42	13								
KUMAMOTO	27.72	9.2	5	35	1	10	6	4					
SAGA	28.08	8.3	5	39	2								
SIMIDU	28.12	13.2	5	38A	0	10	12	4			7	16	
RABAUL	28.16	109.2	5	38	0	10	21	12			9	26	
HUKUOKA	28.42	8.3	5	39	-1	10	8	-5					
TORISIMA	28.55	27.2	5	42	0								
KOTI	28.99	13.7	5	46	1	10	28	6	6	26	16	13	SCS
MATUYAMA	29.10	12.3									10	29	
KUNMING	29.46	314.2	5	51K	1	10	34	4	6	22			
HIROSIMA	29.54	11.5	5	50A	0	10	35	4					
TOKUSIMA	29.75	15.1	5	53	1	10	39	5					
SUMOTO	30.09	15.4	5	56A	1	10	44	4			7	52	PP
KOBE	30.48	15.6	5	52	-7						7	0	
OSAKA	30.55	16.2	6	0	1								
NARA	30.66	16.6	6	0	0	10	52	3					
MATSUE	30.72	11.9	6	2	1								
ABUYAMA	30.77	16.1	6	1A	0								
KYOTO	30.95	16.2	6	3	0						8	3	
KAMEYAMA	31.01	17.5	6	5	2	10	58	4			7	12	PP
HIKONE	31.33	16.9	6	6	0	11	2	3					
OMAESAKI	31.34	20.2	6	8	2	11	5	6					
NAGOYA	31.45	18.0	6	8	1	11	5	4			16	27	SCS
GIHU	31.61	17.5	6	9A	1	11	6	3			8	8	
HUKUI	32.06	16.3	6	16	4								
MISIMA	32.06	20.8	6	10	-2	11	12	2			7	29	
HUNATU	32.34	20.3	6	14	-1	11	15	0					
CHENGTU	32.36	323.6	6	16	1	11	16	1	6	46			
CHARTERS TS.	32.42	141.9	6	15	-1	11	18	2					
KOHU	32.43	19.9	6	15	-1	11	19	3			16	30	
SIAN	32.65	333.8	6	16	-2								
MATUMOTO	32.76	18.6	6	9	-9								
TOKYO C.M.O.	32.85	21.5	6	16	-3	11	7	-16			11	39	
TITIBU	32.88	20.3	6	19	0								
OIWAKE	33.02	19.3	6	20	-1	11	26	1					
MATUSIRO	33.10	18.7	6	20A	-1	11	28	1			7	28	PP

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PORT BLAIR	33.13	283.1	6	22	0	11	30	3			
KUMAGAYA	33.14	20.6	6	22	0	11	42	15		8	14
NAGANO	33.22	18.6	6	22	0	11	31	3		16	34 SCS
MAEBASI	33.26	20.0	6	20A	-3					7	44
TUKUBASAN	33.46	21.5	6	17A	-7	11	17	-15	6 58	12	35 SS
KAKIOKA	33.50	21.6	6	2	-23					12	32
UTUNOMIYA	33.67	20.9	6	24	-2	11	29	-6		16	37 SCS
SHIRAKAWA	34.31	20.9	6	48	16	11	45	0		16	40
ONAHAMA	34.40	21.9	6	43	11	11	48	1			
HUKUSIMA	34.96	20.7	6	36	-1	11	59	4			
YAMAGATA	35.37	20.2	6	41	0	12	6	5			
PEKING	35.55	347.5	6	42A	0	12	4	0			
SENDAI	35.58	20.9	6	44A	2	12	8	3		7	41
SAKATA	35.78	19.1	6	49	5					7	31
ISINOMAKI	35.87	21.2	6	45	0	12	13	4			
MIZUSAWA	36.42	20.5	6	51	2	12	21	3			
LANCHOW	36.53	329.6	6	51K	1	12	21	2	7 24		
AKITA	36.61	18.8	6	48	-3					12	26
CHITTAGONG	36.78	300.6	6	54	2	12	31	8	7 23	8	26 PP
MORIOKA	36.95	20.1	6	54	0	12	27	1			
MIYAKO	37.18	21.1	6	53	-3	12	32	3			
HATINOHE	37.81	19.9	7	2	1	12	41	2			
SHILLONG	38.05	305.5	7	3K	0	12	47	5			
MUNDARING	38.20	193.0	7	3	-1	12	43	-1			
PERTH	38.26	193.5	7	6	1					9	17
CHANGCHUN	38.31	359.6	7	5A	0	12	47	1			
HAKODATE	38.72	18.2	7	10A	1	12	54	2		9	44
MORI	38.92	17.8	7	13	3	13	0	5			
MURORAN	39.25	18.1	7	14	1						
SUTTSU	39.46	17.0	7	15	0	13	9	6			
URAKAWA	39.68	20.1	7	19	2	13	15	8			
TOMAKOMAI	39.72	18.5	7	21	4						
CALCUTTA	39.82	299.1	7	11	-7	13	8	-1			
HIROO	39.98	20.5	7	21	2						
SAPPORO	40.04	18.0	7	21A	1	13	15	3		8	50
OBIHIRO	40.51	20.0	7	26	3						
LHASA	40.60	310.6	7	25K	1	13	24	4	7 54		
KUSIRO	40.98	21.1	7	28	1	13	31	5			
NEMURO	41.71	22.0	7	35	2	13	42	5			
BRISBANE	41.82	142.5	7	35A	1	13	42	4			
ADELAIDE	41.97	163.9	7	36	1	13	42	2		16	50 SCS
CHATRA	42.41	304.5	7	39	0	13	49	2		13	7
BOKARO	42.48	299.7	7	40	1	13	51	3	8 16	9	19 PP
Y.-SAKHLINSK	44.04	16.8	7	52	0	14	14	4		10	18 PP
ULAN-BATOR	45.33	342.3	8	2	0	14	30	1			
MADRAS	45.45	282.9	8	6K	3	14	39	9		9	55 PP
COLOMBO	45.51	274.4	8	8	4	14	31	0			
RIVERVIEW	45.85	150.0	8	8K	2	14	40	4			
CANBERRA	46.05	153.2	8	8A	0	14	42	3		9	57 PP
MELBOURNE	46.59	158.8	8	12	0	14	51	4	8 41	9	45 PCP
HYDERABAD	47.65	288.6	8	22K	2	15	2	0		10	15 PP
IRKUTSK	49.96	343.0	8	42	4					18	13 SCS
AGRA	50.18	301.0	8	39K	-1	15	47	10		9	22
DEHRA DUN	51.14	304.9	8	50	3	15	53	3		10	42 PP
FORT NELSON	51.95	159.8				16	4	3		9	8 PP
BOMBAY	53.15	289.5	9	0	-2	16	20	3	9 30	11	4 PP
LAHORE	54.56	305.1	9	13K	1	16	41	5			
PETROPAVLOVK	54.66	23.8	9	12	-1	16	42	4	9 40	11	12 PP
WARSAK DAM	57.53	307.1	9	33K	0	17	20	5			
KARACHI	59.32	295.6	9	44K	-2				10 16		
QUETTA	60.36	301.7	9	51K	-2	17	56	4	10 24	12	11 PP
STALINABAD	61.03	311.4	9	58	1	18	5	5			
COBB RIVER	63.15	141.6	10	11	0					19	51 SCS
KAIMATA	63.21	143.6	10	16	4						
KARAPIRO	63.24	137.4	10	12A	0					10	35
ROXBURGH	63.86	147.2				18	38	2		19	28
WELLINGTON	64.54	140.9	10	19	-1	18	43	-1		19	59 SCS
GEBBIES PASS	64.63	144.0	10	21	0						
APIA	64.95	107.8	10	25	2					10	34 PCP
MACQUARIE I.	65.80	159.4	10	30	1	19	6	7	11 10	10	59 PCP
TIKSI	66.22	1.1	10	28	-3	18	59	-6		20	8 SCS
ASHKABAD	68.85	308.6	10	48	0	19	42	6		20	36 SCS
SVERDLOVSK	72.01	328.4	11	4	-3	20	12	0			
WILKES	72.36	186.3	11	8	-1	20	20	4	11 52	21	8 SP
DUMONT	72.61	174.0	11	8	-2	20	20	1		21	0 SCS
TERRE ADELIE	72.90	173.5	11	8	-4	20	20	-2			
HONOLULU	75.29	69.5	11	28	3						
KIPAPA	75.36	69.4	11	27	1						

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MIRNY	75.49	192.9	11	26	-1							
HAWAII V.OB.	77.97	71.4	11	40	0							
GORIS	78.36	309.1	11	42	0	21	27	5			11	45 SKS
TIFLIS	79.61	311.3	11	49	0	21	39	4			22	7 SCS
TANANARIVE	80.52	249.9	11	53	-1				12	24		
KHEYS	81.15	351.2	11	57	0	21	55	4	12	33	15	10 PP
CAPE HALLETT	82.62	167.5	12	6K	1	22	12	6	12	51	23	5 SP
COLLEGE	83.71	25.4	12	11	1	22	18	1	12	46	15	25 PP
MOSCOW	84.48	325.4	12	13	-1	22	22	-2	12	57	23	28 *SS
APATITY	85.93	337.4	12	21	0	22	39	1			23	46 PS
ADDIS ABABA	86.08	278.7	12	24	2	22	56	16				
SCOTT BASE	86.09	172.0	12	23A	1	23	44	64			22	46 SCS
KSARA	86.85	303.5	12	26	0	22	45	-2	13	1	15	50 PP
SIMFEROPOL	87.32	314.7	12	30	2	22	54	2	13	8	23	48 *SS
JERUSALEM	87.56	301.5	12	30	1	23	3	9				
PULKOVO	88.08	329.7	12	30	-2						22	59 SCS
SODANKYLA	88.55	337.5	12	34	0	23	5	2			16	3 PP
HELSINKI	90.67	330.6	12	43	-1							
NURMIJARVI	90.75	330.9	12	44	0							
KIRUNA	90.76	338.5	12	43	-1	23	26	3			22	59 SKS
NORD	91.38	354.8	12	46K	-1							
IASI	91.57	317.5	13	18	30	23	35	5			23	8 SKS
UPPSALA	94.31	331.2	12	59	-2	23	52	-2			23	16 SKS
SOUTH POLE	95.33	180.0	13	5	0	23	22	-1	13	51	16	55 PP
SKALSTUGAN	95.37	335.6	13	5	0							
KRAKOW	95.90	321.4	13	10	2						14	28
SKALNATE PL.	95.93	320.5	13	21	13				14	14		
RESOLUTE	96.41	10.0	13	11K	1	24	16	47	13	47	23	33 SKS
LWIRO	97.01	268.4	13	12	-1						25	36
GOTEBORG	97.82	330.2	13	14	-3							
THULE	97.94	3.3	13	17	0							
BROKEN HILL	98.24	256.2	13	18	-1							
BULAWAYO	98.41	250.5	13	19	0							
VIENNA-H.	98.65	320.3	13	37	17						16	45
ELISABTHVLLE	99.04	259.1	13	22	0	24	45	63	14	1	17	36 PP
PRUHONICE	99.23	322.4	13	22K	-1	23	50	7	14	8	17	34 PP
BYRD STATION	99.46	170.8	12	25	-59				13	13	17	25
COLLMBERG	99.69	324.0	13	23	-2				14	19	17	30 PP
HALLE	100.23	324.4	13	28	0	23	56	8			17	29 PP
JENA	100.66	324.0	13	41	12				14	25	17	48 PP
CORVALLIS	101.00	42.8									17	42 PP
TOLMEZZO	101.42	319.3									18	20
KIMBERLEY	102.07	241.9	13	39	3							
MESSINA	102.25	310.8									23	28
MUNSTER	102.49	326.0	13	54	16							
UKIAH	102.77	48.1									17	53 PP
STUTTGART	102.87	322.5	13	56	17						18	4 PP
SHASTA	102.88	46.3									17	56 PP
MINERAL	103.57	46.5									17	49 PP
BERKELEY	103.87	49.0									17	59 PP
LICK	104.51	49.4									17	24 PP
RENO	105.14	46.8									18	12 PP
HUNGRY HORSE	105.44	36.7	13	53	777						17	4 PP
FRESNO	106.08	49.5									17	48 PP
BANGUI	106.47	276.1	14	22	777	24	21	4				
BUTTE	107.40	38.4	14	1	777						17	17 PP
EUREKA	107.92	45.7	14	3	777						17	18 PP
PASADENA®	108.22	51.6				24	36	11			18	12 PP
BOZEMAN	108.50	38.2	17	24	777							
BOULDER CITY	110.11	48.7	14	21	777				15	21		
LEOPOLDVILLE	110.66	267.4				24	39	4			18	50 PP
RAPID CITY	114.08	36.5	17	59	-19						29	8 PKKP
LARAMIE	114.13	40.0	18	24	6						19	15
TUCSON TELE.	114.68	50.9	18	25	5				19	23	30	6 PKKP
TAMANRASSET	115.17	298.1	18	16	-4	25	2	10			19	22 PP
ARGENTINE I.	119.81	175.2									21	53 PP
LAWRENCE	121.91	36.9	18	43	9						28	30
FAYETTEVILLE	124.40	39.0	18	41K	3				19	17	20	13 PP
SEVEN FALLS	125.75	13.8	18	43	2							
SHAWINIGAN	125.79	15.6	18	43K	2						21	55 SPP
OTTAWA	125.98	18.5	18	44A	3						19	40 PP
BREBEUF	126.52	16.8	18	45A	3						20	13 PP
PENNSYLVANIA	129.25	23.0									21	59 PP
MORGANTOWN	129.39	25.6	18	52K	4						22	0 SKP
HALIFAX	129.56	8.5									21	59 PKS
PALISADES	130.50	19.4	18	53	3						23	5 PPP
WASHINGTON	131.20	23.6									22	8 PP
COLUMBIA	133.44	30.9	18	59	3				19	37	21	24 PP
PORT STANLEY	133.72	177.0	19	0	4						22	14 PP

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MBOUR	138.04	298.3							22 28	PP
CHINCHINA	156.42	64.5	19 37	4					20 7	PKP2
ANTIGUA	156.45	18.1	19 37	4						
FUQUENE	157.87	61.2	19 38	3					20 12	PKP2
BOGOTA	157.96	63.6	19 42	7	26 27	5			24 12	PP
HUANCAYO	158.25	109.2	19 43	7					23 57	PP
FORT FRANCE	158.93	18.5	19 41	4						
CARACAS	159.88	38.5	19 34A	-4					24 24	PP
ST. VINCENT	160.35	20.4	19 42	4					20 22	PKP2
LA PAZ	162.55	130.4	19 46	6					24 40	PP
TRINIDAD	162.62	23.8	19 44	4					20 33	PKP2

DECEMBER 14 21.H 49.M 11.S EPICENTRE 0.49 124.76 DEPTH= 0.KM

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G=-0.0049 H= 0.0070 K=-1.0000 HT= 7.2

SE= 2.72

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
MANILA	14.55	345.7	3	34	5	6	32	20					
BAGUIO CITY	16.35	345.6	3	56	4	7	5	11					
LEMBANG	18.58	246.7	4	21A	1	7	51	6					
DJAKARTA	19.08	249.4	4	25	-1	7	58	1					
GUAM	23.61	56.1	5	12	-1	9	45	20			5	33	
HONG KONG	24.00	335.3	5	19	2	9	13	-19			5	41	PP
PORT MORESBY	24.36	114.3	5	21A	0	9	38	0			6	0	PP
CANTON	25.06	334.5	5	30	3								
MEDAN	26.24	277.1	5	41	3	10	9	0					
PHU-LIEN	26.86	319.9	5	47	3	10	30	10			5	57	
RABAUL	27.78	99.9	5	53	1						6	46	
CHARTERS TS.	29.36	135.4	6	7	0	10	58	-2					
KUNMING	32.44	320.7	6	36	2								
MUNDARING	33.28	193.3	6	42	1	11	55	-6					
PERTH	33.35	193.9	6	44	2						12	9	
PORT BLAIR	33.69	290.5									8	14	PP
CHENGTU	35.89	328.6	7	3	-1								
ADELAIDE	37.62	161.1	7	20	2	13	7	-1			17	27	
MATUSIRO	37.97	17.7	7	19A	-2	13	2	-12			8	52	PP
TUKUBASAN	38.30	20.2	7	22	-2						9	46	PCP
BRISBANE	38.65	138.0	7	29	2	13	22	-2					
CHITTAGONG	38.73	306.4	7	29K	2								
PEKING	40.12	349.8	7	48	9								
SHILLONG	40.35	310.8	7	41A	0								
CANBERRA	42.21	150.0	7	59A	3	14	17	0	8	9	9	35	PP
MELBOURNE	42.45	156.1	8	0	2				8	12	9	51	PCP
VLADIVOSTOK	42.92	7.7	8	2	0								
LHASA	43.26	315.2	8	7A	2								
CHATRA	44.61	309.1	8	15	-1								
COLOMBO	45.22	279.2									10	18	PP
KODAIKANAL	48.00	283.3									10	24	PP
UGLEGORSK	50.64	14.7									13	6	
POONA	53.06	292.9	9	18	-3								
LAHORE	56.75	308.1	9	48	0								
WARSAK DAM	59.85	309.7	10	6	-4								
COBB RIVER	59.96	139.6	10	9	-1								
KARAPIRO	60.35	135.2	10	14A	1								
KARACHI	60.74	298.3	10	13	-3								
WELLINGTON	61.40	138.9	10	38	18								
MACQUARIE I.	61.60	158.1	10	23	2				10	34			
QUETTA	62.25	304.1	10	24K	-2						12	40	PP
STALINABAD	63.66	313.5	10	31	-4								
WILKES	67.46	186.2	10	59	-1	19	53	-2			20	56	SCS
DUMONT	67.89	173.5	11	1	-1								
TERRE ADELIE	68.19	173.0	11	1	-3								
MIRNY	70.58	192.9	11	19	0								
TIKSI	71.08	1.4	11	17	-5								
SVERDLOVSK	75.70	329.3	11	45	-4								
HONOLULU	77.84	68.4	12	2	1								
TANANARIVE	78.06	250.7	12	1	-1						12	42	
CAPE HALLETT	78.09	167.1	12	3	1	22	2	6					
SCOTT BASE	81.42	171.8	12	21K	1								
TIFLIS	82.17	311.9	13	23	59								
KHEYS	85.80	351.3	12	41	-1								
ADDIS ABABA	85.96	279.0	12	45	2								

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MOSCOW	87.97	325.6	12 51	-2	
COLLEGE	88.46	25.3	12 53	-2	30 16 PKKP
SYOWA BASE	88.71	201.0	10 3	-174	
KSARA	88.80	303.6	12 57	0	
JERUSALEM	89.35	301.6	13 0	0	
APATITY	90.06	337.4	13 1	-2	
SOUTH POLE	90.49	180.0	13 5	0	16 39 PP
PULKOVO	91.82	329.7	13 8	-3	
SODANKYLA	92.69	337.4	13 12	-3	
NURMIJARVI	94.55	330.7	13 32	8	
BYRD STATION	94.82	170.9	13 20	-5	
KIRUNA	94.94	338.3	13 23K	-2	
BULAWAYO	95.94	249.9	13 30	0	
BROKEN HILL	96.21	255.6	13 31	0	
ELISABTHVLLE	97.24	258.4	13 35	-1	
RESOLUTE	101.33	10.0	13 52	-2	
THULE	102.82	3.1	14 7	6	
EUREKA	111.90	46.7	18 37	0	
TAMANRASSET	116.58	295.8	18 49	3	19 41 PP
RAPID CITY	118.47	37.5	18 51	1	
FAYETTEVILLE	128.68	40.7	19 10	0	21 3 PP
SHAWINIGAN	130.69	15.9	19 15K	2	
OTTAWA	130.84	19.0	19 11	-2	
BERMUDA	146.11	14.4	19 49	8	
HUANCAYO	156.99	120.7	20 3	6	20 51 PKP2
SAN JUAN	158.41	29.1			20 35 PKP2
LA PAZ	159.64	142.0	20 5A	5	24 40 PP

DECEMBER 14 22.H 0.M 51.S EPICENTRE 52.45-168.21 DEPTH= 0.KM

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G=-0.7741 H=-0.1616 K=-0.6121 HT= -6.3

SE= 2.40

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
COLLEGE	16.25	32.1	3 51	-1	7 6 14			
KLYUCHI	18.33	294.5	4 19	1				4 39 PP
SITKA	19.41	63.2	4 35	4				
PETROPAVLOVK	19.98	284.9	4 37	0				8 51 SS
MAGADAN	23.67	303.7	5 17	3				
CORVALLIS	30.35	86.8	6 17A	1				
Y.-SAKHLINSK	31.67	280.1	6 31	3				8 7 PPP
ARCATA	31.93	93.4	6 32	2				
KIPAPA	31.96	161.9	6 28	-2				
HONOLULU	32.06	162.0	6 29	-2				
TIKSI	33.03	328.8	6 37	-2				7 57 PP
SHASTA	33.07	92.3	6 41K	1				
UKIAH	33.52	95.2	6 44	0				
MINERAL	33.76	92.1	6 46K	0				
HUNGRY HORSE	34.10	74.8	6 48	-1				9 25
BERKELEY	34.89	96.1	6 56K	0	12 30	3		
RENO	35.35	91.8	7 0K	1				
LICK	35.61	96.3	7 7K	5				8 27
RESOLUTE	35.99	25.7	7 2	-3	12 17	-27		8 37 PPP
BUTTE	36.11	77.5	7 9	3				
VINEYARD	36.15	96.8	7 7	1				
SASKATOON	36.66	65.3			12 56	2		
FRESNO	37.10	95.4	7 14	0				
EUREKA	37.73	88.8	7 20	0				
TUKUBASAN	39.46	266.7	7 27A	-7	13 29	-8		9 3 PP
SALT LAKE C.	39.47	84.1	7 36	2	13 36	-1		
PASADENA	39.84	97.1	7 37	0	13 45	3		7 56
VLADIVOSTOK	40.23	281.3	7 43	3	13 48	0		9 15 PP
MATUSIRO	40.41	268.6	7 42A	0	13 52	1		9 48 PCP
BOULDER CITY	40.65	92.2	7 43	-1				
THULE	41.97	20.4	7 54	-1				9 26 PP
RAPID CITY	42.73	74.3	8 5	4				
LARAMIE	42.94	79.1	8 6	3				
ABUYAMA	43.12	268.9	8 5A	1				
CHANGCHUN	43.74	286.3	8 9A	0	14 46	6		9 54 PP
KHEYS	44.71	350.3	8 16	-1				18 45 SS
NORD	45.33	5.7	8 21K	-1				
IRKUTSK	50.17	306.9	8 58	-2				16 20 PS
LAWRENCE	50.57	74.8	8 57	-6				

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CHIHUAHUA	51.06	92.4	9	19	13	16	22	-2		
PEKING	51.44	288.0	9	8A	-1	16	30	1	11	9 PP
ULAN-BATOR	51.55	301.2	9	19	9					
GUAM	53.94	241.7	9	20	-8					
ZO-SE	54.50	276.3	9	31	-1	17	12	2	11	35 PP
SCORESBY SD.	54.99	13.2	9	35	-1					
NANKING	55.28	278.9	9	36A	-2	17	23	2		
CLEVELAND	56.74	63.8				17	41	1		
OTTAWA	57.15	56.9	9	47	-4					
SHAWINIGAN	57.84	54.2	9	55K	-1					
BREBEUF	58.15	55.6	8	56	-62	16	15	-104		
SEVEN FALLS	58.40	52.7	10	2	2	17	55	-7	12	28 PP
MORGANTOWN	58.89	64.4	10	6K	3					
WUHAN	58.91	280.7	10	4A	0	18	14	5	12	12 PP
PENNSYLVANIA	59.21	62.1	10	8	2	18	14	1		
A PATITY	59.23	350.5	10	5	-1	18	13	0	12	22 PP
KIRUNA	59.87	356.2	10	6	-4	18	26	5	10	10
SODANKYLA	59.99	353.4	10	9	-2					
REYKJAVIK	60.84	16.2	10	19K	2					
PALISADES	61.17	59.5	10	18	-1	18	36	-2	12	52 PP
LANCHOW	61.25	292.5	10	19A	-1					
FORDHAM	61.30	59.6	10	21	1					
SIDA	61.79	14.5	10	23K	0					
CHAPEL HILL	62.02	66.8	10	24	-1					
TACUBAYA	62.09	94.2	10	44	19					
COLUMBIA	62.28	69.6	10	28	1					
HALIFAX	63.69	50.4							19	13 PPS
SVERDLOVSK	63.95	332.6							19	24 PS
VERA CRUZ	64.12	91.9							11	11 PCP
SKALSTUGAN	64.31	359.8	10	38A	-2					
CHENGTU	65.06	288.3	10	44A	-1	19	27	0	13	8 PP
CANTON	65.09	275.9	10	49	4	19	31	4	13	14 PP
HONG KONG	65.17	274.7	10	45	-1	19	29	1	20	37 SCS
BAGUIO CITY	65.71	265.4	10	48	-1	19	35	0		
MANILA	66.75	263.8	10	56	0					
MERIDA	66.78	85.5	10	54	-2	19	51	3	13	9
NURMIJARVI	66.92	353.1	10	57	0	19	48	-1		
PULKOVO	67.14	349.9	10	57	-1				13	19 PP
HELSINKI	67.24	352.9	10	57	-2					
UPPSALA	67.96	356.8	11	2A	-1	20	3	1	11	33 PCP
KUNMING	69.94	285.2	11	16A	1	20	28	3	13	49 PP
MOSCOW	70.09	344.8	11	11	-5				20	37 PS
GOTEBORG	70.21	359.9	11	18A	1				12	1
PHU-LIEN	70.88	279.4				20	37	1		
COPENHAGEN	72.24	359.6	11	30K	1	20	57	5		
PORT MORESBY	72.46	226.6	11	30	-1	20	50	-4	11	41 PCP
BERMUDA	72.52	59.6	11	29	-2	20	53	-2	16	29 PPP
LHASA	73.16	296.7	11	47A	12	21	6	4	14	22 PP
RATHFARNHAM	73.55	11.2	11	37K	0				12	14
WITTEVEEN	75.02	3.2	11	45	0					
WARSAW	75.41	354.1	11	47	-1	21	28	1	12	0 PCP
POTSDAM	75.54	359.2	11	49	1					
SHILLONG	75.86	293.4	11	50	0	21	36	3	12	5 PCP
MUNSTER	75.90	2.7	11	52	1					
KEW	75.96	7.8	11	51	0	21	38	4		
HALLE	76.43	359.9	11	54	1				14	24 PP
COLLMBERG	76.62	359.2	11	54A	-1	21	57	16	14	44 PP
STALINABAD	76.73	317.5	11	57	2	21	46	4		
UCCLE	76.94	4.8	11	48	-8	22	1	17		
JENA	77.00	0.1	11	56	-1	21	51	6	12	26
PLAUEN	77.44	359.8	11	57	-2					
CHORZOW	77.46	355.3	11	59	0					
CHATRA	77.47	297.7	12	0A	1	21	49	-1		
SONNEBERG	77.55	0.4	11	58	-2					
LWOW	77.58	351.9	12	0	0	22	5	14	12	39
KRAKOW	77.65	354.6	12	0	0				12	11 PCP
DOURBES	77.65	4.7	12	1	1				12	12 PCP
RACIBORZ	77.71	355.8	12	2	1				12	12 PCP
PRAGUE	77.84	358.3	12	3	2	21	47	-7		
CHEB	77.85	359.6	12	1	0	22	17	23	27	31 SS
PRUHONICE	77.92	358.2	12	2A	0	22	9	14		
CHITTAGONG	78.40	291.5	12	5A	1	22	3	3	15	3 PP
FOLINIERE	78.62	8.2	12	5	-1					
PARIS	78.81	6.3	12	8	1				13	12 PCP
STUTTGART	79.14	1.7	12	8	0	22	14	6		
STF'SBOURG	79.29	2.7	12	10	1	22	24	15	12	19 PCP
TUBINGEN	79.38	1.8	12	11	1					
DEHRA DUN	79.39	306.4	12	11	1	22	30	20	15	12 PP
WARSAK DAM	79.39	313.1	12	7	-3					

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VIENNA-H.	79.61	356.9	12 11	0				12 47	
BRATISLAVA	79.66	356.4	12 12K	1					
EBINGEN	79.72	1.9	12 13	1					
IASI	79.82	349.1	12 11	-1	22 21	6			
RAVENSBURG	80.14	1.5	12 14	0					
LAHORE	80.17	309.7	12 14A	0	22 22	3			
BUDAPEST	80.26	355.0	12 11	-3					
BASLE	80.34	2.9	12 16A	1	22 55	35			
GARCHY	80.37	6.0	12 15A	0					
BESANCON	80.56	4.0	12 16	0					
BOKARO	80.60	296.8	12 19	3	22 24	1			
NEUCHATEL	80.85	3.4	12 18	0					
CHUR	81.06	1.6	12 19A	0					
SIMFEROPOL	81.10	344.2						12 23	PCP
ASHKABAD	81.28	324.5						22 46	SCS
TOLMEZZO	81.53	359.1	12 22	1				13 38	
LJUBLJANA	81.86	358.1	12 23A	0				12 55	
CLERMONT-FD.	81.88	6.1	12 23	0				22 28	PCP
TIFLIS	81.95	335.7						22 44	SCS
AGRA	82.02	304.6	12 24A	0	22 40	2			
ZAGREB	82.05	357.0	12 27	3	22 48	10			
TRIESTE	82.27	358.6	12 26	1	22 42	2			
CHARTERS TS.	82.36	222.6	12 23	-2	22 39	-2			
BUCHAREST	82.73	349.7			22 43	-2			
SAN JUAN	82.76	69.4	12 28	0					
BELGRADE	82.83	353.8	12 28K	0	22 53	7		31 37	SSS
GALERAZAMBA	83.33	81.1						23 29	SKKS
GORIS	83.63	333.8						15 48	PP
PRATO	84.05	0.5	12 41	7	23 9	11			
MONACO	84.13	3.2	12 36	1				12 44	PCP
QUETTA	84.68	314.5	12 38A	1	23 7	3		15 51	PP
SOFIA	84.71	351.5	12 37	0	23 7	2			
ROME	86.03	359.5	12 44A	0	23 23	5		29 17	SS
ANTIGUA	86.18	66.8	12 44	-1					
BRISBANE	86.50	214.1	12 51	5				28 17	
TORTOSA	86.60	8.6						21 24	
TOLEDO	87.02	12.1	12 49	0	23 8	-19		25 0	
TARANTO	87.34	355.8	12 55	5	23 35	5			
CHINCHINA	87.68	84.9			23 34	1		24 2	SKKS
DOMINICA	87.91	67.6	12 54	1					
FUQUENE	88.44	83.1			23 39	-1			
CARACAS	88.54	74.7	12 49	-7	23 21	-20			
BOGOTA	88.90	83.9			23 24	-21		23 52	SKKS
ALICANTE	88.95	9.6	12 53	-5	23 36	-9		18 19	PPP
KARACHI	89.24	311.7	13 0	0					
ATHENS	89.36	350.6	13 0A	0					
ST. VINCENT	89.70	68.7	12 57	-5					
GRANADA	89.74	12.2	13 40A	38	24 0	7		30 0	SS
HYDERABAD	89.78	298.8	13 5	3	23 29	-24		16 25	PP
KARAPIRO	91.11	192.8	13 8	0					
POONA	91.28	303.0	13 9	0	23 42	-24			
BOMBAY	91.49	304.0	13 12	2	24 8	0		16 51	PP
KSARA	91.55	340.1	13 11	1	24 13	4		16 53	PP
TRINIDAD	91.65	70.3	13 9	-2					
RIVERVIEW	92.96	212.9	13 17K	0	24 25	4			
JERUSALEM	93.66	340.2	13 20	0					
ROXBURGH	99.44	195.8						24 19	SSS
TAMANRASSET	104.90	6.0	17 26	777	24 58	8		18 18	PP
MBOUR	108.95	29.5			26 48	100		19 2	PP
ADDIS ABABA	114.55	330.5						19 16	PP
CAPE HALLETT	125.37	187.9	18 56	-8	26 7	0		20 59	PP
LWIRO	128.00	338.2	19 11	2					
SCOTT BASE	130.95	186.8	19 14	0					
LEOPOLDVILLE	131.99	355.4	19 21	5				22 43	SKP
BYRD STATION	135.09	169.3	19 14	-8				22 50	PP
ELISABTHVLLE	137.39	337.0	19 20	-6				21 57	PP
BROKEN HILL	139.83	334.5	19 24	-7					
BULAWAYO	145.20	331.5	19 41	1					
WINDHOEK	149.89	350.2	19 54	6					
PRETORIA	150.60	328.8	19 28	-21					
PIETERMZBURG	153.37	321.7	20 2	9					
KIMBERLEY	154.44	332.8	19 47K	-7					

DECEMBER 14 23.H 21.M 57.S EPICENTRE -59.81 -26.51 DEPTH= 0.KM

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A= 0.45224 B=-0.22562 C=-0.86289 D=-0.4464 E=-0.8948
G=-0.7721 H= 0.3852 K=-0.5054 HT= -8.9

SE= 2.70

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
OHIGGINS	15.26	243.3	3	42	4	6	35	6					
HALLEY BAY	15.78	180.1	3	45	0								
ARGENTINE I.	18.03	236.4	4	17	3						16	2	SCS
PORT STANLEY	19.26	281.0	4	32	3	8	17	16			12	23	SCP
SOUTH POLE	30.36	180.0	6	14	-2								
BYRD STATION	32.32	199.0	6	34	1								
BUENOS AIRES	32.71	306.1	6	30	-6								
HERMANUS	39.01	70.2	7	33	3						9	15	PP
SCOTT BASE	42.35	184.1	7	57K	0	14	27	8			17	34	SS
GRAHAMSTOWN	43.45	76.7	8	7A	1								
MIRNY	46.28	151.2	8	27	-2								
KIMBERLEY	46.34	71.3	8	18K	-11								
ANTOFAGASTA	47.26	300.1	8	35	-2	15	35	5					
CAPE HALLETT	47.65	186.8	8	39A	-1	15	31	-5			10	48	PP
WINDHOEK	48.13	58.9	8	44K	0								
PIETERMZBURG	48.35	77.5	8	45A	0								
WILKES	50.19	159.0	8	59	0	16	11	0			9	47	PCP
PRETORIA	50.49	72.5	8	1	-61								
KERGUELEN I.	52.06	124.5	9	11	-3	16	39	2					
LA PAZ	52.70	306.8	9	19A	1	16	59	13			11	23	PP
TERRE ADELIE	53.36	174.1	9	22	-1						11	2	PP
DUMONT	53.43	173.4	9	22	-2						11	2	PP
BULAWAYO	55.47	69.3	9	37	-2								
HUANCAYO	59.70	301.5	10	11	2	20	30	131					
BROKEN HILL	60.34	65.9	10	11	-2								
ELISABTHVLLE	62.34	63.5	10	25	-2	18	53	1			12	47	PP
LEOPOLDVILLE	63.82	47.7	10	36A	0	19	6	-5			13	10	PP
TANANARIVE	65.83	86.1	10	47A	-2	19	41	5			13	16	PP
MACQUARIE I.	65.96	183.5	10	49K	-1	19	37	0	10	57	11	28	PCP
LOME	69.30	29.6	11	13	2	20	21	4					
LWIRO	71.27	60.2	11	26	3	20	46	6					
BANGUI	73.14	47.6	11	33	-1								
ROXBURGH	74.27	191.5	11	42	1	21	29	15			21	17	SKS
BOGOTA	74.28	310.2	11	41K	0								
MBOUR	74.33	9.6	11	43	2	21	18	3					
FUQUENE	74.93	310.8	11	42	-3						16	24	PPP
CHINCHINA	75.20	308.8	11	46	0	21	26	1			14	35	PP
TRINIDAD	75.58	324.5	11	48	0								
GEBBIES PASS	75.65	194.2	11	49	0	21	28	-2					
KAIMATA	76.36	193.5	11	59	3	21	43	-1					
CARACAS	77.16	319.2	11	49	-8	21	33	-13					
BARBADOS	77.41	327.0	12	1	2								
FORT NELSON	77.50	175.4	12	0	1	21	49	-1					
WELLINGTON	77.75	196.3	12	1	1	21	52	-1			13	33	
ST. VINCENT	77.93	325.4	12	0	-1								
COBB RIVER	78.22	194.7	12	6	3	21	54	-4					
FORT FRANCE	79.38	326.0	12	10	1	22	39	29					
DOMINICA	79.99	325.9	12	13	0								
GALERAZAMBA	80.39	311.5									12	59	
KARAPIRO	80.92	197.5	12	17A	-1	22	26	0					
ANTIGUA	81.86	326.0	12	21	-1								
ST. KITTS	82.31	325.3	12	24	-1						15	34	PP
MELBOURNE	82.46	173.2	12	25A	-1	22	33	-9			15	29	PP
ONERAHI	83.22	197.0	12	30	1								
PERTH	83.44	148.5	12	30	-1	23	2	10			15	44	PP
MUNDARING	83.52	148.8	12	29	-2	22	47	-6					
SAN JUAN	84.30	322.5	12	33A	-2						16	16	PP
ADELAIDE	84.78	167.9	12	37	0	23	2	-3			16	13	PP
CANBERRA	85.15	176.3	12	39A	0	23	5	-4					
ADDIS ABABA	85.75	64.1	12	46	4	23	49	34					
TAMANRASSET	86.37	29.4	12	47A	2	23	16	-5			16	4	PP
RIVERVIEW	86.69	178.1	12	46A	-1						16	14	PP
SANTIAGO MA.	88.22	300.8	12	56	2								
SAN SALVADOR	88.70	300.2	13	3	6								
BRISBANE	93.12	179.4	13	16	-1	23	51	-31					
MERIDA	95.34	303.2	13	27K	0						17	3	PP
VERA CRUZ	96.64	296.9									17	26	PP
BERMUDA	97.10	328.2	13	47	12	24	30	18			17	39	PP
PONTA DELGDA	97.19	0.7	13	40K	4				13	49	17	35	PP
RELIZANE	97.81	21.9	13	44	6						17	34	PP
TACUBAYA	98.22	294.4	13	33	-7	24	44	26			17	26	PP
ALMERIA	98.34	19.3	13	43A	2	24	14	-5			17	44	PP

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GRANADA	98.48	18.3	13	48A	7	24	18	-1		17	54 PP
LISBON	99.22	13.7	13	48	3	25	16	53	14 1	17	23
ALGIERS UNI.	99.28	23.7	13	47	2	24	24	1		17	44 PP
SUVA	99.70	204.0								17	40
ALICANTE	100.14	20.5	13	50	1	24	29	1		18	0 PP
CHARTERS TS.	100.17	173.1	13	48	-1	24	23	-5			
COIMBRA	100.77	14.0	13	55	3						
TOLEDO	101.05	17.4	13	54	1	24	34	2		18	0 PP
SERRA PILAR	101.66	13.7	13	51K	-5	24	27	-8		20	18 PPP
REGGIO CALA.	103.57	33.0	14	14	10					19	27
MESSINA	103.64	32.9	14	5	0	25	46	62		18	25 PP
COLUMBIA	103.68	315.9	18	11	777						
COLOMBO	104.15	100.8	18	22	777					24	47
LEMBANG	104.33	132.6	18	20	777					25	8
JERUSALEM	104.38	50.7	14	13	5	24	41	-7			
DJAKARTA	104.63	131.6	15	29	777						
CHAPEL HILL	104.74	318.2	17	55	777					18	34
KODAIKANAL	105.81	96.9	18	33	777					27	57
ATHENS	105.85	39.2	14	29K	777					25	44 SKKS
TARANTO	106.23	33.3	13	49	777	25	49	53		18	53
ROME	106.31	29.3	14	20	777	25	0	4		18	43 PP
KSARA	106.44	50.3	14	21	777	25	5	8		18	52 PP
WASHINGTON	106.80	321.0	18	45	777					19	6
MONACO	106.88	25.0	18	46	777						
FORDHAM	107.61	324.2	18	24	777						
PALISADES	107.77	324.2				24	46	-17		18	51 PP
PRATO	107.85	27.6	13	33	777	25	25	22			
CLERMONT-FD.	107.99	21.3	14	37	777					19	46 PP
MORGANTOWN	108.40	319.2	18	13	777					18	55
BOLOGNA	108.49	27.6	18	16	777					27	47 PS
PAVIA	108.64	25.8	19	0A	777					28	25
PENNSYLVANIA	108.79	321.2				25	8	1		18	59 PP
SKOPJE	108.81	35.8	18	46K	777					23	25 PP
CHIHUAHUA	109.32	293.6				26	23	74		19	23
GARCHY	109.43	20.9	14	39	777					18	37
MADRAS	109.53	97.8	19	7	777					20	1
NEUCHATEL	109.91	23.7	18	12	777					29	34 *SSKS
BESANCON	109.95	22.9	18	36	777					19	8
SOFIA	110.05	36.9	17	55	-38	25	28	16		18	48 PP
TRIESTE	110.15	28.9	18	36	3	25	22	9		19	9 PP
CHUR	110.31	25.5	18	38K	4						
FAYETTEVILLE	110.52	306.9	14	37	777					18	53 PP
BASLE	110.54	23.9	14	51	777					19	15 PPP
CLEVELAND	110.59	318.9								18	48 PP
TOLMEZZO	110.68	28.1	18	11	-24					19	23 PP
LJUBLJANA	110.71	29.3	18	35	0					19	18 PP
PARIS	110.81	20.1	18	37	2					19	14 PP
BOMBAY	110.82	88.1	18	21	-14					21	23
PORT MORESBY	110.83	173.3	18	39	4	25	24	8		19	13 PP
ZAGREB	110.87	30.4								19	19 PP
POONA	111.03	89.2	18	17K	-18					19	17
BELGRADE	111.14	33.9	17	57	-38					18	35 PP
ST. LOUIS 1	111.18	311.1				25	19	2		28	45 PS
RAVENSBURG	111.21	25.3	18	38	2					19	19 PP
FLORISSANT	111.37	311.1								18	49 PP
EBINGEN	111.45	24.7	18	38	2						
STRASBOURG	111.58	23.7	18	37	1	25	27	8		28	55 PS
TUBINGEN	111.80	24.6	18	39	2						
BREBEUF	111.81	326.3	18	21	-16					29	32
STUTTGART	112.08	24.7	18	36	-1	25	2	-19		19	23 PP
TIMISOARA	112.21	34.0	14	39	777					19	12 PP
OTTAWA	112.32	324.8	18	35	-3						
HYDERABAD	112.42	93.9	19	26	48					24	6
DOURBES	112.43	21.1	18	39	1						
BUCHAREST	112.46	38.0	18	53K	15	25	21	-1		19	24 PP
SHAWINIGAN	112.54	327.3	18	39K	1						
SEVEN FALLS	112.54	328.9	18	39	1					28	57 PS
KARACHI	112.88	79.8	18	41A	2						
CAMPULUNG	112.89	36.9								19	29 PP
KEW	112.93	17.4	18	39	0	27	22	118		19	31 PP
UCCLE	113.05	20.7	14	43	777	25	35	11			
BUDAPEST	113.20	31.8	18	38	-1					19	32 PP
VIENNA-H.	113.22	29.7	18	16	-24					19	34 PP
BRATISLAVA	113.33	30.2	18	30	-10					19	33 PP
HURBANOVO	113.34	31.1								19	46 PP
BENSBERG	113.73	22.5	18	40	-1					29	25
RATHFARNHAM	113.93	13.1	18	39	-2					19	40
FOCSANI	113.95	38.2								19	28 PP

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CHEB	113.99	26.3	18	47	6	25	42	14	19	35 PP
SONNEBERG	114.01	25.4	18	40	-1	25	41	13	19	37 PP
PLAUEN	114.32	26.0	18	41	-1				19	36 PP
PRUHONICE	114.39	27.8	18	43	1	25	23	-7	19	39 PP
PRAGUE	114.45	27.6	18	37	-5					
DE BILT	114.45	20.9							19	33 PP
PORT BLAIR	114.53	110.0	18	44	2				20	35
TUCSON	114.57	292.0	18	47	5				29	24 PKKP
TUCSON TELE.	114.59	292.1	18	46	4				29	26 PKKP
JENA	114.61	25.4	18	39	-3	25	28	-2	19	38 PP
BACAU	114.63	37.5	18	54	12					
MUNSTER	114.78	22.5	18	46	3				19	44
SKALNATE PL.	115.08	31.9	14	42	777				19	41 PP
HALLE	115.22	25.5	18	33	-10	25	33	0	18 47	19 35 PP
COLLMBERG	115.27	26.2	18	45	1					19 47 PP
RACIBORZ	115.38	30.1	18	43	-1				19	49 PP
IASI	115.40	37.7	18	45	1					
GORIS	115.55	55.0	18	44	0				29	26 SKSP
SIMFEROPOL	115.57	43.3	18	44	0	25	32	-2	19	56 PP
CHORZOW	115.77	30.5	18	47	2				19	48 PP
KRAKOW	115.79	31.3	18	45	0	25	36	1	22	18 PKS
DURHAM	115.96	15.8	18	47K	2	25	47	11		
RABAUL	116.18	178.5	18	45	0				22	25
POTSDAM	116.29	25.8	18	46	0				19	43 PP
LWOW	116.70	34.0	18	56	10				36	3 SS
TIFLIS	116.80	52.6	18	47	1				29	44 SKSP
QUETTA	117.26	76.5	18	48A	1	25	41	1	20	8 PP
WARSAW	118.07	30.9	18	39	-10	25	43	0	20	12 PP
ABERDEEN	118.23	14.8	19	39	50				29	34 PS
COPENHAGEN	119.25	24.1	18	52	1				30	3 PS
ASHKABAD	119.52	64.8	18	52	0					
PASADENA	119.62	287.5	18	54	2				22	32
LARAMIE	119.68	301.6	18	53	1				29	3
RAPID CITY	120.95	305.1	18	54K	-1				22	35 PP
GOTEBORG	121.04	23.0	18	54	-1				20	24 PP
BOKARO	121.49	96.5							20	27 PP
CALCUTTA	121.69	99.7	19	3	7				22	33
SALT LAKE C.	122.01	296.8	18	46	-11				22	36 PP
LAHORE	122.04	81.6	18	58A	1				22	35 PKS
BERGEN	122.40	18.1							30	37 PS
FRESNO	122.52	288.1	18	55	-3					
EUREKA	122.87	292.9	18	58	0				28	52 PKKP
DEHRA DUN	122.91	85.5	19	2	4				20	44
CHITTAGONG	123.26	103.0	19	0	1	26	1	0	20	48 PP
VINEYARD	123.26	286.8	19	2	3					
SIDA	123.44	4.5	19	3	4				20	38 PP
REYKJAVIK	123.67	2.4	19	1K	1					
LICK	123.86	287.1	19	2A	2				20	52 PP
UPPSALA	124.18	25.1	19	0A	-1				20	40 PP
BERKELEY	124.58	287.0	19	2	0				20	55 PP
CHATRA	124.67	95.8	19	2	0					
RENO	124.72	290.1	19	4	2				21	7 PP
STALINABAD	124.91	72.1	19	3	1				30	55 SKSP
BOZEMAN	125.55	300.9	19	5	2				21	56 PP
MOSCOW	125.94	39.0	19	3	-1				20	59 PP
SHILLONG	125.97	100.9	19	4A	0	25	53	-16	21	1 PP
UKIAH	126.03	287.2	19	8K	4				21	18 PP
HELSINKI	126.15	29.0	18	54	-11					
MINERAL	126.21	289.4	19	4	-1				21	7 PP
NURMIJARVI	126.38	28.6	18	58	-7				21	2 PP
BUTTE	126.49	300.2	19	6	1					
SKALSTUGAN	126.55	20.4	19	4	-1					
SHASTA	126.86	289.0	18	56	-10					
PULKOVO	127.18	32.1	19	6	-1				21	7 PP
ARCATA	127.81	287.9	19	11	3					
HONOLULU	128.64	243.2	19	11A	2					
KIPAPA	128.71	243.4	19	10K	0					
PHU-LIEN	128.90	118.7	19	9	-1				21	35 PP
LHASA	128.91	97.3	19	10A	0				21	18 PP
HUNGRY HORSE	128.92	301.1	18	55	-15				22	29 PP
MANILA	129.06	138.1	19	14	4				22	59 PP
SCORESBY SD.	130.04	2.0	19	12K	0					
CORVALLIS	130.26	291.6	19	16K	4					
BAGUIO CITY	130.51	136.7	19	13	0				22	39
KUNMING	130.86	111.9	19	14A	0				21	32 PP
BANFF	131.68	302.6	19	13	-2				22	38 PP
KIRUNA	131.86	21.9	19	14A	-2				21	35 PP
SODANKYLA	132.71	24.9	19	0	-17				21	40 PP
VICTORIA	133.23	295.1	19	20	2				22	44 PP

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GUAM	133.28	168.3	19 19	1		21 33	PP
HONG KONG	133.44	126.1	19 18	0		21 46	PP
HORSESHOE B.	133.79	296.0	19 20	1		22 48	
CANTON	133.81	124.6	19 21	2		21 56	PP
APATITY	134.39	27.7	19 8	-12		21 52	PP
ALBERNI	134.41	294.9	19 21	1		22 51	PP
TAWU	136.09	134.0	19 31	8		22 59	
CHENGTU	136.12	109.1	19 24	1		22 8	PP
THULE	138.54	346.2	19 16	-12		23 0	SKP
LANCHOW	140.42	104.2	19 24	-7			
WUHAN	140.84	120.8	19 33	1		22 37	PP
NORD	141.29	2.3	19 26	-7		23 12	PKS
SIAN	141.41	111.3	19 28	-5			
RESOLUTE	141.47	336.6	19 24	-9		22 47	PP
NANKING	143.96	124.7	19 35A	-2			
ZO-SE	144.09	128.6	19 35A	-3		22 51	PP
SITKA	144.26	297.7	19 39	1			
YAKUSIMA	146.81	142.0	19 43	1		23 6	
KHEYS	147.49	17.7	19 40	-3	26 38 -12	23 1	PP
KAGOSIMA	147.87	141.3	19 44	0		22 51	
TOMIE	148.25	137.9	19 45	0		23 18	
MIYAZAKI	148.47	142.4	19 48	3			
NAGASAKI	148.72	139.5	19 42A	-3		23 35	
KUMAMOTO	149.07	140.6	19 50	4			
SAGA	149.34	139.7	20 0	14			
PEKING	149.48	113.6	19 46A	-1		23 31	PP
HUKUOKA	149.67	139.6	19 46	-1		22 31	
SIMIDU	149.73	144.1	19 44	-3		22 52	
OOITA	149.74	141.7	19 45	-2		20 46	
MUROTO	150.53	145.7	19 58	10		20 23	
KOTI	150.62	144.5	19 54	6		23 36	
MATUYAMA	150.66	143.1	19 50	2		21 42	
ULAN-BATOR	150.71	92.9	19 48	0			
HIROSIMA	151.05	142.1	19 50	1			
SIOMISAKI	151.15	148.2	19 57	8		23 46	
TOKUSIMA	151.41	145.8	19 49	0			
WAKAYAMA	151.72	146.7	19 59	9			
SUMOTO	151.76	146.2	19 51	1		23 5	
OWASE	151.85	148.5	19 59	9			
IRKUTSK	152.11	83.6	19 50	-1			
KOBE	152.15	146.4	19 47	-4		20 17	
OSAKA	152.22	147.0	19 48	-3		23 33	
MATSUE	152.24	142.3	19 59	8			
NARA	152.33	147.4	19 50	-1			
ABUYAMA	152.44	146.9	19 51K	0			
TU	152.53	148.6	20 2	11			
KYOTO	152.62	147.0	19 59	8		21 56	
KAMEYAMA	152.66	148.4	20 3	12		21 31	
TOYOOKA	152.84	145.1	19 54	2			
HIKONE	153.00	147.7	20 2	10			
NAGOYA	153.10	149.0	20 4	12			
COLLEGE	153.18	306.0	19 47	-5		33 20	SKKP
GIHU	153.26	148.5	20 2	10		23 4	
OSIMA	153.30	153.5	19 52	0			
AJIRO	153.50	152.8	19 57	5			
MISIMA	153.54	152.5	20 2	9			
IIDA	153.65	150.3	20 0	7			
HUKUI	153.73	147.1	20 6	13			
HUNATU	153.86	151.9	19 58	5		24 58	
KOHU	153.97	151.5	20 2	9			
TOKYO C.M.O.	154.26	153.6	20 14	20			
MATUMOTO	154.37	150.0	19 54	0			
TITIBU	154.39	152.2	20 3	9			
OIWAKE	154.59	151.0	20 1	7		22 47	
KUMAGAYA	154.62	152.6	20 1	7		21 31	
MATUSIRO	154.71	150.2	19 54A	0		23 51	PP
MAEBASI	154.79	151.9	19 55	1		20 43	
NAGANO	154.83	150.1	20 5	11		23 55	
TUKUBASAN	154.85	153.9	19 55A	1		23 44	PKS
UTUNOMIYA	155.12	153.2	20 2	7		23 51	
SHIRAKAWA	155.74	153.5	19 58	3			
NIIGATA	156.23	150.7	19 54	-2			
HUKUSIMA	156.40	153.5	20 7	11			
CHANGCHUN	156.62	120.6	19 56A	-1		24 17	PP
YAMAGATA	156.85	152.9	20 14	17			
SENDAI	157.00	154.0				20 23	
ISINOMAKI	157.24	154.7	19 58	1		20 31	
AKITA	158.19	151.3	20 3	4			

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MORIOKA	158.42	153.4	19	59	0					
VLADIVOSTOK	158.72	132.1	20	0	1				20	33
HAKODATE	160.33	150.7	20	1	0				20	50
MURORAN	160.86	150.7							20	27
URAKAWA	161.12	154.7	20	4	2					
SUTTSU	161.12	148.6							20	57
TOMAKOMAI	161.30	151.6	20	4	2					
SAPPORO	161.66	150.7	20	3	1				25	19 PP
OBIHIRO	161.95	155.0	20	2	-1					
NEMURO	162.80	160.2	20	6	2					
TIKSI	164.59	29.8	19	58	-7					
Y.-SAKHLINSK	165.70	148.8	20	6	0				20	52
PETROPAVLOVK	172.62	205.0	20	9	-2				23	31 SKP
MAGADAN	178.61	99.7							25	54 PP

DECEMBER 15 10.H 47.M 41.S EPICENTRE 36.36 69.76 DEPTH= 0.KM
A= 0.27927 B= 0.75736 C= 0.59027 D= 0.9382 E=-0.3460
G= 0.2042 H= 0.5538 K=-0.8072 HT= -0.4

SE= 3.60

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
KULYAB	1.54	359.7									0	31	PG
KHOROG	1.81	51.3									0	36	PG
STALINABAD	2.34	340.7	0	43	2						1	21	SG
GARM	2.67	9.1	0	47	2						1	24	S*
WARSAK DAM	2.77	147.6	0	51A	4	1	25	4					
DZERGETAL	3.08	21.8	0	54	3						1	37	S*
SAMARKAND	3.97	327.2	1	3	-1								
FERGANA	4.32	21.0	1	10	1						2	13	S*
ANDIJAN	4.84	24.2	1	17	1						2	11	
NAMANGAN	4.85	17.4	1	17	1						2	29	S*
TASHKENT	4.97	355.8	1	16	-2						2	30	S*
LUNACHARSKOE	4.97	356.3	1	17	-1						2	31	S*
TCHIMKENT	5.93	358.9	1	31	-1						1	57	
LAHORE	6.12	140.3	1	37	3	2	45	-1					
BAIRAM-ALI	6.24	283.7	1	34	-2						3	30	SG
QUETTA	6.60	201.7	1	44A	3	3	1	3					
NARYN	7.02	42.0	1	43	-4	3	5	-3			2	20	
FRUNSE	7.47	28.7	1	54	1	3	15	-5			4	0	
FABRICHNAYA	8.49	35.2	2	7	0								
ALMATA	8.84	36.5									4	36	
PRZHEVALSK	9.05	44.9	2	14	-1						5	12	
DEHRA DUN	9.18	128.6	2	19	2	3	58	-4			2	34	PPP
ASHKABAD	9.25	283.3									3	19	
KURMENTY	9.33	42.1	2	26	7								
KIZYL-ARVAT	11.05	288.9				4	34	-14			6	21	
AGRA	11.57	140.3	2	48A	-2	4	52	-9					
KARACHI	11.73	192.2	2	49	-3	4	55	-10					
CHATRA	17.59	117.8	4	7	-1	7	14	-9					
BOMBAY	17.60	170.4	4	25	17						7	21	
POONA	18.13	167.4	4	14	-1	7	27	-8					
BOKARO	18.64	127.6				7	48	1					
GORIS	18.74	286.7	4	20	-3								
TIFLIS	20.08	293.1	4	37	-1						8	43	
HYDERABAD	20.37	155.5									7	48	
SVERDLOVSK	21.38	346.2	4	48	-3								
SHILLONG	21.75	113.4	4	53A	-2								
CHITTAGONG	23.68	120.0	5	15	1	9	27	0	5	34	5	49	PP
MADRAS	25.08	155.4				10	9	18					
SIMFEROPOL	28.18	298.8									6	54	PPP
MOSCOW	29.14	321.8	6	13	8								
PULKOVO	34.45	325.4	6	49	-3						9	45	
ATHENS	36.44	286.7	7	9	0								
HELSINKI	37.10	324.3	7	12	-2								
APATITY	37.37	338.0	7	17	1								
KRAKOW	38.10	307.0	7	21	-2								
ADDIS ABABA	39.14	233.7	7	40	9								
SODANKYLA	39.44	335.4	7	31	-3								
UPPSALA	40.56	322.2	7	41	-2								
HONG KONG	40.83	97.6	7	44	-1						9	10	PP
PRUHONICE	41.57	307.0	7	51	0						9	29	PP
KIRUNA	41.77	334.4	7	51	-2								
LJUBLJANA	41.92	301.1	8	2	8						9	45	PP

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COLLMBERG	42.50	309.0	7 58	-1	9 51 PP
HALLE	43.15	309.3	8 3	-1	8 23
GOTEBORG	43.19	318.4	8 10	5	
JENA	43.42	308.5	8 13	7	9 54
SKALSTUGAN	43.78	327.0	8 8	-1	
STUTTGART	45.11	305.6	8 28	8	
MATUSIRO	53.94	67.9	9 25K	-3	28 32
TAMANRASSET	56.56	275.1	9 44K	-3	11 52 PP
TANANARIVE	58.86	204.7	10 2	-1	
ELISABTHVLLE	62.19	228.2	10 24	-2	
BROKEN HILL	63.82	225.4	10 35	-2	
THULE	64.43	349.9	10 37	-4	
LEOPOLDVILLE	65.00	243.6	10 50	6	
BULAWAYO	68.34	221.7	10 59	-6	
RESOLUTE	68.77	355.7	11 5	-3	
COLLEGE	74.90	15.6	11 43	-2	
KIMBERLEY	77.35	219.5	11 57K	-2	
MUNDARING	80.70	141.4	12 12	-5	
CHARTERS TS.	91.40	113.9	13 19	10	
HUNGRY HORSE	95.60	2.5			21 12

DECEMBER 15 12.H 15.M 50.S EPICENTRE -59.96 -25.62 DEPTH= 0.KM

A= 0.45372 B=-0.21760 C=-0.86417 D=-0.4324 E=-0.9017
G=-0.7792 H= 0.3737 K=-0.5032 HT= -8.9

SE= 2.41

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
HALLEY BAY	15.64	180.9	4 3	19				
ARGENTINE I.	18.32	236.8	4 17	0	7 57	17		
PORT STANLEY	19.73	280.4	4 31	-3	8 17	6		12 23 SCP
BYRD STATION	32.33	199.0	6 34	1				7 32 PP
SCOTT BASE	42.23	183.9	7 58A	1				
GRAHAMSTOWN	43.05	75.7	8 8A	5				
MIRNY	45.93	150.7	8 27	0				
KIMBERLEY	45.96	70.3	8 36K	9				
CAPE HALLETT	47.56	186.5	8 39	0	15 36	1		10 37 PP
WILKES	49.89	158.6	8 57	0	16 10	3		11 2 PP
PRETORIA	50.10	71.5	8 30	-29				
LA PAZ	53.15	305.9	9 20A	-2	16 47	-5		11 16 PP
TERRE ADELIE	53.17	173.6	9 22	0	16 49	-3		
DUMONT	53.24	172.9	9 22	-1	16 49	-4		
BULAWAYO	55.10	68.4	9 38	2				
BROKEN HILL	59.99	65.0	10 10	-1				
HUANCAYO	60.16	300.7	10 10K	-2				10 44 PCP
ELISABTHVLLE	62.00	62.5	10 25A	0				
LEOPOLDVILLE	63.59	46.8	10 35A	0	19 21	13		
TANANARIVE	65.39	85.3	10 47A	0				13 10
LWIRO	70.96	59.3	11 24	3				
MBOUR	74.41	8.7	11 41	-1	21 30	14		
KARAPIRO	80.92	196.8	12 17	-1				
MUNDARING	83.16	148.1	12 29	0			12 53	
ADELAIDE	84.54	167.1	12 37K	1				12 45 PCP
CANBERRA	84.97	175.6	12 38A	-1				
ADDIS ABABA	85.41	63.3	12 45	4				
TAMANRASSET	86.28	28.6	12 46A	1	23 18	-2		16 6 PP
RIVERVIEW	86.52	177.3	12 45	-1	23 24	2		
BRISBANE	92.97	178.6	13 16	-1				30 38 SS
PALISADES	108.15	323.5						28 17 PS
PORT MORESBY	110.63	172.4	18 17	-18				
TIFLIS	116.53	52.0						19 51 PP
QUETTA	116.86	75.8	18 48	1				
CHITTAGONG	122.79	102.2	18 59	1				
EUREKA	123.34	292.1	18 56	-3				28 50 PKKP
UPPSALA	124.12	24.7	18 59A	-2				
SHILLONG	125.50	100.2	19 4	0				
MOSCOW	125.77	38.5	19 2	-2				
PULKOVO	127.07	31.7	19 5	-2				
LHASA	128.45	96.6	19 10	1				21 16 PP
HUNGRY HORSE	129.38	300.4	19 8	-3				
KUNMING	130.39	111.1	19 14	1				
KIRUNA	131.83	21.5						22 41 PKS
THULE	138.79	345.9	19 22	-7				
RESOLUTE	141.79	336.3	19 24	-10				23 6 PKS

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NANKING	143.50	123.8	19 35	-2
ZO-SE	143.64	127.6	19 35	-2
KHEYS	147.50	17.7	19 46	2
PEKING	149.01	112.7	19 46	0
ULAN-BATOR	150.25	92.4	19 53	5
COLLEGE	153.63	305.6	19 58	5
MATUSIRO	154.36	148.8	19 54	0

DECEMBER 15 23.H 1.M 55.S EPICENTRE 44.27 11.18 DEPTH= 0.KM

A= 0.70473 B= 0.13931 C= 0.69566 D= 0.1939 E=-0.9810
G= 0.6825 H= 0.1349 K=-0.7184 HT= -3.3

SE= 2.54

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
BOLOGNA	0.25	25.0	0 10A	0				0 25
PAVIA	1.70	303.0						0 33 PG
TRIESTE	2.28	52.0	0 39	0	1 15	7		1 0 PGPGPG
TOLMEZZO	2.49	30.7	0 42	0	1 12	-2		
ROME	2.56	157.7						0 48 PG
MONACO	2.76	260.0	0 46	0				1 36 SG
CHUR	2.83	336.3	0 48A	1	1 23	1		
LJUBLJANA	2.95	51.9	0 49K	0	1 25	0		1 0 PG
RAVENSBURG	3.67	343.3	1 0	1	1 46	2		1 17 PG
ZAGREB	3.74	63.9	1 6	6				1 47 PS
NEUCHATEL	4.03	314.1	1 4	0	1 52	-1		2 12 SG
BASLE	4.11	323.6	0 58K	-7	2 55	60		
EBINGEN	4.20	339.3	1 6	0	2 14	17		1 26 PG
TUBINGEN	4.50	341.8	1 10	-1	2 23	18		
STUTTGART	4.69	344.4	1 13K	0	2 18	9		2 43 SG
BESANCON	4.70	311.1	1 18	4				2 53 SG
STRASBOURG	4.91	332.5	1 16	-1	2 15	0		1 40 PG
BRATISLAVA	5.66	44.4	1 27	0	2 32	-2		1 54 PG
CHEB	5.87	7.6	1 29	-1	2 34	-5		1 58 PG
CLERMONT-FD.	5.91	287.5	1 34	3				3 26 SG
SONNEBERG	6.11	0.1	1 33	0	2 39	-6		3 34 SG
PRUHONICE	6.15	20.7	1 33K	-1	2 41	-5		2 3 PG
PRAGUE	6.21	19.7			3 8	21		3 31 SG
PLAUEN	6.26	5.7	1 32	-3				2 22 SG
JENA	6.67	2.2	1 40	-1	2 53	-6		2 15 PG
COLLMBERG	7.14	9.2	1 46K	-2	3 11	0		2 8
BENSBERG	7.22	339.4	1 50	1				4 4 SG
HALLE	7.25	3.8	1 47	-2	3 17	3		2 39 PG
PARIS	7.52	310.2	1 56	3	3 13	-7		
RACIBORZ	7.52	37.0						3 46
SKALNATE PL.	7.93	48.6	1 59	0	2 57	-34		
UCCLE	8.00	327.1	2 5	5	3 39	7		
POTSDAM	8.21	8.1			3 56	18		4 37 SG
KRAKOW	8.30	42.8			3 51	11		
FOLINIERE	9.21	303.3	2 15	-2				
RATHFARNHAM	14.60	314.4	4 5	36				
UPPSALA	16.08	11.8	3 53	4				
SKALSTUGAN	19.36	1.5	4 29A	0				
TAMANRASSET	21.94	194.1	4 54	-3				
HUNGRY HORSE	76.00	325.8	11 49	-1				
EUREKA	83.99	321.7	12 31	-2				

DECEMBER 17 2.H 31.M 1.S EPICENTRE 21.34 121.17 DEPTH= 0.KM

A=-0.48248 B= 0.79771 C= 0.36175 D= 0.8557 E= 0.5175
G=-0.1872 H= 0.3095 K=-0.9323 HT= 4.3

SE= 3.48

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
HENGCHUN	0.76	329.6	0 17	-1				0 25
TAWU	1.04	346.2	0 21	-1	0 35	-2		
TAITUNG	1.40	359.4	0 39	12	0 53	7		
KAOHSIUNG	1.52	327.0	0 37	9				
HSINKONG	1.76	6.1	1 4	32	1 24	29		
TAINAN	1.87	332.2	0 42	9	1 9	11		

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YUSHAN	2.14	354.7	0	39	2	1	7	2		
ALISHAN	2.20	351.2	0	45	7	1	12	6		
HWALIEN	2.65	9.0	0	54	9	1	19	1		
TAICHUNG	2.83	351.0	0	57	10	1	20	-3		
HSINCHU	3.45	357.0	1	31	35	2	5	27		
ILAN	3.46	8.8	1	8	12	1	40	2		
TAIPEI	3.69	5.0	1	16	17	1	47	3		
BAGUIO CITY	4.92	186.6	1	20	3	2	12	-3		
HONG KONG	6.57	279.7	1	37K	-3	2	41	-16		
SIAN	16.80	322.6	4	0	2					
KUNMING	17.35	286.1	4	6	1					
PEKING	19.11	348.2	4	26	-1					
LANCHOW	21.07	317.8	4	48A	0					
MATUSIRO	21.21	40.7	4	59K	10	8	47	6	9	9
CHANGCHUN	22.69	7.8	5	4	0					
VLADIVOSTOK	23.50	20.0	5	10	-2	9	20	-3		
SHILLONG	27.18	284.6	5	45A	-2					
CHITTAGONG	27.24	277.6	5	48A	0				6	34 PP
PORT MORESBY	39.80	137.5	7	38	2					
CHARTERS TS.	47.93	147.5	8	44	2					
QUETTA	49.23	292.0	8	52	0					
TIKSI	50.50	3.2	8	58	-4					
MUNDARING	53.22	185.3	9	22	0					
ADELAIDE	58.43	163.1	10	1	1					
CANBERRA	62.23	154.4	10	27A	1					
KHEYS	64.79	350.7	10	42	-1					
MOSCOW	69.04	323.0	11	8	-1					
APATITY	69.63	335.8	11	11A	-2	20	19	-2		
COLLEGE	71.33	26.8	11	21	-2					
PULKOVO	72.24	327.9	11	27	-2					
SODANKYLA	72.24	336.1	11	27	-2					
KIRUNA	74.41	337.2	11	40A	-1					
HELSINKI	74.75	329.0	11	42	-1					
KARAPIRO	78.00	138.9	12	3	1					
UPPSALA	78.34	329.9	12	3	-1					
SKALSTUGAN	79.13	334.5	12	7	-1					
KRAKOW	80.83	320.2	12	17	0					
RESOLUTE	81.47	9.1	12	19A	-1					
GOTEBORG	81.91	329.2	12	22	-1					
THULE	82.29	2.2	12	22	-3					
PRUHONICE	84.02	321.5	12	34A	0					
COLLMBERG	84.31	323.2	12	35A	0				12	43 PCP
HALLE	84.80	323.7	12	37	0				13	11
JENA	85.28	323.3	12	39	-1				12	51
LJUBLJANA	85.78	318.0	12	42A	0					
TOLMEZZO	86.55	318.8	13	17	31					
DOURBES	89.53	324.8	12	1	-59					
VICTORIA	89.76	36.9	14	3	62					
BESANCON	90.31	321.9	13	30	26					
CORVALLIS	91.96	40.2	13	12A	0					
SHASTA	94.63	43.1	13	24K	0					
HUNGRY HORSE	94.90	33.4	13	26	1					
RENO	96.91	42.9	13	36	2					
CAPE HALLETT	99.07	166.5	13	46	2					
EUREKA	99.35	41.2	13	45	0					
TAMANRASSET	103.48	301.2	18	4	777					
BYRD STATION	115.84	170.3	18	46	1					
PALISADES	116.41	12.7							37	5 SS
ST. VINCENT	145.62	4.2	19	48	8					
CARACAS	147.38	14.9	18	38K	-65					
TRINIDAD	148.11	4.8	19	48	4					
HUANCAYO	161.71	62.3	20	8	6				20	52 PKP2
LA PAZ	169.97	62.9	20	15	6					

DECEMBER 17 5.H 4.M 45.S EPICENTRE 40.11 143.04 DEPTH= 0.KM

A=-0.61280 B= 0.46109 C= 0.64178 D= 0.6012 E= 0.7991
G=-0.5128 H= 0.3859 K=-0.7669 HT= -1.7

SE= 3.75

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
MIYAKO	0.95	241.0	0	18K	-3	0	27	-8				
HATINOHE	1.23	290.2	0	22K	-3	0	35	-7				
MORIOKA	1.50	254.5	0	22K	-6	0	40	-9				
MIZUSAWA	1.77	236.9	0	31	-1	0	50	-6				

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AOMORI	1.86	292.9	0	33K	-1	0	53	-5			
URAKAWA	2.04	354.5	0	42	6	1	11	8			
ISINOMAKI	2.15	219.0	0	37	-1	1	0	-5			
HIROO	2.17	5.5	0	40	2	1	5	-1			
AKITA	2.30	261.1	0	39K	-1	1	6	-3			
HAKODATE	2.42	315.2	0	42K	0	1	8	-4			
SENDAI	2.48	222.8	0	42	-1	1	10	-4			
MORI	2.72	317.5	0	47	1	1	19	-1			
TOMAKOMAI	2.74	336.8	0	50	4	1	21	0			
SAKATA	2.76	245.0	0	50	3	1	22	1			
YAMAGATA	2.80	229.2	0	44	-3	1	17	-5			
OBIHIRO	2.81	2.4	0	52	5	1	27	5			
KUSIRO	3.04	19.2	0	52	2	1	28	0			
HUKUSIMA	3.10	221.2	0	51	0	1	23	-7			
SAPPORO	3.21	337.3	0	56A	3	1	34	1			
SUTTSU	3.41	322.7	0	57	1	1	34	-4			
ONAHAMA	3.58	208.7	1	6	8	1	43	1			
ASAHIGAWA	3.70	352.4	1	6	6	1	54	9			
SHIRAKAWA	3.72	217.4	1	6	6	1	52	7			
NEMURO	3.73	29.8	1	4	4	1	43	-3			
NIIGATA	3.80	236.1	1	25	24						
MITO	4.24	209.3	1	11	3	2	4	5			
AIKAWA	4.28	242.2	1	11	3						
UTUNOMIYA	4.35	216.0	1	31	22	2	10	9			
KAKIOKA	4.49	211.1	1	9	-2	2	9	4			
TUKUBASAN	4.53	211.7	1	8A	-4	1	59	-7			
TAKADA	4.81	232.8	1	16	0	2	15	2			
MAEBASI	4.85	221.4	1	15	-1	2	18	4			
KUMAGAYA	4.90	217.2	1	15	-2	2	29	14			
NAGANO	5.13	229.4	1	21	1	2	39	18			
TOKYO C.M.O.	5.14	211.5	1	23	3	2	22	1			
OIWAKE	5.17	224.5	1	27	6	2	26	4			
TITIBU	5.18	218.4	1	20	-1						
MATUSIRO	5.21	228.3	1	20A	-1	2	18	-5			2 49
YOKOHAMA	5.39	210.9	1	35	11	2	48	20			1 59
MATUMOTO	5.55	227.6	1	26	0						
KOHU	5.68	220.0	1	28	0	2	33	-2			
HUNATU	5.71	217.6	1	29	1	2	43	7			
MERA	5.78	207.2	1	50	21						
MISIMA	5.95	214.4	1	44	12	2	43	1			
TAKAYAMA	6.04	230.9	1	33	0						
SHIZUOKA	6.32	217.1									2 49
OMAESAKI	6.71	216.4	1	58	16						
GIHU	6.84	228.5	1	55	11	3	2	-2			3 31
NAGOYA	6.90	226.2	2	8	23						3 41
Y.-SAKHLINSK	6.91	358.2	1	44	-1						
KYOTO	7.72	231.1	1	58	1						
NARA	7.89	228.9	2	3	4						
ABUYAMA	7.91	230.9	1	58A	-1						
VLADIVOSTOK	8.87	293.4	2	14	1						
SHILLONG	44.78	267.2	8	14A	-3						
COLLEGE	45.82	33.8	8	26	0						
CHITTAGONG	46.58	263.5	8	29A	-3	15	15	-6			10 16 PP
KHEYS	49.90	347.7	8	56	-1						
WARSAK DAM	55.98	288.1	9	39A	-4						
NORD	58.06	356.6	9	54	-3						
RESOLUTE	59.31	15.2	10	4A	-2						10 51 PCP
APATITY	60.42	335.4	10	10	-4						
QUETTA	61.27	286.6	10	16A	-4						
SODANKYLA	62.63	337.0	10	25	-4						
KIRUNA	64.09	339.2	10	35	-3						10 47
HELSINKI	67.95	331.6	10	59	-4						
HUNGRY HORSE	68.68	44.3	11	7	0						
EUREKA	72.95	52.6	11	34	1						
RAPID CITY	77.16	42.6	11	57	0						
COLLMBERG	79.06	330.7	12	5A	-3						12 25
PRUHONICE	79.52	329.1	12	8A	-2						
JENA	79.89	331.2	12	10	-2						
TUCSON TELE.	80.79	55.4	12	18	1						
STUTTGART	82.51	331.2	12	24	-2						
LJUBLJANA	82.65	326.7	12	25K	-2						
KARAPIRO	83.19	154.7	12	22	-8						
BREBEUF	88.65	24.8	13	7	10						

DECEMBER 17 S.H 53.M 48.S EPICENTRE -5.63 102.78 DEPTH= 0.KM

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A=-0.22020 B= 0.97058 C=-0.09740 D= 0.9752 E= 0.2212
G= 0.0216 H=-0.0950 K=-0.9952 HT= 7.0

SE= 2.25

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
DJAKARTA	4.06	98.0	1 4	-1	1 55	1		
LEMBANG	4.96	104.2	1 18	0				
MEDAN	10.02	335.8	2 28	-1	4 32	9		
PORT BLAIR	19.89	329.8	4 59	23				
PHU-LIEN	26.53	8.1			10 36	21		
MANILA	27.13	41.8	5 47	0	10 17	-8		
MUNDARING	29.06	156.0	6 6	2				
CHITTAGONG	29.81	339.3	6 11	0	11 9	1		7 10 PP
HONG KONG	29.91	21.5	6 42	30	12 36	87		
KUNMING	30.56	359.9	6 20A	2	11 21	2		
SHILLONG	32.77	341.6	6 36A	-1				
CHATRA	35.63	335.6	7 2	0				
LHASA	36.83	342.8	7 13	1	12 56	-1		7 24 PP
POONA	37.28	310.7	7 17	1	13 3	-1		
BOMBAY	38.28	310.3			13 18	-1		17 33
SIAN	40.08	7.9	7 40	1				
ZO-SE	40.53	24.6	7 45	2				
LANCHOW	41.47	1.3	7 52	2	14 12	5		
DEHRA DUN	42.89	327.9	8 16	14	14 26	-2		
PORT MORESBY	44.12	97.7	8 12	0	14 43	-3	8 25	15 1 PS
ADELAIDE	44.16	136.2	8 15	3				
CHARTERS TS.	44.60	112.9	8 16	0	14 52	0		
LAHORE	45.87	325.5	8 25	-1				
PEKING	47.08	14.1	8 37	1	15 28	0		
WARSAK DAM	49.25	325.3	8 52A	-1				
QUETTA	49.46	318.2	8 54A	0	15 57	-4		9 5
CANBERRA	51.74	131.2	9 12K	0			9 22	
BRISBANE	52.16	120.4	10 17	62	16 38	-1		
RIVERVIEW	52.82	128.7			16 51	3		
CHANGCHUN	53.27	20.2	9 21	-2				
ULAN-BATOR	53.44	3.4	9 24	0				
MATUSIRO	53.46	35.5	9 22K	-2	17 7	11		17 36
IRKUTSK	57.69	1.1	9 44	-11				
WILKES	60.85	176.4			18 32	-2		
DUMONT	66.11	164.7	10 50	-1				
TERRE ADELIE	66.59	164.4	10 50	-5				
TIFLIS	70.70	317.7	11 20	0	20 32	-2		
SVERDLOVSK	71.08	337.0	11 22	0				
KARAPIRO	72.97	127.8	11 36	2				11 47
TONGARIRO	73.10	129.1	11 35	1				11 45
CHATEAU	73.11	129.1	11 34	0				
BULAWAYO	73.24	250.7	11 36	1				
BROKEN HILL	73.45	256.7	11 36	0				
JERUSALEM	74.19	305.1	11 57	16				
ELISABTHVLLE	74.53	259.5	11 44	1				
CAPE HALLETT	77.91	163.2	12 3	1	21 50	-5		12 14
TIKSI	78.99	8.2	12 5	-3				
MOSCOW	81.01	328.7	12 19	1				
SOUTH POLE	84.41	180.0	12 34	-2				13 11
PULKOVO	86.12	331.1	12 41	-3				
LEOPOLDVILLE	87.13	265.9	12 49	0				
APATITY	87.43	338.9	12 56	5				
KHEYS	88.86	353.4	12 57	-1				
KRAKOW	89.69	320.2	13 2	0				13 10 PCP
SODANKYLA	89.86	337.9	13 2	0				
KIRUNA	92.28	337.9	13 14A	0				13 28
UPPSALA	92.39	329.8	13 13	-1				
COLLMBERG	94.21	321.0	13 23	1				17 32
COLLEGE	103.25	24.4	18 18	777				21 16 PP
RESOLUTE	110.24	4.9	18 42	8	25 12	-2		28 44 PS
SHASTA	126.64	42.2	19 8	2				
HUNGRY HORSE	127.16	30.1	19 8	1				
MINERAL	127.33	42.2	19 9A	2				
BERKELEY	128.03	45.3	19 11K	2				
RENO	128.93	42.3	19 13	3				
BUTTE	129.46	31.5	19 13	2				
EUREKA	131.48	40.3	19 16	1				22 40 PP
PASADENA	132.67	47.7	19 22	5				20 9
RAPID CITY	135.42	26.7	19 25	2				21 53 PP
LARAMIE	136.37	31.2	19 18	-6				
TUCSON	138.94	45.6	19 23	-6				23 28 SKP

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TUCSON TELE.	138.97	45.4	19 23	-6			23 15 SKP
LAWRENCE	143.01	23.6	19 37	1			
PALISADES	144.65	355.7	19 37	-2			23 12 PP
FORDHAM	144.80	355.6	19 40	1			
FAYETTEVILLE	145.91	24.9	19 43K	2			
MORGANTOWN	146.06	3.8	19 44K	3			
WASHINGTON	146.88	359.8	19 45	2			
CHAPEL HILL	149.81	3.0	19 54	7			20 13 PKP2
COLUMBIA	151.55	6.7	19 57	7			
HUANCAYO	162.34	186.1	20 18	14			

DECEMBER 17 16.H 48.M 55.S EPICENTRE -36.25-102.72 DEPTH= 0.KM

A=-0.17795 B=-0.78849 C=-0.58873 D=-0.9755 E= 0.2201
G= 0.1296 H= 0.5743 K=-0.8083 HT= -0.3

SE= 2.78

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
HUANCAYO	34.49	52.6	6 52A	0	12 15	-5		
LA PAZ	36.43	66.5	7 8A	0	12 57	7		8 31 PP
ARGENTINE I.	36.82	154.1	7 13	2				
BYRD STATION	44.38	184.1	8 16	2				
CHINCHINA	48.22	37.5	8 39	-5	15 39	-5		
BOGOTA	48.70	39.5	8 48	0	15 55	5		10 48 PP
SOUTH POLE	53.93	180.0	9 26	-1				9 37
CAPE HALLETT	55.03	201.9	9 37A	2	17 25	8		
KARAPIRO	63.12	241.3	10 28	-3				
ROXBURGH	63.99	231.5			19 25	12		
SAN JUAN	64.42	38.9						13 27 PP
TUCSON	68.57	352.6	11 16	10				
TUCSON TELE.	68.64	352.7	11 4	-3				
PASADENA	71.51	346.5	11 25	1	20 42	-1		25 5 SS
FAYETTEVILLE	72.41	7.2	11 29	-1				
BOULDER CITY	72.74	349.7	11 32	0				
COLUMBIA	72.76	18.8	11 29	-3				
FRESNO	74.36	345.8	11 41	0				
WILKES	74.59	193.3	11 43	1	21 24	6		26 22 SS
LAWRENCE	75.17	6.0	11 44	-2				
LICK	75.29	344.5	11 48	2				
BERKELEY	75.94	344.2	11 51	1				
EUREKA	76.34	349.5	11 51	-1				
BERMUDA	77.00	32.3			21 52	8		26 41 SS
RENO	77.05	346.5	12 1K	5				
SALT LAKE C.	77.10	352.9	11 55	-2				
LARAMIE	77.23	357.8	11 53	-4				
UKIAH	77.36	343.8	12 3	5				
MINERAL	78.18	345.4	12 3	0				
SHASTA	78.68	344.9	12 4	-1				
RAPID CITY	79.96	359.6	12 13	1				
PALISADES	81.30	21.6	12 22	3	22 24	-6		27 22 SS
BUTTE	82.37	353.1	12 25	0				
CANBERRA	82.44	231.6	12 21	-4				
CORVALLIS	82.59	345.3	12 27	1				
HUNGRY HORSE	84.83	352.5	12 38	1				
BRISBANE	84.87	239.8	12 37	-1	22 41	-25		
BREBEUF	85.51	20.1	12 43	2				
RESOLUTE	110.77	2.2						34 47 SS
TAMANRASSET	117.40	80.9	18 56	9				19 43 PP
SODANKYLA	137.83	26.5	19 28	2				
JERUSALEM	145.05	84.9	19 44	5				19 56 PKP2
SHILLONG	163.59	233.6	20 6	2				
QUETTA	169.44	122.0	20 11	2				

DECEMBER 18 16.H 24.M 50.S EPICENTRE 52.56-168.39 DEPTH= 0.KM

A=-0.59806 B=-0.12288 C= 0.79198 D=-0.2013 E= 0.9795
G=-0.7758 H=-0.1594 K=-0.6106 HT= -6.3

SE= 2.31

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S

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COLLEGE	16.21	32.5	3	49	-1	7	4	13	
SITKA	19.46	63.5	4	31	1				
PETROPAVLOVK	19.85	284.5	4	34	-1	8	19	6	
MAGADAN	23.52	303.5	5	13	1				
ALBERNI	27.35	79.3	5	49	1				
VICTORIA	28.51	79.9	6	0	1				
CORVALLIS	30.45	86.9	6	18	2				
Y.-SAKHLINSK	31.54	279.8	6	25	-1	11	45	11	
NEMURO	31.70	271.8	6	26	-1				
ARCATA	32.05	93.4	6	37	7				
KIPAPA	32.10	161.6	6	28	-3				
HONOLULU	32.20	161.8	6	29	-2	11	46	2	7 42 PP
KUSIRO	32.61	272.1	6	28	-7				
TIKSI	32.88	328.7	6	36	-1				
SHASTA	33.18	92.3	6	40K	0				
OBIHIRO	33.38	272.9	6	42	0				
UKIAH	33.64	95.2	6	43	-1				7 52 PP
MINERAL	33.88	92.1	6	44K	-2				
HUNGRY HORSE	34.17	74.8	6	48	-1	13	7	52	9 25 PP
SAN FRANCSCO	34.96	96.4	6	58	3				
BERKELEY	35.02	96.1				12	30	2	
RENO	35.46	91.8	7	1	1				
LICK	35.73	96.3	7	1K	-1				
HATINOHE	35.78	270.8	7	1	-1	12	37	-3	
RESOLUTE	35.94	25.7	7	2A	-2	12	38	-4	8 18 PP
BUTTE	36.19	77.5	7	5	-1				9 35 PCP
SASKATOON	36.71	65.3				12	54	0	
MIZUSAWA	36.87	269.2	7	10	-2				
FRESNO	37.22	95.4	7	15	1				
BOZEMAN	37.28	77.1	7	16	1				8 12 PP
SENDAI	37.55	268.3	7	27	10				
EUREKA	37.84	88.8	7	20	0				
YAMAGATA	37.90	268.7	7	15	-5				
HUKUSIMA	38.14	268.0	7	24	2				
ONAHAMA	38.40	266.6	7	24	0	13	20	0	
MITO	39.03	266.3	7	33	3				
UTUNOMIYA	39.28	267.0	7	33	1	13	30	-3	
KAKIOKA	39.30	266.4	7	33	1				
TUKUBASAN	39.36	266.4	7	32K	0	13	31	-3	9 0 PP
SALT LAKE C.	39.57	84.1	7	33	-1	13	38	0	
KUMAGAYA	39.84	267.0	7	40	4				
MAEBASI	39.87	267.5	7	37	0				
TOKYO C.M.O.	39.93	266.1	7	40	3	13	52	9	
PASADENA	39.96	97.1	7	36	-1	13	31	-12	
VLADIVOSTOK	40.10	281.0	7	39	0				
YOKOHAMA	40.15	265.9	7	43	4				
NAGANO	40.22	268.5	7	42	2	13	50	3	
OIWAKE	40.23	267.9	7	44	4	13	48	0	17 46
MATUSIRO	40.30	268.4	7	41A	1	13	48	-1	17 46 SCS
MATUMOTO	40.64	268.2	7	42	-1				
HUNATU	40.64	266.7	7	45	2				
KOHU	40.66	267.1	7	45	2				
BOULDER CITY	40.77	92.1	8	47	63				
MISIMA	40.79	266.1	7	57	13				22 20
TOYAMA	40.81	269.4	7	42	-2				
THULE	41.90	20.4	7	52	-1	13	37	-35	
GIHU	41.93	268.2	7	54	0				
NAGOYA	41.96	267.8	8	9	15				
HIKONE	42.33	268.5	7	57	0				
KAMEYAMA	42.48	267.9	8	0	2				
RAPID CITY	42.80	74.3	8	0	-1				13 40 SCP
KYOTO	42.82	268.7	8	2	1				
NARA	42.98	268.2	8	3	1				
ABUYAMA	43.02	268.6	8	3A	1				
LARAMIE	43.03	79.1	8	2	-1				10 0 SCP
OSAKA	43.19	268.4	8	4A	0				9 59
KOBE	43.38	268.7	8	6	1				
CHANGCHUN	43.60	286.1	8	7A	0	14	39	2	9 50 PP
SUMOTO	43.77	268.6	8	9	0	14	40	0	9 28
KHEYS	44.58	350.2	8	16	1	15	0	9	
HAMADA	45.13	271.4	8	23	3	14	43	-16	
NORD	45.23	5.6	8	21	1				
TUCSON	45.73	92.9	8	26	2	15	3	-5	9 23
TUCSON TELE.	45.73	92.7	8	24	0				
OOITA	46.54	270.1	8	33A	2				15 44
HUKUOKA	47.05	271.4	8	37	2	15	25	-2	
SAGA	47.33	271.1	8	34	-3				
NAGASAKI	47.94	271.0	8	42A	0	15	41	2	
KAGOSIMA	48.33	269.3	8	48	3				

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IRKUTSK	50.02	306.8	8	57	-1	16	13	5				
CHIHUAHUA	51.18	92.4				16	20	-4			11	44 PPP
PEKING	51.30	287.8	9	7A	-1	16	29	3			11	9 PP
ULAN-BATOR	51.40	301.0	9	8	0	16	38	10				
FAYETTEVILLE	53.19	76.8	9	19A	-3	16	49	-3			10	36 PCP
FLORISSANT	53.61	71.7	9	23	-2	16	53	-5				
ST. LOUIS 1	53.80	71.8	9	23	-3	16	54	-6				
ZO-SE	54.37	276.1	9	30A	0	17	12	4			11	33 PP
SCORESBY SD.	54.91	13.1	9	34A	0							
NANKING	55.15	278.7	9	35A	-1	17	18	0			17	31 PS
OTTAWA	57.18	56.9	9	48A	-3	17	45	0				
SHAWINIGAN	57.87	54.2	9	53A	-3						10	27 PCP
BREBEUF	58.18	55.6	9	56A	-2	17	55	-4				
SEVEN FALLS	58.42	52.6	9	56A	-3	18	2	0				
WUHAN	58.78	280.5	10	2A	0	18	8	2				
MORGANTOWN	58.94	64.3	10	1K	-2							
APATITY	59.10	350.4	10	4	0	18	17	6				
PENNSYLVANIA	59.25	62.0	10	3	-2							
SIAN	59.47	287.5	10	7	0							
KIRUNA	59.75	356.1	10	7	-2						11	6
SODANKYLA	59.86	353.3	10	8	-1							
REYKJAVIK	60.77	16.1	10	16	0							
WASHINGTON	61.03	63.1	10	15	-2							
GEORGETOWN	61.03	63.1	10	15	-2	18	24	-11				
LANCHOW	61.11	292.3	10	18A	0							
PALISADES	61.21	59.4	10	17	-2	18	37	-1	10	29	10	43 PCP
FORDHAM	61.34	59.5	10	18	-1	18	35	-4	10	31		
SIDA	61.71	14.5	10	22	0							
CHAPEL HILL	62.08	66.7	10	23	-1						11	48
TACUBAYA	62.21	94.1	10	24K	-1	18	45	-5				
OULU	62.27	353.4	10	25	-1							
COLUMBIA	62.34	69.5	10	24	-2	18	48	-4				
HALIFAX	63.70	50.4	10	33A	-2							
SVERDLOVSK	63.80	332.5	10	36	0	19	21	11				
SKALSTUGAN	64.20	359.7	10	37	-1							
CHENGTU	64.92	288.1	10	44A	1	19	28	4			19	54 PS
CANTON	64.97	275.7	10	44A	1	19	28	3			19	46 PS
HONG KONG	65.06	274.5	10	44	0	19	24	-2			14	44 PP
NURMIJARVI	66.80	353.0	10	55	0							
PULKOVO	67.02	349.8	10	56	-1	19	54	4				
HELSINKI	67.11	352.8	10	56	-1							
UPPSALA	67.84	356.7	11	0A	-2							
KUNMING	69.80	285.0	11	14A	0	20	25	2			20	56 PS
MOSCOW	69.96	344.7	11	13	-2	20	27	2				
GOTEBORG	70.10	359.8	11	16A	0						11	28
PHU-LIEN	70.76	279.2	11	20	0	20	35	1				
COPENHAGEN	72.13	359.5	11	28	0							
PORT MORESBY	72.45	226.5	11	28A	-2	20	50	-4			11	43 PCP
BERMUDA	72.56	59.5	11	30	0	20	54	-1			15	54 PPP
LHASA	73.01	296.5	11	35A	2	21	3	3			21	19
WITTEVEEN	74.91	3.1	11	45	1							
POTSDAM	75.43	359.1	11	48	1						15	20
SHILLONG	75.72	293.3	11	48A	-1	21	31	1				
MUNSTER	75.79	2.5	11	50	1							
HALLE	76.32	359.8	11	52	0						14	56 PP
COLLMBERG	76.51	359.1	11	54A	1						12	6
BENSBERG	76.79	2.9	11	55A	0							
UCCLE	76.84	4.7	11	55	0							
JENA	76.89	0.0	11	56	1	21	22	-21			12	13
CHATRA	77.32	297.5	11	59	1	22	6	18				
PLAUEN	77.33	359.6	11	56	-2							
SONNEBERG	77.44	0.3	11	59	1						12	10
KRAKOW	77.53	354.5	12	0	1						12	7 PCP
DOURBES	77.55	4.6	12	1	2						12	12 PCP
RACIBORZ	77.59	355.7	12	0A	1						12	10 PCP
PRUHONICE	77.81	358.1	12	1A	1						12	13 PCP
CHITTAGONG	78.26	291.3	12	3A	0	21	57	-1			15	2 PP
FOLINIERE	78.53	8.1	12	5	1							
PARIS	78.71	6.1	12	7	2							
STUTTGART	79.03	1.6	12	8A	1						15	28 PP
STRASBOURG	79.19	2.6	12	10A	2						13	4
DEHRA DUN	79.24	306.2	12	11	3	22	21	13			15	18 PP
WARSAK DAM	79.24	313.0	12	7A	-1							
TUBINGEN	79.27	1.7	12	10A	2							
BRATISLAVA	79.54	356.3	12	11A	1							
EBINGEN	79.62	1.8	12	11	1							
IASI	79.69	349.0	12	2	-9	22	23	10			12	26
MAKHACH-KALA	79.93	334.1	12	14	2							

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LAHORE	80.01	309.6	12	15	3	22	26	10		
RAVENSBURG	80.03	1.4	12	13A	1					
BASLE	80.23	2.8	12	15A	1				12	27 *SP
BOKARO	80.45	296.7	12	16	1	22	21	0		
BESANCON	80.46	3.9	12	15A	0				12	27 *SP
NEUCHATEL	80.74	3.2	12	17	1					
CHUR	80.96	1.4	12	19A	2					
SIMFEROPOL	80.96	344.0	12	18	1	22	35	9		
SOTCHI	81.22	339.7	12	20	1	22	35	6		
TOLMEZZO	81.42	359.0	12	21	1				22	59 PS
LJUBLJANA	81.74	358.0	12	22A	1				12	34 PCP
CLERMONT-FD.	81.78	6.0	12	31A	9					
TIFLIS	81.80	335.5	12	23	1	22	40	5		
AGRA	81.87	304.4	12	18	-4					
CAMPULUNG	81.87	350.5	12	26	4				12	37
ZAGREB	81.93	356.9	12	26	4				12	31 PP
TRIESTE	82.16	358.5	12	24	0				13	28
CHARTERS TS.	82.37	222.4	12	23	-2	22	34	-7		
BELGRADE	82.70	353.7	12	26K	0	22	50	6	13	56
SAN JUAN	82.82	69.3	12	26	-1					
QUETTA	84.52	314.3	12	37A	1	23	2	0	15	50 PP
SOFIA	84.58	351.3	12	37	1	23	0	-3	15	50 PP
SERRA PILAR	85.06	15.2	12	31A	-7			12 40	15	47 PP
ROME	85.92	359.3	12	46A	3	23	32	16		
PORT BLAIR	86.17	284.1	12	45	1	23	6	-12		
BRISBANE	86.53	214.0	12	46	0	23	9	-13		
TOLEDO	86.94	12.0	12	47A	-1					
TARANTO	87.22	355.7				22	36	-52		
LISBON	87.32	16.1	12	51K	1					
CHINCHINA	87.78	84.8	12	52	0	23	32	-2		
CARACAS	88.62	74.6	12	46A	-10	23	11	-30		
ALICANTE	88.86	9.5	12	54	-3	23	37	-7	16	23 PP
MEDAN	88.97	274.5	12	58	1	23	47	2		
BOGOTA	89.00	83.8	13	0	2	23	21	-24	25	10 PPS
ATHENS	89.23	350.5	12	58A	-1					
MESSINA	89.55	356.9	12	56	-4	23	25	-25	21	10
HYDERABAD	89.63	298.6	12	57A	-4	23	29	-22	23	42 SKS
GRANADA	89.66	12.1	13	6K	5	24	12	21	16	21 PP
ST. VINCENT	89.76	68.6	13	1	0					
ALMERIA	90.12	11.3	13	3A	0					
ALGIERS UNI.	90.73	6.9	13	5A	-1	24	9	8		
POONA	91.13	302.9	13	9	1	23	39	-25		
KARAPIRO	91.19	192.6	13	8	0					
BOMBAY	91.34	303.9	13	10	2	24	18	12	23	38 SKS
KSARA	91.41	340.0	13	9A	0	24	1	-6	16	44 PP
SETIF	91.45	5.0	13	6	-3				13	48
RELIZANE	91.53	9.0	13	10	1				14	6
TRINIDAD	91.72	70.1	13	10	0					
MADRAS	92.32	294.8				23	47	-28		
KODAIKANAL	96.09	295.4				24	7	0		
ROXBURGH	99.52	195.7				24	18	-6	26	40 PS
TAMANRASSET	104.80	5.8	13	55	-14				18	10 PP
MBOUR	108.91	29.3	14	47K	777				26	58
LA PAZ	109.14	92.2							19	16 PP
ADDISABABA	114.40	330.3	19	2	21				19	42 PP
CAPE HALLETT	125.47	187.9	19	2	-1				20	52 PP
LWIRO	127.86	338.0	19	10K	2				21	10 PP
SCOTT BASE	131.05	186.8	19	10	-4				22	34 PKS
LEOPOLDVILLE	131.88	355.1	19	16A	1				21	36 PP
BYRD STATION	135.22	169.3	19	12	-9				22	50
ELISABTHVLLE	137.25	336.8	19	20	-5				22	6 PP
MIRNY	139.67	217.7	20	5	35					
BROKEN HILL	139.68	334.3	19	24	-6					
SOUTH POLE	142.37	180.0	19	28	-6				23	11
BULAWAYO	145.05	331.3	19	40	1				19	58
WINDHOEK	149.77	349.9	19	52K	5					
PRETORIA	150.45	328.6	19	55	7					
PIETERMZBURG	153.22	321.5	20	1	9					
KIMBERLEY	154.29	332.5	20	0A	7					
GRAHAMSTOWN	157.96	324.8							20	37 PKP2

DECEMBER 19 15.H 6.M 57.S EPICENTRE 27.09-112.26 DEPTH= 0.KM

A=-0.88635 B=-0.05766 C=-0.45940 D=-0.0649 E= 0.9979
G= 0.4584 H= 0.0298 K=-0.8882 HT= 2.6

SE= 3.65

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	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ONERAHI	11.46	221.7	2 52	4				3 20
KARAPIRO	12.46	211.4	2 57	-4				3 12
TUAI	12.53	204.3			5 14	-10		
CHATEAU	13.51	208.3	3 12	-3				
TONGARIRO	13.51	208.3	3 13	-2				
AFIAMALU	14.16	18.1	3 16K	-8	5 58	-5		
APIA	14.27	18.0	3 20	-5	5 59	-6		
WELLINGTON	15.59	205.9	3 42	0	6 18	-18		
COBB RIVER	16.28	210.9	3 57	6	6 39	-14		
KAIMATA	18.02	210.6	4 23	10				7 23
GEBBIES PASS	18.47	206.1	4 15	-4	7 26	-17		
ROXBURGH	21.29	208.8	4 50	0				9 1
BRISBANE	27.43	263.0	5 47	-2	10 35	6		
RIVERVIEW	28.64	249.2	5 58	-2	10 54	6		
CANBERRA	30.52	246.5	6 17K	0	11 15	-3		
FORT NELSON	33.17	232.8						12 32
MELBOURNE	34.00	242.4	6 47A	0				8 23 PPP
CHARTERS TS.	34.96	273.9	6 53	-2	12 24	-3		
PORT MORESBY	38.88	290.5	7 29	0	13 28	1		9 5 PP
ADELAIDE	38.93	247.5	7 28	-1				9 9 PP
CAPE HALLETT	45.46	185.7	8 24	2	15 19	15		9 41
TERRE ADELIE	47.01	201.4	8 35	1	15 25	-1		
DUMONT	47.38	202.0	8 35	-2	15 25	-7		10 39 PP
SCOTT BASE	51.03	184.6	9 7K	1	16 35	13		
HONOLULU	51.61	21.8	9 21	11				
KIPAPA	51.75	21.8	9 10	-1				
BYRD STATION	57.50	170.0	9 50	-3				
MUNDARING	57.94	247.9	9 54	-2				
PERTH	58.26	247.8	9 57	-1	18 13	13		
WILKES	58.40	207.0						9 48 SS
ARGENTINE I.	73.94	156.0	11 37	-2				
LEMBANG	74.57	270.3	11 41A	-1				
HALLEY BAY	75.42	172.5	11 47	0				
TUKUBASAN	75.54	324.8	11 54K	6				
MATUSIRO	76.76	323.8	11 53A	-2	21 49	7		15 0 PP
PASADENA	82.39	45.3	12 25	0	22 46	5		23 31 PS
LICK	82.40	41.0	12 25A	0				
BERKELEY	82.40	40.2	12 27	2	22 47	6		
FRESNO	83.10	42.4	12 33	4				
ZO-SE	83.38	310.0	12 33	3	22 57	6		
HONG KONG	83.45	299.1	12 40	10	22 54	2		
SHASTA	84.28	38.1	12 34	-1				
PORT STANLEY	84.46	146.6	12 35	0				
MINERAL	84.48	38.8	12 35	-1				
CANTON	84.52	299.4	12 37	1	23 13	11		
RENO	84.94	40.3	12 38	0				
NANKING	85.60	309.5	12 44	3	23 28	15		23 12 SKS
BOULDER CITY	85.66	45.6	12 42	0				
TUCSON	86.06	50.6	12 43	0				
TUCSON TEL	86.18	50.6	12 44	0				38 58 PKPPKP
CORVALLIS	86.51	34.9	12 49	3				
EUREKA	87.16	42.3	12 47	-2				
MEDAN	87.24	275.4	13 1	12				
WUHAN	87.68	306.2	12 36	-15	23 30	-3		23 15 SKS
CHANGCHUN	88.87	321.9	12 57	0	23 55	11		
VICTORIA	89.23	32.0	12 57	-2				
PEKING	91.94	314.8	13 12	1	24 23	12		23 48 SKS
BUTTE	93.17	38.7	13 15	-2				
HUNGRY HORSE	93.80	36.3	13 20	0				
KUNMING	93.88	296.2	13 26	6	24 47	19		24 3 SKS
HUANCAYO	94.00	105.7	13 28	7				17 37 PP
LARAMIE	94.64	45.5	13 25	1				
COLLEGE	94.70	11.8	13 22	-2				
CHENGTU	95.53	301.6	13 31	3	24 59	55		24 9 SKS
RAPID CITY	97.59	44.1	13 39	2				
LA PAZ	97.80	113.1	13 37	-1	24 25	9		13 45
YAKUTSK	99.14	337.3						17 45 PP
LANCHOW	98.21	306.3	13 50	10	25 18	60		
CHINCHINA	101.72	90.5						18 16 PP
BOGOTA	102.94	91.5			24 45	4		27 36 PPS
FUQUENE	103.63	90.9						18 45
RESOLUTE	114.05	16.7	18 41	0	27 34	126		29 25 PS
KIMBERLEY	120.53	201.5	18 54	1				18 56
THULE	120.74	15.2	18 55	1				
BERMUDA	121.43	67.2						30 17 PS
WARSAK DAM	122.29	294.5	18 58	1				
KHEYS	122.56	350.9	18 57	0				

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QUETTA	125.19	288.9	19	4	2						
BULAWAYO	126.86	209.6	19	8	2						
ELISABTHVLLE	134.77	213.8	19	17	-4					23	0 SKP
LWIRO	141.81	223.2	19	36	3						
ADDIS ABABA	142.18	247.7	19	48	14						
MOSCOW	142.73	328.6	19	38	3						
SKALSTUGAN	143.49	353.6	19	34A	-2						
TIFLIS	143.69	303.8	19	36	-1						
NURMIJARVI	144.07	342.5	19	37	0						
UPPSALA	146.28	347.4	19	41	0						
LEOPOLDVILLE	146.41	201.1	19	44A	3					42	3 SS
SOTCHI	146.91	308.5	19	44	2						
GOTEBORG	149.26	351.3	19	49	3						
COPENHAGEN	151.15	349.7	19	56	7						
KSARA	151.71	290.8	19	52	2					23	36 PP
JERUSALEM	152.35	286.5	19	57	6						
KRAKOW	154.30	335.5	19	52	-1					20	18 PKP2
COLLMBERG	155.22	346.0	20	6	12					24	15 PP
HALLE	155.24	347.7	20	12	17					20	57
JENA	155.86	347.8	19	56	1					20	28
PRUHONICE	156.07	342.6	20	4	8					20	33 PKP2
PLAUEN	156.16	346.6	19	59	3					20	30
MBOUR	156.72	119.9	20	20	23						
STUTTGART	158.34	350.0	20	5	6						
FOLINIERE	158.52	7.6	20	35	36						
TOLMEZZO	159.76	341.1	20	12	12					20	54
SETIF	171.22	351.1	20	13	3					22	7 PKP2
TAMANRASSET	175.02	199.5	20	13	2					25	46 PP

DECEMBER 20 8.H 5.M 40.S EPICENTRE -32.75-178.31 DEPTH= 0.KM

A=-0.88692 B=-0.05428 C=-0.45873 D=-0.0611 E= 0.9981
G= 0.4579 H= 0.0280 K=-0.8886 HT= 2.6

SE= 2.22

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ONERAHI	11.36	220.9	2	51	5						3	23
KARAPIRO	12.40	210.7	2	56	-4						3	16
TUAI	12.49	203.6				5	10	-13				
CHATEAU	13.46	207.6	3	10	-4							
TONGARIRO	13.46	207.6	3	15	1						5	38
AFIAMALU	14.19	19.0	3	17A	-7	5	56	-7				
APIA	14.29	18.9	3	22	-3	5	51	-15				
WELLINGTON	15.54	205.3	3	44	2	6	17	-18				
COBB RIVER	16.22	210.4				6	37	-14				
KAIMATA	17.96	210.1				7	26	-5				
GEBBIES PASS	18.42	205.6	4	15	-3	7	23	-18				
BRISBANE	27.24	263.0	5	46	-1	10	34	9				
RIVERVIEW	28.47	249.1	5	56	-2						6	52 PP
CANBERRA	30.36	246.4	6	17	2				6	28	7	17 PP
FORT NELSON	33.04	232.6				11	54	-3			13	55 SS
MELBOURNE	33.84	242.3	6	45	-1	12	9	-1			8	9 PP
CHARTERS TS.	34.76	274.0	6	53	-1	12	23	-1				
PORT MORESBY	38.68	290.6	7	27	0	13	29	5			9	3 PP
ADELAIDE	38.77	247.5	7	27	0	13	23	-2			8	6 PP
CAPE HALLETT	45.48	185.7	8	24K	2	15	31	27				
TERRE ADELIE	46.98	201.3	8	35	1	15	28	2				
SCOTT BASE	51.06	184.5	9	6	0	16	28	5			18	57 SCS
BYRD STATION	57.58	170.0	9	51	-2							
MUNDARING	57.78	247.9	9	52	-3						10	47
PERTH	58.09	247.9	9	57	0							
ARGENTINE I.	74.06	156.1	11	38	-1							
LEMBANG	74.37	270.4	11	40	-1							
TUKUBASAN	75.39	325.0	11	45K	-2						21	32 SCS
HALLEY BAY	75.49	172.5	11	45	-2							
MATUSIRO	76.61	324.0	11	54A	0	21	49	9			26	42 SS
ABUYAMA	76.79	321.2	11	56A	1							
PASADENA	82.50	45.4	12	25	0	22	46	4			24	0 PS
LICK	82.50	41.1	12	27A	2							
BERKELEY	82.50	40.4	12	26	1	22	45	3				
UKIAH	82.82	38.9	12	26	-1							
FRESNO	83.20	42.5	12	30	1							
HONG KONG	83.26	299.2	12	34	5	23	18	28				
KERGUELEN I.	83.34	217.2	12	31	1	22	58	8				

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CANTON	84.33	299.5	12 38	3						
SHASTA	84.37	38.2	12 36K	1						
MINERAL	84.57	38.9	12 36K	0						
PORT STANLEY	84.60	146.7	12 37	1						
RENO	85.04	40.4	12 40A	2						
BOULDER CITY	85.77	45.7	12 44	2						
TUCSON	86.18	50.7	12 45	1					13 45	
TUCSON TELE.	86.31	50.7	12 46	1						
MEDAN	87.04	275.5	13 31	43					20 19	
EUREKA	87.26	42.4	12 49	0						
WUHAN	87.50	306.3	12 51	1						
CHIHUAHUA	87.53	56.0							18 23	PPP
TACUBAYA	88.11	67.1	12 58	5					24 24	
CHANGCHUN	88.72	322.0	12 57A	1						
VICTORIA	89.30	32.1	12 57	-2						
SALT LAKE C.	90.54	43.3	13 3	-2	24 1	2			25 49	PPS
VERA CRUZ	90.54	68.7							24 55	PS
PEKING	91.77	314.9	13 12	2						
BUTTE	93.26	38.8	13 17	0						
HUNGRY HORSE	93.88	36.4	13 19	-1					17 1	PP
HUANCAYO	94.20	105.8	13 23	1					17 4	PP
COLLEGE	94.70	11.9	13 23	-1						
LARAMIE	94.75	45.6	13 25	1						
MERIDA	96.77	70.0							28 46	
RAPID CITY	97.70	44.2	13 37	-1						
LA PAZ	98.00	113.2	13 40	1	24 19	2			26 25	PS
FORDHAM	116.50	55.8	16 55	777						
BULAWAYO	126.80	209.9	19 3	-2						
UPPSALA	146.20	347.2	19 40	-1						
MBOUR	156.91	120.2	19 58	1						
STUTTGART	158.26	349.6	19 59	1						
FOLINIERE	158.50	7.2	20 34	35						

DECEMBER 20 12.H 53.M 40.S EPICENTRE 10.19 126.18 DEPTH= 0.KM

A= 0.60214 B= 0.76155 C= 0.23973 D= 0.7844 E=-0.6202
G= 0.1487 H= 0.1880 K=-0.9708 HT= 5.9

SE= 2.63

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ADDIS ABABA	13.55	250.2	3	17	1	5	43	-5					
BOMBAY	20.87	73.5	4	40	-6	8	49	14			5	4	PP
QUETTA	21.43	38.7	4	49	-3	8	48	3			5	15	PP
JERUSALEM	23.27	322.4	5	12	2	9	37	18					
KSARA	24.42	326.8	5	24A	3	9	54	15					
ASHKABAD	24.62	12.8	5	26A	3	9	48	6					
SEHORE	25.74	65.4	5	37	3								
GORIS	25.87	350.5	5	35	0	10	14	11					
HYDERABAD	26.00	78.9	5	39K	3	10	16	10			6	18	PP
WARSAK DAM	26.89	38.7	5	43	-2								
LAHORE	27.17	46.1	5	49	2	10	36	11					
MADRAS	27.74	88.6	5	55K	3	11	40	66			6	50	PP
LWIRO	27.81	236.3	6	53	60	10	47	12					
TIFLIS	28.29	349.1	5	56	-1						7	14	PPP
COLOMBO	28.59	101.3	5	45	-15								
STALINABAD	28.81	28.6	6	4	2	10	59	8					
DEHRA DUN	29.25	51.8	6	9	3						7	13	PP
TASHKENT	31.28	26.0	6	23	-1						7	25	PP
TANANARIVE	32.92	187.2	6	37	-1	11	56	0			7	36	PP
BOKARO	33.67	67.9	6	49K	4	12	10	3			8	3	PP
BANGUI	33.94	256.9	5	44	-63								
SIMFEROPOL	34.30	337.7	6	51A	1	12	23	6			8	30	PPP
ATHENS	34.44	319.1	6	52A	1	12	23	4			8	16	PP
FRUNSE	34.91	30.1	6	57	2								
ELISABTHVLLE	34.97	224.5	6	57	1	12	31	3			9	40	PP
CHATRA	35.53	63.3	6	57	-3								
CALCUTTA	35.81	70.8	7	8K	5	12	47	6			8	28	PP
BROKEN HILL	36.39	220.0	7	7	-1								
BUCHAREST	37.37	329.4	7	7A	-9	13	39	35			9	1	PP
SOFIA	37.64	325.0	7	22	4	13	12	3			8	54	PP
FOCSANI	37.79	331.7	7	39	20						8	42	
SKOPJE	38.25	322.7	6	29K	-54						8	6	PPP
CAMPULUNG	38.51	329.4	7	24	-1	13	28	6			9	7	PP
BACAU	38.58	332.4	7	28	2	13	25	2			9	1	PP

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IASI	38.77	333.6	7	28	0	13	28	2	9	0	PP
CHITTAGONG	38.96	71.7	7	31	2	13	32	3	9	8	PP
SHILLONG	39.41	66.7	7	33K	0	13	37	2	9	6	PP
LHASA	39.53	60.2	7	35	1	13	40	3	9	14	PP
REGGIO CALA.	39.93	313.7	7	39	2	13	45	2	9	9	
TARANTO	40.00	317.9	7	31	-7				9	11	PP
MESSINA	40.05	313.8	7	40	2	13	45	0	10	11	PP
PORT BLAIR	40.06	88.4	7	42	4	13	48	3	9	12	PP
LEOPOLDVILLE	40.46	245.8	7	41	-1	13	51	0	9	26	PP
BELGRADE	40.60	325.5	7	47K	4	13	39	-14	9	17	PP
BULAWAYO	40.78	214.3	7	43	-1						
TIMISOARA	40.78	327.1	7	48	4	14	1	5	9	26	PP
LWOW	42.29	333.5	7	58	1				9	43	PP
MOSCOW	43.07	348.4	8	2	-1				9	34	PP
SVERDLOVSK	43.33	7.2	8	5	0	14	35	1	17	39	SS
SKALNATE PL.	43.57	330.2	8	8A	1	14	39	2			
ZAGREB	43.71	323.8	8	9	1	14	39	0	22	8	
HURBANOVO	43.74	327.5	8	27	19	14	37	-2			
ROME	43.84	317.1	8	11	2	14	47	6	10	31	PP
KRAKOW	44.31	331.0	8	14	1						
BRATISLAVA	44.50	327.2	8	15A	0	14	53	3	10	1	PP
TAMANRASSET	44.52	288.3	8	15	0	14	51	0	10	13	PP
LJUBLJANA	44.69	323.3	8	17A	1						
TRIESTE	44.92	322.4	8	19	1	15	0	3	18	22	SS
CHORZOW	44.92	330.6	8	13	-5				10	0	PP
VIENNA-H.	44.93	326.9	8	17	-1	14	55	-2	10	5	PP
RACIBORZ	45.16	329.9	8	20	0						
WARSAW	45.35	333.9	8	18	-4	15	59	56			
PRETORIA	45.62	210.2							10	38	PP
PRATO	45.66	318.9	8	6	-18				17	45	SS
TOLMEZZO	45.75	322.9	8	24	-1	15	8	0	10	14	PP
BOLOGNA	45.81	319.8	8	26	1				19	7	
SETIF	46.86	306.8	8	34	1	15	13	-11	10	20	PP
PRUHONICE	46.93	327.8	8	34A	0	15	26	1	10	30	PP
PRAGUE	47.05	327.8	8	35	0	15	28	1	10	31	PP
MEDAN	47.50	98.0	8	31	-8	16	31	58			
PIETERMZBURG	47.94	205.2	8	46	4						
MONACO	47.98	317.1	8	53	11				10	0	PCP
CHEB	48.13	326.8	8	42	-1	15	24	-18	10	30	PP
PULKOVO	48.37	345.7	8	45	0	15	51	5	10	46	
RAVENSBURG	48.45	322.9	8	45	-1						
PLAUEN	48.48	327.1	8	43	-3	15	44	-3	10	41	PP
COLLMBERG	48.51	328.4	8	47K	1	15	49	1	10	47	PP
ALGIERS UNI.	48.83	306.8	8	50K	1	15	54	2	10	45	PP
SONNEBERG	48.93	326.6	8	48	-2				10	47	PP
EBINGEN	49.03	323.1	8	51	1						
JENA	49.03	327.3	8	49	-1	15	59	4	10	47	PP
POTSDAM	49.12	329.6	8	51	0	15	57	1	10	53	PP
KUNMING	49.14	68.8	8	51	0	15	57	0	10	51	PP
STUTTGART	49.14	323.9	8	50	-1	15	58	1	10	50	PP
TUBINGEN	49.14	323.5	8	51	0				10	48	PP
HALLE	49.16	328.1	8	50	-1	15	59	2	10	49	PP
BASLE	49.54	321.7	8	55A	1	15	43	-19			
NEUCHATEL	49.69	320.8	8	55	0				16	4	SP
KIMBERLEY	49.79	211.3	8	55	-1						
STRASBOURG	49.92	323.0	8	57	0	16	5	-2	10	55	PP
HELSINKI	50.11	343.0	9	0	1	16	14	4			
NURMIJARVI	50.48	343.1	9	1	-1	16	17	2			
RELIZANE	50.57	304.9	8	56	-6	16	3	-14	10	51	PP
BARCELONA	50.81	312.4							11	56	PP
BENSBERG	51.42	325.5	9	9	0	16	37	9			
COPENHAGEN	51.42	332.7	9	10	1	16	36	8	11	17	PP
LANCHOW	51.46	54.9	9	10	1	17	27	58	9	26	
CLERMONT-FD.	51.61	318.0	9	10K	0				11	18	PP
MUNSTER	51.69	326.8	9	11	0				10	02	PCP
TORTOSA	51.82	311.2	9	52	40						
ALICANTE	51.94	308.0	9	35	22	17	19	44	11	38	PP
UPPSALA	52.19	339.0	9	13	-1	16	32	-7	11	16	PP
DOURBES	52.46	323.5	9	18	1				11	22	PP
GRAHAMSTOWN	52.77	206.5	9	21	2						
GOTEBORG	52.89	334.5	9	20	0						
UCCLE	52.92	324.2	9	20	0	16	48	-1			
DE BILT	53.06	326.0	9	40	19	16	54	4	20	45	SS
PARIS	53.17	321.3	9	22	0	16	57	5			
ALMERIA	53.17	305.7	9	25	3	17	1	9	10	32	
OULU	54.05	346.6	9	29	1						
GRANADA	54.12	305.9	9	33K	4	17	38	33	12	21	PP
APATITY	54.87	351.5	9	32A	-2	17	11	-4	9 44	11	22 PP

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TOLEDO	54.98	309.1	9	35	0	17	20	4	10 35 PCP
FOLINIERE	54.98	320.4	9	34	-1				
SIAN	55.30	57.9	9	37A	0				
SODANKYLA	55.84	348.6	9	41	0				
KEW	55.87	323.5	9	40	-2	17	26	-2	21 21 SS
JERSEY	56.12	320.4				17	35	3	11 9
IRKUTSK	56.56	35.8	9	48	2				
SKALSTUGAN	56.63	340.1	9	46	-1				
ULAN-BATOR	56.65	41.4	9	49	2	17	44	5	
BERGEN	57.27	334.7							17 56 PS
KIRUNA	57.53	346.5	9	50	-3	17	46	-4	13 10
DURHAM	57.86	326.7				18	5	10	13 35 PPP
DJAKARTA	58.28	106.4	9	57	-2	17	53	-7	
COIMBRA	58.34	308.7	9	59	0	18	0	-1	
SERRA PILAR	58.61	309.8	9	56A	-5	17	58	-6	12 8 PP
LISBON	58.69	306.9	9	59K	-2	18	10	5	10 54 PCP
CANTON	58.82	71.3	10	3	1	18	8	1	12 18 PP
ABERDEEN	59.09	329.2				18	19	8	12 20 PP
LEMBANG	59.24	106.8	10	3	-2	18	5	-8	
HONG KONG	59.63	72.2	10	8	0				22 25 SS
WUHAN	59.81	62.7	10	9	0	18	23	3	
PEKING	61.68	51.9	10	22	0	18	46	2	10 46
NANKING	63.43	61.0	10	33	-1	19	7	1	
ZO-SE	65.50	62.0	10	47A	0	19	32	1	19 35 PS
BAGUIO CITY	66.26	78.0	10	51	-1	19	43	2	
MBOUR	66.30	279.7	10	55	3	19	45	4	
KHEYS	66.75	1.1	10	54	-1				13 17 PP
MANILA	66.92	79.9	10	57	1				18 27
SIDA	68.64	333.4	11	7A	0				
CHANGCHUN	68.70	48.2	11	7	0	20	13	3	13 42 PP
REYKJAVIK	70.37	333.5	11	17	-1				
SCORESBY SD.	71.47	340.1	11	24	0	20	50	7	
TIKSI	72.81	18.9	11	30	-2				14 14 PP
NORD	73.15	351.8	11	32	-2	21	2	0	25 51 SS
MUNDARING	76.80	128.0	11	54	-1				12 24
MATUSIRO	79.09	55.0	12	7	-1	22	8	1	27 10 SS
Y.-SAKHLINSK	80.64	43.9	12	14	-2	22	12	-11	
TUKUBASAN	80.65	55.0	12	15A	-1				13 29
MAGADAN	82.66	30.5							12 31 PCP
THULE	83.20	348.1	12	28	-1				
PETROPAVLOVK	88.87	35.3	12	52	-5				23 38 SCS
RESOLUTE	89.10	351.6	12	59K	1	23	31	-15	16 38 PP
WILKES	90.96	159.8	12	57	-10				
ADELAIDE	95.50	124.5	13	38	10				
PORT MORESBY	97.49	97.8	13	34	-3				17 36
CHARTERS TS.	98.91	108.5	13	47	4				
COLLEGE	100.02	8.3	17	12	777				17 58 PP
BERMUDA	103.70	308.7				25	21	37	
CANBERRA	103.85	123.3							23 57
RIVERVIEW	105.43	121.6	14	10	777				21 12
PALISADES	105.71	320.3							27 48 PS
FORT FRANCE	107.68	290.6				25	17	15	
BYRD STATION	113.79	181.7							19 34 PP
HUNGRY HORSE	116.68	349.4	19	1	15				19 46 PP
RAPID CITY	117.86	339.7	18	56	8				
BOZEMAN	118.63	346.3	18	54	4				20 4 PP
BUTTE	118.63	347.5	18	55	5				20 5 PP
FAYETTEVILLE	120.68	328.1	19	56	62				20 10 PP
LARAMIE	121.12	340.1	19	3	8				
CORVALLIS	121.56	355.8							20 30 PP
LA PAZ	122.04	259.1	19	5	8				
KARAPIRO	125.07	126.7	19	8	6				21 1
SHASTA	125.34	354.5	19	18	15				
EUREKA	125.60	348.2	19	5	2				
MINERAL	125.61	353.7	19	6	3				
RENO	126.19	351.8	19	7	3				
BERKELEY	128.13	353.9	19	29	21				
HUANCAYO	128.41	265.6	19	14	5				
LICK	128.59	353.2	19	13K	4				21 21
BOULDER CITY	128.72	346.0	19	15	6				
FRESNO	128.91	351.2	19	13	3				
TUCSON TELE.	130.97	340.2	19	17	3				21 35 PP
TUCSON	131.09	340.2	19	18	4				21 39 PP
PASADENA	131.19	348.8	19	18	4				22 42 PP

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DECEMBER 21 10.H 20.M 35.S EPICENTRE -27.51-176.28 DEPTH= 0.KM

A= 0.60533 B= 0.75916 C= 0.23929 D= 0.7819 E=-0.6234
G= 0.1492 H= 0.1871 K=-0.9709 HT= 5.9

SE= 2.53

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ADDIS ABABA	13.33	249.9	3 17	4				
BOMBAY	21.10	73.6	4 46	-2	8 52	13		5 46
QUETTA	21.60	39.0	4 53A	0	8 52	4		
POONA	22.00	75.0	4 55K	-2	9 9	13		
JERUSALEM	23.15	322.8	5 10	2				12 19
KSARA	24.31	327.2	5 22	2	9 55	18		6 0 PP
KODAIKANAL	25.72	95.3	5 37	4				
HYDERABAD	26.23	78.8	5 42	4	10 15	6		6 9 PP
WARSAK DAM	27.05	38.9	5 46A	1				
LAHORE	27.35	46.3	5 51	3				
LWIRO	27.60	236.1	5 51	1	10 35	4		
TIFLIS	28.28	349.5	5 58	1	10 52	10		
DEHRA DUN	29.45	52.0	6 15	8	11 5	4		
SOTCHI	31.21	343.5	6 20	-3				
TANANARIVE	32.87	186.8	6 37	0				7 24
BANGUI	33.71	256.8	6 43	-2				19 58
SIMFEROPOL	34.24	337.9	6 50	1				
ELISABETHVLLE	34.79	224.2	6 53	-1				8 46 PP
CHATRA	35.74	63.3	7 1	-1				
BROKEN HILL	36.22	219.8	7 5	-1				7 41
IASI	38.69	333.8	7 22	-5				9 0
CHITTAGONG	39.18	71.7	7 28	-3				
SHILLONG	39.63	66.7	7 32A	-3				
MESSINA	39.90	314.0	7 45	8	13 45	2		
LEOPOLDVILLE	40.24	245.7	7 40K	0	13 52	4		9 20 PP
LWOW	42.21	333.7	7 57	1				
MOSCOW	43.05	348.6	8 3	0				
KRAKOW	44.22	331.1	8 13	1				8 42
TAMANRASSET	44.31	288.4	8 14	1	14 48	1		10 7 PP
VIENNA-H.	44.83	327.0	8 18	1				
PRETORIA	45.48	210.0						29 13
PRUHONICE	46.83	327.9	8 33	0				
RAVENSBURG	48.34	323.0	8 44	-1				
COLLMBERG	48.41	328.6	8 45	0				
EBINGEN	48.91	323.2	8 50	1				
JENA	48.93	327.5	8 49	0				10 5
STUTTGART	49.03	324.0	8 48	-2	15 57	2		10 46 PP
HALLE	49.06	328.3	8 50	0				
KIMBERLEY	49.65	211.1	8 52	-3				
STRASBOURG	49.81	323.1	8 55	-1				
BESANCON	50.27	320.9	9 0	0				
NURMIJARVI	50.44	343.2	9 2	1				
UPPSALA	52.13	339.2	9 13A	-1				
DOURBES	52.35	323.6	9 15	0				
UCCLE	52.81	324.3	9 22	3				
PARIS	53.05	321.4	9 20	-1				
FOLINIERE	54.85	320.4	9 33	-1				
APATITY	54.86	351.7	9 33	-1				
SODANKYLA	55.82	348.7	9 39	-2				
KIRUNA	57.50	346.6	9 51	-2				
RATHFARNHAM	59.82	324.1	10 3	-6				
MBOUR	66.08	279.7	10 52	1	19 45	7		
TIKSI	72.91	18.9	11 31	-1				
THULE	83.18	348.1	12 28	-1				
CANBERRA	104.02	123.3						15 35
KARAPIRO	125.24	126.7	19 10	8				
BOULDER CITY	128.69	345.7	19 13	4				
TUCSON TELE.	130.92	339.9	19 16	3				22 41
TUCSON	131.04	340.0	19 25	11				

DECEMBER 21 11.H 14.M 17.S EPICENTRE -27.46-176.50 DEPTH= 0.KM

A=-0.62387 B= 0.48948 C= 0.60926 D= 0.6173 E= 0.7868
G=-0.4793 H= 0.3761 K=-0.7930 HT= -0.9

DEPTH OF FOCUS= 0.004R

SE= 2.36

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	DELTA DEG.	AZ DEG.	P M S	O-C S	S M S	O-C S	+PP M S	SUPP. M S
ISINOMAKI	0.83	328.0	0 15K	-2	0 25	-5		
SENDAI	0.95	305.4	0 17	-1	0 27	-5		
ONAHAMA	1.10	225.7	0 18K	-2	0 32	-3		
HUKUSIMA	1.12	271.8	0 19K	-1	0 33	-2		
YAMAGATA	1.32	294.0	0 21K	-2	0 36	-4		
SHIRAKAWA	1.45	246.1	0 25K	0	0 42	-1		
MIZUSAWA	1.52	337.4	0 25	-1	0 43	-2		
MITO	1.75	220.6	0 26K	-3	0 45	-6		
MIYAKO	1.93	2.0	0 30A	-1	0 50	-5		
UTUNOMIYA	1.99	234.6	0 31	-1	0 55	-1		
SAKATA	2.00	306.7	0 34	2	0 55	-1		
KAKIOKA	2.02	223.0	0 30K	-3	0 47	-10		
MORIOKA	2.05	344.4	0 32K	-1	0 55	-3		
TUKUBASAN	2.07	224.1	0 31K	-2	0 56	-2		
TYOSI	2.16	202.9	0 35	0	1 1	0		
NIIGATA	2.25	275.9	0 39	3	1 10	7		
AKITA	2.43	325.6	0 38K	0				
KUMAGAYA	2.55	232.7	0 39K	-1				1 19
MAEBASI	2.61	240.4	0 41K	0	1 13	1		
HONGO	2.63	220.8	0 40A	-1				1 22
TOKYO C.M.O.	2.66	220.7	0 40A	-2	1 10	-3		
HATINOHE	2.82	354.5	0 45	1	1 18	1		
TITIBU	2.84	233.1	0 43	-1	1 14	-4		
AIKAWA	2.89	277.0	0 43	-2				
YOKOHAMA	2.91	218.8	0 45	0	1 19	0		
TAKADA	2.96	259.0	0 49	3	1 18	-3		
OIWAKE	3.01	243.5	0 46	-1	1 26	4		
NAGANO	3.12	251.5	0 49	1				1 37
MATUSIRO	3.16	249.2	0 49K	0				1 39
AOMORI	3.21	344.9	0 54	5	1 37	10		
MERA	3.25	211.3	0 50	0	1 28	0		
HUNATU	3.35	229.4	0 53	2	1 40	10		
KOHU	3.37	233.5	0 52	0	1 32	1		
MATUMOTO	3.46	246.0	0 57	4	1 44	11		
AJIRO	3.49	220.9	0 55	2	1 32	-2		
MISIMA	3.51	223.2	0 53	-1	1 34	0		
OSIMA	3.57	215.2	0 54	0	1 37	1		
SHIZUOKA	3.93	226.7	1 1K	2	1 45	0		
IIDA	3.93	237.2	1 5	6	1 59	14		
WAZIMA	3.97	266.6	1 4	4				
TAKAYAMA	4.03	248.5	1 1	0				
HAKODATE	4.17	348.4	1 3A	0	1 50	-1		
OMAESAKI	4.30	224.7	1 8	3	1 57	3		
KANAZAWA	4.35	255.7	1 16	11				
URAKAWA	4.48	8.6	1 6	-1	1 59	0		
MORI	4.49	347.4	1 10	3	2 3	4		
HAMAMATU	4.51	229.6	1 8	1	2 1	2		
MURORAN	4.64	351.7	1 13	4	2 10	7		
HIROO	4.68	13.2	1 10	0	2 2	-2		
NAGOYA	4.71	238.7	1 12	2	2 8	4		
GIHU	4.72	242.1	1 12	1	2 7	2		
HUKUI	4.83	251.5	1 14	2				
TOMAKOMAI	4.91	357.4	1 27	14	2 11	2		
HATIDYOZIMA	4.92	200.9	1 13	0	2 6	-4		
TSURUGA	5.11	247.9	1 18A	2	2 17	3		
HIKONE	5.16	243.4	1 20	3	2 17	1		
SUTTSU	5.23	346.5	1 22	4	2 24	7		2 3
KAMEYAMA	5.23	238.4	1 20	2	2 23	6		
TU	5.28	236.8	1 23	5				
OBIHIRO	5.29	10.6	1 14	-4	2 19	0		
SAPPORO	5.36	355.8	1 18	-1	2 17	-4		
KUSIRO	5.59	19.3	1 20	-3	2 18	-8		
KYOTO	5.65	243.3	1 24	1	2 18	-10		
MAIZURU	5.69	248.7	1 25	1	2 31	2		
NARA	5.76	240.0	1 23	-2	2 27	-4		
ABUYAMA	5.84	242.7	1 26A	0				
OWASE	5.88	233.4	1 27	0	2 22	-12		2 43
OSAKA	5.98	241.1	1 36	8	2 50	14		
ASAHIGAWA	6.06	3.3	1 31	2				
KOBE	6.21	242.8	1 34	3	2 48	6		1 44
NEMURO	6.27	25.5	1 29	-3	2 35	-8		
WAKAYAMA	6.46	239.4	1 35	0				
ABASHIRI	6.55	15.3	1 36	0	2 46	-4		
SIOMISAKI	6.55	231.3	1 35	-1	2 54	4		
TOTTORI	6.58	252.7	1 37	1				
SUMOTO	6.58	241.2	1 37	1	2 51	0		3 37

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TOKUSIMA	6.96	240.6	1	41	-1	2	48	-12			
SAIGO	7.01	260.1	1	36	-6	2	55	-7			
OKAYAMA	7.12	247.1	1	44	0						
TAKAMATU	7.20	244.2	1	49	4	3	37	31			
YONAGO	7.24	254.1	2	3	17	3	28	21			
TORISIMA	7.34	190.8	1	44	-3						
MATSUE	7.44	254.9	1	50	2	3	19	7			
MUROTO	7.70	236.9	1	50	-2	3	32	13			
KOTI	7.97	241.0	2	0	4	3	46	21			
MATUYAMA	8.35	245.1	1	43	-18						
HIROSIMA	8.35	249.2	2	2	1	3	38	3			
HAMADA	8.41	253.4	2	4	2	3	37	1			
VLADIVOSTOK	9.32	308.4	2	14	0						
OOITA	9.49	244.9	2	11	-6	4	49	46			
HUKUOKA	10.23	249.6	2	24	-3	4	27	6			
MIYAZAKI	10.36	239.1	2	30	2	4	36	12			
KUMAMOTO	10.37	245.2	2	30	2	4	36	12			
SAGA	10.44	248.2	2	34	4						
KAGOSIMA	11.17	240.0	2	40	1						
CHANGCHUN	13.95	301.1	3	15	-1	5	52	2			
ZO-SE	18.30	255.0	4	11	0						
NANKING	19.76	260.3	4	24	-4	8	0	-2			
PEKING	20.13	284.6	4	29	-3	8	7	-3			
WUHAN	23.68	260.5	5	6	-1	9	19	4			
YAKUTSK	25.47	346.6	5	23	-1						
SIAN	26.82	272.6	5	37	0						
ULAN-BATOR	27.40	303.1	5	42	0						
HONG KONG	28.36	245.1	5	47	-4						
MANILA	29.45	224.3	5	54	-6						
LANCHOW	30.35	278.6	6	7	-1						
TIKSI	34.63	352.8	6	45	-1						
KUNMING	35.44	260.7	6	52A	-1						
TOCKLAI	40.95	268.6	8	43	64						
LHASA	42.63	274.7	7	53	1						
SHILLONG	43.80	268.9	8	1A	-1						
CHITTAGONG	45.44	265.0	8	14A	-1						
CHATRA	46.93	273.3	8	28A	1						
COLLEGE	48.31	32.6	8	40	2						
KHEYS	52.05	348.1	9	5	-1						
MEDAN	52.07	240.0	9	6A	0						
LAHORE	54.85	285.2	9	26A	-1						
WARSAK DAM	55.89	289.1	9	34A	0						
QUETTA	61.10	287.2	10	10A	-1				10	20	12 24 PP
POONA	61.71	272.2	10	13A	-2						
RESOLUTE	61.85	14.6	10	14A	-1	18	42	9			20 0 SCS
APATITY	62.22	335.7	10	16A	-2						
SODANKYLA	64.48	337.2	10	31	-2						
THULE	64.53	7.6	10	31	-2				10	47	
BRISBANE	65.57	169.4	10	44	4	19	26	7			19 26
KIRUNA	66.01	339.2	10	42	-1						13 3 PP
MOSCOW	66.92	323.4	10	47	-1						
NURMIJARVI	69.51	332.0	11	5	0						
HELSINKI	69.62	331.6	11	5	0						
TIFLIS	70.69	308.1	11	12	0						
HUNGRY HORSE	71.03	43.2	11	15	1				11	27	
SKALSTUGAN	71.41	338.7	11	15	-1						13 45 PP
ADELAIDE	72.38	182.7	11	23	1						11 36 PCP
UPPSALA	72.50	334.1	11	22A	0				11	35	14 2 PP
CANBERRA	72.97	173.9	11	27A	2				11	40	
BUTTE	73.21	44.5	11	26	-1						
MUNDARING	73.36	202.6	11	26	-1						
SIMFEROPOL	75.10	315.6	11	39	1						
EUREKA	75.13	51.5	11	39	1						
GOTEBORG	76.06	334.9	11	45A	2				11	58	
PASADENA	76.89	57.0	12	1	13						
LWOW	77.04	324.0	11	49	0						
IASI	77.11	320.4	11	48	-1						
COPENHAGEN	77.48	333.4	11	51	0				12	5	
BOULDER CITY	77.96	53.8	11	57	3						
KRAKOW	78.74	326.1	11	58	0				12	12	
RACIBORZ	79.48	327.0	12	3	1				12	16	
LARAMIE	80.11	44.9	12	8	3						
COLLMBERG	80.69	330.3	12	8A	0				12	22	
HALLE	80.94	331.0	12	9	-1						
PRUHONICE	81.09	328.7	12	11A	0				12	25	15 14 PP
KARAPIRO	81.43	153.7	12	12	0						12 27
JENA	81.54	330.8	12	13	0						13 4
WITTEVEEN	81.80	334.4	12	15	1						
MUNSTER	82.17	333.4	12	18	2						

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JERUSALEM	82.78	304.7	12 19	0				
TUCSON TELE.	82.90	54.5	12 22	2	12 36			
STUTTGART	84.16	330.7	12 27A	1				
UCCLE	84.28	334.5	12 21	-6				
TUBINGEN	84.44	330.7	12 29	1				
EBINGEN	84.76	330.5	12 31	2				
DOURBES	84.78	334.0	12 30	1				
STRASBOURG	84.90	331.4					11 56	PCP
BASLE	85.83	330.9	12 35A	1				
FOLINIERE	87.63	336.1	12 44	1				
FAYETTEVILLE	90.07	42.2	12 55A	0	13 8			
BREBEUF	91.20	24.1	13 2K	2				
TAMANRASSET	107.16	318.2					18 35	PP
ELISABTHVLLE	116.32	275.6	18 41	4				
SOUTH POLE	127.54	180.0	19 0	1				
BYRD STATION	128.36	167.3	19 1	1				
LA PAZ	146.17	59.5	19 38	5	19 52		23 12	PP

DECEMBER 21 11.H 19.M 15.S EPICENTRE 13.96 51.67 DEPTH= 0.KM

A=-0.51279 B=-0.21000 C= 0.83243 D=-0.3790 E= 0.9254
G=-0.7703 H=-0.3155 K=-0.5541 HT= -7.8

SE= 1.41

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
COLLEGE	9.66	26.0	2 26	2	4 15	1		12 3 SCP
ALBERNI	20.98	96.3	5 7	19				
VICTORIA	22.16	96.6	5 2	2				
CORVALLIS	24.64	104.3	5 26A	2				
HUNGRY HORSE	27.45	88.6	5 50	0				9 6 PCP
SHASTA	27.82	109.6	5 54K	1				
MINERAL	28.49	109.1	5 59K	0				
RESOLUTE	29.57	28.6	6 8A	-1				12 48 SS
BUTTE	29.62	91.3	6 10	1				
BERKELEY	30.00	113.3	6 12K	-1				
RENO	30.02	108.2	6 13K	0				
LICK	30.72	113.2	6 19K	0				
FRESNO	32.10	111.8	6 31K	0				
EUREKA	32.11	104.1	6 31	0				
TIKSI	32.89	326.0	6 39	1				
PASADENA	34.97	112.9	6 55	-1				
BOULDER CITY	35.30	107.2	7 0	1				
THULE	35.89	23.8	7 3	-1				
RAPID CITY	36.02	86.5	7 4	-1				
LARAMIE	36.53	92.0	7 6	-3				
TUCSON TELE.	40.27	106.7	7 41	0				9 43 PCP
TUCSON	40.28	106.9	7 41	0				
NORD	40.54	8.2	7 43A	0				
MATUSIRO	46.48	272.8	8 32A	1				
FAYETTEVILLE	46.51	88.1	8 29	-2				
ABUYAMA	49.16	273.4	8 53A	1				
SCORESBY SD.	49.42	18.0	8 54K	0				
OTTAWA	49.83	65.9	8 55K	-2				
BREBEUF	50.82	64.5	9 2	-3				
PALISADES	53.89	68.6			17 7	5		
KIRUNA	55.95	0.8	9 41A	-2			9 57	
APATITY	55.96	354.9	9 42	-1				
SODANKYLA	56.38	358.0	9 51	5				
TACUBAYA	56.78	105.8						12 22 PP
OULU	58.75	358.4	10 3	1				
SKALSTUGAN	59.98	5.1	10 10	-1				
NURMIJARVI	63.29	358.7	10 34	1				
HELSINKI	63.63	358.5	10 35	0				
UPPSALA	63.91	2.6	10 36A	-1				
GOTEBORG	65.83	6.0	10 49	-1			11 5	
MOSCOW	67.41	350.7	10 58	-2				
MUNSTER	71.20	9.5	11 23	0				
UCCLE	72.02	11.8	11 30	2				
COLLMBERG	72.27	6.1	11 29	0				
JENA	72.54	7.1	11 31	0				
DOURBES	72.73	11.8	11 33	1				
FOLINIERE	73.37	15.5	11 36	0				
PRUHONICE	73.67	5.2	11 38A	0				
RACIBORZ	73.71	2.7	11 38	0				

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STUTTGART	74.52	8.9	11	42A	-1						
STRASBOURG	74.57	9.9	11	42	-1						
PORT MORESBY	79.77	235.3	12	11	-1						
WARSAK DAM	80.62	320.3	12	16	0						
QUETTA	85.69	322.4	12	43A	1	23	16	2		23	8 SKS
TAMANRASSET	99.74	15.7								17	49 PP
ELISABTHVLLE	135.04	352.8								22	50 SKP
BROKEN HILL	137.74	351.1	19	20	-7						
BYRD STATION	138.05	170.7	19	15	-12					22	49 PP
BULAWAYO	143.36	350.0	19	34	-3						
SOUTH POLE	146.35	180.0	19	41	-1					23	39 PP
KIMBERLEY	152.18	355.3	19	59K	8						

DECEMBER 22 0.H 9.M 40.S EPICENTRE 13.93 51.43 DEPTH= 0.KM

A= 0.76806 B= 0.19734 C= 0.60922 D= 0.2489 E=-0.9685
G= 0.5901 H= 0.1516 K=-0.7930 HT= -0.8

DEPTH OF FOCUS= 0.004R

SE= 2.65

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
MESSINA	1.02	61.6	0	18K	-1	0	33	0					
REGGIO CALA.	1.05	68.5									0	17	PG
TARANTO	3.52	37.9	0	59	5	1	39	4					
ROME	4.43	341.0	1	8	2	1	57	0					
PRATO	6.65	338.9	1	39	2								
BOLOGNA	7.16	342.0	1	50	6						2	9	
SETIF	7.37	260.9	1	45	-2	3	10	0					
ATHENS	7.37	85.2	1	44	-3	3	1	-9					
TRIESTE	7.94	356.6	1	56	1						3	17	
MONACO	8.01	320.8	1	55K	-1								
ZAGREB	8.18	7.7	1	56	-2	4	37	67			2	13	PG
LJUBLJANA	8.32	0.5	1	59	-1						3	17	
BELGRADE	8.42	30.7	1	59A	-3	3	29	-7			4	2	PS
PAVIA	8.43	333.8	1	47	-15						3	43	
SOFIA	8.44	51.1	1	59	-3	3	53	16			3	27	
TOLMEZZO	8.74	353.7	2	6	-1						2	52	
ALGIERS UNI.	9.11	267.5	2	9	-2	3	46	-7					
TIMISOARA	9.50	30.2	2	19	3								
CHUR	9.81	340.0	2	23	2								
VIENNA-H.	10.62	7.1	2	19	-13	4	24	-6					
BRATISLAVA	10.63	9.8	2	30	-2						3	26	
RAVENSBURG	10.65	342.3	2	32	0								
NEUCHATEL	10.79	331.7	2	33	-1						3	3	PPPP
BASLE	11.01	335.1	2	37	0								
EBINGEN	11.18	340.9	2	40	1								
RELIZANE	11.30	264.2	2	35	-6	4	41	-5			2	44	PP
BESANCON	11.37	329.6	2	42	0						3	10	
TUBINGEN	11.48	341.9	2	43	0								
CLERMONT-FD.	11.64	317.2	2	47	1						3	30	
STUTTGART	11.66	343.0	2	45	-1								
ALICANTE	11.76	277.6	2	37	-10	4	44	-14					
STRASBOURG	11.88	338.1	2	51	2				3	19			
PRUHONICE	12.26	0.4	2	54	0	5	24	15					
RACIBORZ	12.65	11.2	2	59	0								
GARCHY	12.69	322.4	2	59	0						3	35	
SONNEBERG	12.86	350.7	3	1	-1								
PLAUEN	12.87	353.5	3	0	-2						3	24	
KRAKOW	12.95	16.1	3	5	2								
JENA	13.36	352.2	3	9	1				3	33	4	6	
ALMERIA	13.47	271.5	3	10	0	5	40	2			3	24	PP
IASI	13.55	41.5	3	9	-2	6	39	59					
COLLMBERG	13.62	356.2	3	8	-4						6	8	
HALLE	13.89	353.6	3	14	-1	5	57	9			3	24	PP
LWOW	13.93	26.7	3	17	1								
PARIS	14.06	325.8	3	24	7						3	41	
BENSBERG	14.20	341.0	3	26A	7						4	16	
DOURBES	14.24	333.5	3	19	-1						3	29	PP
TOLEDO	14.56	284.2	3	25	1						3	34	PP
UCCLE	14.91	334.5	3	28	0								
MUNSTER	15.03	343.6	3	31	1								
FOLINIERE	15.45	320.3	3	34	-1								
SIMFEROPOL	16.45	57.8	3	49	1								

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TAMANRASSET	16.74	209.7	3	51	-1	7	14	19		4	6 PP
KSARA	17.85	96.1	4	5	0					4	33 PP
JERUSALEM	18.09	102.9	4	6	-2	7	7	-18			
SERRA PILAR	18.09	288.0	4	3A	-5	7	22	-3		4	18 PP
SOTCHI	20.04	65.1	4	30	0						
GOTEBORG	20.06	356.2	4	32	1					4	48 PP
DURHAM	20.24	332.5	4	34	2						
UPPSALA	22.24	4.3	4	51	-2				5 4		
HELSINKI	23.46	13.3	5	3	-1						
TIFLIS	23.65	70.7	5	7	0	9	19	6			
NURMIJARVI	23.72	12.6	5	6	-1						
MOSCOW	23.85	33.5	5	7	-1						
PULKOVO	24.31	19.7	6	17	64						
MAKHACH-KALA	25.66	67.8	5	26	0						
SKALSTUGAN	25.93	357.8	5	26	-2				5 40		
KIRUNA	30.35	4.5	6	7	-1				6 20		
SODANKYLA	30.49	9.3	6	9	0						
APATITY	31.74	13.8	6	23	3						
ADDIS ABABA	36.04	136.2	7	3	6						
MBOUR	36.25	238.6	7	34	35	13	7	33			
LEOPOLDVILLE	41.88	178.7	7	50	4						
LWIRO	41.95	158.2	7	50A	4						
QUETTA	43.75	83.7	8	1K	0					8	41
WARSAK DAM	45.85	76.6	8	18	0						
KHEYS	45.96	9.1	8	19	0						
THULE	51.99	342.7	9	2	-3						
RESOLUTE	58.83	342.9	9	52	-2						
BULAWAYO	59.08	164.4	9	58	2						
CHATRA	61.09	77.2	10	10	0						
BREBEUF	63.11	308.0	10	21	-2						
OTTAWA	64.46	308.7	10	30A	-2						
SHILLONG	65.35	75.9	10	36K	-2						
KIMBERLEY	66.83	170.1	10	51	4						
CHITTAGONG	67.02	78.9	10	48	0	19	39	3		13	17 PP
SAN JUAN	71.65	279.3	11	16	-1						
COLLEGE	76.80	352.3	12	2	15						
RAPID CITY	80.94	319.7	12	25	16						
FAYETTEVILLE	81.23	309.0	12	9	-2						
HUNGRY HORSE	82.82	328.2	12	19	0						
LARAMIE	84.14	319.0	11	57	-29						
EUREKA	90.68	323.9	13	18	21						
TUCSON TELE.	93.55	316.1	13	11	1					13	33
SOUTH POLE	127.53	180.0	18	59	1						
CHARTERS TS.	134.85	81.0	19	15	3						
CANBERRA	143.70	100.4	19	28K	0						

DECEMBER 22 17.H 20.M 24.S EPICENTRE 37.72 141.88 DEPTH= 57.KM

A=-0.88710 B=-0.05781 C=-0.45795 D=-0.0650 E= 0.9979
G= 0.4570 H= 0.0298 K=-0.8890 HT= 2.6

SE= 2.56

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ONERAHI	11.53	221.4	3	14	25							
KARAPIRO	12.54	211.2	3	1	-2						3	24
CHATEAU	13.60	208.1	3	18	1	5	50	0				
AFIAMALU	14.07	18.2	3	16	-7	5	48	-13				
APIA	14.18	18.1	3	22	-3	5	45	-19				
WELLINGTON	15.67	205.8	3	43	-1	6	21	-18				
COBB RIVER	16.37	210.8				6	40	-15				
GEBBIES PASS	18.55	206.0	4	19	-1	7	28	-17				
ROXBURGH	21.38	208.7									8	59
BRISBANE	27.44	262.8	5	50	0	10	37	7				
RIVERVIEW	28.68	249.1	5	57A	-4	10	53	3				
CANBERRA	30.57	246.4	6	17A	-1				6	29	7	28 PP
MELBOURNE	34.04	242.3	6	49	1							
CHARTERS TS.	34.96	273.8	6	56	0	12	27	-1				
PORT MORESBY	38.86	290.4	7	28	-1	13	21	-7			9	1 PP
ADELAIDE	38.97	247.4	7	29	-1	13	9	-20	7	41	9	3
CAPE HALLETT	45.55	185.7	8	20	-4	15	14	8			8	44
TERRE ADELIE	47.10	201.3	8	39	3	15	32	4				
DUMONT	47.47	201.9	8	39	0	15	32	-2			18	33 SCS
SCOTT BASE	51.12	184.6	9	9	2							
BYRD STATION	57.59	170.0	9	53	-1							

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MUNDARING	57.98	247.9	9	58	1					
SOUTH POLE	62.75	180.0	10	29	-1					
LEMBANG	74.57	270.2	11	42K	-1					
MATUSIRO	76.69	323.8	11	56	1	21	42	0		
PASADENA	82.32	45.3	12	26	1					
FRESNO	83.03	42.4	12	23	-6					
SHASTA	84.21	38.1	12	36	1					
MINERAL	84.40	38.8	12	38	2					
NANKING	85.54	309.5	12	45	3	23	23	10	22	24 SKS
BOULDER CITY	85.59	45.6	12	44	2					
TUCSON	85.99	50.6	12	46	2					
TUCSON TELE.	86.12	50.6	12	46	1					
EUREKA	87.08	42.3	12	49	0					
PEKING	91.88	314.8	13	13	1	24	18	6	23	50 SKS
BUTTE	93.10	38.7	13	19	2					
KUNMING	93.85	296.2	13	27	6	24	42	13	24	4 SKS
COLLEGE	94.61	11.8	13	26	2					
CHENGTU	95.49	301.6	13	33	5	24	55	51	24	6 SKS
RAPID CITY	97.52	44.1	13	40	2					
CHITTAGONG	101.57	289.2							16	4
RESOLUTE	113.95	16.7	18	43	2					
KIMBERLEY	120.62	201.5							21	25
RESOLUTE	113.95	16.7	18	43	2					
KIMBERLEY	120.62	201.5							21	25
THULE	120.65	15.1	18	54	0					
QUETTA	125.16	289.0	19	5	2					
ELISABTHVLLE	134.86	213.8	19	23	1					
ADDIS ABABA	142.22	247.8	19	41	6					
SKALSTUGAN	143.40	353.6	19	41	4					
NURMIJARVI	143.98	342.5	19	38	0					
HELSINKI	144.18	342.0	19	39	1					
UPPSALA	146.19	347.4	19	41	-1				19	59
LEOPOLDVILLE	146.50	201.2	19	46	4				20	24
KSARA	151.68	291.0	20	11	21					
JERUSALEM	152.33	286.7							20	13
KRAKOW	154.21	335.6	19	56	2				20	25 PKP2
COLLMBERG	155.13	346.1	20	17	22				20	37
PRUHONICE	155.99	342.7	20	9	13					
BRATISLAVA	156.80	336.9	19	58	1					
STUTTGART	158.25	350.1	20	3	4					
TAMANRASSET	175.11	199.8	20	15K	3				25	46 PP

DECEMBER 23 3.H 49.M 0.S EPICENTRE 56.53-157.73 DEPTH= 0.KM

A= 0.74949 B= 0.29707 C= 0.59162 D= 0.3685 E=-0.9296
G= 0.5500 H= 0.2180 K=-0.8062 HT= -0.4

SE= 4.06

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ATHENS	2.26	47.3	0	41A	2	1	12	4			0	47 PG
REGGIO CALA.	5.04	290.8	1	20	1	2	14	-5				
MESSINA	5.14	291.6	1	20	0	2	39	18			1	27 PP
TARANTO	5.27	320.8	2	12	50							
SOFIA	6.37	11.4	1	37	-1						3	10
ISTANBUL KA.	7.42	49.4	1	56	4							
BELGRADE	8.40	354.3	2	0	-6						3	53
ZAGREB	10.27	337.3	2	46	14						4	15
TRIESTE	10.93	329.6				4	30	-15				
LJUBLJANA	10.97	333.1	2	40K	-2						4	6
TOLMEZZO	11.84	329.7	2	59	6						4	51
KSARA	11.97	98.5	2	52	-3	5	1	-10				
JERUSALEM	12.19	108.6	2	55K	-3	5	3	-13				
SIMFEROPOL	12.71	44.3	3	28	23							
SETIF	13.09	273.7	3	1	-9							
RACIBORZ	13.84	350.8	3	32	12							
PRUHONICE	14.46	341.4	3	27	-1						4	10
SONNEBERG	15.82	334.9	3	50	4							
COLLMBERG	16.07	340.1	4	0	11						5	30
JENA	16.16	336.6	3	55	5	7	20	30				
HALLE	16.55	338.4	3	43	-12						4	30
TIFLIS	18.72	66.6	4	23	1	8	57	68				
TAMANRASSET	19.50	230.1	4	33	2							
MAKHACH-KALA	20.90	63.9				8	34	-1				
MOSCOW	22.14	24.4	4	58	-1							

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UPPSALA	23.55	355.0	5 11	-2
HELSINKI	23.83	4.1	5 16	0
PULKOVO	24.00	10.8	5 47	30
NURMIJARVI	24.15	3.7	5 18	-1
SKALSTUGAN	27.75	351.0	5 50	-2
SODANKYLA	31.09	3.8	6 27	5
KIRUNA	31.43	359.1	6 27	2
ADDIS ABABA	31.44	146.1	6 30	5
APATITY	31.86	8.6	6 28	-1
QUETTA	38.12	86.0	7 20	-3
LWIRO	39.08	168.6	7 33	2
WARSAK DAM	40.49	78.2	7 40	-2
LEOPOLDVILLE	41.05	189.7	7 47	0
ELISABTHVLLE	48.16	172.3	8 45	1
THULE	54.89	343.2	9 33	-2
RESOLUTE	61.67	344.3	10 21	-1
HUNGRY HORSE	86.78	332.2	12 48	0

DECEMBER 23 9.H 29.M 3.S EPICENTRE 37.72 14.41 DEPTH= 61.KM
A= 0.16175 B= 0.76163 C=-0.62750 D= 0.9782 E=-0.2077
G=-0.1304 H=-0.6138 K=-0.7786 HT= -1.3

SE= 1.66

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
MUNDARING	31.71	89.0	6 26	-1				
TANANARIVE	33.11	298.5	6 39	-1				
PRETORIA	43.61	272.4	6 39	-88				
DUMONT	43.85	149.5			14 36	-5		10 20 PP
TERRE ADELIE	44.41	149.6			14 36	-13		10 20 PP
KIMBERLEY	44.80	266.5	8 17	0				
BULAWAYO	46.30	279.3	8 29	0				
ADELAIDE	47.87	105.0	8 41	0				
BROKEN HILL	49.83	285.3	8 55	-2				
SOUTH POLE	51.13	180.0	9 6	0				9 58
ELISABTHVLLE	52.36	287.2	9 18	2	16 39	-2		20 14 SS
CAPE HALLETT	53.97	157.8	9 40	12	17 8	5		
CANBERRA	55.35	110.0	9 38K	0				
RIVERVIEW	57.61	109.4	9 4	-50				
BOMBAY	57.85	354.2			17 59	4		
ADDIS ABABA	60.14	313.9	10 15	3				
BYRD STATION	60.77	176.5	10 16	0				
BRISBANE	62.03	103.7	10 23	-1				
PORT MORESBY	67.95	84.2	11 5	2	20 10	9		
QUETTA	69.65	349.8	11 12	-1				
WARSAK DAM	72.93	354.4	11 30	-3				
TAMANRASSET	91.45	298.3	13 12A	3				
RESOLUTE	144.13	356.8	19 35	-3				
OTTAWA	159.59	296.6						20 44 PKP2
HUNGRY HORSE	167.28	39.2						21 15 PKP2
EUREKA	169.15	83.4	20 4	-5				
TUCSON	170.11	130.7	20 13	4				21 33
TUCSON TELE.	170.24	130.7	20 14	5				21 34
RAPID CITY	174.90	9.9						21 48 PKP2

DECEMBER 23 13.H 59.M 1.S EPICENTRE -27.41-176.27 DEPTH= 0.KM
A=-0.58788 B= 0.79211 C= 0.16422 D= 0.8030 E= 0.5960
G=-0.0979 H= 0.1319 K=-0.9864 HT= 6.6

SE= 2.50

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
MANILA	7.43	314.1	1 59	6	3 35	16		
BAGUIO CITY	9.02	320.2	2 16	1	4 20	22		
HONG KONG	17.42	318.3	4 5	-1	7 44	25		
CANTON	18.52	318.4	4 24	4	8 0	16		
ZO-SE	22.06	347.6	4 59A	1	9 4	7		9 51 SS
NANKING	23.57	343.2	5 14A	1	9 32	7		
WUHAN	23.73	333.5	5 16	1	9 32	5		
KUNMING	27.47	307.4	5 55	5	10 42	12		
PORT MORESBY	27.79	132.0	5 52	-1	10 29	-6		6 48 PPP

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MEDAN	28.33	259.8	5	54A	-4	10	25	-19		
MATUSIRO	28.90	19.6	6	2	-1	10	52	-1	6	57 PP
SIAN	29.47	329.3	6	9	1					
PEKING	31.77	344.7	6	27A	-1	11	38	0		
LANCHOW	33.55	325.5	6	43	-1					
CHANGCHUN	34.20	358.4	6	50	1					
CHARTERS TS.	35.22	146.7	6	57	-1				13	13
CHITTAGONG	35.68	295.2	6	43	-19	12	40	1	8	23 PP
SHILLONG	36.60	300.4	7	8K	-2					
LHASA	38.78	306.1	7	29	1					
CHATRA	41.00	300.1	7	45	-1					
MUNDARING	42.43	193.1	7	58	0					
BRISBANE	44.62	146.0	8	17	1	14	50	-3		
ADELAIDE	45.71	166.0	8	25	0				10	7 PP
IRKUTSK	46.33	341.2	8	28	-2	15	10	-7		
RIVERVIEW	49.02	152.7	9	0	9	15	57	2		
CANBERRA	49.37	155.7	8	55	2					
DEHRA DUN	49.66	301.8	8	53	-3					
MELBOURNE	50.14	161.0	8	58	-1					
POONA	51.78	286.1	9	9K	-3					
YAKUTSK	52.46	1.9	9	16	-1	16	38	-5		
BOMBAY	52.78	286.5	9	17	-2	16	46	-1	16	56 PS
WARSAK DAM	55.87	304.7	9	40	-2					
QUETTA	59.07	299.4	10	3	-2	18	7	-4	12	12 PP
TIKSI	62.08	0.8	10	23	-2	18	44	-5		
KARAPIRO	65.69	139.1	10	50	1				11	10
CHATEAU	66.43	140.3	10	53	0					
DUMONT	76.62	174.5	11	53	-1					
TERRE ADELIE	76.90	174.0	11	53	-3					
KHEYS	77.22	351.0	11	58	0					
TIFLIS	77.62	310.7	11	59	-1					
COLLEGE	79.58	25.7	12	10	-1					
MOSCOW	81.63	325.1	12	20	-1					
APATITY	82.48	337.2	12	25K	-1					
TANANARIVE	82.83	249.5	12	28	0					
PULKOVO	85.00	329.7	12	38	-1					
SIMFEROPOL	85.09	314.6	12	39	0					
SODANKYLA	85.10	337.5	12	38	-1					
KSARA	85.36	303.4	12	41	1					
JERUSALEM	86.21	301.4	12	45	0					
ADDIS ABABA	86.40	278.5	12	54	8				13	11
CAPE HALLETT	86.45	167.8	12	51	5					
KIRUNA	87.26	338.6	12	48	-2					
NORD	87.35	354.9	12	50	0					
HELSINKI	87.54	330.6	12	52	1					
NURMIJARVI	87.60	331.0	12	51	0					
SCOTT BASE	90.05	172.1	13	20	17					
UPPSALA	91.14	331.5	13	9	1					
SKALSTUGAN	91.99	335.9	13	11	-1				13	38
RESOLUTE	92.19	10.2	13	13	0	24	15	1		
THULE	93.77	3.5	13	20	0					
ELISABTHVLLE	100.72	259.9							18	1 PP
HUNGRY HORSE	101.57	36.4	13	58	2					
EUREKA	104.35	45.1	17	37	777					
RAPID CITY	110.19	35.9							19	16 PP
TUCSON	111.28	50.0							19	21 PP
TUCSON TELE.	111.33	49.9							19	18 PP
TAMANRASSET	113.99	300.1	19	6	25				19	47 PP
SAN JUAN	149.58	24.4	19	53	6					
HUANCAYO	158.33	98.7	20	7	8				20	44 PKP2
LA PAZ	164.08	117.4	20	9	4				20	53 PKP2

DECEMBER 23 21.H 39.M 14.S EPICENTRE 36.46 21.62 DEPTH= 0.KM

A=-0.33768 B=-0.82513 C= 0.45292 D=-0.9255 E= 0.3788
G=-0.1715 H=-0.4192 K=-0.8915 HT= 2.7

SE= 3.20

	DELTA DEG.	AZ. DEG.	P M	P S	D-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
TUCSON	5.29	13.2	1	20	-3	2	34	9				
CHIHUAHUA	5.68	72.9	1	31	3							
PASADENA	8.69	325.5	2	6	-4							
BOULDER CITY	9.13	346.7	2	14	-3							
GUADALAJARA	10.37	126.1	2	29	-5							
FRESNO	11.53	328.3	3	50K	60							
EUREKA	12.74	346.9	3	[illegible]	-1							
LICK	12.94	324.5	3	8A	0							

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SALT LAKE C.	13.65	1.3	3	17	-1						
BERKELEY	13.66	324.4	3	17	-1						
RENO	13.92	335.0	3	23K	2						
UKIAH	15.10	325.4	3	38	1						
MINERAL	15.33	332.0	3	42A	2						
SHASTA	15.95	330.9	4	2A	14						
VERA CRUZ	16.77	114.5	3	51	-7	7	13	8	9	1	
ARCATA	16.87	327.6	4	2	2						
FAYETTEVILLE	17.80	55.3	4	13K	2	7	20	-8	6	2	PP
RAPID CITY	18.46	21.0	4	20	1				9	35	
BOZEMAN	18.57	2.7	4	23	2						
BUTTE	18.90	359.3	4	27	2						
CORVALLIS	19.58	335.9	4	33A	0						
HUNGRY HORSE	21.27	356.7	4	49	-2						
MERIDA	21.55	101.6							5	3	PP
COMITAN	21.56	115.9				9	18	30	7	39	
OTTAWA	34.30	48.1	6	46	-5						
PALISADES	34.39	56.2				12	28	9			
BERMUDA	41.38	70.9				14	11	5	9	35	PCP
BOGOTA	42.71	114.7	8	14	13	14	45	20			
SAN JUAN	43.23	91.6	8	10	5						
COLLEGE	44.01	339.1	8	12	1						
CARACAS	45.70	102.2	8	21	-4	15	12	4			
RESOLUTE	48.48	6.1	8	46	-1	15	43	-5	19	19	SS
LA PAZ	60.92	130.2	10	25	8						
MBOUR	88.16	74.9							24	45	

DECEMBER 24 7.H 16.M 28.S EPICENTRE -39.05 78.01 DEPTH= C.KM

A=-0.84232 B=-0.02483 C=-0.53841 D=-0.0295 E= 0.9996
G= 0.5382 H= 0.0159 K=-0.8427 HT= 0.9

SE= 3.88

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
ONERAHI	6.77	241.6	1	43	0						3	16	
TUAI	7.07	210.1	1	47	0	3	8	-1			3	50	
KARAPIRO	7.21	222.5	1	49	0	3	28	15					
TONGARIRO	8.14	216.1	1	57	-5	3	41	5					
WELLINGTON	10.15	211.0	2	35	5	4	15	-11			2	47	
COBB RIVER	10.37	218.2				4	45	-1			3	37	
KAIMATA	12.69	216.9				5	25	-3					
GEBBIES PASS	13.03	210.4				5	29	-7					
RIVERVIEW	25.51	359.2	5	38	6								
CANBERRA	27.14	355.5	5	46K	-1								
MELBOURNE	30.27	249.9	6	12K	-3								
CHARTERS TS.	33.98	232.9	6	43	-4	12	7	-5					
ADELAIDE	35.55	224.3	6	58	-3						9	25	
PORT MORESBY	39.44	288.3	7	42	9								
CAPE HALLETT	40.08	185.4	7	40	1	13	57	11			9	20	PP
TERRE ADELIE	41.51	202.7	7	52	2								
DUMONT	41.83	203.4	7	52	-2								
SCOTT BASE	45.68	184.4	8	33	9								
BYRD STATION	52.63	169.2	9	18	0								
MUNDARING	54.48	251.8	9	27	-5								
SOUTH POLE	57.42	180.0	9	51	-2						11	4	
MATUSIRO	80.02	325.8	12	13	0								
LICK	87.43	41.8	12	47	-4								
FRESNO	88.14	43.2	12	56	2								
SHASTA	89.47	39.0	13	1	1								
MINERAL	89.64	39.7	13	6	5								
RENO	90.05	41.2	13	22	19								
TUCSON	90.71	51.5	13	4	-2						13	26	
TUCSON TELE.	90.84	51.5	13	8	1								
EUREKA	92.13	43.3	13	7	-6								
SHILLONG	103.22	291.9									18	0	PP
RESOLUTE	119.56	17.7	18	46	-6								
WARSAK DAM	122.73	292.0	18	54	-4								
QUETTA	125.03	286.1	18	59	-4								
ELISABTHVLLE	129.45	213.5	19	9	-2						22	32	SKP
KIRUNA	143.23	348.2	19	35	-1								
NURMIJARVI	148.40	338.4	19	45	0						19	59	
SKALSTUGAN	148.44	351.0	19	43	-2								
HELSINKI	148.57	337.7	19	45	0								
UPPSALA	150.90	343.4	19	49	0								
COLLMBERG	159.69	339.2									20	35	PKP2
TAMANRASSET	169.51	199.8	20	7	-2						22	23	SKP

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DECEMBER 24 13.H 8.M 35.S EPICENTRE 9.51 126.58 DEPTH= 0.KM

A=-0.58117 B= 0.79458 C= 0.17575 D= 0.8071 E= 0.5904
G=-0.1038 H= 0.1419 K=-0.9844 HT= 6.5

SE= 2.32

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
MANILA	6.68	312.3	1	45	3	3	9	10					
BAGUIO CITY	8.25	319.2	2	8	4								
LEMBANG	25.05	228.3	5	27	0								
MEDAN	28.07	258.4	5	55	0								
MATUSIRO	28.41	20.7	5	59K	1						9	10	PCP
PORT MORESBY	28.53	132.3	6	4	5						7	2	PPP
SHILLONG	35.92	299.8	7	3	-1								
CHARTERS TS.	36.00	146.7	6	4	-60	13	12	29					
CHATRA	40.32	299.6	7	40	-1								
MUNDARING	42.99	192.5	8	1	-1						8	8	PCP
BRISBANE	45.39	146.0	8	23	1								
ADELAIDE	46.46	165.8	8	30K	0				8	39	10	25	PP
RIVERVIEW	49.80	152.6	8	58	2						9	6	PP
CANBERRA	50.14	155.6	8	59A	0								
MELBOURNE	50.90	160.8	9	5	0								
YAKUTSK	51.80	2.1	9	11	0								
WARSAK DAM	55.17	304.4	9	36	0								
QUETTA	58.40	299.1	9	58	-1								
TIKSI	61.41	1.0	10	19	-1								
KARAPIRO	66.46	139.1	10	54	1						11	9	
CHATEAU	67.20	140.2	10	58	0								
SVERDLOVSK	68.24	327.4	11	1	-3								
TERRE ADELIE	77.61	173.9	11	55	-4								
COLLEGE	79.15	25.7	12	8	0								
MIRNY	80.29	192.8	12	12	-2								
MOSCOW	80.85	325.1	12	15	-2								
APATITY	81.71	337.2	12	21	0								
SODANKYLA	84.33	337.4	12	33	-2								
OULU	85.32	335.2	12	40	0								
JERUSALEM	85.52	301.3	12	41A	0								
ADDIS ABABA	85.91	278.4	12	51	8								
KIRUNA	86.49	338.5	12	45	-1								
NURMIJARVI	86.82	331.0	12	47	0								
UPPSALA	90.37	331.4	13	2	-2								
SKALSTUGAN	91.22	335.9	13	6	-2								
RESOLUTE	91.60	10.1	13	10A	0								
SOUTH POLE	100.12	180.0	13	42	-7								
HUNGRY HORSE	101.26	36.2	13	58	4								
EUREKA	104.16	44.9	14	9	2								
TAMANRASSET	113.31	300.2	18	37	-2						19	11	PP
SAN JUAN	149.13	23.2	19	51	5								
HUANCAYO	158.81	97.0	20	29	30								

DECEMBER 25 3.H 48.M 59.S EPICENTRE -27.74-176.48 DEPTH= 0.KM

A=-0.88467 B=-0.05436 C=-0.46304 D=-0.0613 E= 0.9981
G= 0.4622 H= 0.0284 K=-0.8863 HT= 2.5

SE= 2.62

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S
SUVA	10.63	332.8	2	56	20							
KARAPIRO	12.17	211.4	2	55	-2							
TUAI	12.24	204.1				5	4	-13				
CHATEAU	13.22	208.1	3	8	-3	5	42	2				

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TONGARIRO	13.22	208.2	3	12	1						
APIA	14.55	18.5	3	25	-4	5	56	-16			
WELLINGTON	15.29	205.8	3	41	3	6	12	-17			
COBB RIVER	15.99	210.9				6	33	-13			
KAIHATA	17.73	210.6	4	34	25	7	14	-12			
GEBBIES PASS	18.18	206.0	4	12	-3	7	18	-18			
BRISBANE	27.22	263.5	5	46	-1	10	36	11			
RIVERVIEW	28.38	249.6	6	1	3	10	50	6			
CANBERRA	30.26	246.8	6	15A	1	11	13	-1	13	10	
FORT NELSON	32.88	233.0				11	53	-2			
MELBOURNE	33.73	242.7	6	46K	1						
CHARTERS TS.	34.80	274.4	6	56	2				8	26	
ADELAIDE	38.67	247.8	7	26K	-1				8	13	
PORT MORESBY	38.79	291.0	7	29	1	13	17	-9	17	19	SCS
CAPE HALLETT	45.20	185.7	8	21K	1	15	8	8	18	14	SS
TERRE ADELIE	46.73	201.4	8	34	2	15	35	13			
DUMONT	47.09	202.0	8	34	-1	15	35	8	18	28	
SCOTT BASE	50.78	184.5	9	12	8						
KIPAPA	52.03	22.0	9	12	-1						
BYRD STATION	57.30	170.0	9	49	-3						
MUNDARING	57.68	248.1	9	51	-3				10	57	
WILKES	58.11	207.0	9	55	-2	17	49	-9	19	44	SCS
SOUTH POLE	62.42	180.0	10	26	-1				10	57	PCP
LEMBANG	74.38	270.4	11	41K	0						
MATUSIRO	76.85	324.0	11	54A	-1	21	46	4	26	50	SS
PASADENA	82.68	45.4							22	48	
LICK	82.70	41.1	12	27A	1						
BERKELEY	82.70	40.3	12	33	7						
FRESNO	83.40	42.5	12	34	4						
HONG KONG	83.41	299.3	12	14	-16						
SHASTA	84.58	38.2	12	36	0						
MINERAL	84.78	38.9	12	38A	1						
RENO	85.24	40.4	12	36	-3						
BOULDER CITY	85.96	45.7	12	41	-2						
TUCSON	86.35	50.7	12	46	1						
TUCSON TELE.	86.47	50.7	12	47	2				13	20	
EUREKA	87.45	42.4	12	49	-1						
BUTTE	93.47	38.8	13	18	0						
COLLEGE	94.97	11.9	13	24	-1						
RAPID CITY	97.89	44.2	13	44	6						
BOGOTA	103.12	91.7				24	42	0	27	27	PS
RESOLUTE	114.32	16.8	18	39	-2	27	33	124	29	13	PS
PALISADES	116.66	55.7							29	48	
THULE	121.02	15.2	18	52	-2						
QUETTA	125.09	288.8	19	4	2						
BULAWAYO	126.56	209.7	19	7	2						
BROKEN HILL	131.58	213.1	19	16	1						
ELISABTHVLLE	134.48	213.9	19	23	3						
KIRUNA	138.61	350.4	19	27	-1						
MOSCOW	142.84	328.3							22	42	
TIFLIS	143.67	303.5	19	36	0						
SKALSTUGAN	143.71	353.4	19	34	-3				19	56	
LEOPOLDVILLE	146.13	201.3	19	43A	2				42	10	SS
UPPSALA	146.47	347.1	19	41	0				19	56	
SOTCHI	146.91	308.2	19	44	2						
GOTEBORG	149.47	351.1	19	47	1						
SIMFEROPOL	150.20	313.3	19	54	7						
COPENHAGEN	151.35	349.4	19	56K	7						
KSARA	151.62	290.4	19	58	9						
JERUSALEM	152.24	286.1	19	58	8						
RACIBORZ	155.03	337.2	20	18	24				21	41	
COLLMBERG	155.40	345.6	20	5	10				20	52	
TAMANRASSET	174.74	200.6	20	13	2				25	43	PP

DECEMBER 25 10.H 18.M 52.S EPICENTRE -25.44 -68.71 DEPTH= 111.KM

A= 0.32835 B=-0.84240 C=-0.42726 D=-0.9317 E=-0.3632
G=-0.1552 H= 0.3981 K=-0.9041 HT= 3.2

DEPTH OF FOCUS= 0.012R

SE= 2.24

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
LA PAZ	8.91	3.6	2	8A	1	3	47	0			2	20 PP

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HUANCAYO	14.72	333.6	3 28A	4	6 17	13					
PORT STANLEY	27.49	165.3	5 36	-2							
BOGOTA	30.33	349.4	6 3	0	10 58	4			6 28		
CHINCHINA	30.97	346.5	6 9	0	11 8	4			11 51	SS	
FUQUENE	31.11	350.3	6 34	24	11 18	12					
CARACAS	35.77	3.0	7 37A	47							
GALERAZAMBA	36.57	349.1	7 10	13	12 42	11					
TRINIDAD	36.57	12.1	6 57	0							
ST. VINCENT	39.06	11.5	7 17	-1							
ARGENTINE I.	39.91	177.1	7 23	-2							
FORT FRANCE	40.60	11.3	7 29	-1					16 57	SSS	
ANTIGUA	42.85	9.7	7 49	0							
ST. KITTS	42.92	8.4	7 46	-3							
SAN JUAN	43.63	3.6	7 51	-4			8 18		9 43		
SAN SALVADOR	43.72	330.5	7 58	2							
MERIDA	50.39	334.3							14 29		
VERA CRUZ	51.77	326.4	9 33	35	16 41	31					
TACUBAYA	53.54	323.4	9 5K	-7	16 30	-4			11 4	PP	
HALLEY BAY	54.39	168.0	9 15	-3							
BERMUDA	57.63	4.0	9 36	-5	17 31	3			21 17	SS	
BYRD STATION	58.64	139.1	9 47	-1							
COLUMBIA	60.26	348.2	9 58	-1			10 25				
CHAPEL HILL	61.81	350.5	10 9	-1					12 19		
MBOUR	64.08	57.8	10 28A	4	18 55	4					
WASHINGTON	64.48	352.8	10 26	-1			10 55				
GEORGETOWN	64.48	352.8	10 27	0			10 54				
CHIHUAHUA	64.66	323.8	10 43	15							
SOUTH POLE	64.71	180.0	10 27	-2					13 7	PP	
FAYETTEVILLE	65.76	337.5	10 34K	-1	19 4	-7	11 3		12 53	PP	
FORDHAM	66.13	355.7	10 37	-1			11 4		20 4	PPS	
PALISADES	66.29	355.7	10 37	-2	19 21	3	11 3		20 15	SCS	
PENNSYLVANIA	66.45	352.4	10 39	-1	19 22	2			11 7	PCP	
ST. LOUIS 1	66.86	341.8	10 38K	-4	19 23	-1	11 5				
FLORISSANT	67.05	341.7	10 43K	0	19 26	-1	11 9				
CLEVELAND	67.64	349.6	10 46A	-1					11 13	PCP	
HALIFAX	69.88	3.9	11 1K	0	20 4	4			20 52	PPS	
TUCSON	70.04	322.8	11 3	1					20 55	*SS	
TUCSON TELE.	70.05	322.9	11 3	1					39 3	PKPPKP	
BREBEUF	70.74	356.3	11 6K	0	20 14	4					
OTTAWA	70.79	354.8	11 5K	0			11 34				
SHAWINIGAN	71.75	357.0	11 11	-1			11 39		13 50	PP	
SCOTT BASE	72.00	190.6	11 13	-1							
SEVEN FALLS	72.25	358.5	11 16K	1	20 24	-3	11 43		21 16	PS	
HERMANUS	74.49	121.0			20 59	6			21 51	PPS	
CAPE HALLETT	74.69	195.8	11 29K	0	21 24	29			26 5	SS	
BOULDER CITY	75.03	322.8	11 33	2							
PASADENA	75.61	319.4	11 35K	1	21 9	4	12 2		12 13	*SP	
RAPID CITY	76.06	335.1	11 37	0			12 4				
WINDHOEK	77.05	108.9	11 44	1							
SALT LAKE C.	77.11	327.8	11 42	-1							
EUREKA	78.21	324.5	11 50	1			12 18		29 18	PKKP	
FRESNO	78.39	320.4	11 50K	0							
LICK	79.85	319.8	12 4K	6			12 23				
RENO	80.32	322.4	12 2K	2							
GRAHAMSTOWN	80.56	122.3	12 6K	4							
BOZEMAN	80.56	331.4	12 3	1			12 32				
BERKELEY	80.57	319.8	12 2K	0	22 3	5	12 30		12 52	*SP	
KIMBERLEY	81.01	117.5	12 5A	1							
BUTTE	81.50	330.8	12 8	1			12 33				
MINERAL	81.88	322.0	12 4K	-5			12 38				
UKIAH	81.97	320.2	12 10	1			12 39				
SHASTA	82.56	321.8	12 12	0							
LEOPOLDVILLE	82.69	91.4	12 15K	2	22 24	5			15 21	PP	
HUNGRY HORSE	83.93	331.5	12 19	0			12 47				
TERRE ADELIE	85.26	191.5	12 26	0	22 48	3					
DUMONT	85.63	191.1	12 26	-1	22 48	-1					
CORVALLIS	85.67	324.3	12 29K	1							
TAMANRASSET	86.42	62.9	12 33K	2	23 6	10			15 54	PP	
SERRA PILAR	86.53	41.0	12 19A	-13					12 23	PCP	
GRANADA	87.31	46.5	13 10K	34	24 34	89			15 39	PP	
BULAWAYO	87.82	111.2							12 40	PCP	
VICTORIA	88.39	327.1	12 42	1							
WILKES	88.51	179.7	12 42	1	23 20	4			23 59	*SS	
TOLEDO	88.57	44.1	12 43	1					13 13		
HORSESHOE B.	88.90	327.8	12 48	5			13 18				
RELIZANE	89.31	49.5	12 39	-6					13 45		
ALBERNI	89.58	327.1	12 47	1							
BROKEN HILL	90.20	106.0	12 53	4							
MACQUARIE I.	90.47	205.5	12 50	0							

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ELISABTHVLLE	90.55	103.1	12	52	1	23	45	11	13	21	16 27 PP
ALGIERS UNI.	91.57	49.7	12	56	0						16 29 PP
ROXBURGH	91.90	216.7									25 38
CHATEAU	92.08	224.5	12	59	1						
TONGARIRO	92.09	224.4	12	53	1						13 29
KAIHATA	92.59	219.9	13	15	15						
KARAPIRO	92.82	225.5	12	59A	-2						13 32
SETIF	92.92	51.2	13	3	1						16 45 PP
RATHFARNHAM	95.19	32.3									16 20
LWIRO	95.82	95.2	13	18K	3	23	50	11			
PARIS	97.35	39.1	13	24	2						17 20 PP
MONACO	97.89	45.3									17 26 PP
DOURBES	99.18	38.7	13	33	3						17 32 PP
BASLE	99.72	41.9									17 38 PP
STRASBOURG	100.31	41.0									17 43 PP
STUTTGART	101.30	41.3	13	40	0						17 42 PP
RESOLUTE	101.31	353.1	13	39	-1	25	2	55			18 7 PP
THULE	101.63	0.1	13	41	0						17 56 PP
LJUBLJANA	103.43	45.3	18	2	777						18 28
HALLE	103.99	39.5	18	10	777						19 1
COLLMBERG	104.52	39.9	18	12	777						
GOTEBORG	106.37	33.5									18 24 PP
RACIBORZ	107.18	42.3									18 22 PP
COLLEGE	108.27	333.8	14	10	777						18 13 PP
ADDIS ABABA	109.56	89.1									18 22 PP
UPPSALA	109.86	32.4									28 11 PS
RIVERVIEW	109.94	214.6									18 45 PP
LWOW	110.70	43.8	18	22	2						
NURMIJARVI	113.43	32.6	18	26	1						
HELSINKI	113.52	33.0	18	27	2						
BRISBANE	114.00	220.1									19 12 PP
KSARA	115.23	63.0	18	31	3						19 31 PP
SODANKYLA	115.25	25.2	18	30	2						
PULKOVO	116.12	33.8	18	31	1						
YALTA	116.27	51.1									19 15 PP
SIMFEROPOL	116.32	50.6	18	32	1						
APATITY	117.87	25.1	18	34	0						
MOSCOW	119.75	38.7	18	37	0						
KHEYS	120.68	8.8	18	41	2						21 4
MUNDARING	122.72	185.0	18	44	1						19 13
CHARTERS TS.	123.40	220.2	18	45	1						
TIFLIS	123.59	55.5	18	47	2						
PORT MORESBY	130.83	229.8	19	2	3						21 12 PP
SVERDLOVSK	132.22	35.0	19	3	2						
TIKSI	132.73	352.5	18	55	-7						22 29 PKS
ASHKABAD	133.82	61.0	19	7	3						22 30
QUETTA	140.68	72.8	19	12	-5						22 13 PP
TASHKENT	141.91	54.8	19	20	1						22 25
STALINABAD	141.96	59.3	19	19	0						
BOMBAY	143.87	92.5	19	22	0						41 37 SS
WARSAK DAM	144.62	66.6	19	24	0						
POONA	144.69	93.6	19	23K	-1						
FRUNSE	145.37	50.6	19	28	3						23 16
GUAM	146.39	255.6	19	29	2						
LAHORE	147.06	70.7	19	36	8						
Y.-SAKHLINSK	147.08	319.0	19	32	4						20 1
LEMBANG	147.72	173.2	19	31K	2						23 5 PP
MADRAS	148.21	107.0	19	39	9						
AGRA	150.16	79.4	19	35K	2						
DEHRA DUN	150.28	73.0	19	29	6						
IRKUTSK	152.69	9.4	19	39	3						
TUKUBASAN	153.13	300.5	19	38A	1						20 28
MATUSIRO	154.49	302.2	19	40K	1	27	18	45			23 39 PP
MEDAN	155.11	148.8	19	43A	3						20 8 PKP2
ABUYAMA	157.05	299.9	20	16A	34						
ULAN-BATOR	157.30	7.7	19	46	3						
CHATRA	158.30	81.1	19	46	2						
CHANGCHUN	158.39	331.6	19	32K	-12				20	10	24 0 PP
CHITTAGONG	161.93	95.7	19	51	3	26	55	15			24 49 PP
SHILLONG	162.46	85.4	19	51K	3						
PEKING	164.89	345.5	19	53K	2				20	24	24 37 PP
LANCHOW	167.64	29.5	19	56K	3						25 15 PP
ZO-SE	169.63	305.1	19	56K	2				20	26	24 48 PP
NANKING	170.70	316.8	19	57K	2				20	27	25 6 PP
SIAN	170.98	12.7	19	58	3				20	28	
CHENGTU	171.73	49.4	19	58K	3				20	28	25 44 PP
KUNMING	172.25	90.6	19	58K	3	27	2	16	20	28	25 18 PP
WUHAN	174.17	331.1	19	59K	3				20	29	25 22 PP

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HONG KONG 175.91 220.7 20 1 4 25 32 -75

DECEMBER 26 12.H 11.M 10.S EPICENTRE -51.67 101.50 DEPTH= 0.KM

A=-0.12413 B= 0.61028 C=-0.78240 D= 0.9799 E= 0.1993
G= 0.1560 H=-0.7667 K=-0.6228 HT= -6.0

SE= 2.39

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
MUNDARING	22.45	34.4	5	0	-2							
DUMONT	24.26	142.9	5	19	-1	9	46	10				
TERRE ADELIE	24.82	142.8	5	19	-6	9	46	0				
ADELAIDE	31.39	72.5	6	23	-2							
SCOTT BASE	34.93	160.4	6	57	2						6	32
CAPE HALLETT	35.51	150.6	6	58	-2	12	43	7				
SOUTH POLE	38.52	180.0	7	26	0							
LEMBANG	44.98	8.6	8	20A	1						8	37 PCP
BRISBANE	45.22	77.8	8	20	-1	15	6	5				
BYRD STATION	46.49	170.9	8	32	1						10	5
CHARTERS TS.	46.94	64.9	8	32	-2	20	5	279				
PIETERMZBURG	55.92	264.1	9	42	0							
PORT MORESBY	56.19	58.1	9	42K	-2						10	40
KIMBERLEY	60.00	260.7	10	40	29							
BULAWAYO	63.90	270.2	10	38	1							
BROKEN HILL	68.28	274.1	11	5	0							
WINDHOEK	69.22	259.7	11	13	2							
SHILLONG	77.37	351.1	11	56	-2							
LWIRO	77.55	282.3	12	5A	6							
QUETTA	86.97	330.5	12	48	0							
TAMANRASSET	111.17	280.2									32	59
COLLEGE	143.26	41.9	19	31	-5							
SAN JUAN	145.37	201.0	19	39	-1							
BERKELEY	146.54	96.9	19	44K	2							
LICK	146.59	98.2	19	44K	2							
PASADENA	146.59	106.0	19	43	1							
FRESNO	147.35	100.8	19	46K	3							
SHASTA	148.15	92.6	19	48K	4							
MINERAL	148.44	93.8	19	49A	4							
RENO	149.08	96.7	19	51K	5							
TUCSON	149.47	116.9	19	52	5							
TUCSON TELE.	149.60	116.9	19	52	5							
BOULDER CITY	149.84	107.0	19	53	6							
VICTORIA	151.36	78.3	19	56	7							
EUREKA	151.40	100.4	19	50	1							
RESOLUTE	155.93	10.6	19	54	-2							
BUTTE	157.02	90.7	20	27	30							
HUNGRY HORSE	157.07	84.2	20	27	30							

DECEMBER 26 18.H 19.M 8.S EPICENTRE 59.74-151.38 DEPTH= 0.KM

A=-0.44454 B=-0.24261 C= 0.86228 D=-0.4791 E= 0.8778
G=-0.7569 H=-0.4131 K=-0.5064 HT= -8.8

SE= 2.05

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
COLLEGE	5.41	16.3	1	26	2	2	47	20				
SITKA	8.85	100.8	2	7	-5	3	42	-12				
ALBERNI	18.51	112.7	4	20	1							
HORSESHOE B.	19.16	110.3	4	22	-5							
VICTORIA	19.69	112.3	4	30K	-3							
CORVALLIS	22.71	119.4	5	5K	1							
HUNGRY HORSE	24.36	101.2	5	21	1							
RESOLUTE	25.10	31.5	5	28A	1						9	4 PCP
ARCATA	25.39	125.8	5	31A	1	9	54	4			6	2 PP
SHASTA	26.24	123.6	5	39	1							
BUTTE	26.69	103.5	5	41	-1	10	22	5				
MINERAL	26.87	122.9	5	44K	0							
UKIAH	27.22	126.6	5	47	0							
BOZEMAN	27.69	102.4	5	52	1						6	36
RENO	28.31	121.4	5	57K	0							

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MAGADAN	28.43	295.1	5	56	-2						
BERKELEY	28.69	126.7	6	0A	0	10	52	3			
LICK	29.39	126.3	6	6K	-1					7	50
EUREKA	30.06	116.5	6	12	-1						
FRESNO	30.64	124.4	6	18K	0						
SALT LAKE C.	30.95	110.0	6	19	-2						
THULE	31.54	26.6	6	24	-2						
TIKSI	32.18	324.1	6	28	-3						
BOULDER CITY	33.45	118.8	6	42	0						
PASADENA	33.57	124.8	6	42	-1	12	9	3		7	59 PP
NORD	36.82	10.0	7	10	-1						
TUCSON TELE.	38.35	117.3	7	23	-1	13	31	12		9	0 PP
TUCSON	38.37	117.5	7	24	0	13	15	-5		8	21
KHEYS	38.90	352.6	7	27	-2						
FLORISSANT	43.12	90.9	8	2	-1						
FAYETTEVILLE	43.28	96.8	8	3A	-2	14	29	-4		10	5 PP
ST. LOUIS 1	43.31	90.9	8	3K	-2	14	29	-4		17	40 SS
OTTAWA	45.55	73.0	8	22A	-1						
SHAWINIGAN	46.13	69.8	8	25A	-3						
BREBEUF	46.49	71.4	8	28	-2	15	17	-2			
SEVEN FALLS	46.63	67.9	8	31	-1					16	16
PENNSYLVANIA	47.90	78.8	8	40	-2	15	39	0			
MATUSIRO	49.62	275.1	8	53A	-2	16	12	9		19	51 SS
PALISADES	49.70	75.6	8	54	-1	16	3	-1		19	59 SS
GEORGETOWN	49.75	79.8	8	55	-1						
WASHINGTON	49.75	79.8	8	54	-2						
FORDHAM	49.83	75.7	8	54	-2	15	56	-10			
CHANGCHUN	50.38	291.1	9	1	0						
COLUMBIA	51.58	87.0	9	6	-4						
HALIFAX	51.86	65.1	9	10A	-2	16	32	-2			
KIRUNA	52.59	3.9	9	15	-2						
IRKUTSK	52.89	311.7	9	18	-2						
APATITY	52.96	357.7	9	18	-2	16	23	-26			
SODANKYLA	53.19	1.0	9	21	-1						
ULAN-BATOR	55.33	306.8	9	37	-1						
OULU	55.53	1.6	9	37	-2						
SKALSTUGAN	56.37	8.7	9	44K	-1						
PEKING	57.60	294.7	9	56	2	17	51	0			
NURMIJARVI	60.04	2.3	10	10	-1						
HELSINKI	60.39	2.1	10	12	-1						
UPPSALA	60.44	6.4	10	12	-1						
GOTEBORG	62.17	10.0	10	25	0						
ZO-SE	62.45	284.9	10	31	4						
NANKING	62.83	287.4	10	31	1						
MOSCOW	64.65	354.4	10	40	-1						
SIAN	65.65	296.3	10	49	1						
LANCHOW	66.40	301.2	10	51	-2						
MUNSTER	67.36	13.9	11	1	2						
WARSAW	68.22	5.0	11	5	1	20	2	-2			
BENSBERG	68.29	14.4	11	4	-1						
HALLE	68.30	11.1	11	4	-1					12	40
COLLMBERG	68.59	10.5	11	5K	-2					13	34
DOURBES	68.79	16.3	11	11	3					13	27 PP
JENA	68.82	11.5	11	7	-1					12	0
PARIS	69.73	18.1	11	16	2						
PRUHONICE	70.04	9.6	11	15	0					12	16
RACIBORZ	70.21	7.1	11	21	5					11	39 PCP
KRAKOW	70.34	5.9	11	20	3					11	40 PCP
STUTTGART	70.70	13.4	11	19	0					11	36 PCP
LWOW	70.73	3.2	11	20	0						
CHENGTU	70.89	298.1	11	24	3	20	36	0			
BASLE	71.71	14.8	11	5K	-21						
SAN JUAN	71.94	84.5	11	31	4						
BRATISLAVA	72.04	8.1	11	29	2						
HONG KONG	73.21	285.3	11	39	5						
SIMFEROPOL	75.57	356.0	11	52	4						
BELGRADE	75.58	6.0	11	49	1					13	3
KUNMING	76.21	296.1	11	51	-1						
TOLEDO	77.14	25.2	11	58	1					14	50 PP
SOFIA	77.83	4.0	12	1	0	21	59	6		15	2 PP
TIFLIS	78.02	347.7	12	2	0						
CARACAS	78.21	89.4	11	47A	-16	21	43	-14			
WARSAK DAM	80.10	324.9	12	10	-3						
SHILLONG	80.55	305.2	12	13	-2						
CHATRA	81.32	309.5	12	20	1						
ALGIERS UNI.	81.54	20.5	12	22	1						
RELIZANE	82.06	22.7	12	24	1					13	28
SETIF	82.50	18.8	11	59	-27						
ATHENS	82.56	3.9	12	26K	0						

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CHITTAGONG	83.41	303.7	12 32	2					12 37	PCP
QUETTA	84.99	327.4	12 37	-1	23	3	-4		15 55	PP
KSARA	86.59	354.0	12 52	6					16 12	PP
JERUSALEM	88.66	354.4	12 58	2						
POONA	93.79	317.5	13 20	0						
CHARTERS TS.	94.22	236.6	13 20	-2						
TAMANRASSET	95.62	21.3	13 29	1					17 8	PP
ADDIS ABABA	110.98	349.3	19 16	41					19 28	PP
LWIRO	122.66	359.8	19 4A	6					20 30	PP
BYRD STATION	140.72	171.6	19 16	-16						
PRETORIA	146.02	0.7	19 14	-27						
KIMBERLEY	148.90	6.5	19 50	5						
SOUTH POLE	149.57	180.0	19 47	1					21 17	
PIETERMZBURG	149.86	356.9	19 56K	9						

DECEMBER 26 22.H 2.M 32.S EPICENTRE 52.36 160.01 DEPTH= 0.KM

A=-0.57639 B= 0.20964 C= 0.78983 D= 0.3418 E= 0.9398
G=-0.7423 H= 0.2700 K=-0.6133 HT= -6.3
SE= 2.52

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PETROPAVLOVK	1.06	309.2	0	28	6	0	46	9					
SEVERO-KUR.	2.97	236.9	0	51	2	1	32	6					
KLYUCHI	4.00	6.9	1	8	4	1	56	4					
MAGADAN	8.86	328.0	2	18	6	4	6	12					
OKHA	10.38	283.4	2	38	5	4	41	10					
KURILSK	10.72	233.1	2	34	-4						5	14	
UGLEGORSK	11.86	261.0	2	56	2	5	24	16					
Y.-SAKHLINSK	12.40	251.3	3	2	2	5	28	8					
VLADIVOSTOK	20.93	255.0	4	44	-2	8	41	5					
TUKUBASAN	21.41	229.0	4	51A	0	8	47	2			5	33	PP
MATUSIRO	22.06	232.8	4	58	0	9	5	8					
TIKSI	23.72	335.9	5	13	-1	9	29	2			5	46	PP
CHANGCHUN	24.50	263.5	5	21A	-1								
ABUYAMA	24.68	234.6	5	25K	2								
COLLEGE	28.97	44.1	6	3	0								
PEKING	32.26	265.2	6	31	-1						10	44	
IRKUTSK	33.33	292.5	6	40	-1								
ULAN-BATOR	33.69	284.1	6	43	-1								
ZO-SE	35.33	248.4	7	1	2						11	39	
NANKING	36.02	252.1	7	6	2								
SIAN	40.40	264.0	7	41	0								
KHEYS	40.69	345.7	7	43	0						9	24	PP
LANCHOW	42.32	270.3	7	55	-2								
RESOLUTE	44.03	21.7	8	9K	-2	14	43	-1			18	10	SCS
CHENGTU	45.87	264.5	8	26	1								
HONG KONG	46.08	247.3	8	28	1	15	19	6					
NORD	46.27	359.3	8	27	-2								
CORVALLIS	49.20	66.7	8	54	2								
KUNMING	50.65	260.5	9	2	-1								
HUNGRY HORSE	51.88	57.8	9	18	6						10	5	PCP
SHASTA	52.18	70.1	9	15	1								
SVERDLOVSK	52.78	317.1	9	17	-2								
MINERAL	52.86	69.9	9	36A	17								
APATITY	53.92	337.6	9	25K	-2	17	1	-1					
BERKELEY	54.13	72.6	9	43	14	17	16	11					
BUTTE	54.14	59.2	9	29	0								
RENO	54.43	69.5	9	35	4								
LHASA	54.54	273.9	9	32	0								
LICK	54.85	72.7	9	49K	15								
BOZEMAN	55.17	58.7	9	37	1								
SODANKYLA	55.58	340.1	9	38	-1								
FRESNO	56.31	72.0	10	15	30								
KIRUNA	56.79	342.8	9	43A	-2						11	50	PP
EUREKA	56.66	67.1	9	47	0						10	14	
SHILLONG	56.96	269.8	9	47A	-2								
OULU	57.83	339.0	9	55	0								
SALT LAKE C.	58.07	63.4	9	55	-2								
CHATRA	58.92	274.5	10	3	0								
PASADENA	59.09	73.1	10	3	-1	18	13	2			10	23	
TASHKENT	59.10	298.6									19	57	SCS
CHITTAGONG	59.36	267.4	10	7	1	18	13	-1			12	19	PP
PULKOVO	61.12	333.6	10	17	-1						10	23	*SP

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STALINABAD	61.32	296.7	10 18	-1						
SKALSTUGAN	61.68	344.3	10 20	-2						
NURMIJARVI	61.94	336.8	10 23	-1	18 47	0				
HELSINKI	62.16	336.5	10 24	-1						
MOSCOW	62.26	327.3	10 24	-2						
WARSAK DAM	63.05	291.3	10 29A	-2						
UPPSALA	64.12	340.0	10 36A	-2	19 12	-2				
TUCSON TELE.	64.71	69.4	10 41	-1						
TUCSON	64.72	69.6	10 42	0					11 9	
GOTEBORG	67.24	342.0	10 54	-4						
ASHKABAD	67.31	302.9	11 0	2						
QUETTA	68.49	291.7	11 5A	-1	20 9	2			13 34	PP
COPENHAGEN	69.04	341.0	11 9	0						
WARSAW	70.24	334.6	11 17	0					11 38	PCP
TIFLIS	70.85	314.2	11 19	-1						
FAYETTEVILLE	70.85	55.6	11 18	-2						
OTTAWA	71.51	37.9	11 22K	-2						
LWOW	71.58	331.7	11 24	-1						
GORIS	71.96	311.8	11 26	-1					21 9	PS
BREBEUF	72.20	36.5	11 27K	-1						
SIMFEROPOL	72.50	322.9	11 30	0						
KRAKOW	72.51	334.3	11 31	1					11 37	PCP
IASI	72.81	328.2	11 32	0						
WITTEVEEN	72.84	343.4	11 31	-1						
RACIBORZ	72.93	335.4	11 40	7					12 48	PCP
COLLMBERG	73.03	339.1	11 34A	1	21 19	19			11 59	PCP
HALLE	73.07	339.8	11 33	-1					14 11	PP
CHARTERS TS.	73.13	193.5	11 26	-8						
POONA	73.24	278.6	11 33A	-1	21 4	1				
MUNSTER	73.48	342.6	11 37	1						
BOMBAY	73.58	279.7	11 42	6	21 18	12				
JENA	73.69	339.8	11 37	0					12 10	
PRUHONICE	73.92	337.6	11 39A	1					12 52	
RATHFARNHAM	74.09	351.5	11 40K	1					12 26	
BENSBERG	74.53	342.6	11 42	0						
UCCLE	75.18	344.3	11 49	3						
KEW	75.23	347.4	11 46	0						
DOURBES	75.81	344.0	11 51	2						
PALISADES	75.94	39.1	11 48	-2	22 35	62	12 0		27 5	SS
STUTTGART	76.21	340.5	11 52K	0						
HALIFAX	76.36	30.5	11 51K	-1						
TUBINGEN	76.49	340.6	11 54	1						
STRASBOURG	76.70	341.5	11 55	1					12 4	PCP
EBINGEN	76.84	340.6	11 55	0						
RAVENSBURG	77.09	340.0	11 57K	1						
BELGRADE	77.14	331.7	12 56A	59					14 36	
PARIS	77.41	345.0	11 59	1					12 7	PCP
LJUBLJANA	77.60	336.2	11 59	0					12 15	
TOLMEZZO	77.63	337.3	12 0	1					14 3	
BASLE	77.74	341.3	12 1K	1					15 1	PP
FOLINIERE	77.89	346.9	12 1	0						
SOFIA	78.19	328.9	11 53	-10						
BESANCON	78.32	342.3	12 4	1						
NEUCHATEL	78.37	341.5	12 4	0						
COLUMBIA	78.88	47.8	12 4	-2						
CLERMONT-FD.	80.26	343.8	12 15	1						
KSARA	81.31	315.8	12 20	1					15 29	PP
ATHENS	82.33	326.6	12 23A	-2						
JERUSALEM	83.35	315.2	12 29	-1					15 43	PP
MESSINA	84.65	332.6	12 35	-1						
SETIF	89.07	339.7	12 29	-29					15 57	PP
MELBOURNE	90.77	191.9	13 14	8						
KARAPIRO	90.93	167.8	13 12	5						
ADDIS ABABA	101.02	300.6	14 3	10					18 4	PP
TAMANRASSET	101.94	336.0	13 56	-1					17 54	PP
BROKEN HILL	126.15	296.1	19 8	4						
LA PAZ	127.99	65.0	19 11	3						
BYRD STATION	139.46	164.7	19 18	-11						
KIMBERLEY	139.49	287.8	19 54	25						

DECEMBER 27 4.H 47.M 46.S EPICENTRE 52.45 159.84 DEPTH= 0.KM

A=-0.57451 B= 0.21089 C= 0.79086 D= 0.3446 E= 0.9388
G=-0.7424 H= 0.2725 K=-0.6120 HT= -6.3

SE= 3.48

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	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
PETROPAVLOVK	0.92	308.5	0	27	7	0	44	10			0	42	*SP
SEVERO-KUR.	2.94	234.1	0	50	1	1	27	2					
KLYUCHI	3.92	8.4	1	6	3	1	54	4			1	31	
MAGADAN	8.73	328.1	2	16	6	4	5	14			3	43	
UGLEGORSK	11.75	260.4	2	56	4	5	20	15					
Y.-SAKHLINSK	12.33	250.6	3	2	2	5	27	8					
TÜKUBASAN	21.40	228.5	4	50A	-1	8	48	3			8	41	PCP
MATUSIRO	22.03	232.3	4	58K	0	9	4	7			5	13	
TIKSI	23.59	335.9	5	13	0						5	44	PP
CHANGCHUN	24.41	263.2	5	19A	-2								
COLLEGE	28.98	44.2	6	0	-3								
PEKING	32.16	264.9	6	30	-1	11	53	9					
IRKUTSK	33.20	292.3	6	39A	-1								
ULAN-BATOR	33.56	283.8	6	43	-1								
ZO-SE	35.27	248.1	7	0A	2	12	53	21					
NANKING	35.95	251.8	7	4	0	12	59	16					
SIAN	40.31	263.8	7	33	-8								
KHEYS	40.57	345.7				14	43	50			9	56	PP
LANCHOW	42.22	270.0	7	56	0								
RESOLUTE	43.98	21.7	8	9A	-2	14	30	-13					
HONG KONG	46.02	247.0	8	28	1	15	32	20					
THULE	47.78	13.7	8	37	-4								
CORVALLIS	49.26	66.7	9	4	12								
KUNMING	50.57	260.2	9	2A	0	16	29	13					
HUNGRY HORSE	51.92	57.7	9	12	0						10	49	
SHASTA	52.24	70.0	9	14	-1								
SVERDLOVSK	52.64	316.9	9	16	-2								
MINERAL	52.93	69.9	9	27K	7								
APATITY	53.80	337.5	9	25K	-1								
BUTTE	54.18	59.2	9	30	1								
BERKELEY	54.20	72.6	9	42	13	17	15	9					
LHASA	54.42	273.7	9	33	2								
RENO	54.49	69.5	9	40	8								
LICK	54.92	72.6	9	46	11								
FRUNSE	55.03	296.5	9	35	0								
SODANKYLA	55.45	340.0	9	38	-1								
KIRUNA	56.27	342.7	9	43	-1				9	55			
EUREKA	56.72	67.1	9	45	-3						10	15	
SHILLONG	56.85	269.6	9	48A	-1								
OULU	57.70	338.9	9	54	-1								
CHATRA	58.81	274.3	10	2A	0								
PASADENA	59.16	73.0	10	11	6	18	11	-1			22	26	SS
CHITTAGONG	59.26	267.2	10	6	1	18	15	2			12	19	PP
BOULDER CITY	59.80	69.3	10	13	4								
PULKOVO	60.98	333.5	10	16	-1						18	47	PS
STALINABAD	61.18	296.5	10	18	-1								
SKALSTUGAN	61.56	344.2	10	20	-1								
DEHRA DUN	61.78	283.8	10	26	3	19	5	20					
NURMIJARVI	61.81	336.7	10	23	0								
HELSINKI	62.03	336.3	10	25	1								
MOSCOW	62.12	327.2	10	24	-1								
WARSAK DAM	62.91	291.1	10	29A	-1								
UPPSALA	63.99	339.9	10	36A	-1	19	12	-1					
TUCSON TELE.	64.78	69.3	10	47	5								
TUCSON	64.78	69.5	10	43	1								
GOTEBORG	67.11	341.9	10	57	0				11	8			
QUETTA	68.36	291.5	11	4A	-1	20	3	-3			20	27	PS
COPENHAGEN	68.91	340.9	11	9	0								
WARSAW	70.11	334.5	11	16	0	20	21	-6			23	24	
FAYETTEVILLE	70.89	55.5	11	15	-6								
LWOW	71.44	331.6	11	25	1								
OTTAWA	71.49	37.8	11	22	-2								
SEVEN FALLS	71.77	33.8	11	25	-1								
GORIS	71.81	311.7	11	24	-2						21	46	PS
BREBEUF	72.18	36.4	11	26K	-2								
SIMFEROPOL	72.36	322.8	11	28	-2								
KRAKOW	72.38	334.2	11	30	0								
IASI	72.68	328.1	11	32	1								
RACIBORZ	72.80	335.3	11	29	-3								
COLLMBERG	72.91	338.9	11	32	-1						12	0	PCP
HALLE	72.95	339.7	11	33	0						14	45	PP
POONA	73.12	278.5	11	33A	-1	20	4	-57					
CHARTERS TS.	73.20	193.3	11	31	-3								
BOMBAY	73.46	279.5	11	35	-1	21	5	0					
JENA	73.56	339.7	11	36	-1						12	6	

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PRUHONICE	73.79	337.5	11 38	0			
BENSBERG	74.41	342.5	11 53	12			
BRATISLAVA	74.84	335.2	11 45	1			
VIENNA-H.	74.96	335.7	11 46	1			
DOURBES	75.69	343.8	11 50	1			
STUTTGART	76.09	340.4	11 51	0			12 4 PCP
HALIFAX	76.33	30.4	11 51	-1			
TUBINGEN	76.36	340.5	11 53	0			12 5 PCP
STRASBOURG	76.57	341.4	11 53	-1			
PALISADES	75.90	39.0	11 48	-2	21 21 -11		26 41 SS
EBINGEN	76.71	340.4	11 55	0			
RAVENSBURG	76.96	339.9	11 56	0			12 8 PCP
BELGRADE	77.00	331.6	11 54K	-2			14 33
PARIS	77.29	344.9	11 59	1			
BASLE	77.61	341.2	12 0A	0			15 15 PP
FOLINIERE	77.77	346.8	12 0	0			
SOFIA	78.05	328.8	12 2	0			15 1 PP
BESANCON	78.19	342.1	12 4	1			
NEUCHATEL	78.25	341.4	12 4	1			
KSARA	81.17	315.7	12 19	0			15 25 PP
ATHENS	82.19	326.4	12 21K	-3			
JERUSALEM	83.20	315.1	12 29	0			
MESSINA	84.52	332.5	12 26	-10			
RIVERVIEW	86.25	187.2	12 55	10			
SETIF	88.94	339.6	12 26	-32			
TAMANRASSET	101.81	335.9	13 56	0			17 57 PP
BROKEN HILL	126.01	296.0	19 6	2			
BYRD STATION	139.59	164.6	19 28	-2			

DECEMBER 27 5.H 22.M 38.S EPICENTRE 34.88 26.21 DEPTH= 0.KM

A= 0.73758 B= 0.36314 C= 0.56931 D= 0.4417 E=-0.8972
G= 0.5108 H= 0.2515 K=-0.8221 HT= 0.2

SE= 3.90

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ATHENS	3.68	327.6	0 59K	0				1 56 SG
KSARA	8.06	94.8	2 1	0	3 29	-5		
SOFIA	8.12	344.8	2 3	1	3 33	-3		2 39
JERUSALEM	8.15	109.8	2 0	-2	3 29	-7		
TARANTO	9.03	310.8	2 28	14	3 50	-8		5 2
REGGIO CALA.	9.09	293.7	2 39	24				3 44
MESSINA	9.20	294.2	2 17	0	2 50	-72		2 34
BUCHAREST	9.53	359.5			4 11	0		
BELGRADE	10.86	337.7	2 45K	5				5 42
SIMFEROPOL	11.74	28.7	2 54	2	5 0	-5		
IASI	12.35	4.3	3 18	18				
LJUBLJANA	14.25	325.0	3 28	3				4 34
LWOW	15.01	354.5	3 46	11				
TOLMEZZO	15.23	323.0	3 42	4				
VIENNA-H.	15.23	334.2	3 38	0				
KRAKOW	15.84	345.0	3 58	12				
TIFLIS	16.09	59.4	3 52	3				
RACIBORZ	16.28	341.3	4 0	9				4 11 PPP
SETIF	16.99	280.4	3 34	-26				3 44 PP
PRUHONICE	17.34	334.0	4 4A	-1				
RAVENSBURG	17.88	321.1	4 14	3				
EBINGEN	18.47	321.2	4 30	11				
STUTTGART	18.70	323.0	4 21	-1				4 41 PP
BASLE	18.81	317.8	4 21A	-2				
NEUCHATEL	18.87	315.7	4 24	0				
ALGIERS UNI.	18.87	282.4	4 21	-3	8 14	22		4 47 PP
COLLMBERG	18.99	333.8	4 22	-3				5 32
JENA	19.23	331.0	4 25	-3				4 47 PP
STRASBOURG	19.34	320.6	4 40	11				5 31
HALLE	19.54	332.6	4 35	3				4 59 PP
BESANCON	19.56	315.3	4 38	6				
CLERMONT-FD.	20.62	308.8	4 32	-11				6 4
RELIZANE	20.95	279.8	4 48	1	8 39	3		5 10 PP
TAMANRASSET	21.72	241.8	4 57K	2	8 56	5		5 20 PP
DOURBES	21.91	320.5	4 55	-1				5 20 PP
MOSCOW	22.28	17.2	5 2	2				
PARIS	22.37	315.7	4 59	-2				
FOLINIERE	24.10	313.3	5 16	-2				
GOTEBORG	24.75	341.6	5 27	3				

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PULKOVO	25.04	4.9	5	27	0						
HELSINKI	25.31	358.5	5	30	0						
UPPSALA	25.60	350.0	5	30	-2						
NURMIJARVI	25.66	358.2	5	32	-1						
RATHFARNHAM	29.36	318.9	7	3	56						
SKALSTUGAN	29.99	347.6	6	9	-3						
SVERDLOVSK	31.96	35.9	6	29	-1						
SODANKYLA	32.53	0.3	6	32	-3						
APATITY	32.98	5.1	6	38	0						
KIRUNA	33.16	356.0	6	37	-3						
QUETTA	34.50	86.2	6	52	0					8	4 PP
LWIRO	37.02	175.7	7	16K	3						
WARSAK DAM	37.16	78.0	7	14	0						
NORD	49.33	352.4	8	49	-4						
KODAIKANAL	52.64	105.0								12	20
BULAWAYO	54.76	177.2	9	36	2						
SHILLONG	56.60	80.3	9	47K	0						
THULE	57.46	343.8	9	49	-4						
PRETORIA	60.33	178.0	11	4	51						
KIMBERLEY	63.30	181.4	11	4A	31						
RESOLUTE	64.16	345.3	10	35	-3						
HALIFAX	66.40	308.8	10	54K	1						
SEVEN FALLS	69.69	313.7	11	13	0					13	23 PP
BREBEUF	72.18	313.3	11	27K	-1						
OTTAWA	73.49	314.0	11	36	0						
COLLEGE	80.47	357.4	12	13	-2						
MATUSIRO	84.87	48.6	12	38	0						
HUNGRY HORSE	89.86	334.7	13	1	-1						
FAYETTEVILLE	90.18	315.7	13	21	18						
LARAMIE	92.20	325.8	14	10	57						
HUANCAYO	106.20	266.5								21	53 PP
KARAPIRO	155.18	106.0	20	24	29					24	32

DECEMBER 27 6.H 51.M 32.S EPICENTRE 52.25 159.94 DEPTH= 0.KM

A=-0.57747 B= 0.21091 C= 0.78870 D= 0.3431 E= 0.9393
G=-0.7408 H= 0.2706 K=-0.6148 HT= -6.2

SE= 2.30

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PETROPAVLOVK	1.10	315.0	0	29	6	0	47	8					
SEVERO-KUR.	2.88	238.1	0	51	3	1	28	4					
KLYUCHI	4.11	7.3	1	9	3	1	59	4					
MAGADAN	8.93	328.6	2	22	9						5	32	
MATUSIRO	21.96	232.9	4	59K	2	9	10	14					
COLLEGE	29.08	44.0	6	3	-2								
ULAN-BATOR	33.67	284.2	6	45	0								
RESOLUTE	44.15	21.6	8	12A	0	14	46	0			9	55	PP
THULE	47.96	13.7	8	39	-4								
HUNGRY HORSE	51.98	57.6	9	14	1								
SHASTA	52.26	69.9	9	18	3								
SVERDLOVSK	52.83	317.1	9	18	-2								
MINERAL	52.94	69.8	9	21	0								
APATITY	54.00	337.6	9	27K	-1								
BUTTE	54.24	59.1	9	28	-2								
RENO	54.51	69.4	9	31	-1								
LICK	54.92	72.6	9	35	0								
SODANKYLA	55.66	340.1	9	39	-1								
KIRUNA	56.48	342.8	9	45A	-1						10	7	
EUREKA	56.74	67.0	9	48	0								
SHILLONG	56.91	269.9	9	49A	0								
OULU	57.91	339.0	9	56	0								
CHATRA	58.88	274.5	10	3	0								
PASADENA	59.16	73.0	10	11	6								
CHITTAGONG	59.31	267.4	10	12	6	18	17	3			12	24	PP
PULKOVO	61.19	333.6	10	18	-1	18	39	1			20	6	SCS
SKALSTUGAN	61.77	344.2	10	21	-2								
NURMIJARVI	62.01	336.8	10	24	-1								
HELSINKI	62.23	336.4	10	25	-1								
WARSAK DAM	63.04	291.3	10	30A	-1								
UPPSALA	64.20	340.0	10	39A	0								
TUCSON TELE.	64.80	69.3	10	43	0								
TUCSON	64.80	69.5	10	43	0								
GOTEBORG	67.32	342.0	10	57	-2								

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QUETTA	68.48	291.6	11	6A	0	20	0	-8		13	38 PP
TIFLIS	70.89	314.2	11	22	1						
FAYETTEVILLE	70.95	55.5	11	19	-2						
OTTAWA	71.62	37.8	11	23	-2						
LWOW	71.65	331.6	11	26	0						
BREBEUF	72.31	36.4	11	28K	-2						
IASI	72.88	328.2	11	32	-1						
COLLMBERG	73.12	339.0	11	34	0					11	59 PCP
POONA	73.21	278.6	11	54	19						
MUNSTER	73.57	342.6	11	38	1						
JENA	73.77	339.8	11	38	0						
DOURBES	75.90	343.9	11	52	2						
PALISADES	76.05	39.0	11	50	-1	21	35	1			
STUTTGART	76.30	340.5	11	53	0						
HALIFAX	76.48	30.4	11	52	-2						
TUBINGEN	76.57	340.6	11	55	1						
STRASBOURG	76.78	341.4	11	56	1					12	3 PCP
EBINGEN	76.92	340.5	11	57	1						
RAVENSBURG	77.17	340.0	11	58	0						
PARIS	77.50	344.9	12	0	1						
BASLE	77.82	341.2	11	57	-4						
FOLINIERE	77.98	346.9	12	2	0						
BESANCON	78.40	342.2	12	8	4						
NEUCHATEL	78.46	341.5	12	5	0						
KSARA	81.35	315.8	12	21	1						
ATHENS	82.39	326.5	12	24K	-2						
TAMANRASSET	102.01	336.0	13	57	-1					17	58 PP
LA PAZ	128.08	65.0	19	13	4						

DECEMBER 27 11.H 54.M 49.S EPICENTRE 52.63 160.07 DEPTH= 0.KM

A=-0.57307 B= 0.20784 C= 0.79271 D= 0.3409 E= 0.9401
G=-0.7452 H= 0.2703 K=-0.6096 HT= -6.4

SE= 3.34

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PETROPAVLOVK	0.95	295.2	0	28	7	0	45	10			0	35	*SP
SEVERO-KUR.	3.15	233.1	0	58	6								
KLYUCHI	3.73	6.9	1	10	10	2	2	16			1	32	
MATUSIRO	22.25	232.4	4	57A	-3	9	7	6			9	20	
COLLEGE	28.76	44.5	6	0	-2								
KHEYS	40.43	345.7	7	43	1						17	46	SCS
RESOLUTE	43.77	21.8	8	9A	0	14	35	-5			10	6	PP
NORD	46.00	359.3	8	26	-1								
HONG KONG	46.21	247.1	8	50	21	15	29	14					
THULE	47.58	13.8	8	37	-2								
CORVALLIS	49.06	67.0	8	50	-1								
HUNGRY HORSE	51.71	58.0	9	17	6								
SHASTA	52.06	70.3	9	12	-2								
MINERAL	52.74	70.1	9	15	-4								
APATITY	53.69	337.5	9	25A	-1								
BUTTE	53.98	59.4	9	36	8								
BERKELEY	54.02	72.8	9	37	9								
RENO	54.30	69.7	9	28	-2								
LICK	54.74	72.9	9	31K	-3								
BOZEMAN	55.01	58.8	9	39	3								
FRUNSE	55.07	296.6	9	35	-1								
SODANKYLA	55.34	340.0	9	37	-1								
KIRUNA	56.14	342.8	9	43	-1						10	5	
FRESNO	56.20	72.2	9	50	6								
EUREKA	56.52	67.3	9	45	-2								
SHILLONG	56.99	269.7	9	48A	-2								
OULU	57.59	339.0	9	54	0				10	6			
SALT LAKE C.	57.92	63.6	9	59	3								
CHATRA	58.93	274.4	10	1	-3								
PASADENA	58.98	73.3	9	57	-7	18	17	7			11	6	
CHITTAGONG	59.40	267.2	10	6	-1	18	15	0			12	21	PP
BOULDER CITY	59.61	69.5	10	10	2								
RAPID CITY	60.13	55.6	10	7	-5								
PULKOVO	60.89	333.6	10	16	-1								
LARAMIE	60.89	59.3	10	23	6								
STALINABAD	61.22	296.6	10	16	-3								
SKALSTUGAN	61.43	344.2	10	20	-1								
NURMIJARVI	61.70	336.8	10	22	0						12	3	

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HELSINKI	61.92	336.4	10 25	1					12 5	
MOSCOW	62.05	327.3	10 23	-2						
WARSAK DAM	62.98	291.2	10 28A	-3						
UPPSALA	63.87	340.0	10 36A	-1			10 48			
TUCSON	64.59	69.7	10 39	-3						
GOTEBORG	66.99	342.0	10 56A	-1			11 8			
QUETTA	68.42	291.6	11 5A	-1	20 7 0				13 8	PP
FAYETTEVILLE	70.68	55.7	11 17	-3						
TIFLIS	70.68	314.2	11 20	0						
OTTAWA	71.27	38.0	11 21	-2						
LWOW	71.35	331.7	11 24	0						
BREBEUF	71.96	36.6	11 26K	-1						
SIMFEROPOL	72.30	322.9	11 29	0						
IASI	72.60	328.2	11 31	0					11 53	
RACIBORZ	72.70	335.4	11 31	-1					11 42	PCP
COLLMBERG	72.79	339.1	11 32A	0					11 57	PCP
HALLE	72.83	339.8	11 32	-1	20 38 -20		11 59		21 14	SKS
POONA	73.23	278.6	11 33A	-2						
MUNSTER	73.23	342.6	11 36	1						
BACAU	73.37	328.3	11 39	3						
JENA	73.45	339.8	11 37	1					13 27	
BOMBAY	73.56	279.6	11 35	-2	20 24 -43				21 18	
PRUHONICE	73.68	337.6	11 38A	0						
RATHFARNHAM	73.83	351.5	11 30	-8						
BRATISLAVA	74.74	335.3	11 46	2						
UCCLE	74.93	344.3	11 44	-1						
DOURBES	75.56	344.0	11 49	1						
PALISADES	75.71	39.2	11 47	-2	21 18 -13		11 57		15 38	PPP
STUTTGART	75.97	340.6	11 51	0						
TUBINGEN	76.24	340.6	11 53	1						
STRASBOURG	76.45	341.5	11 54	1					12 57	
EBINGEN	76.60	340.6	11 55	1						
RAVENSBURG	76.84	340.0	11 56	0						
PARIS	77.16	345.0	11 58	1						
BASLE	77.49	341.3	12 8	9						
FOLINIERE	77.63	347.0	11 30	-30						
SOFIA	77.97	328.9	12 1	-1						
BESANCON	78.07	342.3	12 3	1						
NEUCHATEL	78.12	341.6	12 3	0						
KSARA	81.14	315.8	12 19	0					15 28	PP
MONACO	81.17	340.3	12 18	-1						
ATHENS	82.12	326.6	12 23K	-1						
JERUSALEM	83.18	315.3	12 30K	0						
SETIF	88.83	339.7	12 30	-27			12 42			
MELBOURNE	91.04	191.9	13 16	8						
TAMANRASSET	101.70	336.1	14 0	4					18 5	PP
BROKEN HILL	126.06	296.3	19 7	2						
LA PAZ	127.85	64.9	19 20	12					21 19	PP
KIMBERLEY	139.44	288.2	19 32	2						
BYRD STATION	139.72	164.6	19 29	-1						
SOUTH POLE	142.44	180.0	19 41	6						

DECEMBER 27 12.H 39.M 11.S EPICENTRE -28.16 -63.08 DEPTH= 594.KM

A= 0.39969 B=-0.78729 C=-0.46949 D=-0.8917 E=-0.4527
G=-0.2125 H= 0.4186 K=-0.8829 HT= 2.4

DEPTH OF FOCUS= 0.088R

SE= 1.48

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ANTOFAGASTA	7.96	302.3	2	0	1	3	36	1					
LA PLATA	8.03	148.1	2	0	0	3	36	0					
LA PAZ	12.51	337.1	2	47K	3	4	59	4	3	25	4	9	*SP
HUANCAYO	19.70	322.0	3	55	2	7	2	3					
PORT STANLEY	23.84	172.0	4	25	-5								
BOGOTA	34.27	340.3	6	0	1								
CHINCHINA	35.09	337.9	6	7	1								
ARGENTINE I.	37.11	180.8	6	22	-1								
CARACAS	38.61	353.9	6	19A	-16	11	29	-22					
TRINIDAD	38.62	2.7	6	35	0						8	33	
GRENADA	39.99	2.1	6	45	-1								
ST. VINCENT	41.12	2.7	6	55	0						8	40	
BARBADOS	41.17	5.2	6	57	1								
FORT FRANCE	42.68	2.8	7	6	-1						12	45	

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ANTIGUA	45.05	1.7	7	23	-3							
ST. KITTS	45.23	0.5	7	25	-2							
SAN JUAN	46.36	356.0	7	32	-4						9	32 PP
HALLEY BAY	50.73	168.9	8	6	-2							
BYRD STATION	56.81	190.0	8	51	0							
BERMUDA	60.23	358.4	9	33	19	16	39	-4				
MBOUR	61.49	52.6	9	21	-1	17	0	1				
SOUTH POLE	62.00	180.0	9	25	0	17	4	-1			11	24 PP
COLUMBIA	64.12	343.5	9	35	-4				11	32		
WASHINGTON	67.98	348.3	10	1	-2				11	57		
PALISADES	69.55	351.3	10	11	-1	18	36	2				
PENNSYLVANIA	69.97	348.1	10	15	1	18	40	2	12	16		
SCOTT BASE	70.23	189.9	10	17K	1							
FAYETTEVILLE	70.31	333.6	10	16A	0	18	40	-2	12	17	12	35 PP
WINDHOEK	71.44	106.1	10	23	0							
HALIFAX	72.43	359.6	10	28	-1	19	5	-1				
CAPE HALLETT	73.40	194.8	10	35K	1	19	19	3	12	35	22	59 *SS
BREBEUF	73.93	352.3	10	37A	0	19	23	1				
OTTAWA	74.11	350.8	10	37	-1	19	25	1				
GRAHAMSTOWN	74.86	119.8	10	47K	5							
SHAWINIGAN	74.87	353.1	10	42A	0				12	43		
SEVEN FALLS	75.25	354.5	10	44K	0	19	38	2				
TUCSON	75.30	319.6	10	45	0	19	39	2	12	48	14	13 PP
TUCSON TELE.	75.30	319.7	10	46	1	19	40	3	12	49	13	47
KIMBERLEY	75.31	114.9	10	43A	-2							
PIETERMZBURG	79.39	117.8	10	37	-30							
LARAMIE	79.53	328.8	11	9	2							
RAPID CITY	80.72	331.9	11	13	0							
PASADENA	80.98	316.5	11	14	-1							
SALT LAKE C.	82.15	324.8	11	20	-1							
BULAWAYO	82.17	108.6	11	22	1							
TAMANRASSET	83.31	59.9	11	27K	1				13	36	14	42 PP
EUREKA	83.39	321.6	11	27	0	21	3	4	13	33	29	43 PKKP
LISBON	83.44	39.5	11	27K	0							
TERRE ADELIE	83.51	189.5	11	28	1	21	5	5				
FRESNO	83.73	317.5	11	28A	-1							
DUMONT	83.85	189.0	11	28	-1	21	5	2				
BROKEN HILL	84.65	103.4	11	34	1							
BANGUI	84.75	82.2	11	35	1	21	1	-11				
ELISABTHVLLE	85.08	100.5	11	37	2							
LICK	85.21	317.0	11	37A	1				13	48		
SERRA PILAR	85.42	38.1	11	37K	0							
BOZEMAN	85.42	328.5	10	35	-62							
RENO	85.59	319.6	11	38A	0							
GRANADA	85.67	43.6	11	38K	0						12	41
WILKES	85.67	177.4	11	39	1	21	22	1				
BERKELEY	85.93	317.1	11	40A	1							
BUTTE	86.39	327.9	11	42	1				13	51		
TOLEDO	87.15	41.3	11	46K	1				13	33		
MINERAL	87.15	319.3	11	45A	0							
RELIZANE	87.37	46.9	11	47K	1				13	58	15	28 PP
SHASTA	87.84	319.1	11	48	0							
HUNGRY HORSE	88.78	328.8	11	52	-1	21	30	-19	14	2	29	29 PKKP
ARCATA	88.94	318.4	11	54	1							
ALGIERS UNI.	89.60	47.3	11	56K	0				14	5		
LWIRO	90.61	92.9	12	3K	2				14	13		
SETIF	90.81	48.8	11	38	-24	21	39	-28	13	48	15	22 PP
CORVALLIS	90.86	321.7	12	3K	1							
ROXBURGH	92.60	213.9				21	49	-33				
CHATEAU	93.54	221.7	12	13	-1	21	54	-36	14	23		
TONGARIRO	93.54	221.7	12	15	1	21	52	-38	14	24		
KARAPIRO	94.37	222.6	12	19	1				14	27		
FOLINIERE	94.78	36.1	12	20	0							
RATHFARNHAM	94.90	30.3	13	5E	95							
PARIS	96.37	37.3	12	28	1							
KEW	96.52	34.0	12	28	0							
NEUCHATEL	97.81	40.5	12	34	0							
DOURBES	98.24	37.0	12	37	1							
BASLE	98.46	40.3	12	49	12							
EBINGEN	99.60	40.2	12	42	0							
RAVENSBURG	99.76	40.8	12	43	0							
TUBINGEN	99.84	40.0	12	43	0							
STUTTGART	100.08	39.8	12	44A	0							
MUNSTER	100.86	36.5									19	48
COLLMBERG	103.42	38.8	13	0A	1							
PRUHONICE	103.68	40.5	13	1A	1						17	21 PP
VIENNA-H.	103.96	42.6									17	24 PP
ADDIS ABABA	104.62	87.5	13	8	4						16	35 PP

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RESOLUTE	104.66	351.7	15	3K	777					17	23	PP
SKALSTUGAN	108.67	27.2	17	25	777							
UPPSALA	109.47	31.9	17	23	777					28	44	PKKP
RIVERVIEW	110.33	210.0	17	40	15							
KSARA	112.00	62.5	17	30	2			20	26			
NORD	112.02	6.6	17	28	0							
COLLEGE	112.95	332.5	17	31	1					18	34	PP
NURMIJARVI	113.00	32.5	17	31	1							
HELSINKI	113.05	32.9	17	30	-1							
KIRUNA	113.36	24.3	17	31	K 0					18	32	PP
OULU	114.56	27.8	17	34	1							
BRISBANE	114.92	215.1								18	39	PP
SODANKYLA	115.54	25.4	17	35	0					18	46	PP
PULKOVO	115.56	34.1	17	36	1							
APATITY	118.16	25.6	17	41	K 1							
MOSCOW	118.69	39.3	17	43	2							
MUNDARING	120.20	179.3	17	45	1					19	20	
TIFLIS	120.95	56.2								19	24	
KHEYS	122.55	9.6	17	50	1							
CHARTERS TS.	124.27	213.9	17	53	1					20	10	
SVERDLOVSK	131.42	37.6	18	7	1							
RABAUL	133.23	232.2						20	28			
QUETTA	136.60	74.8	18	6	-10					18	19	
BOMBAY	138.72	93.0								20	59	
POONA	139.49	94.1	18	16	K -5							
WARSAK DAM	140.96	69.8	18	20	-5							
LEMBANG	144.07	164.1	18	31	K 1					21	15	
YAKUTSK	145.09	349.5	18	30	-1							
AGRA	145.63	82.4	18	32	0							
DEHRA DUN	146.13	76.8	18	36	3							
CHATRA	153.61	85.9	18	45	K 1					19	9	
IRKUTSK	154.15	17.9	19	11	27							
CHITTAGONG	156.60	98.6	18	51	K 3	25	10 13	21	11	23	4	PP
LHASA	157.31	80.0	18	52	K 4					23	9	PP
SHILLONG	157.52	90.8	18	50	K 1							
ULAN-BATOR	158.79	18.9	18	53	3							
MATUSIRO	160.19	300.3	18	53	A 1			21	49	19	38	PKP2
CHANGCHUN	162.97	338.9	18	56	1					19	49	PKP2
LANCHOW	166.41	51.4	19	0	K 2					20	0	PKP2
KUNMING	166.96	100.2	19	0	K 2					20	9	PKP2
PEKING	168.15	2.8	19	1	K 2					20	12	PKP2
CHENGTU	168.47	74.4	19	2	K 3					20	16	PKP2
SIAN	170.85	46.5	19	3	3					20	26	PKP2
ZO-SE	175.27	309.3	19	5	3							
NANKING	175.79	337.9	19	5	3					24	39	PP
WUHAN	176.87	40.5	19	5	3					20	52	PKP2

DECEMBER 27 15.H 52.M 54.S EPICENTRE 56.10 162.49 DEPTH= 0.KM

A=-0.53442 B= 0.16863 C= 0.82823 D= 0.3009 E= 0.9536
G=-0.7898 H= 0.2492 K=-0.5604 HT= -7.6

SE= 3.04

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
KLYUCHI	0.93	284.6	0	27	7	0	41	7					
PETROPAVLOVK	3.81	217.5	1	4	3	1	46	-1			1	19	*SP
SEVERO-KUR.	6.64	217.7	1	42	1	2	55	-4			1	54	*SP
MAGADAN	7.14	303.8	1	53	5	3	19	8			3	37	
OKHA	11.56	265.4	2	54	5	5	9	9					
UGLEGORSK	14.23	249.0	3	30	5	6	11	6			3	42	*SP
KURILSK	14.26	226.4	3	29	4	6	9	4			3	50	
Y.-SAKHLINSK	15.24	241.7	3	42	4	6	33	5			3	56	*SP
ABASHIRI	16.75	231.5	3	50	-7								
NEMURO	16.75	227.4	4	2	4	7	12	8					
WAKKANAI	16.88	239.5	4	7	8						6	59	
KUSIRO	17.53	229.1	4	4	-3	7	20	-2			4	34	PP
ASAHIGAWA	17.79	234.6	4	16	5								
OBIHIRO	18.10	231.4	4	20	6						8	31	
HIROO	18.57	229.9	4	23	3								
SAPPORO	18.81	235.0	4	26	3	8	11	20			9	1	
URAKAWA	18.90	230.7	4	24	0	8	0	7					
TOMAKOMAI	19.05	233.8	4	32	6								
SUTTSU	19.54	236.5	4	30	-2	8	32	25			5	44	
MURORAN	19.57	234.3	4	41	9								

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MORI	19.93	234.6	4	42	6				9	6	
HAKODATE	20.07	233.7	4	39	1	8	26	7	4	58	
HATINOHE	20.77	230.2	4	43	-2	8	40	7			
AOMORI	20.86	232.0	4	55	9	9	4	29	9	54	
TIKSI	21.02	330.7	4	50	2						
MIYAKO	21.32	228.1	4	52	1	8	51	8			
MORIOKA	21.61	229.6	4	52K	-2	8	49	0			
AKITA	22.06	231.5	5	0	2	8	51	-6			
MIZUSAWA	22.11	228.8	4	59	0	9	4	6			
ISINOMAKI	22.62	227.5	5	4	0	9	9	2			
SAKATA	22.85	230.7	5	18	12						
SENDAI	22.93	228.0	5	7	0	9	13	0			
YAMAGATA	23.17	228.9	5	11	2	9	22	5			
HUKUSIMA	23.55	228.1	5	15K	2	9	31	7			
NIIGATA	24.01	230.6	5	32	15						
ONAHAMA	24.05	226.3	5	20K	2	9	38	5	6	18	
SHIRAKAWA	24.19	227.7	5	21	2	9	36	1			
AIKAWA	24.27	232.1							9	25	
MITO	24.72	226.3	5	20	-4	9	54	10			
UTUNOMIYA	24.82	227.5	5	24	-1	9	44	-2			
KAKIOKA	24.97	226.6	5	25	-1						
TUKUBASAN	25.01	226.8	5	25A	-2	9	44	-5	8	45	PCP
TAKADA	25.04	230.8	5	29	2				10	13	
MAEBASI	25.28	228.7	5	29	0	9	50	-4	6	7	
COLLEGE	25.35	49.5	5	30	0	9	56	1			
KUMAGAYA	25.36	227.9	5	33	3				10	51	
NAGANO	25.42	230.4	5	33	2	10	3	7			
MATUSIRO	25.53	230.2	5	30A	-2	9	48	-10			
OIWAKE	25.56	229.4	5	34	2	10	9	11	7	3	
TOKYO C.M.O.	25.62	226.7	5	33A	0	10	6	7	6	48	
TITIBU	25.64	228.1	5	33A	0						
TOYAMA	25.83	232.0	5	33	-2	10	10	7			
MATUMOTO	25.88	230.2	5	33	-2	10	7	3			
KOHU	26.12	228.6	5	38	1	10	32	24			
HUNATU	26.18	228.1	5	39	1	10	9	1			
MERA	26.24	225.7	5	38	0	10	13	3	12	26	
AJIRO	26.43	227.0	5	39	-1	10	40	27	8	33	
MISIMA	26.43	227.4	5	38	-2	10	35	22	6	35	
CHANGCHUN	26.53	258.3	5	40A	-1	10	23	9	6	35	PP
OSIMA	26.56	226.3	5	43	2						
NAGOYA	27.22	230.5	5	38	-9						
KAMEYAMA	27.71	230.9	5	59	7				11	10	
TOYOOKA	27.87	234.1	5	52	-1						
KYOTO	27.89	232.2	5	55	2	10	35	-1			
ABUYAMA	28.09	232.2	5	54A	-1						
NARA	28.13	231.6	5	55	-1						
OSAKA	28.29	232.1	6	9	12						
KOBE	28.42	232.6	6	45	47	10	50	5	13	40	
OWASE	28.49	230.4	6	0	1	10	50	4			
YONAGO	28.63	236.1	5	55	-5				7	2	
SUMOTO	28.83	232.6	6	0	-2	10	41	-10	6	46	PP
TOKUSIMA	29.20	232.8	6	6	1						
SIOMISAKI	29.20	230.4	6	6	1	10	54	-4			
TAKAMATU	29.23	233.8	6	7	1	10	58	0			
HAMADA	29.66	237.2	6	8	-1	11	21	16	14	36	
HIROSIMA	29.93	236.1	6	14	2				7	1	
KOTI	30.11	233.7	6	16	3	11	22	10			
MATUYAMA	30.21	235.1	6	13	-1				14	0	
SIMONOSEKI	30.98	237.7	6	17	-4				14	31	
SIMIDU	31.01	233.7	6	55	34	11	18	-8			
OOITA	31.25	236.0	6	23	0	12	39	69			
HUKUOKA	31.55	238.0	6	17	-9	12	39	65	8	0	
SAGA	31.85	237.8	6	54	25						
KUMAMOTO	32.02	236.8	6	39	9						
MIYAZAKI	32.44	234.9	6	37	3	11	54	6	8	15	PP
NAGASAKI	32.48	237.8	6	23	-11	12	7	18			
TOMIE	33.10	239.1							8	2	
KAGOSIMA	33.13	235.7	6	49	9	11	56	-3			
SITKA	33.23	61.9	6	43K	2				8	27	
IRKUTSK	33.38	288.4	6	42A	0				7	54	PP
YAKUSIMA	34.10	234.7	6	47A	-1	12	11	-3			
PEKING	34.13	261.8	6	46A	-3	12	19	4	8	12	PP
ULAN-BATOR	34.32	280.2	6	51	1	12	13	-5			
PAOTOW	37.18	268.0	7	13A	-1						
KHEYS	37.43	344.8	7	19	2				8	47	PP
ZO-SE	38.11	246.5	7	21A	-1	13	25	9	8	59	PP
NANKING	38.60	250.1	7	23	-3	13	30	7	9	5	PP
RESOLUTE	40.01	23.8	7	38K	0	13	26	-19	9	6	PP
WUHAN	42.04	253.0	7	54	-1				9	38	PP

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SIAN	42.30	262.0	7	51	-6						
NORD	42.54	359.8	7	59A	0	14	22	0		9	39 PP
ALBERNI	42.69	67.3	8	7	7						
HORSESHOE B.	43.42	66.2	8	6	0						
LANCHOW	43.82	268.3	8	8	-1						
VICTORIA	43.88	67.3	8	11	1						
KIPAPA	45.28	123.5	8	20	-1						
HONOLULU	45.35	123.7	8	19	-3	15	0	-3			
CORVALLIS	46.50	71.4	8	32	1						
CHENGTU	47.72	263.1	8	39A	-1					10	34 PP
CANTON	48.66	248.1	8	45A	-3						
HUNGRY HORSE	48.74	61.8	8	48A	0					39	26 PKPPKP
HONG KONG	48.88	246.6	8	49A	0	16	2	9		10	1 PCP
SHASTA	49.66	74.6	8	55	0						
SASKATOON	49.70	53.9	8	6	-50						
UKIAH	50.32	76.6	9	0A	0	17	15	62		10	56 PP
MINERAL	50.33	74.4	9	0	0						
BAGUIO CITY	50.73	235.9	9	3	-1	16	14	-5			
APATITY	51.02	337.4	9	6A	0	16	18	-5		16	38 PS
SVERDLOVSK	51.06	316.2	9	6	0					11	0 PP
BUTTE	51.06	63.2	9	6K	0					12	9
SAN FRANCSCO	51.71	77.3	9	12	1					16	43 PS
BERKELEY	51.74	77.1	9	12	1	16	33	0		20	19 SS
RENO	51.87	73.8	9	12	0						
MANILA	52.03	234.3	9	12	-1					15	32
BOZEMAN	52.07	62.5	9	14K	0						
LICK	52.47	77.1	9	16	-1						
SODANKYLA	52.55	340.2	9	18	1						
KUNMING	52.73	259.7	9	17A	-2						
KIRUNA	53.24	343.1	9	22A	0	16	52	-1	9 36	11	29 PP
ALMATA	53.31	294.7	9	22	-1					16	56
SCORESBY SD.	53.68	1.8	9	27K	1						
FRESNO	53.89	76.2	9	28	1						
EUREKA	53.97	71.2	9	28K	0					39	20 PKPPKP
PHU-LIEN	54.08	253.0	9	28	-1	17	16	12		19	26 SCS
FRUNSE	54.81	295.9	9	34	0					10	13
OULU	54.84	339.3	9	34	0						
SALT LAKE C.	55.18	67.3	9	37K	0	17	27	8		10	35
LHASA	55.75	273.2	9	41A	0						
PASADENA	56.72	77.1	9	47	-1	17	39	-1		21	23 SS
RAPID CITY	57.06	58.9	9	49K	-1						
BOULDER CITY	57.16	73.2	9	51K	0						
LARAMIE	57.97	62.6	9	57	0					10	48
PULKOVO	58.40	333.9	10	0	0					18	14 PS
SHILLONG	58.43	269.5	9	57A	-3	18	5	3			
SKALSTUGAN	58.46	344.9	9	59	-1					12	23 PP
TASHKENT	58.59	298.2	9	59	-2	18	6	2		13	48 PPP
NURMIJARVI	59.05	337.2	10	4	0	18	10	0			
HELSINKI	59.29	336.9	10	7	1	18	15	2		12	21
MOSCOW	59.88	327.5	10	10	0					12	28 PP
REYKJAVIK	60.06	2.2	10	12	1						
CHATRA	60.08	274.2	10	9	-2	18	19	-5			
RABAUL	60.68	191.8	10	13	-2						
STALINABAD	60.94	296.5	10	17	0	18	35	0			
CHITTAGONG	60.99	267.3	10	17	0	18	33	-2		12	32 PP
UPPSALA	61.08	340.6	10	17A	-1	18	32	-4		14	16 PP
TUCSON TELE.	62.13	73.0	10	24K	-1					39	24 PKPPKP
TUCSON	62.14	73.1	10	25K	0	18	53	3		39	36 PKPPKP
DEHRA DUN	62.42	283.8	10	25	-2	18	49	-4		12	30 PP
BERGEN	62.45	347.5				19	1	7		23	31 SS
CALCUTTA	62.79	270.3	10	29	0	19	0	2		11	17 PCP
WARSAK DAM	63.04	291.3	10	28A	-3						
BOKARO	63.20	273.2	10	29A	-3	19	0	-3		11	4 PCP
GOTEBORG	64.10	342.9	10	38	0						
AGRA	64.92	281.7	10	39A	-4	19	24	-1		13	15 PP
COPENHAGEN	65.95	342.0	10	51A	1	19	40	3		13	20 PP
ABERDEEN	66.40	350.9				19	44	1		19	59 PS
ASHKABAD	66.48	303.3	10	54A	1					13	18 PP
PORT MORESBY	66.49	196.5	10	52A	-2	19	41	-3	11 2	11	24 PCP
FLORISSANT	67.18	54.1	10	57A	-1	19	49	-3	11 8	11	21 PCP
ST. LOUIS 1	67.38	54.1	10	58	-1	19	50	-4	11 7		
WARSAW	67.46	335.5	11	0	0	19	50	-5		13	31 PP
CHIHUAHUA	67.51	72.0	10	57	-3					20	57 SCS
FAYETTEVILLE	67.60	58.5	10	58A	-3	19	54	-3		12	26 PP
OTTAWA	67.68	40.3	10	59A	-2	19	54	-4			
SHAWINIGAN	67.73	37.8	10	58A	-3						
SEVEN FALLS	67.89	36.2	11	2	0	20	4	3		20	59 SCS
BREBEUF	68.35	38.9	11	3A	-2					23	8 SS

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QUETTA	68.44	292.1	11	5A	-1	20	2	-5		'3 36	PP
SEHORE	68.57	279.8	11	7	0						
DURHAM	68.73	350.2	11	9A	1	20	9	-2		21 23	SCS
CLEVELAND	68.78	46.4	11	7	-1	20	7	-4			
LWOW	68.94	332.6	11	10	1					13 44	PP
POTSDAM	68.98	340.5	11	9	0	20	15	1		25 6	SS
PORT BLAIR	69.13	259.6	11	12	2	20	16	1			
TIFLIS	69.26	314.9	11	12	1	20	22	5		13 47	PP
WITTEVEEN	69.64	344.6	11	14	1						
KRAKOW	69.74	335.3	11	15	1					13 38	PP
COLLMBERG	70.03	340.2	11	15A	-1	20	27	1		13 54	PP
HALLE	70.03	340.9	11	16	0	20	29	3		13 55	PP
RACIBORZ	70.11	336.4	11	17	1	20	31	4		11 45	PCP
MUNSTER	70.32	343.8	11	18	1					11 34	
SIMFEROPOL	70.36	323.8	11	19	1					13 48	PP
IASI	70.37	329.2	11	17A	-1	20	30	0		12 30	
SKALNATE PL.	70.47	334.8	11	21A	3	20	49	18		28 51	SS
GORIS	70.52	312.6	11	18	-1					14 2	PP
DE BILT	70.55	345.4	11	19A	0	20	48	16		25 6	SS
RATHFARNHAM	70.58	352.9	11	19A	0	20	45	13			
JENA	70.65	341.0	11	20	1	20	31	-2		14 4	PP
WAYNESBURG	70.66	46.4	11	23	4	20	31	-2			
PENNSYLVANIA	70.81	44.3	11	18	-2	20	29	-6		13 56	PP
PRAGUE	70.92	338.9	11	23	2	20	34	-2		11 27	PCP
PLAUEN	70.96	340.5	11	19	-2	20	23	-14		11 48	
PRUHONICE	70.98	338.7	11	22A	1	20	41	4		13 51	PP
BACAU	71.13	329.3	11	23	1	20	40	1		21 4	
SONNEBERG	71.24	341.0	11	23	0						
CHEB	71.31	340.2	11	22	-1	20	40	-1		13 51	PP
BENSBERG	71.37	343.8	11	25K	1					12 25	
FOCSANI	71.84	328.7	11	39	13	20	54	7			
KEW	71.86	348.8	11	27A	0	20	50	3		25 42	SS
UCCLE	71.94	345.6	11	29	2	20	47	-1			
PALISADES	72.14	41.5	11	26A	-2	20	45	-5		13 51	PP
BRATISLAVA	72.15	336.5	11	29K	1	20	56	6		14 6	PP
HURBANOVO	72.18	335.6	11	32	3	20	52	1			
VIENNA-H.	72.24	337.0	11	28	-1	20	56	5		14 7	PP
FORDHAM	72.29	41.5	11	25	-4	20	42	-10			
BUDAPEST	72.36	334.9	11	30	0	21	10	17			
HALIFAX	72.41	32.7	11	29	-1	20	50	-3			
HYDERABAD	72.41	275.1	11	30A	0	20	49	-4		14 12	PP
DOURBES	72.59	345.3	11	32	1					14 12	PP
GEORGETOWN	72.76	44.8	11	31	-1	20	53	-4			
WASHINGTON	72.76	44.8	11	30K	-2	20	46	-11		14 19	PP
CAMPULUNG	72.85	330.0	11	36	4	21	8	10			
STUTTGART	73.14	341.8	11	35A	1	20	53	-9		14 27	PP
BUCHAREST	73.32	328.9	11	36	1	21	7	3		14 52	PP
TUBINGEN	73.40	341.9	11	36A	0					14 20	PP
STRASBOURG	73.58	342.8	11	37A	0	21	22	15		14 26	PP
EBINGEN	73.76	341.9	11	39	1						
RAVENSBURG	74.03	341.3	11	40	1						
POONA	74.08	279.5	11	38A	-2	21	5	-7		14 36	PP
PARIS	74.14	346.4	11	41	1	21	25	12			
JERSEY	74.31	349.6								20 36	
BOMBAY	74.35	280.5	11	39	-2	21	10	-5		14 32	PP
BELGRADE	74.49	333.0	11	42A	0	21	22	5		14 30	PP
FOLINIERE	74.54	348.4	11	42	0						
ZAGREB	74.62	336.4	11	46	3	21	21	3		21 49	SCS
BASLE	74.63	342.7	11	33A	-10						
TOLMEZZO	74.70	338.6	11	46	3	21	18	-1		15 8	PP
LJUBLJANA	74.72	337.5	11	42A	-1					14 33	PP
CHUR	74.94	341.1	11	45	0						
MADRAS	75.03	271.0	11	44	-1	21	22	-1		14 38	PP
BESANCON	75.16	343.7	11	37	-9					11 59	PCP
NEUCHATEL	75.24	343.0	11	47	1						
TRIESTE	75.27	337.9	11	47	1	21	27	1		26 36	SS
COLUMBIA	75.32	50.2	11	42A	-5	21	16	-10		12 24	
SOFIA	75.69	330.2	11	49	0	21	31	1		14 41	PP
MANZANILLO	76.16	76.6								26 10	SS
PAVIA	76.62	340.9	12	18	24	22	27	47		17 25	
DJAKARTA	76.95	237.4	11	53A	-3	21	36	-8			
CLERMONT-FD.	77.03	345.3	11	57A	1	21	45	0			
CHARTERS TS.	77.12	195.6	11	54	-3	21	42	-4			
LEMBANG	77.15	236.4	11	54A	-3	21	38	-8			
PRATO	77.51	339.2	12	9	10	21	59	9			
MONACO	78.34	341.8	12	5K	1					12 23	PCP
TACUBAYA	78.64	72.3	12	1	-4	21	54	-8		15 4	PP
KODAIKANAL	78.81	271.6	12	5A	-1	21	59	-5			

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ROME	79.12	337.7	12	8A	0	22	17	10			15	17 PP
TARANTO	79.38	333.7	13	2	53	22	16	6				
KSARA	79.59	317.2	12	11A	1	22	10	-2			15	10 PP
ATHENS	79.96	328.1	12	11A	-1	22	14	-2				
COLOMBO	80.19	267.7	12	16	2	22	15	-3				
CUGLIERI	81.57	340.1	13	46	85	24	16	103				
JERUSALEM	81.66	316.8	12	22K	1	22	46	12				
MESSINA	81.95	334.3	12	22	-1	22	28	-9			15	34 PP
REGGIO CALA.	82.02	334.2	12	25	2							
TORTOSA	82.25	346.3	12	26	2	22	47	7				
MERIDA	82.33	63.8				22	36	-5			21	15
SERRA PILAR	82.85	353.2	12	23A	-5				12	34		
BERMUDA	83.16	38.7	12	46	17	22	44	-5			28	6 SS
BRISBANE	83.56	188.7	12	30	-1	22	47	-6				
TOLEDO	83.71	349.6	12	34A	2	23	0	6			15	49 PP
ALICANTE	84.81	346.6	12	39	1	23	8	3			15	58 PP
COMITAN	84.98	68.4				23	12	5			22	26
LISBON	85.28	353.4	12	26A	-14	23	26	16	12	37		
ALGIERS UNI.	85.85	343.6	12	42	-1	23	12	-4			15	57 PP
SETIF	86.02	341.6	12	24K	-20	23	3	-14			15	49 PP
GRANADA	86.34	348.9	12	47A	2	23	24	4			15	54 PP
ALMERIA	86.53	348.0	12	46	0	23	7	-15			23	40 PS
RELIZANE	87.23	345.4	12	36	-13	23	18	-11			16	9 PP
RIVERVIEW	90.09	189.4	13	8	5	23	58	3				
CANBERRA	91.78	191.0	13	14	3	24	13	3	13	28		
ADELAIDE	92.94	199.4	13	16	0	24	20	0			23	44 SKS
KARAPIRO	94.32	169.7	13	23	0						13	56
MELBOURNE	94.74	193.8	13	34	10	24	39	3				
SAN JUAN	95.30	45.7	13	28A	1							
PERTH	96.27	218.5	13	30	-1						17	21
WELLINGTON	97.56	170.7				25	1	46			35	6 SSS
GALERAZAMBA	98.04	57.1				24	19	2				
TAMANRASSET	99.04	338.6	13	44	0	24	23	1			17	44 PP
ROXBURGH	101.37	175.1				24	30	-4			25	38 SS
CARACAS	102.04	49.8	13	46A	-12	25	17	40				
CHINCHINA	102.93	60.2	14	14	13	24	41	0				
BOGOTA	103.98	59.0				24	47	1			18	25 PP
MBOUR	109.79	359.4	14	37	777	25	18	7				
LWIRO	114.78	307.3	18	51	8						25	47
HUANCAYO	117.63	69.2									20	06 PP
TANANARIVE	119.38	279.9	18	54	3						20	10
DUMONT	123.60	190.5	18	58	-2	25	51	-11			20	57 PP
TERRE ADELIE	123.61	189.8	18	58	-2	25	51	-11				
ELISABTHVLLE	123.68	303.7	19	1	1						22	35 SKP
LA PAZ	125.09	65.0	19	7	4	26	9	3			21	2 PP
BROKEN HILL	125.63	301.0	19	4	0							
WILKES	128.20	203.9	19	6	-3						21	12 PP
CAPE HALLETT	128.23	177.0	19	8	-1	26	18	3			21	21 PP
BULAWAYO	130.42	297.2	19	15	2							
SCOTT BASE	133.71	178.8	19	20	1							
PRETORIA	135.31	293.4	19	53	31							
PIETERMZBURG	137.25	287.8	19	28	3							
BYRD STATION	142.67	163.7	19	36	1							
SOUTH POLE	145.92	180.0	19	39	-2						21	6
HERMANUS	146.85	295.3	19	46	4						23	10 PP
PORT STANLEY	156.07	96.5	20	14	18							

DECEMBER 28 2.H 12.M 22.S EPICENTRE 36.56 70.20 DEPTH= 216.KM

A= 0.27269 B= 0.75752 C= 0.59313 D= 0.9409 E=-0.3387
G= 0.2009 H= 0.5581 K=-0.8051 HT= -0.4

DEPTH OF FOCUS= 0.029R

SE= 2.25

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
KULYAB	1.38	345.0	0	35	0						1	1 SG
KHOROG	1.40	48.9	0	37	2	1	4	2				
NUREK	1.96	339.5	0	39	-1	1	8	-3				
KARA-SU	2.15	333.4	0	42	0	1	11	-3				
OBI-GARM	2.17	349.6	0	41	-1	1	12	-3				
CHUIAN-GARON	2.24	338.8	0	42	-1	1	13	-3				
GISSAR	2.30	326.2	0	43	-1	1	15	-2				
STALINABAD	2.30	330.8	0	42	-2	1	14	-3				
GARM	2.43	1.8	0	45	0	1	18	-2				

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ZIMCHURUD	2.47	333.6	0	45	0	1	17	-3				
DZERGETAL	2.77	16.7	0	50	1	1	27	1				
WARSAK DAM	2.79	156.3	0	46A	-3	1	20	-7				
MURGAB	3.47	57.6	0	59	2	1	42	1				
FERGANA	4.01	17.5	1	5	2	1	52	0				
SAMARKAND	4.01	321.6	1	0	-3	1	44	-8				
ANDIJAN	4.51	21.4	1	11	1	2	3	0				
NAMANGAN	4.56	14.1	1	11	1	2	4	0				
TASHKENT	4.80	351.7	1	12	-1	2	7	-3				
LUNACHARSKOE	4.81	352.1	1	13	0	2	7	-3			2	47
TCHIMKENT	5.75	355.5	1	26	1	2	29	-2				
NARYN	6.63	41.1	1	36	-1	2	48	-4				
QUETTA	6.92	204.1	1	39	-1	2	55	-4			2	21 *SP
FRUNSE	7.12	27.2	1	43	0	3	3	0				
FABRICHNAYA	8.12	34.2	1	56	0						2	11
ALMATA	8.47	35.7				3	35	1				
PRZHEVALSK	8.66	44.5	2	4	1							
KURMENTY	8.94	41.6	2	6	0							
DEHRA DUN	9.04	131.3	2	8	0	3	44	-3				
ASHKABAD	9.55	281.9				3	55	-4				
KIZYL-ARVAT	11.32	287.6				4	32	-8				
CHATRA	17.37	119.2	3	50K	-1							
BOMBAY	17.75	171.8	4	0	5						8	22
POONA	18.25	168.9	3	59	-1	7	35	22				
GORIS	19.02	286.1	4	12	4						4	54
SVERDLOVSK	21.27	345.4	4	34	4							
SHILLONG	21.51	114.5	4	33K	0							
CHITTAGONG	23.48	121.1	4	40	-12							
ULAN-BATOR	29.18	55.5	5	45	1							
MOSCOW	29.20	321.4	5	42	-2							
PULKOVO	34.49	325.0	6	29	-1							
HELSINKI	37.14	324.0	6	52	0							
APATITY	37.31	337.7	6	52	-1							
NURMIJARVI	37.40	324.4	6	54	0							
OULU	38.74	331.5	7	5	0							
SODANKYLA	39.41	335.2	7	11	0							
ADDIS ABABA	39.55	234.0	7	14	2							
UPPSALA	40.62	322.0	7	19	-2							
KIRUNA	41.75	334.2	7	29A	-1							
SKALSTUGAN	43.80	326.8	7	46	0							
TIKSI	45.95	22.1	8	3	0							
MATUSIRO	53.53	68.2	8	59A	-2							
TANANARIVE	59.19	205.1	9	41	0							
ELISABTHVLLE	62.59	228.5	10	2	-1							
THULE	64.29	350.0	10	13	-1							
RESOLUTE	68.60	355.8	10	40	-2							
COLLEGE	74.60	15.8	11	16	-1				12	8		

DECEMBER 28 7.H 20.M 32.S EPICENTRE 52.57 160.27 DEPTH= 0.KM

A=-0.57455 B= 0.20611 C= 0.79209 D= 0.3377 E= 0.9413
G=-0.7456 H= 0.2675 K=-0.6104 HT= -6.4

SE= 3.16

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PETROPAVLOVK	1.08	295.4	0	29	6	0	47	8				
SEVERO-KUR.	3.22	235.4	0	53	0	1	33	0				
KLYUCHI	3.78	5.1	1	6	5	1	54	7			1	23 *SP
MAGADAN	8.77	326.7	2	16	5	4	0	8			3	0 PPP
UGLEGORSK	12.02	260.4	3	0	4	5	8	-4			3	17 *SP
Y.-SAKHLINSK	12.61	250.9	3	5	1	5	30	4			3	12 *SP
NEMURO	13.48	232.5	3	24	9							
ABASHIRI	13.63	237.5	3	11	-6	5	45	-6				
WAKKANAI	14.12	247.0	3	30	6	6	23	21				
KUSIRO	14.32	234.2	3	34	7	6	22	15				
ASAHIGAWA	14.79	240.7	3	36	3							
OBIHIRO	14.96	236.6	3	55	20						9	20
HIROO	15.37	234.7	3	40	0							
URAKAWA	15.74	235.5	3	51	6							
SAPPORO	15.82	240.6	3	47	1	6	57	14			7	17
TOMAKOMAI	16.01	239.0	4	16	27							
MURORAN	16.54	239.4	4	13	18							
SUTTSU	16.61	241.9	3	59	3	7	8	7			4	53
MORI	16.91	239.6	4	4	4						7	55

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HAKODATE	17.02	238.5	3	55	-6						
HATINOHE	17.57	234.2	4	5	-3	7	51	28			
AOMORI	17.73	236.2	4	23	13					7	31
MIYAKO	18.04	231.5	4	17	3	7	44	10		7	23
MORIOKA	18.39	233.2	4	16	-2	7	55	14			
MIZUSAWA	18.85	232.1	4	22	-2	7	54	2			
AKITA	18.90	235.2	4	23A	-2	8	18	25		5	5
ISINOMAKI	19.31	230.4	4	28	-2	8	17	15			
SENDAI	19.64	231.0	4	31	-2	8	21	11			
SAKATA	19.66	234.1	4	46	12	8	47	37		9	29
YAMAGATA	19.92	231.9	4	35	-2	8	16	0			
HUKUSIMA	20.26	230.8	4	38	-2	8	17	-6			
ONAHAMA	20.70	228.7	4	45	0	8	41	9		5	45
NIIGATA	20.81	233.7	4	51	5						
SHIRAKAWA	20.88	230.2	4	51	4	8	36	1			
AIZAWA	21.13	235.2	4	48	-1						
MITO	21.37	228.6	4	48	-4	9	3	18			
UTUNOMIYA	21.51	229.9	4	51	-2	8	56	9			
KAKIOKA	21.63	228.8	4	51	-3	8	38	-12			
TUKUBASAN	21.67	229.0	4	50A	-5	8	49	-1		5	30
TAKADA	21.84	233.7	4	56	0						
MAEBASI	22.01	231.1	4	50	-8	9	14	17		5	52
KUMAGAYA	22.06	230.2	4	58	-1	9	10	12			
NAGANO	22.21	233.0	5	1	1	9	20	20			
HONGO	22.24	228.8	5	4	4	9	15	14		6	37
TOKYO C.M.O.	22.28	228.8	4	53	-8	8	55	-7			
WAZIMA	22.30	236.4	5	0	-1	9	3	1			
MATUSIRO	22.31	232.8	4	59A	-2	9	3	1		9	13
OIWAKE	22.31	231.9	4	58	-3	8	52	-10			
TITIBU	22.34	230.5	5	1	0						
YOKOHAMA	22.53	228.6	5	5	2	9	19	13			
MATUMOTO	22.66	232.8	5	6	2	9	14	5			
TOYAMA	22.68	234.8	5	2	-3	9	6	-3			
KOHU	22.94	230.9	5	8	2	9	14	2			
MERA	22.87	227.6	5	11	4	8	56	-16			
MUNATU	22.88	230.3	5	2	-5	9	20	7			
AJIRO	23.09	229.0	5	8	-1	9	19	2			
MISIMA	23.11	229.4	5	8	-1	9	37	20			
OSIMA	23.20	228.2	5	11	1	9	15	-3			
IIDA	23.31	231.9								6	2
SHIZUOKA	23.49	230.1	5	14	1	9	35	12			
TIKSI	23.59	335.6	5	14	0	9	29	4			
OMAESAKI	23.87	229.9	5	15	-1	9	28	-2			
GIHU	23.92	233.4	5	16A	-1	9	28	-3		9	56
NAGOYA	24.01	232.8	5	19	1	9	50	18			
HIKONE	24.28	234.1	5	24	4	10	0	23			
KAMEYAMA	24.51	233.1	5	30	8	9	44	5		6	32
CHANGCHUN	24.68	263.3	5	1A	-23	9	38	-6			
KYOTO	24.74	234.5	5	27	2	9	53	8			
TOYOOKA	24.79	236.7	5	23	-2	9	55	9			
ABUYAMA	24.93	234.4	5	26A	-1						
NARA	24.96	233.9	5	26	-1						
OSAKA	25.13	234.3	5	25	-3	10	9	17			
TOTTORI	25.14	237.6	5	30	1						
OWASE	25.27	232.5	5	32	2	10	4	10			
KOBE	25.29	234.9	5	32	2	10	2	8		5	55
YONAGO	25.63	238.7	5	36	3	10	20	20		13	43
WAKAYAMA	25.64	234.3	5	37	4	10	3	3			
SUMOTO	25.68	234.8	5	37	3	10	15	14		7	32
MATSUE	25.76	239.2	5	43	9						
SIOMISAKI	25.98	232.3	5	35	-1	10	19	13			
TOKUSIMA	26.06	235.0	5	35	-2	10	8	1			
TAKAMATU	26.13	236.1	5	37	-1	10	22	14			
HAMADA	26.71	239.8	5	49	6	10	17	-1			
MUROTO	26.92	234.5	5	48	3					10	51
HIROSIMA	26.93	238.5	5	41	-4	10	12	-9			
KOTI	27.00	235.8	5	47	1	10	28	5		6	34 PP
MATUYAMA	27.16	237.3	6	12	25	10	45	20		14	19
SIMIDU	27.90	235.6	5	54	0	10	42	5			
SIMONOSEKI	28.04	240.0	5	53	-2						
OOITA	28.24	238.1	6	0	3	10	39	-3			
HUKUOKA	28.61	240.3	6	1	1	11	1	12			
COLLEGE	28.71	44.4	6	1	0	10	49	-1			
SAGA	28.91	240.0	6	6	3						
KUMAMOTO	29.03	238.9	6	12	8						
MIYAZAKI	29.37	236.8	6	15	8	11	2	1			
NAGASAKI	29.54	239.9	6	8A	-1	11	5	2		13	22
KAGOSIMA	30.10	237.5	6	17	3	11	11	-1			

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TOMIE	30.21	241.2	6 31	16					10 37	
YAKUSIMA	31.02	236.3	6 19	-3	11 21	-6				
PEKING	32.43	265.1	6 31A	-3	11 43	-6				
IRKUTSK	33.39	292.3	6 42A	-1					7 59	PP
ULAN-BATOR	33.79	283.9	6 45	-1	12 7	-3				
ZO-SE	35.56	248.4	7 1A	0	12 39	2				
PAOTOW	35.84	270.9	7 3A	-1						
SITKA	36.16	56.7	7 17	11						
NANKING	36.23	252.1	7 5A	-2	12 46	-2				
WUHAN	36.81	254.7	7 36	-1						
KHEYS	40.52	345.7	7 44	1					7 59	*SP
SIAN	40.57	264.0	7 41	-2						
LANC'OW	42.48	270.2	7 58A	-1						
RESOLUTE	43.78	21.8	8 9A	0	14 43	2			10 6	PP
KIPAPA	44.59	118.0	8 15	-1						
HONOLULU	44.65	118.2	8 18	1	14 57	4				
ALBERNI	45.37	62.7	8 34	12						
NORD	46.06	359.4	8 26	-2	15 8	-6				
HORSESHOE B.	46.14	61.8	8 31	3						
CANTON	46.15	248.9	8 28A	0	15 15	0				
HONG KONG	46.30	247.4	8 16A	-14	15 21	4				
VICTORIA	46.55	62.8	8 30	-2						
THULE	47.61	13.9	8 38	-2	15 36	0				
BAGUIO CITY	47.67	236.0	8 40	-1	15 37	1				
CORVALLIS	48.98	67.0	8 50	-1						
KUNMING	50.84	260.5	9 3A	-2	16 19	-2			11 4	PP
HUNGRY HORSE	51.64	58.0	9 9	-2					11 1	PP
PHU-LIEN	51.81	253.4	9 10	-2	16 36	2				
SHASTA	51.96	70.4	9 13K	0						
UKIAH	52.51	72.4	9 16	-2					11 0	PP
MINERAL	52.64	70.2	9 17	-2					10 42	
SVERDLOVSK	52.73	317.1	9 17	-2	16 43	-4			11 25	PP
ALMATA	53.64	295.7	9 25	-1					17 21	PS
APATITY	53.79	337.6	9 26A	-1	16 58	-3			11 16	PP
SAN FRANCSCO	53.87	73.2	9 30K	2					17 10	PS
BERKELEY	53.92	72.9	9 30	2	17 4	1			26 45	SS
RENO	54.21	69.8	9 30	0						
LICK	54.64	73.0	9 32K	-1						
LHASA	54.67	273.9	9 33A	0						
BOZEMAN	54.93	58.9	9 36	1						
FRUNSE	55.21	296.7	9 36	-1						
SODANKYLA	55.43	340.1	9 39	0						
FRESNO	56.10	72.3	9 44	0						
KIRUNA	56.24	342.9	9 44A	-1	17 37	3	9 55			
EUREKA	56.43	67.4	9 45	-1					39 23	PKPPKP
RABAUL	56.97	189.6	9 48	-2						
SHILLONG	57.11	269.9	9 50A	-1	17 44	-1				
SCORESBY SD.	57.25	0.9			17 56	9				
OULU	57.69	339.1	9 55	0						
SALT LAKE C.	57.83	63.7	9 56	0						
PASADENA	58.88	73.4	10 1	-2	18 9	0			22 10	SS
CHATRA	59.06	274.6	10 1	-4	18 7	-4				
TASHKENT	59.13	298.7	10 3	-2					13 55	PPP
BOULDER CITY	59.52	69.6	10 8	0						
CHITTAGONG	59.52	267.4	10 8A	0	18 18	1			12 21	PP
LARAMIE	60.82	59.4	10 17	0						
STALINABAD	61.36	296.8	10 19	-1					18 55	PS
CALCUTTA	61.50	270.3	10 28	7					20 47	
SKALSTUGAN	61.52	344.3	10 20	-2						
NURMIJARVI	61.80	336.9	10 23	0	18 52	6			10 35	
DEHRA DUN	62.01	284.0	10 25	0	19 6	17			23 9	SS
HELSINKI	62.02	336.5	10 22	-3	18 54	5				
BOKARO	62.10	273.3	11 22	57					18 56	
MOSCOW	62.16	327.4	10 26	0	18 52	1			13 1	PP
PORT MORESBY	62.74	194.6	10 28	-2	18 55	-3			12 44	PP
WARSAK DAM	63.11	291.4	10 29A	-3						
REYKJAVIK	63.63	1.1	10 6	-30						
UPPSALA	63.97	340.1	10 37A	-1	19 10	-3	10 52		14 44	PP
AGRA	64.36	281.6	10 35A	-5	19 22	4				
TUCSON TELE.	64.50	69.7	10 39	-2					39 29	PKPPKP
TUCSON	64.50	69.8	10 44	3					15 6	
GOTEBORG	67.08	342.2	10 57	-1			11 9			
PORT BLAIR	67.20	259.1	10 55	-4					19 27	
ASHKABAD	67.33	303.0	11 0	1	19 55	1			11 19	PCP
QUETTA	68.55	291.8	11 6A	-1	20 10	1			13 36	PP
COPENHAGEN	68.89	341.1	11 9A	0	20 13	0			11 24	PCP
ABERDEEN	69.67	349.9			20 38	16			29 51	
CHIHUAHUA	69.92	69.1							21 14	SCS

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WARSAW	70.11	334.7	11	17A	0	21	10	43	16	6
MEDAN	70.18	248.9	11	18	1	20	37	9		
FLORISSANT	70.36	51.5	11	17	-1	20	20	-10		
ST. LOUIS 1	70.55	51.5	11	19	0	20	29	-4		
TIFLIS	70.81	314.3	11	21	0				20	52 PS
OTTAWA	71.24	38.1	11	22	-1					
SHAWINIGAN	71.34	35.6	11	22	-2					
HYDERABAD	71.41	274.5	11	16A	-8	20	55	12	14	4 PP
LWOW	71.46	331.8	11	25	0	20	43	0	14	6 PP
SEVEN FALLS	71.53	34.1				20	40	-4		
POTSDAM	71.86	339.5	11	28	1	20	54	6	14	8 PP
GORIS	71.93	311.9	11	28	0				14	14 PP
BREBEUF	71.94	36.7	11	26	-2	20	40	-9		
DURHAM	71.97	349.1	11	15	-13	20	55	6		
CLEVELAND	72.19	44.1	11	29	0	20	47	-4		
KRAKOW	72.39	334.4	11	30	0	20	51	-3	14	33 PP
SIMFEROPOL	72.42	323.0	11	30A	0				14	33 PP
WITTEVEEN	72.68	343.6	11	34	2					
IASI	72.72	328.3	11	31K	-1	20	58	1	11	55
RACIBORZ	72.80	335.5	11	33	0				12	51
COLLMBERG	72.89	339.2	11	34A	1	21	6	7	14	28 PP
HALLE	72.93	339.9				21	2	2	15	18 PP
SKAINATE PL.	73.09	333.9	11	41	7	20	45	-17		
MUNSTER	73.33	342.7	11	36	0					
POONA	73.36	278.8	11	35A	-1	21	4	-1	21	16 SKS
CHARTERS TS.	73.37	193.7	11	35	-1				12	35
JENA	73.54	339.9	11	3?	2	21	12	5	14	38 PP
DE BILT	73.62	344.3	11	38A	1	21	16	8		
BOMBAY	73.69	279.8	11	38	0				21	44
PRAGUE	73.72	337.9	11	40	2	21	10	1		
MADRAS	73.77	270.2	11	37	-1	21	21	12	14	40 PP
PRIHONICE	73.78	337.7	11	39A	1	21	20	11		
PLAUEN	73.84	330.4	11	37	-2	21	13	3	12	7
RATHFARNHAM	73.90	351.6	11	53	14					
LEMRANG	74.09	235.2	11	26	-14	21	10	-3		
CHEP	74.17	339.1	11	38	-3	21	24	10		
PENNSYLVANIA	74.28	42.1	11	40	-1	21	11	-4		
BENSBERG	74.38	342.7	11	42	0				11	54 PCP
HURBANOVO	74.84	334.6	11	54	9	20	44	-37	14	24 PP
BRATISLAVA	74.85	335.4	11	47K	2	19	28	-113		
UCCLE	75.02	344.5	11	49	3	21	32	9		
KEW	75.05	347.6	11	46	0	21	30	6	26	10 SS
DOURBES	75.65	344.1	11	50	1				12	3 PP
BUCHAREST	75.66	328.0	11	28	-21	21	37	7		
PALISADES	75.68	39.3	11	47	-2	21	25	-4	12 1	22 17 PS
FORDHAM	75.83	39.4	11	49	-1	20	47	-45		
TIMISOARA	75.95	331.8	11	46	-5				21	49
STUTTGART	76.07	340.7	11	53	1	21	37	2	12	7 PCP
HALIFAX	76.10	30.7	11	54A	2	21	33	-2		
WASHINGTON	76.21	42.6	11	50	7					
GEORGETOWN	76.21	42.6	11	50	-2	21	32	-4		
TIBINGEN	76.34	340.8	11	54A	1				12	8 PCP
STRASBOURG	76.35	341.6	11	55	1				14	49 PP
EBINGEN	76.39	340.7	11	56	1					
RAVENSBURG	76.94	340.2	11	57	1					
BELGRADE	77.02	331.9	11	56K	-1	21	47	2	12 12	
PARIS	77.24	345.1	11	59	1				12	13 PCP
ZAGREB	77.31	335.3	12	1	2				12	19
LJUBLJANA	77.47	336.3	11	5?	0				12	42
TOLMEZZO	77.50	337.4	12	3	3	22	0	10	13	16
KODAIKANAL	77.58	270.6							18	7
BASLE	77.59	341.4	12	1	1					
FOLINIERE	77.72	347.1	12	1	0					
CHUR	77.94	339.9	11	53	-8					
TRIESTE	78.03	336.7	12	1	-1	22	3	7	12	14 PCP
SOFIA	78.09	329.0	12	2	-1	21	35	-22	14	56 PP
NEUCHATEL	78.22	341.7	12	4	1	22	3	5		
COLUMBIA	78.62	48.0	12	3	-3					
COLOMBO	78.72	262.6	12	11	5				22	2
BRISBANE	79.88	196.8	12	15	2	22	2	-14		
CLERMONT-FD.	80.10	344.0	12	16A	2				23	59
TACUBAYA	81.01	70.0	12	12K	-7	22	13	-15	17	18 PPP
MONACO	81.26	340.4	12	21K	1				12	34 PCP
KSARA	81.27	316.0	12	19A	-1	22	33	3	15	27 PP
ROME	81.87	336.3	13	23	60	22	55	19		
TARANTO	81.95	332.4	11	37	-46	22	28	-9		
ATHENS	82.24	326.7	12	24A	-1					
JERUSALEM	83.30	317.4	12	31	1				15	46 PP
BARCELONA	84.49	343.7				23	22	19		

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MESSINA	84.54	332.8	12 36	-1	22 58	-5			1 49 PP
MERIDA	85.10	61.8	12 46	7	23 14	5			
SERRA PILAR	86.18	351.6	12 40K	-5					16 2 PP
RIVERVIEW	86.40	187.6	12 50	4	23 20	-1			
BERMUDA	86.76	36.8	12 50	2	23 57	32			29 28 SS
TOLEDO	86.93	348.0	12 49	0	23 19	-7			23 49 PS
ALICANTE	87.92	345.0	12 52	-1	23 33	-3			
CANBERRA	88.07	189.2	13 0K	6	23 38	1			
ALGIERS UNI.	88.84	341.0	12 55	-3	23 41	-3			16 27 PP
SETIF	88.92	339.9	13 0	2					15 55
ADELAIDE	89.18	197.2	12 59	0					13 0
GRANADA	89.52	347.2	13 47	46	23 56	5			16 55 PP
MELBOURNE	91.01	192.1	13 2	-2	24 6	2	13 18		26 8 PPS
KARAPIRO	91.10	168.0	13 8	0					13 21
MUNDARING	92.25	216.3	13 22	7					
PERTH	92.67	216.6							25 41
ROXBURGH	97.98	173.6			24 9	-8			26 20 PS
ADDIS ABABA	101.04	300.9	14 23	29					18 6 PP
TAMANRASSET	101.80	336.3	13 56	-1	25 2	26			18 12 PP
CARACAS	105.34	48 4	18 10	777					19 28 PP
FUQUENE	106.39	57.1	18 54	777					
BOGOTA	106.54	57.8	19 8	777	25 1	2			26 17 S
MBOUR	113.29	357.1			27 33	127			19 33 PP
DUMONT	119.90	180.1	19 3	10					
HUANCAYO	120.11	68.9	18 55	2					
ELISABTHVLLE	124.41	299.4	19 2	0					
CAPE HALLETT	124.78	176.3	19 0	-2	26 5	-1			21 15 PP.
BROKEN HILL	126.19	296.5	19 6	1					
LA PAZ	127.76	65.1	19 11	3					21 13 PP
SCOTT BASE	130.21	178.2	19 13	0					
BULAWAYO	130.72	292.1	19 15	1					
KIMBERLEY	139.57	288.3	19 26	-4					
BYRD STATION	139.63	164.6	19 24	-6					
SOUTH POLE	142.38	180.0	19 28	-7					20 52
HERMANUS	146.93	287.7	19 53	10					

DECEMBER 28 10.H 3.M 17.S EPICENTRE -22.42 -68.60 DEPTH= 130.KM

A= 0.33768 B=-0.86150 C=-0.37920 D=-0.9310 E=-0.3649
G=-0.1384 H= 0.3530 K=-0.9253 HT= 4.1

DEPTH OF FOCUS= 0.015*

SE= 1.77

	DELTA DEG	AZ. DEG.	P M	P S	O-C P	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LA PAZ	5.91	4.4	1	27	1	2	43	10	1	35	1	43	*SP
HUANCAYO	12.15	327.0	2	50	0	5	11	8					
BOGOTA	27.40	348.1	5	37	2	10	48	44	5	58			
CHIMCHINA	28.07	345.0	5	42	1	10	57	42	6	6			
FUQUENE	28.17	349.1	5	41	-1				6	3			
PORT STANLEY	30.39	166.8	6	1	-1								
CARACAS	32.76	3.0	6	9K	-13	11	20	-8					
BALBOA HTS	32.98	339.8				11	16	-16					
SAN JUAN	40.62	3.6	7	25	-3				7	50			
ARGENTINE I.	42.91	177.3	7	46	-1								
TACUBAYA	51.20	321.9	8	57	5				9	22	17	58	
HALLEY BAY	57.31	168.5	9	35	-1								
COLUMBIA	57.34	347.7	9	29	-8				9	58			
WASHINGTON	61.51	352.5	10	4	-1				10	28			
BYRD STATION	61.63	188.9	10	6	0				10	32			
MBOUR	62.41	59.0	10	12	1	18	35	9					
FORDHAM	63 13	355.5	10	15	-1				10	41			
PALISADES	63.30	355.5	10	16	-1	19	18	41	10	41			
PENNSYLVANIA	63.48	352.1	10	18	0				10	44	10	59	*SP
HALIFAX	66.87	3.9	10	40K	0								
SOUTH POLE	67.72	180.0	10	45	0				11	12	12	10	
TUCSON	67.72	322.0	10	45	0						11	22	*SP
TUCSON TELE.	67.72	322.2	10	45	0				11	11	11	23	*SP
BREBEUF	67.75	356.2	10	45K	-1				11	11			
OTTAWA	67.80	354.6	10	45	-1				11	11			
SHAWINIGAN	68.75	356.9	10	49K	-3				11	16			
LARAMIE	72.09	331.6	11	12	0				11	50			
PASADENA	73.40	318.8	11	19	0						14	40	PP
SALT LAKE C.	74.62	327.3	11	28	1								
SCOTT BASE	74.98	190.4	11	28	-1								

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EIREKA	75.83	324.0	11 34	1		12 1		
FRESNO	76.14	319.9	11 35	0				
CAPE HALLETT	77.61	195.5	11 44K	1		12 11		
LICK	77.62	319.3	11 44K	1		12 22		
BOZEMAN	77.97	331.1	11 46	1		12 12		
RENO	78.01	322.0	11 47A	2				
BERKELEY	78.34	319.4	11 48A	1		12 25		
SAN FRANCSCO	78.39	319.2				12 18		
MINERAL	79.57	321.6	11 54	0		12 20		
SHASTA	80.26	321.5	11 57	-1				
HUNGRY HORSE	81.34	331.3	12 3	0		12 30	12 41	*SP
KIMBERLEY	82.32	117.8	12 10A	2				
CORVALLIS	83.29	324.0	12 15A	2				
TAMANRASSET	84.97	63.0	12 24K	2	22 37 -1	12 50	13 4	*SP
TOLEDO	86.34	44.1	12 30A	2		12 56		
TERRE ADELIE	88.22	191.4	12 38	1				
DUMONT	88.61	191.0	12 38	-1				
BULAWAYO	88.81	111.2	12 41	1			13 10	
ELISABTHVLLE	91.13	103.0	12 53	2		13 20		
KARAPIRO	95.00	225.6	13 10	1			13 48	
RESOLUTE	98.34	353.2	13 23	-1				
COLLMBERG	102.14	39.4					18 27	
MUNDARING	125.72	185.0	18 48	2				
QUETTA	139.61	69.4	19 17	5				
WARSAK DAM	143.25	62.8	19 18	-1				
POONA	144.67	89.3	19 23K	2				
MATUSIRO	152.86	307.2	19 43K	9			20 21	
ULAN-BATOR	154.30	7.0	19 40	4				
CHITTAGONG	161.89	86.4	19 49	4			23 58	PP

DECEMBER 23 13.H 4.M 30.S EPICENTRE 52.34 160.34 DEPTH= 0.KM

A=-0.57780 B= 0.20643 C= 0.78964 D= 0.3364 E= 0.9417
G=-0.7436 H= 0.2657 K=-0.6136 HT= -6.3

SE= 2.99

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PETROPAVLOVK	1.23	304.2	0	30	6	0	48	6					
SEVERO-KUR.	3.13	239.4	0	53	2	1	29	-1					
KLYUCHI	4.00	4.2	1	6	2	1	55	3					
MAGADAN	8.98	327.3	2	17	3	4	5	8					
KURILSK	10.87	234.0	2	41	1	4	44	1					
UGLEGORSK	12.03	261.5	3	0	5	5	23	12			3	12	*SP
Y.-SAKHLINSK	12.58	252.0	3	6	3						3	18	*SP
MIZUSAWA	18.74	232.8	4	24	2	8	0	11					
TUKUBASAN	21.56	229.6	4	50A	-3	8	50	3					
MIZUSAWA	18.74	232.8	4	24	2	8	0	11					
TUKUBASAN	21.56	229.6	4	50A	-3	8	50	3					
MATUSIRO	22.21	233.4	5	0A	1	9	3	3			9	13	
TIKSI	23.82	335.8	5	14	-1						6	0	PPP
CHANGCHUN	24.70	263.9	5	22A	-2	9	47	4			6	16	PPP
ABUYAMA	24.84	235.1	5	27A	2								
COLLEGE	28.85	44.1	6	0	-2								
PEKING	32.46	265.5	6	33A	-1	11	53	5			7	49	PP
ULAN-BATOR	33.89	284.3	6	46	0								
ZO-SE	35.52	248.8	7	1A	1	12	44	8					
PAOTOW	35.89	271.3	7	4	1								
NANKING	36.20	252.5	7	6A	0	13	3	17					
WUHAN	39.79	255.1	7	37	1								
SIAN	40.60	264.3	7	44	1								
KHEYS	40.75	345.8				13	40	-15			9	4	PP
LANCHOW	42.52	270.5	7	59	1								
RESOLUTE	43.97	21.7	8	10A	0	14	44	1			9	5	PP
HONG KONG	46.26	247.6	8	29	1	15	32	16					
NORD	46.29	359.4	8	27	-2								
THULE	47.82	13.8	8	37	-4								
CORVALLIS	49.02	66.9	8	59	9								
KUNMING	50.85	260.8	9	5A	1	16	23	3					
HUNGRY HORSE	51.72	57.9	9	10	-1								
SHASTA	52.00	70.3	9	12	-1								
MINERAL	52.68	70.1	9	18	0								
SVERDLOVSK	52.93	317.2	9	19	-1								
ALMATA	53.78	295.9	9	26	0								
BERKELEY	53.94	72.8	9	37	10	17	9	7					

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APATITY	54.02	337.7	9 27K	-1						
RENO	54.25	69.7	9 30A	1						
LICK	54.66	72.9	9 32	-1						
LHASA	54.74	274.1	9 34	1	17 16	3				
BOZEMAN	55.01	58.8	9 34	-1						
FRUNSE	55.35	296.9	9 36	-2						
SODANKYLA	55.66	340.2	9 39	-1						
FRESNO	56.13	72.2	9 42	-1						
KIRUNA	56.47	342.9	9 45K	-1			9 56			
EUREKA	56.48	67.3	9 44	-2						
RABAUL	56.75	189.8	10 12	24						
SHILLONG	57.16	270.1	9 49	-2						
SALT LAKE C.	57.90	63.6	9 56	0						
OULU	57.92	339.2	9 55	-1						
PASADENA	58.90	73.3	10 0	-3	18 15	7			22 18	SS
CHATRA	59.12	274.8	10 4A	0	19 14	3				
TASHKENT	59.28	298.8	10 3	-2					18 23	PS
BOULDER CITY	59.55	69.6	10 8	1						
CHITTAGONG	59.56	267.6	10 8A	1	18 18	1			12 24	PP
LARAMIE	60.90	59.3	10 18	2						
STALINABAD	61.50	296.9	10 19	-2					19 44	
NURMIJARVI	62.03	337.0	10 24	0						
DEHRA DUN	62.11	284.2	10 23	-2	19 5	16				
HELSINKI	62.25	336.6	10 26	0						
MOSCOW	62.38	327.5	10 26	0					12 54	PP
PORT MORESBY	62.53	194.7	10 28	1	18 54	0			26 0	SSS
WARSAK DAM	63.24	291.5	10 32A	0						
UPPSALA	64.20	340.1	10 37	-1	19 13	-2	10 49			
TUCSON TELE.	64.53	69.6	10 40	-1						
TUCSON	64.54	69.8	10 40	-1						
GOTEBORG	67.31	342.2	10 57K	-1			11 9			
QUETTA	68.68	291.9	11 7A	0	20 12	2			13 39	PP
COPENHAGEN	69.12	341.2	11 11	1						
MEDAN	70.14	249.1	11 16	0						
WARSAW	70.34	334.8	11 9	-8					20 52	
TIFLIS	71.01	314.4	11 22	1	20 40	3			11 33	PCP
HYDERABAD	71.48	274.6	11 21	-3						
SHAWINIGAN	71.50	35.6	11 35	11						
LWOW	71.69	331.9	11 27	2					11 38	PCP
POTSDAM	72.09	339.6	11 27	-1					11 38	
BREBEUF	72.09	36.7	11 26K	-2						
KRAKOW	72.41	334.5	11 31	0						
SIMFEROPOL	72.63	323.1	11 30A	-1					11 43	PCP
WITTEVEEN	72.91	343.6	11 35K	2						
IASI	72.93	328.4	11 32	-1	21 3	4				
RACIBORZ	73.03	335.6	11 34	1						
COLLMBERG	73.12	339.3	11 34	0					12 36	
CHARTERS TS.	73.16	193.8	11 33	-1						
HALLE	73.16	340.0	11 34	0	20 18	-44			11 45	PCP
POONA	73.44	278.9	11 35A	-1					11 48	
MUNSTER	73.56	342.8	11 39A	3						
JENA	73.77	340.0	11 37	-1					12 20	
BOMBAY	73.78	279.9	11 35	-3	21 9	0				
LEMBANG	73.99	235.3	11 37K	-2						
PRUHONICE	74.01	337.8	11 39A	0						
RATHFARNHAM	74.14	351.7	11 50	10						
PENNSYLVANIA	74.42	42.1	11 50	9						
BENSBERG	74.61	342.8	11 40	-2						
KEW	75.29	347.6	11 46	0						
PALISADES	75.83	39.3	12 1	12	21 21	-10			26 17	SS
DOURBES	75.89	344.2	11 50	0					12 4	PCP
STUTTGART	76.30	340.8	11 53	1	21 47	10			14 52	PP
TUBINGEN	76.57	340.8	11 54	0					12 6	PCP
STRASBOURG	76.78	341.7	11 55	0					12 11	PCP
EBINGEN	76.92	340.8	11 57	1						
RAVENSBURG	77.17	340.2	11 58	1					12 9	PCP
PARIS	77.48	345.2	12 0	1						
BASLE	77.82	341.5	12 1	1						
BESANCON	78.39	342.5	12 5	1						
NEUCHATEL	78.45	341.8	12 5	1						
TACUBAYA	81.05	70.0	12 12	-6	22 15	-12				
KSARA	81.46	316.0	12 19A	-1			12 31		23 40	PS
JERUSALEM	83.50	315.5	12 32	1					15 46	PP
MESSINA	84.76	332.9							20 44	
ADELAIDE	88.97	197.6	12 58	0						
KARAPIRO	90.87	168.0	13 8	2					13 23	
TAMANRASSET	102.03	336.3	13 54	-3					18 9	PP
ELISABETHVLLE	124.57	299.3	19 4	3						

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LA PAZ	127.82	65.4	19	26	19						
BULAWAYO	130.84	292.0	19	1S	1						
BYRD STATION	139.39	164.7	19	21	-8						
KIMBERLEY	139.69	288.1	19	32	2						
SOUTH POLE	142.15	180.0	19	27	-7						

DECEMBER 29 7.H 4.M 16.S EPICENTRE -2.10 125.94 DEPTH= 0.KM

A=-0.58652 B= 0.80911 C=-0.03643 D= 0.8097 E= 0.5869
G= 0.0214 H=-0.0295 K=-0.9993 HT= 7.2

SF= 2.24

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LEMRA"G	18.85	255.0	4	26	2	7	54	2					
BA"UIO CITY	19.15	344.1	4	29	2								
DJAKARTA	19.48	257.4	4	32	1								
PORT MORESBY	22.30	109.8	5	2	1				5	10	5	39	PPP
RABAUL	26.27	95.2	5	40	1				5	49			
CHARTERS TS.	26.72	133.4	5	41	-2								
HONG KONG	26.84	335.3	5	17	-27						9	4	PCP
MUNDARING	31.09	196.1	6	20	-2								
ADELAIDE	34.80	161.4	6	53	-1						8	10	PP
BRISBANE	35.95	136.9	7	13	9						9	32	
CANBERRA	39.39	149.7	7	33A	0								
RIVERVIEW	39.39	146.0									14	25	
MATUSIRO	40.11	15.4	7	38	-1	13	50	4			9	44	PCP
CHITTAGONG	41.23	308.0	7	49A	1						9	29	PP
SHILLONG	42.94	312.0	8	2A	0								
CHATRA	47.17	310.3	8	36A	0								
P^ONA	55.17	294.2	9	35A	-2								
KARAPIRO	57.69	134.6	9	54	-1						10	47	
CHATEAU	58.25	135.9	9	58	-1						10	55	
WARSAK DAM	62.41	310.4	10	27A	0								
QUETTA	64.68	304.8	10	41A	-1								
TANANARIVE	78.34	251.2	12	5A	1								
SOUTH POLE	87.91	180.0	12	51	-2								
COLLEGE	90.28	25.2	13	2	-2								
BYRD STATION	92.09	170.9	13	12	0								
ELISABTHVLLE	97.87	258.0	13	38	-1								
RESOLUTE	103.66	10.3	14	3A	-2								
EUREKA	112.78	47.8	18	41	2								
TUCSON	118.91	54.1	18	53	2								
TUCSON TELE.	118.97	53.9	18	53	2								
HUANCAYO	154.62	124.1	20	OK	6						21	14	
LA PAZ	156.88	143.6	20	8	11								

DECEMBER 29 17.H 14.M 42.S EPICENTRE -21.41-174.58 DEPTH= 0.KM

A=-0.92764 B=-0.08809 C=-0.36295 D=-0.0945 E= 0.9955
G= 0.3613 H= 0.0343 K=-0.9318 HT= 4.3

SE= 2.77

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
AFIAMALU	7.92	20.1	2	4	5	3	24	-7					
APIA	8.03	19.8	1	54	-7	3	11	-22					
KARAPIRO	18.55	205.3	4	21	1						4	41	
CHATEAU	19.65	203.4	4	34	1	8	11	2					
WELLINGTON	21.76	202.1	4	55	0	8	45	-7					
KAIMATA	24.10	206.0	5	34	16	9	40	6					
GEBBIES PASS	24.64	202.6	5	28	5	9	44	1					
BRISBANE	30.26	252.1	6	14	-1	11	8	-6					
CANBERRA	34.71	238.5	6	54A	0								
CHARTERS TS.	36.58	264.8	7	9	0								
MELBOURNE	38.45	235.7	7	24	-1								
PORT MORESBY	38.67	282.0	7	26	-1	13	28	4	7	35	8	41	
ADELAIDE	42.96	241.3	8	2A	0								
CAPE HALLETT	51.65	185.9	9	19	9	16	42	11					
TERRE ADELIE	53.23	200.1	9	18	-4						19	18	SCS
SCOTT BASE	57.20	184.6	9	52	1								
MUNDARING	61.82	244.4	10	22	-1						10	36	

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BYRD STATION	63.22	170.8	10	31	-1					
WILKES	64.53	205.6	10	37	-4	19	20	0		
SOUTH POLE	68.72	180.0	11	7	0				11	34 PCP
MATUSIRO	72.87	321.8	11	32A	-1	20	41	-18	12	27
LEMBANG	76.21	268.0	11	52K	0					
BERKELEY	76.77	40.0	11	56	1					
LICK	76.80	40.8	11	54A	-1					
PASADENA	77.01	45.1	11	58	2	21	42	-3		
UKIAH	77.03	38.6	11	58	2					
FRESNO	77.57	42.2	11	59	0					
SHASTA	78.54	37.8	12	3	-2					
MINERAL	78.77	38.5	12	4	-2					
RENO	79.31	40.0	12	9	0					
BOULDER CITY	80.30	45.3	12	14	0					
CORVALLIS	80.64	34.4	12	16	0					
TUCSON	80.99	50.3	12	24	6					
TUCSON TELE.	81.12	50.3	12	18	-1					
EUREKA	81.61	41.9	12	20	-1					
NANKING	83.00	308.2	12	30A	2	23	6	19		
CHANGCHUN	85.09	321.0	12	40A	1	23	26	18		
HUNGRY HORSE	87.98	35.5	12	52	-1					
COLLEGE	88.45	11.1	12	53	-2					
PEKING	88.80	314.1	12	58A	1	23	58	15	23	32 SKS
SIAN	91.33	306.3	13	10	1					
KUNMING	92.62	295.8	13	17A	2	24	35	17	23	51 SKS
CHENGTU	93.69	301.4	13	22	2	24	44	17	24	2 SKS
YAKUTSK	94.15	337.0	13	20	-2					
LANCHOW	95.87	306.3	13	31	1					
SHILLONG	102.00	292.8	13	58	1					
RESOLUTE	107.79	15.9				26	36	93	33	54 SS
PALISADES	111.58	53.1							27	5 SKKS
QUETTA	124.49	292.6	19	3	2					
NURMIJARVI	138.65	345.7							21	30 PKP2
ELISABTHVLLE	140.65	215.4	19	38	6					
GOTEBORG	143.44	354.1	19	37	1					
COPENHAGEN	145.38	353.0	19	39	-1				19	51 PKP2
ADDIS ABABA	145.64	254.1	19	45	5					
DURHAM	146.28	7.3	19	47A	6					
SIMFEROPOL	146.72	321.6	19	46	4					
WARSAW	146.95	342.3	19	46	4					
LWIRO	147.20	227.0	19	48A	5					
LWOW	148.05	337.0	19	48	4				20	21
POTSDAM	148.53	351.0	19	49	4					
IASI	148.65	330.4	19	49	4				20	26
KRAKOW	149.21	341.6	19	55	9					
MUNSTER	149.45	357.3	19	52	6					
HALLE	149.54	351.9	19	52	5				20	19
COLLMBERG	149.59	350.6	19	52	5				20	24
RACIBORZ	149.66	343.6	19	52A	5					
JENA	150.15	352.2	19	54	6				20	5 PKP2
KSARA	150.43	301.2	19	47	-1				23	33 PP
BENSBERG	150.48	357.8	19	54	6					
PLAUEN	150.50	351.2	19	52	4					
PRUHONICE	150.59	348.0	19	54	6				20	26
UCCLE	150.66	1.4	20	14	26					
DOURBES	151.36	1.1	19	47	-2					
JERUSALEM	151.51	297.5	19	58K	8					
BRATISLAVA	151.70	343.4	19	52	2					
VIENNA-H.	151.82	344.4	19	50	0					
STUTTGART	152.53	354.5	19	58	7				20	9 PKP2
TUBINGEN	152.79	354.7	20	10	19					
STRASBOURG	152.83	356.6	20	11	20					
EBINGEN	153.14	354.7	20	12	20					
RAVENSBURG	153.48	353.7	20	13	21					
BESANCON	154.22	359.1	20	17	24				20	31
LJUBLJANA	154.32	345.3	19	53A	-1				20	27
GRANADA	162.44	24.5	20	21K	18				21	3 PKP2
TAMANRASSET	178.64	356.3	20	14	2				25	57 PP

DECEMBER 29 20.H 35.M 13.S EPICENTRE 17.54 145.36 DEPTH= 369.KM

A=-0.78502 B= 0.54226 C= 0.29951 D= 0.5683 E= 0.8228
G=-0.2464 H= 0.1702 K=-0.9541 HT= 5.2

DEPTH OF FOCUS= 0.053R

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SE= 1.52

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
GUAM	4.10	188.5	1	10	-2	2	4	-4					
OMAESAKI	18.15	340.8									6	48	
MISIMA	18.42	343.2	3	51	0	6	39	-19					
YOKOHAMA	18.53	345.2	3	52	0						7	1	
YAKUSIMA	18.67	316.2	3	55	1	7	6	3					
TOKYO C.M.O.	18.75	345.6	3	55	0	7	6	2					
HUNATU	18.83	343.1	3	54	-1	7	8	2					
SIMIDU	18.85	326.0	3	56	0	7	10	4					
KOBE	19.04	342.8	3	58	0	7	14	5					
NAGOYA	19.09	338.5	3	58	0								
MIYAZAKI	19.09	321.2	3	59K	1	7	17	7					
KAKIOKA	19.18	347.1	3	59	0	7	18	6					
TUKUBASAN	19.18	346.9	3	57K	-2	7	4	-8			4	32	
TITIBU	19.20	344.3	3	59	0	7	15	3					
MITO	19.26	348.0	3	59	-1	7	17	4					
KUMAGAYA	19.28	345.2	3	58	-2	7	15	1			5	40	
ABUYAMA	19.35	335.0	3	59K	-2								
GIHU	19.36	338.4	4	2	1								
KAGOSIMA	19.38	318.9	4	3	2	7	21	6					
TAKAMATU	19.54	331.0	4	4	2	7	20	2					
UTUNOMIYA	19.55	346.7	4	2	0	7	17	-1			5	6	
MAEBASI	19.60	344.7	4	3	0	7	30	11					
ONAHAMA	19.73	349.4	4	4K	0	7	24	2					
MATUMOTO	19.76	342.1	4	6	2	7	24	2					
OOITA	19.92	324.2	4	7K	1	7	23	-2					
MATUSIRO	19.96	342.9	4	4K	-2	7	23	-2					
SHIRAKAWA	20.03	347.9	4	4	-3	7	20	-7					
NAGANO	20.08	343.0	4	8	0	7	35	7					
KUMAMOTO	20.15	321.8	4	10	2	7	32	3					
HIROSIMA	20.37	327.9	4	9	-1	7	33	0					
YAMAGATA	21.10	349.0	4	19	2	7	52	7					
ISHINOMAKI	21.11	351.2	4	19	1	7	52	7					
MIZUSAWA	21.83	351.1	4	26	2	7	58	1					
MIYAKO	22.23	353.1	4	29	1	7	56	-8					
MORIOKA	22.30	351.5	4	32	2								
AKITA	22.57	349.4	4	35	4								
RABAUL	22.62	152.1	4	33	1								
BAGUIO CITY	23.73	271.0	4	44	2								
HAKODATE	24.51	351.7	4	49	0								
URAKAWA	24.62	355.4	4	51	1								
MORI	24.92	351.7	4	52	0								
OBIHIRO	25.37	353.3	4	57	0								
PORT MORESBY	26.82	176.1	5	3	-1	9	16	-3	6	17	6	25	PPP
VLADIVOSTOK	27.95	333.7	5	19	-1						9	24	
NANKING	28.03	306.0	5	20	-1	9	34	-4			6	42	
Y.-SAKHLINSK	29.46	356.3	5	31	-2	9	54	-6	6	48			
HONG KONG	29.63	234.3				9	58	-5	6	51	12	27	PCS
CANTON	30.50	295.8	7	1	79	10	18	2			12	40	
CHANGCHUN	31.20	331.4	5	47K	-1	10	23	-4			7	6	
PEKING	33.75	317.6	6	10K	0	11	3	-3			7	36	
SIAN	36.53	304.2	6	34K	1	11	47	-?					
PHU-LIEN	36.67	281.4				11	48	-3			14	47	*SS
CHARTERS TS.	37.40	178.6	6	41	0	12	0	-2					
PAOTOW	38.10	314.4	6	48K	2						8	23	
CHENGTU	39.73	297.0	7	0K	0	12	33	-3			15	46	
KUNMING	40.28	288.3	7	6	2	12	45	1			16	1	SS
LANCHOW	41.04	305.1	7	12K	2	12	55	0			8	48	
MAGADAN	42.14	4.1	7	20	1	13	8	-3					
ULAN-BATOR	43.60	322.6	7	31	0	13	31	-1					
BRISBANE	45.24	170.7	7	45	1	13	43	-12					
IRKUTSK	47.28	326.7	7	59	-1						9	57	PP
MEDAN	47.79	258.6	8	5K	2	14	32	1					
SHILLONG	50.12	288.9	8	21K	0								
CHITTAGONG	50.35	284.8	8	19K	-4	15	2	-4	9	36	10	20	PP
LHASA	50.82	294.2	8	28	2	15	14	1			10	26	
ADELAIDE	52.60	186.9	8	34	-5	15	39	2			9	55	PCP
CANBERRA	52.68	176.3	8	41	1				10	2			
CHATRA	54.28	290.7	8	51K	0	15	56	-3					
TIKSI	54.96	353.7	8	53	-3						17	58	SCS
MELBOURNE	55.07	180.4	8	59A	2				10	15			
MUNDARING	56.61	209.7	9	7	-1								
KARAPIRO	62.04	153.3	9	45	1						11	3	
DEHRA DUN	62.06	295.4	9	48	3	17	37	-2					
FRUNSE	64.26	309.6	9	59	0						18	6	
COLLEGE	64.45	25.8	9	58	-2	18	2	-6			14	17	PP

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WARSAK DAM	67.19	300.1	10	18K	1					19	36
POONA	67.57	283.2	10	19	0	18	41	-5		19	40 SCS
TASHKENT	68.29	308.1	10	22	-2					19	1
STALINABAD	68.94	305.2	10	27	-1					13	29 PP
QUETTA	71.60	296.6	10	44K	0	19	32	0	12 1		
KHEYS	72.38	350.1	10	47	-1					11	45
SVERDLOVSK	72.64	325.0	10	50	0						
ALBERNI	76.80	42.3	11	14K	1						
ASHKABAD	77.13	305.9				20	35	2		16	10 PPP
HORSESHOE B.	77.76	42.0	11	14K	-5						
VICTORIA	77.86	42.8	11	19K	0						
CORVALLIS	78.84	46.7	11	26K	2						
UKIAH	80.22	52.1	11	32	0						
SHASTA	80.44	50.4	11	34K	1						
RESOLUTE	80.62	13.5	11	32K	-2	21	5	-4		22	47 PS
NORD	80.63	357.4	11	33	-1						
MINERAL	81.11	50.6	11	37K	1						
SAN FRANCSCO	81.15	53.3	11	38	1						
BERKELEY	81.27	53.1	11	37	0						
LICK	81.89	53.5	11	41K	1						
APATITY	81.97	338.9	11	39K	-2						
RENO	82.65	51.0	11	45K	1						
FRESNO	83.46	53.6	11	50K	2						
HUNGRY HORSE	83.92	41.3	11	51	0	21	35	-7	13 10	13	56
THULE	84.07	7.6	11	51	0						
SODANKYLA	84.34	340.1	11	51	-2						
MOSCOW	85.26	327.3	11	56	-1	21	43	-12	13 30		
EUREKA	85.50	50.1	11	59	1	21	59	2			
PASADENA	85.51	55.7	11	59K	1	21	58	1	13 17	14	9 *SP
BUTTE	85.65	43.1	11	59	0					12	54
GORIS	85.77	310.0	12	0	0	21	48	-11			
KIRUNA	86.00	341.8	12	0	-1					14	6
OULU	86.02	338.3	12	0	-1						
TIFLIS	86.12	312.5	12	1	0					15	31 PP
BOZEMAN	86.77	43.1	12	5	1				13 37		
BOULDER CITY	87.51	53.1	12	10	2				13 40		
SALT LAKE C.	88.02	47.8	12	11	1						
NURMIJARVI	88.90	334.8	12	13	-1						
HELSINKI	88.97	334.4	12	14	-1						
CAPE HALLETT	91.17	172.6								24	47 PS
SKALSTUGAN	91.36	340.9	12	23	-3					16	4 PP
TUCSON	91.94	55.4	12	30	1						
SIMFEROPOL	91.98	318.5	12	29	0					16	18 PP
TUCSON TELE.	91.99	55.3	12	30	1						
UPPSALA	92.08	336.5	12	27A	-2					15	35
LARAMIE	92.16	45.4	12	31	1						
RAPID CITY	92.50	42.2	12	31	0						
LWOW	95.35	326.2								16	42 PP
KSARA	95.68	307.9	12	47A	1					15	51
GOTEBORG	95.69	336.9	12	43	-3					16	41 PP
JERUSALEM	97.06	306.3	12	52K	0					16	48 PP
COLLMBERG	99.82	331.9	13	3	-1					17	15 PP
PRUHONICE	100.01	330.3								17	11 PP
HALLE	100.14	332.5								17	17 PP
JENA	100.71	332.3								17	14 PP
STUTTGART	103.30	331.9								17	39 PP
TUBINGEN	103.58	331.8								17	42 PP
UCCLE	103.84	335.7								17	46 PP
DOURBES	104.29	335.1								15	55
PARIS	106.15	335.5								17	56 PP
FOLINIERE	107.32	337.1								18	7 PP
SOUTH POLE	107.43	180.0	13	42	777					18	7 PP
BYRD STATION	108.04	169.5	13	27	777						
PALISADES	111.29	30.9	18	46	56					28	46 PS
ELISABTHVLLE	119.83	266.4	18	9	2						
BULAWAYO	120.40	256.6	18	10	2						
TAMANRASSET	123.90	314.2	18	26	11				20 1	20	5 PP
HUANCAYO	140.33	87.8	18	46	0					21	50 PP
MBOUR	143.81	330.1	18	52	0					22	11 PP
LA PAZ	147.98	93.2	19	3	4					20	53

DECEMBER 29 21.H 27.M 18.S EPICENTRE -8.47 122.41 DEPTH= 0.KM

A=-0.53021 B= 0.83515 C=-0.14629 D= 0.8442 E= 0.5360
G= 0.0784 H=-0.1235 K=-0.9892 HT= 6.7

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SE= 1.96

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
LEMBANG	14.75	275.3	3 38K	6	6 30	13		
MUNDARING	24.08	193.0	5 17	-1	9 25	-8		
PORT MORESBY	24.46	94.1	5 23	1	9 32	-8		10 6
CHARTERS TS.	25.80	119.2	5 35	1				12 24
MEDAN	26.52	295.9	6 17	36				16 17
ADELAIDE	30.32	152.8	6 14	-1	12 18	63		15 18
BRISBANE	34.33	127.1	6 52	2				15 37
MELBOURNE	35.64	148.6	7 2A	0	12 36	-2	7 36	13 1 PCS
CANBERRA	36.14	141.6	7 6K	0				8 27 PP
SHILLONG	45.03	319.6	8 19A	0				
MATUSIRO	47.17	17.4	8 36A	0	14 57	-32		
CHATRA	48.98	316.9	8 49	-1				
KARAPIRO	56.02	130.3	9 42K	-1				
CHATEAU	56.41	131.7	9 50	4				
WARSAK DAM	64.07	314.2	10 37	-1				
QUETTA	65.64	308.5	10 46	-2				
SCOTT BASE	72.97	171.1	11 32	-1				
TANANARIVE	73.04	252.8	11 33	-1				
SOUTH POLE	81.59	180.0	12 19	-2				12 56
BYRD STATION	86.40	171.1	12 44	-2				
BULAWAYO	90.66	249.7	13 6	0				
BROKEN HILL	91.70	255.2	13 11	0				
ELISABTHVLLE	93.10	257.8	13 16	-1				14 15
COLLEGE	97.50	25.5	13 34	-3				
SODANKYLA	99.99	337.0	13 45	-3				
HELSINKI	101.00	329.7	13 51	-2				
KIRUNA	102.31	337.7	13 56	-3				
UPPSALA	104.70	329.7	14 6	-3				
RESOLUTE	110.50	9.9	18 32	-2				
TAMANRASSET	117.99	291.2	18 48	-1				
HUNGRY HORSE	113.23	39.1	18 48	-1				20 7
PASADENA	113.99	55.7	18 51	0				
EUREKA	119.61	49.3	18 52	0				
TUCSON TELE.	125.47	56.3	19 4	1				
FAYETTEVILLE	136.81	44.9	19 11	-14				22 41 PP
PALISADES	144.50	21.5	19 36	-2				
HUANCAYO	153.05	138.9	20 2A	10				
LA PAZ	153.09	157.2	20 2	10				20 37

DECEMBER 31 10.H 29.M 24.S EPICENTRE -2.99 139.46 DEPTH= 0.KM

A=-0.75891 B= 0.64913 C=-0.05183 D= 0.6500 E= 0.7599
G= 0.0394 H=-0.0337 K=-0.9987 HT= 7.1

SE= 2.53

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PORT MORESBY	9.95	130.1	2 27K	0	4 9	-12		
RABAUL	12.74	95.8	3 8	3				4 33
CHARTERS TS.	18.25	159.2	4 14	-2	7 33	-5		
BRISBANE	27.40	153.6	5 49	0	10 28	0		
ADELAIDE	31.83	181.1	6 28	0				7 12
RIVERVIEW	32.57	161.7	6 41A	6	11 51	1		
CANBERRA	33.36	165.7	6 42	0				
MELBOURNE	35.04	172.4	6 58K	2				
MUNDARING	36.18	214.6	7 6	0				
AZUYAMA	37.84	354.8	7 20K	0				
MATUSIRO	39.34	358.4	7 30	-3	13 25	-9		7 50
MEDAN	41.27	278.8	7 49	1				
KARAPIRO	47.94	141.1	8 40	-2				16 3
COBB RIVER	48.31	146.3	8 51	6				
CHATEAU	48.72	142.5	8 47A	-1				
WELLINGTON	49.59	145.1	8 52	-3				
ROXBURGH	49.75	152.7			16 11	6		
GEBBIES PASS	50.07	148.8	8 55	-3				
CHITTAGONG	52.89	300.9	9 39	19				
SHILLONG	54.12	304.6	9 28A	-1				
WILKES	66.41	192.3			19 37	-6		
POONA	67.98	291.2	11 2	-1				
CAPE HALLETT	71.84	170.5	11 26	0	20 42	-5		
WARSAK DAM	73.55	306.6	11 42A	6				

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SCOTT BASE	76.19	174.3	11 51	-1			
QUETTA	76.47	301.8	11 54A	1			
COLLEGE	85.42	24.1	12 39	-1			
SOUTH POLE	87.03	180.0	12 47	-1			
BYRD STATION	88.98	170.1	12 55	-3		13 32	
RESOLUTE	101.81	12.8	13 54	-2			
EUREKA	103.14	50.3	14 1	-1			
TAMANRASSET	131.26	297.9				21 38	PP
PALISADES	131.69	33.9				22 55	PKS
HUANCAYO	14 2.33	114.0	19 36	2			
BERMUDA	143.01	35.1				21 52	PP
LAPAZ	146.56	126.3	19 12	-30		19 58	
SAN JUAN	150.65	56.8	19 57	9		20 48	

DECEMBER 31 20.H 52.M 57.S EPICENTRE 37.27 -25.16 DEPTH= 0.KM

A= 0.72200 B=-0.33920 C= 0.60304 D=-0.4252 E=-0.9051
G= 0.5458 H=-0.2564 K=-0.7977 HT= -0.7
SE= 3.57

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
PONTA DELGDA	0.81	311.1	0 13	-2									
TOLEDO	16.71	74.3	3 51	-6		[illegible]		-32					
GRANADA	17.10	83.8	4 1K	-1		7	23	10			4	16	PP
ALMERIA	18.12	84.5	4 7	-7		7	32	-2			4	23	PP
ALICANTE	19.52	79.3	4 27	-4		8	0	-6			4	44	PPP
RELIZANE	20.71	36.4	4 41	-3		3	33	7			5	8	PP
RATHFARNHAM	20.91	33.2	4 40K	-4							5	8	PP
FOLLINIERE	21.29	49.3	4 47	-3									
ALGIERS UNI.	22.50	32.7	4 58	-4		9	0	-5					
KEW	22.59	43.2	5 0A	-3		9	8	2			5	9	
CLERMONT-FD.	22.72	59.2	5 2	-2									
PARIS	23.14	51.3	5 6	-2									
DURHAM	23.78	35.1	5 15A	0		9	28	0					
MBOUR	23.94	160.1	5 19	3		9	40	10					
SETIF	24.47	83.2	4 57	-24							5	40	PPP
DOURBES	24.87	49.5	5 25	0		9	54	8					
UCCLE	24.96	47.8	5 29	3									
BESANCON	24.96	56.6	5 30	4									
MONACO	25.50	65.1	5 29	-2									
NEUCHATEL	25.56	57.5	5 37	5									
DE BILT	25.93	45.4				10	3	-1					
STRASBOURG	26.43	54.2	5 38	-2		10	23	11			6	5	
BENSBERG	26.70	48.8	5 49	7									
WITTEVEEN	27.05	44.7	5 43	-2									
EBINGEN	27.13	55.4	5 48	2									
TUBINGEN	27.26	54.7	5 50	3									
MUNSTER	27.29	46.9	5 48	0									
STUTTGART	27.45	54.3	5 45	-4		10	20	-9			6	25	PP
RAVENSBURG	27.49	56.5	5 49	0									
ROME	29.22	69.1	6 10	5							12	24	
JENA	29.37	50.5	6 8	2							6	36	
HALLE	29.73	49.5	6 14	4		11	2	-4			7	2	PP
TAMANRASSET	30.08	110.0	6 11K	-2		11	9	-2					
TRIESTE	30.10	61.5	6 16	3									
COLLMBERG	30.33	50.2	6 19	4							6	34	
LJUBLJANA	30.65	60.7	6 13	-5							6	38	
PRUHONICE	31.05	53.1	6 23	2							7	24	
MESSINA	32.03	75.7				10	56	-46					
BRATISLAVA	32.52	56.9	6 37	3									
UPPSALA	35.31	36.4	7 1	3									
PALISADES	37.60	291.2				13	18	10					
KIRUNA	39.67	25.1	7 38	3									
SODANKYLA	41.67	27.2	7 53	2									
THULE	43.65	346.5	3 6	-2									
APATITY	44.24	28.0	8 7	-5									
SIMFEROPOL	44.44	60.7	8 19	5		14	53	4					
MOSCOW	45.28	45.1	8 30	9									
CARACAS	46.03	245.5	7 10	-77		14	3	-69					
KSARA	49.04	74.7	8 55	5									
RESOLUTE	49.10	340.7	8 46	-5		15	53	-3			18	27	SCS
KHEYS	52.39	11.9	9 20	4		16	44	3					
TIFLIS	52.81	62.0	9 20	1									
FAYETTEVILLE	54.20	291.2	9 27K	-2									

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.
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LEOPOLDVILLE	55.95	128.7	9	40K	-2
RAPID CITY	57.50	303.3	9	50	-3
SVERDLOVSK	57.59	40.5	9	57	3
LARAMIE	60.22	301.1	10	10	-2
BOZEMAN	61.96	307.6	10	21	-3
HUNGRY HORSE	62.63	311.3	10	25	-3
BUTTE	62.76	308.5	10	27	-2
LWIRO	63.55	115.5	10	33A	-1
ADDIS ABABA	63.88	98.8	10	35	-1
LA PAZ	67.06	225.2	11	6	9
HUANCAYO	67.99	234.1	11	5	2
TUCSON TELE.	68.08	294.5	11	4	1
EUREKA	68.09	303.5	11	2	-1
COLLEGE	68.81	337.3	11	9	1
ELISABTHVLLE	69.31	123.7	11	9	-2
CORVALLIS	70.05	311.2	11	58	43
MINERAL	71.30	306.7	11	20A	-3
BROKEN HILL	72.02	124.9	11	27	0
QUETTA	73.97	64.2	11	36	-3
BULAWAYO	76.32	128.7	11	49	-3
YAKUTSK	78.99	11.8	12	11	4
ULAN-BATOR	85.02	30.1	12	44	6
SOUTH POLE	127.09	180.0	19	15	9
CAPE HALLETT	144.03	187.9	19	45	8
PORT MORESBY	151.39	16.0	19	55	6

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained as part of a global earthquake relocation project (Villaseñor et al., 1997) initiated with funding from the US National Science Foundation through grant EAR-9725140 and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of Euroseismos project.

A digital hypocenter file of the ISS (Villaseñor and Engdahl, 2005) can be obtained from the USGS web site: http://earthquake.usgs.gov/scitech/iss/

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Villaseñor, A., and E.R. Engdahl, *A digital hypocenter catalog for the International Seismological Summary,* Seism. Res. Lett., vol. 76, no. 5, pp. 554-559, 2005.

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