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.

JANUARY 1 0.H 56.M 40.S EPICENTRE 53.31 159.04 DEPTH= 117.KM

DEPTH OF FOCUS= 0.013R

A=-0.56036 B= 0.21461 C= 0.79996 D= 0.3577 E= 0.9339
G=-0.7470 H= 0.2861 K=-0.6001 HT= -6.6

SE= 2.00

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PETROPAVLOVK	0.30	232.6	0 16A	-1	0 28	-3		
MAGADAN	7.74	327.2	1 51	0	3 23	5		
UGLEGORSK	11.46	255.1	2 44	3	5 1	14		
Y.-SAKHLINSK	12.24	245.2	2 55K	4	5 14	9		
VLADIVOSTOK	20.64	251.4	4 29	-2			4 55	
TUKUBASAN	21.63	225.4	4 34	-7				8 35
MATUSIRO	22.19	229.3	4 48K	1	8 46	8		9 28
TIKSI	22.61	335.5	4 51	0			5 16	9 29 *SS
CHANGCHUN	24.05	260.5	5 5	0				10 15
COLLEGE	28.71	45.3	5 47	-1				6 10
PEKING	31.77	262.8	6 13	-2				
RESOLUTE	43.36	21.8	7 52A	0				
HORSESHOE B.	46.44	61.8	8 16A	0				
VICTORIA	46.87	62.8	8 19A	-1				
BAGUIO CITY	47.50	234.1	8 28	3				
BANFF	49.33	55.8	8 43	4				
CORVALLIS	49.36	66.9	8 39	0				
SVERDLOVSK	51.68	316.1	8 56	-1	16 8	1	5 16	
HUNGRY HORSE	51.87	57.9	8 58	0				10 10
SHASTA	52.41	70.1	9 2	0			9 27	
UKIAH	52.99	72.1	9 6	0				
MINERAL	53.10	70.0	9 8A	1			9 42	
BUTTE	54.16	59.2	9 15	0				
FRUNSE	54.20	295.6	9 14A	-1	16 42	1	9 40	18 52 SCS
BERKELEY	54.40	72.6	9 16A	0				
LICK	55.12	72.7	9 22	0				11 28 PP
KIRUNA	55.30	342.2	9 21	-2			9 51	
SHILLONG	56.38	268.4	9 29	-2				
FRESNO	56.57	71.9	9 33	0				
EUREKA	56.83	67.1	9 34	0				
TINEMAHA	57.26	70.6	9 46A	0			10 15	
RABAUL	57.60	188.1	9 39	-1				
KING RANCH	57.63	73.1	9 40A	0			10 5	
WOODY	57.87	72.2	9 41A	0			10 6	11 49
ISABELLA	58.12	72.0	9 42A	-1			10 5	11 51
SALT LAKE C.	58.16	63.4	9 44	1				
CHATRA	58.27	273.2	9 43	-1				
CHINA LAKE	58.50	71.2	9 46A	0			10 11	11 56
PASADENA	59.37	73.0	9 52A	0				10 27
RIVERSIDE	59.94	72.5	9 55A	-1				
BOULDER CITY	59.95	69.2	9 56	0				10 31 PCP
RAPID CITY	60.25	55.3	9 58	0				10 19
SKALSTUGAN	60.60	343.7	9 58	-2				
PALOMAR	60.70	72.7	10 0A	-1				10 36
MOSCOW	61.14	326.5	10 2	-2	18 10	-2	10 31	10 47 PCP
HAYFIELD	61.14	71.6	10 3	-1				10 43
BARRETT	61.30	73.1	10 5A	0				10 40
UPPSALA	63.01	339.3	10 14	-2				10 44 PCP
TUCSON	64.93	69.3	10 30	1				12 27 PP
QUETTA	67.60	290.6	10 43	-3				
TIFLIS	69.76	313.3	10 59	0				20 48 SCS
HAMBURG	70.42	341.0	11 4	1				11 33 PCP
FAYETTEVILLE	70.80	55.2	11 4A	-1				11 30
OTTAWA	71.11	37.5	11 6K	-1			11 32	
SHAWINIGAN	71.16	35.0	11 6	-1				
SEVEN FALLS	71.32	33.5	9 7A	-121				
SIMFEROPOL	71.38	322.1	11 10	1				21 6 *SS
KRAKOW	71.39	333.6	11 9	0				12 4
WITTEVEEN	71.75	342.8	11 13	2				
RACIBORZ	71.82	334.6	11 11	0				
POONA	72.52	277.6	11 16	1				
BRATISLAVA	73.86	334.6	11 25	2				12 16
STUTTGART	75.13	339.9	11 29	-2				12 21
TUBINGEN	75.39	339.9	11 32	0				
NOUMEA	75.57	172.9	11 35	2				
STRASBOURG	75.60	340.8	11 34A	1				12 12 PP
EBINGEN	75.74	339.8	11 35	1				

PARIS	76.33	344.3	11 38	1			11 53	PCP
BASLE	76.64	340.6	11 26	-13				
BESANCON	77.22	341.6	11 45	3			12 4	PCP
NEUCHATEL	77.28	340.8	11 44	1				
KSARA	80.21	315.0	11 59	0		12 39	14 37	*PPP
SAFED	81.11	314.8	12 7	4				
TACUBAYA	81.45	69.1	11 59	-6	21 46 -19		17 7	PPP
JERUSALEM	82.25	314.4	12 10A	1			15 48	PP
TAMANRASSET	100.82	335.2	13 37	1				
MBOUR	112.50	355.8	14 22	- 40				
PRETORIA	134.40	287.3					22 24	

JANUARY 2 0.H 39.M 24.S EPICENTRE 52.70-168.51 DEPTH= 0.KM

A=-0.59637 B=-0.12126 C= 0.79350 D=-0.1993 E= 0.9799
G=-0.7776 H=-0.1581 K=-0.6086 HT= -6.4

SE= 3.40

	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	
COLLEGE	16.13	32.9	3	46	-4	7	6	16					
SITKA	19.46	63.9	4	29	-2	8	10	5			4	55	
PETROPAVLOVK	19.72	284.4	4	33	-1								
MAGADAN	23.38	303.2	5	14	3								
HORSESHOE B.	28.27	78.4	6	2	5								
VICTORIA	28.55	80.1	5	57	-3								
SEATTLE	29.61	81.0	6	17	8	11	12	8					
CORVALLIS	30.52	87.0	6	20	3								
Y.-SAKHLINSK	31.48	279.4	6	24	-2						7	35	PPP
NEMURO	31.62	271.4	6	25	-2								
BANFF	32.09	71.1	6	31	0						9	20	
HONOLULU	32.36	161.7	6	27	-6	11	48	1					
KUSIRO	32.53	271.8	6	34	-1	11	43	-7					
TIKSI	32.72	328.6	6	38	1						7	46	PPP
WAKKANAI	32.87	277.6									11	3	
SHASTA	33.26	92.4	6	39K	-2						13	19	
UKIAH	33.72	95.3	6	46	1	12	13	4			7	57	PP
MINERAL	33.98	92.2	6	45A	-3								
HUNGRY HORSE	34.21	75.0	6	47	-3	12	16	0			7	54	PP
SAPPORO	34.34	274.2	6	51	0	12	24	6					
TOMAKOMAI	34.51	273.2	6	53	1								
HAWAII V.OB.	34.77	157.7	6	49	-5	12	24	-1					
BERKELEY	35.10	96.2	6	54K	-3	12	29	-1					
MORI	35.36	273.4	7	2	3	12	46	12					
RENO	35.54	91.9	7	0	-1	12	25	-12					
SANTA CLARA	35.63	96.6	7	5K	3	12	55	17					
LICK	35.82	96.4	7	0K	-3								
RESOLUTE	35.84	25.8	7	1A	-3	11	37	-65			9	31	PCP
BUTTE	36.23	77.6	7	4	-3	12	50	3					
MORIOKA	36.43	269.6	7	4	-4	12	46	-5					
SASKATOON	36.71	65.4				12	52	-2					
BOZEMAN	37.32	77.2	7	13	-3	12	40	-24			7	29	
FRESNO	37.34	95.4	7	15K	-1								
SENDAI	37.48	268.0	7	13	-4								
EUREKA	37.91	88.9	7	19	-2								
TINEMAHA	38.07	93.8	7	21	-1	13	20	4					
KING RANCH	38.30	97.2	7	22	-2								
WOODY	38.58	96.0	7	24	-3	13	20	-3					
ISABELLA	38.85	95.7	7	25	-4								
UTUNOMIYA	39.22	266.7	7	32	0	13	28	-5			7	52	
KAKIOKA	39.24	266.1	7	30	-2								
CHINA LAKE	39.27	94.7	7	31	-1								
SALT LAKE C.	39.63	84.2	7	32	-3	13	28	-11			9	19	PCP
KUMAGAYA	39.78	266.7	7	40	3								
MAEBASI	39.80	267.2	7	37	0								
TOKYO C.M.O.	39.88	265.8	7	44	7	13	54	9					
VLADIVOSTOK	40.01	280.8	7	39	1								
PASADENA	40.05	97.1	7	36	-3	13	41	-4					
YOKOHAMA	40.09	265.6	7	57	18								
NAGANO	40.16	268.3	7	45	5								
OIWAKE	40.17	267.6	7	42	2	13	38	-9					
MATUSIRO	40.22	268.1	7	39A	-1	13	51	3			9	19	PP
MATUMOTO	40.57	268.0	7	55	12								
KOHU	40.62	266.8	7	51	8								
RIVERSIDE	40.63	96.6	7	41	-3	13	52	-2					
MISIMA	40.73	265.9	7	42	-2	13	49	-7					
TOYAMA	40.75	269.1	7	51	7								

BOULDER CITY	40.84	92.2	7	43	-2	13	57	0		
PALOMAR	41.39	96.9	7	46	-4					
HAYFIELD	41.88	95.4	7	54	0					
BARRETT	41.98	97.4	7	52	-2	14	12	-2		
NAGOYA	41.90	267.6	8	3	9					
HIKONE	42.27	268.3	7	59	2	14	20	2		
KAMEYAMA	42.41	267.6	8	4	6	14	24	3		
KYOTO	42.75	268.4	8	4	3	14	28	3		
RAPID CITY	42.84	74.4	7	59	-3				9	51 PCP
TOYOOKA	42.96	269.7	8	1	-2					
OSAKA	43.12	268.2	8	12	8					
KOBE	43.31	268.5				14	39	5	18	10
CHANGCHUN	43.49	285.9	8	5	-2					
HAMADA	45.06	271.2	8	11	-9					
KOTI	45.08	268.6	8	20	0	15	6	7		
TUCSON	45.80	92.9	8	23	-3	15	7	-3	10	4 PP
OOITA	46.46	269.9	8	34	3	15	25	6		
KUMAMOTO	47.31	270.2	8	46	9					
MIYAZAKI	47.49	268.7	8	40	1					
KAGOSIMA	48.27	269.1	8	43	-2					
LUBBOCK	50.35	84.6	8	58	-3					
PEKING	51.19	287.6	9	8	1	16	34	9		
CHIHUAHUA	51.25	92.4	9	11	3	16	29	3	20	36
KIRKLAND LA.	53.11	56.8	9	14A	-8					
CHICAGO CGS.	53.23	67.2	9	37	14	16	49	-4	19	1 SCS
FAYETTEVILLE	53.23	76.8	8	54K	-29					
FLORISSANT	53.63	71.7	9	21K	-5	16	55	-4	19	13 SCS
ST. LOUIS 1	53.82	71.8	9	24	-3	16	57	-4	10	34 PCP
ZO-SE	54.29	275.9	9	29	-1	17	14	6	11	29 PP
SCORESBY SD.	54.79	13.1	9	33	-1	17	28	14	19	33 SCS
NANKING	55.06	278.5	9	34	-2	17	22	4	19	25 SCS
OTTAWA	57.16	56.9	9	47A	-4	17	47	0	11	55 PP
SHAWINIGAN	57.84	54.2	9	52A	-4					
PITTSBURGH	58.37	63.6	9	56	-4					
SEVEN FALLS	58.39	52.6	7	53A	-127	16	2	-120	8	34 PCP
GUADALAJARA	58.82	96.6	10	52	49	18	4	-4	19	56
APATITY	58.95	350.4	10	7	3	18	14	5	18	31 PS
PENNSYLVANIA	59.25	62.0	10	13	7	18	14	1		
MOBILE	60.60	77.1	10	19	4	18	23	-8	25	22 SSS
REYKJAVIK	60.65	16.1	10	17	2					
WASHINGTON	61.03	63.1	10	27	9					
PALISADES	61.20	59.4	10	16A	-3	18	36	-2	10	52 PCP
FORDHAM	61.33	59.5	10	17	-3	18	42	2		
WESTON	61.54	56.7	10	18A	-3	18	46	3	22	57 SS
SEMIPALATNSK	62.06	317.5	10	23	-2	18	47	-2	11	1 PCP
CHAPEL HILL	62.09	66.7	10	20	-5					
TACUBAYA	62.29	94.1	10	34	8	18	49	-3	14	16 PPP
COLUMBIA	62.36	69.5	10	21	-6	18	45	-8	20	18 SCS
SVERDLOVSK	63.64	332.4	10	40	5	19	12	3	11	11 PCP
HALIFAX	63.66	50.4	10	34	-2	19	14	5		
SKALSTUGAN	64.06	359.6	10	36A	-2				11	15 PCP
VERA CRUZ	64.31	91.8	10	46	6	19	4	-13		
CANTON	64.93	275.6	10	43	-1	19	31	6		
HONG KONG	64.97	274.3	10	48	4	19	33	8		
BAGUIO CITY	65.55	265.1	10	55	7					
MANILA	66.73	263.5	11	7	12	19	56	9		
MERIDA	66.94	85.4	11	6	9	19	54	5		
BERGEN	67.14	3.3	10	56	-2				21	5 SCS
UPPSALA	67.70	356.7	10	59A	-2	19	57	-2	20	9 PS
COMITAN	69.00	90.6				20	3	-12	12	44
MOSCOW	69.80	344.6	11	12	-2	20	22	-2	11	44 PCP
ABERDEEN	69.93	7.8	10	10	-65	20	20	-5	20	57 PS
FRUNSE	70.40	315.9	11	18A	0	20	45	14	13	50 PP
COPENHAGEN	71.98	359.4	11	31	3	20	57	8	21	50
DURHAM	72.35	7.9	11	30	0	20	58	5		
BERMUDA	72.55	59.5	11	36	5	20	48	-7	25	40 SS
RATHFARNHAM	73.33	11.0	11	34K	-2	21	12	8	21	48 PS
TASHKENT	73.89	318.4	11	41	2	21	6	-4		
HAMBURG	74.09	0.9	11	40	0	21	32	19	11	45 PCP
WITTEVEEN	74.77	3.0	11	44	0				12	0
WARSAW	75.14	354.0	11	46	0	21	39	15	14	28
DE BILT	75.44	4.0	11	52	4	21	36	8		
SHILLONG	75.60	293.2	11	47	-2	21	29	0	11	58 PCP
KEW	75.73	7.6	11	52A	3	21	33	2	21	48 SCS
STALINABAD	76.44	317.3	11	54	1				21	45 SCS
JENA	76.75	359.9	11	54	-1	21	47	5	12	8 PCP
CHATRA	77.19	297.4	11	57	-1	21	58	11		
LWOW	77.30	351.7	11	56	-2				22	3 SCS
KRAKOW	77.38	354.4	12	0	1				12	5 PCP

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RACIBORZ	77.44	355.6	11	59	0				12	4 PCP
PRAGUE	77.58	358.1	11	59	-1	21	53	2	22	9 SCS
JERSEY	77.84	9.1							20	6
PARIS	78.58	6.1	12	4	-1	21	57	-5	12	11 PCP
KARLSRUHE	78.63	2.1	12	5A	-1				12	22 PCP
STUTTGART	78.89	1.5	12	6A	-1	22	6	1	12	21 PCP
STRASBOURG	79.05	2.5	12	8A	0	22	13	6	22	30 SCS
DEHRA DUN	79.09	306.1	12	6	-2	22	8	1	15	5 PP
TUBINGEN	79.13	1.6	12	8	0					
BRATISLAVA	79.39	356.2	12	13	3				12	24 PCP
EBINGEN	79.48	1.7	12	10A	0				12	25 PCP
IASI	79.53	348.9	12	10	0					
HURBANOVO	79.65	355.4	12	16	5	22	29	16	23	18 PPS
RAVENSBURG	79.89	1.3	12	16	4					
BUDAPEST	79.99	354.8	12	14	0					
BASLE	80.09	2.7	12	14	1	22	37	19		
ZURICH	80.28	2.0	12	14	0					
BESANCON	80.32	3.8	12	14	-1				12	46
BOKARO	80.33	296.6	12	14	-1	22	21	1	23	4 PS
NEUCHATEL	80.60	3.2	12	16	0					
SIMFEROPOL	80.80	343.9	12	16	-1	22	38	13	22	48 SCS
ASHKABAD	80.97	324.3	12	18	0				22	42 SCS
TIMISOARA	81.57	353.1	12	32	11	22	46	13		
TIFLIS	81.64	335.4	12	21	-1				22	53 SCS
CLERMONT-FD.	81.65	5.9	12	19	-3					
TRIESTE	82.01	358.4	12	22A	-2	22	55	17	15	46 PP
DROPA	82.01	2.5	12	29	5				23	2
BUCHAREST	82.45	349.5	12	27	1	22	48	6	15	37 PP
PAVIA	82.48	1.7	12	31	5	23	8	26	32	21 SSS
BELGRADE	82.55	353.6	12	26A	0	22	50	7	15	51 PP
SAN JUAN	82.84	69.2	12	24	-4	22	42	-4	23	49 PPS
BOLOGNA	83.18	0.1	12	34	4	22	59	10		
GORIS	83.33	333.6	12	29	-1				22	58 SCS
MONACO	83.89	3.0	12	31A	-2				12	49
FLORENCE X.	83.90	0.2	12	33A	0	23	6	9	15	53 PP
QUETTA	84.37	314.2	12	35A	-1	23	0	0	15	53 PP
ROME	85.77	359.3	12	42A	-1	23	18	3	22	48 SKS
TOLEDO	86.81	11.9	12	47	-1	23	22	-3	19	45
TARANTO	87.07	355.6							21	59
LISBON	87.20	16.0							23	34 SCS
CHINCHINA	87.84	84.7	12	49	-4	23	30	-5	24	29 PS
DOMINICA	87.98	67.4	12	52	-1					
FORT FRANCE	88.58	67.5	12	57	1	23	35	-7		
ALICANTE	88.73	9.4	14	10	73	24	2	19	30	21 SS
BOGOTA	89.05	83.7	12	56	-3	23	12	-34	23	49 SKKS
ATHENS	89.08	350.4	12	58	-1	23	26	-20		
MESSINA	89.41	356.8	13	26	26	23	42	-7	29	41 SS
HYDERABAD	89.49	298.5	12	59	-2	23	29	-21	16	35 PP
GRANADA	89.53	12.0	13	4A	3	24	1	11	13	34 PCP
ST. VINCENT	89.77	68.5	13	3	1					
MALAGA	89.88	12.7	13	5K	3	23	53	-1	16	39 PP
ALMERIA	90.00	11.2	13	5	2					
ALGIERS UNI.	90.60	6.8	13	5	-1	24	0	0	16	44 PP
POONA	90.99	302.8	13	7	-1	23	46	-18	24	26 PS
BOMBAY	91.20	303.8	13	11	3	24	12	7	24	58 PS
KSARA	91.25	339.9	13	10	1	24	19	13	16	53 PP
RELIZANE	91.40	8.9	13	1	-8					
TRINIDAD	91.65	70.1	13	8	-3					
SAFED	92.15	340.0	13	15	2				17	1 PP
MADRAS	92.19	294.7	13	6	-7	23	47	-27	25	0 PS
RIVERVIEW	93.07	212.7	13	22	5	24	28	6	30	31 SS
JERUSALEM	93.36	339.9	13	18	0				17	15 PP
KODAIKANAL	95.96	295.3							24	17
COLOMBO	97.35	291.5							24	18
MELBOURNE	98.80	215.6							25	17
HUANCAYO	101.40	94.9				24	36	-56	18	20 PP
TAMANRASSET	104.66	5.7	14	8	-1	24	54	-66	17	23
MBOUR	108.82	29.2				25	19	0	19	2 PP
LA PAZ	109.22	92.1				25	10	1	19	6 PP
ASTRIDA	127.82	336.7							19	7 PP
TANANARIVE	136.18	306.4	19	23	-1				22	4 PP
MIRNY	139.74	217.8	19	34	4				29	6 SKKS
PRETORIA	150.29	328.5	19	49K	1					
PIETERMZBURG	153.06	321.5	20	4K	12					
KIMBERLEY	154.13	332.5	19	53	-1					
HERMANUS	160.91	340.1							29	36

JANUARY 2 2.H 17.M 39.S EPICENTRE 52.46-168.41 DEPTH= 0.KM

A=-0.59947 B=-0.12289 C= 0.79091 D=-0.2008 E= 0.9796
G=-0.7748 H=-0.1588 K=-0.6119 HT= -6.3

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	
COLLEGE	16.30	32.3	3	47A	-3	6	48	-3					
SITKA	19.52	63.3	4	29K	-1	8	2	-2					
PETROPAVLOVK	19.84	285.1	4	31	-2								
MAGADAN	23.56	303.7	5	11	0								
HORSESHOE B.	28.27	78.0	5	54	-1						10	30	
VICTORIA	28.54	79.7	5	54	-3						9	19	
SEATTLE	29.59	80.7	6	10	3	11	9	9			6	33	
CORVALLIS	30.48	86.7	6	16	1	12	0	46					
Y.-SAKHLINSK	31.58	279.8	6	23	-1	11	43	12			7	35	PP
NEMURO	31.69	271.9	6	24	-1	11	32	-1					
ABASHIRI	32.11	274.0	6	31	2								
HONOLULU	32.11	161.7	6	25	-4	11	29	-11					
BANFF	32.11	70.8	6	29	0								
KUSIRO	32.60	272.3	6	33	0	11	43	-4			7	24	
WAKKANAI	32.96	278.0	6	34	-2	11	44	-9			14	44	
SHASTA	33.20	92.1	6	37K	-1						13	8	
OBIHIRO	33.37	273.1	6	53	13								
ASAHIGAWA	33.40	275.0	6	43	3	12	5	5					
UKIAH	33.64	95.1	6	42K	0	11	45	-19			7	50	PP
MINERAL	33.90	91.9	6	43K	-4								
URAKAWA	34.06	272.2	6	48	2	12	10	0					
HUNGRY HORSE	34.22	74.7	6	46A	-1	12	14	2					
SAPPORO	34.41	274.6	6	46	-3	12	17	1			14	25	SS
HAWAII V.OB.	34.52	157.7	6	48	-2	12	19	2					
TOMAKOMAI	34.58	273.7	6	50	0								
BERKELEY	35.04	96.0	6	53K	-3	12	24	-5					
SUTTSU	35.25	275.0	6	48	-8	12	30	2			7	50	
MORI	35.43	273.8	7	0	2	12	26	-5			8	18	
RENO	35.47	91.6	6	58K	0	12	36	4					
HAKODATE	35.53	273.2	6	58	-1	12	14	-19					
SANTA CLARA	35.54	96.4	7	16K	17	12	47	14					
LICK	35.74	96.1	6	59K	-1								
HATINOHE	35.76	270.9	7	1	0	12	38	2					
MIYAKO	36.02	269.3	7	2	-1	12	40	0					
RESOLUTE	36.04	25.7	7	0A	-3	12	57	16			9	7	PCP
AOMORI	36.05	271.9	7	6	3	12	43	2					
BUTTE	36.23	77.3	7	3K	-1	12	45	1					
MORIOKA	36.48	270.0	7	7	0	12	55	8					
SASKATOON	36.76	65.2	7	14	5	12	49	-3					
MIZUSAWA	36.86	269.3	7	10	0	12	57	4					
AKITA	37.13	270.9	7	12	0	13	2	5					
ISINOMAKI	37.18	268.3	7	10	-2	13	2	4					
FRESNO	37.23	95.2	7	12K	-1								
BOZEMAN	37.32	76.9	7	11K	-3						7	26	
SENDAI	37.53	268.4	7	14	-1	12	59	-5			7	35	
EUREKA	37.86	88.7	7	22K	4								
YAMAGATA	37.88	268.8	7	18	0								
TINEMAHA	38.00	93.5	7	19	0								
HUKUSIMA	38.12	268.1	7	22	2	13	14	1					
KING RANCH	38.21	96.9	7	20	-1						7	31	
ONAHAMA	38.37	266.8	7	19	-3	12	37	-39					
WOODY	38.50	95.7	7	23	-1								
SHIRAKAWA	38.68	267.5	7	26	1	13	17	-4			8	4	
ISABELLA	38.77	95.4	7	25	-1								
NIIGATA	38.89	269.5	7	20	-7								
MITO	39.01	266.4	7	31	3	13	27	1					
CHINA LAKE	39.19	94.5	7	29	0								
UTUNOMIYA	39.26	267.1	7	29	-1	13	20	-10			9	10	
KAKIOKA	39.28	266.5	7	32	2	13	30	0					
AIKAWA	39.31	270.2	7	41	11								
TUKUBASAN	39.34	266.5	7	31	1	13	32	1					
SALT LAKE C.	39.60	84.0	7	32K	-1	13	34	-1					
KUMAGAYA	39.82	267.1	7	36	1	13	41	3					
MAEBASI	39.85	267.6	7	33	-2	13	37	-2			9	0	PP
TOKYO C.M.O.	39.90	266.2	7	37	2	13	31	-7			8	41	PP
PASADENA	39.96	96.9	7	34	-2	13	39	-1					
VLADIVOSTOK	40.11	281.1	7	36	-1	13	18	-24			14	50	
TITIBU	40.12	267.1	7	38	1	13	45	2					
YOKOHAMA	40.13	266.0	7	40	2	13	47	4			8	54	PP
NAGANO	40.21	268.6	7	41	3	13	50	6					

OIWAKE	40.21	267.9	7	41	3	13	46	2		
MATUSIRO	40.27	268.5	7	38A	0	13	45	0	17	45 SCS
MERA	40.36	265.3	7	41	2	13	42	-4		
WAZIMA	40.54	270.5	7	39	-1	13	47	-2		
RIVERSIDE	40.55	96.4	7	39	-2	13	51	2		
MATUMOTO	40.62	268.3	7	43	2					
HUNATU	40.62	266.8	7	46	5					
KOHU	40.66	267.1	7	40	-1	13	53	2		
AJIRO	40.72	266.0	7	41	-1					
OSIMA	40.74	265.5	7	41	-1	13	50	-2		
MISIMA	40.77	266.2	7	41	-1	13	48	-4		
BOULDER CITY	40.78	92.0	7	41K	-1	13	46	-6		
TOYAMA	40.80	269.5	7	44	1	13	56	3		
IIDA	41.18	267.6	7	42	-4				17	49
SHIZUOKA	41.20	266.5	7	48	2	13	56	-3		
KANAZAWA	41.25	269.7	7	54	8					
PALOMAR	41.30	96.7	7	46	-1					
OMAESAKI	41.56	266.2	7	51	2	14	9	5	8	14
HUKUI	41.79	269.5	7	53	2					
HAYFIELD	41.81	95.2	7	51	0					
BARRETT	41.88	97.2	7	50	-1					
GIHU	41.91	268.3	7	50	-2	14	13	4	17	56 SS
NAGOYA	41.94	267.9	8	0	8	14	12	2	17	58
TSURUGA	42.18	269.2	7	53	-1	14	5	-8		
HIKONE	42.32	268.6	7	55	0	14	14	-1		
KAMEYAMA	42.46	268.0	7	58	2	14	17	0	8	58
TU	42.51	267.8	8	0	3					
KYOTO	42.80	268.8	8	1	2	14	27	5		
RAPID CITY	42.85	74.2	7	49A	-10	14	24	1	9	58 PP
NARA	42.97	268.3	8	3	3					
TOYOOKA	43.02	270.0	8	2	1	14	22	-3	18	3
OWASE	43.15	267.3	8	2	0	14	30	3	18	1
OSAKA	43.17	268.5	8	7	5	14	31	3	8	31
KOBE	43.36	268.8	8	4	0	14	34	3	17	59
CHANGCHUN	43.62	286.2	8	5	-1					
SUMOTO	43.77	268.7	8	7	0	14	42	6		
SIOMISAKI	43.83	267.0	8	7	0				8	37
YONAGO	43.98	271.1				14	41	1		
TOKUSIMA	44.14	268.7	8	9	-1	14	41	-1	18	7
MATSUE	44.14	271.3	8	13	3	14	48	6		
TAKAMATU	44.30	269.3	8	11	0	14	48	4	18	9
HAMADA	45.12	271.5	8	17	-1	14	59	3		
KOTI	45.13	269.0	8	9	-9	14	58	2	18	16 SS
HIROSIMA	45.25	270.7	8	19	0	15	0	2	18	17
MATUYAMA	45.42	269.9	8	23	3	15	1	1	18	2
TUCSON	45.74	92.7	8	23A	0	15	9	4	10	10 PP
SIMIDU	46.00	268.6	8	25	0	15	4	-5		
SIMONOSEKI	46.45	271.4	8	30	2	15	20	5		
OOITA	46.52	270.2	8	32	3	15	3	-13	9	23
HUKUOKA	47.02	271.4	8	33	0					
ASOSAN	47.08	270.3	8	35	2	15	29	5		
SAGA	47.31	271.2	8	39	4	15	38	11		
KUMAMOTO	47.36	270.5	8	38	3	15	28	0		
MIYAZAKI	47.54	269.0	8	39	2	15	35	5	18	30
NAGASAKI	47.93	271.0	8	30	10	15	28	-8	11	30
KAGOSIMA	48.32	269.4	8	45	2	15	50	9		
TOMIE	48.68	271.8	8	47	1	15	48	2		
YAKUSIMA	49.13	268.4	8	41	-8	15	55	2		
LUBBOCK	50.31	84.5	8	53	-5	16	3	-6	10	48 PP
CHIHUAHUA	51.19	92.3	9	13	8	16	23	2	22	39
PEKING	51.32	287.8	9	5	-1	16	29	6	11	2 PP
KWANTING	51.52	288.4	9	9	2					
TATUNG	52.95	289.7	9	23	5					
KIRKLAND LA.	53.20	56.7	9	15A	-5					
FAYETTEVILLE	53.23	76.7	9	17K	-3	16	44	-5	26	44
CHICAGO CGS.	53.27	67.1	9	22	1	16	42	-8		
FLORISSANT	53.66	71.6	9	21K	-2	16	50	5	11	32 PP
GUAM	53.82	241.5	9	12	-13					
ST. LOUIS 1	53.85	71.7	9	24	-1	16	56	-2		
ZO-SE	54.37	276.1	9	28	-1	17	10	5	12	48 PPP
PAOTOW	54.48	292.2	9	30	1					
TAIYUAN	54.89	288.1	9	33	1					
MAZATLAN	54.99	97.2	9	47	14	17	20	7	16	17
SCORESBY SD.	55.01	13.1	9	33	0	17	13	0	19	28 SCS
NANKING	55.15	278.7	9	34	0	17	17	2		
CLEVELAND	56.85	63.7	9	46	-1					
OTTAWA	57.25	56.8	9	48A	-1	17	41	-2	11	58 PP
SHAWINIGAN	57.94	54.1	9	52	-2					

YINCHUAN	58.05	292.8	9	57	2						
PITTSBURGH	58.43	63.6				17	59	0			
SEVEN FALLS	58.49	52.6	7	53	-125	15	57	-122			
TAIPEI	58.53	270.9	10	3	5	18	0	0			
GUADALAJARA	58.74	96.5	11	33	93	18	5	3	12	32	
APATITY	59.20	350.4	10	0	-3	18	9	1	12	11	PP
HWALIEN	59.25	270.0	9	43	-20	17	48	-21			
PENNSYLVANIA	59.31	62.0	10	6	2	18	9	-1			
SIAN	59.48	287.5	10	4	-1	18	19	7	13	46	PPP
KIRUNA	59.85	356.1	10	6A	-2	18	27	6	19	50	SCS
HSINKONG	60.05	269.5	10	9	0	18	25	6			
ALISHAN	60.09	270.3	10	21	12						
WUWEI	60.46	294.7	10	11	-1						
MOBILE	60.60	77.0	10	15	2	18	21	-5			
TAINAN	60.83	270.3	10	29	15	18	39	10			
REYKJAVIK	60.87	16.1	10	16	2						
CHANGYEH	60.88	296.8	10	18	3						
WASHINGTON	61.09	63.0	10	17	1						
LANCHOW	61.12	292.4	10	19	3						
PALISADES	61.27	59.4	10	16	-1						
FORDHAM	61.40	59.5	10	17	-1	18	37	0			
WESTON	61.63	56.7	10	17K	-3	18	39	-1	23	18	SS
YUMEN	61.82	300.1	10	20	-1						
SINING	61.87	294.2	10	24	3						
CHAPEL HILL	62.13	66.7	10	21	-2						
TACUBAYA	62.22	94.1	10	37K	13	18	45	-2	12	49	PP
COLUMBIA	62.39	69.5	10	21A	-4	18	41	-8	11	17	PCP
HALIFAX	63.78	50.3	10	33	-1						
SVERDLOVSK	63.88	332.5	10	34	-1				20	15	SCS
VERA CRUZ	64.25	91.7	10	42	5	18	58	-14			
SKALSTUGAN	64.30	359.7	10	36A	-1				12	53	PP
CANTON	65.01	275.8	10	39	-3	19	25	3			
HONG KONG	65.05	274.5	10	43	1	19	25	3			
RABAUL	65.55	224.1	10	43	-2				11	10	PCP
BAGUIO CITY	65.59	265.3	10	40	-6	19	30	1			
APIA	66.05	183.6							22	0	SCS
MANILA	66.76	263.7	10	55	2						
MERIDA	66.90	85.4	11	3	9	19	51	6			
BERGEN	67.38	3.4	10	57	0	20	5	14	24	0	SS
UPPSALA	67.94	356.7	10	59A	-1	19	57	0	11	24	PCP
COMITAN	68.94	90.6	13	9	122	19	55	-14	25	39	
MOSCOW	70.05	344.7	11	11	-2	20	22	0	11	40	PCP
ABERDEEN	70.16	7.9	11	0	-14	20	28	4	13	40	PP
FRUNSE	70.61	316.0	11	17	0	20	39	10	13	52	PP
COPENHAGEN	72.23	359.5	11	26A	-1	21	0	12	11	45	PCP
DURHAM	72.58	8.0	11	30	1	20	53	1	21	44	SCS
BERMUDA	72.63	59.5	11	35	6	20	57	5			
RATHFARNHAM	73.56	11.1	11	31A	-3	21	10	7	11	48	PCP
TASHKENT	74.10	318.6	11	36	-2						
HAMBURG	74.34	1.0	11	41K	2	21	1	-10	12	2	PCP
WITTEVEEN	75.02	3.1	11	44	1						
WARSAW	75.39	354.0	11	37	-8	21	33	10	14	39	PP
DE BILT	75.68	4.1	11	45A	-2	21	49	23			
SHILLONG	75.75	293.3	11	47	0	21	29	2	12	0	PCP
KEW	75.96	7.6	11	48A	0	21	30	1	14	37	PP
STALINABAD	76.65	317.4	11	52	0						
JENA	76.99	0.0	11	53	-1	21	31	-10	15	9	PP
CHATRA	77.35	297.5							21	55	
BYTOM	77.38	355.2	11	57	1						
LWOW	77.55	351.8	11	46	-11	21	58	11	12	2	PCP
NOUMEA	77.60	203.8	11	29	-28				13	48	PP
KRAKOW	77.63	354.5	11	56	-2	21	41	-6	12	1	PCP
RACIBORZ	77.69	355.6	11	57	-1	21	48	0	12	5	PCP
PRAGUE	77.82	358.1	11	59	0	21	51	2	14	45	PP
CHEB	77.84	359.5	12	1	2	21	50	0	13	58	
JERSEY	78.07	9.1							14	49	PP
PARIS	78.81	6.1	12	4	0	22	3	3	12	12	PCP
KARLSRUHE	78.88	2.1	12	4A	0	22	10	9	12	13	PCP
STUTTGART	79.13	1.6	12	5A	-1	22	6	3	22	31	SP
DEHRA DUN	79.28	306.2	12	3	-4	22	3	-2	15	6	PP
STRASBOURG	79.29	2.6	12	7A	0	22	7	2	15	11	PP
TUBINGEN	79.37	1.7	12	7	0						
VIENNA-H.	79.59	356.8	12	9	1	22	29	21	12	16	PCP
BRATISLAVA	79.64	356.3	12	10	1				22	21	PS
EBINGEN	79.72	1.8	12	9A	0						
IASI	79.78	349.0	12	10	1				12	36	
HURBANOVO	79.89	355.5	12	15	5	22	18	7	15	32	PP

RAVENSBURG	80.13	1.3	12 13	2						
BUDAPEST	80.24	354.9	12 14	2	22 13	-2		14 52	PP	
BASLE	80.33	2.8	12 13	1	22 22	6				
BOKARO	80.49	296.7	12 12	-1	22 22	4		23 39	PS	
ZURICH	80.52	2.1	12 14	1				12 24		
BESANCON	80.56	3.9	12 13	0						
NEUCHATEL	80.84	3.2	12 15	0	22 31	10				
SIMFEROPOL	81.05	344.0	12 17A	1	22 33	9		17 21	PPP	
NEW DELHI	81.13	305.8	12 14	-2	22 28	4		15 18	PP	
TIMISOARA	81.82	353.2	12 26	6	22 46	15				
CLERMONT-FD.	81.88	6.0	12 18	-2						
TIFLIS	81.89	335.5	12 21	1	22 43	11		15 24	PP	
ZAGREB	82.03	356.9	12 22	1	22 51	17		13 4	PCP	
OROPA	82.25	2.6	12 25	3	22 55	19		15 49		
TRIESTE	82.26	358.5	12 21	-1	22 42	6		15 40	PP	
BUCHAREST	82.70	349.6	12 24	-1	22 47	7		13 17		
PAVIA	82.72	1.7	12 28A	3	22 35	-6		15 47	PP	
BELGRADE	82.80	353.7	12 25A	0	22 49	8		15 58	PP	
SAN JUAN	82.87	69.2	12 24K	-1	22 45	3		26 5		
ANGRA DO HO.	83.19	29.6			22 51	6				
BOLOGNA	83.42	0.2	12 34	6	22 56	8		15 38	PP	
GORIS	83.57	333.7	12 30	1				23 26	SCS	
PRATO	84.04	0.4	12 24	-7	22 59	5				
MONACO	84.13	3.0	12 33A	1				14 3		
FLORENCE X.	84.14	0.2	12 33A	1	23 6	11		15 52	PP	
QUETTA	84.58	314.3	12 35A	1	22 58	-1		15 53	PP	
SOFIA	84.68	351.3	12 35	0	23 1	1		24 5	PS	
ROME	86.02	359.3	12 40A	-1	23 17	4		22 43	SKS	
TOLEDO	87.04	12.0	12 46	0	23 8	-15		16 0	PP	
TARANTO	87.32	355.7	12 49	1	23 4	-22				
LISBON	87.42	16.1	12 50K	2	23 24	-3	12 59	12 54	PCP	
CHINCHINA	87.80	84.8	12 48	-2	23 30	0				
DOMINICA	88.02	67.4	12 51	0						
FORT FRANCE	88.62	67.6	12 47	-7	23 38	0				
ALICANTE	88.96	9.5	13 6	10	24 5	24		25 18	PS	
BOGOTA	89.02	83.8	13 0	4				16 37	PP	
ATHENS	89.33	350.4	12 57	0	23 26	-18		24 48	PS	
MESSINA	89.65	356.9	12 55	-4	23 46	-1		16 26	PP	
HYDERABAD	89.66	298.6	12 57	-2	23 23	-24		16 22	PP	
GRANADA	89.76	12.1	13 5A	6	23 53	5		17 3	PP	
ST. VINCENT	89.81	68.6	12 58	-2						
MALAGA	90.11	12.8	12 44K	-17						
AMERIA	90.22	11.2	13 2	1	23 43	-10		16 28	PP	
ALGIERS UNI.	90.83	6.8	13 5	2	24 4	0		16 40	PP	
POONA	91.17	302.9	13 7	1	24 4	3		16 42	PP	
BOMBAY	91.38	303.9	13 7	0	24 6	3		16 47	PP	
KSARA	91.50	340.0	13 10	3	24 8	4		16 50	PP	
RELIZANE	91.64	9.0	13 3	-5	24 12	7		16 45	PP	
TRINIDAD	91.68	70.2	13 7	-1						
SAFED	92.40	340.1	13 14	3				16 58	PP	
RIVERVIEW	92.90	212.7	13 19A	5	24 30	14		23 48	SKS	
JERUSALEM	93.61	340.0	13 19	2				17 4	PP	
KODAIKANAL	96.12	295.4	13 41	13	24 43	-1		17 28	PP	
COLOMBO	97.49	291.5	13 43	8	24 11	-44				
MELBOURNE	98.64	215.6			24 23	-42		22 5		
HUANCAYO	101.32	95.0			25 26	-1		17 56	PP	
TAMANRASSET	104.90	5.8	14 10	2	24 51	-66		18 34	PP	
PERTH	106.77	239.4						20 9		
MBOUR	109.01	29.3	14 30	777	25 19	13		19 0	PP	
LA PAZ	109.15	92.3	14 37	777	25 8	8		19 1	PP	
ASTRIDA	128.06	336.7	19 7	1						
TANANARIVE	136.37	306.3	19 24A	2				22 1	PP	
PRETORIA	150.53	328.4	19 27	-19						
PIETERMZBURG	153.29	321.3	19 57	7						
KIMBERLEY	154.37	332.4	19 52	1						

JANUARY 2 3.H 12.M 54.S EPICENTRE 52.64-168.23 DEPTH= 0.KM

A=-0.59661 B=-0.12427 C= 0.79285 D=-0.2039 E= 0.9790
G=-0.7762 H=-0.1617 K=-0.6094 HT= -6.4

SE= 3.58

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
COLLEGE	16.09	32.5	3 46A	-3				
SITKA	19.34	63.7	4 29	0				5 11

HORSESHOE B.	28.12	78.4							10	55
VICTORIA	28.40	80.2	5	56	-2				9	18
SEATTLE	29.46	81.1	6	15	7	10	18	-43		
CORVALLIS	30.36	87.1	6	18	2					
NEMURO	31.79	271.8	6	29	1	11	33	-5		
BANFF	31.95	71.2	6	31A	1					
ABASHIRI	32.21	273.8	6	55	23					
HONOLULU	32.25	162.1	6	26	-6					
KUSIRO	32.70	272.1	6	40	4	11	52	0		
SHASTA	33.09	92.5	6	38	-2					
OBIHIRO	33.47	272.9	7	6	23					
ASAHIGAWA	33.50	274.8	6	46	3					
UKIAH	33.55	95.5	6	47K	4					
MINERAL	33.80	92.4	6	44A	-2					
HUNGRY HORSE	34.06	75.0	6	46	-2	12	15	1	8	18 PP
URAKAWA	34.16	272.1	6	50	1	12	15	0		
SAPPORO	34.51	274.5	6	51	-1	12	28	8		
HAWAII V.OB.	34.65	158.1	6	49	-4	12	22	-1		
TOMAKOMAI	34.68	273.5	7	0	7					
BERKELEY	34.95	96.4	6	53A	-2					
RENO	35.37	92.0	6	57	-2					
MORI	35.53	273.7	6	55	-6	12	38	2		
HAKODATE	35.63	273.1	7	0	-1					
LICK	35.65	96.5	7	0A	-2				7	27
RESOLUTE	35.83	25.8	7	1	-2					
BUTTE	36.08	77.7	7	4K	-1					
MIYAKO	36.14	269.2	7	14	8				12	31
AOMORI	36.15	271.8	7	8	2					
MORIOKA	36.59	269.9	7	3	-6	13	4	11		
MIZUSAWA	36.97	269.2	7	12	-1	13	1	3		
FRESNO	37.13	95.6	7	12A	-2					
BOZEMAN	37.17	77.3	7	14A	0					
AKITA	37.23	270.8	7	33	18					
SENDAI	37.65	268.3	7	39	21					
EUREKA	37.75	89.0	7	18	-1					
TINEMAHA	37.90	93.9	7	20A	0					
KING RANCH	38.13	97.3	7	21A	-1					
HUKUSIMA	38.24	268.0	7	21	-2	13	20	2		
WOODY	38.41	96.1	7	21A	-4					
ISABELLA	38.67	95.8	7	23A	-4					
SHIRAKAWA	38.80	267.4	7	31	3	13	15	-11		
CHINA LAKE	39.10	94.9	7	29A	-1					
UTUNOMIYA	39.38	267.1	7	32	-1	13	40	5	8	7
KAKIOKA	39.40	266.4	7	31	-2					
SALT LAKE C.	39.47	84.3	7	32	-2					
PASADENA	39.87	97.3	7	35A	-2					
KUMAGAYA	39.94	267.0	7	42	4					
MAEBASI	39.97	267.5	7	36	-2	13	55	11	9	4
TOKYO C.M.O.	40.02	266.1	7	45	8	14	46	62		
TITIBU	40.24	267.0	7	40	0					
NAGANO	40.32	268.6	7	42	1	13	51	2		
OIWAKE	40.33	267.9	7	42	1	13	52	3		
MATUSIRO	40.39	268.4	7	39A	-2				14	3
RIVERSIDE	40.46	96.8	7	40A	-2				8	8
BOULDER CITY	40.67	92.4	7	41	-3				8	36
KOHU	40.78	267.1	7	56	12					
OSIMA	40.86	265.4							14	27
MISIMA	40.89	266.2	7	48	3	13	58	0		
TOYAMA	40.91	269.4	7	49	4					
PALOMAR	41.22	97.0	7	46A	-2				8	14
SHIZUOKA	41.32	266.5	7	50	1	14	7	3		
OMAESAKI	41.68	266.2	8	18	26					
HAYFIELD	41.71	95.6	7	51	-1				8	24
BARRETT	41.79	97.6	7	46A	-7					
GIHU	42.03	268.3	8	2	7					
NAGOYA	42.06	267.9	8	16	21					
HIKONE	42.43	268.6	7	59	1	14	47	27		
KAMEYAMA	42.58	267.9	8	8	9	14	33	10		
RAPID CITY	42.69	74.5	8	0K	0	15	1	37	9	49 PP
KYOTO	42.91	268.7	8	4	2	14	46	18		
OSAKA	43.28	268.5	8	10	5					
KOBE	43.48	268.8				14	40	4		
CHANGCHUN	43.67	286.1	8	6	-2					
TOKUSIMA	44.25	268.6	8	13	0	14	48	1		
TAKAMATU	44.41	269.3	8	12	-2	14	42	-7		
HAMADA	45.23	271.5	8	18	-3	15	0	-1		
KOTI	45.25	268.9	8	22	1	15	5	4		
HIROSIMA	45.36	270.6	8	21	-1					

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TUCSON	45.64	93.1	8	22A	-2	15	8	1	9	48 PCP
OOITA	46.63	270.1	8	34	2	15	30	9		
KAGOSIMA	48.43	269.4	8	53	7	16	8	21		
LUBBOCK	50.19	84.7	8	57	-2	16	3	-8	10	50 PP
CHIHUAHUA	51.09	92.6							23	21
TATUNG	52.99	289.7	9	22	1					
KIRKLAND LA.	53.01	56.9	10	16	55					
FAYETTEVILLE	53.08	76.9	9	17A	-4				26	48
FLORISSANT	53.50	71.9	9	23	-1	16	49	-7		
ST. LOUIS 1	53.68	71.9	9	26	0	16	57	-2		
ZO-SE	54.46	276.1	9	30	-1	17	12	3	9	45
PAOTOW	54.52	292.2	9	33	1					
SCORESBY SD.	54.81	13.2	9	32	-2					
TAIYUAN	54.94	288.1	9	36	1					
NANKING	55.23	278.7	9	34	-3					
LINFEN	56.72	287.3	9	51	3					
OTTAWA	57.06	57.0	9	46K	-4				10	31 PCP
SHAWINIGAN	57.74	54.3	9	52	-3					
PITTSBURGH	58.25	63.8							10	56
SEVEN FALLS	58.30	52.8	7	53	-126					
GUADALAJARA	58.65	96.8				18	8	3	20	30
PENNSYLVANIA	59.13	62.2	10	6	1				10	49 PCP
HWALIEN	59.36	270.0	10	6	0	18	1	-13		
SIAN	59.53	287.5	10	13	6	18	32	16		
KIRUNA	59.68	356.2	10	0	-8	18	29	11	10	44 PCP
HSINKONG	60.16	269.5	10	26	14	18	43	18		
MOBILE	60.45	77.3	10	6	-8					
REYKJAVIK	60.66	16.2	10	18	3					
PALISADES	61.09	59.6	10	17A	-1					
WESTON	61.44	56.9	9	48K	-32	18	3	-38		
CHAPEL HILL	61.96	66.9	10	19	-5					
TACUBAYA	62.12	94.3	10	31	6	18	45	-5	12	27 PP
COLUMBIA	62.23	69.7	10	23	-3					
HALIFAX	63.57	50.5	10	37	2					
SKALSTUGAN	64.12	359.7	10	35	-3				11	11 PCP
VERA CRUZ	64.14	92.0	10	37	-1	19	49	34		
HONG KONG	65.14	274.6	10	46	1					
BAGUIO CITY	65.71	265.3	10	59	11					
APIA	66.23	183.8	11	21	29					
MERIDA	66.78	85.6	11	0	5	19	48	1		
UPPSALA	67.77	356.8	10	59	-3	21	11	72	11	23 PCP
COMITAN	68.83	90.8	12	15	67	20	1	-11		
ABERDEEN	69.96	8.0	11	10	-5	20	42	17	15	20 PPP
COPENHAGEN	72.05	359.6	11	28	0					
RATHFARNHAM	73.36	11.2	11	33K	-2				11	48 PCP
HAMBURG	74.17	1.1	11	39	0				12	12 PCP
WITTEVEEN	74.83	3.2	11	46	2				12	9
WARSAW	75.22	354.1	11	46	0				22	10 PPS
KEW	75.77	7.8	11	50	1	21	31	0		
SHILLONG	75.77	293.4	11	45	-4					
KRAKOW	77.45	354.6	11	59	0	21	50	1	12	7 PCP
RACIBORZ	77.51	355.8	11	57	-2				12	8 PCP
PRAGUE	77.64	358.2	11	59	-1	21	58	7	22	51 PPS
CHEB	77.66	359.6	12	0	0				12	47
PARIS	78.62	6.2	12	4	-1				12	11 PCP
KARLSRUHE	78.69	2.3	12	6	1	22	20	17	12	55
STUTTGART	78.95	1.7	12	4	-3					
STRASBOURG	79.10	2.7	12	8	0				13	11
TUBINGEN	79.18	1.8	12	7	-1					
BRATISLAVA	79.47	356.4	12	14	4				12	29 PCP
EBINGEN	79.53	1.9	12	8	-2					
IASI	79.63	349.1	11	59	-12				12	27
HURBANOVO	79.72	355.6	12	19	8	22	18	5	15	23 PP
RAVENSBURG	79.94	1.5	12	16	4					
BUDAPEST	80.06	355.0	12	14	1				22	45 PS
BASLE	80.15	2.9	12	14	1	22	47	29		
ZURICH	80.33	2.2	12	14	0					
BESANCON	80.37	4.0	12	17	2				13	14
NEUCHATEL	80.65	3.3	12	15	-1	22	54	31		
CLERMONT-FD.	81.69	6.1	12	17	-4					
ZAGREB	81.85	357.0	12	29	7					
OROPA	82.07	2.7	12	45	22				24	4
TRIESTE	82.08	358.6	12	26	3	22	46	8		
PAVIA	82.54	1.9	12	26	0				15	56
BUCHAREST	82.54	349.7	11	29	-57					
BELGRADE	82.63	353.8	12	26K	0	22	54	10	12	48
SAN JUAN	82.70	69.4	12	24K	-3					
BOLOGNA	83.24	0.3	12	47	17				23	48 PS
MONACO	83.94	3.2	12	32A	-1				13	19

FLORENCE X.	83.96	0.4	12 42	9			13 35	
QUETTA	84.53	314.4	12 35A	-1	22 59	-4	12 38	PCP
ROME	85.84	359.5			23 34	19		
TOLEDO	86.84	12.1	12 46	-2	23 42	17		
TARANTO	87.15	355.8					23 29	
LISBON	87.22	16.2	12 52K	3				
CHINCHINA	87.68	84.9	12 53	1	23 34	1		
DOMINICA	87.85	67.6	12 47	-5				
FORT FRANCE	88.45	67.7	12 51	-4				
ALICANTE	88.76	9.6	13 10	13	24 2	19	30 21	SS
BOGOTA	88.89	83.9	13 3	6				
ATHENS	89.17	350.6	12 51	-8				
MESSINA	89.48	357.0	12 58	-2			16 31	PP
GRANADA	89.56	12.2	13 2K	1	23 56	6	16 35	PP
ST. VINCENT	89.64	68.7	12 55	-6				
MALAGA	89.90	12.9	12 57K	-5				
ALMERIA	90.02	11.4	12 51	-12	23 29	-26	16 33	PP
ALGIERS UNI.	90.64	7.0	13 2	-4			13 26	
POONA	91.16	303.0	13 7	-1	24 6	1		
BOMBAY	91.37	304.0	13 5	-4	24 6	-1		
RELIZANE	91.44	9.1	13 7	-2				
TRINIDAD	91.51	70.3	13 5	-5				
SAFED	92.27	340.2	13 15	2			30 58	
RIVERVIEW	93.11	212.9			23 57	-25	24 21	
JERUSALEM	93.47	340.1	13 18	-1			17 1	PP
HUANCAYO	101.22	95.1					18 43	PP
TAMANRASSET	104.71	6.0	14 10	1			17 27	
MBOUR	108.79	29.5			25 36	-14	19 15	PP
LA PAZ	109.05	92.3	14 32	777			19 13	PP
ASTRIDA	127.94	337.0	19 10	0				
TANANARIVE	136.35	306.7	19 25K	1			22 3	PP
PRETORIA	150.43	328.9	19 49A	1				
PIETERMZBURG	153.21	321.9	20 0	8				
KIMBERLEY	154.26	332.9	19 53	0				

JANUARY 2 3.H 48.M 50.S EPICENTRE 52.72-168.08 DEPTH= 0.KM

A=-0.59522 B=-0.12565 C= 0.79368 D=-0.2065 E= 0.9784
G=-0.7766 H=-0.1639 K=-0.6083 HT= -6.4

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
COLLEGE	15.98	32.5	3 43A	-3				
PETROPAVLOVK	19.97	284.5	4 36	2				
HORSESHOE B.	28.01	78.7	5 54	2				
VICTORIA	28.29	80.4	5 55	0				9 4 PCP
SEATTLE	29.35	81.3	6 8	4	10 28	-28		
CORVALLIS	30.26	87.4	6 13	1				
BANFF	31.83	71.3	6 27	1				
NEMURO	31.88	271.7	6 24	-3				
HONOLULU	32.29	162.4	6 26	-4				
ABASHIRI	32.29	273.8	6 32	2				
KUSIRO	32.79	272.1	6 31	-4	11 50	0		7 22
SHASTA	33.00	92.8	6 35	-1				
UKIAH	33.46	95.7	6 41A	1	12 14	14		6 0 PP
OBIHIRO	33.56	272.9	6 56	15				
ASAHIGAWA	33.58	274.8	6 44	3				
MINERAL	33.71	92.6	6 41	-2				
HUNGRY HORSE	33.95	75.2	6 43	-2	12 27	19		8 11 PP
URAKAWA	34.25	272.1	6 47	0	12 14	1		
SAPPORO	34.60	274.5	6 50A	0	12 17	0		7 55 PP
HAWAII V.OB.	34.69	158.4	6 48	-3	12 23	4		
BERKELEY	34.85	96.6	6 51A	-1				
MURORAN	35.25	273.7	6 54	-2				
RENO	35.28	92.3	6 56A	0				
SUTTSU	35.43	274.9	6 58	1	12 31	0		16 47
LICK	35.56	96.8	6 58A	0				
MORI	35.62	273.7	7 2	3	12 33	-1		17 18
HAKODATE	35.72	273.1	6 59	-1	12 36	1		17 15
RESOLUTE	35.72	25.8	6 58A	-2	13 13	38		
HATINOHE	35.96	270.8	7 2	0	12 41	2		
BUTTE	35.97	77.9	7 2K	0	13 15	36		
MIYAKO	36.23	269.3	7 4	0	12 41	-2		
AOMORI	36.25	271.8	7 5	1				
MORIOKA	36.69	270.0	7 6	-2	12 54	4		

FRESNO	37.05	95.9	7	11A	0				
MIZUSAWA	37.06	269.2	7	10	-1	12	56	0	
AKITA	37.33	270.8	7	16	3	13	2	2	
ISINOMAKI	37.39	268.2	7	12	-2	12	57	-4	
SENDAI	37.74	268.3	7	18	1	13	0	-6	
TINEMAHA	37.81	94.1	7	18	1				
SAKATA	38.00	270.0	7	18	-1	13	28	18	
KING RANCH	38.04	97.6	7	18	-1				
WOODY	38.33	96.3	7	22A	0				
HUKUSIMA	38.34	268.0	7	20	-2	13	16	1	
ONAHAMA	38.59	266.7	7	15	-9				
ISABELLA	38.59	96.0	7	20	-4				
SHIRAKAWA	38.90	267.5	7	29	3	13	23	-1	
CHINA LAKE	39.01	95.1	7	29	2				
NIIGATA	39.09	269.4	7	16	-12				
MITO	39.23	266.4	7	39	10	13	30	1	
SALT LAKE C.	39.37	84.5	7	30K	0	13	38	7	
UTUNOMIYA	39.48	267.1	7	33	2	13	27	-6	9 22
KAKIOKA	39.50	266.4	7	30	-2	13	30	-3	
AIKAWA	39.52	270.2	7	27	-5				
PASADENA	39.79	97.5	7	32	-2	13	53	16	
KUMAGAYA	40.04	267.0	7	38	2	13	44	3	
MAEBASI	40.06	267.6	7	36A	0	13	42	1	8 47
TOKYO C.M.O.	40.12	266.2	7	53	16				
VLADIVOSTOK	40.26	281.1	7	39	1				
TITIBU	40.33	267.1	7	41	1	13	54	8	
YOKOHAMA	40.35	266.0	7	49	-10	13	51	5	8 39
RIVERSIDE	40.38	97.0	7	37A	-2	14	3	17	
NAGANO	40.42	268.6	7	42	3	13	49	2	
OIWAKE	40.43	267.9	7	41	2	13	51	4	
MATUSIRO	40.48	268.4	7	36	3	13	47	0	17 47 SCS
BOULDER CITY	40.58	92.6	7	41K	1				9 0 PP
MERA	40.59	265.2	7	40	0	13	53	4	
WAZIMA	40.75	270.5	7	42	0	13	55	3	
MATUMOTO	40.83	268.3	7	43	0				
HUNATU	40.84	266.8	7	44	1				
KOHU	40.88	267.1	7	46	3	13	55	1	
AJIRO	40.94	266.0	7	44	1				
OSIMA	40.96	265.4	7	47	3	13	55	0	17 53
MISIMA	40.99	266.2	7	41	-3	13	48	-7	
TOYAMA	41.01	269.4	7	47	3	13	59	4	
PALOMAR	41.13	97.3	7	44	-1				
SUIHWA	41.18	288.5	7	49	4				
SHIZUOKA	41.42	266.5	7	49	2	14	4	2	
KANAZAWA	41.45	269.7	7	52	4				
HAYFIELD	41.63	95.8	7	49	0				
BARRETT	41.71	97.8	7	50	0				
OMAESAKI	41.78	266.2	7	52	2				17 10
HUKUI	42.00	269.4	7	54	2				
GIHU	42.12	268.3	7	52	-1	14	11	-1	
NAGOYA	42.16	267.9	7	56	3				
TSURUGA	42.38	269.2	7	53	-2				
HIKONE	42.53	268.6	7	58	2	14	21	3	
RAPID CITY	42.58	74.7	7	58K	1	14	23	4	9 50 PP
KAMEYAMA	42.67	268.0	8	19	21	14	23	3	17 52
TU	42.72	267.8	8	2	4				
KYOTO	43.01	268.7	8	0	0	14	31	6	
NARA	43.18	268.3	8	5	3				
TOYOOKA	43.22	270.0	8	2	0	14	28	0	18 3
OWASE	43.37	267.3	8	3	0	14	33	3	
OSAKA	43.38	268.5	7	54	-9	14	29	-1	9 25
KOBE	43.57	268.8	8	7	2	14	34	1	9 1
CHANGCHUN	43.74	286.1	8	5	-1				
SUMOTO	43.98	268.7	8	9	1	14	40	1	
SIOMISAKI	44.05	267.0	8	11	2				
MATSUE	44.34	271.3	8	15	4	14	51	7	
TOKUSIMA	44.35	268.7	8	12	1	14	47	3	18 12
TAKAMATU	44.50	269.4	8	13	1	14	49	2	11 7
HAMADA	45.32	271.5	8	19	0	15	2	4	
KOTI	45.34	269.0	8	18	-1	15	8	9	18 17
HIROSIMA	45.45	270.7	8	20	0	15	2	2	18 19
TUCSON	45.55	93.3	8	20A	-1	15	12	10	10 17 PP
MATUYAMA	45.63	269.9	8	24	3	15	3	0	18 18
SIMIDU	46.21	268.6	8	22	-4	15	54	43	
OOITA	46.72	270.2	8	34	4	15	20	2	
HUKUOKA	47.21	271.5	8	35	1	15	36	11	
ASOSAN	47.29	270.3	8	36	1	15	19	-7	
SAGA	47.51	271.2	8	40	4				

MIYAZAKI	47.75	269.1	8	39	1	15	40	7			
NAGASAKI	48.13	271.1	8	30	-11				9	4	
KAGOSIMA	48.53	269.4	8	42	-2	15	49	5			
TOMIE	48.88	271.8	8	48	1	15	57	8			
YAKUSIMA	49.34	268.4	8	51	1						
LUBBOCK	50.09	84.9	8	56	0	16	9	3			
KWANTING	51.63	288.4	9	10	2						
KIRKLAND LA.	52.88	57.1	9	13A	-4						
FAYETTEVILLE	52.97	77.1	9	16K	-2						
TATUNG	53.05	289.8	9	21	2						
FLORISSANT	53.38	72.0	9	19	-2	16	47	-4			
ST. LOUIS 1	53.57	72.1	9	21	-1	16	54	1			
GUAM	54.12	241.7	9	23	-3						
ZO-SE	54.55	276.2	9	27	-3	17	11	4	19	15	SCS
PAOTOW	54.57	292.3	9	30	0	17	14	7			
SCORESBY SD.	54.71	13.3	9	28	-3						
SCHEFFERVLLE	54.71	44.0	6	34K	-177						
MAZATLAN	54.82	97.6							18	12	
TAIYUAN	55.00	288.1	9	35	2						
NANKING	55.31	278.8	9	31	-4						
CLEVELAND	56.55	64.0	9	43	-1						
LINFEN	56.79	287.4	9	49	3						
OTTAWA	56.94	57.1	9	43K	-4						
FUTZELING	57.34	280.0	9	50	0						
SHAWINIGAN	57.62	54.5	9	48A	-4						
YINCHUAN	58.13	292.8	9	58	3						
SEVEN FALLS	58.17	52.9	7	49	-127						
GUADALAJARA	58.57	97.0	9	20	-38						
APATITY	58.97	350.5	10	3	2						
PENNSYLVANIA	59.01	62.3	10	1	0	18	16	10			
HWALIEN	59.46	270.1	9	48	-16	17	48	-23			
SIAN	59.60	287.6	10	7	2	18	24	11			
KIRUNA	59.61	356.3	10	2	-3	18	2	-11	18	35	PS
HSINKONG	60.26	269.6	10	9	-1	18	26	4			
ALISHAN	60.29	270.4	10	23	13						
WUWEI	60.54	294.7	10	15	3						
REYKJAVIK	60.56	16.3	10	12	0						
PALISADES	60.97	59.7	10	14A	-1						
FORDHAM	61.10	59.8	10	16	0						
TIENSHUI	61.19	290.0	10	19	3						
LANCHOW	61.20	292.5	10	18	2						
WESTON	61.32	57.0	10	14K	-3						
CHAPEL HILL	61.84	67.0	10	20	-1						
YUMEN	61.86	300.2	10	21	0						
SINING	61.95	294.3	10	23	2						
TACUBAYA	62.03	94.5	10	25K	3	18	36	-8	12	33	PP
COLUMBIA	62.11	69.8	10	19	-3						
HALIFAX	63.45	50.6	10	28	-3						
SVERDLOVSK	63.75	332.6	10	32	-1				20	26	SCS
SKALSTUGAN	64.04	359.8	10	32A	-3				13	12	PP
VERA CRUZ	64.05	92.1	10	32	-3						
CANTON	65.18	275.9	10	45	2						
HONG KONG	65.23	274.6	10	45A	2						
BAGUIO CITY	65.81	265.4	10	45	-2	19	32	-17			
RABAUL	65.87	224.3	10	55	8						
APIA	66.32	183.9	10	52	2				27	10	SSS
MERIDA	66.68	85.8	10	57	5	19	49	7			
BERGEN	67.11	3.6	10	59	4	19	18	-29			
UPPSALA	67.69	356.9	10	55	-4	19	56	2	11	20	PCP
COMITAN	68.74	91.0	11	28	23	20	13	7	25	16	
MOSCOW	69.85	344.8	11	10	-2	20	19	-1	11	30	PCP
ABERDEEN	69.87	8.1							25	24	
EDINBURGH	71.01	8.9				20	20	-13			
COPENHAGEN	71.97	359.7	11	24A	-1						
DURHAM	72.30	8.2	11	27	-2						
RATHFARNHAM	73.27	11.3	11	29A	-3	21	9	10	11	44	PCP
HAMBURG	74.07	1.2	11	37K	0	20	55	-13			
WITTEVEEN	74.74	3.3	11	43	2						
WARSAW	75.15	354.2	11	45	2				21	47	PS
DE BILT	75.40	4.3	11	51	6						
KEW	75.68	7.9	11	46A	0	21	29	3			
SHILLONG	75.83	293.5	11	43	-4						
STALINABAD	76.60	317.6	11	51	0						
JENA	76.73	0.2	11	49	-3	20	24	-73			
LWOW	77.32	352.0	11	52	-3				11	55	PCP
KRAKOW	77.39	354.7	11	59	3	21	50	6	12	4	PCP
RACIBORZ	77.44	355.9	11	52	-4				12	4	PCP
PRAGUE	77.57	358.3	11	57	0	21	59	13	12	12	
CHEB	77.58	359.7	11	57	0	22	22	35	14	51	

NOUMEA	77.92	204.0	12	0	1				12 25
PARIS	78.53	6.3	12	0	-2				12 52
KARLSRUHE	78.61	2.4	12	5A	2	22	21	23	12 20 PCP
STUTTGART	78.86	1.8	12	0	-4				
STRASBOURG	79.02	2.8	12	3	-2				12 31
TUBINGEN	79.10	1.9	12	4	-1				
BRATISLAVA	79.39	356.5	12	12	5				22 30 PS
EBINGEN	79.45	2.0	12	5	-2				
IASI	79.57	349.2	12	9	1	22	22	14	12 19
HURBANOVO	79.65	355.7	12	12	4	22	17	8	13 20
RAVENSBURG	79.86	1.6	12	11	2				
BUDAPEST	80.00	355.1	12	10	0	22	25	13	12 13 PCP
LAHORE	80.05	309.8	12	8	-2				
BASLE	80.06	3.0	12	11A	1	22	37	24	
ZURICH	80.25	2.3	12	10	-1				
BESANCON	80.28	4.1	12	13	2				
BOKARO	80.55	296.9	12	12	-1				
NEUCHATEL	80.57	3.4	12	12	-1	22	40	22	
SIMFEROPOL	80.86	344.2	12	18	3				
TIMISOARA	81.59	353.4	12	24	5	23	10	41	
CLERMONT-FD.	81.60	6.2	12	16	-3				
TIFLIS	81.74	335.8	12	18	-1				12 24 PCP
CAMPULUNG	81.75	350.7	11	23	-56				12 9
ZAGREB	81.78	357.1	12	22	2	22	45	14	
OROPA	81.98	2.8	12	14	-7	23	14	41	15 41
TRIESTE	82.00	358.7	12	23A	2	22	23	-10	23 40 PS
PAVIA	82.45	2.0	12	24	1	22	47	9	15 32 PP
BUCHAREST	82.48	349.8	12	24	1	22	45	7	
BELGRADE	82.57	353.9	12	25K	1	22	48	9	
SAN JUAN	82.59	69.5	12	21A	-3	22	42	3	27 42 SS
ANGRA DO HO.	82.86	29.9				22	44	2	
BOLOGNA	83.16	0.4	12	31	4				15 45 PP
GORIS	83.43	333.9	12	31	3	22	56	9	23 22
PRATO	83.78	0.6	12	34	4	22	52	1	
MONACO	83.86	3.3	12	32A	2				
FLORENCE X.	83.88	0.5	12	32A	2				13 38
SOFIA	84.45	351.6	12	34	1	23	2	4	
QUETTA	84.54	314.5	12	31A	-3	22	54	-4	15 50 PP
ROME	85.76	359.6	12	41A	1	23	11	1	
TOLEDO	86.74	12.2	12	46	2	22	9	-71	16 20 PP
TARANTO	87.08	355.9							23 0
LISBON	87.11	16.4	12	48A	2				12 54 12 52 PCP
CHINCHINA	87.58	85.0	12	49	0	23	31	3	
DOMINICA	87.73	67.7	12	49	0				
FORT FRANCE	88.33	67.8	12	51	-1				
ALICANTE	88.67	9.7	13	2	8	24	6	28	
ATHENS	89.10	350.7	12	54	-2	23	23	-19	
MESSINA	89.40	357.1	12	51	-6				
GRANADA	89.46	12.3	13	0A	2				16 24 PP
ST. VINCENT	89.52	68.8	12	57	-1				
MALAGA	89.81	13.0	13	1K	2				
ALMERIA	89.93	11.5	13	1	1				16 23 PP
ALGIERS UNI.	90.55	7.1	13	3A	0	23	37	-18	16 38 PP
POONA	91.20	303.1	13	6	0				
KSARA	91.32	340.2	13	11	5	23	45	-17	16 47 PP
RELIZANE	91.35	9.2	13	2	-4	23	57	-5	24 40 PS
TRINIDAD	91.40	70.5	13	5	-2				
BOMBAY	91.41	304.2	13	10	3	24	10	7	
SAFED	92.22	340.3	13	10	0				16 57 PP
RIVERVIEW	93.23	213.0	13	15A	0	24	24	5	23 49 SKS
JERUSALEM	93.43	340.3	13	14	-2				
HUANCAYO	101.14	95.2							14 2 PPP
TAMANRASSET	104.62	6.1	14	8	2				29 49 PKKP
MBOUR	108.68	29.6	18	26	777	25	28	24	18 59 PP
LA PAZ	108.96	92.4	14	26	777	25	10	9	19 10 PP
ASTRIDA	127.91	337.2	19	7A	2				21 20
TANANARIVE	136.38	306.9	19	17A	-4				21 55 PP
PRETORIA	150.41	329.2	19	42	-3				
PIETERMZBURG	153.21	322.2	20	0	11				
KIMBERLEY	154.23	333.3	19	52K	1				

JANUARY 2 4.H 3.M 30.S EPICENTRE 52.76-168.75 DEPTH= 0.KM

A=-0.59610 B=-0.11858 C= 0.79410 D=-0.1951 E= 0.9808
G=-0.7788 H=-0.1549 K=-0.6078 HT= -6.4

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
COLLEGE	16.16	33.2	3	49	-1							
SITKA	19.57	64.0	4	33	1							
VICTORIA	28.69	80.1	6	1	0							
SEATTLE	29.75	81.0	6	12	2							
CORVALLIS	30.66	87.0	6	18	0							
NEMURO	31.47	271.2	6	24	-2	11	29	-4				
ABASHIRI	31.89	273.3	6	29	0							
BANFF	32.21	71.1	6	31	-1							
KUSIRO	32.39	271.5	6	33	-1	11	41	-7				
HONOLULU	32.46	161.3	6	38	4							
OBIHIRO	33.15	272.4	7	2	22							
ASAHIGAWA	33.17	274.3	6	41	1							
SHASTA	33.41	92.3	6	40	-2							
URAKAWA	33.84	271.5	6	45	-1	12	14	4				
MINERAL	34.12	92.1	6	46	-2							
SAPPORO	34.19	274.0	6	48	-1	12	5	-11				
HUNGRY HORSE	34.33	74.9	6	49	-1	12	18	0			8	5 PP
MURORAN	34.84	273.2	6	54	-1							
MORI	35.21	273.1	6	59	1							
BERKELEY	35.26	96.1	6	55	-4							
HAKODATE	35.31	272.6	6	57	-2	12	26	-7				
RENO	35.69	91.8	7	2	0							
MIYAKO	35.84	268.6	6	56	-7							
AOMORI	35.84	271.2	7	3	0							
RESOLUTE	35.86	25.8	7	4	1							
LICK	35.97	96.2	7	2K	-2							
MORIOKA	36.28	269.4	7	5	-2	12	45	-3				
BUTTE	36.36	77.5	7	5	-3						9	1 PPP
MIZUSAWA	36.66	268.7	7	11	1	8	7-287					
AKITA	36.92	270.3	8	21	69							
ISINOMAKI	36.98	267.6	7	20	7							
SENDAI	37.34	267.7	7	12	-4							
BOZEMAN	37.45	77.1	7	15	-2							
FRESNO	37.46	95.3	7	17K	0							
HUKUSIMA	37.93	267.4	7	20	-1							
ONAHAMA	38.19	266.1	7	35	12							
TINEMAHA	38.22	93.6	7	22	-1							
KING RANCH	38.45	97.0	7	25	0							
SHIRAKAWA	38.49	266.9	7	25	-1	13	24	2			7	56
NIIGATA	38.69	268.8	7	52	25							
WOODY	38.73	95.8	7	26	-2							
MITO	38.82	265.8	7	45	17							
ISABELLA	39.00	95.5	7	27	-3							
UTUNOMIYA	39.08	266.5	7	24	-7	13	27	-4				
KAKIOKA	39.10	265.8	7	41	10							
CHINA LAKE	39.42	94.6	7	34	1							
KUMAGAYA	39.64	266.4	7	44	9							
MAEBASI	39.66	267.0	7	33	-2	13	38	-1			8	31
TOKYO C.M.O.	39.71	265.6	7	54	-19							
SALT LAKE C.	39.77	84.1	7	35	-1							
TITIBU	39.93	266.5	7	37	-1							
NAGANO	40.01	268.0	7	39	1	13	40	-5				
OIWAKE	40.02	267.3	7	38	0	13	40	-5			17	45
MATUSIRO	40.08	267.8	7	38A	-1	13	45	-1			7	53
PASADENA	40.20	97.0	7	38	-2							
MATUMOTO	40.43	267.7	7	44	2							
HUNATU	40.44	266.2	7	46	4							
KOHU	40.47	266.5	7	43	1	13	51	-1				
MISIMA	40.58	265.6	7	49	6	13	55	2				
TOYAMA	40.60	268.9	7	46	3							
RIVERSIDE	40.79	96.5	7	44	-1							
BOULDER CITY	40.99	92.1	7	44	-2							
SHIZUOKA	41.02	265.9	7	51	4							
PALOMAR	41.54	96.7	7	48	-3							
NAGOYA	41.75	267.3	8	12	19							
TSURUGA	41.98	268.6	7	55	1							
HAYFIELD	42.04	95.3	7	57	2							
BARRETT	42.12	97.3	7	52	-4							
KAMEYAMA	42.28	267.4	8	5	8	14	17	-2				
KYOTO	42.60	268.2	8	0	0	14	26	3				
NARA	42.77	267.7	8	3	2							
TOYOOKA	42.82	269.4	8	1	0	14	26	0				
RAPID CITY	42.96	74.3	8	2	0							
OSAKA	42.98	267.9	8	5	2	14	31	2			10	7
CHANGCHUN	43.34	285.6	8	5	-1							
TOKUSIMA	43.94	268.1	8	12	2	14	43	0				

TAKAMATU	44.10	268.8	8	10	-2	15	38	53	19	9	
HAMADA	44.91	271.0	8	19	1	14	57	0	21	14	
KOTI	44.94	268.4	8	14	-4	14	47	-10			
HIROSIMA	45.05	270.1	8	19	0				10	0	
TUCSON	45.95	92.8	8	24	-3	15	5	-7	10	10	PP
ASOSAN	46.88	269.7	8	34	0	15	31	6			
SAGA	47.11	270.7	8	38	2						
LUBBOCK	50.49	84.5	9	0	-2						
TATUNG	52.65	289.3	9	21	3						
KIRKLAND LA.	53.20	56.7	9	15K	-7						
FAYETTEVILLE	53.36	76.7	9	19	-4						
ZO-SE	54.14	275.7	9	28	-1	17	8	3			
PAOTOW	54.18	291.8	9	29	0						
TAIYUAN	54.60	287.7	9	33	0						
SCORESBY SD.	54.76	13.0	9	34	0						
NANKING	54.90	278.3	9	33	-2						
SCHEFFERVLLE	54.97	43.7	6	39A	-176						
OTTAWA	57.25	56.8	9	49A	-3				11	54	PP
SHAWINIGAN	57.93	54.1	9	54A	-2						
SEVEN FALLS	58.47	52.5	7	55	-125						
GUADALAJARA	58.97	96.4							15	38	
SIAN	59.20	237.1	10	9	4						
PENNSYLVANIA	59.35	61.9	10	8	2						
KIRUNA	59.54	356.0	10	7A	-1				10	52	PCP
MANZANILLO	59.61	98.5	13	45	217						
WUWEI	60.15	294.3	10	18	6						
REYKJAVIK	60.64	16.0	10	14	-1						
PALISADES	61.30	59.3	10	18	-2						
TACUBAYA	62.44	94.0				18	27	-27	10	46	
COLUMBIA	62.48	69.4	10	24	-4						
SKALSTUGAN	64.00	359.5	10	37A	-1						
VERA CRUZ	64.46	91.6	10	40	-1						
HONG KONG	64.82	274.1	10	42K	-1						
MERIDA	67.08	85.3	10	54	-3	19	48	-3			
UPPSALA	67.63	356.5	11	0A	-1	20	58	60	13	39	PP
COPENHAGEN	71.93	359.3	11	18K	-9						
RATHFARNHAM	73.30	10.9	11	35	0				11	51	PCP
HAMBURG	74.04	0.8	11	41A	1						
WITTEVEEN	74.73	2.9	11	44	0						
WARSAW	75.07	353.8	11	43	-2				22	0	PPS
KEW	75.69	7.4	11	50K	1				14	49	PP
JENA	76.69	359.8	11	54	-1						
KRAKOW	77.31	354.3	12	1	3	21	52	4			
RACIBORZ	77.37	355.4	11	59	1				12	11	PCP
PRAGUE	77.51	357.9	12	1	2	22	6	16	12	18	PCP
NOUMEA	77.80	203.4	12	5	4						
PARIS	78.54	5.9	12	5	0						
KARLSRUHE	78.58	1.9	12	6A	1	22	9	7	12	50	
STUTTGART	78.84	1.4	12	6A	0						
STRASBOURG	79.00	2.4	12	8A	1				13	1	
TUBINGEN	79.07	1.5	12	9	1						
BRATISLAVA	79.33	356.0	12	14	5				22	20	PS
EBINGEN	79.42	1.6	12	11	1						
IASI	79.45	348.8	12	10	0				12	59	
HURBANOVO	79.58	355.2	12	13	2	22	32	20	14	46	
LAHORE	79.72	309.3	12	10	-1						
RAVENSBURG	79.83	1.1	12	14	2						
BUDAPEST	79.92	354.6	12	12	0				12	15	PCP
BASLE	80.04	2.5	12	15	2	22	28	11			
ZURICH	80.23	1.8	12	14	0						
BESANCON	80.27	3.6	12	15	1				13	30	
NEUCHATEL	80.55	3.0	12	17	1						
CLERMONT-FD.	81.60	5.7	12	19	-2						
ZAGREB	81.72	356.7	12	21	-1						
TRIESTE	81.95	358.2	12	23A	0	22	41	4	15	42	PP
OROPA	81.96	2.3	11	59	-24						
PAVIA	82.43	1.5	12	28	2				16	15	
BELGRADE	82.48	353.4	12	27A	1	25	47	185	12	43	
SAN JUAN	82.95	69.0	12	26	-2						
BOLOGNA	83.12	359.9	12	33	4				15	34	
MONACO	83.84	2.8	12	36K	3				13	6	
FLORENCE X.	83.84	0.0	12	34A	1				13	6	
QUETTA	84.23	314.0	12	35A	0	22	58	-2	15	48	PP
BRISBANE	86.58	213.4	12	52	6						
TOLEDO	86.79	11.7	12	48	1						
FORT FRANCE	88.69	67.3	12	54	-3						
ALICANTE	88.70	9.2	13	6	9	24	5	22	30	24	SS
ATHENS	89.00	350.2	12	44	-14	23	24	-21	24	41	PS
MESSINA	89.34	356.6	12	58	-2						

GRANADA	89.51	11.8	13	2A	2						
MALAGA	89.86	12.5	12	53	-9						
ALGIERS UNI	90.56	6.6	13	5	0					16	40 PP
POONA	90.83	302.6	13	6	-1						
BOMBAY	91.05	303.6	13	10	2	24	5	1			
RELIZANE	91.37	8.7	13	4	-5						
SAFED	92.05	339.8	13	15	3					16	53 PP
RIVERVIEW	93.04	212.5	13	17A	0	23	52	-2			
JERUSALEM	93.26	339.7	13	19A	1					17	5 PP
HUANCAYO	101.55	94.7								19	44 PP
TAMANRASSET	104.62	5.5								14	20
TANANARIVE	136.02	306.2	19	23A	0					22	5 PP
PRETORIA	150.17	328.1								19	44
PIETERMZBURG	152.93	321.1								20	0
KIMBERLEY	154.01	332.0								19	53

JANUARY 2 10.H 49.M 32.S EPICENTRE 52.58-168.53 DEPTH= 0.KM

A=-0.59811 B=-0.12141 C= 0.79217 D=-0.1989 E= 0.9800
G=-0.7763 H=-0.1576 K=-0.6103 HT= -6.4

SE= 2.72

	DELTA DEG.	AZ. DEG.	P M	P O-C S	S M	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S
COLLEGE	16.24	32.7	3	48 -3	6	58 6				
SITKA	19.53	63.6	4	30 -2	8	7 0			5	23
SEATTLE	29.64	80.8	6	14 5						
CORVALLIS	30.54	86.8	6	16 -1						
BANFF	32.14	70.9	6	31 0						
HONOLULU	32.24	161.6	6	34 2	11	48 3				
SHASTA	33.27	92.2	6	39 -2						
UKIAH	33.72	95.1	6	45 0						
MINERAL	33.98	92.0	6	45A -3						
HUNGRY HORSE	34.25	74.8	6	48 -2					8	10 PP
HAWAII V.OB.	34.66	157.6	6	53 0	12	24 1				
BERKELEY	35.10	96.0	6	54 -3	12	23 -7				
RENO	35.54	91.7	7	OK -1						
SANTA CLARA	35.62	96.4	7	7 6	12	40 2				
LICK	35.82	96.2	7	1A -2					8	1F
RESOLUTE	35.96	25.7	7	2A -2	12	32 -11				
BUTTE	36.27	77.4	7	4 -3	12	48 0				
FRESNO	37.31	95.3	7	13K -3						
BOZEMAN	37.36	77.0	7	13 -3	12	55 -9			7	31
EUREKA	37.92	88.7	7	19 -2					7	38
TINEMAHA	38.07	93.6	7	19A -3	13	14 -1				
KING RANCH	38.29	97.0	7	22 -2						
WOODY	38.58	95.8	7	24 -2						
ISABELLA	38.84	95.5	7	25A -3						
CHINA LAKE	39.27	94.6	7	30 -2						
SALT LAKE C.	39.65	84.0	7	33 -2	13	38 -1			9	4 PP
PASADENA	40.04	97.0	7	35 -3	13	42 -3				
MATUSIRO	40.21	268.2	7	41A 1	13	44 -4			9	18 PP
RIVERSIDE	40.63	96.5	7	41 -2						
BOULDER CITY	40.85	92.1	7	44 -1						
PALOMAR	41.38	96.7	7	47A -2						
HAYFIELD	41.88	95.3	7	52 -2						
BARRETT	41.96	97.3	7	52 -2	14	10 -4				
KYOTO	42.74	268.5	8	4 3	14	31 6				
RAPID CITY	42.88	74.2	8	0 -2	14	25 -2			9	52 PP
CHANGCHUN	43.52	286.0	8	7 0						
TUCSON	45.81	92.8	8	23 -2	15	8 -1			8	30
LUBBOCK	50.37	84.5	8	58 -3						
PEKING	51.22	287.7	9	6 -1	16	28 3			11	10 PP
CHIHUAHUA	51.26	92.3							18	24
KIRKLAND LA.	53.19	56.7	9	14A -8						
FAYETTEVILLE	53.27	76.7	9	18A -5	16	47 -6				
CHICAGO CGS.	53.29	67.1			16	45 -9			19	5 SCS
FLORISSANT	53.69	71.6	9	22A -4	16	52 -7				
ST. LOUIS 1	53.87	71.7	9	23A -4	16	55 -7			17	8 PS
ZO-SE	54.29	276.0	9	31 1	17	13 6				
SCORESBY SD.	54.91	13.1	9	34 -1						
NANKING	55.06	278.6	9	35 -1	17	21 3				
OTTAWA	57.24	56.8	9	48A -3	17	44 -3			11	58 PP
SHAWINIGAN	57.93	54.1	9	52A -4						
SEVEN FALLS	58.48	52.6	7	53 -127	15	57-126			20	16 SS
APATITY	59.07	350.4	10	3 -1	18	11 0				
PENNSYLVANIA	59.32	62.0			18	10 -4				

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KIRUNA	59.73	356.1	10	7A	-2	18	26	7	10	57	PCP
WASHINGTON	61.10	63.0	10	23	5	17	58	-39			
PALISADES	61.27	59.3	10	16	-4	18	37	-2	12	48	PP
FORDHAM	61.40	59.4	10	18	-2	18	39	-2			
WESTON	61.62	56.7	10	19K	-3	18	35	-8			
CHAPEL HILL	62.15	66.6	10	22	-3						
TACUBAYA	62.29	94.0	10	29	3				13	0	
COLUMBIA	62.41	69.5	10	24	-3	18	40	-13			
SKALSTUGAN	64.18	359.6	10	38A	-1						
CANTON	64.93	275.6	10	45	1	19	28	3			
HONG KONG	64.97	274.4	10	48	4	19	33	8			
MERIDA	66.96	85.4	11	1	4	19	48	-1			
UPPSALA	67.82	356.6	11	0A	-2				11	29	PCP
ABERDEEN	70.05	7.8				21	8	42			
COPENHAGEN	72.11	359.4	11	29A	1	21	6	16	21	44	SCS
BERMUDA	72.63	59.4				20	52	-4	25	16	SS
HAMBURG	74.22	0.9	11	41	1				11	59	PCP
WARSAW	75.26	353.9	11	48	2				22	14	PPS
DE BILT	75.56	4.0				21	38	9			
SHILLONG	75.64	293.2	11	47	-2						
KEW	75.85	7.6	11	46	-4				21	46	SCS
JENA	76.88	359.9	11	55	-1				21	57	SCS
RACIBORZ	77.56	355.6	12	10	11						
PRAGUE	77.70	358.1	12	4	4				12	21	PCP
CHEB	77.72	359.4	12	1	1				12	34	
KARLSRUHE	78.76	2.1	12	8K	2						
STUTTGART	79.01	1.5	12	7A	0	22	18	12	22	29	SP
DEHRA DUN	79.16	306.1	12	6	-2				22	34	
STRASBOURG	79.17	2.5	12	8A	0				22	29	SCS
TUBINGEN	79.25	1.6	12	8	-1						
BRATISLAVA	79.52	356.2	12	16	6				22	42	PS
EBINGEN	79.60	1.7	12	11A	0						
IASI	79.66	348.9	12	11	0						
BASLE	80.22	2.7	12	17	3						
ZURICH	80.40	2.0	12	17	2						
BESANCON	80.44	3.8	12	16	1						
NEUCHATEL	80.73	3.1	12	18	1						
CLERMONT-FD.	81.77	5.9	12	20	-2						
TRIESTE	82.14	358.4	12	25	1	22	53	14			
BUCHAREST	82.57	349.5				22	42	-1	14	30	
BELGRADE	82.68	353.6	12	28A	1	22	50	6			
SAN JUAN	82.89	69.2	12	26	-2	22	44	-2			
MONACO	84.01	2.9	12	35K	1						
FLORENCE X.	84.02	0.2	12	35A	1	23	16	18			
QUETTA	84.45	314.2	12	37A	1	23	2	0	23	15	SCS
ROME	85.90	359.2	12	43A	0	23	18	2	29	2	SS
TOLEDO	86.94	11.9	12	48	0	23	24	-2			
TARANTO	87.20	355.6				23	38	10	14	38	
CHINCHINA	87.86	84.7	12	51	-2	23	34	-1			
ALICANTE	88.85	9.4	13	10	13	24	9	25			
BOGOTA	89.08	83.7	13	20	22	23	44	-2			
MESSINA	89.53	356.8							22	31	
GRANADA	89.66	12.0	13	14K	13						
ST. VINCENT	89.83	68.5	12	58	-4						
MALAGA	90.01	12.7	13	3	0						
ALGIERS UNI.	90.72	6.8	13	7	1	24	17	16			
POONA	91.05	302.8	13	6	-1	23	44	-20			
BOMBAY	91.26	303.8	13	10	2	24	10	4			
KSARA	91.37	339.9	13	11	2	24	18	11	16	50	PP
RELIZANE	91.53	8.9	13	8	-2						
TRINIDAD	91.70	70.1	13	7	-4						
MADRAS	92.23	294.7							23	46	
SAFED	92.27	340.0	13	17	4				13	31	
RIVERVIEW	92.96	212.6				24	24	3	23	52	SKS
JERUSALEM	93.47	339.9	13	20	1						
COLOMBO	97.39	291.4							23	38	
TAMANRASSET	104.79	5.7				25	5	-55	17	33	
LA PAZ	109.22	92.1				25	8	-2	19	0	PP
PRETORIA	150.39	328.3	19	53	5						
PIETERMZBURG	153.15	321.3	20	1K	9						
KIMBERLEY	154.23	332.3	20	13	20						

JANUARY 2 12.H 47.M 7.S EPICENTRE 52.59-168.49 DEPTH= 0.KM

A=-0.59780 B=-0.12179 C= 0.79234 D=-0.1996 E= 0.9799
G=-0.7764 H=-0.1582 K=-0.6101 HT= -6.4

SE= 2.45

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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
COLLEGE	16.21	32.7	3 47	-4				
SITKA	19.50	63.6	4 30	-1				
BANFF	32.11	71.0	6 32	1				
SHASTA	33.24	92.2	6 39	-2				
MINERAL	33.96	92.1	6 46K	-1				
HUNGRY HORSE	34.22	74.8	6 49	0				9 25 PCP
BERKELEY	35.09	96.1	6 55A	-2				
RENO	35.52	91.8	6 59	-1				
LICK	35.79	96.2	7 1K	-2				
RESOLUTE	35.94	25.8	7 1A	-3				11 2
BUTTE	36.24	77.5	7 6	0				
FRESNO	37.28	95.3	7 13	-2				
BOZEMAN	37.33	77.0	7 14	-2				
EUREKA	37.90	88.8	7 19	-1				
TINEMAHA	38.05	93.6	7 20	-2				
KING RANCH	38.27	97.0	7 22	-1				
WOODY	38.56	95.8	7 24	-2				
ISABELLA	38.82	95.5	7 25	-3				
CHINA LAKE	39.24	94.6	7 29	-3				
SALT LAKE C.	39.62	84.1	7 34	-1				
PASADENA	40.02	97.0	7 36	-2				
MATUSIRO	40.23	268.3	7 39A	-1				9 38 PPP
RIVERSIDE	40.61	96.5	7 41	-2				
BOULDER CITY	40.83	92.1	7 43	-2				
PALOMAR	41.36	96.8	7 48	-1				
HAYFIELD	41.86	95.3	7 57	4				
BARRETT	41.94	97.3	7 52	-2				
RAPID CITY	42.85	74.3	8 1	0				9 46 PP
TUCSON	45.79	92.8	8 23	-2				9 29
LUBBOCK	50.34	84.5	8 57	-3				
KIRKLAND LA.	53.16	56.8	9 9	-13				
FAYETTEVILLE	53.24	76.7	9 10K	-3				
SCHEFFERVLLE	54.98	43.8	9 31K	-184				
OTTAWA	57.21	56.8	9 49K	-2				
SHAWINIGAN	57.90	54.2	9 53K	-3				
SEVEN FALLS	58.45	52.6	7 54	-126				
KIRUNA	59.71	350.1	10 7A	-2				
PALISADES	61.24	59.4	10 17	-2	18 37	-1		
TACUBAYA	62.27	94.1	10 35	9	18 39	-12		14 23 PPP
COLUMBIA	62.39	69.5	10 23	-4				
SKALSTUGAN	64.17	359.6	10 37A	-1				
UPPSALA	67.80	356.7	11 0A	-2				
HAMBURG	74.20	1.0	11 42	2				12 0 PCP
WARSAW	75.25	354.0	11 47	1				
SHILLONG	75.65	293.2	11 46	-3				
JENA	76.87	0.0	11 56	0				
RACIBORZ	77.55	355.6	12 0	1				
PRAGUE	77.69	358.1	12 0	0				12 13 PCP
STUTTGART	79.00	1.6	12 7A	0				
STRASBOURG	79.16	2.5	12 9A	1				
TUBINGEN	79.24	1.7	12 9	1				
BRATISLAVA	79.50	356.2	12 16	6				
EBINGEN	79.58	1.7	12 11A	1				
IASI	79.65	349.0	12 12	1				
BASLE	80.20	2.7	12 22	8				
BESANCON	80.43	3.8	12 15	0				
NEUCHATEL	80.71	3.2	12 17	1				
CLERMONT-FD.	81.75	5.9	12 20	-2				
BELGRADE	82.66	353.6	12 27A	1	22 47	3		
MONACO	83.99	3.0	12 34A	1				
FLORENCE X.	84.01	0.2	12 32	-1				13 34
QUETTA	84.46	314.2	12 36A	0	22 56	-6		15 53 PP
GRANADA	89.63	12.0	13 53A	52				
ST. VINCENT	89.80	68.5	13 0	-2				
POONA	91.06	302.8	13 6	-1				
KSARA	91.36	339.9	13 12	3				
TRINIDAD	91.67	70.1	13 7	-3				
SAFED	92.26	340.0	13 18	5				
JERUSALEM	93.47	339.9	13 20	2				
TAMANRASSET	104.77	5.7						14 28
PRETORIA	150.40	328.4						19 52
PIETERMZBURG	153.16	321.4						19 30
KIMBERLEY	154.23	332.4						19 24

JANUARY 3 0.H 41.M 5.S EPICENTRE 53.33-167.58 DEPTH= 0.KM

A=-0.58575 B=-0.12899 C= 0.80016 D=-0.2151 E= 0.9766
G=-0.7814 H=-0.1721 K=-0.5998 HT= -6.6

SE= 2.54

	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	15.30	33.2	3	43	4	6	51	21			4	9	
SITKA	18.69	65.6	4	36	14								
VICTORIA	27.90	81.8	5	57	3								
CORVALLIS	29.94	88.8	6	13	1								
BANFF	31.36	72.5	6	27A	2								
SHASTA	32.74	94.1	6	36	-1								
MINERAL	33.44	94.0	6	42K	0								
HUNGRY HORSE	33.51	76.4	6	43	0	12	7	2			9	21	PCP
BERKELEY	34.62	98.0	6	52A	-1								
RESOLUTE	35.03	26.2	6	56A	0	12	11	-18					
LICK	35.34	98.1	6	57K	-2								
BUTTE	35.55	79.0	7	3	2	13	12	35			8	51	PPP
BOZEMAN	36.64	78.6	7	11	1								
FRESNO	36.82	97.1	7	11	-1								
EUREKA	37.35	90.4	7	13	-3								
TINEMAHA	37.56	95.4	7	18K	0								
KING RANCH	37.83	98.8	7	20K	0								
WOODY	38.10	97.6	7	20K	-2								
ISABELLA	38.36	97.3	7	23K	-2								
SALT LAKE C.	39.01	85.6	7	30	0								
PASADENA	39.58	98.7	7	33	-2	13	55	17			9	42	
RIVERSIDE	40.16	98.2	7	37	-3						8	3	
BOULDER CITY	40.32	93.7	7	40	-1								
MATUSIRO	40.80	268.1	7	39A	-6	13	44	-13			9	54	PPP
PALOMAR	40.92	98.4	7	44K	-2								
HAYFIELD	41.40	96.9	7	49	-1								
BARRETT	41.50	99.0	7	48	-3								
RAPID CITY	42.13	75.6	7	58	2	13	37	-39					
TUCSON	45.29	94.3	8	20	-1	15	4	2					
LUBBOCK	49.74	85.8	8	53	-3								
KIRKLAND LA.	52.30	57.7	9	17A	1								
FAYETTEVILLE	52.55	77.9	9	15K	-2								
SCORESBY SD.	54.04	13.6	9	29	1								
SCHEFFERVLLE	54.06	44.6	6	55	-154								
OTTAWA	56.35	57.8	9	44A	-1						10	0	
SHAWINIGAN	57.02	55.1	9	49A	-1								
SEVEN FALLS	57.56	53.5	7	49	-125								
MANZANILLO	59.01	99.8									10	59	PCP
KIRUNA	59.01	356.5	10	3A	-1						10	50	PCP
PALISADES	60.40	60.3	10	13	-1	18	30	2					
COLUMBIA	61.62	70.5	10	19	-3								
TACUBAYA	61.79	95.2	10	34	11								
SKALSTUGAN	63.43	0.1	10	33A	-1								
HONG KONG	65.48	274.8	10	45	-2								
BAGUIO CITY	66.16	265.6	10	55	3								
RABAUL	66.52	224.6	11	0	6								
UPPSALA	67.09	357.1	10	56	-2								
BERMUDA	71.75	60.3	11	27	1	20	50	4					
RATHFARNHAM	72.60	11.6	11	31A	0								
HAMBURG	73.45	1.5	11	37	1						11	58	PCP
WITTEVEEN	74.11	3.6	11	37	-3								
WARSAW	74.57	354.5	11	43	0								
KEW	75.03	8.2	11	45A	0								
SHILLONG	75.86	293.7	11	46	-4								
JENA	76.10	0.5	11	51	0								
KRAKOW	76.80	355.0	11	50	-5						12	8	PCP
PRAGUE	76.96	358.7	11	57	1						13	3	
PARIS	77.89	6.7	12	2	1	22	2	8			12	12	PCP
KARLSRUHE	77.98	2.7	12	2	0								
STUTTGART	78.24	2.2	12	3A	0	22	13	15					
STRASBOURG	78.39	3.1	12	5A	1								
TUBINGEN	78.48	2.3	12	5	0								
BRATISLAVA	78.80	356.8	12	13	7						12	31	
EBINGEN	78.82	2.4	12	7A	1								
IASI	79.03	349.5	12	7	0								
DEHRA DUN	79.17	306.7	11	59	-9								
BASLE	79.43	3.3	12	11	1								
BESANCON	79.65	4.5	12	12	1								
CLERMONT-FD.	80.96	6.6	12	16	-2								
TRIESTE	81.39	359.1	12	21	1								

BELGRADE	81.99	354.2	12	23	0				29	44	
SAN JUAN	82.09	70.0	12	23	-1						
MONACO	83.23	3.6	12	31	1						
FLORENCE X.	83.26	0.9	12	31A	1	23	4	14	13	2	
QUETTA	84.33	314.9	12	34A	-1	22	57	-4	15	47	PP
ROME	85.15	360.0	12	39A	0	23	15	6			
LISBON	86.44	16.7	12	47K	1				12	51	PCP
BRISBANE	87.45	214.4	12	59	8						
GRANADA	88.79	12.7	13	25A	28						
KSARA	90.85	340.6	13	9	2						
POONA	91.11	303.5							14	5	
SAFED	91.75	340.7	13	14	3						
JERUSALEM	92.95	340.7	13	15A	-1						
MBOUR	108.00	30.0	17	23	777	24	33	-1	25	39	SKKS
ASTRIDA	127.45	338.0	19	6	-1						
PRETORIA	150.03	330.6							19	48	
PIETERMZBURG	152.90	323.8							19	35	
KIMBERLEY	153.80	334.8							19	52	

JANUARY 3 12.H 48.M 30.S EPICENTRE 43.85 130.63 DEPTH= 593.KM

DEPTH OF FOCUS= 0.088R

A=-0.47117 B= 0.54911 C= 0.69028 D= 0.7589 E= 0.6512
G=-0.4495 H= 0.5239 K=-0.7235 HT= -3.1

SE= 1.94

	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	1.17	127.7	1	9	-2	1	58	-10				
SUIHWA	3.78	318.4	1	22	-2							
CHANGCHUN	3.85	271.6	1	21	-3	2	27	-4				
SUTTSU	7.08	95.2	1	48K	-3	3	15	-4			2	28
MORI	7.50	100.0	1	54K	0	3	16	-10				
HAKODATE	7.70	102.1	1	54K	-2	3	26	-4				
MURORAN	7.72	97.8	1	54K	-2	3	26	-4				
SAPPORO	7.84	92.0	1	55K	-3	3	28	-4			3	51
SAIGO	7.91	163.9	1	58K	0	3	36	3				
WAZIMA	8.02	141.5	1	59K	0	3	36	1				
WAKKANAI	8.04	74.9	2	0K	1	3	35	0				
AOMORI	8.10	108.4	1	58K	-2	3	26	-10				
TOMAKOMAI	8.11	95.6	1	58	-2	3	37	0				
AKITA	8.19	117.0	2	0K	-1	3	38	0				
AIKAWA	8.19	132.7	1	59	-2	3	32	-6				
DAIREN	8.38	236.9	2	3	0	3	44	3				
ASAHIGAWA	8.48	86.4	2	2K	-2	3	42	-1				
SAKATA	8.50	122.4	2	7	3	3	40	-3				
MATSUE	8.59	166.6	2	6K	1	3	49	4				
KANAZAWA	8.63	145.8	2	6	1	3	46	0				
YONAGO	8.66	165.1	2	5	3	3	48	2				
NIIGATA	8.70	130.0	2	4K	-2	3	48	1				
TOYAMA	8.72	142.7	2	6K	0	3	51	4				
HATINOHE	8.74	108.5	2	2K	-4	3	41	-7				
TOTTORI	8.78	160.4	2	6K	-1	3	49	1				
TAKADA	8.89	135.7	2	5K	-3	3	40	-10				
MORIOKA	8.90	114.1	2	6K	-2	3	49	-1				
HUKUI	8.91	149.0	2	8K	0	3	50	0				
TOYOOKA	8.91	137.4	2	8K	0	3	47	-3				
HAMADA	9.00	172.4	2	10	1	3	55	3				
Y.-SAKHLINSK	9.05	65.7	2	7K	-2	3	48	-5				
URAKAWA	9.06	96.6	2	6	-3	3	49	-4				
MAIZURU	9.16	154.4	2	11K	1	3	55	0				
MIZUSAWA	9.18	117.3	2	8	-2	3	48	-7				
TSURUGA	9.19	151.1	2	10	-1	3	55	0				
OBIHIRO	9.20	91.4	2	10K	-1	3	54	-2				
NAGANO	9.21	138.6	2	10K	-1	3	44	-12				
TAKAYAMA	9.21	144.3	2	10	-1	3	56	0				
YAMAGATA	9.22	124.0	2	8	-3	3	56	0				
MATUSIRO	9.31	138.9	2	10K	-2	3	56	-1			10	5 SCP
MATUMOTO	9.44	141.0	2	12K	-1	4	1	1				
MIYAKO	9.45	112.4	2	10K	-3	3	54	-6				
UGLEGORSK	9.47	52.4	2	11K	-2	3	56	-4				
OKAYAMA	9.50	163.4	2	16K	2	4	2	1				
IBUKISAN	9.54	150.4	2	14K	0	4	4	2				
SENDAI	9.54	122.2	2	11K	-3	3	46	-16				
HIROSIMA	9.56	171.0	2	14	0	4	4	2				
HIKONE	9.60	151.3	2	15K	1	4	3	0				

HUKUSIMA	9.62	125.9	2	13K	-2	4	1	-2			
OIWAKE	9.65	138.4	2	15	0	4	5	1			
KYOTO	9.65	154.2	2	16	1	4	2	-2			
GIHU	9.67	148.7	2	14K	-1	4	2	-2			
ITUHARA	9.69	186.7	2	16	1	4	8	4			
ISINOMAKI	9.71	120.2	2	15	-1	4	1	-4			
HIMEJI	9.78	161.4	2	15	-1	4	10	4			
KOBE	9.81	157.4	2	16K	-1	4	6	0			
MAEBASI	9.85	136.2	2	15K	-2	4	5	-2			
ABASHIRI	9.85	84.3	2	16	-1	3	56	-11			
TAKAMATU	9.87	163.3	2	17	0	4	7	-1			
SIMONOSEKI	9.88	178.6	2	17	0	4	12	4			
SHIRAKAWA	9.92	129.4	2	15	-3	4	2	-6			
OSAKA	9.93	155.9	2	18	0	4	8	-1			
NAGOYA	9.95	148.4	2	17K	-1	4	8	-1			
IIDA	9.99	143.9	2	20	2	4	10	0			
NARA	10.00	154.5	2	16K	-2	4	8	-2			
SUMOTO	10.04	159.4	2	19	0	4	12	1			
KAMEYAMA	10.05	151.4	2	17K	-2	4	10	-1			
KUSIRO	10.06	90.2	2	17	-2	4	7	-4			
MATUYAMA	10.14	169.9	2	20K	0	4	13	1			
UTUNOMIYA	10.14	132.8	2	18K	-2	4	8	-4			
TU	10.18	151.4	2	20	0	4	13	0			
TITIBU	10.18	137.6	2	20	0	4	11	-2			
KUMAGAYA	10.20	135.9	2	17	-3	4	12	-1			
KOHU	10.23	140.7	2	17K	-4	4	7	-7			
WAKAYAMA	10.23	158.3	2	19K	-2	4	10	-4			
TOKUSIMA	10.23	161.2	2	22K	1	4	14	0			
HUKUOKA	10.25	181.0	2	21K	0	4	17	3			
ONAHAMA	10.42	127.9	2	21	-2	4	13	-4			
HUNATU	10.42	140.3	2	20	-3	4	3	-14			
TUKUBASAN	10.51	133.2	2	19	-4						
KOTI	10.53	166.6	2	24K	0	4	16	-3			
KAKIOKA	10.55	132.9	2	21	-3	4	14	-6			
SAGA	10.58	181.5	2	26	2	4	26	6			
MITO	10.59	131.4	2	22	-2	4	14	-7			
OOITA	10.63	175.5	2	24	-1	4	21	0			
HAMAMATU	10.63	146.6	2	24	-1	4	18	-3			
OWASE	10.68	154.2	2	24K	-1	4	20	-2			
SHIZUOKA	10.70	143.3	2	24	-1	4	21	-1			
UWAZIMA	10.70	171.3	3	15	50	5	15	53			
TOKYO C.M.O.	10.75	136.2	2	23K	-3	4	21	-2			
MISIMA	10.82	140.8	2	25K	-1	4	20	-5			
NEMURO	10.86	87.5	2	25	-2	4	22	-3			
YOKOHAMA	10.90	137.4	2	25	-2	4	24	-2			
ASOSAN	10.93	178.1	2	30	2	4	31	4			
MUROTO	10.94	164.1	2	28	0	4	27	0			
OMAESAKI	10.94	145.0	2	26K	-2	4	31	4			
AJIRO	10.95	140.5	2	26	-2	4	23	-4			
TSINGTAU	11.08	229.0	2	30	1	4	31	2			
UNZENDAKE	11.10	181.7	2	31	2	4	35	5			
NAGASAKI	11.11	183.3	2	31	2	4	35	5			
SIOMISAKI	11.13	157.2	2	30K	0	4	30	0			
SIMIDU	11.20	169.8	2	29	-1	4	30	-1			
TYOSI	11.29	132.5	2	27K	-4	4	32	-1			
TOMIE	11.30	188.0	2	34	3	4	38	5			
OSIMA	11.31	140.3	2	28K	-3	4	24	-9			
MERA	11.40	138.3	2	30K	-2	4	29	-6			
PEKING	11.43	255.5	2	31	-1	4	30	-5			
KWANTING	11.75	257.3	2	36	0	4	43	2			
MIYAZAKI	11.92	176.8	2	38	1	4	45	1			
KAGOSIMA	12.25	180.3	2	42	1	4	52	2			
KURILSK	12.38	77.6	2	40	-2						
HATIDYOZIMA	12.91	143.1	2	51	4	5	3	1			
YAKUSIMA	13.37	180.5	2	51	-1	5	1	-9			
TATUNG	13.44	259.8	2	53	1	5	17	6			
ZO-SE	14.76	213.6	3	5	0	5	37	2	13	50	SCS
TAIYUAN	14.93	252.3	3	8	1	5	43	5	13	52	SCS
NANKING	15.01	222.3	3	8K	0	5	37	-2	5	7	
TORISIMA	15.39	146.9	3	14	3	5	50	4			
PAOTOW	15.61	265.0	3	14	1	5	56	6			
LINFEN	16.54	248.6	3	24	2	6	8	2			
FUTZELING	16.88	226.9	3	26	0	6	8	-4	13	56	SCS
YINCHUAN	19.08	262.0	3	48	2						
SIAN	19.35	247.7	3	49	0	6	55	2			
MAGADAN	19.96	31.0	3	53	-1				6	19	*SP
TAIPEI	20.19	204.6	3	53	-3	6	30	-37			
ILAN	20.37	203.8	3	58	0	6	30	-40			

HSINCHU	20.58	205.7	3	58	-2	6	32	-37			
PETROPAVLOVK	20.65	53.4	3	59	-2						
HWALIEN	21.16	203.4	4	6	1	6	39	-44			
TAICHUNG	21.28	205.8	4	8	2	7	27	2			
TIENSHUI	21.32	252.7	4	7	0						
ALISHAN	21.83	204.9	4	18	7	6	51	-42			
LANCHOW	21.90	258.4	4	13	1	7	35	0			
WUWEI	21.91	264.0	4	12	0	7	31	-4			
HSINKONG	22.06	203.2	4	14	1	6	46	-51			
TAITUNG	22.45	203.5	4	8	-9						
TAINAN	22.50	205.8	4	22	5	7	46	2			
KLYUCHI	22.80	46.2	4	18	-2						
TAWU	22.90	203.7	4	23	2	7	18	-33			
CHANGYEH	23.01	268.1	4	24	2	7	54	2			
SINING	23.10	261.7	4	24	1	7	55	1		14	20 SCS
HENGCHUN	23.28	203.8	4	28	4	7	13	-44			
YUMEN	25.10	273.6	4	41	1	8	25	0		14	29 SCS
CANTON	25.17	220.2	4	40K	-1	8	22	-5		7	23
HONG KONG	25.44	217.7	4	43K	0	8	27	-4		7	24 *SP
TIKSI	27.88	358.8	5	2	-3	9	4	-5		8	2 PCP
BAGUIO CITY	28.64	200.5	5	10	-1	9	20	-1			
MANILA	30.31	198.8	5	27	1	9	43	-3			
GUAM	32.61	153.9	5	45	0						
SEMIPALATNSK	34.34	299.1	5	58	-1	10	36	-12	7 34		
SHILLONG	36.31	252.8	6	14	-2	11	10	-7	7 53	8	57 *SP
CHATRA	38.82	258.7	6	37	1	11	49	-5			
FRUNSE	40.09	288.8	6	46K	0	12	7	-5	8 25	8	35 PCP
BOKARO	41.65	256.3	6	59	0	12	32	-2	8 39		
DEHRA DUN	43.37	270.1	7	12	0	12	55	-4	9 6	15	2
TASHKENT	44.33	288.9	7	18	-2	13	10	-2	9 0	9	10 PP
SVERDLOVSK	44.55	312.6	7	20	-1	13	13	-2	8 58	9	16 PP
LAHORE	45.40	274.0	7	27	1						
STALINABAD	45.90	285.7				13	28	-6			
COLLEGE	47.96	34.7	7	48A	1	14	2	0	9 34	10	55 *SP
HYDERABAD	51.02	256.0	8	5	-5	14	35	-9	9 50	10	57 PP
QUETTA	51.46	277.1	8	12K	-1	14	48	-2	10 4	9	11 PCP
RABAUL	51.61	152.2	8	15A	1	14	56	5	10 9	12	18 SCP
MADRAS	52.89	250.5	8	23	0	15	9	1	10 10	17	6 PS
APATITY	52.95	331.5	8	21	-3	15	6	-3	10 12	10	27 PP
ASHKABAD	53.36	290.2	8	24A	-2	15	15	0	10 18	18	27 *SS
POONA	53.55	260.7	8	28	0	15	16	-1	10 11	10	48 PCP
BOMBAY	54.04	261.8	8	30	-1	15	22	-2	10 17	11	21 PP
SITKA	56.62	40.8	8	50K	1				10 43	11	3 PP
KODAIKANAL	56.72	250.5	8	53K	3	16	2	4	10 50	11	48 PP
MOSCOW	56.78	317.5	8	48	-2	15	55	-4	10 34	11	1 PP
KIRUNA	57.06	334.9	8	50K	-2	15	59	-3	10 41	17	35 SCS
COLOMBO	57.54	245.7	8	52	-3	16	8	-1			
RESOLUTE	57.95	12.9	8	56A	-2	16	12	-2	10 47	12	44 SCP
TIFLIS	60.20	300.6	9	11	-2	16	40	-2	11 5	18	0 SCS
GORIS	60.47	297.8	9	15	0	16	45	0		18	6 SCS
HONOLULU	62.23	86.5	9	26A	0						
SKALSTUGAN	62.38	333.6	9	25K	-2	17	4	-5		14	3 SCP
UPPSALA	63.05	328.6	9	29K	-2	17	13	-4	11 22	18	2 PCP
SCORESBY SD.	64.26	350.1	9	36	-3	17	32	0	11 36	12	6 PP
SIMFEROPOL	64.67	308.7	9	40K	-2	17	34	-2	11 32	12	10 PP
HAWAII V.OB.	65.46	86.2	9	47	0	17	49	3			
ALBERNI	66.26	43.8	9	54	2						
WARSAW	66.74	320.9	9	54	0	17	57	-4	11 49	12	31 PP
IASI	66.83	313.7	9	53	-2	17	59	-3	11 50	18	33 SCS
LWOW	66.92	317.6	9	55	-1	18	0	-3	11 51	12	34 PP
BERGEN	66.95	333.9	9	53K	-3	17	55	-8	11 48	12	28 PP
HORSESHOE B.	66.96	43.0	9	56	0	18	5	2		18	59 SCS
VICTORIA	67.45	43.8	9	59A	0	21	39	210	11 53	22	55 SS
BACAU	67.59	313.5	9	57	-3	18	8	-3		18	55 SCS
COPENHAGEN	67.96	327.4	10	1	-1	18	13	-2	11 57	12	32 PP
FOCSANI	68.00	312.7	10	7	5	18	18	3		19	5 SCS
SEATTLE	68.59	44.0	10	8A	2	18	30	8			
KRAKOW	68.73	319.7	10	6	0	18	21	-3	12 4	12	31 PCP
BYTOM	68.99	320.4	10	8	0					12	49 PP
ZABRZE	69.08	320.4	10	8	-1	18	22	-6		12	50 PP
BANFF	69.37	38.0	10	11A	1						
BUCHAREST	69.43	312.2	10	8	-3	18	29	-3	12 6	19	11 SCS
CAMPULUNG	69.43	313.4	10	13	2	18	31	-1		18	55 SCS
RACIBORZ	69.51	320.5	10	11K	0	18	27	-6	12 9	12	46 PCP
POTSDAM	70.11	324.7	10	12	-3	18	39	0	12 14	13	7 PP
CORVALLIS	70.14	46.9	10	16A	1	19	1	21	12 17	17	51
REYKJAVIK	70.21	347.6	10	16K	1				12 24		
HAMBURG	70.49	327.0	10	17K	0	18	44	0	12 14	12	58 PP
KSARA	70.58	298.4	10	17	0	18	43	-2	12 15	12	57 PP

BUDAPEST	70.92	318.1	10	20	1	18	48	-1	12	15				
HURBANOVO	71.07	318.9	10	21	1	18	50	0	12	13	13	16	*SP	
PRAGUE	71.22	322.4	10	20	-1	18	50	-2	12	21	13	9	PP	
SZEGED	71.27	316.7	10	19	-2	18	50	-2	12	14				
SAFED	71.37	297.9	10	23	1				12	21				
BRATISLAVA	71.37	319.6	10	29	7	18	59	5	12	27	10	43	PCP	
VIENNA-H.	71.66	320.1	10	24	0	18	55	-2	12	23	13	6	PP	
JENA	71.81	324.4	10	24	0	18	55	-3	12	21	13	15	PP	
ABERDEEN	71.85	335.1	10	18	-7	18	55	-4	12	26	13	12	PP	
SOFIA	72.07	312.3	10	25	-1	19	18	17						
HUNGRY HORSE	72.08	39.3	10	27A	1	19	3	2	12	27	13	18	PP	
CHEB	72.10	323.4	10	25	-1	19	5	3	12	17	13	16	PP	
BELGRADE	72.11	315.4	10	25A	-1	18	58	-4	12	25	13	16	PP	
ARCATA	72.22	50.2	10	29	2	19	7	4						
JERUSALEM	72.32	297.1	10	26A	-1	19	3	-1						
WITTEVEEN	72.34	328.1	10	28	0	19	8	4	12	31				
SASKATOON	72.40	33.0	10	27	-1	19	9	4			19	39	SCS	
EDINBURGH	73.23	334.9				19	14	0			20	7		
SHASTA	73.28	49.4	10	33A	0	19	20	5	12	34	40	20	SKPPKP	
DE BILT	73.48	328.4	10	34K	0	19	16	-1	12	30	13	39	PP	
ZAGREB	73.60	318.5	10	31	-4	19	16	-2			13	12		
DURHAM	73.69	333.4	10	32	-3	19	18	-1	12	32	13	30	PP	
BRISBANE	73.89	159.4	10	38	2	19	21	0						
UKIAH	73.90	51.0	10	37A	1	19	24	3	12	38	13	35	*SP	
STUTTGART	74.46	324.1	10	38K	-1	19	24	-3	12	38	10	58	PCP	
BUTTE	74.47	40.2	10	41A	2	19	30	3	12	41	13	40	*SP	
KARLSRUHE	74.60	324.7	10	40	0	19	28	-1	12	42	10	57	PCP	
TUBINGEN	74.70	324.0	10	41K	0				12	40	13	40	PP	
TRIESTE	74.78	319.6	10	42	1	19	29	-2	12	39	13	44	PP	
EBINGEN	75.01	323.9	10	42K	-1				12	42	13	42	PP	
ATHENS	75.13	308.5	10	42A	-1	19	29	-6			23	9	*SS	
STRASBOURG	75.20	324.8	10	44	0	19	35	0	12	43	10	56	PCP	
BERKELEY	75.31	51.4	10	45	1	19	41	5	12	46	23	11	*SS	
BOZEMAN	75.44	39.6	10	46K	1	19	41	3	12	49	13	47	*SP	
RENO	75.50	48.8	10	47A	2	19	43	4						
ZURICH	75.80	323.5	10	46	-1	19	40	-2						
SANTA CLARA	75.85	51.6	10	48A	1	19	45	3						
KEW	76.00	330.9	10	47K	-1	19	41	-3	12	47	13	48	PP	
LICK	76.04	51.5	10	49A	1	19	36	-8	12	52	40	24	SKPPKP	
BASLE	76.10	324.2	10	50	1	19	45	0	12	50				
RATHFARNHAM	76.41	335.0	10	50K	0	19	45	-3	12	50	13	57	PCP	
PERTH	76.63	192.9	10	53	2	19	54	3			13	59	PP	
BOLOGNA	76.78	320.1	10	52	0	19	54	2			20	38	*SS	
NEUCHATEL	76.79	324.2	10	52	0	19	47	-5	12	52				
TARANTO	76.87	314.0	10	48	-5	20	3	10						
BESANCON	76.99	324.9	10	52	-1	19	52	-2	12	56	13	57	PP	
PARIS	77.14	327.8	10	54K	0	18	52	-64	12	54	14	0	PP	
PAVIA	77.24	321.8	10	54	-1	19	55	-2	12	52	13	44	PP	
PRATO	77.36	319.8	10	54	-1	19	56	-2						
FLORENCE X.	77.36	319.7	10	56K	1	19	55	-3	12	54	13	57	PP	
OROPA	77.43	322.7	10	46	-10	19	48	-11						
EUREKA	77.60	46.7	10	58A	1				12	57	28	21	PKAP	
ROME	78.20	317.7	10	59K	-1	20	5	-2			14	8	PP	
JERSEY	78.54	330.5	11	1	-1	20	7	-3			11	33		
KING RANCH	78.54	51.8	11	5A	3	20	13	3	13	8	14	19	PP	
SALT LAKE C.	78.75	43.4	11	4K	1	20	17	4	13	9	14	14	*SP	
ISABELLA	79.02	50.8	11	4A	0	20	16	1	13	8	14	15	PP	
MONACO	79.13	321.9	11	4K	-1	20	17	0	13	6	14	15	PP	
CLERMONT-FD.	79.36	325.8	11	6K	0	20	8	-11	13	6	11	14	PCP	
MESSINA	79.43	313.9	11	4K	-2	20	16	-3	12	58	11	11	PCP	
REGGIO CALA.	79.45	313.3	11	2	-4	20	19	-1			14	16		
RIVERVIEW	79.54	162.7	11	9A	2	20	28	7	13	11	20	43	SCS	
RAPID CITY	80.17	36.2	11	12K	2	20	19	-8	13	14	24	2	*SS	
PASADENA	80.29	51.7	11	12A	1	20	30	2	13	16	14	32	PP	
SCHEFFERVLLE	80.31	10.1	11	30A	18									
BOULDER CITY	80.73	48.4	11	15A	2	20	37	4	13	15	40	23	SKPPKP	
RIVERSIDE	80.85	51.3	11	15A	1	20	36	2	13	26	14	32	PP	
PALOMAR	81.61	51.4	11	18A	1	20	47	5	13	25	14	34	PP	
HAYFIELD	82.04	50.4	11	21	1	20	44	-1			40	13	SKPPKP	
BARRETT	82.21	51.7	11	21A	1	20	50	3	13	26	14	45	PP	
MELBOURNE	82.33	168.6	11	24	3	20	47	-1	13	28	14	44	PP	
BARCELONA	83.33	323.7	11	27	1	20	52	-6			13	18		
KIRKLAND LA.	84.50	20.1	11	36A	4	21	11	2	13	41				
TUCSON	85.78	48.3	11	40A	2	21	12	-9	13	45	14	42	*SP	
ALGIERS UNI.	86.73	320.4	11	40K	-2	21	29	-1	13	45	15	15	PP	
ALICANTE	86.99	323.6	11	52	8	21	32	0			15	18	PP	
TOLEDO	87.17	326.8	11	46	1	21	15	-19	13	48	14	45		
SEVEN FALLS	87.46	14.5	9	41A	-125	19	11	-146	11	48	13	18	PP	

SHAWINIGAN	87.64	15.9	11	46A	-1	21	38	0			15	26 PP
CHICAGO CGS.	88.10	27.6				21	22	-20			22	50 SP
OTTAWA	88.11	18.2	11	49A	0	21	40	-2	14	35	25	12 SS
RELIZANE	88.71	321.5	11	48	-4	21	18	-30	13	53	15	24 PP
ALMERIA	89.11	324.1	11	53	-1	21	23	-28	13	57	15	32 PP
GRANADA	89.30	325.1	11	53A	-1	21	22	-31	14	0	17	0 *PPP
LUBBOCK	89.30	41.5	11	56	1	21	56	3			15	38 PP
FLORISSANT	89.77	30.8	11	58A	1	21	58	1	14	12	21	31 SKS
ST. LOUIS 1	89.96	30.8	11	57A	-1	21	58	-1	14	3	21	29 SKS
MALAGA	90.02	325.4	11	56K	-2	21	26	-34			26	28 *SS
LISBON	90.13	329.7	11	58K	0	22	3	3	14	4	15	41 PP
CLEVELAND	90.27	23.6	12	0	1	22	2	0				
FAYETTEVILLE	90.62	34.8	12	1A	0	21	36	-29			22	6 SCS
HALIFAX	91.01	10.1	12	3A	1	22	13	5	14	2	21	37 SKS
CHIHUAHUA	91.15	47.3	12	4A	1	22	12	3			15	54 PP
PITTSBURGH	91.69	22.9	12	6A	1	22	11	-3				
PENNSYLVANIA	91.92	21.3	12	6	0	22	15	-1	14	17		
WESTON	91.93	16.1	12	7A	0	22	17	1	14	17	21	43 SKS
MORGANTOWN	92.44	23.2	12	10	1						21	47
PALISADES	92.69	18.3	12	10	0	22	20	-3	14	17	21	47 SKS
FORDHAM	92.85	18.4	12	10	-1	21	47	-37	14	20		
WASHINGTON	93.91	21.3	12	15	-1	22	1	-32	14	23	1	14 PP
MAZATLAN	95.29	50.8				22	8	-37			31	10
CHAPEL HILL	96.15	23.8							14	34	16	29 PP
TAMANRASSET	96.80	310.5	12	28K	-1	23	0	3	14	34	16	24 PP
MOBILE	97.77	33.0	12	36	3	23	15	10			16	40 PP
TANANARIVE	98.05	251.6	12	33A	-1	22	16	-52	14	42	16	42 PP
GUADALAJARA	99.39	50.0				23	18	2			16	50 PP
ASTRIDA	99.66	275.7	12	41K	0	22	19	-62				
MANZANILLO	99.73	51.8				23	15	-7			16	56 PP
TACUBAYA	102.28	47.6				23	44	1			17	16 PP
BERMUDA	102.86	13.2									27	38
VERA CRUZ	104.05	45.2				24	6	8			17	29 PP
MERIDA	105.71	38.9	13	9	777	22	51	0			23	42 SKKS
COMITAN	108.56	43.5				24	44	100			14	50
MBOUR	114.94	325.1				23	34	6			18	43 PP
PRETORIA	116.04	258.5									17	35
PIETERMZBURG	116.83	253.8									17	39
DOMINICA	120.12	13.4	17	45	1							
KIMBERLEY	120.25	257.9									18	15
FORT FRANCE	120.72	13.3									17	47
GRAHAMSTOWN	121.64	252.6									17	49
ST. VINCENT	122.23	13.7	17	48	0						19	32 **
TRINIDAD	124.63	14.6	17	54	2							
CHINCHINA	125.95	33.0	17	55	0				19	51	36	17 SS
BOGOTA	126.87	31.4	17	59	2				20	6	35	13 SS
HERMANUS	127.35	255.5				24	17	9	20	20	20	2 PP
HUANCAYO	141.22	43.1	18	20	-5						21	8 SKP
LA PAZ	148.44	36.1	18	40	5				21	2	28	0 SKKS

JANUARY 3 13.H 43.M 32.S EPICENTRE 43.87 130.55 DEPTH= 579.KM

DEPTH OF FOCUS= 0.086R

A=-0.47027 B= 0.54955 C= 0.69054 D= 0.7598 E= 0.6502
G=-0.4490 H= 0.5247 K=-0.7233 HT= -3.1

SE= 2.03

	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
VLADIVOSTOK	1.23	126.8	1	10	0	2	8	3				
SUIHWA	3.73	318.8	1	24	2							
CHANGCHUN	3.79	271.3	1	22	-1							
SUTTSU	7.14	95.2	1	53	2	3	17	-2				
MORI	7.55	100.1	1	55	0	3	22	-4				
HAKODATE	7.76	102.1	1	55	-1	3	28	-2				
MURORAN	7.78	97.8	1	54	-3							
SAPPORO	7.89	92.1	1	57	-1	3	15	-17				
WAZIMA	8.08	141.2	2	1	2	3	30	-5				
AOMORI	8.16	108.4	1	58	-2							
TOMAKOMAI	8.17	95.7	2	1	1							
AIKAWA	8.24	132.5	1	58	-3	3	30	-8				
AKITA	8.24	116.9	2	9	8							
ASAHIGAWA	8.55	86.5	2	5	1	3	43	-1				
KANAZAWA	8.68	145.5				3	46	-2				
TOYAMA	8.77	142.4	2	3	-3	3	49	1				
HATINOHE	8.80	108.5	2	4	-3	3	42	-6				

HUKUI	8.95	148.8	2	18	10						
MORIOKA	8.95	114.1	2	7	-1	3	46	-5			
Y.-SAKHLINSK	9.10	65.9	2	10	1						
URAKAWA	9.12	96.6	2	9	-1	3	52	-2			
MIZUSAWA	9.24	117.2	2	9	-2	3	55	-1			
TSURUGA	9.24	150.8	2	10	-1	3	55	-1			
OBIHIRO	9.26	91.5	2	9	-2	3	55	-1			
NAGANO	9.26	138.3	2	11	0	3	55	-1			
MATUSIRO	9.36	138.7	2	10K	-2	3	55	-3	10	5	SCP
MATUMOTO	9.49	140.8	2	13	0						
UGLEGORSK	9.50	52.7	2	13	0						
MIYAKO	9.51	112.4	2	11	-3	3	54	-7			
IBUKISAN	9.59	150.1	2	15	1	4	3	1			
SENDAI	9.60	122.1	2	11	-3	4	0	-2			
HIKONE	9.64	151.0	2	14	-1	4	2	-1			
HUKUSIMA	9.68	125.7	2	13	-2	4	1	-3	13	38	SCS
KYOTO	9.70	153.9	2	18	3	4	6	2			
OIWAKE	9.70	138.2	2	18	3						
GIHU	9.72	148.4	2	16	0	4	3	-1			
ISINOMAKI	9.76	120.1	2	16	0	4	3	-2			
MAEBASI	9.90	136.0	2	15	-2	4	6	-2	13	52	SCS
ABASHIRI	9.90	84.4	2	18	1	4	1	-7			
SHIRAKAWA	9.97	129.2	2	16	-2	4	4	-5			
OSAKA	9.98	155.6	2	18	0	4	8	-1			
NAGOYA	9.99	148.2	2	24	6	4	8	-1			
IIDA	10.04	143.7	2	15	-4				3	5	
NARA	10.04	154.2							3	9	
KAMEYAMA	10.10	151.1	2	19	0	4	8	-3			
KUSIRO	10.11	90.2	2	19	0	4	21	9			
UTUNOMIYA	10.20	132.6	2	17	-3	4	9	-4			
TU	10.22	151.2				4	12	-2			
TITIBU	10.24	137.4				4	9	-5			
KUMAGAYA	10.25	135.8	2	24	3	4	9	-5			
TOKUSIMA	10.27	160.9	2	21	0	4	12	-2			
KOHU	10.28	140.5	2	19	-2	4	10	-5	13	42	SCS
HUNATU	10.48	140.1	2	34	11	4	12	-6			
ONAHAMA	10.48	127.7	2	23	0	4	15	-3			
SAGA	10.60	181.2	2	27	3	4	28	7			
KAKIOKA	10.60	132.7	2	21	-3	4	16	-5			
MITO	10.65	131.2	2	24	-1	4	15	-6			
SHIZUOKA	10.75	143.1				4	21	-2			
TOKYO C.M.O.	10.81	136.1	2	24	-2	4	22	-2			
MISIMA	10.87	140.6	2	24	-3	4	20	-5			
NEMURO	10.91	87.6	2	26	-1	4	24	-2			
YOKOHAMA	10.95	137.2	2	30	2	4	11	-16			
KUMAMOTO	11.03	179.4	2	28	-1	4	31	3			
TSINGTAU	11.05	228.7	2	30	1						
TYOSI	11.35	132.3				4	19	-15			
OSIMA	11.36	140.1				4	29	-5			
PEKING	11.38	255.3	2	31	-1	4	36	1			
MERA	11.45	138.2				4	8	-28			
TATUNG	13.39	259.6	2	57	5						
ZO-SE	14.74	213.3	3	5	0	5	39	4			
TAIYUAN	14.88	252.1	3	7	0						
NANKING	14.98	222.0	3	8	0	5	42	3			
PAOTOW	15.55	264.9	3	16	3						
YINCHUAN	19.03	261.9	3	47	1						
SIAN	19.30	247.5	4	1	12						
MAGADAN	19.97	31.1	3	55	0						
PETROPAVLOVK	20.68	53.5	4	0	-2						
LANCHOW	21.85	258.3	4	14	2						
WUWEI	21.86	263.9	4	12	0						
YUMEN	25.04	273.5	4	42	1						
TIKSI	27.85	358.9				9	7	-3			
SHILLONG	36.26	252.7	6	15	-1						
FRUNSE	40.03	288.7	6	46K	-1						
SVERDLOVSK	44.49	312.5	7	21	-1						
STALINABAD	45.84	285.6	7	32	0						
COLLEGE	47.98	34.7	7	48	0	14	3	-1	9	45	12 0 SCP
QUETTA	51.40	277.1	8	12K	-1	14	48	-3			
RABAUL	51.65	152.1	8	14	-1				10	7	
APATITY	52.91	331.5	8	22	-2						
POONA	53.50	260.6	8	26	-2						
SITKA	56.64	40.7	8	51	1						
KIRUNA	57.02	334.9	8	51K	-2						9 28 PCP
RESOLUTE	57.94	12.9	8	57A	-2	16	12	-4			12 45 SCP
SKALSTUGAN	62.33	333.6	9	26K	-2	17	7	-3	11	20	11 53 PP
UPPSALA	63.01	328.5	9	30K	-2						10 1 PCP

SIMFEROPOL	64.62	308.6	9	40	-2	17	34	-4				
VICTORIA	67.48	43.8	8	59A	-61							
SEATTLE	68.62	43.9	10	9A	2							
BANFF	69.39	37.9	10	11A	-1							
RACIBORZ	69.46	320.5	10	12K	0							
HAMBURG	70.44	327.0	10	18	0						10	35 PCP
PRAGUE	71.17	322.3	10	21	-1						11	12
SAFED	71.31	297.9	10	24	1							
BRATISLAVA	71.32	319.6	10	27	4				13	0		
JENA	71.76	324.3	10	23	-2				12	31		
HUNGRY HORSE	72.10	39.3	10	28	1				13	4		
JERUSALEM	72.26	297.1	10	26A	-2						13	19
WITTEVEEN	72.30	328.1	10	28	0							
SHASTA	73.31	49.4	10	35A	1						13	17
BRISBANE	73.93	159.3	10	38	0							
UKIAH	73.93	51.0	10	38	0							
MINERAL	73.99	49.2	10	38A	0							
STUTTGART	74.41	324.1	10	39K	-1						13	36 PP
BUTTE	74.49	40.2	10	42	1							
TUBINGEN	74.65	324.0	10	41	-1							
EBINGEN	74.96	323.8	10	43K	0				12	46	13	44 PP
STRASBOURG	75.16	324.7	10	44K	-1				12	50		
BERKELEY	75.36	51.4	10	46A	0				12	48		
BOZEMAN	75.45	39.6	10	47	1							
RENO	75.53	48.8	10	48	1							
KEW	75.95	330.8	10	47K	-2							
BASLE	76.05	324.1	11	0	11							
LICK	76.07	51.4	10	50A	0							
NEUCHATEL	76.74	324.1	10	52	-1							
BESANCON	76.95	324.8	10	53	-1							
PARIS	77.10	327.7	10	55	0							
FLORENCE X.	77.31	319.7	11	2	6				13	19		
FRESNO	77.51	50.8	10	58A	1							
EUREKA	77.63	46.6	10	55	-3						40	55 SKPPKP
KING RANCH	78.57	51.8	11	5A	2				13	8	14	20 *SP
SALT LAKE C.	78.77	43.3	11	5	1							
ISABELLA	79.05	50.8	11	5A	0				13	10	40	45 SKPPKP
MONACO	79.10	321.8	11	4K	-2							
CLERMONT-FD.	79.31	325.6	11	6	-1							
RAPID CITY	80.18	36.1	11	13	2				13	27		
PASADENA	80.32	51.6	11	12A	0				13	16	40	38 SKPPKP
BOULDER CITY	80.82	48.3	11	16	1							
RIVERSIDE	80.88	51.2	11	16A	1						40	36 SKPPKP
PALOMAR	81.64	51.4	11	19A	0						14	35 *SP
HAYFIELD	82.07	50.4	11	22	1							
BARRETT	82.25	51.7	11	23A	1				13	27	40	28 SKPPKP
MELBOURNE	82.36	168.5	11	24	2							
BOULDER	82.49	39.9	11	25	2							
KIRKLAND LA.	84.50	20.0	11	37	4							
TUCSON	85.80	48.2	11	41	2				13	47	15	13 PP
OTTAWA	88.10	18.2	11	49A	-1							
LUBBOCK	89.33	41.4	11	57	1							
FAYETTEVILLE	90.65	34.8	12	2A	-2							
TAMANRASSET	96.74	310.5	12	28	-2				14	36	16	20 PP
TANANARIVE	98.00	251.6	12	33K	-2							
MBOUR	114.89	325.0	17	0	-35	23	5	-25			20	14 *SPKP
KIMBERLEY	120.20	257.9	17	45	0							
HUANCAYO	141.24	43.0	18	22	-4				21	9		
LA PAZ	148.46	36.0	18	44	5							

JANUARY 9 7.H 52.M 56.S EPICENTRE 52.66-167.50 DEPTH= 0.KM
A=-0.59469 B=-0.13188 C= 0.79307 D=-0.2165 E= 0.9763
G=-0.7743 H=-0.1717 K=-0.6091 HT= -6.4

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	
COLLEGE	15.84	31.8	3	43	-2	6	50	8			4	29	
KLYUCHI	18.70	293.9	4	25	4						8	20	SS
SITKA	18.93	63.8	4	25	1	7	50	-3					
PETROPAVLOVK	20.33	284.9	4	40	0						8	51	SS
MAGADAN	23.92	303.3	5	17	1								
HORSESHOE B.	27.68	78.9				10	22	-11			9	56	
VICTORIA	27.95	80.6	5	58	4	10	39	2					
SEATTLE	29.01	81.6	6	12	9						11	30	
CORVALLIS	29.91	87.7	6	23	12								
BANFF	31.52	71.5	6	22	-3								

Y.-SAKHLINSK	32.10	280.1	6	30	0					
SHASTA	32.65	93.2	6	36	1					
TIKSI	33.08	328.6	6	38	-1				7	53 PP
UKIAH	33.10	96.2	6	41	2					
MINERAL	33.35	93.0	6	42A	0					
HUNGRY HORSE	33.62	75.5	6	43	-1	11	53	-13	9	22 PCP
BERKELEY	34.49	97.1	6	51	0	12	23	3		
RENO	34.92	92.7	6	56	1				9	43
SANTA CLARA	35.01	97.5	7	10	14	15	19	171		
LICK	35.20	97.2	6	57K	0					
RESOLUTE	35.61	25.8	6	59A	-2	12	37	0		
BUTTE	35.64	78.2	7	1	0	12	35	-3	9	21 PCP
FRESNO	36.71	96.3	7	10	0					
BOZEMAN	36.73	77.7	7	11	1	12	52	-2		
EUREKA	37.30	89.6	7	15	0					
TINEMAHA	37.45	94.6	7	18K	2	13	32	27		
KING RANCH	37.68	98.0	7	18K	0				7	30
WOODY	37.97	96.8	7	20K	-1					
CHINA LAKE	38.65	95.5	7	27K	1					
SALT LAKE C.	39.02	84.9	7	30	1	13	31	2		
PASADENA	39.43	98.0	7	33K	0	13	35	0	10	25
RIVERSIDE	40.02	97.5	7	38K	0	13	45	1		
BOULDER CITY	40.23	93.0	7	40	1	13	48	1		
VLADIVOSTOK	40.62	281.5	7	40	-3					
PALOMAR	40.77	97.7	7	43K	-1					
MATUSIRO	40.84	269.0	7	44	0	13	54	-2	9	18 PP
HAYFIELD	41.27	96.2	7	48	0					
BARRETT	41.35	98.3	7	49K	0					
RAPID CITY	42.25	75.0	8	59	63	15	33	76	14	42
KYOTO	43.36	269.3	8	9	4					
BOULDER	43.43	81.1	8	6	0					
CHANGCHUN	44.10	286.5	8	7	-4					
TUCSON	45.19	93.7	8	20	0	15	28	28	9	12
LUBBOCK	49.74	85.3	8	55	-1					
IRKUTSK	50.39	307.1	8	59A	-2	16	21	7	10	58 PP
PEKING	51.79	288.3	9	10	-1	16	31	-2		
KIRKLAND LA.	52.62	57.3	9	28	11					
FAYETTEVILLE	52.64	77.5	9	13	-5				23	28
CHICAGO CGS.	52.67	67.8				16	36	-9	19	4 SCS
FLORISSANT	53.06	72.4	9	20	-1	16	47	-3		
SCHEFFERVLLE	54.51	44.3	9	29A	-2					
SCORESBY SD.	54.68	13.5	9	33	0					
ZO-SC	54.90	276.7	9	34	0	17	18	3		
OTTAWA	56.67	57.4	9	45K	-2	17	36	-3	19	34 SKS
SHAWINIGAN	57.37	54.8	9	50K	-2					
SEVEN FALLS	57.92	53.2	7	41K	-135	15	42	-133	19	52 SS
MORGANTOWN	58.40	64.9	10	1	2					
KIRUNA	59.69	356.5	10	6	-2				34	31 PKKS
WASHINGTON	60.50	63.7	10	14	0	16	35	-114		
PALISADES	60.69	60.0	10	16	1	18	31	0	22	49 SS
FORDHAM	60.92	60.1	10	17	1	18	38	5		
WESTON	61.05	57.3	10	16	-1					
TACUBAYA	61.07	94.9	10	22	0				12	31 PP
COLUMBIA	61.80	70.2	10	23	1					
SEMIPALATNSK	62.50	318.1	10	24	-3				13	15 PS
SVERDLOVSK	63.96	332.9	10	36	-1				23	28 SS
SKALSTUGAN	64.10	0.1	10	37	-1					
CANTON	65.54	276.4	10	47	0	19	34	2		
HONG KONG	65.59	275.1	10	47	0	19	39	7		
BAGUIO CITY	66.16	265.9	10	44	-7	19	59	5		
MERIDA	66.34	86.2				19	34	-8		
PULKOVO	67.01	350.3	11	7	11				11	14 PCP
UPPSALA	67.77	357.2	11	OK	-1				39	8 PKPPKP
MOSCOW	70.00	345.2	11	11	-4					
FRUNSE	70.85	316.6	11	19	-1	20	29	-6	20	49 PS
BERMUDA	72.04	60.1	11	30	3	20	50	1	25	30 SS
DURHAM	72.30	8.5							19	7
TASHKENT	74.32	319.1	11	38	-3	21	15	0		
WITTEVEEN	74.78	3.7	12	49	66					
KEW	75.68	8.2				21	36	6		
SHILLONG	76.18	293.9	11	50	-1	21	34	-1		
JENA	76.79	0.6	11	54	0					
STALINABAD	76.88	318.0	11	55	0	21	55	12		
LWOW	77.42	352.4	11	59	1					
PRAGUE	77.63	358.7	11	59	0				12	9 PCP
STUTTGART	78.91	2.2	12	6	0				12	21 PCP
STRASBOURG	79.06	3.2							27	52 SP
GRANADA	89.44	12.8	13	3A	3	24	3	14	13	36 PCP

MALAGA	89.78	13.5	13	2	1						
HYDERABAD	90.05	299.3							23	36	
ALGIERS UNI.	90.56	7.6	13	5	0						
KSARA	91.50	340.7	13	9	0	24	11	4	25	27	PS
POONA	91.53	303.6	13	9	0						
BOMBAY	91.73	304.6	13	12	2	24	19	10			
SAFED	92.40	340.8	13	7	-6						
MADRAS	92.77	295.5							23	55	
RIVERVIEW	93.37	95.7				24	31	7	31	29	
HUANCAYO	100.77	213.4				23	17	-130	20	4	PPP
TAMANRASSET	104.64	6.7							24	33	SKKS
LA PAZ	108.60	92.9				25	6	-5	19	24	PPP
LWIRO	127.97	339.2	19	11K	3						
ASTRIDA	128.09	337.9	19	11	3						
PRETORIA	150.64	330.2	19	55	7						
PIETERMZBURG	153.47	323.2	20	0	8						

JANUARY 10 4.H 14.M 44.S EPICENTRE 6.03 95.28 DEPTH= 0.KM

A=-0.09160 B= 0.99032 C= 0.10428 D= 0.9957 E= 0.0921
G=-0.0096 H= 0.1038 K=-0.9945 HT= 7.0

SE= 2.37

	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	
MADRAS	16.42	296.1	3	51	-2	6	59	3			4	14	PPP
SHILLONG	19.71	350.8	4	32	-2	8	23	12					
BOKARO	19.91	333.7	4	38	2	8	19	4			4	53	PP
HYDERABAD	19.98	306.0	4	37	3	8	19	2			9	1	SSS
CHATRA	22.09	340.4	4	58	C	9	8	10					
CANTON	24.25	43.8				9	46	10					
POONA	24.31	302.6	5	23	3	9	44	7			6	16	PPP
BOMBAY	25.36	302.3	5	35	4	10	3	8			6	46	PPP
MANILA	26.65	69.4	5	36	-6	10	38	22					
BAGUIO CITY	26.84	65.3	5	47	3	20	23	604					
NEW DELHI	28.22	324.7				10	34	-8			6	39	PP
HENGCHUN	29.29	54.7	5	17	-49								
TAINAN	29.37	52.4	11	28	321								
SIAN	30.79	22.4				11	28	5					
TAIPEI	31.44	50.2	10	40	255								
NANKING	33.95	37.3	6	47	0	12	15	3					
ZO-SE	34.81	41.0				12	28	3					
QUETTA	35.89	315.5	7	3A	-1	12	39	-3			8	21	PP
TATUNG	37.58	22.9	7	23	5								
PEKING	38.71	26.0	7	29	2	13	30	5			9	50	PP
NAMANGAN	40.71	332.3	7	43	-1								
FRUNSE	41.01	336.7	7	45	-1								
CHANGCHUN	45.96	30.2	8	27	1								
MATUSIRO	49.60	46.1	8	56	1	15	47	-16			19	8	
TANANARIVE	53.16	241.1	9	22A	0								
SVERDLOVSK	57.53	338.3	9	53	-1								
KSARA	61.37	305.3	10	23	3	18	51	11					
JERUSALEM	61.49	302.9	10	19	-2								
SAFED	61.50	304.2	10	22	1								
BRISBANE	64.93	124.0	10	42	-2								
RIVERVIEW	66.00	131.0	10	44	-6								
ASTRIDA	66.02	264.5	10	52A	2								
LWIRO	66.89	265.0	10	58	2								
MOSCOW	67.23	328.9	10	56	-2								
PRETORIA	72.31	240.7	11	32	3								
KIMBERLEY	76.02	238.5	11	50	-1								
BRATISLAVA	77.66	317.9	11	59	-1						13	2	
MESSINA	78.24	307.6									21	54	
UPPSALA	78.62	329.9	12	4	-1								
KIRUNA	78.75	338.1	12	5A	-1								
PRAGUE	79.54	319.7	12	12	2						12	35	
ROME	80.66	311.4									22	26	
JENA	81.39	320.5	12	19	-1								
SKALSTUGAN	81.52	333.3	12	18	-3								
STUTTGART	82.93	318.3	12	26	-2								
EBINGEN	83.09	317.7	12	27	-2								
MONACO	84.33	313.3	12	32	-3						12	56	
TAMANRASSET	87.48	292.5	12	52	1	23	34	3			16	21	PP
ALGIERS UNI.	88.22	306.6	12	52	-2						13	19	
RELIZANE	90.35	305.8	13	11	7								
COLLEGE	95.61	22.5	14	44	75								
MINERAL	122.75	33.0	19	0	2								

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EUREKA	126.30	29.9	19 7	2	
HUANCAYO	168.97	236.5	20 12	3	

JANUARY 13 11.H 38.M 16.S EPICENTRE 38.69 70.57 DEPTH= 0.KM

A= 0.26038 B= 0.73805 C= 0.62249 D= 0.9430 E=-0.3327
G= 0.2071 H= 0.5870 K=-0.7826 HT= -1.2

SE= 3.09

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
TABIL-DARA	0.07	264.6	0 5	-3	0 7	-5		
GARM	0.38	326.4	0 7	-5	0 11	-9		
YALMICH	0.39	346.6	0 7	-5	0 12	-9		
CHUSAP	0.44	20.9	0 9	-4	0 15	-7		
DZHAFIR	0.66	51.2	0 8	-8	0 12	-15		
OBI-GARM	0.68	271.4	0 14	-2	0 22	-6		
DZHERGETAL	0.74	43.5	0 16	-1	0 25	-4		
KULYAB	1.00	218.5	0 21	0	0 36	0		
KARA-SU	1.26	261.1	0 25	0	0 43	0		
KHORONGON	1.40	269.9	0 30	3	0 52	6		0 59
STALINABAD	1.41	265.0	0 29	2	0 48	1		
KHOROG	1.45	145.6	0 28	1				
GISSAR	1.58	262.8	0 31	2				
FERGANA	1.93	28.6	0 36	2	1 4	4		
NAMANGAN	2.44	20.0	0 44	2	1 4	-9		0 51
ANDIJAN	2.49	33.4	0 47	5	1 23	9		
MURGAB	2.66	95.8	0 51	6	1 33	15		
LUNACHARSKOE	2.81	340.6	0 47	0	1 23	1		
TASHKENT	2.81	339.8	0 48	1	1 22	0		1 29
AURAKHMAT	2.91	353.4	0 49	1	1 21	-4		
SAMARKAND	2.96	290.5	0 48	-1				0 59
KHODCHIKENT	2.97	351.3	0 51	2	1 26	0		
NAPAI	3.05	353.7	0 52	2	1 35	7		
TURBAT	3.12	347.3	0 53	2	1 32	2		
FRUNSE	5.18	34.7	1 22	2	2 24	2		1 40
RYBACHE	5.63	46.4	1 32	5	2 56	23		1 44
FABRICHNAYA	6.30	42.7	1 42	6				
ALMATA	6.65	44.5	1 41	0	2 51	-8		3 29
BAIRAM-ALI	6.75	263.4	1 38	-5				2 11
ALMATA-2	6.89	46.2	1 46	1	3 7	2		2 3
PRZHEVALSK	7.06	55.1	2 12	25	3 42	33		
ILI	7.19	40.9	1 48	-1				
KURMENTY	7.29	50.8	1 50	0				
LAHORE	7.78	155.5	1 57	-1	3 2	-26		
QUETTA	8.99	200.5	2 13A	-1	3 54	-3		
ASHKABAD	9.63	269.4	2 17	-6	4 3	-10		
DEHRA DUN	10.38	141.3	2 31	-2	4 37	6		5 2 SSS
NEW DELHI	11.49	149.3	2 46	-2	4 57	-2		5 53 SSS
SEMIPALATNSK	13.58	27.3	3 12	-4	5 44	-5		
BAKU	16.04	282.6			7 30	43		
MAKHACH-KALA	17.96	291.1	4 11	-2				6 25
CHATRA	18.26	125.4	4 10	-6				8 36
KIROVOBAD	18.72	283.9	4 28	6	7 50	2		9 20
SVERDLOVSK	19.31	343.3	4 27	-2	7 56	-6		
BOKARO	19.68	134.4	4 41	8	8 26	16		4 59 PP
BOMBAY	19.81	173.7	4 37	2	8 21	8		
EREVAN	20.17	282.5	4 39	0	8 30	10		
POONA	20.29	171.0	4 39	-1	8 35	12		9 17 SS
SHILLONG	22.22	119.8	4 55	-5	9 0	0		
HYDERABAD	22.27	159.8	5 2	2	9 2	1		
SOTCHI	23.67	291.8	5 13	-1	9 33	7		10 16 SS
MADRAS	26.97	159.0			10 46	25		12 25
IRKUTSK	27.01	48.8	5 44A	-1	10 48	26		
SIMFEROPOL	27.71	294.9	5 50	-2				11 58 SS
MOSCOW	27.76	318.7	5 53	1	10 44	10		9 17 PCP
KYAKHTA	27.85	53.5	5 50	-3				
KABANSK	28.33	50.0	5 55	-2	11 16	33		
KODAIKANAL	29.00	165.9						14 48
RACIBORZ	38.38	304.7	7 26	1				
UPPSALA	39.15	320.4	7 33	2				8 4
BRATISLAVA	39.26	301.8	7 32	0				8 59 PP
KIRUNA	39.98	333.0	7 39	1				
PRAGUE	40.80	305.0	7 47	2				9 12 PP
SKALSTUGAN	42.20	325.5	7 59	2				9 33 PP
JENA	42.51	306.6	8 1	2				9 40 PP
HAMBURG	43.21	310.6	8 5	1				8 50

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TIKSI	43.88	22.9	8	7	-3	14	36	-6			14	44 PS
STUTTGART	44.37	303.9	8	16K	2						10	6 PP
TUBINGEN	44.50	303.5	8	18	3							
EBINGEN	44.64	303.1	8	14	-2							
STRASBOURG	45.33	303.9	8	20	-1						9	14
BASLE	45.68	302.5	8	26	2						11	36
PARIS	48.68	305.3									8	0
KEW	49.76	309.3	8	58	2							
EDINBURGH	50.37	315.4	8	14	-47							
MATUSIRO	52.50	69.8	9	13	-4							
RATHFARNHAM	52.79	312.8	9	31	12						10	33
ASTRIDA	55.70	232.3	9	44	4							
TAMANRASSET	57.02	274.0	9	52	2							
RESOLUTE	66.51	355.8	10	49	-5							
COLLEGE	72.49	16.1	11	25	-5							
SCHEFFERVLLE	79.92	336.5	4	56A	-436							
HUNGRY HORSE	93.25	3.1	13	16	-2							
ISABELLA	105.55	7.6	9	34	777							

JANUARY 14 14.H 20.M 22.S EPICENTRE -21.59-179.46 DEPTH= 586.KM

DEPTH OF FOCUS= 0.087R

A=-0.93065 B=-0.00875 C=-0.36581 D=-0.0094 E= 1.0000
G= 0.3658 H= 0.0034 K=-0.9307 HT= 4.3

SE= 1.02

	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	10.65	44.6	2	24	-2	4	18	6					
NOUMEA	13.09	264.3	2	52	2	5	7	1			4	14	
BRISBANE	25.67	251.3	4	46	-1	8	35	-1					
RIVERVIEW	28.63	238.5	5	12K	0	9	20	-2	6	48	12	27	*SS
RABAUL	32.50	298.1	5	44	-2								
MELBOURNE	34.63	234.2	6	3	0	10	50	-3			15	13	SS
GUAM	49.47	311.5	8	0	0								
MANILA	68.59	296.3	10	7	0								
MIRNY	69.44	205.3	10	10	-2	18	30	-4			13	11	SCS
BAGUIO CITY	69.85	297.8	10	13	3								
MATUSIRO	70.29	324.8	10	16K	-1	18	44	1			22	25	SS
Y.-SAKHLINSK	76.28	334.4	10	50	-1	19	52	3					
PETROPAVLOVK	76.79	346.7	10	52	-2								
HONG KONG	78.02	299.9	11	1K	1				13	0			
UGLEGORSK	78.26	335.3	11	1	0	20	11	2	13	11			
VLADIVOSTOK	78.39	325.9	11	2	0	20	14	3	13	7			
CANTON	79.12	300.1	11	7	1	20	22	4					
NANKING	79.57	310.5	11	9	1								
LICK	79.97	43.2	11	11A	1				13	27			
KING RANCH	80.03	45.8	11	12	1				13	28			
PASADENA	80.42	47.5	11	13A	0	20	38	7	13	23			
BARRETT	80.66	49.5	11	13A	-1				13	28			
FRESNO	80.83	44.5	11	17	2				13	33			
WOODY	80.83	45.9	11	14A	-1				13	23			
RIVERSIDE	80.88	48.0	11	15A	0				13	22			
PALOMAR	80.89	48.8	11	16A	1				13	16			
ISABELLA	81.07	46.1	11	16A	0				13	24			
SHASTA	81.55	40.2	11	20	2				13	26			
CHINA LAKE	81.74	46.4	11	21A	2				13	31			
MINERAL	81.82	40.8	11	21A	1				13	28			
HAYFIELD	81.95	49.1	11	20	-1				13	29			
TINEMAHA	82.02	45.1	11	21A	0				13	31			
RENO	82.43	42.3	11	24	1				13	35			
BOULDER CITY	83.72	47.5	11	30	1				13	39	11	40	PCP
MAGADAN	84.45	345.3	11	31	-2								
TUCSON	84.66	52.4	11	34	0				13	45			
EUREKA	84.85	44.1	11	35	0				13	44			
PEKING	85.71	316.0	11	39	0	21	27	5			21	6	SKS
SALT LAKE C.	88.21	44.6	11	50	-1								
TACUBAYA	88.41	68.5	12	47	55						16	10	PP
COLLEGE	89.57	12.9	11	57	0				14	6			
HUNGRY HORSE	90.82	37.4	12	2	-1				14	14	15	47	PP
RAPID CITY	95.41	44.7							14	38			
POONA	97.90	294.3	12	35	0								
HUANCAYO	98.41	106.5									16	49	PP
IRKUTSK	98.76	322.9									16	43	PP
TIKSI	99.43	345.4				22	44	-37			16	50	PP
FRUNSE	115.86	308.2									18	45	PP
QUETTA	120.36	293.1	17	45	-1								

SVERDLOVSK	124.10	324.9	17	50	-3			19	44	PP
KIMBERLEY	124.76	206.0	17	54A	0					
ASHKABAD	128.02	301.9	18	1	1			20	13	PP
KIRUNA	132.11	350.0	18	5	-3			20	38	SKP
MOSCOW	136.19	330.5						20	52	PP
SKALSTUGAN	137.29	352.3	18	7	-11			20	55	SKP
UPPSALA	139.89	346.7	18	14K	-9			21	2	SKP
ASTRIDA	142.67	233.5	18	27	-1			20	49	PP
LWIRO	143.61	232.9	18	30A	0					
SIMFEROPOL	143.92	318.2	18	29K	-1					
LWOW	146.26	332.3	18	35	1	20	57			
IASI	146.40	325.9	18	37	2					
KSARA	146.58	299.0	18	41	7	20	53			
SAFED	147.07	297.6	18	42	7					
HAMBURG	147.27	349.6	18	39	4	20	58			
JERUSALEM	147.51	295.5	18	40A	4					
KRAKOW	147.74	336.4	18	41	3					
RACIBORZ	148.33	338.1	18	42	3					
WITTEVEEN	148.47	352.9	18	42	5					
JENA	149.46	346.2	18	44	6	21	5	21	43	
PRAGUE	149.53	342.7	18	45	6	21	9	19	3	PKP2
BRATISLAVA	150.33	337.3	18	45	5	21	8	18	56	PKP2
STUTTGART	152.01	347.7	18	50	8	21	11			
STRASBOURG	152.45	349.6	18	52A	9	21	13			
EBINGEN	152.62	347.7	18	50	7	21	15			
PARIS	152.79	357.2	18	58	15					
BASLE	153.50	349.3				21	18			
BESANCON	154.02	351.5	19	11	26			19	53	
MBOUR	161.88	110.4	19	48	54	21	58	20	42	PKP2
TAMANRASSET	175.30	285.7						20	47	PKP2

JANUARY 17 22.H 26.M 51.S EPICENTRE 33.14 137.58 DEPTH= 364.KM

DEPTH OF FOCUS= 0.052R

A=-0.61940 B= 0.56594 C= 0.54411 D= 0.6745 E= 0.7382
G=-0.4017 H= 0.3670 K=-0.8390 HT= 0.8

SE= 1.55

	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	
OWASE	1.48	309.2	0	49A	-1	1	22	-7					
SIOMISAKI	1.55	282.0	0	53A	3	1	30	0					
OMAESAKI	1.55	19.9	0	51A	1	1	30	0					
HAMAMATU	1.58	4.1	0	51	1	1	31	1					
NAGATURO	1.80	35.6	1	20	28								
TU	1.81	331.2	0	51	-1	1	31	-1					
HATIDYOZIMA	1.89	90.6	0	51	-1								
KAMEYAMA	1.94	331.9	0	53A	1	1	33	-1					
SHIZUOKA	1.95	20.2	0	54	2	1	33	-1					
NAGOYA	2.09	346.1	0	54A	1	1	36	1					
OSIMA	2.21	42.1	0	53	-1	1	35	-2					
OSAKA	2.28	312.0	0	55A	0	1	38	0					
MISIMA	2.28	29.5	0	54	-1	1	38	0					
AJIRO	2.28	33.1	0	54	-1	1	35	-3					
WAKAYAMA	2.29	299.0	0	55A	0	1	36	-2					
GIHU	2.35	343.6	0	56A	0	1	38	-1					
IIDA	2.38	4.9	0	56	0	1	41	1					
HIKONE	2.39	332.9	0	57A	1	1	41	1					
KYOTO	2.42	321.2	0	55	-1	1	41	1					
IBUKISAN	2.45	336.3	0	58	2	1	42	2					
KOBE	2.52	308.2	0	57K	0	1	41	-1					
HUNATU	2.55	22.3	0	59	2	1	41	-1			14	14	SCS
SIMOTO	2.55	298.9	0	57A	0	1	40	-2					
MERA	2.58	45.8	0	55	-2	1	38	-4					
KOHU	2.61	17.9	0	59	1	1	42	-1					
TOKUSIMA	2.67	291.1	0	57A	-1	1	43	-1					
TSURUGA	2.80	333.9	0	58	-1	1	46	1					
YOKOHAMA	2.85	36.3	0	59	0	1	43	-3					
HUROTO	2.85	273.1	0	59	0	1	43	-3					
MAIZURU	2.91	323.6	1	1A	1	1	49	2					
HIMEJI	2.98	298.0	0	59	-1	1	49	1					
TAKAYAMA	3.01	354.9	1	3	2	1	49	0					
TITIBU	3.09	23.2	1	1K	0	1	48	-2					
HUKUI	3.10	339.9	1	3A	1	1	51	1			14	19	SCS
TOKYO C.M.O.	3.10	34.7	1	1K	-1	1	47	-3					
MATUMOTO	3.12	5.8	1	3	1	1	50	0					

TAKAMATU	3.17	292.8	1	2A	0	1 50	-1
OIWAKE	3.28	13.8	1	4	1	1 52	-1
TOYOOKA	3.30	317.0	1	4A	1	1 53	0
KUMAGAYA	3.35	25.8	1	3	-1	1 50	-4
KOTI	3.42	278.0	1	5A	0	1 52	-3
MATUSIRO	3.44	8.6	1	4A	-1	1 54	-2
KANAZAWA	3.47	347.5	1	6	1	1 58	2
MAEBASI	3.47	20.2	1	4	-1	1 53	-3
NAGANO	3.56	8.0	1	6A	0	1 57	-1
TOYAMA	3.57	355.1	1	7A	1	1 58	0
TOTTORI	3.64	311.2	1	7	0	1 59	0
TYOSI	3.73	45.5	1	5K	-3	1 59	-2
KAKIOKA	3.75	34.1	1	5	-3	1 57	-4
UTUNOMIYA	3.89	28.3	1	7	-2	1 58	-5
SIMIDU	3.89	266.0	1	9	0	2 3	0
TAKADA	3.99	7.7	1	10	0	2 4	-1
MITO	4.01	35.5	1	9	-1	1 59	-7
MATUYAMA	4.10	281.0	1	11	0	2 7	0
YONAGO	4.18	304.3	1	13	1	2 10	1
WAZIMA	4.27	352.7	1	14	1	2 10	0
MATSUE	4.39	302.9	1	13	-1	2 8	-5
HIROSIMA	4.46	287.4	1	15A	0	2 15	1
SHIRAKAWA	4.52	27.8	1	13	-3	2 11	-4
SAIGO	4.65	312.2	1	17A	0	2 19	2
ONAHAMA	4.67	34.7	1	36	19	2 14	-4
AIKAWA	4.90	6.2	1	19	-1	2 20	-2
HAMADA	4.90	292.5	1	19A	-1	2 22	0
NIIGATA	4.92	13.7	1	20	0	2 22	0
OOITA	5.00	272.6	1	21	0	2 27	3
HUKUSIMA	5.17	26.3	1	21	-1	2 23	-4
MIYAZAKI	5.34	258.5	1	25A	1	2 34	3
ASOSAN	5.48	269.3	1	28	2	2 38	4
YAMAGATA	5.57	23.0	2	32	65		
SIMONOSEKI	5.61	280.1	1	27	0	2 36	0
SENDAI	5.79	26.9	1	27	-2	2 33	-7
KUMAMOTO	5.79	268.7	1	31A	2	2 43	3
HUKUOKA	6.01	276.1	1	33A	1	2 47	3
SAKATA	6.03	16.9	1	30	-2	2 44	-1
ISINOMAKI	6.09	28.9	1	31	-2	2 40	-6
SAGA	6.11	273.0	1	35K	2	2 51	5
KAGOSIMA	6.15	257.2	1	32	-1	2 49	2
UNZENDAKE	6.18	268.2	1	34	0	2 48	0
NAGASAKI	6.49	268.5	1	38	1	2 56	2
YAKUSIMA	6.60	247.9	1	43A	4	3 3	7
MIZUSAWA	6.63	24.6	1	36	-3	2 51	-6
AKITA	6.87	16.4	1	42	0	3 1	-1
ITUHARA	7.00	281.0	1	44	1	3 4	-1
MORIOKA	7.16	22.8	1	44	-1	3 2	-6
MIYAKO	7.40	27.3	1	46	-2	3 1	-12
TOMIE	7.43	268.4	1	45	-3	3 12	-2
HATINOHE	8.02	22.1	1	54	-1	3 23	-3
AOMORI	8.08	17.5	1	58	2	3 25	-2
HAKODATE	8.98	15.2	2	9	2	3 47	0
MORI	9.25	14.0	2	6	-4	3 47	-5
MURORAN	9.56	15.3	2	13	0	3 53	-6
TOMAKOMAI	9.88	17.5	2	21	4	4 13	7
URAKAWA	9.89	23.1	2	21	4	3 59	-7
SAPPORO	10.35	15.6	2	23	0	4 15	-1
OBIHIRO	10.72	22.7	2	31	4	4 25	1
VLADIVOSTOK	10.92	337.5	2	29	-1	4 31	3
ASAHIGAWA	11.26	18.0	2	35	1		
NEMURO	11.95	29.4	2	42	0	4 49	-1
ABASHIRI	12.05	23.8	2	43	0	4 48	-5
WAKKANAI	12.66	13.3					
ZO-SE	14.05	266.1	3	1	-5	5 32	-3
Y.-SAKHL'NSK	14.34	14.3	3	10	1	5 43	2
CHANGCHUN	14.34	321.6	3	8	-1	5 42	1
SUIHWA	15.71	332.1	3	23	-1	6 14	7
NANKING	15.87	271.2	3	23	-2	6 9	-2
UGLEGORSK	16.27	10.6	3	31	2	6 21	3
PEKING	18.50	297.9	3	51	-1	7 2	2
KWANTING	18.97	298.2	3	57	0	7 16	8
GUAM	20.66	159.9	4	11	-2		
TATUNG	20.67	296.6	4	14	1	7 44	6
TAIYUAN	20.86	289.9	4	15	0	7 47	6
LINFEN	21.63	285.1	4	22	-1		
BAGUIO CITY	22.65	226.8	4	29	-3	8 9	-2
HONG KONG	23.32	248.4	4	39A	1		
MANILA	23.87	223.2	4	43	-1		

2 47

4 57

YINCHUAN	25.87	290.8	5	1	0								
TIENSHUI	26.42	282.0	5	5	-1								
WUWEI	28.73	289.6	5	26	-1								
IRKUTSK	30.64	318.6	5	44	1	10	22	3	6	50	12	38	SS
TIKSI	38.83	355.6	6	52	0	12	24	1			8	32	PP
RABAUL	39.63	156.8	6	57	-2								
SHILLONG	40.30	271.5	7	2	-2	12	15	-30					
CHATRA	43.78	275.5	7	32	0						9	12	
SEMIPALATNSK	44.93	310.3	7	41	0	13	49	-3			9	41	PP
FRUNSE	49.54	300.6	8	17K	0				9	30	17	27	SCS
DEHRA DUN	50.12	283.8	8	21	0								
LAHORE	52.72	286.6	8	39	-1	15	38	-1					
TASHKENT	53.73	299.8	8	46	-2	15	52	0	10	1	10	50	PP
COLLEGE	54.04	30.6	8	49	-1								
STALINABAD	54.87	296.6	8	56	0	16	10	3			18	5	SCS
SVERDLOVSK	56.04	319.8	9	4	0	16	24	1	10	19	11	12	PP
POONA	58.39	272.5	9	19	-1								
BOMBAY	59.08	273.4	9	24	-1	17	2	0			11	34	PP
QUETTA	59.13	287.9	9	23K	-2	17	4	1					
BRISBANE	62.05	164.5	9	43	-2								
ASHKABAD	62.80	299.2	9	47K	-2	17	45	-4	11	4	10	13	PCP
APATITY	64.94	335.7	10	3	0								
RESOLUTE	67.13	13.2	10	16A	-1								
RIVERVIEW	67.83	167.8				18	52	3					
MOSCOW	68.49	323.2	10	24K	-1	18	55	-2			12	59	PP
KIRUNA	69.02	338.8	10	28K	0						13	2	PP
PULKOVO	69.92	329.0				19	10	-4			19	5[illegible]	SCS
VICTORIA	71.39	43.9	10	44A	1								
SEATTLE	72.47	44.3	10	51A	2								
CORVALLIS	73.41	47.4	10	57A	2								
SKALSTUGAN	74.35	337.7	10	59	-1						13	49	PP
UPPSALA	75.03	333.1	11	3K	-1						13	55	PP
SCORESBY SD.	75.63	353.0	11	8	1				12	31			
SIMFEROPOL	75.85	314.6	11	8K	0	20	19	0	12	28	11	31	PCP
SHASTA	75.97	50.5	11	10A	1						14	6	
UKIAH	76.25	52.2	11	12	1								
MINERAL	76.67	50.5	11	13A	0								
HUNGRY HORSE	76.[illegible]7	40.6	11	15	2	20	32	3	12	35	42	1	SKPPKP
BERKELEY	77.56	52.9	11	18A	0								
LICK	78.25	53.1	11	22	1								
RENO	78.27	50.4	11	23A	1								
BUTTE	78.95	41.9	11	26	1				12	47			
FRESNO	79.80	52.8	11	30A	0						14	36	
COPENHAGEN	79.93	331.9	11	33	3								
BOZEMAN	80.00	41.5	11	31	0								
KING RANCH	80.64	53.9	11	36A	2						14	4[illegible]	PP
TINEMAHA	80.68	51.8	11	35A	1				12	42	14	44	PP
EUREKA	80.75	48.8	11	36	1				12	58	14	43	PP
KSARA	80.81	304.3	11	34	-1	21	17	6	12	57			
WOODY	81.03	53.2	11	36A	0				12	58	14	47	PP
ISABELLA	81.31	53.1	11	37A	-1						14	48	PP
RACIBORZ	81.32	325.4	11	39	1								
CHINA LAKE	81.80	52.5	11	41A	1						14	53	PP
PASADENA	82.37	54.2	11	44A	1								
JERUSALEM	82.40	302.9	11	44A	1						14	38	
HAMBURG	82.45	331.5	11	45K	2						15	0	PP
SALT LAKE C.	82.53	45.8	11	46	2	21	31	2	13	5			
RIVERSIDE	83.00	53.9	11	47A	1				12	50	15	2	PP
PRAGUE	83.08	327.1	11	47	0						15	2	PP
BRATISLAVA	83.15	324.5	11	43	-4				13	9	15	2	PP
PALOMAR	83.72	54.2	11	51A	1						15	10	PP
JENA	83.73	329.0	11	48	-2						15	9	PP
WITTEVEEN	84.32	332.6	11	54	1								
HAYFIELD	84.34	53.3	11	52	-1				12	49			
RAPID CITY	85.29	39.1	11	59	1	21	34	-22			12	22	PCP
STUTTGART	86.37	328.7	12	3K	0						15	29	PP
TRIESTE	86.55	324.3	11	57	-7						15	32	
TUBINGEN	86.61	328.6	12	2	-2								
BOULDER	86.85	43.2	12	7	2								
EBINGEN	86.91	328.4	12	4	-1								
BASLE	88.02	328.7	12	10	0								
PARIS	89.12	332.2	12	15	-1								
FLORENCE X.	89.14	324.3	12	17	1	22	35	4					
LUBBOCK	93.2[illegible]	46.1	12	36	1								
FAYETTEVILLE	95.82	39.8	12	47	0								
TANANARIVE	100.13	254.1									17	17	PP
ASTRIDA	106.35	277.7	17	5	777								
LWIRO	106.93	278.6	18	6	777								

TAMANRASSET	108.02	313.9	16	53	777					18	2	PP
KIMBERLEY	123.08	255.0	18	15K	1							
MBOUR	126.86	328.6	18	19	-2					15	25	P
LA PAZ	151.50	60.7	19	17	13					23	24	PP

JANUARY 19 5.H 16.M 40.S EPICENTRE -20.77-179.04 DEPTH= 606.KM

DEPTH OF FOCUS= 0.090R

A=-0.93535 B=-0.01570 C=-0.35257 D=-0.0168 E= 0.9999
G= 0.3525 H= 0.0059 K=-0.9358 HT= 4.5

SE= 0.93

	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	9.80	46.1	2	17	0	4	5	-2					
NOUMEA	13.62	260.9	3	20	26	5	27	13					
BRISBANE	26.32	249.8	4	51	0	7	39	-65					
RIVERVIEW	29.39	237.5	5	18A	0	9	28	-4			12	40	*SS
RABAUL	32.48	296.6	5	45	1						8	12	PCP
MELBOURNE	35.43	233.4	6	7	-1								
BAGUIO CITY	69.83	297.3	10	11	-2								
MATUSIRO	69.86	324.4	10	12K	-1	18	35	0			13	28	*SP
HONG KONG	77.97	299.5	10	59K	1	20	6	3			14	1	PP
BERKELEY	79.03	42.4	11	4K	0	20	17	3					
LICK	79.11	43.1	11	5K	0				13	15			
KING RANCH	79.18	45.7	11	5K	0								
NANKING	79.34	310.2	11	6	1								
PASADENA	79.58	47.4	11	6K	-1	20	23	3	13	23	21	16	SP
BARRETT	79.83	49.4	11	8K	0	20	30	8	13	20			
FRESNO	79.97	44.5	11	8K	-1	20	28	4	13	22			
WOODY	79.98	45.8	11	8K	-1				13	21			
RIVERSIDE	80.04	47.9	11	9K	0	20	32	8	13	20			
PALOMAR	80.06	48.7	11	10K	1	20	32	7	13	27			
ISABELLA	80.22	46.0	11	10K	0	20	28	2	13	19	14	26	PP
SHASTA	80.67	40.1	11	13K	1				13	25			
CHINA LAKE	80.90	46.3	11	13K	0	20	35	2	13	26			
MINERAL	80.95	40.7	11	13K	-1				13	25			
HAYFIELD	81.12	49.0	11	13K	-1	20	39	4	13	23			
TINEMAHA	81.17	45.0	11	15K	0	20	40	4	13	30	14	33	PP
RENO	81.57	42.2	11	17K	0				13	30			
CORVALLIS	82.54	36.6	11	24K	1								
BOULDER CITY	82.88	47.4	11	24	1				13	34	11	36	PCP
TUCSON	83.85	52.3	11	29	1	21	8	6	13	46	11	46	PCP
EUREKA	83.99	43.9	11	28	-1				13	42	14	28	*SP
VICTORIA	84.95	33.4	11	33K	-1								
SEATTLE	84.99	34.6	11	35	1								
PEKING	85.40	315.8	11	36K	0								
HORSESHOE B.	85.57	32.8	11	36A	-1								
SALT LAKE C.	87.35	44.5	11	44	-1				14	1			
TACUBAYA	87.74	68.4	11	50	3								
COLLEGE	88.69	12.8	11	49	-2	21	42	-4	14	5			
BUTTE	89.57	39.7	11	55	0						12	25	
HUNGRY HORSE	89.94	37.2	11	56	-1				14	11	15	40	PP
BOULDER	91.41	47.5	12	4	0								
COMITAN	92.84	73.8									12	44	
RAPID CITY	94.55	44.5							14	33	16	16	PP
SHILLONG	97.93	294.2	12	33	0								
ST. LOUIS 1	101.77	53.1				23	30	-7			26	43	*SSKS
LA PAZ	102.76	113.2									22	37	
RESOLUTE	108.33	16.2	17	17	777								
OTTAWA	113.71	48.5	17	29K	-2								
SHAWINIGAN	115.85	47.4	17	33K	-2								
QUETTA	120.40	293.5	17	43K	-1								
HALIFAX	122.27	49.7	17	41A	-6						27	41	
SCORESBY SD.	128.45	9.6	17	57	-2								
KIRUNA	131.38	350.3	17	56	-9								
SKALSTUGAN	136.54	352.7	18	3	-11								
UPPSALA	139.19	347.2	18	9	-10								
ASTRIDA	143.47	233.9	18	26K	-1								
COPENHAGEN	144.09	348.9	18	26	-2								
LWIRO	144.40	233.3	18	30K	1								
DURHAM	146.00	2.6	18	33	2								
HAMBURG	146.54	350.2	18	34	2								
RATHFARNHAM	147.05	8.0	18	35K	2								
WITTEVEEN	147.71	353.5	18	34	0				21	2			

RACIBORZ	147.72	339.1	18	37	3						
JENA	148.76	347.0	18	35	0			20	59		
PRAGUE	148.87	343.1	18	40	4			21	8		
KEW	149.35	1.6	18	40K	4					22	10 PP
BRATISLAVA	149.73	338.3	18	28	-9			21	1		
STUTTGART	151.29	348.6	18	38	-1			21	14	18	49 PKP2
TUBINGEN	151.55	348.6	18	47	8						
STRASBOURG	151.71	350.5	18	40K	0					18	59 PKP2
EBINGEN	151.90	348.6	18	38	-2					18	59 PKP2
PARIS	152.00	357.8	18	47K	7					19	0 PKP2
BASLE	152.77	350.2								19	3
TRIESTE	153.05	340.0								20	16
MONACO	156.48	348.2								28	35
TAMANRASSET	175.37	296.5	19	2K	1			21	28	24	38 PP
FLORENCE X.	155.51	341.8								20	26

JANUARY 20 18.H 12.M 47.S EPICENTRE 36.72 71.28 DEPTH= 91.KM

DEPTH OF FOCUS= 0.009R

A= 0.25785 B= 0.76103 C= 0.59527 D= 0.9471 E=-0.3209
G= 0.1910 H= 0.5638 K=-0.8035 HT= -0.5

SE= 2.30

	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	
KHOROG	0.80	18.3	0	20	1	0	38	0					
KULYAB	1.68	315.0	0	29	0								
OBI-GARM	2.34	328.1	0	38	0	1	3	-3					
GARM	2.41	341.5	0	39	0	1	4	-3					
DZHERGETAL	2.50	358.9	0	41	1	1	8	-1					
MURGAB	2.67	51.1	0	45	3	1	18	4					
STALINABAD	2.71	313.3	0	42	-1	1	11	-4					
GISSAR	2.78	309.9	0	42	-2								
KHORUGON	2.78	315.2	0	42	-2	1	8	-8					
FERGANA	3.68	5.9	0	57	1	1	37	-2					
ANDIJAN	4.12	11.6	1	2	0	1	47	-2					
NAMANGAN	4.27	3.9	1	5	1	1	52	-1					
SAMARKAND	4.49	312.3	1	6	-1								
LUNACHARSKOE	4.85	342.3	1	11	-1	2	1	-7					
TASHKENT	4.85	341.9	1	11	-1	2	1	-7					
TCHIMKENT	5.73	347.4	1	23	-1	2	19	-10					
LAHORE	5.75	152.9	1	22	-2								
NARYN	5.97	36.5	1	28	1	2	31	-4					
FRUNSE	6.66	21.4	1	37	0	2	44	-8					
RYBACHE	6.82	31.4	1	39	0	2	55	-1					
BAIRAM-ALI	7.37	279.6	1	41	-6	3	0	-10					
QUETTA	7.46	210.3	1	47A	-1	3	6	-6			2	31	*SP
FABRICHNAYA	7.56	29.8	1	48	-1								
ALMATA	7.86	31.9	1	54	1	3	24	3			2	24	
PRZHEVALSK	7.95	41.5	1	55	0						2	48	
ALMATA-2	8.04	33.6	1	56	0								
KURMENTY	8.30	38.2	1	58	-1								
DEHRA DUN	8.52	136.5	2	1	-1	3	32	-6			2	10	PP
NEW DELHI	9.52	146.8	2	15	-1	4	7	5			2	45	P*
SEMIPALATNSK	15.13	22.5	3	27	-3	6	8	-7					
CHATRA	16.70	121.7	3	50	0	7	2	11					
BAKU	17.12	288.9	3	56	1	6	57	-3			4	52	
BOMBAY	17.80	175.2	4	4	1	7	23	7			4	16	PP
POONA	18.26	172.2	4	11	2	7	35	9			8	1	SS
MAKHACH-KALA	19.27	296.2	4	14	-6	7	54	6			8	24	SS
KIROVOBAD	19.82	289.3	4	24	-2								
HYDERABAD	20.23	159.9				8	11	4			4	56	PP
SHILLONG	20.79	116.5	4	36	0	8	22	5			5	6	PP
EREVAN	21.23	287.6	4	42	2						8	43	SS
SVERDLOVSK	21.35	343.8	4	42	1						8	41	SS
MADRAS	24.93	159.0				9	42	12			13	6	
SOTCHI	24.98	295.7	5	21	4	9	46	15			10	21	*SS
KODAIKANAL	26.96	166.5									11	53	SS
IRKUTSK	27.93	45.7	5	41	-3								
KYAKHTA	28.62	50.4	5	48	-2						11	54	SSS
KSARA	28.95	274.9	6	35	42	10	50	14					
YALTA	29.05	297.1	5	57	3						6	46	PP
KABANSK	29.21	47.1	5	55	0	11	23	43			12	23	SSS
MOSCOW	29.63	320.6									6	36	PP
JERUSALEM	30.12	271.3									6	41	PP
PULKOVO	34.87	324.5									10	3	

HONG KONG	39.66	99.1			13	25	4					
RACIBORZ	39.98	306.7								8	8	
BRATISLAVA	40.80	303.8	7	28	-6			8	5	9	13	PP
UPPSALA	41.04	321.7	7	35	-1			8	13	9	40	
KIRUNA	41.99	333.9	7	43	-1			8	21	9	59	
PRAGUE	42.41	306.9	7	51	4			8	27	9	29	PP
TRIESTE	43.38	300.5	7	49	-6					8	45	
MESSINA	43.69	289.5	7	58	0	14	21 1	8	35			
SKALSTUGAN	44.15	326.6	8	4	3							
JENA	44.16	308.3	8	1	0			8	34	10	35	
HAMBURG	44.93	312.2	8	34	26			10	17			
FLORENCE X.	45.48	298.4	8	45	33			9	31	10	26	PP
TIKSI	45.48	22.0	8	9	-3	14	42 -4	8	34	9	56	PP
STUTTGART	45.95	305.6	8	15	-1			8	53	9	35	PCP
TUBINGEN	46.07	305.3	8	20	3			8	56			
EBINGEN	46.20	304.8	8	23	5							
KARLSRUHE	46.43	306.0						8	55			
STRASBOURG	46.92	305.5	8	23	0			9	2	10	51	*PPP
BASLE	47.24	304.2						8	57			
MONACO	48.18	299.2						8	54			
PARIS	50.30	306.8								9	28	*SP
CLERMONT-FD.	50.63	302.8						9	27			
KEW	51.46	310.6						9	37	9	59	*SP
MATUSIRO	52.67	68.7	9	4	-3					16	1	
RATHFARNHAM	54.55	314.0								10	39	
ASTRIDA	54.99	234.0	9	24	-1			10	4			
LWIRO	55.33	235.1						10	5			
TOLEDO	57.54	298.1	9	42	0			10	19			
TAMANRASSET	57.75	275.7	9	43	-1	17	16 -18	10	24	11	55	PP
TANANARIVE	59.70	206.2	9	57	0					10	24	
RESOLUTE	68.51	356.1	10	53	-2	19	8 -40			27	23	SSS
COLLEGE	74.22	16.3	11	27	-2			12	13			
PRETORIA	74.22	219.8	11	27	-2							
PIETERMZBURG	76.33	215.9	11	41	0							
GRAHAMSTOWN	81.22	216.6	12	33	26							
SHAWINIGAN	91.04	336.1	12	58	3							
KIRKLAND LA.	91.72	341.3								13	24	
OTTAWA	93.00	337.4	13	4	0							
HUNGRY HORSE	95.18	3.6	13	23	9			14	4			
BUTTE	97.57	2.7	13	27	2							
RAPID CITY	99.43	356.0	13	34	0			14	23	17	31	PKP
EUREKA	103.88	5.8	14	30	37					17	37	PKP

JANUARY 22 11.H 18.M 24.S EPICENTRE -4.82 28.56 DEPTH= 0.KM

A= 0.87522 B= 0.47649 C=-0.08343 D= 0.4782 E=-0.8783
G=-0.0733 H=-0.0399 K=-0.9965 HT= 7.0

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
ASTRIDA	2.49	27.9	0	42K	-1	0	54	-20				
LWIRO	2.55	5.2	0	45K	1	1	23	7				
PRETORIA	20.82	181.0	4	46	0	8	24	-10				
JOHANNESBURG	21.25	181.2				8	46	4				
TANANARIVE	23.23	128.7	5	11K	1	9	32	13			11	4
KIMBERLEY	24.07	188.2	5	18	0							
PIETERMZBURG	24.73	176.2	5	24	-1	9	57	12				
GRAHAMSTOWN	28.42	183.5	5	58	-1							
LOME	29.38	291.4				11	7	6				
HERMANUS	30.70	195.2				11	21	-1				
TAMANRASSET	35.49	321.5	7	3	2	12	39	3			16	11
JERUSALEM	36.95	9.3	7	11A	-1	12	5	-53				
KSARA	39.05	9.7	7	33	2	13	27	-3			7	41
MESSINA	44.47	345.3	8	15	0						18	28
ALGIERS UNI.	47.75	332.1	8	41	0	15	31	-6				
RELIZANE	48.16	329.1	8	45	1							
MBOUR	49.02	293.6	8	31	-20	16	4	9				
BOMBAY	49.54	60.3	9	4	9	16	6	3				
BELGRADE	49.95	352.5	9	0K	2						13	8
POONA	50.29	61.2	8	59	-2							
ALMERIA	50.57	327.6	9	4	1							
QUETTA	50.61	44.1	9	2K	-1	16	15	-2				
ALICANTE	50.70	330.4	8	58	-6	16	9	-10			11	51 PPP
IASI	51.80	359.1	9	12	0							
TRIESTE	51.95	346.8	9	12	-1						10	23 PCP
TOLEDO	53.66	329.0	9	10K	-16							

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.

BRATISLAVA	53.72	350.5	9 27	1	11 27 PP
MADRAS	54.23	70.3			28 28
NEUCHATEL	55.02	342.1	9 35	-1	
CLERMONT-FD.	55.23	338.3	9 38	1	
BASLE	55.31	342.8	9 37K	-1	
EBINGEN	55.50	344.2	9 42K	3	
TUBINGEN	55.80	344.4	9 42	1	
STUTTGART	55.98	344.7	9 43K	0	
PRAGUE	56.02	349.1	9 42	-1	10 32 PCP
STRASBOURG	56.20	343.5	9 44	0	11 46 PP
KARLSRUHE	56.41	344.2	9 47K	1	
JENA	57.43	347.3	9 53	0	
PARIS	58.05	340.0	9 56	-2	
NAMANGAN	60.24	36.6	10 9	-4	
WITTEVEEN	60.34	344.9	10 16	3	
MOSCOW	60.80	5.9	10 16	0	
RATHFARNHAM	64.90	337.7			13 9
UPPSALA	65.05	353.9	10 44	-1	
SHILLONG	68.38	60.2	11 5	-1	
SKALSTUGAN	69.31	352.3	11 11	-1	
KIRUNA	72.71	356.8	11 30	-2	
SCORESBY SD.	82.27	344.8	12 28	3	
HUANCAYO	102.52	256.6			18 12 PP
COLLEGE	120.01	358.2	18 56	3	20 14 PP
RAPID CITY	122.43	320.4	19 0	2	20 50 PP
BOULDER	125.72	317.0	19 7	3	
HUNGRY HORSE	126.17	329.9	19 7	2	21 50 PP
BUTTE	126.91	326.9	19 10	4	21 10 PP
SALT LAKE C.	129.61	321.1	19 14	2	
EUREKA	132.92	322.2	19 21	3	21 37 PP
TUCSON	133.27	310.8	19 24	5	22 9 PP
BOULDER CITY	134.24	317.5	19 24	4	
RENO	135.16	324.9	19 24	2	
TINEMAHA	135.81	321.1	19 31	8	
MINERAL	135.85	327.2	19 20	-3	
CHINA LAKE	136.17	319.2	19 38	14	
ISABELLA	136.83	319.6	19 29	4	
RIVERSIDE	137.09	316.9	19 28	2	
PALOMAR	137.09	315.8	19 24	-2	
DALTON	137.28	317.4	19 36	10	
LICK	137.70	324.0	19 33	6	20 22

JANUARY 23 17.H 26.M 51.S EPICENTRE 36.70 21.64 DEPTH= 0.KM

A= 0.74704 B= 0.29641 C= 0.59504 D= 0.3688 E=-0.9295
G= 0.5531 H= 0.2195 K=-0.8037 HT= -0.5

SE= 3.37

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ATHENS	2.09	51.9	0 40K	3	1 9	5		
REGGIO CALA.	4.97	288.1	1 16	-2	2 7	-11		
MESSINA	5.07	289.0	1 18	-1	2 11	-8		
TARANTO	5.10	318.9	1 17	-3	2 8	-12		
SOFIA	6.13	11.7	1 43	9				2 53
BELGRADE	8.16	354.0	2 0A	-3	4 35	58		2 40
BUCHAREST	8.44	27.5	2 36	30				
TIMISOARA	9.05	358.1	3 4	49	5 3	64		
SZEGED	9.61	353.7	3 32	69	5 26	73		3 54
KALOCSA	10.02	349.4	3 14	46	4 52	29		5 27
FLORENCE X.	10.63	314.9	3 22	45	5 47	69		
TRIESTE	10.73	328.9	2 21	-17	4 25	-15		5 32
BUDAPEST	10.94	350.8	3 42	61	4 37	-8		
BOLOGNA	11.04	318.0			4 47	-1		3 6
IASI	11.40	21.0	3 23	36				
BRATISLAVA	11.94	345.2	2 56	1	5 17	7		3 32
KSARA	11.99	99.7	2 49	-6	5 9	0		
JERUSALEM	12.26	109.7	2 58	-1	5 4	-13		
SIMFEROPOL	12.53	45.0	3 5	3				
MONACO	12.92	307.3	3 9	1				
RACIBORZ	13.60	350.5	3 15	-2				
PRAGUE	14.34	340.9	3 25	-1	6 14	7		4 29
ZURICH	14.40	321.8	3 35	8				
EBINGEN	14.78	324.9	3 29	-3				4 14
TUBINGEN	14.99	326.0	3 35	0				
BASLE	15.01	320.5	3 34	-1	6 17	-6		
STUTTGART	15.11	326.8	3 34	-2	6 11	-15		3 39 PP

SOTCHI	15.42	58.0	3 47	6						
STRASBOURG	15.63	323.8	3 43	0	6 44	6			4 52	
KARLSRUHE	15.64	326.0	3 46K	3						
JENA	15.95	336.3	3 46	-1					3 51	PP
CLERMONT-FD.	16.59	308.8	3 57	1						
ALICANTE	17.62	282.0	4 11	2	7 25	1			4 38	PPP
PARIS	18.49	316.9	4 30	11					4 44	
TIFLIS	18.61	67.3	4 23	2						
HAMBURG	18.72	337.9	4 21	-1						
WITTEVEEN	19.24	331.6	4 27	-1						
TAMANRASSET	19.67	229.6	4 35K	2	8 10	0			4 53	PP
COPENHAGEN	19.99	344.7	4 35A	-2						
TOLEDO	20.39	286.8	4 38	-3						
MOSCOW	21.92	24.7	4 55	-2						
UPPSALA	23.31	354.9	5 9	-1	9 14	-6				
PULKOVO	23.76	10.9	5 14	-1						
RATHFARNHAM	25.56	319.3	5 43	11						
SKALSTUGAN	27.51	350.9	5 47K	-3					6 39	PP
KIRUNA	31.19	359.1	6 21	-2					9 9	PCP
SVERDLOVSK	32.81	39.7	6 37	0						
QUETTA	38.09	86.3	7 23	1	13 13	-3				
NAMANGAN	38.77	67.9	7 28	0						
LWIRO	39.32	168.7							8 36	
ASTRIDA	39.82	167.3	7 41K	4						
SCORESBY SD.	40.88	339.3	7 44	-1						
MBOUR	40.94	247.4	8 2	16					8 37	
POONA	49.06	97.0	8 52	1						
CHATRA	55.62	80.2	9 39	-1						
RESOLUTE	61.44	344.3	10 18	-2						
SHAWINIGAN	67.17	311.7	10 56	-2						
OTTAWA	69.53	311.8	11 13K	0						
COLLEGE	78.43	355.4	12 3	-1						
RAPID CITY	85.32	323.6	12 41	1						
FAYETTEVILLE	86.26	313.1	12 45A	0						
MATUSIRO	86.37	46.2	12 45A	0						
HUNGRY HORSE	86.57	332.2	12 47	1						
EUREKA	94.74	328.4	13 25	0						
MINERAL	96.21	332.6	13 31	0						
CHINA LAKE	98.52	327.6	13 43	1						
ISABELLA	99.02	328.1	13 44	0						
PASADENA	100.18	327.1	13 45	-4						

JANUARY 24 1.H 11.M 19.S EPICENTRE -6.07 146.38 DEPTH= 127.KM

DEPTH OF FOCUS= 0.015R

A=-0.82811 B= 0.55064 C=-0.10502 D= 0.5537 E= 0.8327
G= 0.0875 H=-0.0581 K=-0.9945 HT= 6.9

SE= 2.01

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
RABAUL	6.06	72.4	1 28	-1	2 31	-6			
GUAM	19.48	355.2	4 18	-1					
BRISBANE	22.21	164.2	4 45	-2	8 43	4			
NOUMEA	25.22	131.8	5 20	4				6 11	
RIVERVIEW	27.98	171.5	5 38	-3	10 14	0		10 44	*SS
MELBOURNE	31.64	182.1	6 14	1	11 16	4		7 36	PP
MANILA	32.49	309.4	5 59	-22	10 42	-43			
BAGUIO CITY	33.92	311.5	6 35	2					
HWALIEN	38.40	321.9	7 12	1	12 57	1			
PERTH	38 43	224.0	7 34	23				8 53	
YAKUSIMA	39.37	338.1	7 19	0					
KAGOSIMA	40.36	338.9	7 27	0					
SIMIDU	40.68	342.6	7 29	0					
OWASE	41.06	347.1	7 32	0					
MERA	41.23	351.8	7 42	8	13 37	-1			
KOTI	41.24	343.6	7 33	-1	13 31	-7		16 6	SS
KUMAMOTO	41.45	339.9	7 35	-1					
TOKUSIMA	41.45	345.1	7 37	1	13 41	0		14 33	
OOITA	41.52	341.2	7 36	0	13 44	2		8 14	
MISIMA	41.56	350.8	7 35	-2	13 39	-4			
SUMOTO	41.64	345.6	7 34	-3	13 43	-1			
KAMEYAMA	41.76	347.7	7 38	0					
YOKOHAMA	41.76	351.7	6 55	-43				7 55	
OSAKA	41.77	346.5	7 44	6					
TAKAMATU	41.83	344.6	7 38	-1	13 59	13			

HUNATU	41.96	350.7	7	39	-1	13	48	0		
TOMIE	41.96	337.6	7	39	-1					
NAGOYA	41.96	348.4	7	41	1					
KYOTO	42.08	346.9	7	39	-2	13	47	-3		
KOHU	42.12	350.5	7	40	-1	13	50	-1		
HIKONE	42.21	347.6	7	42	0	13	53	1		
GIHU	42.23	348.3	7	41	-1	13	50	-2		
IBUKISAN	42.29	347.8	7	44	1					
HONG KONG	42.30	312.8	7	43K	0	13	58	5		
HIROSIMA	42.33	342.8	7	42	-1	13	53	-1		
TITIBU	42.38	351.2	7	42	-1	13	54	-1		
KAKIOKA	42.47	352.6	7	45	1	13	54	-2		
KUMAGAYA	42.51	351.6	7	47	3					
MAEBASI	42.80	351.3	7	46	-1	14	0	-1		
OIWAKE	42.81	350.7	7	48	1	14	2	1		
UTUNOMIYA	42.83	352.3	7	45	-2	13	59	-2	10	4
HUKUI	42.96	343.0	7	49	1					
NAGANO	43.20	350.4	7	50	0	14	6	0		
SHIRAKAWA	43.35	352.8	7	51	0	14	11	2	8	17
TOYAMA	43.40	349.2	7	51	-1					
CANTON	43.43	313.0	7	53	1	14	15	5	8	37 *SP
HUKUSIMA	43.94	353.2	7	56	0					
ZO-SE	44.12	328.4	7	57	0	14	20	0	10	20 PPP
SENDAI	44.40	353.8	7	59	-1	14	24	0		
MIZUSAWA	45.23	354.2	8	8	2	14	37	1		
NANKING	46.13	326.9	8	14	1	14	52	3	8	55 *SP
MURORAN	48.42	354.6	8	29	-2					
OBIHIRO	48.84	356.9	8	35	1					
Y.-SAKHLINSK	52.89	356.9	9	3	-2					
CHANGCHUN	53.19	341.0	9	6	-1	16	33	7	9	50 *SP
SIAN	53.48	321.2	9	18	9					
PAOTOW	57.18	327.5	9	37	1					
CHATRA	65.94	302.8	10	33	-2					
IRKUTSK	68.23	333.7	10	48	-1					
MADRAS	68.43	286.5	10	48	-2					
DEHRA DUN	74.64	303.6	11	25	-2	20	56	5	21	41
POONA	75.52	290.8	11	33	1	20	57	-4	20	27
BOMBAY	76.55	291.0	11	39	1	21	21	9	14	13
LAHORE	78.05	303.9	11	45	-1					
IIKSI	78.40	354.4	11	46	-2					
NAMANGAN	82.53	312.6	12	10	0					
QUETTA	83.95	301.1	12	18K	1	22	31	2	12	42 12 21 PCP
COLLEGE	85.46	23.0	12	22	-3				12	53
SVERDLOVSK	92.71	326.7	12	58	-1					
UKIAH	94.10	51.2	13	6	1				14	2 17 18 PP
BERKELEY	94.75	52.6	13	8	0					
SHASTA	94.85	49.7	13	14K	5					16 54
LICK	95.21	53.1	13	11A	1					13 44
MINERAL	95.44	50.1	13	19	8					
TANANARIVE	96.35	250.3	13	16K	1					
KING RANCH	96.63	55.2	13	19	2				13	47
FRESNO	96.65	53.8	13	16K	-1					
RENO	96.76	51.0	13	18	1					18 1
ISABELLA	97.68	54.9	13	21	0				13	56 17 9 PP
PASADENA	97.88	56.5	13	23	1				13	55
TINEMAHA	97.92	53.5	13	23	0				13	59
CHINA LAKE	98.39	54.8	13	26	1				14	2 17 25 PP
RIVERSIDE	98.53	56.6	13	25	0	23	54	-45	13	57 17 18 PP
PALOMAR	98.94	57.3	13	28	1				14	3 17 21 PP
BARREIT	99.09	58.0	13	29	1				14	5 17 29 PP
EUREKA	99.73	51.1	13	30	-1				13	59 29 54 PKKP
HAYFIELD	99.98	56.9	13	33	1					
HUNGRY HORSE	100.88	42.1	13	36	0				14	5 17 50 PP
BUTTE	102.01	44.4	18	10	269					19 55
TIFLIS	102.65	311.3	13	43	-1					
SALT LAKE C.	102.85	49.7	13	44	-1					
RESOLUTE	103.20	13.9	13	41	-5					18 3 PP
TUCSON	104.02	58.4	18	50	300					29 59 PKKP
MOSCOW	105.51	326.2								18 13 PP
BOULDER	107.90	50.0								18 15 PP
KIRUNA	108.59	341.1								18 33 PP
RAPID CITY	108.84	45.5	18	15	777					18 54 PP
KSARA	110.37	303.7	18	31	14				18	57 19 42
JERUSALEM	111.15	301.6	18	22	4					
UPPSALA	113.88	334.5	18	44	20					
BRATISLAVA	119.97	323.3	18	43	7				19	12 20 1
PRAGUE	120.58	326.2								20 22 PP
HAMBURG	120.92	331.4	18	56	19					
JENA	121.65	328.2	18	40	1					20 16 PP

STUTTGART	124.15	327.1	18	43	-1			19	18	20	21 PP
EBINGEN	124.61	326.6	18	56	11						
FLORENCE X.	125.65	321.0	18	46	-1						
OTTAWA	126.47	36.0	18	48A	0			19	19		
SHAWINIGAN	127.46	33.3						19	17		
PARIS	127.58	330.6	18	44	-6						
COLUMBIA	128.14	51.0	18	53	2						
HUANCAYO	134.79	113.5	19	8	4						
CHINCHINA	138.19	89.3	19	9	-1			19	39	22	34 SKP
IAMANRASSET	138.79	297.8	19	5	-6					19	46 PKP2
LA PAZ	139.16	123.8	19	17K	5	26	13 6	19	47	22	5 PP
BOGOTA	139.71	90.0	19	21	8					22	45 SKP
LOME	145.36	272.0	19	25	2					20	10 PKP2
SAN JUAN	146.04	66.0	19	25	1			19	57		
DOMINICA	151.24	69.2	19	39	7						
FORT FRANCE	151.62	70.2	19	32	-1						
ST. VINCENT	151.86	73.4	19	39	6						
TRINIDAD	152.03	78.7	19	35	2						
MBOUR	161.66	298.0	19	48	3			21	2	20	34 PKP2

JANUARY 24 7.H 16.M 32.S EPICENTRE -12.55 -77.72 DEPTH= 0.KM

A= 0.20770 B=-0.95407 C=-0.21591 D=-0.9771 E=-0.2127
G=-0.0459 H= 0.2110 K=-0.9764 HT= 6.2

SE= 2.11

	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	10.08	114.1	2	25	-2	4	16	-7			2	36	PP
BOGOTA	17.44	12.2	4	8	4	7	28	12					
CHINCHINA	17.53	7.0	3	57	-8	7	25	7					
BALBOA HTS.	21.45	355.0	4	51	2	8	49	7					
GALERAZAMBA	23.31	6.1				9	51	35			5	32	PP
TRINIDAD	28.12	35.6	5	54	1								
ST. VINCENT	30.32	33.1	6	12	-1								
BARBADOS	31.20	35.8	6	17	-4								
FORT FRANCE	31.68	31.7	6	20	-5								
SAN JUAN	32.79	20.6	6	33	-1								
MERIDA	35.29	340.5	6	54	-2	12	34	6					
VERA CRUZ	36.39	329.8				12	43	-3			20	58	
TACUBAYA	38.15	326.0	7	18	-2	13	20	7			9	14	PPP
BERMUDA	46.38	15.3	8	30	3	15	16	3			10	22	PP
COLUMBIA	46.40	356.2	8	26	-1						8	36	
FAYETTEVILLE	50.82	342.8	9	1A	-1								
LUBBOCK	51.32	334.1	9	5	0								
ST. LOUIS 1	52.25	347.6	9	12A	0	16	35	0	9	20	18	56	SCS
FLORISSANT	52.43	347.5	9	14A	0	16	35	-3			19	0	SCS
PALISADES	53.40	3.6				16	51	0			10	27	PCP
TUCSON	54.67	325.4	9	31	1								
OTTAWA	57.70	1.7	9	51K	-1	17	46	-2			19	33	SCS
BOULDER	58.27	335.3	9	55	-1								
BARRETT	58.38	321.5	9	57	0						39	46	PKPPKP
HAYFIELD	58.47	323.1	9	56	-1								
PALOMAR	58.95	321.9	10	2	1						39	46	PKPPKP
SHAWINIGAN	58.99	4.0	10	0K	-1								
BOULDER CITY	59.65	325.5	10	5	-1						10	42	
RIVERSIDE	59.71	322.1	10	6	0	18	21	7			39	43	PKPPKP
PASADENA	60.29	321.7	10	[illegible]	2	18	27	5			10	55	PCP
KIRKLAND LA.	60.46	358.2	10	14	3								
RAPID CITY	60.95	339.2	10	14	0						11	12	PCP
CHINA LAKE	61.11	323.5	10	16	1						39	38	PKPPKP
ISABELLA	61.51	322.8	10	17	-1								
SALT LAKE C.	61.74	331.1	10	20	0								
KING RANCH	62.04	321.7	10	23	1						39	44	PKPPKP
TINEMAHA	62.34	324.1	10	20	-4						39	35	PKPPKP
EUREKA	62.82	327.4	10	7	-20						10	54	
FRESNO	63.05	322.9	10	35	7								
LICK	64.52	322.2	10	39A	1								
RENO	64.95	325.1	10	43	2								
BERKELEY	65.24	322.3	10	43	0	19	29	5			31	28	
BUTTE	66.20	334.2	10	48	-1								
MINERAL	66.50	324.7	10	51K	-1								
UKIAH	66.64	322.8	10	54	2								
SHASTA	67.19	324.6	10	54	-1								
HUNGRY HORSE	68.65	334.9	11	5	1						39	15	PKPPKP
CORVALLIS	70.29	327.2	11	13	-1								
VICTORIA	73.02	330.2	11	28	-3	20	52	-4					

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.

MALAGA	84.45	50.7	12	37K	4	23	6	9			
GRANADA	85.21	50.4	12	38K	1	23	28	23			
TOLEDO	85.79	47.8	12	42	2						
RESOLUTE	87.71	355.5	12	47A	-2	23	15	-14	28	49	SS
ALICANTE	87.93	50.1	12	49	-1	23	33	2			
TAMANRASSET	88.68	66.5	12	55A	1	23	41	3	16	28	PP
COLLEGE	93.06	336.3	13	12	-2				16	55	PP
RIVERVIEW	114.52	223.6							35	43	SS
KSARA	116.43	58.4	18	46	3	25	41	8	19	56	PP
MATUSIRO	139.87	312.8	18	22K	-65				18	49	
QUETTA	142.92	56.2	19	30	-3						
BOMBAY	150.97	73.7	19	56	10				23	34	PKS
POONA	151.99	74.1	19	50	3						
SHILLONG	163.75	35.7	20	56	54						

JANUARY 25 3.H 36.M 55.S EPICENTRE 51.76-177.03 DEPTH= 47.KM

DEPTH OF FOCUS= 0.002R

A=-0.62072 B=-0.03221 C= 0.78337 D=-0.0518 E= 0.9987
G=-0.7823 H=-0.0406 K=-0.6216 HT= -6.1

SE= 1.69

	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	14.88	284.9	3	28	-1								
COLLEGE	19.94	37.7	4	29	-2	8	15	7			6	11	
SITKA	24.55	61.1	5	18	1	9	26	-5			6	9	PP
NEMURO	26.36	266.2	5	30K	-4	10	2	1					
Y.-SAKHLINSK	26.41	275.6	5	34	0								
ABASHIRI	26.81	268.6	5	38	0								
KUSIRO	27.28	266.6	5	41	-1	10	33	17			6	25	
URAKAWA	28.74	266.5	5	55	0	10	34	-6					
SAPPORO	29.13	269.3	5	56K	-3	10	44	-2			6	29	
TOMAKOMAI	29.28	268.1	5	59	-1								
MORI	30.14	268.2	6	9	1	10	54	-8			16	43	
HAKODATE	30.22	267.6	6	12	4	11	10	7					
AOMORI	30.73	266.0	6	13	0	11	13	2					
TIKSI	30.85	329.9	6	13	-1								
MORIOKA	31.14	263.9	6	16K	-1	11	18	0					
MIZUSAWA	31.51	263.0	6	18	-2	11	26	2					
AKITA	31.79	264.9	6	22K	0	11	31	3					
SENDAI	32.18	262.0	6	24	-2	11	35	1					
ALBERNI	32.71	73.3	7	31A	61								
ONAHAMA	33.02	260.1	6	35	2								
NIIGATA	33.54	263.2	6	54	17								
HONOLULU	33.78	147.0	6	38	-2								
VICTORIA	33.87	73.8	6	41K	1	12	5	5			9	16	
UTUNOMIYA	33.91	260.5	6	39	-2						7	45	
KAKIOKA	33.93	259.8	6	40	-1								
KUMAGAYA	34.47	260.4	6	45	0	12	13	3					
MAEBASI	34.50	261.0	6	46	0	12	12	2			10	11	
TOKYO C.M.O.	34.55	259.4	6	50	3	12	14	1			8	13	PPP
TITIBU	34.76	260.5	6	48	0								
YOKOHAMA	34.78	259.2	6	50	2	12	19	5			7	8	
NAGANO	34.86	262.2	6	49	0	12	19	3			17	7	
OIWAKE	34.86	261.4	6	50	1						17	7	
MATUSIRO	34.92	262.0	6	49K	0	12	18	1			8	1	PP
SEATTLE	34.93	74.6	6	51K	2	12	13	-4					
MERA	35.01	258.4	6	50	0								
WAZIMA	35.21	264.3	6	53	1	12	33	12					
HUNATU	35.27	260.1	6	54	2	12	24	2			7	57	
MATUMOTO	35.27	261.9	6	54	2	12	25	3					
KOHU	35.30	260.5	6	54	1	12	25	2					
OSIMA	35.38	258.6	6	53	0	12	25	1			17	7	
MISIMA	35.41	259.5	6	53K	0	12	26	2			17	9	
TOYAMA	35.45	263.1	6	56	2								
IIDA	35.83	261.0	6	55	-2	12	33	2					
CORVALLIS	35.83	79.8	6	58K	1	12	34	3			8	47	PPP
SHIZUOKA	35.85	259.8	6	56	-1								
HAWAII V.OB.	36.50	144.0	7	2	-1								
GIHU	36.56	261.8	7	2	-1	12	37	-5			17	9	
NAGOYA	36.59	261.4	7	4	1								
HIKONE	36.97	262.1	7	7	0	12	49	1					
KAMEYAMA	37.11	261.4	7	9K	1	12	51	1					
TU	37.16	261.2	7	9	1								
ARCATA	37.37	85.5	7	10	0								

KYOTO	37.45	262.3	7	13	2	13	0	5			
NARA	37.62	261.8	7	14	2	13	0	2			
TOYOOKA	37.68	263.7	7	12	-1	12	59	0			
OWASE	37.80	260.7	7	14	0						
OSAKA	37.82	262.0	7	16	2	12	58	-3			
KOBE	38.02	262.4	7	15	0	13	6	2			
SUMOTO	38.42	262.2	7	19	0	13	10	0			
SHASTA	38.52	84.6	7	21K	1						
CHANGCHUN	38.63	281.6	7	19	-1	13	11	-2		17	24 SCS
TOKUSIMA	38.79	262.2	7	21	-1	18	17	301			
UKIAH	38.94	87.2	7	25	2	13	23	5			
RESOLUTE	38.94	24.8	7	22K	-1	13	15	-3		16	16 SS
TAKAMATU	38.95	262.9	7	24K	1	13	19	1			
MINERAL	39.23	84.4	7	24K	-1					8	32
HUNGRY HORSE	39.48	69.2	7	29	1	13	23	-3		9	37 PCP
KOTI	39.79	262.5	7	31K	1	13	26	-5			
HIROSIMA	39.92	264.4	7	30	-1	13	27	-6			
BERKELEY	40.30	88.0	7	35K	1	13	42	4		9	24 PP
RENO	40.81	84.2	7	40K	1						
SANTA CLARA	40.82	88.4	7	40	1	13	50	4			
LICK	41.02	88.2	7	41K	1					9	40 PCP
OOITA	41.18	263.8	7	43K	1	14	3	11			
BUTTE	41.53	71.5	7	45	0	13	40	-17		9	38
HUKUOKA	41.69	265.2	7	45	-1						
SAGA	41.98	265.0	7	51	3						
KUMAMOTO	42.03	264.1	7	49	0						
FRESNO	42.52	87.5	7	53K	0					8	10
NAGASAKI	42.59	264.7	7	54	1						
BOZEMAN	42.61	71.1	7	53	0					8	30
KAGOSIMA	42.97	262.9	7	57	1	14	21	3			
EUREKA	43.21	81.6	7	59	1						
TINEMAHA	43.31	86.0	8	0K	1	14	30	7		9	48 PP
KING RANCH	43.48	89.0	8	2K	2					8	23
YAKUSIMA	43.78	261.8	7	57	-6						
CHINA LAKE	44.49	86.9	8	8K	-1					9	50 PP
SALT LAKE C.	44.95	77.4	8	13	1	14	49	3			
PASADENA	45.23	89.1	8	15K	1	14	51	1			
RIVERSIDE	45.82	88.6	8	18K	-1	14	58	-1		9	55 PP
BOULDER CITY	46.11	84.6	8	21	0						
IRKUTSK	46.12	303.3	8	24	2						
PEKING	46.38	282.9	8	24	0	15	8	1	8 38	18	11 SCS
PALOMAR	46.57	88.9	8	26K	1					10	5 PP
HAYFIELD	47.10	87.6	8	28K	-1						
BARRETT	47.14	89.4	8	29K	-1	15	19	1		9	59 PP
RAPID CITY	48.10	68.4	8	37	0	15	33	2		10	15 PP
GUAM	48.98	232.9	8	41	-3						
ZO-SE	49.11	270.1	8	45	0	15	49	4	9 0	10	32 PP
NANKING	49.93	272.9	8	51	0	15	59	2		11	58 PPP
TUCSON	51.06	85.4	9	0	0	16	17	5			
LINFEN	51.71	282.0	8	25	-40						
YINCHUAN	53.30	287.7	9	19	2						
SIAN	54.53	282.0	9	19	-7	16	54	-6			
LUBBOCK	55.67	77.8	9	33	-1						
WUWEI	55.80	289.5	9	36	1						
TIENSHUI	56.22	284.5	9	38	0						
CHIHUAHUA	56.51	85.1	9	13K	-27						
KIRKLAND LA.	57.91	81.7	9	49K	-1						
CHICAGO CGS.	58.36	61.5	9	52	-1	17	48	-2		21	20
FAYETTEVILLE	58.52	70.4	9	54K	0					10	45 PCP
FLORISSANT	58.86	65.7	9	56K	0	17	53	-4			
ST. LOUIS 1	59.05	65.7	9	55K	-3	17	55	-4		19	43 SCS
CANTON	59.73	269.5	10	1	-1	18	9	1	10 19	19	48 SCS
HONG KONG	59.76	268.2	10	2K	-1	18	11	3		19	50 SCS
KIRUNA	60.02	352.4	10	2	-2	18	24	12		10	51 PCP
BAGUIO CITY	60.23	258.4	11	2	56	18	14	-1			
MANILA	61.41	256.8	10	14	0	18	13	-4			
SVERDLOVSK	61.86	328.2	10	18	1						
OTTAWA	61.96	51.5	10	15K	-3						
SHAWINIGAN	62.53	48.9	10	19	-2						
SEVEN FALLS	63.01	47.4	7	43	-162						
PENNSYLVANIA	64.23	56.3	10	34	2	19	5	0			
SKALSTUGAN	64.77	355.4	10	39	3					39	16 PKPPKP
PALISADES	66.09	53.7	10	43	-1	18	28	-60	11 15	19	20 *SS
FORDHAM	66.23	53.8	10	44	-1	19	32	3			
WESTON	66.34	51.1	10	45A	-1						
FRUNSE	67.23	310.8	10	51	-1						
TACUBAYA	67.52	86.9	10	53A	0	19	54	9		13	11 PP
COLUMBIA	67.54	63.4	10	53	-1	19	44	-1	11 19		

UPPSALA	68.12	352.1	10	55K	-2				39	4	PKPPKP
HALIFAX	68.17	44.9	10	56	-1						
MOSCOW	69.10	339.9	11	2	-1						
VERA CRUZ	69.57	84.7							10	47	
NAMANGAN	70.07	311.4	11	8	-1						
SHILLONG	71.01	287.2	11	14	-1	20	25	-1	11	36	PCP
COPENHAGEN	72.64	354.4	11	23	-2	20	44	-1			
CHATRA	72.81	291.5	11	25	-1						
STALINABAD	73.36	311.7	11	27	-2						
DURHAM	73.79	2.7	11	24	-7	20	45	-14			
HAMBURG	74.88	355.7	11	39	1				12	28	
RATHFARNHAM	75.03	5.7	11	38	0				12	32	
NOUMEA	75.15	195.8	11	38	-1						
WITTEVEEN	75.75	357.7	11	42	-1				12	14	
DE BILT	76.50	358.6							27	5	
KEW	77.11	2.1				21	41	7			
JENA	77.43	354.4	11	51	-1				12	28	
BERMUDA	77.44	53.3	12	11	19	21	41	3			
RACIBORZ	77.72	350.0	11	47	-7				12	17	
PRAGUE	78.08	352.5	11	54	-2	21	32	-13	22	35	PS
KARLSRUHE	79.50	356.4	12	4A	1				12	33	
STUTTGART	79.71	355.8	12	3	-2	22	5	3	12	15	PCP
BRATISLAVA	79.72	350.4	12	11	6	23	7	65	12	50	
PARIS	79.81	0.3	12	5	0				12	38	
SOTCHI	79.85	333.8	12	5	0						
TUBINGEN	79.96	355.9	12	6	0						
STRASBOURG	79.96	356.8	12	7	1	22	15	10	27	35	SS
TIFLIS	80.06	329.5	12	6	0						
EBINGEN	80.31	355.9	12	6	-2				12	18	PCP
BASLE	81.01	356.8	12	10	-1				13	5	
QUETTA	81.04	308.0	12	11K	-1	22	14	-2	12	19	PCP
NEUCHATEL	81.56	357.2	12	15	1						
TRIESTE	82.53	352.4	12	23	4	22	29	-2	22	45	SKS
BELGRADE	82.62	347.6	12	20A	0						
CLERMONT-FD.	82.85	359.9	12	22	1						
BRISBANE	83.17	206.5	12	21	-2	22	51	12			
SOFIA	84.28	345.1	12	29	1						
FLORENCE X.	84.57	354.0	12	31	1	22	48	-3	13	7	
MONACO	84.81	356.8	12	32	1				13	12	
HYDERABAD	85.16	292.0	12	31	-2	22	48	-9	23	20	PS
ROME	86.36	352.9	12	38	0	23	24	15			
POONA	86.89	296.1	12	44	3	23	14	0			
BOMBAY	87.16	297.1	12	43	1	23	15	-1	27	58	SKKS
BALBOA HTS.	87.63	78.6	12	45	0	23	3	-18			
MADRAS	87.65	288.0	12	44	-1	23	5	-16			
SAN JUAN	88.00	62.6	12	46	0				13	8	
TOLEDO	88.53	5.4	12	49	0				15	40	PP
RIVERVIEW	89.68	206.0	12	53A	-1	23	38	2	23	45	SCS
MESSINA	89.74	350.1	13	25	30	23	19	-21	29	43	SS
KSARA	90.03	333.1	12	58	2	23	57	14	16	44	PP
DOMINICA	93.10	60.6	13	10	0						
CHINCHINA	93.16	78.0	13	11	1	24	14	3	22	41	SKS
FORT FRANCE	93.70	60.7	13	14	1						
BOGOTA	94.37	77.0	13	17	1	23	45	-36			
ST. VINCENT	94.92	61.7	13	18A	0						
BARBADOS	95.87	60.4	13	25	2						
TRINIDAD	96.84	63.3	13	26	-1						
TAMANRASSET	105.75	357.6	16	46	///	24	45	3	18	53	PP
HUANCAYO	106.61	86.4	14	12	///				18	31	PP
LA PAZ	114.47	85.7	19	13	38				19	34	PP
LWIRO	126.13	322.6	18	59K	1						
ASTRIDA	126.14	326.2	18	58K	0						
TANANARIVE	132.19	296.3	19	11A	2						
PRETORIA	147.74	314.0	19	40K	2						
PIETERMZBURG	149.95	306.8	19	46	6						
KIMBERLEY	151.83	316.3	19	43	0						
GRAHAMSTOWN	154.85	307.9	19	57	10						

JANUARY 26 16.H 30.M 52.S EPICENTRE 42.56 42.36 DEPTH= 29.KM

A= 0.54596 B= 0.49783 C= 0.67386 D= 0.6738 E=-0.7389
G= 0.4979 H= 0.4540 K=-0.7389 HT= -2.6

SE= 2.88

	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
ZUGDIDI	0.36	264.0	0	4	-6	0	10	-7				

BORZHOMI	1.05	133.5	0 16	-3	0 30	-2		
BAKURIANA	1.20	133.4	0 19	-2				
AKHALKALAKI	1.43	143.8	0 22	-2				
GORI	1.43	113.3	0 22	-2	0 42	0		
PIATIGORSK	1.56	19.2	0 27	1	0 49	4		
BOGDANOVKA	1.59	143.9	0 27	1	0 49	3		
DUZHETI	1.80	104.6	0 30	1	0 55	4		
TIFLIS	2.00	114.0	0 32	0	0 59	3		
LENINAKAN	2.10	147.4	0 36	2	1 6	7		
STEPANAVAN	2.17	135.2	0 34	-1	1 4	3		
SOTCHI	2.19	298.7	0 33	-2	1 5	4		
GROZNY	2.60	71.8	0 41	0	1 7	-5		
EREVAN	2.87	145.2	0 44	-1				
KIROVOBAD	3.52	120.0	0 59	5	1 40	5		
NAKHICHEVAN	4.07	144.5	1 0	-2	2 5	16		
BAKU	6.07	108.5			2 43	4	1 56	
LENKORAN	6.20	125.5			2 26	-17	1 47	
YALTA	6.27	290.6	1 29	-4	2 39	-5		
SIMFEROPOL	6.43	294.6	1 32	-3	2 45	-3		
KSARA	10.10	212.4	2 27	1	6 25	126	6 50	SS
IASI	11.49	298.9	2 49	4	6 52	122		
BUCHAREST	11.96	284.5	2 57	6	5 11	1	6 57	PCP
JERUSALEM	12.17	210.2	2 53A	-1	5 36	26		
ASHKABAD	13.05	105.3	3 3	-3	5 7	-24		
MOSCOW	13.54	348.5	3 14	2	5 50	7		
SOFIA	14.02	277.0					5 54	
LWOW	14.61	306.1	3 34	8	6 27	19		
ATHENS	14.95	258.4	3 27	-4	6 21	5	6 34	SS
BAIRAM-ALI	15.91	101.5	3 45	2	7 21	43		
RACIBORZ	18.25	302.7	4 8	-5			7 54	SS
SVERDLOVSK	18.45	33.0	4 12	-3	7 47	10		
BRATISLAVA	18.57	296.3	4 22	5			6 22	
SAMARKAND	18.76	90.5	4 16	-3			9 34	
PULKOVO	18.76	340.8	4 14	-5	7 50	6		
TASHKENT	20.04	84.4	4 31	-2	8 19	7		
STALINABAD	20.43	92.4	4 38	1	8 30	11		
PRAGUE	20.62	301.0	4 38	-1	8 16	-7	5 24	
MESSINA	20.85	267.0	4 40	-2	8 26	-2		
KULYAB	21.40	93.3	4 48	1			9 40	
NAMANGAN	21.87	84.2	4 52	0	8 50	3		
ROME	22.09	278.5					5 24	
FERGANA	22.11	85.7	4 56	2	9 0	9		
ANDIJAN	22.44	84.4	4 58	0	9 1	4		
JENA	22.58	302.4	4 58	-1				
KHOROG	22.90	93.0	5 5	3			8 25	
UPPSALA	23.01	327.3	5 5	2	9 16	9	5 36	PP
QUETTA	23.25	114.1	5 8	2	9 19	7	5 40	PP
FRUNSE	23.60	78.2	5 8	-1				
STUTTGART	23.86	296.6	5 10	-1			6 35	
TUBINGEN	23.94	295.9	5 18	6				
EBINGEN	24.00	295.1	5 14	1				
HAMBURG	24.07	308.5	5 23	9				
KARLSRUHE	24.39	297.1	5 14	-3				
STRASBOURG	24.80	296.0	5 23	2				
NEUCHATEL	25.38	292.3	5 24	-2				
MONACO	25.40	284.6	5 49	23			6 41	
APATITY	25.51	352.0	5 26	-1				
SEMIPALAINSK	27.01	59.9	5 33	-8	10 51	36		
SKALSTUGAN	27.29	330.7	6 1	17				
KIRUNA	27.92	342.4	5 47	-3				
CLERMONT-FD.	28.14	290.1	6 10	19				
POONA	35.84	122.2	6 58	-1			7 23	
TAMANRASSET	36.37	248.9	7 5	2			8 24	PP
CHAIRA	39.56	98.6	7 30	0				
SHILLONG	43.73	96.5	8 4	0				
LWIRO	46.26	198.9	8 24	0				
ASTRIDA	46.38	197.6	8 23	-2				
FIKSI	49.21	24.7	8 46	-1				
RESOLUTE	59.65	347.9	10 2	-2				
PRETORIA	69.21	193.7	11 9	4				
MATUSIRO	70.20	58.4	11 10	-2				
COLLEGE	72.62	4.5	11 25	-1				
HUNGRY HORSE	87.11	344.5	12 44	0				
RAPID CITY	88.40	335.9	12 50	0				
EUREKA	90.01	343.3	13 27	2				

JANUARY 28 8.H 16.M 22.S EPICENTRE -15.13-173.30 DEPTH= 0.KM

A=-0.95916 B=-0.11271 C=-0.25944 D=-0.1167 E= 0.9932
G= 0.2577 H= 0.0303 K=-0.9658 HT= 5.7

SE= 1.28

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
APIA	1.98	48.1	0 30	-4				
BRISBANE	33.58	243.0	6 40	-2				
RIVERVIEW	37.08	233.4	7 13A	1	12 58	1		8 39 PP
MELBOURNE	43.19	230.4	8 1	-1	14 33	5	8 10	15 30
BERKELEY	71.22	40.5	11 21	0				
LICK	71.29	41.3	11 21A	0				
PASADENA	71.76	45.8	11 24K	0	20 48	6		11 40
FRESNO	72.14	42.7	11 26K	0				
WOODY	72.15	44.1	11 27	1				
RIVERSIDE	72.22	46.3	11 27	0	20 56	8		
PALOMAR	72.25	47.1	11 27	0				11 48
SHASTA	72.87	38.1	11 32	1				
CHINA LAKE	73.07	44.6	11 32K	0				14 7 PP
MINERAL	73.15	38.8	11 32K	-2				
HAYFIELD	73.31	47.3	11 36	3				
TINEMAHA	73.34	43.2	11 34K	1				
RENO	73.75	40.3	11 37	1				
BOULDER CITY	75.05	45.7	11 43	0	20 50	-30		14 30 PP
TUCSON	76.08	50.7	11 50	1				14 16 PP
EUREKA	76.16	42.1	11 51	1				
VICTORIA	77.29	31.4	11 56	0				
SEATTLE	77.30	32.6	11 58	2				
SALT LAKE C.	79.52	42.7	12 27	19				12 55
HONG KONG	80.18	296.3			21 38	-37		
TACUBAYA	80.55	67.0	12 11	-3				16 58 PPP
BUTTE	81.78	37.9	12 20	0				15 27 PP
COLLEGE	82.09	10.7	12 21	-1				
HUNGRY HORSE	82.19	35.4	12 21	-1				15 27 PP
BOZEMAN	82.51	38.7	12 26	2				
BOULDER	83.59	45.8	12 30	1				
RAPID CITY	86.73	42.7	12 46	1				
FAYETTEVILLE	90.25	52.7	13 2	0				
FLORISSANT	93.97	51.0	13 21	2				
ST. LOUIS 1	94.10	51.2			23 40	-49		14 36
LA PAZ	99.74	110.0			25 31	17		17 50 PP
RESOLUTE	101.45	15.4	13 52	-1				24 37
QUETTA	123.01	296.3	18 59	3				
JENA	144.10	354.7	19 35	0				
BRATISLAVA	145.96	347.5	19 46	7				20 34
KARLSRUHE	146.19	358.0	19 48	9				
STUTTGART	146.40	357.0	19 43	4				
STRASBOURG	146.64	358.7	19 44	4				21 14
EBINGEN	147.00	357.2	19 44	3				20 17
BASLE	147.69	358.9	19 53	11				
KSARA	147.75	310.5	19 48	6				19 59 PKP2
BESANCON	147.97	0.9	19 48	6				20 51
NEUCHATEL	148.23	359.7	19 45	3				
CLERMONT-FD.	149.31	4.9	19 51	7				
FLORENCE X.	151.19	353.2	19 54A	7				20 57
MONACO	151.49	358.9	19 55	7				20 56
LWIRO	152.13	233.5	19 58A	10				
ALGIERS UNI.	158.21	7.9						20 33 PKP2
TAMANRASSET	172.31	8.2	20 12	4				21 37 PKP2

JANUARY 30 15.H 29.M 3.S EPICENTRE -20.12-174.11 DEPTH= 0.KM

A=-0.93476 B=-0.09635 C=-0.34195 D=-0.1025 E= 0.9947
G= 0.3402 H= 0.0351 K=-0.9397 HT= 4.6

SE= 2.26

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
APIA	6.67	19.9	1 38	-2	2 46	-11		
NOUMEA	18.25	259.7	4 17	2				5 1
BRISBANE	30.87	249.9	6 15	-3	11 45	21		
RIVERVIEW	33.66	238.8	6 39A	-4	12 3	-1	6 48	14 10 SS
MELBOURNE	39.54	234.5	7 30	-2				8 9
PERTH	63.09	243.7	10 33	3				19 13
MAIUSIRO	72.13	321.3	11 27	1	21 0	13		
KING RANCH	75.48	43.4	11 46	0				11 58

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BERKELEY	75.50	40.0	11 45	-1						
LICK	75.54	40.8	11 47K	1						
PASADENA	75.80	45.1	11 48	0						
BARRETT	75.95	47.1	11 53	5					12 11	
RIVERSIDE	76.23	45.7	11 48	-2						
WOODY	76.27	43.5	11 50	0					12 2	
FRESNO	76.33	42.2	11 50A	-1						
CHINA LAKE	77.17	44.0	11 54	-1					12 8	
HAYFIELD	77.26	46.8	12 0	4						
Y.-SAKHLINSK	77.26	331.3	11 59	3						
SHASTA	77.26	37.7	11 56	0					12 10	
MINERAL	77.50	38.4	11 57K	0						
TINEMAHA	77.50	42.7	11 57	0						
BOULDER CITY	79.09	45.2	12 6	0					12 50	
TUCSON	79.84	50.3	12 10	0					12 45	
EUREKA	80.37	41.8	12 12	-1						
HONG KONG	81.72	297.3	12 21	1	22 47	16				
TACUBAYA	83.23	66.6	12 51	23					13 17	
SALT LAKE C.	83.70	42.6	12 30	0						
BUTTE	86.17	37.9	12 32	-10						
HUNGRY HORSE	86.68	35.4	12 41	-4						
LUBBOCK	87.09	52.8	12 47	0						
COLLEGE	87.10	10.9	12 44	-3						
RAPID CITY	90.89	42.9	13 6	1						
FAYETTEVILLE	93.86	53.1	13 20	2						
LA PAZ	98.73	111.1			24 19	-47			17 47	PP
QUETTA	124.38	293.3	18 59	0						
SVERDLOVSK	125.72	326.4							20 45	PP
MOSCOW	137.23	334.0							22 19	PP
HAMBURG	146.49	355.6	19 44	5						
WITTEVEEN	147.36	359.1	19 47	6						
IASI	147.74	331.8	19 45	5						
LWIRO	148.38	227.9	19 46A	3						
RACIBORZ	148.54	344.7	19 47	4						
JENA	148.93	353.0	19 47	3						
PRAGUE	149.35	349.2	19 50	6					20 5	PKP2
BRATISLAVA	150.58	344.6	19 55	9					20 39	
KARLSRUHE	151.11	356.6	19 57	10					20 25	
JERUSALEM	151.27	299.8	19 55	8						
STUTTGART	151.29	355.4	19 51	4					20 13	
STRASBOURG	151.57	357.4	19 58	10						
EBINGEN	151.90	355.6	19 56	8					20 16	
FLORENCE X.	155.99	350.4	20 23	29						
ALGIERS UNI.	163.23	7.9	19 5	-57					20 53	
RELIZANE	163.75	15.7	20 19	15					21 11	PKP2
TAMANRASSET	177.33	7.3	20 3	-7					25 46	

FEBRUARY 2 11.H 45.M 37.S EPICENTRE -21.41 169.58 DEPTH= 0.KM

A=-0.91645 B= 0.16857 C=-0.36292 D= 0.1809 E= 0.9835
G= 0.3569 H=-0.0657 K=-0.9318 HT= 4.3

SE= 2.95

	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
NOUMEA	3.04	252.5	0	52	2	1	27	-1				
SUVA	8.94	70.3	2	15	2	3	23	-33			2	49
AUCKLAND	16.06	164.7	3	51	2	6	49	1				
BRISBANE	16.24	244.9	3	52	1	7	6	14				
TONGARIRO	18.45	165.3	4	13	-6							
TUAI	18.51	161.1	4	15	-4	7	47	3				
APIA	19.30	70.0	4	34	5						4	51
COBB RIVER	19.79	172.9	4	41	7	8	3	-9				
WELLINGTON	20.29	168.7	4	36	-4	8	31	8				
RIVERVIEW	20.45	228.9	4	43K	2	8	32	6	4	52	5	13 PPP
KAIMATA	21.10	176.2	4	47	-1	8	30	-11				
CHRISTCHURCH	22.20	174.1	4	43	-16	9	7	7			7	3
GEBBIES PASS	22.37	174.1	5	3	2	9	0	-3				
MELBOURNE	26.81	227.0	5	45	1	10	22	3			6	42 PP
PERTH	48.73	245.8									16	3
KYOTO	64.67	329.6	11	11	29							
MATUSIRO	64.81	332.4	10	35K	-8							
MIZUSAWA	65.85	336.0	10	40	-9						11	6
CANTON	70.45	305.6	11	20	2	20	35	4				
CHANGCHUN	76.56	328.7	11	54	0							
PEKING	78.81	321.1	12	6	0	22	7	3				

LICK	87.16	48.1	12	35	-14			13	31
KING RANCH	87.53	50.6	12	51	0				
PASADENA	88.12	52.2	12	51	-3			23	52
SHASTA	88.32	44.9	12	55	0			13	15
WOODY	88.34	50.6	12	54	-1			13	14
BARRETT	88.58	54.1	12	51	-5			13	16
RIVERSIDE	88.63	52.7	12	56	0			13	15
MINERAL	88.67	45.5	12	56	0			13	14
PALOMAR	88.73	53.4	12	55	-2			13	15
CHINA LAKE	89.30	50.9	13	0	1			13	21
TINEMAHA	89.42	49.6	13	0	0			13	22
HAYFIELD	89.81	53.6	13	6	4			13	24
BOULDER CITY	91.39	51.8	13	8	-1			13	41
COLLEGE	92.02	16.8	13	8	-4			13	46
EUREKA	92.09	48.3	13	11	-1			13	31
TUCSON	92.87	56.6	13	21	5				
HUNGRY HORSE	97.13	40.8	14	18	43				
QUETTA	110.97	295.2	19	2	27				
OTTAWA	122.13	49.1	18	55K	-2				
PALISADES	123.51	54.3	16	49	-130	25 57	-4	20	45 PP
SHAWINIGAN	124.13	47.6	18	59	-2				
KIRUNA	129.75	345.3	19	10	-1				
LWIRO	135.01	243.3	19	22	1				
KSARA	137.48	297.1	19	30	4			22	28 PP
SOFIA	144.72	314.8	19	39	0			20	7
PRAGUE	145.32	331.6	19	40	0			20	35 PP
BRATISLAVA	145.37	327.0	19	38	-2			20	13
JENA	145.87	335.0	19	42	1				
WITTEVEEN	146.00	341.4	19	42	1				
RATHFARNHAM	148.01	355.3	19	53	9			20	19
STUTTGART	148.52	334.8	19	49	4				
KARLSRUHE	148.63	335.9	19	49A	4				
KEW	148.99	347.7	19	49	3				
EBINGEN	149.08	334.4	19	49	3				
STRASBOURG	149.23	336.1	19	51	5				
PARIS	150.78	342.4	19	55	7				
BESANCON	151.00	336.6	19	41	-8				
MESSINA	152.07	312.6	19	55	5			23	49 PP
MONACO	153.25	330.4	20	0	8				
ALGIERS UNI.	160.72	325.5	20	8	7			24	34
RELIZANE	162.79	328.5	20	5	2			21	5 PKP2
GRANADA	163.21	340.8	17	12A	-172				
TAMANRASSET	165.16	278.2	20	7	1			21	7 PKP2
MBOUR	170.64	137.2	20	21	12			21	39 PKP2

FEBRUARY 3 17.H 24.M 48.S EPICENTRE 53.7C 159.14 DEPTH= 0.KM

A=-0.55490 B= 0.21141 C= 0.80461 D= 0.3560 E= 0.9345
G=-0.7519 H= 0.2865 K=-0.5938 HT= -6.8

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
PETROPAVLOVK	0.69	205.4	0	14	-3	0	23	-6				
KLYUCHI	2.73	19.4	0	50	4	1	32	12			1	43 SG
MAGADAN	7.40	325.0	1	54A	2	3	31	13			2	34 PG
KURILSK	11.24	225.1	2	44A	-1	4	58	5				
UGLEGORSK	11.63	253.2	2	52K	1	5	22	20				
Y.-SAKHLINSK	12.49	243.6	3	2A	0	5	35	12				
NEMURO	13.74	226.1	3	21	2							
ABASHIRI	13.78	231.0	3	18	-1	5	56	2				
WAKKANAI	14.04	240.6	3	25	2	6	14	14				
KUSIRO	14.54	228.1	3	38	9	6	26	14				
ASAHIGAWA	14.86	234.6	3	36	3							
OBIHIRO	15.12	230.7	3	53	16							
SAPPORO	15.89	234.9	3	47	0	6	50	6				
URAKAWA	15.92	229.8	3	54	7	6	53	8				
TOMAKOMAI	16.19	233.1	3	48	-3							
MURORAN	16.63	233.9									7	20
SUTTSU	16.64	236.4	3	56	0	7	14	13				
MORI	17.00	234.2	3	51	-10	7	28	18				
HAKODATE	17.17	233.2	3	56	-7							
AOMORI	17.89	231.1	4	19	7	7	56	26				
MIYAKO	18.31	226.5	4	16	-1							
MORIOKA	18.62	228.2	4	15	-6	7	40	-7				
AKITA	19.08	230.3	5	12	45							
SAKAIA	19.87	229.4									8	12
SENDAI	19.92	226.3	4	34	-2	8	22	6				

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HUKUSIMA	20.54	226.3	4	40	-3			
VLADIVOSTOK	20.84	250.4	4	43	-3	8	37	2
NIIGATA	21.02	229.2	5	7	19			
ONAHAMA	21.03	224.3	4	46	-2			
AIKAWA	21.30	230.8	4	50	-1	8	43	0
SUIHWA	21.65	263.9	4	57	3			
UTUNOMIYA	21.81	225.7	4	54	-2			
TAKADA	22.06	229.4	4	58	0			
TIKSI	22.23	335.0	5	3	3	9	9	8
MAEBASI	22.28	226.9	5	1	0	9	10	8
KUMAGAYA	22.35	226.0	5	10	9	9	16	13
NAGANO	22.43	228.9	5	4	2	9	13	9
WAZIMA	22.45	232.2	5	12	10	9	9	4
MATUSIRO	22.53	228.6	5	1A	-2	9	12	6
OIWAKE	22.56	227.8	5	5	2			
TOKYO C.M.O.	22.60	224.7	5	0	-4	9	15	8
TOYAMA	22.86	230.6	5	3	-3	9	17	5
MATUMOTO	22.89	228.7	5	7	0	9	16	3
KOHU	23.14	226.8	5	10	1	9	14	-3
HUNATU	23.17	226.2	4	55	-14	9	20	2
MERA	23.22	223.6	5	21	11			
SHIZUOKA	23.78	226.2	5	16	1	9	17	-11
HUKUI	23.82	231.2	5	18	2			
GIHU	24.13	229.5	5	18	-1	9	38	4
CHANGCHUN	24.19	259.6	5	17	-2	9	37	2
NAGOYA	24.23	228.9	5	15	-5			
HIKONE	24.48	230.2	5	24	2	9	44	4
KAMEYAMA	24.73	229.3	5	25	1	9	54	9
KYOTO	24.92	230.7	5	28	2	9	54	6
TOYOOKA	24.93	232.9	5	26	0			
NARA	25.16	230.1	5	34	5			
OSAKA	25.32	230.6	5	28	-2			
KOBE	25.46	231.1				10	7	10
OWASE	25.50	228.7	5	32	0			
YONAGO	25.71	235.0				10	23	22
SUMOTO	25.87	231.2				10	19	15
TOKUSIMA	26.24	231.3	5	39	0	10	17	7
TAKAMATU	26.28	232.4	5	38	-1			
HAMADA	26.76	236.2				14	8	229
KOTI	27.16	232.3	5	46	-1	10	29	4
COLLEGE	28.35	45.9	5	57	-1	10	43	-1
KAGOSIMA	30.21	234.3	6	14	-1			
KABANSK	31.12	288.6	6	23K	0			
PEKING	31.89	262.2	6	28	-1	11	44	4
KWANTING	32.10	263.0	6	32	1			
IRKUTSK	32.33	290.1	6	35K	2			
TATUNG	33.55	264.9	6	49	5			
ZO-SE	35.40	245.6	7	0	0	12	36	1
TAIYUAN	35.46	262.5	7	2	2			
NANKING	35.98	249.3	7	2	-3	12	44	0
SITKA	36.08	57.6	7	7	1	12	38	-7
YINCHUAN	38.76	268.8	7	32	4			
TAIPEI	40.08	239.3	12	4	265	19	34	348
WUWEI	41.27	271.1	7	50	1			
RESOLUTE	42.92	22.0	8	2K	0	14	21	-7
YUMEN	43.05	278.0	8	7	4			
CANTON	46.02	246.7	8	26	-1			
HONG KONG	46.16	245.2	8	30	2			
HORSESHOE B.	46.17	62.2	8	32	4			
SEMIPALATNSK	46.25	299.6	8	29	0	15	17	1
VICTORIA	46.62	63.2	8	31K	-1	15	24	3
SEATTLE	47.74	63.6	8	44	3	15	42	5
BAGUIO CITY	47.81	233.9	8	39	-2	15	41	3
CORVALLIS	49.14	57.3	8	50	-2			
MANILA	49.21	232.2	8	58	6	15	57	-1
SVERDLOVSK	51.41	315.9	9	10A	1			
HUNGRY HORSE	51.58	58.2	9	11	1			
SHASTA	52.20	70.5	9	15K	0			
SASKATOON	52.66	50.6	9	17	-1	16	49	4
UKIAH	52.80	72.5	9	23	4			
MINERAL	52.88	70.3	9	21K	1			
BUTTE	53.88	59.6	9	28	1	17	3	1
FRUNSE	54.06	295.3	9	30A	1	17	7	2
BERKELEY	54.21	73.0	9	31K	1	17	13	6
RENO	54.43	69.9	9	33	2			
SANTA CLARA	54.75	73.3				17	23	9
BOZEMAN	54.90	59.0	9	36	1	17	17	1
KIRUNA	54.90	342.2	9	33	-2			

5	43	PPP	
9	38		
7	40	PP	
14	12	SSS	
8	14	PP	
8	34	PP	
8	30	PP	
10	28	PP	
11	11	PP	
10	26	PCP	
21	9	SS	
10	56		

LICK	54.94	73.0	9	36K	1					
FRESNO	56.38	72.3	9	46K	0					
EUREKA	56.60	67.4	9	48	1				39	26 PKPPKP
TINEMAHA	57.06	71.0	9	52	2	17	51	7	13	24 PP
SALT LAKE C.	57.91	63.7	9	58	2	18	1	5	11	15
CHINA LAKE	58.30	71.6	10	0	1	18	7	6	39	45 PKPPKP
CHATRA	58.30	273.0	9	55	-4	17	57	-4		
PASADENA	59.18	73.3	10	5	0	18	17	5	13	50 PP
PULKOVO	59.63	332.8				18	19	1		
BOULDER CITY	59.74	69.5	10	10	1	18	32	13		
RIVERSIDE	59.75	72.9	10	9A	0	18	20	0	39	43 PKPPKP
RAPID CITY	59.95	55.6	10	11	0	18	27	5	12	41 PP
SKALSTUGAN	60.19	343.6	10	15A	3					
STALINABAD	60.24	295.4	10	11	-2					
PALOMAR	60.51	73.0	10	14	0				39	51 PKPPKP
MOSCOW	60.80	326.5	10	15	-1	18	33	0	12	45 PP
HAYFIELD	60.94	71.9	10	20	3					
BARRETT	61.11	73.4	10	18	-1				13	55 PP
BOULDER	61.88	60.1	10	21	-3					
LAHORE	62.30	286.2	10	24	-3					
UPPSALA	62.62	339.3	10	28	-1					
NEW DELHI	62.86	281.9	10	28	-2	19	4	5	13	8 PP
BAIRAM-ALI	64.46	299.1	10	39	-2				13	0 PP
TUCSON	64.72	69.6	10	43	1	19	24	2	11	57
KIRKLAND LA.	66.80	38.7	10	54	-2					
QUETTA	67.49	290.5	10	59	-1	19	55	-1	13	29 PP
COPENHAGEN	67.54	340.3	11	1K	1				25	0 SS
WARSAW	68.75	333.9	11	50	42					
TIFLIS	69.50	313.3	11	13	0				21	15 SCS
HAMBURG	70.02	341.0	11	16	0					
FLORISSANT	70.14	51.1	11	17K	0	20	25	-3	21	9 SKS
ST. LOUIS 1	70.33	51.1	11	15A	-3	20	31	1	13	56 PP
FAYETTEVILLE	70.49	55.4	11	18K	-1				11	40 PCP
GORIS	70.63	310.9	11	18	-2	20	33	0	14	0 PP
HYDERABAD	70.66	273.2							30	7
OTTAWA	70.72	37.6	11	19K	-1					
SHAWINIGAN	70.76	35.1	11	19K	-1					
SEVEN FALLS	70.92	33.6	11	19	-2	20	33	-4		
SIMFEROPOL	71.06	322.1	11	23	1				21	16 PS
IASI	71.36	327.4	11	22	-2				11	28 PCP
RACIBORZ	71.44	334.6	11	26	2					
BUFFALO L.	71.78	40.9	11	23	-3					
CLEVELAND	71.80	43.6	11	26	-1	20	21	-26		
JENA	72.19	339.1	11	28	-1				11	46 PCP
PRAGUE	72.37	337.0	11	30	0	20	48	-5	14	30 PP
POONA	72.52	277.5	11	29	-2	20	39	-16	14	9 PP
RATHFARNHAM	72.63	350.9	11	52K	21					
BOMBAY	72.84	278.6	11	30	-3	20	43	-16	14	19 PP
MADRAS	73.10	269.0							14	23 PP
BRATISLAVA	73.48	334.6	11	33	-3					
BUDAPEST	73.60	333.0							23	12 SCS
PENNSYLVANIA	73.84	41.5	11	38	-1	21	14	4		
MORGANTOWN	74.00	43.6	11	40	1					
BUCHAREST	74.30	327.0	11	40	-1					
KARLSRUHE	74.66	340.5	11	52	9					
STUTTGART	74.73	339.9	11	43	-1				21	54 PS
WESTON	74.91	36.3	11	46A	1					
TUBINGEN	74.99	339.9	11	44	-1					
PALISADES	75.18	38.7	11	46	0	21	38	13	14	31 PP
STRASBOURG	75.20	340.8	11	48A	2					
FORDHAM	75.33	38.8	11	45	-2	21	25	-1		
EBINGEN	75.34	339.9	11	47	0				11	57 PCP
HALIFAX	75.42	30.1	11	48A	0					
PHILADELPHIA	75.62	40.1	11	49	0	21	25	-5	26	22 SS
BELGRADE	75.65	331.0	11	54	5				12	8 PCP
PARIS	75.92	344.3	11	52	1					
BASLE	76.24	340.6	11	50	-2					
TRIESTE	76.67	335.8	11	53	-2				14	26 PP
SOFIA	76.72	328.1	11	53	-2					
BESANCON	76.82	341.6	11	38	-18					
CHAPEL HILL	77.53	44.9	11	59	-1					
CLERMONT-FD.	78.76	343.1	12	6	0					
FLORENCE X.	79.02	336.9	12	7	-1	22	38	31		
MONACO	79.31	339.6	12	14	1					
KSARA	79.94	315.0	12	16	3				17	14 PPP
ROME	80.50	335.4	12	14	-2					
TARANTO	80.58	331.5	12	6	-10	22	6	-17		
BRISBANE	81.07	185.5	12	18	-1					

TACUBAYA	81.23	69.3	12	31	12	22	14	-16	15	20 PP
JERUSALEM	81.98	314.5	12	26	3					
CUGLIERI	83.06	337.7							24	13 PS
MESSINA	83.17	331.9	12	28	-2	22	49	0	31	3 SSS
TOLEDO	85.62	347.1	12	43	1				15	59 PP
BERMUDA	86.20	36.0	12	46	1	23	21	2	15	17 PP
ALICANTE	86.56	344.1	12	50	4				21	59
RIVERVIEW	87.50	186.7	12	52A	1	23	40	8	23	18 SKS
GRANADA	88.21	346.3	12	48A	-6	24	18	40	29	18 SS
ALMERIA	88.37	345.3	12	50	-5	23	30	-10		
MELBOURNE	92.04	191.2	13	13	1	24	22	9		
TAMANRASSET	100.44	335.4	13	49	-2				18	1 PP
HUANCAYO	120.29	67.2	18	58	4					
PRETORIA	134.32	287.8	19	23	3					
KIMBERLEY	138.55	288.5	19	21	-7					
GRAHAMSTOWN	140.92	282.0	19	32	0					

FEBRUARY 3 22.H 58.M 22.S EPICENTRE 53.69 159.12 DEPTH= 0.KM

A=-0.55574 B= 0.21203 C= 0.80387 D= 0.3565 E= 0.9343
G=-0.7511 H= 0.2866 K=-0.5948 HT= -6.8

SE= 1.72

	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	2.81	19.2	0	51	4	1	36	14			1	44	SG
MAGADAN	7.45	325.4	1	53	0								
KURILSK	11.18	225.3	2	44A	0								
UGLEGORSK	11.60	253.5	2	52A	2								
Y.-SAKHLINSK	12.44	243.8	3	1A	0						5	34	*SS
VLADIVOSTOK	20.80	250.5	4	43	-2						8	44	
SUIHWA	21.63	264.0	5	0	6								
TIKSI	22.28	335.1	5	1	1				5	34	9	13	*SS
MATUSIRO	22.47	228.7	5	3K	1	9	11	6					
CHANGCHUN	24.16	259.7	5	18	-1	9	47	12					
COLLEGE	28.41	45.8	5	57	-1	10	48	3			7	12	PP
KABANSK	31.12	288.7	6	23K	1						11	34	*SS
PEKING	31.86	262.3	6	27	-2								
IRKUTSK	32.34	290.2	6	33K	0						11	51	*SS
NANKING	35.94	249.4	7	8	4	12	54	11			17	22	SCS
SITKA	36.13	57.5	7	9	3						8	42	PP
RESOLUTE	43.00	22.0	8	1K	-2								
HONG KONG	46.12	245.2				14	38	-36					
SEMIPALATNSK	46.28	299.7	8	28	-1						10	20	PP
VICTORIA	46.66	63.2	8	34	2	15	32	10			10	26	PP
BAGUIO CITY	47.75	233.9	7	38	-63								
SEATTLE	47.79	63.5	8	43	2						16	14	PPS
SVERDLOVSK	51.45	316.0	9	9	0						10	27	PCP
HUNGRY HORSE	51.64	58.2	9	10	0						10	26	PCP
SHASTA	52.24	70.5	9	12A	-3								
UKIAH	52.84	72.5	9	20	0								
MINERAL	52.92	70.3	9	21A	0								
BUTTE	53.93	59.5	9	27	-1								
FRUNSE	54.08	295.4	9	29A	0								
BERKELEY	54.25	72.9	9	31A	1	17	14	7					
RENO	54.47	69.8	9	32K	0								
BOZEMAN	54.95	58.9	9	36	1								
KIRUNA	54.96	342.2	9	35	0								
LICK	54.97	73.0	9	37A	2								
FRESNO	56.42	72.2	9	45	-1								
EUREKA	56.64	67.4	9	47	0								
TINEMAHA	57.10	70.9	9	51A	0								
SALT LAKE C.	57.96	63.6	9	56	-1						39	46	PKPPKP
TASHKENT	57.99	297.3	9	54	-3								
CHINA LAKE	58.34	71.5	9	59A	0								
PASADENA	59.22	73.2	10	4	-1	18	24	11			39	3	PKPPKP
BOULDER CITY	59.78	69.5	10	10	1						12	43	PP
RIVERSIDE	59.79	72.8	10	9A	0						13	49	PPP
RAPID CITY	60.00	55.6	10	11	0						39	38	PKPPKP
STALINABAD	60.26	295.4	10	11	-2								
PALOMAR	60.55	72.9	10	14	0								
HAYFIELD	60.98	71.8	10	19	2						14	8	PPP
BARRETT	61.15	73.3	10	18A	-1						39	32	PKPPKP
BOULDER	61.93	60.0	10	25	1								
UPPSALA	62.68	339.3	10	29K	0								
BAIRAM-ALI	64.48	299.1	10	40	-1								
TUCSON	64.76	69.5	10	44	2								

KIRKLAND LA.	66.87	38.7	10	56	0					
QUETTA	67.50	290.5	10	59	-1	19	53	-3	13 30	PP
TIFLIS	69.54	313.3	11	13	0				20 28	*SS
HAMBURG	70.08	341.0	11	18	2					
LWOW	70.14	330.9	11	16	0					
FAYETTEVILLE	70.55	55.4	11	19A	0					
GORIS	70.67	310.9	11	19	-1					
OTTAWA	70.78	37.6	11	21	1					
SHAWINIGAN	70.83	35.1	11	20A	-1					
SIMFEROPOL	71.11	322.1	11	22	0					
IASI	71.40	327.4	11	24	0					
RACIBORZ	71.50	334.6	11	14	-11					
JENA	72.27	339.1	11	29	0					
PRAGUE	72.43	337.0	11	30	0				11 46	PCP
POONA	72.51	277.5	11	29	-2					
BRATISLAVA	73.54	334.6	11	34	-3					
MORGANTOWN	74.07	43.5	11	40	0					
STUTTGART	74.80	339.9	11	43	-1					
TUBINGEN	75.05	339.9	11	46	1					
PALISADES	75.24	38.7	11	45	-1	21	20	-5	14 12	PP
STRASBOURG	75.26	340.8	11	48	1					
EBINGEN	75.40	339.9	11	47	0					
HALIFAX	75.49	30.0	11	48	0					
BELGRADE	75.71	331.0	11	50K	1					
PARIS	75.98	344.3	11	52	1					
BASLE	76.30	340.6	11	50	-2	21	36	-1		
BESANCON	76.88	341.6	11	40	-16					
CHAPEL HILL	77.59	44.9	11	59	-1					
CLERMONT-FD.	78.83	343.1	12	8	2					
FLORENCE X.	79.08	336.9	12	5	-3	22	27	20		
MONACO	79.97	339.6	12	13	0					
ROME	80.56	335.4	12	15	-1					
TARANTO	80.63	331.5	13	33	77					
TACUBAYA	81.27	69.3				22	21	-9	16 25	PP
JERUSALEM	82.02	314.5	12	26	3					
MESSINA	83.22	331.9	12	29	-1					
RIVERVIEW	87.43	186.6	12	50A	0					
TAMANRASSET	100.50	335.3	13	51	0				18 0	PP
MBOUR	112.13	355.9	14	36	-241					
KIMBERLEY	138.56	288.4	19	24	-4					

FEBRUARY 4 9.H 1.M 55.S EPICENTRE 9.47 -83.82 DEPTH= 72.KM

DEPTH OF FOCUS= 0.006R

A= 0.10616 B=-0.98081 C= 0.16352 D=-0.9942 E=-0.1076
G= 0.0176 H=-0.1626 K=-0.9865 HT= 0.6

SE= 2.37

	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	
BALBOA HTS.	4.24	96.6	1	1	-2	1	49	-3					
SANTIAGO MA.	6.06	311.7	1	24	-5	2	31	-6					
SAN SALVADOR	6.78	309.1	1	37	-2	3	9	14					
CHINCHINA	9.28	118.2	2	11	-2	4	2	5			2	28	PP
COMITAN	10.53	310.6	3	19	49								
MERIDA	12.70	334.6	3	3	4						5	39	
TACUBAYA	17.85	305.3	4	9	4						5	33	
SAN JUAN	19.31	60.8	4	22	1	7	56	6	4	42	8	29	
TRINIDAD	21.99	85.0	4	51	2								
ST. VINCENT	22.41	78.5	4	55	2								
DOMINICA	22.64	73.0	4	59	4								
HUANCAYO	22.99	158.3	5	1	2	9	17	17	5	12	6	1	*SPP
BARBADOS	24.02	79.1	5	11	2								
COLUMBIA	24.54	5.6	5	15	1								
CHAPEL HILL	26.68	8.6	5	33	-1						5	59	
FAYETTEVILLE	28.12	342.0	5	45K	-2						6	3	PP
BERMUDA	28.87	35.1				10	25	-12					
LUBBOCK	29.17	328.0	6	16	20								
LA PAZ	30.12	148.9	6	5	0	10	55	-2			13	37	
MORGANTOWN	30.23	5.9	6	7	1								
PALISADES	32.61	14.0	6	28	2								
TUCSON	33.74	316.1	6	36	0						7	55	
BOULDER	35.94	331.4	6	54	-1								
OTTAWA	36.47	9.6	7	OK	1								
HAYFIELD	37.89	314.3	7	13	2								
BARRETT	38.11	312.2	7	15	2						7	27	

SHAWINIGAN	38.13	12.4	7 14	1				
RAPID CITY	38.36	337.3	7 15	0				
PALOMAR	38.58	313.0	7 17	0			7 33	
BOULDER CITY	38.60	318.0	7 18	1				
KIRKLAND LA.	38.68	4.0	7 18	0				
RIVERSIDE	39.28	313.5	7 24	1			7 56	
SALT LAKE C.	39.85	326.1	7 48	20				
PASADENA	39.93	313.2	7 29	1			7 43	
CHINA LAKE	40.38	315.8	7 33	1				
WOODY	41.20	314.8	7 38	-1				
EUREKA	41.41	321.5	7 40	0				
TINEMAHA	41.48	317.0	7 44	3				
FRESNO	42.39	315.6	7 49	1			8 21	
RENO	43.87	319.0	8 0	0				
BUTTE	43.95	331.1	7 58	-3			10 1	
LICK	43.95	315.2	8 2K	1				
BERKELEY	44.64	315.6	8 7	0				
MINERAL	45.46	318.9	8 12	-1				
HUNGRY HORSE	46.33	332.4	8 19	-1				
RESOLUTE	65.48	356.8	10 34K	-3				
COLLEGE	70.58	336.0	11 7	-2				
GRANADA	76.57	54.0	12 5	21				
RELIZANE	79.99	55.3	11 51	-12				
ALGIERS UNI.	81.91	54.1	11 54	-19		12 26		
SKALSTUGAN	84.30	26.6	12 16	-9				
EBINGEN	84.88	42.2	12 28	0			12 42 PCP	
STUTTGART	84.94	41.5	12 28	0			12 41 PCP	
TAMANRASSET	85.79	67.7	12 33	1		13 3	12 51 PCP	
JENA	86.11	39.2	12 34	-1				
KIRUNA	86.61	21.6	12 49	13				
UPPSALA	87.58	29.7	12 54	13				
PRAGUE	88.06	39.6	12 36	-7				
BRATISLAVA	90.21	41.1	12 48	-5				
QUETTA	131.58	34.4					19 7	
SHILLONG	144.92	6.8	19 30	1				

FEBRUARY 4 10.H 28.M 25.S EPICENTRE 50.86 160.41 DEPTH= 0.KM

A=-0.59717 B= 0.21247 C= 0.77346 D= 0.3352 E= 0.9421
G=-0.7287 H= 0.2593 K=-0.6338 HT= -5.7

SE= 2.07

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KLYUCHI	5.48	2.1	1 25A	0	2 31	1		1 35 *SP
KURILSK	10.11	241.0	2 32	2				2 44 *SP
MAGADAN	10.29	331.6	2 35	3				
UGLEGORSK	11.95	268.6	2 56A	1	5 16	6		
Y.-SAKHLINSK	12.28	258.3	3 0A	1	5 16	-2		3 11 *SP
VLADIVOSTOK	20.84	259.3	4 43	-3	8 48	14		
MATUSIRO	21.38	236.6	4 52	0	8 53	8		
1IKSI	25.20	337.1	5 30	1	9 50	-3		5 39 *SP
COLLEGE	29.90	42.3	6 11	-1				
IRKUTSK	34.16	294.7	6 50A	1				8 6 PP
RESOLUTE	45.34	21.2	8 21	-1				
HONG KONG	45.75	249.0			15 15	6		
VICTORIA	47.27	61.5	8 38	1				
SEMIPALATNSK	48.42	302.5	8 48	2				
SHASTA	52.47	69.2	9 17	0				
HUNGRY HORSE	52.48	57.0	9 17	0				
UKIAH	52.96	71.3	9 22	1				
MINERAL	53.15	69.1	9 17	-5				
SVERDLOVSK	54.06	318.0	9 28K	-1				
BERKELEY	54.35	71.8	9 32	1				23 35 L
BUTTE	54.71	58.5	9 34	0				
RENO	54.73	68.8	9 35	1				
LICK	55.07	71.9	9 37A	1				
FRUNSE	56.07	297.9	9 42K	-1				
FRESNO	56.55	71.3	9 46K	-1				
EUREKA	57.02	66.5	9 50	0				
SHILLONG	57.22	271.1	9 54	2	17 45	-2		
TINEMAHA	57.29	70.0	9 53	1				
WOODY	57.83	71.6	9 57	1				
KIRUNA	57.90	343.3	9 54A	-2				
CHINA LAKE	58.50	70.7	10 2	1				
SALT LAKE C.	58.52	62.9	10 1	0				
PASADENA	59.29	72.5	10 5	-1				

CHATRA	59.30	275.7	10	5	-1					
RIVERSIDE	59.88	72.1	10	9	-1					
BOULDER CITY	60.04	68.8	10	11	0					
TASHKENT	60.05	299.6	10	10	-1	18	18	-6	22 3	SS
PALOMAR	60.63	72.3	10	14	-1					
RAPID CITY	60.96	55.0	10	17	-1					
HAYFIELD	61.13	71.2	10	22	3					
BARRETT	61.21	72.7	10	19	0				10 43	
STALINABAD	62.24	297.7	10	27	1	18	52	1		
DEHRA DUN	62.53	285.0							18 55	
BOULDER	62.67	59.5	10	30	1					
SKALSTUGAN	63.20	344.7	10	36	3					
MOSCOW	63.66	327.9	10	34	-2					
LAHORE	63.92	288.5	10	36	-1					
TUCSON	65.01	69.2	10	45	1					
UPPSALA	65.61	340.4	10	47A	-1					
ASHKABAD	68.35	303.7	11	5	-1	20	5	-1		
KIRKLAND LA.	68.58	38.7	11	6	-1					
LUBBOCK	69.23	62.2	11	10	-1					
QUETTA	69.29	292.5	11	10	-1	20	16	-2		
TIFLIS	72.08	314.8	11	28	0					
OTTAWA	72.54	37.8	11	29A	-2				14 11	PP
SHAWINIGAN	72.69	35.4	11	30A	-2					
HAMBURG	73.02	342.1	11	43	9					
GORIS	73.15	312.4	11	36	1	21	3	1		
POONA	73.72	279.4	11	38	0	21	10	1	14 8	PP
BOMBAY	74.08	280.4	11	40	0	21	14	1		
JENA	75.19	340.2	11	46	0					
PRAGUE	75.35	338.1	11	49	2				14 20	PP
MORGANTOWN	75.56	43.9	11	49	0					
BRATISLAVA	76.45	335.7	11	48	-6					
PALISADES	76.95	39.1							30 59	
STUTTGART	77.73	341.0	12	0	-1					
CHAPEL HILL	79.03	45.4	12	7	-1					
COLUMBIA	79.70	47.9	12	10	-1					
KSARA	82.57	316.2	12	29	2				12 51	
MELBOURNE	89.35	192.2	13	2	2					
TAMANRASSET	103.41	336.3	14	2	-2				18 16	PP

FEBRUARY 5 4.H 51.M 22.S EPICENTRE 25.66 -45.35 DEPTH= 0.KM

A= 0.63431 B=-0.64207 C= 0.43058 D=-0.7114 E=-0.7028
G= 0.3026 H=-0.3063 K=-0.9026 HT= 3.2

SE= 2.58

	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	
BERMUDA	18.17	296.1	4	17	2	7	14	-22			5	24	PP
DOMINICA	18.21	238.6	4	16	1								
BARBADOS	18.31	229.8	4	21	4								
ST. LUCIA	18.70	234.8	4	22	1								
ST. VINCENT	19.46	233.3	4	32	2								
SAN JUAN	20.56	253.5	4	42	0	8	44	16					
TRINIDAD	21.37	228.7	4	52	1								
HALIFAX	24.00	326.7	5	19A	2	9	45	13					
PALISADES	28.19	310.0	5	56	0	10	43	2			7	11	PPP
PHILADELPHIA	28.68	307.2	6	3	3	10	56	7					
MBOUR	28.86	107.4	6	2	0	11	1	9			7	15	PP
SEVEN FALLS	29.44	323.3	3	1	-187	7	36	-205					
SHAWINIGAN	30.19	320.8	6	13A	-1								
PENNSYLVANIA	30.91	307.4	6	28	8	11	34	10					
OTTAWA	31.32	316.7	6	24A	0	11	42	11			7	20	PP
COLUMBIA	31.93	293.6	6	30	1	11	47	7			7	26	PP
PITTSBURGH	32.30	305.8	5	34A	-58								
BOGOTA	34.57	237.6									7	56	PP
KIRKLAND LA.	35.26	318.6	6	59K	1								
CHINCHINA	35.55	239.8	6	56	-4	12	42	6					
MALAGA	36.48	62.3	7	13A	5	12	43	-8					
GRANADA	37.16	61.7	7	18K	4	12	45	-16			10	12	PCP
TOLEDO	37.18	57.2	7	19	5								
ALMERIA	38.03	62.4	7	23	2						8	51	PP
ALICANTE	39.74	60.2	7	37	1	13	42	2					
RATHFARNHAM	40.09	36.0	7	45K	6								
RELIZANE	40.41	64.3	7	43	2								
ALGIERS UNI.	42.45	62.8	7	56	-2						9	25	PP
FAYETTEVILLE	42.81	296.2	8	2K	1								
DURHAM	43.23	35.8	7	6	-58								

CLERMONT-FD.	43.42	49.7	8	7	1					
PARIS	43.65	45.2	8	7	-1					
BESANCON	45.62	48.1	8	8	-15					
MONACO	46.18	53.1	8	29	1					
TAMANRASSET	46.25	82.3	8	29	1	15	21	6	10	18 PP
SCORESBY SD.	46.85	10.5	8	34	1					
STRASBOURG	47.03	46.6	8	35	0					
VERA CRUZ	47.15	273.0	8	56	20					
WITTEVEEN	47.21	40.7	8	37K	1					
LA PAZ	47.41	210.3	8	37	-1	15	38	6		
HUANCAYO	47.51	221.5	8	36	-2	15	48	15	10	16 PCP
KARLSRUHE	47.51	46.1	8	39K	1					
EBINGEN	47.76	47.3	8	41	1					
STUTTGART	47.99	46.5	8	41	-1					
FLORENCE X.	48.95	53.3	8	40	-10	15	26	-28		
LUBBOCK	49.24	293.2	8	54	2	16	1	3		
HAMBURG	49.32	40.3	8	53	1					
JENA	49.85	43.9	8	55	-3				10	24 PP
TACUBAYA	49.86	274.4	8	40	-17					
RAPID CITY	49.86	307.0	9	1	4				10	55 PP
TRIESTE	50.80	51.0	9	2	-2				11	1 PP
COPENHAGEN	51.15	38.0	9	8K	2					
BOULDER	51.47	301.8	9	8	-1					
PRAGUE	51.54	45.3	9	10	1					
MESSINA	52.34	60.4	9	13	-2	16	38	-2		
SKALSTUGAN	53.04	28.2	9	17K	-4					
BRATISLAVA	53.18	47.9	9	11	-11					
RACIBORZ	53.96	45.5	9	20	-7				11	58 PP
UPPSALA	54.64	33.5	9	30	-2					
RESOLUTE	55.20	345.7	9	34K	-3	17	55	36		
SALT LAKE C.	56.40	303.3	9	44	-1					
BUTTE	56.47	309.6	9	48	2					
TUCSON	56.91	293.0	9	48	-1	17	56	14		
HUNGRY HORSE	57.34	312.4	9	49	-3					
KIRUNA	57.39	24.3	9	52	0					
SOFIA	57.80	54.2	9	54	-1					
BOULDER CITY	59.44	298.1	10	6	0	18	26	11		
BUCHAREST	59.60	52.0	10	7	-1				12	23 PP
EUREKA	59.71	302.3	10	8	0				10	57 PCP
IASI	60.29	48.6	10	6	-7					
HAYFIELD	60.55	295.7	10	14	0					
PALOMAR	61.63	295.6	10	21	0				11	8 PCP
BARRETT	61.63	294.8	10	20	-1				11	8 PCP
CHINA LAKE	61.67	298.4	10	21	-1				39	24 PKPPKP
RIVERSIDE	61.90	296.4	10	21	-2				39	39 PKPPKP
TINEMAHA	61.91	299.9	10	23	0					
PASADENA	62.51	296.7	10	26	-1	19	16	22	39	37 PKPPKP
RENO	62.61	303.0	10	26	-2					
WOODY	62.70	298.6	10	19	-10					
SEATTLE	62.93	312.3	11	5	35					
FRESNO	63.20	299.9	10	30	-2					
VICTORIA	63.54	313.4	10	32K	-2	19	18	11		
MINERAL	63.79	304.2	10	34K	-2					
CORVALLIS	64.16	309.1	10	40	2					
SHASTA	64.31	304.7	10	36	-3					
LICK	64.50	300.9	10	40K	0					
BERKELEY	64.85	301.6	10	44	1	19	31	8		
UKIAH	65.28	303.2	10	46	1					
MOSCOW	65.32	38.2	10	45	-1					
KSARA	69.32	61.6	11	12	1					
JERUSALEM	69.41	63.8	11	12	1					
COLLEGE	72.17	334.0	11	25	-3					
LWIRO	76.73	99.0	11	53K	-1					
SVERDLOVSK	77.11	32.8	11	56	-1					
QUETTA	94.66	53.5	13	24A	0					

FEBRUARY 5 17.H 20.M 24.S EPICENTRE 36.24 28.85 DEPTH= 0.KM

A= 0.70811 B= 0.39016 C= 0.58852 D= 0.4826 E=-0.8759
G= 0.5155 H= 0.2840 K=-0.8085 HT= -0.3

SE= 3.06

	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	
ATHENS	4.45	294.4	1	5	-5	1	52	-12			2	18	SG
KSARA	6.25	110.7	1	40	4	2	53	4			2	10	PG

	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	
SOFIA	7.74	328.2	1	56	-1	3	28	2					
BUCHAREST	8.44	346.4	2	6	0						2	45	PG
SIMFEROPOL	9.58	23.1	2	22	0	3	58	-14					
TARANTO	10.04	298.4	2	32	3								
BELGRADE	10.69	325.9	2	44K	7	4	50	11			3	27	PG
REGGIO CALA.	10.70	283.9	2	38	0								
KISHINEV	10.77	359.9	2	37	-2								
MESSINA	10.79	284.4	2	39A	0	4	47	5					
IASI	11.00	355.4	2	50	8								
SOTCHI	11.10	45.4	2	44	1								
TIMISOARA	11.11	331.1									5	48	
SZEGED	11.96	329.5									6	8	
BUDAPEST	13.38	330.1									3	49	PPP
TIFLIS	13.55	61.3	3	18	2								
ZAGREB	13.63	318.6	3	28	11								
ROME	13.92	298.9	3	2	-19	6	4	7					
BRATISLAVA	14.74	327.6	3	14	-18								
TRIESTE	14.77	314.2	3	31	-1	6	12	-5					
FLORENCE X.	15.43	304.6	3	42	1								
PRATO	15.58	304.8	3	48	5								
RACIBORZ	15.85	334.1	3	50	4								
PRAGUE	17.33	327.4	4	7	2	7	15	-2			4	25	PP
MONACO	18.01	301.1	4	13	0								
OROPA	18.31	307.2	3	17	-60								
EBINGEN	18.89	315.3	4	23	-1						4	39	PP
TUBINGEN	19.02	316.4	4	27	1								
STUTTGART	19.08	317.1	4	25	-2						4	36	PP
JENA	19.22	325.2	4	22	-6	7	45	-15			4	40	PP
NEUCHATEL	19.53	310.2	4	35	3								
STRASBOURG	19.79	315.1	4	36	1								
BESANCON	20.23	310.0	4	29	-10								
MOSCOW	20.40	14.3	4	38	-3								
ALGIERS UNI.	20.74	279.2	4	41	-4								
CLERMONT-FD.	21.55	304.2	5	10	17								
HAMBURG	21.77	328.7	4	52	-3								
WITTEVEEN	22.77	323.7	5	12	7								
RELIZANE	22.88	277.2	5	7	1						5	32	PP
PARIS	23.01	311.3	5	22	14								
PULKOVO	23.57	1.9	5	13	0								
TAMANRASSET	24.26	242.8	5	21	1	9	43	7					
UPPSALA	24.72	346.4	5	23A	-1								
SKALSTUGAN	29.19	344.8	6	5	0								
SVERDLOVSK	29.61	35.9	6	5	-4								
KIRUNA	32.00	354.0	6	27	-3								
QUETTA	32.29	89.6	6	32	-1								
LAHORE	37.77	83.6	7	20	0								
LWIRO	38.29	180.1	7	25	1								
CHATRA	49.94	83.5	8	55	-3								
PRETORIA	61.65	180.7	10	23A	1								
KIMBERLEY	64.75	184.0	10	42	0								
SHAWINIGAN	71.73	314.6	11	52A	26								
COLLEGE	79.19	358.6	12	5	-3								
MATUSIRO	82.35	50.0	12	31	6								
HUNGRY HORSE	89.52	336.3	12	56	-2								
EUREKA	97.98	333.2	13	38	-1								

FEBRUARY 6 13.H 6.M 11.S EPICENTRE 1.81 -90.56 DEPTH= 0.KM

A=-0.00979 B=-0.99946 C= 0.03131 D=-1.0000 E= 0.0098
G=-0.0003 H=-0.0313 K=-0.9995 HT= 7.2

SE= 2.96

	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	
BALBOA HTS.	13.05	56.6	3	9	0	5	39	3					
COMITAN	14.44	353.9	3	36	9	7	46	97			6	18	
CHINCHINA	15.24	77.7	3	37	-1	6	39	11					
OAXACA	16.30	338.4				7	15	22			6	29	
BOGOTA	16.70	80.0	4	7	11	7	32	30					
GALERAZAMBA	17.61	58.9	4	2	-6	5	17	-126					
VERA CRUZ	18.13	342.9	4	20K	6	7	54	19					
MERIDA	19.05	2.7	4	31	5	8	16	20			6	1	
TACUBAYA	19.42	334.8	4	39	9	8	7	3			4	51	PP
HUANCAYO	20.46	132.7	4	44	3	8	11	-15			12	15	L
MANZANILLO	21.81	322.7				9	13	21			12	19	
GUADALAJARA	22.52	327.3				9	25	20			11	29	
LA PAZ	28.66	130.2	6	3	3	10	58	10			12	51	SS

CHIHUAHUA	30.51	332.4							9	1	
FORT FRANCE	31.75	64.5							13	2	SS
COLUMBIA	33.24	14.5	6	41	1						
LUBBOCK	33.33	342.7	6	40	-1						
FAYETTEVILLE	34.28	354.8	6	51	1	13	57	100			
CHAPEL HILL	35.58	16.2							8	13	PP
TUCSON	35.80	329.9	7	0	-2						
BERMUDA	38.96	36.0	9	8	99	13	41	13	11	32	PCP
BARRETT	39.31	324.1	7	29	-3						
HAYFIELD	39.47	326.2	7	31	-2						
PALOMAR	39.90	324.7	7	35	-2						
BOULDER	40.34	342.4	7	38	-2						
RIVERSIDE	40.66	324.9	7	41	-2	13	56	2			
BOULDER CITY	40.77	329.3	7	43	-1						
PASADENA	41.23	324.3	7	49	1	14	6	4			
PALISADES	41.83	19.0	9	46	113	14	14	3	13	50	PCS
CHINA LAKE	42.12	326.6	7	54	-1						
ISABELLA	42.49	325.6	7	57	-1						
WOODY	42.73	325.3	7	58	-2						
SALT LAKE C.	43.31	336.3	8	4	-1						
TINEMAHA	43.37	327.3	8	4	-1						
RAPID CITY	43.56	346.8	8	6	-1						
FRESNO	44.03	325.6	8	13	2						
EUREKA	44.06	331.5	8	10	-1					8	27
OTTAWA	45.34	14.7	8	22	1	15	9	7	10	51	
LICK	45.48	324.8	8	20	-2						
BERKELEY	46.20	324.8				15	19	4			
KIRKLAND LA.	47.05	9.6	8	38	3				11	3	
SHAWINIGAN	47.20	16.7	8	34	-2						
MINERAL	47.57	327.7	8	42A	3						
UKIAH	47.61	325.4	8	43	4						
BUTTE	48.07	339.5	8	31	-12						
SHASTA	48.24	327.5	8	48	4						
HUNGRY HORSE	50.59	339.9	9	0	-2						
SEATTLE	53.29	333.7	10	37	75						
VICTORIA	54.44	333.7							10	51	
RESOLUTE	72.83	358.8	11	26	-6	20	15	-43			
TAMANRASSET	94.91	67.1	13	25	0						
QUETTA	141.63	32.2	19	13	-20						

FEBRUARY 6 20.H 34.M 56.S EPICENTRE 50.29 105.23 DEPTH= 0.KM

A=-0.16850 B= 0.61899 C= 0.76711 D= 0.9649 E= 0.2627
G=-0.2015 H= 0.7402 K=-0.6415 HT= -5.5

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	
KYAKHTA	0.79	83.4									0	15	PG
KABANSK	1.98	26.3									0	38	PG
IRKUTSK	2.07	344.3									0	41	PG
PAOTOW	10.27	159.1	2	31	-1								
YUMEN	11.53	213.1	2	56	7								
PEKING	12.82	138.9	3	3	-4	5	30	-1					
SUIHWA	14.89	95.9	3	26	-8								
CHANGCHUN	15.11	107.6	3	36	-1								
VLADIVOSTOK	19.58	101.2	4	28	-5						5	9	PP
NANKING	20.83	145.9	4	47	1	8	40	6					
NARYN	22.08	257.6	4	59	0						5	28	PP
ZO-SE	22.57	142.1	5	6	2	9	16	9					
UGLEGORSK	23.72	78.6	5	13K	-2								
TIKSI	23.95	18.3	5	16	-1						10	10	SS
Y.-SAKHLINSK	24.83	83.1	5	23K	-3								
FERGANA	25.32	259.9	5	30A	0						6	15	PP
SAPPORO	25.62	92.3	5	35	2								
TCHIMKENT	25.68	265.7	5	35	1	10	2	1			6	24	PP
SHILLONG	26.75	207.6	5	44	0	10	23	5			11	41	SS
SVERDLOVSK	26.89	301.4	5	45	0						6	37	PP
TOKUSIMA	26.89	115.9	5	48	3								
HIKONE	27.02	111.9	5	48	2								
KHOROG	27.16	254.8	5	47	0								
CHATRA	27.21	217.3	5	46	-2	10	26	0					
MAGADAN	27.27	52.6	5	48	0	10	25	-2					
MATUSIRO	27.36	107.4	5	49	0	10	33	5					
MIZUSAWA	27.59	100.0				10	34	2			7	11	
STALINABAD	28.28	259.6	5	57	0						12	5	SS
DEHRA DUN	28.50	235.9	5	57	-3	11	17	30			7	16	
SAMARKAND	28.77	263.2	6	0	-2								

HONG KONG	28.80	162.6	5	59	-3	10	49	-3			
LAHORE	29.61	242.5	6	7	-3						
NEW DELHI	30.33	234.9	6	18	2	11	25	9	7	15	PP
BOKARO	30.44	217.0	6	9	-8	11	13	-5	7	5	PP
PETROPAVLOVK	32.59	64.0	6	33K	-3	11	49	-2			
KLYUCHI	32.94	57.7	6	38	-1						
BAIRAM-ALI	33.06	264.2	6	40	0				7	56	PP
QUETTA	34.94	249.5	6	54	-2	12	20	-8	8	12	PP
ASHKABAD	35.27	267.8	6	59A	0	12	37	4			
BAGUIO CITY	35.98	154.4	7	5	0						
MANILA	37.86	154.6	7	25	5	13	15	3			
APATITY	38.26	323.9	7	45	1				15	55	
HYDERABAD	39.18	222.9	7	36	4	13	32	-1	9	11	PP
MAKHACH-KALA	39.43	282.3	7	39	5	13	35	-1	9	5	PP
MOSCOW	39.57	304.8	7	34	-1	13	35	-3	9	12	PP
POONA	40.36	229.7	7	40	-2	13	38	-12	9	27	PCP
BOMBAY	40.56	231.3	7	49	6	13	47	-6	9	26	PCP
KIROVOBAD	41.35	280.1	7	49	-1	14	6	1	9	31	PP
PULKOVO	41.74	312.8	7	53	0				9	46	PCP
TIFLIS	41.79	282.3	7	54	1				9	46	PCP
GORIS	42.07	278.6	7	56	0				9	39	PP
MADRAS	42.44	217.7	8	6	7	14	23	2	9	46	PP
KIRUNA	42.96	326.3	8	4A	1	14	33	4	9	51	PP
KODAIKANAL	46.04	219.6							24	52	
UPPSALA	47.49	316.8	8	39A	0				10	30	PP
SKALSTUGAN	47.83	322.9	8	41A	-1						
IASI	49.11	298.2	8	51	-1				9	8	
LWOW	49.61	302.8	8	55	0				10	52	PP
WARSAW	49.86	306.8							16	23	PS
BUCHAREST	51.55	296.0	9	10A	0						
KRAKOW	51.66	305.0	9	11	0				9	20	
COPENHAGEN	52.08	314.2	9	15K	1						
COLLEGE	52.14	31.2	9	13	-2	16	40	1	18	49	SCS
KSARA	52.17	279.5	9	17K	2	16	38	-1	10	6	PCP
BERGEN	52.34	321.8							28	4	
RACIBORZ	52.55	305.9	9	20	2				11	28	PP
BUDAPEST	53.64	302.8							25	34	
SCORESBY SD.	53.69	340.6	9	27	1						
SZEGED	53.82	301.1							25	53	
JERUSALEM	53.93	278.0	9	28K	0				21	44	
SOFIA	54.20	295.9	9	29	-1				12	17	
BRATISLAVA	54.27	304.5	9	22	-9				13	42	PP
PRAGUE	54.49	307.7	9	33K	1	16	53	-17	10	28	PCP
HAMBURG	54.50	313.2	9	34	2				12	29	
RESOLUTE	54.59	6.4	9	31A	-2	17	12	0	20	55	SS
JENA	55.38	309.9	9	38	-1	17	9	-13	17	46	PS
WITTEVEEN	56.51	314.0	9	47	0						
TRIESTE	57.65	303.9	9	54	-1				13	21	PP
STUTTGART	57.95	309.1	9	56A	-1				20	4	SCS
TUBINGEN	58.17	308.9	9	57	-2						
KARLSRUHE	58.18	309.7	9	59K	0						
EBINGEN	58.46	308.7	9	59	-1				10	33	
STRASBOURG	58.79	309.7	10	2	-1	18	22	15	22	34	SS
DURHAM	58.82	319.6	10	16	13	18	42	34			
TARANTO	59.12	297.3							15	32	
FLORENCE X.	60.22	303.6	10	12A	-1	18	44	18	10	33	PCP
BESANCON	60.57	309.5	9	59	-16				10	10	
KEW	60.60	316.2	10	14	-1	18	32	1	10	52	PCP
ROME	60.83	301.4	10	15	-2	19	1	27			
PARIS	61.18	312.6	10	19	0				12	34	PP
MESSINA	61.62	296.4	10	19	-3	18	44	0	22	46	SS
RATHFARNHAM	61.81	320.7	10	24K	1				11	29	
CLERMONT-FD.	63.02	309.8	10	32	0				10	41	
ALGIERS UNI.	69.60	303.1	11	11	-2				11	21	
ALICANTE	70.28	306.5	11	19	1	20	35	6			
TOLEDO	70.92	309.8	11	49	28				13	56	PP
RELIZANE	71.70	304.0	11	24	-2						
GRANADA	72.77	307.7	16	2K	269	25	34	276	18	39	PP
VICTORIA	73.07	31.4	11	40	6				33	46	L
SEATTLE	74.20	31.2	11	48	7						
HUNGRY HORSE	76.11	25.8	11	50	-2						
BUTTE	78.64	25.8	12	5	-1	22	9	6	14	18	
TAMANRASSET	78.73	291.9	12	6	0	21	55	-9	15	3	PP
BOZEMAN	79.38	25.0	12	10	0						
SHASTA	80.24	34.7	12	13	-1				18	0	
MINERAL	80.83	34.4	12	17	-1						
KIRKLAND LA.	81.84	3.6	12	21	-2						
RENO	82.20	33.5	12	31	6						

RAPID CITY	82.81	20.2	12 27	-1				
LWIRO	83.09	258.1	12 28A	-1				
LICK	83.47	35.8	12 36	5				
SHAWINIGAN	83.53	358.6	12 31	-1				
EUREKA	83.56	30.9	12 31	-1			13 1	
UVIRA	83.77	257.1	12 32A	-1				
FRESNO	84.66	34.8	12 43	6				
TINEMAHA	84.96	33.5	12 39	0				
HALIFAX	84.98	352.0	12 38	-1			36 34	
TANANARIVE	85.56	233.4	12 40A	-2			13 34	
WOODY	85.95	34.6	12 43	-1				
ISABELLA	86.13	34.3	12 44	-1				
CHINA LAKE	86.30	33.6	12 46	1				
BOULDER CITY	87.11	31.5	12 49	0				
PASADENA	87.59	34.8	12 51	-1				
RIVERSIDE	88.02	34.3	13 0	6				
PALOMAR	88.78	34.1	12 58	1			13 4	
PALISADES	89.08	359.3	12 57	-2				
BARRETT	89.45	34.3	12 59	-2			13 40	
MORGANTOWN	90.35	4.0	13 4	0				
TUCSON	91.84	29.9	13 19	7				
FAYETTEVILLE	92.30	15.6	13 19A	5				
KIMBERLEY	105.88	244.2					19 4	PP
HUANCAYO	141.87	0.9	19 35	1				
LA PAZ	145.88	348.6	19 44	3				

FEBRUARY 9 13.H 29.M 25.S EPICENTRE -34.23-179.91 DEPTH= 164.KM

DEPTH OF FOCUS= 0.021R

A=-0.82851 B=-0.00134 C=-0.55997 D=-0.0016 E= 1.0000
G= 0.5600 H= 0.0009 K=-0.8285 HT= 0.4

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	4.94	250.3	1	15	1	2	17	7					
AUCKLAND	5.05	237.1	1	19	4	2	23	10					
TUAI	5.14	206.6	1	16	0	2	21	6					
KARAPIRO	5.21	223.8	1	18	1	2	25	8					
TONGARIRO	6.16	215.1	1	28	-2	2	22	-17					
NEW PLYMOUTH	6.83	223.3	1	40	1	3	11	16					
WELLINGTON	8.20	209.4	1	53	-4	3	24	-4			15	5	SCS
COBB RIVER	8.99	218.3	2	4	-3	3	45	-2			15	1	SCS
KAIMATA	10.71	216.9	2	30	0	4	21	-6			15	10	SCS
CHRISTCHURCH	10.95	209.9	2	31	-2	4	29	-4					
GEBBIES PASS	11.08	209.3	2	31	-3	4	32	-4			15	13	SCS
SUVA	16.09	354.3	3	42	4	6	5	-26					
NOUMEA	16.88	311.2	3	45	-3	7	36	43					
APIA	21.64	21.9	4	34	-4	8	11	-11			15	28	SCS
RIVERVIEW	23.96	262.8	5	2A	2	9	26	24	5	31	5	55	PP
BRISBANE	24.14	278.8	5	2	0	9	8	3					
MELBOURNE	28.53	252.5	5	45	3	10	26	10			9	21	PCP
RABAUL	39.57	312.8	7	13	-3				7	47			
PERTH	53.08	253.3	9	3	1	16	26	8	9	49			
MANILA	74.23	300.3	11	19	-1								
BAGUIO CITY	75.75	301.4	11	28	-1	14	28	-388					
MATUSIRO	80.52	327.0	11	52A	-3	21	47	1					
HONG KONG	84.16	301.8	12	14K	0	22	25	2			16	8	PPP
BARRETT	89.21	48.9	12	37	-1				13	12	16	6	PP
PASADENA	89.29	46.9	12	39	1	23	21	10	13	14	16	10	PP
LICK	89.48	42.7	12	39	0								
BERKELEY	89.51	42.0	12	36	-3	23	25	12			22	56	SKS
PALOMAR	89.55	48.3	12	38	-2				13	17			
RIVERSIDE	89.66	47.5	12	39	-1	23	26	11	13	17	23	0	SKS
UKIAH	89.89	40.5	12	42	1				13	19			
WOODY	89.93	45.4	12	40	-1	23	29	12			22	52	SKS
FRESNO	90.13	44.1	12	42	0				13	17			
HAYFIELD	90.55	48.7	12	47	3	23	7	-16			22	41	SKS
CHINA LAKE	90.76	46.0	12	45	0	23	41	16	13	23			
TINEMAHA	91.24	44.8	12	49	2	23	42	13	13	23	23	10	SKS
SHASTA	91.46	39.9	12	51	3				13	32			
MINERAL	91.63	40.6	12	49	0				13	26			
RENO	92.04	42.1	12	52	1								
BOULDER CITY	92.54	47.4	12	53	0				13	43	13	28	
TUCSON	92.67	52.4	12	54	0	23	59	18	13	29	30	8	PKKP

EUREKA	94.18	44.2	12 58	-3	23 29	-25	13 33	24 9 S
HUANCAYO	95.04	108.1	13 12	7				23 37 SKS
LA PAZ	97.86	115.9						17 25 PP
LUBBOCK	99.51	55.9			23 55	-44		17 30 PP
HUNGRY HORSE	101.03	38.3	17 27	235				24 0
COLLEGE	101.92	13.4	13 33	-3				
RAPID CITY	104.53	46.4	13 48	1				18 6 PP
GRAHAMSTOWN	108.35	203.2	18 11	777				
FLORISSANT	110.15	56.2						25 40 *SSKS
ST. LOUIS 1	110.16	56.5			24 36	-30		25 40 *SSKS
PIETERMZBURG	110.33	207.9	17 53	-19				
PRETORIA	114.66	207.9						23 19 PP
RESOLUTE	121.38	18.1	18 31A	-2				
PALISADES	122.60	59.7			25 18	-2		10 24 PP
OTTAWA	122.71	54.3	18 38	2				22 1 PPP
QUETTA	124.20	285.7	18 39	0				30 25 PS
SHAWINIGAN	125.01	53.6	18 41A	1				22 4 PPP
BERMUDA	126.67	72.6						20 59 PP
HALIFAX	130.86	57.8	18 54	2				
LWIRO	134.77	222.5	19 2	3				21 32 PP
SCORESBY SD.	141.77	11.8	19 15	3				
KIRUNA	144.38	346.9	19 15	-1	20 3			
REYKJAVIK	147.16	17.6	19 25A	4				
SKALSTUGAN	149.67	349.2	19 28	3				
KSARA	150.43	279.4	19 33	7				
JERUSALEM	150.53	275.2	19 32	6				
UPPSALA	151.91	341.2	19 33	5	20 10			
MBOUR	154.92	137.9	19 39	7	20 15		23 10	PKS
IASI	155.62	310.5	20 1	6				
BUCHAREST	157.56	310.5	20 10	12				
RATHFARNHAM	160.41	11.5	20 25	46				
BELGRADE	161.12	310.1	20 12K	32				
BRATISLAVA	161.15	322.7	19 38	-2	20 17			
JENA	161.33	336.8	19 43	3	20 20			
KEW	162.77	0.9	19 46	4				
STUTTGART	163.97	337.7	19 45	2			20 36	PKP2
EBINGEN	164.56	337.2	19 45	2			20 39	PKP2
PARIS	165.33	353.7	19 47	3			20 38	PKP2
MESSINA	166.91	292.0	19 49	4			35 12	PSKS
FLORENCE X.	167.12	321.0	20 47	62				
TAMANRASSET	167.64	204.1	19 49	3			24 46	PP
RELIZANE	178.44	346.2	19 55	5			25 52	PP

FEBRUARY 9 16.H 38.M 6.S EPICENTRE 41.26-126.18 DEPTH= 0.KM

A=-0.44508 B=-0.60853 C= 0.65696 D=-0.8071 E= 0.5904
G=-0.3878 H=-0.5303 K=-0.7539 HT= -2.2

SE= 2.26

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
FERNDALE	1.61	114.4	0 32	2	0 58	6		
ARCATA	1.63	102.7	0 30	0	0 51	-1		
SHASTA	2.92	99.8	0 50	1				
UKIAH	3.11	132.2	0 49	-3	1 26	-4		1 0
MINERAL	3.59	103.1	0 58A	0	1 38	-5		
CORVALLIS	3.94	31.6	1 3A	0	1 48	-3		
SAN FRANCSCO	4.52	139.2	1 11	-1	2 3	-3		
BERKELEY	4.54	136.9	1 10K	-2	2 1	-6		
BRANNER	4.93	139.7	1 15K	-2	2 14	-2		
SANTA CLARA	5.10	138.6	1 20	0	2 22	2		
RENO	5.16	107.4	1 20	-1				
LICK	5.27	136.5	1 20A	-2	2 22	-2		
FRESNO	6.69	130.0	1 40	-2				
SEATTLE	6.97	22.2	1 48	2	3 4	-3		
TINEMAHA	7.47	121.6	1 57	4				
VICTORIA	7.52	14.2	1 53	-1	3 11	-10		
WOODY	7.98	131.7	1 59	-1				
EUREKA	8.00	99.5	2 0	-1				
HORSESHOE B.	8.37	13.1	2 7	1	3 33	-9		
CHINA LAKE	8.64	126.2	2 11	2				
PASADENA	9.52	135.6	2 20	-2				
RIVERSIDE	10.06	133.3	2 30	1				
BOULDER CITY	10.33	117.0	2 36	3				
PALOMAR	10.83	133.8	2 41	1				
SALT LAKE C.	10.84	87.9	2 41	1	4 52	9		3 13

BUTTE	10.95	59.7	2	40	-1	4	39	-7		3	21
HUNGRY HORSE	11.16	46.5	2	42	-2	4	25	-26			
HAYFIELD	11.27	128.6	2	46	0						
BARRETT	11.45	135.4	2	50	2						
BOZEMAN	11.84	63.1	2	53	0	4	58	-10		3	17
TUCSON	15.22	121.3	3	41	3	6	52	24			
BOULDER	15.90	87.6	3	47	0						
SITKA	16.87	342.6	4	0	1	7	20	13		4	39
RAPID CITY	17.13	72.9	3	59	-4	6	59	-14			
SASKATOON	17.21	44.2	4	6	2	7	22	8			
CHIHUAHUA	20.68	121.2	4	53	9	8	54	23			
LUBBOCK	20.75	103.8	4	46	1	8	47	14			
FAYETTEVILLE	25.42	91.2	5	22A	-9						
COLLEGE	26.71	339.5	5	41	-2	10	6	-12		6	13
CHICAGO CGS.	28.73	76.0	6	2	1	10	42	-8			
TACUBAYA	31.67	125.3	6	42	15						
KIRKLAND LA.	33.09	62.2	6	39A	-1	12	5	6			
VERA CRUZ	33.75	121.6				12	15	6			
MORGANTOWN	34.90	77.1	6	55	-1						
BUFFALO L.	34.96	71.2	6	56	0						
OAXACA	34.97	124.9				10	18	-130			
COLUMBIA	36.16	86.6	7	6	0	12	41	-5		8	29 PP
RESOLUTE	36.43	13.4	7	7A	-1	12	39	-11		17	5 SCS
OTTAWA	36.45	66.1	7	8	-1	12	54	3		8	38 PP
CHAPEL HILL	36.88	82.6	7	12	0						
WASHINGTON	37.26	77.0	7	18	3	13	12	9			
SHAWINIGAN	38.23	63.6	7	23K	-1					8	47 PP
PHILADELPHIA	38.30	74.6	7	11	-13	13	21	2			
COMITAN	38.49	120.2								8	22 PP
PALISADES	38.87	72.5	7	28	-1	13	31	3		8	55 PP
SEVEN FALLS	39.41	62.2	7	17	-16	13	19	-17		8	38 PP
HALIFAX	44.94	63.8	8	20K	1	14	58	1		18	19 SS
BERMUDA	49.12	79.6	9	0	9	16	3	6		10	50 PCP
SAN JUAN	55.72	95.2	9	42	1						
KIRUNA	68.35	13.0	11	5	-1						
SKALSTUGAN	70.42	18.4	11	19	1						
MATUSIRO	70.71	301.9				20	34	0			
RATHFARNHAM	72.55	33.1	11	35A	4						
UPPSALA	74.93	18.0	11	44	-1						
BRATISLAVA	85.21	23.7	12	37	-3						
TRIESTE	86.36	26.9	12	47	1					16	19 PP
FLORENCE X.	87.09	29.4	13	4	15						
MESSINA	93.54	29.3	13	17	-2	24	23	-3		30	41 SS
MBOUR	94.49	66.6	12	32	-52	23	37	-57		16	40 PP
KSARA	103.49	15.3	14	4	0						
PRETORIA	153.74	61.9	20	14	21						

FEBRUARY 10 5.H 47.M 59.S EPICENTRE 35.52 -34.58 DEPTH= 0.KM

A= 0.67162 B=-0.46298 C= 0.57843 D=-0.5676 E=-0.8233
G= 0.4762 H=-0.3283 K=-0.8157 HT= -0.1

SE= 2.39

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
ANGRA DO HO.	6.65	59.9				3	15	16					
PONTA DELGDA	7.49	70.3				3	44	24			5	11	
LISBON	20.51	73.5	4	41	-1						5	[illegible]	PP
HALIFAX	23.89	301.2	5	16A	0	9	35	5			11	19	L
MALAGA	24.36	78.3	5	21K	1						8	3	PCP
TOLEDO	24.48	70.6	5	21	-1	9	57	17			5	57	PP
GRANADA	24.95	77.0	5	14K	-12	8	55	-53			6	3	PP
BERMUDA	25.12	271.5	5	26	-2	10	1	10					
ALMERIA	25.89	77.6	5	38	3								
MBOUR	26.34	138.6	5	40	1	10	33	22			[illegible]	33	PP
RATHFARNHAM	26.65	39.4	5	48	6								
ALICANTE	27.31	73.9	5	43	-5	10	29	2			6	33	PP
RELIZANE	28.46	79.2	6	4	5						6	54	PP
KEW	29.19	46.2	6	4	-1						12	31	L
SEVEN FALLS	29.33	304.5	3	43	-143								
DURHAM	29.73	39.4	6	10	0								
CLERMONT-FD.	30.13	58.5	6	15	1								
PARIS	30.20	52.4	6	13	-1						7	13	PP
SHAWINIGAN	30.56	302.9	6	15A	-2								
PALISADES	31.17	292.1	6	21	-2	11	30	1					
BESANCON	32.26	56.1	6	18	-14								
OTTAWA	32.51	300.4	6	39	5								

SAN JUAN	32.70	246.8	6	36	0					
MONACO	33.09	62.7	6	45	6					
BASLE	33.37	55.8	6	35K	-7					
STRASBOURG	33.61	53.9	6	43K	-1				9	29 PCP
WITTEVEEN	33.70	46.2	6	46	1					
PAVIA	34.34	60.1							17	21
EBINGEN	34.36	54.8	6	50	0					
TUBINGEN	34.46	54.2	6	51	0					
STUTTGART	34.57	53.8	6	51K	-1	12	25	4		
BUFFALO L.	34.61	295.8	6	56	4					
KIRKLAND LA.	35.64	305.0	7	6	5					
SCORESBY SD.	35.68	7.2	7	8	6				9	29 PCP
HAMBURG	35.80	45.7	7	1	-2					
FLORENCE X.	35.85	62.5	7	3A	0	13	8	27	8	15 PP
MORGANTOWN	35.90	290.4	7	4	0					
JENA	36.35	50.4	7	5	-2				8	17 PP
ROME	36.90	65.5	7	12A	0	13	2	5	8	21 PP
TAMANRASSET	37.01	99.0	7	13K	0	13	7	8	8	39 PP
TRIESTE	37.26	59.3	7	23	5	13	11	4		
COPENHAGEN	37.66	42.7	7	25	7	13	21	12	18	1 L
COLUMBIA	37.92	281.5	7	21	0				9	36 PCP
PRAGUE	38.08	52.1	7	22	0	13	21	6	8	42 PP
ZAGREB	39.12	58.9							7	32
BRATISLAVA	39.80	55.1	7	33	-3				7	39
MESSINA	39.81	70.8	7	35	-1	13	41	0	9	18 PP
SKALSTUGAN	39.93	30.6	7	36	-1					
RACIBORZ	40.51	52.2	7	43	1				8	49
UPPSALA	41.27	37.2	7	47	-1					
KRAKOW	41.63	52.2	7	51	0					
BELGRADE	42.35	60.0	7	57K	0				13	55 PCS
KIRUNA	44.55	26.3	8	13K	-2					
SOFIA	44.74	62.5	8	12	-5					
ATHENS	46.12	68.9	8	25	-3					
IASI	46.93	55.6	8	33	-1				10	33 PP
FAYETTEVILLE	47.66	289.1	8	38K	-2					
RESOLUTE	48.32	342.0	8	42	-3	15	46	1		
MOSCOW	51.83	43.2	9	11	-1					
SIMFEROPOL	51.85	57.3	9	12	0					
RAPID CITY	52.03	301.6	9	13	0				10	33
LUBBOCK	54.44	288.8	9	33	2					
KSARA	56.80	69.7	9	48	0	17	45	4	17	57 PS
BOZEMAN	56.89	305.5	9	48	-1					
JERUSALEM	57.11	72.1	9	53A	3					
BUTTE	57.78	306.3	9	55	0					
HUNGRY HORSE	57.96	309.3	9	54	-2					
SALT LAKE C.	59.15	300.4	10	3	-2					
TIFLIS	60.26	57.9	10	12	0					
LA PAZ	60.73	217.4	10	17	1	18	39	7		
HUANCAYO	61.02	226.9	10	18	1					
TUCSON	61.87	291.0	10	23	0					
EUREKA	62.56	300.4	10	27	-1				12	53 PP
BOULDER CITY	63.23	296.4	10	33	1					
SVERDLOVSK	63.74	37.6	10	33	-3	19	13	3		
HAYFIELD	64.83	294.5	10	43	0					
TINEMAHA	65.21	298.9	10	46	1					
CHINA LAKE	65.32	297.4	10	47	1					
PALOMAR	65.91	294.7	10	50	0					
RIVERSIDE	65.99	295.5	10	50	0					
BARRETT	66.08	294.0	10	52	1					
MINERAL	66.08	303.4	11	10	19				13	14
WOODY	66.28	297.8	10	53	1					
SHASTA	66.46	304.0	10	53	0					
PASADENA	66.50	296.0	10	53	0	19	55	11	24	55 SS
COLLEGE	67.32	334.8	10	58	-1				11	7 PCP
LICK	67.50	300.5	11	1A	1				13	34
LWIRO	69.98	108.0	11	15A	0					
NAMANGAN	78.17	48.0	12	3	0					
QUETTA	81.48	59.1	12	21K	1					
KIMBERLEY	84.94	130.7	12	38K	0					

FEBRUARY 10 22.H 32.M 17.S EPICENTRE 10.24 125.99 DEPTH= 0.KM

A=-0.57838 B= 0.79642 C= 0.17663 D= 0.8091 E= 0.5876
G=-0.1038 H= 0.1429 K=-0.9843 HI= 6.5

SE= 2.72

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

	DEG.	DEG.	M S	S	M S	S	M S	M S
MANILA	6.52	311.9	1 45A	6	3 11	16		
BAGUIO CITY	8.09	320.0	2 0	-1				
HENGCHUN	12.73	337.4	3 7	2	5 46	18		
TAWU	12.99	338.6	3 8	0	5 54	19		
TAITUNG	13.27	340.2	3 24	12	6 13	32		
HSINKONG	13.53	341.5	3 10	-5	5 58	10		
TAINAN	13.83	337.2	3 20	1	6 19	24		
HWALIEN	14.27	343.6	3 23	-2	5 55	-10		
ILAN	15.00	345.0	3 48	13	6 43	20		
TAIPEI	15.31	344.5	3 45	6	6 43	13		
HONG KONG	16.49	318.1	3 55A	1				
CANTON	17.62	318.0	4 10A	2				
GUAM	18.64	78.2	4 17	-4				
YAKUSIMA	20.54	11.2	4 42	0	8 30	2		
ZO-SE	21.23	348.5	4 50	1	8 42	1		
KAGOSIMA	21.64	10.6	4 56	2	8 54	5		
TOMIE	22.42	6.2	4 58	-3	9 5	2		
NANKING	22.70	344.0	5 5A	1	9 12	3		
FUTZELING	22.80	338.2	5 6	1				
KUMAMOTO	22.89	10.2	5 4	-2	9 15	3		
SAGA	23.24	9.2	5 12	3				
SIMIDU	23.34	15.0	5 10	0	9 20	0		
OOITA	23.46	11.9	5 11A	0	9 21	-1		
HUKUOKA	23.58	9.3	5 14A	1	9 29	5		
UWAZIMA	23.66	13.8	5 14A	1	9 18	-8	6 19	PP
SIMONOSEKI	24.03	10.1	5 18	1				
MUROTO	24.11	17.0	4 53	-25				
KOTI	24.21	15.5	5 19	0	9 33	-2		
MATUYAMA	24.28	13.8	5 23	4	9 36	0		
HIROSIMA	24.73	12.8	5 23A	-1	9 41	-3		
SIOMISAKI	24.79	19.8	5 42	18	9 59	14	6 33	PP
TOKUSIMA	24.99	17.1	5 27	1				
HAMADA	25.17	11.8	5 24	-4	9 58	7		
SUMOTO	25.34	17.4	5 23	-7	10 4	10		
OWASE	25.50	20.0	5 29	-2				
KOBE	25.74	17.6	5 30	3	10 41	40		
OSAKA	25.81	18.3					10 28	
NARA	25.94	18.8	7 36	121				
KYOTO	26.22	18.3	5 37	-1	10 1	-8		
KAMEYAMA	26.30	19.7	5 40	1	10 3	-7		
TOYOOKA	26.43	16.3	5 41	1				
HIKONE	26.61	19.0	5 47	6	10 9	-6		
OMAESAKI	26.70	22.9	6 34	52				
NAGOYA	26.76	20.3	5 38	-5				
GIHU	26.90	19.7	5 45	1				
SHIZUOKA	27.10	22.8	5 45	-1	10 24	1		
IIDA	27.38	21.3	5 54	6				
MISIMA	27.44	23.5	5 49	0	10 53	24		
MERA	27.63	25.1	5 59	8				
HUNATU	27.71	22.8	5 52	1				
KOHU	27.75	22.4	5 52	0				
YOKOHAMA	27.99	24.3			12 9	91		
MATUMOTO	28.08	20.9	6 9	14				
TOKYO C.M.O.	28.25	24.2	5 54	-2			6 47	PP
OIWAKE	28.36	21.7	5 57	0				
MATUSIRO	28.44	21.0	5 55	-3	10 29	-16		
KUMAGAYA	28.51	23.1	6 54	55	12 7	81		
NAGANO	28.54	20.9	6 3	4	10 51	4		
MAEBASI	28.61	22.4	6 38	38			12 13	
KAKIOKA	28.90	24.2	6 3	1				
SHIRAKAWA	29.69	23.4	6 11	2	10 38	-27	7 4	PP
RABAUL	29.76	117.6	6 7	-3				
TAIYUAN	29.96	338.4	6 12	0	11 9	0		
HUKUSIMA	30.33	23.1	6 30	15				
PEKING	30.92	345.2	6 19	-1	11 21	-3		
SENDAI	30.95	23.2	6 17	-4				
MIZUSAWA	31.79	22.7	6 24	-4	10 55	-43		
TATUNG	31.81	341.3	6 31	3				
AKITA	31.93	20.8					7 43	
MORIOKA	32.30	22.2	6 27	-5	11 39	-7		
VLADIVOSTOK	33.16	7.9	6 40	0	12 0	1		
PAOTOW	33.36	337.6	6 42	0				
CHANGCHUN	33.47	359.1	6 41	-2	12 1	-3		
HAKODATE	33.98	19.9	6 47	0				
SINING	34.19	324.1	6 51	2				
MORI	34.22	19.5	6 56	7				
WUWEI	34.64	326.5	6 54	1				

SUTTSU	34.74	18.5	6	45	-8				
TOMAKOMAI	34.93	20.3	7	24	29				
URAKAWA	35.03	22.0	6	59	3				
SAPPORO	35.34	19.6	6	51	-8	12	35	2	8 4 PP
SHILLONG	35.73	299.8	7	3	1	12	37	-2	8 26 PP
OBIHIRO	35.85	21.8	7	2	-1				
ASAHIGAWA	36.31	20.2	7	9	2				
KUSIRO	36.36	23.0	6	57	-10	12	44	-5	
NEMURO	37.11	23.9				12	43	-17	
ABASHIRI	37.20	22.0	7	19	5				
WAKKANAI	37.55	18.2	7	5	-12				
Y.-SAKHLINSK	39.25	18.2	7	30	-1	13	25	-8	
YUMEN	39.43	324.3	7	34	1				
CHATRA	40.13	299.7	7	39	0				14 2
BOKARO	40.58	294.7	7	39	-3	13	48	-5	
PERTH	43.06	192.7	8	6	3	14	33	4	9 42 PP
MADRAS	44.91	278.1	8	20	2	14	59	3	10 4 PP
IRKUTSK	45.46	341.4	8	22A	0	15	4	0	10 12 PP
COLOMBO	45.69	269.7				15	34	27	
BRISBANE	45.76	145.7	8	23	-1	15	1	-7	
HYDERABAD	46.61	284.3	8	32	1	15	24	3	10 21 PP
KODAIKANAL	47.71	274.5	8	45	5	15	51	15	10 39 PP
DEHRA DUN	48.78	301.4	8	43	-5	15	50	-1	11 45 PPP
NEW DELHI	49.13	299.0	8	45	-6	15	53	-3	11 39 PPP
RIVERVIEW	49.93	152.5	8	58A	1	16	6	-1	10 47 PP
MELBOURNE	51.01	160.6	9	6	1				
POONA	51.03	285.5	9	5	0	16	21	-1	10 55 PP
NOUMEA	51.18	129.5							10 21 PP
BOMBAY	52.01	286.0	9	13	0	16	35	-1	11 12 PP
LAHORE	52.17	302.0	9	11	-3				
MAGADAN	52.62	15.6	9	17	-1	16	43	-1	19 3 SCS
SEMIPALATNSK	54.87	325.9	9	33	-1	17	13	-2	11 38 PP
FRUNSE	55.18	315.6	9	35A	-1	17	21	2	10 38 PCP
STALINABAD	58.16	309.1	9	57	-1	18	4	6	
QUETTA	58.21	299.1	9	57A	-1	18	0	1	12 9 PP
TASHKENT	58.46	312.4	9	58	-2	18	4	2	13 44 PPP
TIKSI	61.37	1.0	10	18	-2	18	33	-7	10 59 PCP
ASHKABAD	66.16	306.9	10	55A	4	19	48	9	11 27 PCP
KARAPIRO	66.61	139.0	10	53	-1				
KAIMATA	66.94	145.1	11	4	8				
TONGARIRO	67.35	140.2	10	58	-1				
SVERDLOVSK	68.09	327.4	11	1	-2	19	57	-6	11 29 PCP
TUAI	68.15	139.0	11	5	1				
CHRISTCHURCH	68.26	145.3	11	4	0	20	0	-5	
GEBBIES PASS	68.39	145.4	11	5	0				
HONOLULU	73.31	70.8	11	34	-1	21	10	7	21 50 SCS
GORIS	75.60	308.2	11	48	0	21	29	0	
TIFLIS	76.70	310.5	11	54	0	21	43	2	
COLLEGE	79.19	25.7	12	5	-3	21	54	-14	26 41 SS
MOSCOW	80.70	325.0	12	16	0	22	20	-3	15 20 PP
APATITY	81.59	337.2	12	20	-1	22	30	-3	15 28 PP
TANANARIVE	82.54	249.3	12	27K	1				
PULKOVO	84.08	329.6	12	33	-1	22	51	-7	17 39 PPP
SIMFEROPOL	84.17	314.5	12	33A	-1	22	53	-6	15 54 PP
KSARA	84.47	303.2	12	41	6	23	6	4	
JERUSALEM	85.33	301.3	12	31K	-9	23	18	8	
KIRUNA	86.38	338.5	12	44A	-1	23	15	-5	16 12 PP
IASI	88.23	317.6	12	54	0	23	36	-2	
LWOW	89.86	320.7	13	0	-2	23	26	-27	16 38 PP
BUCHAREST	89.88	315.1	13	1	-1	23	41	-12	23 53 S
UPPSALA	90.23	331.4	13	2A	-1	23	53	-3	16 39 PP
WARSAW	90.98	323.3	13	3	-4	23	39	-24	13 7 PCP
SKALSTUGAN	91.09	335.8	13	6A	-1				16 45 PP
RESOLUTE	91.58	10.0	13	8A	-2	23	30	-38	16 7 PP
SOFIA	92.27	314.0	13	12	-1	23	42	-32	16 36 PP
KRAKOW	92.32	321.7	13	13	0	24	14	-1	13 22 PCP
RACIBORZ	93.36	322.1	13	18	0				17 59
BELGRADE	93.64	316.6	13	18K	-1	24	1	-25	15 5
BUDAPEST	93.70	319.4	13	21	2	23	40	-47	26 40 PPS
HURBANOVO	94.12	320.0	15	35	134	24	2	-29	17 59
COPENHAGEN	94.42	328.6	13	23	0	24	27	-6	17 18 PP
BRATISLAVA	94.71	320.5	13	20	-4	23	53	-42	17 8 PP
PRAGUE	95.62	323.0	13	28	0	24	49	6	17 51
SCORESBY SD.	96.55	349.7	13	32	0				
HAMBURG	96.64	327.3	13	34K	1				17 9 PP
JENA	96.93	324.5	13	34	0				17 31 PP
TARANTO	97.30	313.3							24 18 SKS
UVIRA	97.34	267.9	13	37A	1				17 35 PP

LWIRO	97.47	269.0	13	37	0				17	26 PP
TRIESTE	97.78	319.1	13	37A	-1	25	6	4	24	14 SKS
WITTEVEEN	98.75	327.6	13	45	3					
SHASTA	99.27	45.7	13	47	2					
STUTTGART	99.27	323.2	13	44	-1				17	50 PP
MESSINA	99.32	311.6	13	44	-1	24	22	-52	17	46 PP
EBINGEN	99.67	322.8	13	46	-1					
BOLOGNA	99.82	318.7							17	43 PP
DE BILT	99.90	327.5				26	43	84	52	43 L
MINERAL	99.96	45.8	13	50A	2				30	32 PKKP
ROME	100.11	315.9	13	45	-4	25	23	2	17	56 PP
FLORENCE X.	100.17	318.1	13	46	-3	24	19	-62	18	3 PP
STRASBOURG	100.19	323.5	13	49	0	24	31	-51	18	1 PP
BERKELEY	100.41	48.4	13	49	-1	24	24	-59	32	43 SS
ABERDEEN	100.52	334.1				25	23	-1	24	25 SKS
SANTA CLARA	100.83	48.8							31	12
PAVIA	100.91	320.0	16	50	178				18	12 PP
LICK	101.06	48.7	13	52A	-1				30	33 PKKP
HUNGRY HORSE	101.33	36.1	13	56	2	24	30	-61	17	55 PP
PRETORIA	101.36	245.7	13	53	-1					
OROPA	101.46	320.8	17	19	204	26	58	86	18	24 PP
RENO	101.55	46.1	14	0	5					
DURHAM	101.76	332.0	13	56	0	25	37	2		
BESANCON	101.89	322.9	13	33	-24				18	11 PP
FRESNO	102.64	48.6	13	57	-3					
PARIS	103.10	325.5	14	2	0				18	18 PP
KEW	103.10	328.8				24	47	-59	27	23 PS
BUTTE	103.36	37.7	14	6	3					
TINEMAHA	103.68	47.8	14	10	6	24	48	-63	18	25 PP
WOODY	103.76	49.3	14	5	0				18	19 PP
ISABELLA	104.07	49.2	14	8	2				18	24 PP
EUREKA	104.26	44.8	14	8	1				18	22 PP
CLERMONT-FD.	104.34	322.6	14	11	4	25	56	0	18	31 PP
BOZEMAN	104.45	37.4	14	8	0				17	55 PP
KIMBERLEY	104.63	242.9							37	15 PP
CHINA LAKE	104.65	48.8	14	7	-2				18	24 PP
RATHFARNHAM	104.84	332.6				26	22	22	20	3
PASADENA	104.90	50.6	14	9	-1	23	48	-133	18	30 PP
JERSEY	105.38	327.6				23	46	-139		
RIVERSIDE	105.56	50.4	14	16	777	24	53	0	18	33 PP
PALOMAR	106.22	50.9	17	40	777				18	38 PP
SALT LAKE C.	106.44	42.1	17	32	777				18	38 PP
BOULDER CITY	106.62	47.6	14	17	777				18	42 PP
BARRETT	106.64	51.4	14	19	777				18	31 PP
HAYFIELD	107.00	50.1	14	24	777				18	47 PP
HERMANUS	109.51	237.1							25	14
RAPID CITY	109.95	35.5	17	59	777				14	55 P
RELIZANE	111.19	314.7	19	19	44				19	42 PP
TUCSON	111.26	49.6	18	49	14				19	13 PP
TOLEDO	111.99	320.6	18	39	2				19	20 PP
TAMANRASSET	113.12	300.1	18	42	3				19	36 PP
GRANADA	113.25	317.9							21	50 PPP
MALAGA	114.04	317.9							30	15 PPS
LUBBOCK	117.02	44.0	18	48	1					
KIRKLAND LA.	117.46	19.3	18	53	6					
FAYETTEVILLE	120.37	37.3	18	54K	1					
FLORISSANT	120.61	32.6	18	54	0				30	13 PS
ST. LOUIS 1	120.80	32.6							30	11 PS
SHAWINIGAN	121.02	15.0	18	54A	0					
OTTAWA	121.26	17.7	18	55	0				20	37 PP
HALIFAX	124.71	8.3							37	43 SS
MORGANTOWN	124.85	24.3	19	2	0					
PALISADES	125.80	18.5	19	5	1			19 19	20	54 PP
FORDHAM	125.95	18.6	19	6	2				29	1
TACUBAYA	126.62	56.5	19	11	6				20	4 PP
CHAPEL HILL	128.37	26.0	19	10	1				21	26
COLUMBIA	129.06	29.1	19	12	2				21	28 PP
VERA CRUZ	129.22	54.9							22	1 PP
MBOUR	135.87	303.0	19	25	2	26	8	-24	22	4 PP
BERMUDA	136.41	13.1	19	25	1				38	1 SS
BALBOA HTS.	148.21	54.0	19	45	1					
SAN JUAN	149.15	22.9	19	48	2					
CHINCHINA	153.70	55.9	19	53	1					
FORT FRANCE	154.20	16.0	19	55	2					
BOGOTA	155.16	54.5	19	58	4					
ST. VINCENT	155.65	17.4	19	58	3					
HUANCAYO	159.01	96.9	20	5	6				20	42 PKP2
LA PAZ	164.93	115.9	20	10	5				31	41 SKKS

FEBRUARY 10 22.H 50.M 54.S EPICENTRE 10.15 125.62 DEPTH= 0.KM

A=-0.57338 B= 0.80038 C= 0.17501 D= 0.8129 E= 0.5824
G=-0.1019 H= 0.1423 K=-0.9846 HT= 6.5

SE= 3.23

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
HENGCHUN	12.68	339.0	2 14	-51	4 50	-38		
HWALIEN	14.27	345.0	2 33	-53	4 59	-67		
HONG KONG	16.32	319.2	4 OK	8				
GUAM	19.02	78.1	4 17	-9				4 44
YAKUSIMA	20.71	12.0	4 44	-1	8 35	3		
ZO-SE	21.25	349.5	4 48A	-2	8 50	8		
KAGOSIMA	21.80	11.4	4 56	0	8 58	5		
MIYAZAKI	22.32	13.1	5 5	4	9 3	1		
TOMIE	22.55	7.0	5 5	2	9 14	7		
NANKING	22.69	344.9	5 5A	0				
KUMAMOTO	23.05	11.0	5 10	2	9 16	1		
SAGA	23.39	9.9	5 15	4				
SIMIDU	23.52	15.7	5 9	-4	9 23	-1		
OOITA	23.63	12.6	5 12K	-2	9 17	-9		
HUKUOKA	23.74	10.0	5 2	-13	9 24	-4		
KOTI	24.40	16.2	5 20	-1	9 25	-14		
MATUYAMA	24.47	14.5	5 24	2	9 36	-4		
HIROSIMA	24.91	13.5	5 24K	-2	9 44	-4		5 35 *PP
TOKUSIMA	25.19	17.7	5 26	-3	9 40	-12		
SUMOTO	25.54	18.0	5 35	3	10 4	6		
KOBE	25.94	18.2						8 45
KAMEYAMA	26.51	20.3	5 31	-10	10 32	18		
NAGOYA	26.98	20.8	5 56	11				
GIHU	27.12	20.3	5 47	0	10 14	-10		
MATUMOTO	28.30	21.4	6 32	35				
OIWAKE	28.58	22.2			13 4	136		
MATUSIRO	28.66	21.5	9 10	189				
NAGANO	28.76	21.3	5 54	-8				
MAEBASI	28.84	22.9	6 50	48	12 13	81		
KAKIOKA	29.14	24.7	6 27	22	11 34	37		
TAIYUAN	29.92	339.0	6 13	1				
SHIRAKAWA	29.92	23.8	6 38	26				
RABAUL	30.04	117.1	6 7	-6				6 57 PP
PEKING	30.92	345.8	6 20	-1				
SENDAI	31.18	23.6	6 22	-1				
MIZUSAWA	32.02	23.1	6 34	4	11 30	-12		
AKITA	32.15	21.3			14 0	142		
CHANGCHUN	33.56	359.6	6 42	-2				
MORI	34.43	19.9	7 8	17				
TOMAKOMAI	35.15	20.7	7 52	54				
URAKAWA	35.26	22.3	6 53	-6				
SAPPORO	35.56	20.0						8 15
ASAHIGAWA	36.53	20.5	7 9	0				
KUSIRO	36.59	23.4	6 53	-17	12 43	-10		
ABASHIRI	37.43	22.3	7 19	2				
CHATRA	39.86	299.9	7 38	1				
BOKARO	40.29	294.9						7 41
PERTH	42.89	192.3	8 7	2				9 48
IRKUTSK	45.43	341.7	8 23A	0				
BRISBANE	45.88	145.3	8 22	-4				
RIVERVIEW	50.02	152.1	8 57A	-1	16 9	0		18 50 SCS
POONA	50.70	285.6	9 5	1	16 24	6		
MELBOURNE	51.05	160.3	9 6	0	16 23	0		9 17 *PP
NOUMEA	51.40	129.2						9 34
LAHORE	51.91	302.2	9 12	-1				
MAGADAN	52.81	15.8	9 17	-3	16 41	-6		
FRUNSE	54.99	315.7	9 35A	-1				10 37 PCP
QUETTA	57.94	299.2	9 57	0	18 0	4		12 8 PP
TASHKENT	58.25	312.5	9 56	-3				
TIKSI	61.47	1.2	10 25	4				
KARAPIRO	66.78	138.8	10 54	-2				
KAIMATA	67.07	144.9	11 5	8	19 45	-6		
TONGARIRO	67.51	140.0	10 57	-3				
SVERDLOVSK	67.97	327.5	11 0	-3	19 58	-4		
WELLINGTON	68.26	142.1			19 54	-11		20 56 SCS
TUAI	68.32	138.8	11 4	-1				
CHRISTCHURCH	68.39	145.1	11 4	-2	20 2	-5		21 3 SCS
GEBBIES PASS	68.52	145.2	11 4	-3				
HONOLULU	73.69	70.7	11 37A	-1	21 3	-5		21 44 SCS

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TIFLIS	76.49	310.5	11	54	0	21	44	5			
COLLEGE	79.43	25.7	12	7K	-3	21	59	-12	29	41	
APATITY	81.54	337.2	12	20	-1	22	31	-2	28	19	SS
TANANARIVE	82.17	249.2	12	26	2				15	37	PP
SIMFEROPOL	83.98	314.5	12	27A	-7	22	56	-1	15	53	PP
PULKOVO	83.98	329.6	12	33	-1	22	53	-4	23	1	SCS
KSARA	84.22	303.2	12	42	7	23	10	10			
JERUSALEM	85.07	301.3	12	52A	13	23	16	8			
KIRUNA	86.33	338.5	12	43	-2	23	17	-3	16	15	PP
IASI	88.06	317.5	13	12	18				23	55	SKKS
BUCHAREST	89.69	315.0	13	21	20	23	54	2			
LWOW	89.70	320.6	13	0	-2	23	50	-2	16	32	PP
UPPSALA	90.14	331.3	13	1A	-3	23	28	-28	16	33	PP
WARSAW	90.84	323.5	13	6A	-1	24	2	0	18	54	PPP
SKALSTUGAN	91.03	335.7	13	6	-2						
RESOLUTE	91.74	10.0	13	9K	-2						
SOFIA	92.07	313.9	13	13	1	23	45	-28			
KRAKOW	92.17	321.6	13	13	0	24	15	1			
BELGRADE	93.46	316.5	14	19A	60				24	53	PPS
HURBANOVO	93.96	319.9				24	36	6	18	49	
BRATISLAVA	94.55	320.4	13	21	-3	24	25	-10	17	19	PP
PRAGUE	95.48	322.9	13	28	0	24	46	4	14	38	
HAMBURG	96.52	327.2	13	34	1				17	3	PP
SCORESBY SD.	96.58	349.5	13	32	-1						
JENA	96.79	324.4	13	33	-1	24	54	0	17	36	PP
LWIRO	97.10	269.0	11	57	-98				17	38	
TRIESTE	97.61	318.9	13	37	-1	24	14	-47	25	6	S
WITTEVEEN	98.63	327.5	13	44	2						
MESSINA	99.11	311.5	13	43	-2	24	23	-50			
STUTTGART	99.12	323.1	13	43	-2	25	18	5	17	45	PP
EBINGEN	99.53	322.7	13	45	-1						
DE BILT	99.78	327.3							26	54	PS
FLORENCE X.	100.00	317.9	13	33	-16				17	23	PP
STRASBOURG	100.06	323.4	13	48	-1	25	18	-3	18	0	PP
MINERAL	100.28	45.7							14	17	
ABERDEEN	100.45	334.0	13	58	7	25	25	1	17	45	PP
PRETORIA	100.98	245.6	13	52	-1						
SANTA CLARA	101.17	48.7							12	35	
LICK	101.40	48.6	13	53	-2						
HUNGRY HORSE	101.63	36.0	14	0K	4	24	28	-66	30	8	PKKP
DURHAM	101.67	331.9	13	52	-4				24	42	
PARIS	102.97	325.4	14	1	-1				18	20	PP
KEW	103.00	328.7				24	48	-58	25	50	S
BUTTE	103.66	37.5	13	58	-7						
TINEMAHA	104.01	47.7	14	18	12	24	46	-68	18	21	PP
WOODY	104.10	49.2	14	17	10				18	23	PP
CLERMONT-FD.	104.20	322.5	14	11	4	24	56	-60	18	29	PP
KIMBERLEY	104.26	242.9							18	38	PP
ISABELLA	104.41	49.1	14	15	7				18	15	PP
EUREKA	104.58	44.7	14	8A	-1				18	26	PP
BOZEMAN	104.75	37.3							18	20	PP
RATHFARNHAM	104.75	332.5				24	58	-62	17	36	PP
CHINA LAKE	104.99	48.7	14	16	5				18	36	PP
PASADENA	105.24	50.5	14	23	777	24	17	-77	18	14	PP
RIVERSIDE	105.90	50.3	14	24	777				18	26	PPP
PALOMAR	106.56	50.8	14	26	777				18	29	PP
SALT LAKE C.	106.76	42.0							18	20	PP
BOULDER CITY	106.95	47.5							19	2	PP
BARRETT	106.98	51.3	14	24	777				27	56	PS
HERMANUS	109.15	237.1				25	13	4	28	24	PS
HAYFIELD	107.34	50.0	14	37	777				18	33	PP
RAPID CITY	110.24	35.3	14	17	-257				18	49	PP
ALICANTE	110.36	317.3	18	33	-1	25	14	0	21	38	PPP
RELIZANE	111.00	314.5							19	43	PP
TUCSON	111.60	49.4							29	43	PKKP
TAMANRASSET	112.85	299.9	18	37	-2	26	40	76	19	35	PP
MALAGA	113.86	317.7							11	38	PPS
CHIHUAHUA	116.94	50.7				25	10	-29	20	58	
LUBBOCK	117.34	43.8	18	49	1						
KIRKLAND LA.	117.67	19.1	18	47	-1						
FAYETTEVILLE	120.66	37.1							18	54	PP
FLORISSANT	120.88	32.3							20	21	PP
SHAWINIGAN	121.21	14.7	18	54A	-1						
OTTAWA	121.46	17.5	18	56	0						
HALIFAX	124.86	8.0	19	6	4						
PENNSYLVANIA	124.86	21.6							20	56	PP
MORGANTOWN	125.08	24.0	19	3	0						
WESTON	125.47	15.4	19	13K	9						

PALISADES	126.00	18.2	19	5	0				20	45 PP
PHILADELPHIA	126.56	19.9	19	12	6	29	16	185	24	13
TACUBAYA	126.97	56.4	16	30	-156				27	58 SKKS
COLUMBIA	129.32	28.8	19	12	1					
VERA CRUZ	129.57	54.7							20	38
MERIDA	133.59	48.1							20	27
MBOUR	135.61	302.7	19	25	2				22	5 PP
BALBOA HTS.	148.56	53.7	19	45	0					
SAN JUAN	149.38	22.3	19	50	3					
CHINCHINA	154.06	55.6	19	54	0					
FORT FRANCE	154.40	15.3	19	55	2					
BOGOTA	155.51	54.1	20	15	20					
HUANCAYO	159.36	97.2	20	6	6				31	6 SKKS
LA PAZ	165.21	116.7	20	8	2				31	26 SKKS

FEBRUARY 11 1.H 14.M 46.S EPICENTRE 10.12 126.04 DEPTH= 0.KM

A=-0.57932 B= 0.79621 C=0.17448 D= 0.8086 E= 0.5883
G=-0.1027 H= 0.1411 K=-0.9847 HT= 6.5
SE= 3.37

	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	6.64	312.4	1	49	8	3	15	17				
BAGUIO CITY	8.22	320.3	2	1	-2	3	45	12				
HENGCHUN	12.86	337.4	3	30	24							
TAWU	13.13	338.6	3	21	11	6	2	24				
TAITUNG	13.41	340.2	3	9	-5							
HSINKONG	13.66	341.5	3	28	11	6	13	22				
TAINAN	13.97	337.2	3	29	8	6	22	24				
HWALIEN	14.41	343.5	3	27	0	6	13	5				
TAIPEI	15.44	344.4	2	25	-75	5	44	-49				
HONG KONG	16.62	318.2	3	56A	1							
CANTON	17.75	318.2	4	10A	0							
GUAM	18.62	77.9	4	16	-4							
YAKUSIMA	20.66	11.0	4	49	6	8	37	7				
ZO-SE	21.36	348.5	4	48	-3						5	11 PP
KAGOSIMA	21.76	10.4	4	56	1	8	54	3				
TOMIE	22.54	6.0	5	38	36	9	7	2				
NANKING	22.83	344.0	5	3A	-2	9	11	0				
KUMAMOTO	23.00	10.1	5	21	14							
SIMIDU	23.44	14.8	5	12	1	9	26	4				
OOITA	23.57	11.8	5	16A	4	9	17	-7				
HUKUOKA	23.70	9.1	5	16	2	9	30	4				
UWAZIMA	23.77	13.6	5	18	4	9	30	3				
MUROTO	24.21	16.8	5	22	3							
KOTI	24.32	15.3	5	22	2	9	37	0				
MATUYAMA	24.39	13.6	5	23	3	9	43	5				
HIROSIMA	24.84	12.7	5	28A	3	9	46	0				
TOKUSIMA	25.10	16.9	5	29	2	9	51	1				
TAKAMATU	25.18	15.7	5	29	1							
HAMADA	25.28	11.7				9	55	2				
SUMOTO	25.44	17.2	5	36	b							
OWASE	25.60	19.8	5	30	-2	9	34	-24				
KOBE	25.84	17.5	5	33	-1	10	24	22				
KAMEYAMA	26.40	19.6	5	35	-4	9	32	-40				
HIKONE	26.71	18.8	6	22	40	10	38	21				
OMAESAKI	26.80	22.7				9	59	-19				
NAGOYA	26.86	20.1	5	31	-13							
GIHU	27.00	19.6	5	54	9							
SHIZUOKA	27.19	22.6	5	44	-3	10	22	-3				
MERA	27.72	24.9	7	18	87							
KOHU	27.84	22.2	5	54	1							
MATUMOTO	28.18	20.7	6	44	48							
OIWAKE	28.46	21.5	6	46	48							
MATUSIRO	28.54	20.8	5	55	-4	10	41	-5				
MAEBASI	28.71	22.3									8	30
RABAUL	29.66	117.4	6	1	-8							
SHIRAKAWA	29.78	23.2	6	15	5							
TAIYUAN	30.10	338.4	6	15	2							
PEKING	31.06	345.2	6	22	1	11	24	-2				
MIZUSAWA	31.88	22.5									7	28 PP
VLADIVOSTOK	33.27	7.8	6	34	-7							
CHANGCHUN	33.59	359.0	6	44	1	12	3	-3				
WUWEI	34.77	326.6	6	57	3							
SUTTSU	34.84	18.4				11	30	-55				
SAPPORO	35.44	19.5	6	52	-7	12	34	-1				

SHILLONG	35.83	299.9	6	57	-6	12	31	-10	8 27	PP
OBIHIRO	35.95	21.7	7	15	11					
WAKKANAI	37.66	18.1	8	19	61					
Y.-SAKHLINSK	39.35	18.1	7	28	-4	13	26	-8	10 4	PP
CHATRA	40.24	299.8	7	38	-2					
BOKARO	40.68	294.8	7	46	3					
PERTH	42.95	192.8	8	4	2	14	24	-4		
MADRAS	44.98	278.3	8	15	-3	14	36	-21	10 6	PP
IRKUTSK	45.59	341.4	8	21	-2	15	3	-3	10 18	PP
BRISBANE	45.62	145.7	8	21	-2	14	46	-20		
COLOMBO	45.75	269.8	8	35	11	15	5	-3		
HYDERABAD	46.69	284.4	8	35	3	15	24	2	10 27	PP
KODAIKANAL	47.77	274.7	8	46	6	15	52	15	10 40	PP
DEHRA DUN	48.89	301.5	8	50	1	15	51	-2	16 4	PS
RIVERVIEW	49.80	152.5	8	57K	1	16	3	-2	10 51	PP
MELBOURNE	50.88	160.7	9	3	-1	16	21	1	10 33	PCP
POONA	51.11	285.6	9	1	-5	16	19	-4		
BOMBAY	52.10	286.0	9	17	4	16	37	0	11 20	PP
LAHORE	52.28	302.1	9	12	-3					
MAGADAN	52.73	15.5	9	15	-3	16	45	-1	19 3	SCS
KLYUCHI	53.43	23.3	9	21	-2	16	56	1	19 2	SCS
SEMIPALATNSK	55.01	325.9	9	38	3	17	17	1		
FRUNSE	55.30	315.6	9	35	-2	17	23	3	10 31	PCP
STALINABAD	58.28	309.2	9	55	-3	17	45	-15		
QUETTA	58.31	299.2	9	55A	-3					
TASHKENT	58.58	312.4	9	56	-4	18	1	-3	13 40	PPP
TIKSI	61.49	1.0	10	20	0	18	42	1		
ASHKABAD	66.27	307.0	10	54	2	19	53	12		
KARAPIRO	66.48	139.0	10	58	5					
KAIMATA	66.81	145.1	11	7	12	19	44	-3		
WELLINGTON	67.99	142.3				19	54	-7	20 49	SCS
TUAI	68.03	139.0	11	6	3					
CHRISTCHURCH	68.13	145.3	11	6	3	19	57	-6	21 1	SCS
SVERDLOVSK	68.22	327.4	10	57	-7	19	57	-7		
GEBBIES PASS	68.25	145.4	11	3	-1					
HONOLULU	73.30	70.7	11	35	0				21 44	SCS
TIFLIS	76.82	310.5	11	52	-3	21	44	2	14 50	PP
COLLEGE	79.28	25.7	12	6	-2	21	58	-10	26 52	SS
MOSCOW	80.83	325.1	12	14	-3	22	22	-3	15 19	PP
APATITY	81.73	337.2	12	21	0	22	34	0		
TANANARIVE	82.54	249.3	12	24K	-2				16 7	PP
PULKOVO	84.21	329.6				22	53	-6	12 35	PCP
SIMFEROPOL	84.29	314.5				22	56	-4	12 33	PCP
KSARA	84.58	303.3	12	40	4	23	12	9		
JERUSALEM	85.44	301.3	12	39	-1	23	20	9		
KIRUNA	86.51	338.5	12	43	-3	23	23	2	16 19	PP
IASI	88.35	317.6	13	56	62					
BUCHAREST	90.01	315.1	13	3	1	24	21	27	23 43	SKS
UPPSALA	90.36	331.4	13	1	-3	23	56	-1	16 28	PP
WARSAW	91.11	323.5	13	7	0	24	3	-1	23 41	SKS
SKALSTUGAN	91.23	335.8	13	4	-4				16 40	PP
RESOLUTE	91.69	10.0	13	6A	-4	23	36	-33	29 20	SS
SOFIA	92.40	314.0	13	13	0					
KRAKOW	92.45	321.7	13	11	-2	24	13	-3		
RACIBORZ	93.49	322.1	13	8	-10					
BELGRADE	93.77	316.6	13	17A	-3				25 2	PS
COPENHAGEN	94.55	328.6				24	0	-34	16 56	PP
BRATISLAVA	94.84	320.5	13	18	-6	24	32	-4		
PRAGUE	95.75	323.0	13	30	1	24	50	6		
SCORESBY SD.	96.68	349.7	13	31	-2					
HAMBURG	96.77	327.3	13	36A	3					
JENA	97.06	324.5	13	34	-1				17 6	PP
LWIRO	97.52	269.1							16 55	PP
TRIESTE	97.91	319.1	13	40	2	25	1	-1	24 17	SKS
SHASTA	99.32	45.8	13	47	2				16 42	PP
STUTTGART	99.40	323.2	13	44	-1	25	30	15	24 29	SKS
MESSINA	99.45	311.6	14	51	66	24	29	-46	17 47	PP
EBINGEN	99.80	322.8	13	46	-1					
MINERAL	100.01	45.9	13	48	0					
DE BILT	100.03	327.5							24 32	SKS
ROME	100.24	315.9				24	36	-46	17 56	PP
FLORENCE X.	100.30	318.1	14	2	13	25	29	7	24 34	SKS
STRASBOURG	100.33	323.5				25	26	3	24 32	SKS
BERKELEY	100.46	48.4	13	49	-1	24	25	-59		
ABERDEEN	100.66	334.2				25	43	18	24 38	SKS
SANTA CLARA	100.88	48.8							27 8	PS
LICK	101.11	48.7	13	51	-2					
HUNGRY HORSE	101.41	36.1	13	54	0	24	28	-64	17 56	PP

OROPA	101.59	320.8							19	33	
RENO	101.59	46.1	13	56	1						
FRESNO	102.69	48.7	14	1	1						
PARIS	103.23	325.5	13	59	-3				18	14	PP
KEW	103.24	328.8				25	46	-1	24	47	SKS
GRAHAMSTOWN	103.36	238.1	14	3	0						
BUTTE	103.43	37.7	14	3	0						
TINEMAHA	103.73	47.9	14	6	2				18	25	PP
WOODY	103.81	49.4	14	3	-2				18	15	PP
ISABELLA	104.11	49.3	14	8	2				18	21	PP
EUREKA	104.31	44.9	14	9	2				17	33	PP
CLERMONT-FD.	104.47	322.6	14	10	2				27	38	PS
CHINA LAKE	104.69	48.8	14	12	3				18	27	PP
PASADENA	104.94	50.6	14	14	4	24	48	-73	18	36	PP
RIVERSIDE	105.60	50.5	14	21	777	24	54	-73	18	29	PP
PALOMAR	106.26	50.9	14	29	777				18	48	PP
SALT LAKE C.	106.50	42.1	14	19	777				18	37	PP
BOULDER CITY	106.66	47.7							18	29	PP
BARRETT	106.68	51.5	14	30	777	25	8	10	18	34	PP
HAYFIELD	107.05	50.1							18	42	PP
HERMANUS	109.49	237.1	19	14	777	25	16	0	30	9	PKKP
RAPID CITY	110.02	35.5	18	13	-20				19	14	PP
TUCSON	111.31	49.6							19	18	PP
TOLEDO	112.12	320.5							21	21	PPP
TAMANRASSET	113.22	300.1	18	39	0				29	35	PKKP
GRANADA	113.37	317.9				25	20	-5	19	50	PP
LUBBOCK	117.08	44.1	18	48	1						
FAYETTEVILLE	120.44	37.4							18	51	PP
FLORISSANT	120.69	32.6							30	12	PS
ST. LOUIS 1	120.88	32.7							30	11	PS
SHAWINIGAN	121.13	15.1	18	52A	-2						
OTTAWA	121.37	17.8	18	55	0						
HALIFAX	124.83	8.4							50	54	
WESTON	125.39	15.7							37	45	SS
PALISADES	125.90	18.6	18	42	-22				22	43	PKS
PHILADELPHIA	126.45	20.2	19	36	31						
TACUBAYA	126.64	56.7	18	23	-42	26	5	-5	20	44	PP
COLUMBIA	129.15	29.2	19	10	0						
MBOUR	135.98	303.0							22	5	PP
BERMUDA	136.52	13.2	19	28	4	27	18	45	22	10	PP
BALBOA HTS.	148.25	54.2	19	48	4						
SAN JUAN	149.25	23.0	19	49	3						
CHINCHINA	153.73	56.2	19	52	0						
FORT FRANCE	154.31	16.2	19	54	1						
BOGOTA	155.19	54.8	19	59	5				23	32	PP
HUANCAYO	158.94	97.2	20	4	5				20	44	PKP2
LA PAZ	164.83	116.2	20	8	3				31	34	SKKS

FEBRUARY 11 14.H 25.M 40.S EPICENTRE 9.98 126.26 DEPTH= 0.KM

A=-0.58267 B= 0.79426 C= 0.17217 D= 0.8063 E= 0.5915
G=-0.1018 H= 0.1388 K=-0.9851 HT= 6.5

SE= 2.71

	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
MANILA	6.90	312.1	1	46	1	3	8	3				
BAGUIO CITY	8.46	319.8	2	5	-2							
HSINKONG	13.86	340.9	3	56	36	6	38	42				
TAINAN	14.18	336.7	3	30	6	6	14	11				
HWALIEN	14.60	342.9	3	36	6	6	14	1				
TAIPEI	15.63	343.8	4	2	19	6	44	6				
HONG KONG	16.87	318.0	4	2	3							
CANTON	18.00	318.0	4	15A	2	7	38	6				
GUAM	18.43	77.4	4	12	-6							
ZO-SE	21.54	348.1	4	52	-1	8	45	-3				
NANKING	23.02	343.6	5	7A	-1	9	15	0				
FUTZELING	23.14	337.9	5	10	1							
DJAKARTA	25.15	231.1	5	30	2	9	45	-6				
KYOTO	26.38	17.7	5	40	0							
MATUSIRO	28.59	20.4	5	58	-2						6	45 PP
RABAUL	29.40	117.4	6	6	-1							
PEKING	31.24	345.0	6	21A	-2	11	24	-6				
CHANGCHUN	33.73	358.8	6	46	1						8	1 PP
SHILLONG	36.09	300.0	7	0	-5							
CHATRA	40.50	299.8	7	42	0							
BOKARO	40.93	294.9				13	51	-7				

MADRAS	45.22	278.4	8	21	0	15	4	3	10	9 PP
BRISBANE	45.38	145.8	8	24	2	15	0	-3		
COLOMBO	45.97	270.0	8	28	1	15	12	0		
HYDERABAD	46.94	284.5	8	34	0	15	26	0	10	24 PP
KODAIKANAL	48.00	274.8	8	42	-1					
DEHRA DUN	49.15	301.5	9	4	13	15	59	2		
RIVERVIEW	49.58	152.6	9	9K	14	16	9	6	11	5 PP
MELBOURNE	50.68	160.8	9	6	3					
POONA	51.36	285.7	9	9	1	16	28	1		
BOMBAY	52.34	286.1	9	17	1	16	38	-3	11	20 PP
QUETTA	58.57	299.2	9	59	-2	18	2	-2		
COBB RIVER	66.41	143.3	10	51	-2					
TONGARIRO	66.98	140.2	11	0	3					
COLLEGE	79.30	25.7	12	6	-3					
APATITY	81.94	337.2	12	25	2	22	36	-1		
TANANARIVE	82.70	249.4	12	25	-2					
KSARA	84.84	303.3	12	38	0	23	2	-4	15	54 PP
JERUSALEM	85.70	301.4	12	42A	0					
KIRUNA	86.72	338.5	12	43	-4				23	16 SKS
BUCHAREST	90.26	315.1				23	54	-3		
UPPSALA	90.59	331.4	12	56	-9				23	30 SKS
SKALSTUGAN	91.44	335.9	13	6	-3					
RESOLUTE	91.79	10.1	13	11A	0	24	6	-4		
SCORESBY SD.	96.85	349.7	13	32	-2					
JENA	97.30	324.6	13	35	-1					
LWIRO	97.73	269.1							17	38 PP
SHASTA	99.25	45.8	13	46	1					
STUTTGART	99.64	323.3	13	45	-2					
MESSINA	99.70	311.6				24	37	-41		
MINERAL	99.94	45.9	13	47	-1					
ROME	100.49	316.0							30	58
FLORENCE X.	100.54	318.1	13	48	-3					
LICK	101.03	48.8	13	54	1					
HUNGRY HORSE	101.38	36.2	13	55	0					
TINEMAHA	103.65	48.0							18	37 PP
WOODY	103.72	49.5	14	6	1				17	25
ISABELLA	104.03	49.4	14	32	26				18	23 PP
EUREKA	104.25	45.0	14	9	2				30	16 PKKP
CHINA LAKE	104.62	48.9							18	27 PP
PASADENA	104.85	50.7							19	12 PP
RIVERSIDE	105.52	50.6	14	19	777				18	48 PP
PALOMAR	106.17	51.0	18	2	777				19	3 PP
RAPID CITY	110.00	35.7	18	53	20					
TUCSON	111.23	49.7							19	17 PP
TAMANRASSET	113.48	300.1							19	22 PP
ST. LOUIS 1	120.89	32.9							30	11 PS
SHAWINIGAN	121.20	15.3	18	56	1					
OTTAWA	121.43	18.0	18	59	4					
TACUBAYA	126.53	56.9				26	14	4		
MBOUR	136.24	303.0							22	6 PP
SAN JUAN	149.28	23.5	19	52	6					
HUANCAYO	158.71	97.6	20	6	7				20	44 PKP2
LA PAZ	164.57	116.3	20	11	6				45	45 SS

FEBRUARY 11 15.H 42.M 57.S EPICENTRE 52.86 -1.15 DEPTH= 0.KM

A= 0.60626 B=-0.01215 C= 0.79517 D=-0.0200 E=-0.9998
G= 0.7950 H=-0.0159 K=-0.6064 HT= -6.5

SE= 2.44

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
KEW	1.48	159.5	0	29K	1	0	49	1	0	34	PG	
DURHAM	1.93	352.6	0	40	6	1	5	5				
RATHFARNHAM	3.13	280.2	0	51	-1	1	30	0	0	59	PG	
JERSEY	3.73	189.6				1	43	-3	2	0	SG	
DE BILT	3.94	98.6	1	27	24							
ABERDEEN	4.36	353.2				2	11	9				
PARIS	4.66	148.9	1	14	1	2	11	2	1	40	PG	
WITTEVLEN	4.74	87.3	1	16	2	2	13	2				
HEERLEN	4.84	111.3	1	34	18	2	38	24				
HAMBURG	6.72	79.5	1	45	3	3	0	-1	2	1	P*	
STRASBOURG	7.10	123.6	1	47	-1				3	51	SG	
KARLSRUHE	7.16	118.7				3	17	5	3	51	SG	
BESANCON	7.28	137.5	1	32	-18	3	9	-6	3	37	SG	
CLERMONT-FD.	7.62	156.9	1	51	-4	3	27	4	2	35	PG	
STUTTGART	7.73	117.9	1	56A	0	3	19	-7	2	25	PG	

TUBINGEN	7.80	119.7	1	56	-2	3	21	-7	4	17	SG
NEUCHATEL	7.85	135.1	1	57	-1				4	18	SG
EBINGEN	7.97	122.0	1	58A	-2	3	24	-8	2	27	PG
JENA	8.11	98.7	2	2	0	3	23	-12	2	39	PG
ZURICH	8.32	127.4	2	5	0	3	33	-8			
COPENHAGEN	8.45	65.0	2	7K	0	3	36	-8			
RAVENSBURG	8.56	122.1				3	52	5	4	37	SG
PRAGUE	10.11	99.8	2	30	0	4	25	0			
MONACO	10.77	144.6	2	44	5						
RACIBORZ	12.38	95.2							4	57	
BRATISLAVA	12.52	104.7				5	37	13			
UPPSALA	12.52	48.6	3	0	-2	5	13	-11	5	27	SS
SKALSTUGAN	12.83	27.9	3	8	1	5	26	-5	5	56	SS
KRAKOW	13.43	93.6							5	22	
KIRUNA	18.25	26.5	4	12	-4				8	11	SS
MESSINA	18.68	135.0	4	25	3						
COLLEGE	59.82	344.3	10	8	-2						
HUNGRY HORSE	64.21	317.0	10	37	-2						

FEBRUARY 12 8.H 52.M 48.S EPICENTRE 48.36 154.79 DEPTH= 0.KM

A=-0.60344 B= 0.28404 C= 0.74510 D= 0.4259 E= 0.9048
G=-0.6742 H= 0.3173 K=-0.6669 HT= -4.8

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	
PETROPAVLOVK	5.37	25.7	1	24A	1	2	24	-3			1	41	*SP
KURILSK	5.69	239.2	1	32A	4	2	40	5			1	51	*SP
NEMURO	8.16	235.4	2	2	-1	3	27	-10					
Y.-SAKHLINSK	8.27	264.7	2	8	4	3	45	5			2	28	*SP
UGLEGORSK	8.45	279.6	2	12A	5	3	52	8			2	34	*SP
KLYUCHI	8.77	22.4	2	16	5						2	39	*SP
KUSIRO	9.05	237.4	2	13	-2	3	53	-6					
URAKAWA	10.50	238.2	2	35	0								
SAPPORO	10.78	245.6	2	45	6								
MAGADAN	11.45	349.7	2	52A	4	5	7	9			3	12	*SP
VLADIVOSTOK	16.79	260.4	3	59A	1								
MATUSIRO	16.95	232.0	3	58	-2						4	32	PP
CHANGCHUN	20.87	268.5	4	34	-12	8	37	2					
TIKSI	26.25	341.7	5	38	-1						11	26	SS
PEKING	28.67	267.6	6	1	0								
ZO-SE	30.75	248.2	6	21	2	11	27	5					
NANKING	31.60	252.3	6	26	-1	11	32	-4					
IRKUTSK	31.93	296.3	6	28	-2						7	52	PPP
COLLEGE	34.18	39.8	6	48	-1	12	14	-2			12	32	PCS
HONG KONG	41.42	245.7				14	22	16					
BAGUIO CITY	42.38	233.2	7	52	-6								
SEMIPALATNSK	46.66	302.0	8	34	2								
RESOLUTE	48.95	19.3	8	49A	-1								
SVERDLOVSK	53.43	316.9									20	53	SS
SHILLONG	53.56	268.6	9	24	-1								
FRUNSE	53.95	296.4	9	25	-3								
CHATRA	55.85	273.2	9	41	-1								
HUNGRY HORSE	56.91	52.8	9	49	0								
MINERAL	57.50	64.2	9	53	0								
TASHKENT	58.04	297.7	9	53	-4								
RENO	59.08	64.0	10	13	8								
BUTTE	59.13	54.2	10	5	0								
KIRUNA	59.18	341.6	10	3	-2								
LICK	59.36	67.0	10	7	1								
DEHRA DUN	59.57	282.5	10	3	-5								
STALINABAD	60.09	295.5									20	16	
BOZEMAN	60.18	53.7	10	14	2								
FRESNO	60.86	66.4	10	22	5								
EUREKA	61.40	61.8	10	19	-1						13	20	PP
SCORESBY SD.	61.45	358.8	10	19	-2								
TINEMAHA	61.62	65.2									10	50	PCP
WOODY	62.13	66.8	10	25	0						10	50	PCP
ISABELLA	62.40	66.6	10	26	-1						10	42	PCP
CHINA LAKE	62.82	65.9	10	13	-17								
SALT LAKE C.	62.93	58.4	10	31	0								
PULKOVO	63.15	332.1									11	8	PCP
PASADENA	63.58	67.6	10	34	-1								
MOSCOW	63.76	325.9	10	33	-3								
RIVERSIDE	64.17	67.3	10	37	-2								
BOULDER CITY	64.39	64.1	10	40	0								

SKALSTUGAN	64.56	342.5	10 41	0						
BAIRAM-ALI	64.66	298.6	10 41	-1						
PALOMAR	64.92	67.5	10 43	-1						
RAPID CITY	65.38	50.8	10 47	0						
HAYFIELD	65.44	66.4	10 50	3						
BARRETT	65.50	67.9	10 48	1						
UPPSALA	66.65	338.0	10 54K	-1						
QUETTA	66.77	289.7	10 55	0						
BOULDER	67.09	55.2	10 59	1						
TUCSON	69.36	64.5	11 12	0						
POONA	70.43	276.1	11 19	1					11 39	PCP
BOMBAY	70.85	277.1	11 22	1	20 34	-2				
TIFLIS	71.14	312.0	11 23	1					21 28	SCS
KIRKLAND LA.	72.77	35.0	11 32	0						
SIMFEROPOL	73.56	320.4	11 34A	-3						
LUBBOCK	73.65	57.8	11 44	7						
HAMBURG	74.16	339.1	11 41	1						
IASI	74.36	325.7	11 42	0						
RACIBORZ	75.07	332.7	11 46	0						
WITTEVEEN	75.61	340.7	11 50	1						
FAYETTEVILLE	75.92	51.2	11 50A	0						
JENA	76.18	337.0	11 51	-1						
PRAGUE	76.18	335.0	11 51	-1						
OTTAWA	76.71	34.0	11 54K	-1						
SHAWINIGAN	76.79	31.5	11 55K	0						
BRATISLAVA	77.09	332.5	11 56	-1						
STUTTGART	78.77	337.6	12 6A	0						
TUBINGEN	79.03	337.6	12 8	0						
STRASBOURG	79.31	338.4	12 10	1						
EBINGEN	79.38	337.5	12 10A	0						
SOFIA	79.75	325.8	12 11	-1						
PARIS	80.29	341.8	12 16	2						
BASLE	80.33	338.1	12 10A	-5						
NEUCHATEL	80.98	338.4	12 18	0						
BESANCON	80.98	339.1	12 17	-1						
KSARA	81.70	312.6	12 24	2	22 31	-3			15 30	PP
FLORENCE X.	82.81	334.3	12 26	-2						
CLERMONT-FD.	83.04	340.5	12 24	-5						
MONACO	83.91	336.8	12 32	-1						
ROME	84.16	332.7	12 35	1						
MELBOURNE	86.26	187.8	12 45	0						
TAMANRASSET	104.02	330.9	14 5	-1					18 6	PP
MBOUR	117.11	351.0	18 51	4					22 29	PPP
LA PAZ	132.75	62.8	19 20	3					22 48	PKS

FEBRUARY 13 0.H 29.M 50.S EPICENTRE 9.91 126.22 DEPTH= 0.KM

A=-0.58215 B= 0.79492 C= 0.17090 D= 0.8068 E= 0.5908
G=-0.1010 H= 0.1379 K=-0.9853 HT= 6.6

SE= 2.96

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
MANILA	6.31	312.7	1 48	3	3 6	0		
BAGUIO CITY	8.49	320.3	2 10	3	4 0	15		
HENGCHUN	13.12	337.1	6 4	174				
TAWU	13.38	338.2	3 28	14				
TAITUNG	13.66	339.8	3 24	6	6 7	16		
HSINKONG	13.92	341.1	3 27	6	6 6	9		
TAINAN	14.23	336.9	3 22	-3				
HWALIEN	14.66	343.2	3 35	4	6 26	11		
TAIPEI	15.69	344.1	3 30	-14	6 45	6		
HONG KONG	16.89	318.3	3 48	-11				
CANTON	18.02	313.2	5 2A	48				
GUAM	18.49	77.2	4 17	-2				
ZO-SE	21.60	348.2	4 53	-1	8 49	0		5 37 PP
KAGOSIMA	21.93	9.9	4 56	-1				
NANKING	23.08	343.8	5 8A	0	9 18	2		
ODITA	23.74	11.3	5 21K	6	9 28	1		
KOTI	24.47	14.9	5 20	-2	9 40	0		
HIROSIMA	25.01	12.2	5 26	-1	9 45	-4		
DJAKARTA	25.07	231.2	5 29	1	9 54	4		
SHIZUOKA	27.32	22.2	5 40	-8				
RABAUL	29.41	117.3	6 2	-5				
PEKING	31.30	345.1	6 23A	-1	11 26	-5		
MIZUSAWA	32.01	22.2			11 37	-5		
VLADIVOSTOK	33.46	7.6	6 31	-12				
PAOTOW	33.75	337.5	6 46	1				

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CHANGCHUN	33.81	358.8	6	45	-1				
SHILLONG	36.09	300.1	7	4	-1	12	41	-4	8 28 PP
CHATRA	40.49	299.9	7	42	0				
PERTH	42.79	193.0	8	3	2	14	30	4	18 0 SS
MADRAS	45.18	278.5	8	22	2	15	5	4	9 54 PCP
BRISBANE	45.35	145.7	8	21	-1	14	54	-9	
IRKUTSK	45.84	341.4	8	24	-2				
COLOMBO	45.92	270.0	8	25	-1	15	15	4	
HYDERABAD	46.91	284.6	8	33	-1	15	25	0	10 20 PP
KODAIKANAL	47.96	274.9	8	44	2	15	35	-5	10 32 PP
DEHRA DUN	49.15	301.6	9	0	8	15	58	1	18 45 SS
RIVERVIEW	49.53	152.5	8	57K	2	16	2	0	10 53 PP
MELBOURNE	50.63	160.8	9	3	0	16	17	0	9 13 *PP
POONA	51.33	285.8	9	8	0	16	27	0	11 11 PP
BOMBAY	52.32	286.2	9	17	1	16	43	2	11 21 PP
LAHORE	52.50	302.2	9	14	-3				
FRUNSE	55.57	315.7	9	37	-3	17	23	-2	
NAMANGAN	57.02	312.7	9	49	-1	17	47	3	
QUETTA	58.57	299.3	9	59A	-2	18	4	0	12 9 PP
TIKSI	61.70	1.0	10	28	6				
ONERAHI	64.21	137.7	10	44	5				
KARAPIRO	66.21	139.0	10	52	0				
COBB RIVER	66.38	143.2	10	55	2				
KAIMATA	66.54	145.1	10	59	5				
TONGARIRO	66.95	140.2	10	55	-2				
WELLINGTON	67.71	142.4	11	OK	-1	19	49	-10	27 10 SSS
TUAI	67.76	139.0	11	4	2				
CHRISTCHURCH	67.86	145.3	11	2	0	20	2	2	
GEBBIES PASS	67.98	145.5	11	5	2				
SVERDLOVSK	68.49	327.5	11	3	-3				
HONOLULU	73.21	70.7	11	33	-2				
MAKHACH-KALA	75.07	311.8	11	44	-2	21	21	-3	
TIFLIS	77.09	310.6	11	55	-2	21	45	-1	
COLLEGE	79.39	25.7	12	6	-4	22	0	-10	30 23 SSS
SOTCHI	80.73	312.7	12	15	-2	22	23	-1	
MOSCOW	81.10	325.1	12	15	-4	22	18	-10	
APATITY	81.99	337.2	12	23	0	22	33	-4	17 32 PPP
TANANARIVE	82.63	249.4	12	20A	-7				12 31 PCP
PULKOVO	84.48	329.6	12	34	-2	22	58	-4	
SIMFEROPOL	84.56	314.5	12	35	-1	22	57	-6	
KSARA	84.84	303.3	12	39	1	23	14	8	15 52 PP
JERUSALEM	85.70	301.4	13	44A	62				
KIRUNA	86.77	338.5	12	45	-2	23	48	24	23 19 SKS
KISHINEV	87.82	317.2	12	51	-1				
LWOW	90.26	320.7	13	2	-2				23 32 SKS
BUCHAREST	90.29	315.1				23	36	1	23 58 SKS
UPPSALA	90.63	331.4	13	4K	-2				
SKALSTUGAN	91.49	335.9	13	7	-3				
RESOLUTE	91.87	10.1	13	10A	-1				
BRATISLAVA	95.11	320.6	13	26	0				
PRAGUE	96.03	323.0	13	59	28				
SCORESBY SD.	96.92	349.7	13	34	-1				
JENA	97.33	324.6	13	34	-2				
LWIRO	97.69	269.1							17 20 PP
SHASTA	99.34	45.8	13	45	0				
STUTTGART	99.67	323.3	13	46	-1	25	19	1	
MESSINA	99.71	311.6							24 25
MINERAL	100.03	45.9	13	57	8				
HUNGRY HORSE	101.47	36.2	13	55	0				
BUTTE	103.49	37.8	14	8	4				
TINEMAHA	103.73	48.0							18 22 PP
WOODY	103.81	49.5	14	5	0				18 25 PP
EUREKA	104.33	45.0	14	12	4				
CHINA LAKE	104.70	48.9							18 22 PP
PASADENA	104.94	50.7							18 33 PP
PALOMAR	106.25	51.0	14	16	777				18 39 PP
SALT LAKE C.	106.54	42.3							18 15 PP
BARRETT	106.67	51.6							18 34 PP
HERMANUS	109.52	237.0				25	10	0	
RAPID CITY	110.09	35.6	18	33	0				29 49 PKKP
BOULDER	111.18	40.1	19	12	36				
TUCSON	111.31	49.7							19 13 PP
TAMANRASSET	113.48	300.1	18	36	-4				19 30 PP
SHAWINIGAN	121.29	15.2	18	56	1				
OTTAWA	121.51	18.0	18	59	3				
PALISADES	126.04	18.8							37 50 SS
BALBOA HTS.	148.22	54.7	19	49	4				
SAN JUAN	149.37	23.5	19	52	5				

HUANCAYO	158.74	97.7	20	7	7						20	44 PKP2
LA PAZ	164.58	116 6	20	10	5						31	49 SKKS

FEBRUARY 13 12.H 37.M 17.S EPICENTRE -18.84 169.29 DEPTH= 227.KM

DEPTH OF FOCUS= 0.031R

A=-0.93061 B= 0.17593 C=-0.32095 D= 0.1858 E= 0.9826
G= 0.3154 H=-0.0596 K=-0.9471 HT= 4.9

SE= 1.12

	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	
NOUMEA	4.35	217.2	1	7	0	1	58	-2					
BRISBANE	17.24	237.1	3	48	0	6	56	6					
ONERAHI	17.45	166.1	3	51	1								
KARAPIRO	19.78	165.3	4	13	-1	7	44	5					
TONGARIRO	21.00	166.4	4	27	1								
TUAI	21.03	162.7	4	27	1	8	3	1					
RIVERVIEW	22.02	223.7	4	37A	1	8	24	5	5	21			
RABAUL	22.17	308.9	5	1	24								
COBB RIVER	22.36	173.2	4	39	0								
KAIMATA	23.68	176.1	4	52	0								
GEBBIES PASS	24.95	174.2	5	1	-3								
MELBOURNE	28.43	223.2	6	25	50								
BAGUIO CITY	59.36	303.1	9	17	-23								
MATUSIRO	62.43	332.0	10	1	1	18	1	-7					
UKIAH	85.39	46.1	12	13	1								
BERKELEY	85.46	47.6	12	13A	0				13	9			
LICK	85.65	48.3	12	14A	0								
SHASTA	86.70	45.0	12	20A	1				13	20			
FRESNO	86.70	49.5	12	20A	1								
PASADENA	86.77	52.4	12	18A	-1				13	20	15	44 PP	
WOODY	86.92	50.8	12	20A	0				13	21	15	45 PP	
MINERAL	87.07	45.6	12	20A	-1								
BARRETT	87.29	54.3	12	21A	-1						15	48 PP	
RIVERSIDE	87.29	52.8	12	21A	-1								
PALOMAR	87.42	53.6	12	23A	1				13	24	15	48 PP	
CHINA LAKE	87.90	51.1	12	25A	1				13	27			
RENO	87.93	47.0	12	27A	2								
TINEMAHA	87.96	49.8	12	26A	1				13	24	16	2 PP	
CORVALLIS	87.96	41.3	12	26A	1								
HAYFIELD	88.51	53.7	12	29	2								
COLLEGE	89.65	16.9	12	29	-4				13	29			
BOULDER CITY	90.01	51.9	12	34	0				13	35			
SEATTLE	90.05	39.0	12	36	1								
HORSESHOE B.	90.30	37.1	11	36	-60								
EUREKA	90.59	48.3	12	36	-1						16	17 PP	
TUCSON	91.68	56.6	12	42	0								
SALT LAKE C.	94.00	48.3	12	53	0								
HUNGRY HORSE	95.36	40.7	12	58	-1						16	51 PP	
BOZEMAN	96.29	43.9	13	3	0								
BOULDER	98.47	50.7	13	13	0								
RAPID CITY	101.12	47.2	13	24	-1								
QUETTA	109.63	296.1	17	8	777								
OTTAWA	120.64	47.9	18	23A	-1								
SHAWINIGAN	122.58	46.4	18	27A	-1								
KIRUNA	127.20	345.7	18	35	-2						19	56 PP	
SKALSTUGAN	132.62	346.3	18	45	-2						20	17 PP	
LWIRO	135.86	245.9	18	58	5								
PRAGUE	142.93	333.0	19	4	-2								
BRATISLAVA	143.06	328.7	19	5	-1								
JENA	143.43	336.2	19	5	-2								
RATHFARNHAM	145.43	332.3	19	11K	0								
STUTTGART	146.08	336.2	19	13A	1				20	21			
EBINGEN	146.65	335.8	19	15A	2								
STRASBOURG	146.77	337.4	19	16A	3								
PARIS	148.25	343.3	19	19	4								
NEUCHATEL	148.40	336.7	19	19	4								
BESANCON	148.54	338.0	19	19	4								
FLORENCE X.	149.04	328.2	19	18	2				20	23			
TAMANRASSET	164.33	287.3	19	37	2						20	34 PKP2	
MBOUR	172.54	125.5	19	42	1						21	12 PKP2	

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FEBRUARY 17 15.H 46.M 50.S EPICENTRE 16.27 -96.61 DEPTH= 58.KM

DEPTH OF FOCUS= 0.004R

A=-0.11057 B=-0.95409 C= 0.27837 D=-0.9934 E= 0.1151
G=-0.0320 H=-0.2765 K=-0.9605 HT= 5.5

SE= 1.81

	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	
OAXACA	0.76	348.5	0	16K	-1	1	30	61					
VERA CRUZ	2.95	8.9	0	48K	2	1	27	6					
PUEBLA	3.14	331.4	0	52	3	1	32	7					
TACUBAYA	3.97	322.0	1	1	1	1	47	1					
COMITAN	4.30	89.6	1	7	2	2	3	8					
SAN SALVADOR	7.56	108.5	1	52	1	2	42	-34					
GUADALAJARA	7.73	305.6	1	50	-3	3	25	5					
MANZANILLO	7.86	291.7	1	50	-5	3	16	-7					
MERIDA	8.10	53.6	1	53K	-5	3	22	-7					
MAZATLAN	11.50	308.3	2	44	0								
CHIHUAHUA	15.09	326.2	3	33	2	6	21	4					
LUBBOCK	17.88	345.6	4	6	0	7	56	35	4	17			
BALBOA HTS.	18.15	111.2	4	8	-2	7	42	15					
FAYETTEVILLE	19.86	5.8	4	28K	-1	8	26	22	4	39			
TUCSON	20.49	323.5	4	36	0	8	30	13					
COLUMBIA	22.55	35.6	4	55	-1	9	8	13	5	16	5	44	PP
CHINCHINA	23.46	116.3	5	7	2	9	34	23					
BARRETT	24.43	315.6	5	15A	0	10	12	44			6	10	PP
BOULDER	24.86	344.0	5	19	0								
PALOMAR	24.96	316.7	5	20A	0						8	54	PCP
BOGOTA	24.97	115.2	5	23	3	9	51	14			5	37	PP
CHAPEL HILL	25.06	35.3	5	19	-2	10	21	43					
BOULDER CITY	25.47	323.9	5	26	1	10	11	26					
RIVERSIDE	25.70	317.2	5	27A	0	10	12	23			6	16	PP
PASADENA	26.32	316.6	5	33A	1	10	17	18			6	29	PP
CHICAGO CGS.	26.58	15.2	5	46	11	10	14	11					
CHINA LAKE	27.00	320.1	5	40A	1						7	7	PP
ISABELLA	27.44	318.9	5	43A	0						7	13	PP
MORGANTOWN	27.44	28.7	5	42	-1	10	20	3					
WOODY	27.71	318.5	5	45A	0						6	39	PP
SALT LAKE C.	27.76	334.6	5	56	10	11	8	46			9	0	PCP
TINEMAHA	28.20	321.4	5	50A	0						9	2	PCP
RAPID CITY	28.28	349.9	5	51	1						8	35	PCP
EUREKA	28.65	327.6	5	54	0								
FRESNO	28.97	319.3	5	56A	-1						7	36	
SAN JUAN	29.17	81.4	5	33	-25						5	56	
PENNSYLVANIA	29.34	29.8	6	0	0	11	0	12			6	38	PP
PHILADELPHIA	30.08	34.1	6	57	51	12	40	101					
LICK	30.49	318.3	6	10A	0						9	7	PCP
SANTA CLARA	30.69	318.1	6	9	-3								
RENO	30.78	323.5	6	14A	1								
BERKELEY	31.20	318.6	6	16A	0	11	28	11			7	36	PP
PALISADES	31.50	34.0	6	18	0	11	17	-3			13	12	SS
BOZEMAN	31.71	340.6	6	21	0	11	36	11	6	37			
MINERAL	32.34	322.9	6	26A	0				6	44			
BUTTE	32.53	339.1	6	28	0	11	45	7			7	3	
UKIAH	32.55	319.7	6	29	1						9	13	PCP
SHASTA	33.03	322.7	6	30A	-2						8	0	PP
BERMUDA	33.06	55.1	6	31	-1	11	59	13					
OTTAWA	33.93	26.8	6	39A	-1	12	6	7			7	51	PP
ST. VINCENT	34.30	90.4	6	41	-1								
ST. LUCIA	34.41	88.8	6	44	1								
KIRKLAND LA.	34.59	19.6	6	44A	-2						9	18	
HUNGRY HORSE	35.04	339.6	6	50	1	12	25	8					
HUANCAYO	35.14	141.9	6	51	1	12	11	-7			8	11	PP
CORVALLIS	36.10	327.0	6	59A	1						9	24	PCP
SHAWINIGAN	36.12	28.2	6	58A	-1						16	48	SCS
SEVEN FALLS	37.44	29.2	3	43	-207	9	33	-200					
SEATTLE	37.78	331.4	7	14	1								
VICTORIA	38.93	331.5	7	22	0								
HORSESHOE B.	39.50	332.5	7	33	6	13	39	14					
LA PAZ	43.00	137.9	7	54	-2	14	31	15			17	43	SS
HONOLULU	58.13	285.2	9	49	-1								
RESOLUTE	58.43	0.5	9	50A	-2	18	16	27					
COLLEGE	59.43	337.3	9	57	-2						10	43	
SCORESBY SD.	69.66	20.2	11	5	-1								
MBOUR	76.35	78.8	11	44	-1						11	57	PCP
RATHFARNHAM	77.33	38.0	11	49A	-1	21	39	6	12	7			
KEW	81.29	39.0	12	12	0	22	29	13			22	37	SCS

SKALSTUGAN	83.69	25.2	12 25A	1							
PARIS	83.77	41.0	12 25	0	22 47	6	12 47		15 47	PP	
KIRUNA	84.73	19.8	12 29A	0	23 2	11	12 51		24 3	PS	
WITTEVEEN	84.99	36.4	12 32	1					13 1		
CLERMONT-FD.	85.11	43.8	12 32	1							
RELIZANE	86.30	54.0	12 35	-1					14 56		
BESANCON	86.49	41.8	12 38	0							
HAMBURG	86.57	34.9	12 39	1							
TIKSI	87.11	346.9	12 40	-1							
STRASBOURG	87.15	40.1	12 42	1			12 56				
UPPSALA	87.64	27.4	12 43A	-1			13 5				
STUTTGART	87.96	39.6	12 45A	0					13 17		
EBINGEN	88.04	40.2	12 46A	1					13 24		
JENA	88.52	37.0	12 47	-1					16 1[illegible]	PP	
PRAGUE	90.54	37.0	12 57	0					13 53		
TRIESTE	92.06	41.2	13 4	0	22 51	-68	13 14				
BRATISLAVA	92.97	37.9	13 17	9							
TAMANRASSET	94.54	64.8	13 17A	1					16 16	PP	
LWOW	96.02	34.1	13 22	0							
MESSINA	96.55	47.3					13 36		17 5	PP	
MOSCOW	98.60	24.2	13 34	0							
SIMFEROPOL	104.42	33.8	13 21	-39							
KSARA	112.70	41.7	18 24	-6					19 20	PP	
JERUSALEM	113.56	43.8							19 19	PP	
NAMANGAN	122.02	10.5	18 51	3							
LWIRO	124.54	81.4	18 56A	3							
ASTRIDA	125.53	81.4	18 57A	2							
QUETTA	131.18	19.0	19 8A	2					22 3[illegible]	PKS	
SHILLONG	137.61	348.6	19 6	-12							
POONA	144.17	15.6	19 29	-1							
TANANARIVE	145.77	99.8	19 35A	3					29 33		

FEBRUARY 18 14.H 49.M 31.S EPICENTRE 25.66 -45.45 DEPTH= [illegible].KM

A= 0.63319 B=-0.64313 C= 0.43064 D=-0.7126 E=-0.7016
G= 0.3021 H=-0.3069 K=-0.9025 HT= 3.2

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	
BERMUDA	18.09	236.2	4	5	-9	7	25	-9			5	50	
DOMINICA	18.12	238.4	4	22	8								
FORT FRANCE	18.30	236.5	4	16	-1	8	4	25			4	3[illegible]	PP
ST. LUCIA	18.64	234.6	4	25	4								
ANGRA DO HO.	20.09	45.4									10	19	
SAN JUAN	20.47	253.4	4	41	-1	8	38	11					
TRINIDAD	21.32	228.5	4	51	1								
HALIFAX	23.95	326.8	5	19A	2	9	49	18			10	4[illegible]	SS
WESTON	27.01	314.6	5	53A	7								
PALISADES	28.12	310.1	5	57	2	10	45	5			6	31	PP
PHILADELPHIA	28.61	307.2				10	53	5			12	[illegible]	
MBOUR	28.95	107.3	6	2	-1	10	58	5			6	3[illegible]	PP
SEVEN FALLS	29.37	323.4	2	39	-208								
SHAWINIGAN	30.11	320.8	6	14	1								
CHAPEL HILL	30.49	297.7	6	17	0								
PENNSYLVANIA	30.83	307.4	6	23	3	12	34	71					
OTTAWA	31.27	316.8	6	23K	-1	11	19	-11					
MORGANTOWN	32.01	304.4	6	32	2						3	5	
BOGOTA	34.50	237.5	7	2	10	12	49	29			8	9	PP
KIRKLAND LA.	35.18	318.7	6	57A	-1								
MALAGA	36.56	62.4	7	6A	-3	12	58	6					
GRANADA	37.24	61.7	7	23K	8	13	35	32			8	23	PP
TOLEDO	37.25	57.2	6	12	-63								
ST. LOUIS 1	39.69	300.3	7	35K	-1	13	31	-9			9	7	PP
ALICANTE	39.81	60.2	7	38	1	13	43	1			9	15	PP
FLORISSANT	39.82	300.5	7	39A	2						9	10	PP
REYKJAVIK	41.42	15.4	7	51	1								
FAYETTEVILLE	42.73	296.2	8	1	1								
DURHAM	43.28	35.9	8	12	7								
CLERMONT-FD.	43.48	49.7	8	15	8								
PARIS	43.71	45.3	8	11	3	14	43	4			11	1	PPP
BESANCON	45.68	48.1	8	20	-4						9	18	
NEUCHATEL	46.30	48.6	8	31	2								
TAMANRASSET	46.34	82.3	8	29K	0						10	16	PP
SCORESBY SD.	46.86	10.6	8	33	-1								
STRASBOURG	47.09	46.6	8	36	1								

WITTEVEEN	47.26	40.7	8 37	0					
LA PAZ	47.37	210.2	8 36	-2	15 42	10		10 48	PP
HUANCAYO	47.45	221.4	8 37	-1				10 47	PP
PAVIA	47.62	51.3						22 5	
EBINGEN	47.82	47.3	8 39	-2					
STUTTGART	48.05	46.5	8 41	-2					
LUBBOCK	49.16	293.2	8 52	1	16 12	15			
HAMBURG	49.37	40.3	8 54	1					
RAPID CITY	49.79	307.0	8 57	1	16 14	8		10 56	PP
JENA	49.89	44.0	8 52	-5				9 47	
COPENHAGEN	51.20	38.0	9 9	2	16 34	9		22 29	L
BOULDER	51.40	301.8	9 9	0					
PRAGUE	51.60	45.3	9 11	1				9 37	
SKALSTUGAN	53.08	28.2	9 19	-2					
BRATISLAVA	53.24	47.9	9 23	1				9 49	
RACIBORZ	54.02	45.5	9 23	-5					
UPPSALA	54.59	33.5	9 30	-3	17 30	17			
RESOLUTE	55.17	345.8	9 32K	-5					
BOZEMAN	55.36	309.1	9 39	1					
SALT LAKE C.	56.32	303.2	9 45	0					
BUTTE	56.40	309.6	9 45	0					
TUCSON	56.82	293.0	9 48	-1					
HUNGRY HORSE	57.27	312.4	9 50	-2					
KIRUNA	57.42	24.3	9 51A	-2					
LWOW	57.78	45.8	9 53	-2					
BANFF	58.13	315.6	9 57	-1					
BOULDER CITY	59.36	298.1	10 7	1					
PULKOVO	61.07	34.1	10 16	-2					
KISHINEV	61.22	48.7	10 22	3					
BARRETT	61.55	294.7	10 22	1					
CHINA LAKE	61.59	298.4	10 21K	-1				39 26	PKPPKP
PALOMAR	61.60	295.5	10 21K	-1					
RIVERSIDE	61.82	296.3	10 22K	-1				39 39	PKPPKP
TINEMAHA	61.83	299.9	10 25	2					
ISABELLA	62.32	298.4	10 27K	1				39 38	PKPPKP
PASADENA	62.42	296.7	10 27K	0	19 12	19		10 34	
RENO	62.54	302.9	10 27K	-1					
WOODY	62.62	298.5	10 27K	-1				39 37	PKPPKP
SEATTLE	62.87	312.3	10 30	0					
FRESNO	63.12	299.9	10 31	-1					
HORSESHOE B.	63.24	314.3	10 29	-3					
VICTORIA	63.47	313.4	10 32	-2					
MINERAL	63.72	304.1	10 36K	0					
CORVALLIS	64.09	309.0	10 38K	0					
SHASTA	64.23	304.7	10 37K	-2				11 23	
LICK	64.42	300.9	10 41K	1					
BERKELEY	64.77	301.6	10 48K	0					
UKIAH	65.21	303.1	10 47	2					
SIMFEROPOL	65.21	50.3	10 56	11					
MOSCOW	65.38	38.2	10 45	-1					
KSARA	69.40	61.5	11 13	1				13 4,	PP
COLLEGE	72.13	334.0	11 27	-1					
TIFLIS	73.58	51.3	11 37	0					
ASTRIDA	77.80	98.9	12 0	-1					
PRETORIA	87.51	120.0	12 52	1					
NAMANGAN	91.73	42.4	13 12	1					
QUETTA	94.72	53.4	13 25K	1					

FEBRUARY 18 23.H 49.M 57.S EPICENTRE -11.43 -77.53 DEPTH= 124.KM

DEPTH OF FOCUS= 0.014R

A= 0.21177 B=-0.95729 C=-0.19686 D=-0.9764 E=-0.2160
G=-0.0425 H= 0.1922 K=-0.9804 HT= 6.3

SE= 1.77

	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	
HUANCAYO	2.24	106.2	0	36	-1	1	3	-2					
LA PAZ	10.42	120.0	2	28	1	4	25	3			2	40	PP
BOGOTA	16.31	12.4	3	43	0	6	59	19					
CHINCHINA	16.40	6.7	3	45	1	6	49	7					
BALBOA HTS.	20.36	354.2	4	28	0	8	17	13					
GALERAZAMBA	22.18	5.9				8	57	20					
SAN JUAN	31.68	20.9	6	12	-1				6	42			
TACUBAYA	37.34	324.9				12	57	17	7	30	7	47	*SP
COLUMBIA	45.30	355.9	8	6	-1								
CHAPEL HILL	47.11	358.3									8	20	

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FAYETTEVILLE	49.81	342.3	8	47A	5				9	4			
LUBBOCK	50.40	333.5	8	45	-1				9	3			
MORGANTOWN	50.84	357.6	8	49	-1								
ST. LOUIS 1	51.20	347.2	8	50A	-2	16	3	4	9	8	10	5	PCP
FLORISSANT	51.38	347.2	8	53	-1								
PALISADES	52.28	3.5	9	0	-1	16	18	4					
WESTON	53.84	5.7	9	11	-1								
TUCSON	53.86	324.8	9	11	-1								
OTTAWA	56.58	1.5	9	31A	-1						10	27	PCP
BOULDER	57.32	334.8	9	36	-1								
BARRETT	57.62	320.9	9	40	1				9	57	10	7	*SP
SHAWINIGAN	57.87	3.9	9	57	16								
PALOMAR	58.20	321.4	9	43	0				10	1	10	10	*SP
SEVEN FALLS	58.59	5.4	6	14	-212								
BOULDER CITY	58.84	324.9	9	47	0				10	2			
RIVERSIDE	58.95	321.6	9	48A	0				10	7	10	16	*SP
KIRKLAND LA.	59.35	358.0	9	53	2								
PASADENA	59.54	321.2	9	52A	0	18	2	12	10	12	10	20	*SP
RAPID CITY	59.98	338.9	9	54	-1								
CHINA LAKE	60.33	323.0	9	57	-1				10	16	10	26	*SP
ISABELLA	60.74	322.3	10	7	7				10	19			
SALT LAKE C.	60.86	330.6	10	2	1				10	21			
WOODY	61.00	322.1	10	2	0				10	19	39	22	PKPPKP
TINEMAHA	61.55	323.6	10	5A	-1				10	24	10	34	*SP
EUREKA	61.99	327.0	10	9	0				10	28	10	46	*SP
FRESNO	62.28	322.4	10	9K	-2								
LICK	63.76	321.8	10	19K	-1								
RENO	64.15	324.7	10	23	0				10	43			
BOZEMAN	64.36	334.6	10	24	0				10	42			
BERKELEY	64.48	321.9	10	25	0				10	44			
MINERAL	65.71	324.3	10	32	-1								
MBOUR	65.26	68.3	10	31	1	19	16	14	10	52	11	9	PCP
BUTTE	65.28	333.9	10	30	0				10	49			
UKIAH	65.86	322.4	10	34	0				10	52	11	25	
SHASTA	66.39	324.2							10	54	11	5	
HUNGRY HORSE	67.72	334.6	10	45	-1				11	5	39	5	PKPPKP
CORVALLIS	69.45	326.8	10	57	1				11	16			
SEATTLE	71.00	329.8	11	7	1								
MALAGA	83.60	50.7	12	13A	-2						38	33	PKPPKP
TOLEDO	84.90	47.8	12	23	1						12	51	
RESOLUTE	86.63	355.4	12	30A	0								
TAMANRASSET	88.06	66.4									12	38	
RATHFARNHAM	88.18	34.7	12	29	-9						13	29	
SCORESBY SD.	89.95	16.1	12	47	1								
KEW	91.02	37.6	12	51	0				13	13			
COLLEGE	92.11	336.3	12	57	1				13	15	16	43	PP
KIMBERLEY	95.12	120.5	13	10	0								
STUTTGART	96.35	41.7	13	15	0								
JENA	98.21	39.7	13	24	0								
QUETTA	142.13	55.0	19	14	-3						22	58	PKS
LAHORE	147.20	48.0	19	28	2								
POONA	151.49	72.2	19	34	2								
SHILLONG	162.73	34.0	19	49	3								

FEBRUARY 19 7.H 43.M 59.S EPICENTRE 36.22 21.58 DEPTH= 30.KM

A= 0.75197 B= 0.29748 C= 0.58826 D= 0.3679 E=-0.9299
G= 0.5470 H= 0.2164 K=-0.8087 HT= -0.3

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	
ATHENS	2.44	43.7	0	37A	-1	1	12	5					
REGGIO CALA.	5.10	293.4	1	15	-1	2	9	-5					
MESSINA	5.21	294.1	1	16A	-1	2	16	-1			1	27	P*
TARANTO	5.44	322.6	1	21	0	2	20	-3					
SOFIA	6.61	11.2	1	36	-1	2	49	-3					
BELGRADE	8.64	354.6	2	3K	-2	3	30	-13			4	21	
BUCHAREST	8.89	21.4	2	15A	6	4	17	28			3	40	
ROME	9.07	311.5				4	17	24					
CAMPULUNG	9.41	15.0	2	3	-13						4	7	
TIMISOARA	9.53	358.5	2	26	8	4	5	0			4	27	SG
SZEGED	10.08	354.2	2	45	20	4	39	20			2	58	PPP
FOCSANI	10.38	22.4	2	42	13						4	33	
ZAGREB	10.48	338.0	2	32	1						4	58	
KECSKEMET	10.79	353.1	2	35	0						3	5	PPP
FLORENCE X.	10.94	316.8	2	35	-2	4	21	-18					

BACAU	11.08	19.4	2 44	5				
TRIESTE	11.12	330.3	2 37A	-3	4 32	-12	3 15	
BOLOGNA	11.38	319.8	2 45	2	5 14	24		
BUDAPEST	11.41	351.3			4 29	-22	2 47	PPP
IASI	11.84	20.3	2 48	-1			5 11	
HURBANOVO	11.91	348.9	2 43	-7	4 51	-12	3 13	
KSARA	11.96	97.4	2 53	2	5 9	5		
KISHINEV	12.07	24.4	2 55	3				
JERUSALEM	12.15	107.4	2 49	-4	4 57	-12		
BRATISLAVA	12.39	345.9	2 55	-2	5 6	-9	3 3	
SIMFEROPOL	12.90	43.6	3 3	-1	5 38	11		
PAVIA	12.98	317.4	3 5	0	6 20	51	3 59	
SKALNATE PL.	12.99	356.1	3 10	5	5 32	3	3 51	
LWOW	13.72	6.7	3 13	-1	5 49	2		
KRAKOW	13.88	355.6	3 15	-1				
OROPA	13.92	316.6	3 16	-1	6 32	41		
RACIBORZ	14.07	351.0	3 16	-3	5 50	-5	3 25	PP
DABROWA	14.21	353.8	3 24	3	5 4	-54	5 58	SSS
ZABRZE	14.22	352.7			6 7	9	8 49	PCP
BYTOM	14.26	353.1	3 25	4			6 16	SSS
PRAGUE	14.79	341.7	3 27	-1	6 13	1	4 27	
ALGIERS UNI.	14.92	277.6	3 29	-1	6 7	-8	3 45	PPP
EBINGEN	15.15	326.0	3 30	-3	6 12	-8	6 24	SS
NEUCHATEL	15.33	319.2	3 32	-3			6 46	SS
BASLE	15.35	321.7	3 37	1	6 41	16	8 44	
TUBINGEN	15.36	327.1	3 35	-1	6 18	-7	3 45	PP
CHEB	15.40	337.1	3 38	2	6 31	6	3 45	PP
STUTTGART	15.49	327.9	3 36	-1	6 9	-19	3 43	PP
SOTCHI	15.72	56.6	3 35	->	6 34	0		
STRASBOURG	15.99	324.9	3 44	0	6 37	-3	6 51	SS
BESANCON	16.00	318.3	3 45	1				
KARLSRUHE	16.01	327.0	3 47	3	6 37	-3	6 49	SS
WARSAW	16.02	358.8	3 49	5	6 43	3	4 3	PP
JENA	16.37	337.0	3 48	-1	6 24	-25	7 5	SS
CLERMONT-FD.	16.86	310.1	3 54	-1	7 8	8	7 46	SS
POTSDAM	17.25	342.2	3 59	-1			7 18	
ALICANTE	17.68	283.5	4 5	0	7 14	-5	4 22	PP
PARIS	18.82	317.9	3 15A	-64	5 53	-111	3 29	PP
TIFLIS	18.85	66.0	4 17	-2	7 59	14		
HAMBURG	19.15	338.6	4 22	-1	7 58	6	4 55	PP
TAMANRASSET	19.32	230.5	4 25	0	7 51	-5	4 51	PPP
ALMERIA	19.33	279.0	4 25	0	8 11	15	4 38	PP
WITTEVEEN	19.65	332.3	4 28	0			4 49	
DE BILT	19.69	328.9	4 32	3	8 11	7	10 1	L
GORIS	19.79	73.0	4 25	-5	8 11	5		
GRANADA	20.20	280.2	4 39	5	8 31	16	4 51	5 11 PP
COPENHAGEN	20.44	345.1	4 38K	1	8 21	2		5 41
TOLEDO	20.49	288.0	4 35	-2	8 30	10		5 1 PP
MALAGA	20.89	279.1	4 49	7	8 35	7		
MAKHACH-KALA	21.03	63.4	4 42	-1				
JERSEY	21.59	314.2	4 49	0				
KEW	21.83	321.1	4 52	1	8 50	4		5 30 PP
MOSCOW	22.37	24.3	4 54	-2	9 2	7		
UPPSALA	23.79	355.0	5 8	-2	9 20	-1	10 6	SS
PULKOVO	24.24	10.8	5 14	-1				
DURHAM	24.46	326.6	5 17	0	9 43	11		5 52 PP
LISBON	24.47	285.1	5 17K	0			5 25	5 46 PP
RATHFARNHAM	25.89	320.0	5 33	3	10 21	25		5 46
ABERDEEN	26.27	330.4	5 36	2	10 9	7		11 16 SS
BERGEN	26.36	341.7			10 17	13		
SKALSTUGAN	27.98	351.1	5 48	-2				8 58 PCP
KIRUNA	31.67	359.2	6 21	-1	11 27	-1	6 37	7 23 PP
APATITY	32.10	8.5	6 21	-5	11 36	1		14 17 SS
QUETTA	38.17	85.7	7 17A	-1	13 10	1		
LWIRO	38.86	168.5	7 25	1				
NAMANGAN	39.00	67.3	7 25	0				
ASTRIDA	39.36	167.1	7 29	1				
FRUNSE	40.83	63.9	7 40	0				
SCORESBY SD.	41.31	339.5	7 45	1	14 3	7		17 28 SS
DEHRA DUN	47.02	80.1	8 25	-3	15 24	5		
BOMBAY	48.03	96.8	8 39	1	15 35	2		
POONA	49.05	96.5	8 46	0				15 58
HYDERABAD	53.34	94.7			18 41	115		
CHATRA	55.75	79.8	9 32	-4				
SHILLONG	60.07	78.8	9 48	-18				
TIKSI	61.20	20.2	10 11	-3				
RESOLUTE	61.89	344.3	10 17A	-1	18 56	18		
PRETORIA	61.95	173.3	10 20	1				

HALIFAX	62.60	306.7	10	22K	-1							
KIMBERLEY	64.69	176.9	10	36A	-1							
SEVEN FALLS	66.02	311.7	7	13	-212							
SHAWINIGAN	67.46	311.8	10	54	0				11	15	11	3
BERMUDA	69.02	295.3				20	19	14				
GRAHAMSTOWN	69.33	175.5	11	6	0							
OTTAWA	69.82	311.9	11	10K	1				11	33		
KIRKLAND LA.	70.87	316.0	11	17	2							
PALISADES	70.98	307.2	11	17	1	20	40	12			25	12 SS
MORGANTOWN	75.59	308.6	11	45	2							
CHAPEL HILL	77.15	305.1	11	57	5							
SAN JUAN	77.58	283.7	11	55	1							
COLLEGE	78.90	355.4	12	1	-1							
COLUMBIA	79.59	304.5	12	7	2							
BANFF	85.18	334.5	12	35K	1							
RAPID CITY	85.68	323.6	12	37	0							
FAYETTEVILLE	86.55	313.1	11	41	-60							
MATUSIRO	86.74	46.1	12	42	0							
HUNGRY HORSE	86.98	332.1	12	44	1	23	22	4				
BUTTE	88.32	330.0	12	49	0							
SALT LAKE C.	92.27	329.5	13	4	-4							
LUBBOCK	92.76	315.8	13	4	-6							
EUREKA	95.12	328.4	13	24	3						16	45 PP
SHASTA	96.61	333.2	13	43	15							
MINERAL	96.63	332.5	13	28	0							
BOULDER CITY	97.53	325.7	13	36	4							
TUCSON	98.61	320.7	13	38	1						17	37 PP
CHINA LAKE	98.90	327.5									17	40
LICK	99.26	331.1	13	42	2							
LA PAZ	99.33	256.5									24	55 SKKS
ISABELLA	99.41	328.0	13	40	0						17	45
WOODY	99.54	328.3	14	9	28						17	44
PASADENA	100.56	327.0				27	1	105				

FEBRUARY 20 4.H 41.M 1.S EPICENTRE 36.24 8.93 DEPTH= 0.KM

A= 0.79864 B= 0.12555 C= 0.58857 D= 0.1553 E=-0.9879
G= 0.5814 H= 0.0914 K=-0.8084 HT= -0.3

SE= 2.41

	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	
TUNIS	1.11	59.5									0	19	PG
CUGLIERI	3.94	355.9	1	9	6	2	4	13					
ALGIERS UNI.	4.77	278.1	1	13	-1	2	8	-3			2	22	S*
MESSINA	5.63	67.7	1	27	0	2	30	-3			1	35	P*
REGGIO CALA.	5.68	68.9									1	51	PG
RELIZANE	6.81	268.4	1	44	1								
BARCELONA	7.41	316.3				3	33	15					
MONACO	7.57	351.7	1	56	2	3	14	-7					
FLORENCE X.	7.74	12.6	1	57	1	3	54	28					
ALICANTE	7.79	288.5	1	56	-1	3	22	-5					
PRATO	7.81	11.6	1	43	-14	3	51	24					
BOLOGNA	8.45	11.7	2	12	6	3	48	5					
PAVIA	8.93	1.1	2	18A	5	3	57	2			4	25	S*
ALMERIA	9.20	277.2	2	7	-10	3	53	-9			2	19	PP
OROPA	9.40	355.9	2	16	-3	3	47	-20					
TRIESTE	10.08	19.7	2	27	-2	4	22	-2			3	16	PG
GRANADA	10.11	279.0	2	34K	5	4	39	14			2	54	PPP
CLERMONT-FD.	10.48	337.1	2	32	-2	4	25	-9			3	26	PG
MALAGA	10.75	276.5	2	38	0						5	4	SS
NEUCHATEL	10.85	352.8	2	39	0								
TOLEDO	10.86	293.4	2	39	0	4	56	13					
ZAGREB	10.94	26.9	2	36	-5						8	38	PCP
BESANCON	11.22	349.6	2	45	1								
BASLE	11.33	355.3	2	48	2								
EBINGEN	11.93	0.1	2	53	-1								
BELGRADE	12.24	42.1	2	55A	-3	5	20	3					
TUBINGEN	12.28	0.4	2	57	-2								
STRASBOURG	12.36	356.4	2	59	-1	5	17	-3					
STUTTGART	12.52	0.8	3	1K	-1	5	25	2					
SZEGED	13.06	36.6	3	13	4	5	46	10			4	0	PPP
BRATISLAVA	13.36	24.3	3	12	-1	5	33	-11					
PARIS	13.42	341.4	3	11	-3	5	31	-14			3	23	PP
HURBANOVO	13.49	27.7	3	16	1								
BUDAPEST	13.52	30.7									3	20	PPP
TAMANRASSET	13.74	193.4	3	17	-1	5	48	-5			6	10	SS

CHEB	14.01	8.4	3	35	13				4	20	
PRAGUE	14.39	14.4	3	25	-2	6	23	15			
LISBON	14.57	285.2	3	26	-3				3	38	PP
JENA	14.81	6.6	3	32	0	6	14	-4			
CAMPULUNG	15.15	48.5	3	30	-6						
SKALNATE PL.	15.35	29.1	3	41	2						
RACIBORZ	15.38	23.0	3	39	-1				8	42	PCP
BUCHAREST	15.42	52.8	3	40	0	6	54	22			
KRAKOW	15.95	26.6	3	47	0						
DE BILT	16.08	351.6	3	51	2	6	53	5	4	3	PP
POTSDAM	16.40	9.0	3	53	0						
KEW	16.60	339.4	4	0	5	7	10	10			
WITTEVEEN	16.65	355.2	4	1	5						
HAMBURG	17.34	2.1	4	5	0	7	26	9			
LWOW	17.45	34.2	4	8	2	7	25	6			
IASI	17.66	45.9	4	8	-2						
WARSAW	18.14	24.4	4	17	2	7	45	10			
KISHINEV	18.31	47.8	4	15	-2	7	41	2			
COPENHAGEN	19.59	5.9	4	30	-2	8	14	6			
DURHAM	19.90	341.9	4	34	-2	8	18	3	5	5	PP
SIMFEROPOL	20.95	57.7	4	44	-2	8	42	6			
KSARA	22.17	88.3	5	3A	4	9	11	12	9	55	SS
ABERDEEN	22.21	344.0				9	2	2	9	42	SS
JERUSALEM	22.21	93.9	5	1A	2	9	7	7			
UPPSALA	24.29	10.7	5	16A	-4	9	32	-4			
SOTCHI	24.63	63.2	5	21	-2						
PULKOVO	27.31	23.7	5	45	-3						
SKALSTUGAN	27.45	3.2	5	46A	-3						
MOSCOW	27.56	35.9	5	47	-3						
TIFLIS	28.27	67.8	5	57	0						
MBOUR	31.79	233.5	6	30	2	11	13	-25	7	25	PP
KIRUNA	32.30	8.1	6	29A	-3	12	0	14	13	26	SS
APATITY	34.31	16.4							12	56	
LWIRO	42.54	149.9	9	0	61						
ASTRIDA	43.24	148.8	8	6	2				9	57	PP
QUETTA	48.30	79.6	8	45A	0						
NAMANGAN	48.33	64.3	8	45	0						
FRUNSE	49.90	61.1	8	56	-1						
SCHEFFERVLLE	53.40	315.7	7	21	-122						
HALIFAX	54.18	302.8	9	25	-4						
RESOLUTE	58.94	342.5	10	5A	2						
SHAWINIGAN	59.57	307.6	10	5	-2						
OTTAWA	61.92	307.3	10	22	-1				10	44	*PP
KIRKLAND LA.	63.47	311.5	10	31	-3						
KIMBERLEY	66.34	164.8	10	53	1						
SHILLONG	69.97	72.6	11	14	-1						
GRAHAMSTOWN	71.14	164.5	11	19	-3						
COLLEGE	77.58	350.1	11	59	0						
FAYETTEVILLE	78.67	306.4	12	6K	1						
RAPID CITY	79.14	317.2	12	8	0						
HUNGRY HORSE	81.66	325.6	12	20	-1				14	28	
BOZEMAN	82.16	322.2	12	24	0						
BUTTE	82.66	323.2	12	27	1						
CHINCHINA	82.70	270.8	12	28	2						
LUBBOCK	85.15	308.4	12	39	0						
SALT LAKE C.	86.07	319.2	12	44	1						
EUREKA	89.16	320.6	12	58	0						
BOULDER CITY	91.16	317.6	13	8	0						
MINERAL	91.26	324.5	13	8	0						
TUCSON	91.58	312.6	13	12	2						
TINEMAHA	92.15	320.4	13	13	1						
HUANCAYO	92.47	257.0	13	18	4						
CHINA LAKE	92.76	319.2	13	15	0						
FRESNO	93.18	321.1	13	18	1						
ISABELLA	93.34	319.6	13	19	1						
MELBOURNE	145.11	106.1	19	42	3						
BRISBANE	148.42	84.2	19	51	6						

FEBRUARY 20 21.H 58.M 28.S EPICENTRE 2.07 96.95 DEPTH= 31.KM

A=-0.12084 B= 0.99202 C= 0.03585 D= 0.9927 E= 0.1209
G=-0.0043 H= 0.0356 K=-0.9994 HT= 7.2

SE= 2.08

	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	12.83	129.8	3	0A	-3	5	24	-1				
COLOMBO	17.68	286.3	4	2	-3							
MADRAS	19.83	304.0	4	35	4	8	13	6			4	56 PP
KODAIKANAL	20.98	293.6	4	57	14	8	57	27			5	30 PPP
HYDERABAD	23.73	311.2	5	13	3	9	35	15				
SHILLONG	23.87	348.6	5	10	-1	9	24	2	5	31	5	54 PP
BOKARO	24.17	334.4	4	41	-33	8	34	-53				
HONG KONG	26.17	38.5	5	34A	1	10	4	3				
CANTON	26.22	35.9	5	34A	0	10	3	2			11	11 SS
CHATRA	26.35	340.0	5	35	0	10	0	5				
BAGUIO CITY	27.29	57.1	5	41	-2	10	19	0				
POONA	27.93	307.4	5	51	2	10	35	6			7	26 PPP
BOMBAY	28.95	306.9	6	9	11	11	7	21			9	2 PCP
NEW DELHI	32.40	326.3	6	27	-2	11	40	0			13	33 SS
DEHRA DUN	33.32	329.4	6	36	-1	11	53	-1			7	53 PP
SIAN	33.91	17.9	6	43	1	12	2	-1			17	4 SCS
LANCHOW	34.44	9.9	6	46	0							
NANKING	36.24	32.3	7	2A	0	12	41	2			8	29 PP
ZO-SE	36.86	35.9	7	7A	0	12	51	2			8	39 PP
YINCHUAN	37.22	12.1	7	13	3							
PERTH	38.28	153.6	7	22	3						8	49 PP
QUETTA	39.88	317.5	7	33K	1	13	37	2			9	7 PP
PEKING	41.62	22.4	7	48A	1	14	2	1			17	35 SCS
KAGOSIMA	43.19	43.7	8	0	1							
FRUNSE	45.28	336.8	8	16	0	14	53	-1				
CHANGCHUN	48.61	27.3	8	41A	-1	15	43	2			10	36 PP
KYOTO	48.71	43.2	8	42	-1							
KAMEYAMA	49.13	43.8	8	48	2	15	50	2				
IRKUTSK	50.41	5.9	8	56	0	16	8	2				
KOHU	51.00	44.1	9	1	0	16	33	19				
MATUSIRO	51.24	42.9	9	2A	0	16	18	1			10	17 PCP
VLADIVOSTOK	51.38	32.5	9	3	-1	16	22	3				
TANANARIVE	52.83	244.4	9	14A	0						10	39 PCP
RABAUL	55.54	96.5	9	33	-1							
URAKAWA	57.20	39.4	9	47	1	17	43	5				
MELBOURNE	59.51	136.9	10	4	2				10	16		
TIFLIS	61.13	317.5	10	13	0	18	29	0				
BRISBANE	61.38	122.9	10	15	0	18	34	2				
RIVERVIEW	62.18	130.2	10	21K	1	18	48	6	10	38	10	55 PCP
KSARA	65.01	306.5	10	40	1	19	18	1			12	58 PP
JERUSALEM	65.04	304.2	10	18	-21							
SOTCHI	65.31	317.7	10	33	-8							
ASTRIDA	67.36	266.3	10	54K	0							
LWIRO	68.26	266.8	11	0K	0						14	17 PP
SIMFEROPOL	69.55	317.6	11	7	0	20	9	-3				
PIETERMZBURG	70.81	237.8	11	29	14							
MOSCOW	71.45	329.1	11	18	-1	20	29	-5				
PRETORIA	71.88	242.2	11	0A	-21							
NOUMEA	71.91	114.1	11	24	2							
TIKSI	72.37	10.1	11	23	-1							
KISHINEV	73.68	318.6	11	30	-2	20	54	-5				
IASI	74.56	318.5	11	47	10							
GRAHAMSTOWN	74.84	234.8									11	40 PCP
BUCHAREST	74.93	315.5	11	40	1	21	16	3			21	38 PS
KIMBERLEY	75.43	239.7	11	42	0							
PULKOVO	76.61	331.5	11	48	-1	21	26	-6				
LWOW	77.45	320.6	11	52	-2	21	37	-4				
APATITY	78.21	339.4	11	56	-2	21	46	-3				
BELGRADE	78.97	315.2	12	2K	0	22	12	15				
WARSAW	79.76	322.7	12	7	1	22	3	-2				
HERMANUS	81.05	234.9				22	26	7				
RACIBORZ	81.20	320.3	12	13	0	22	23	3				
BRATISLAVA	81.69	318.2	12	14	-2	22	27	2				
MESSINA	81.96	308.1	12	18	0	22	27	-1	12	31	15	44 PP
UPPSALA	82.85	330.0	12	22K	0	22	34	-3				
KIRUNA	83.01	338.2	12	23	0	22	52	13			22	35 SKS
PRAGUE	83.61	320.0	12	26A	0	22	44	-1			15	40 PP
TRIESTE	83.76	315.5	12	26	-1	23	8	22	12	43		
COPENHAGEN	85.19	325.5	12	34	0						23	4 SKS
FLORENCE X.	85.47	313.6	12	34	-2	23	35	32			27	54 SKS
JENA	85.48	320.7	12	35	-1						15	58 PP
SKALSTUGAN	85.78	333.5	12	37K	0						16	1 PP
HAMBURG	86.54	323.4	12	40	-1				12	57		
STUTTGART	86.97	318.5	12	42	-1	23	44	26			23	2 SKS
EBINGEN	87.12	318.0	12	43	-1							
NEUCHATEL	88.50	316.8	12	42	-8							
WITTEVEEN	88.53	322.6	12	54	4							
BESANCON	89.15	317.1	12	52	-1				13	5		
TAMANRASSET	90.52	292.7	13	2K	2	23	54	4			23	31 SKS

CLERMONT-FD.	91.21	315.7	13	35	32						
PARIS	91.40	318.8	13	4	0	23	59	1		23	38 SKS
ALGIERS UNI.	91.90	306.7	13	6	0	24	7	4		16	50 PP
RELIZANE	94.00	305.9	13	14	-2				13 33		
GRANADA	97.15	307.7	12	41	-49						
COLLEGE	98.60	23.0	13	41	4					15	3
RESOLUTE	103.03	3.2	13	58K	1					18	11 PP
CORVALLIS	121.34	32.7	18	52	2						
SCHEFFERVLLE	121.71	348.9	18	53	2					16	53 P
HUNGRY HORSE	123.02	24.2	18	55	2						
SHASTA	124.36	35.7	18	57	1						
UKIAH	124.85	37.7	18	59	2						
MINERAL	125.05	35.6	18	58	1						
BERKELEY	126.22	38.3	19	1	2						
BOZEMAN	126.38	24.1	19	2	2						
RENO	126.61	35.2	19	2	2						
LICK	126.94	38.5	19	3	2						
FRESNO	128.44	37.8	19	5	1						
EUREKA	128.80	32.7	19	6	2					22	22
TINEMAHA	129.19	36.5	19	8	3					22	24 SKP
WOODY	129.71	38.2	18	57	-9					22	24 SKP
KIRKLAND LA.	129.92	357.4	19	7	1					22	27
SALT LAKE C.	129.93	28.5	19	8	2						
ISABELLA	129.97	38.0	19	7	0					22	26 SKP
RAPID CITY	130.64	19.1	19	10	2					22	29
SHAWINIGAN	130.74	350.6	19	8	0					22	29 PKS
PASADENA	131.14	39.3	19	0	-9					22	31 SKP
RIVERSIDE	131.74	38.9	19	13	3					22	33 SKP
BOULDER CITY	131.92	35.0	19	13	3					22	34
OTTAWA	132.29	353.0	19	13K	2					22	34 PKS
PALOMAR	132.49	39.2	19	2	-9					22	36 SKP
BARRETT	133.05	39.7	19	3	-9					22	38 SKP
BOULDER	133.41	23.6								21	43 PP
TUCSON	136.90	35.3	19	22	3					22	52
MORGANTOWN	138.41	356.4	19	22	0						
LUBBOCK	140.36	24.9	19	28	2					23	6 PKS
FAYETTEVILLE	140.64	14.3	19	19	-7						
CHAPEL HILL	142.02	354.7	19	29	0						
COLUMBIA	144.07	357.1	19	35	3						
DOMINICA	152.49	309.6	19	57	11						
ST. LUCIA	152.91	306.8	19	55	9						
TACUBAYA	153.42	35.9	20	4	17						
ST. VINCENT	153.61	305.6	20	10	23						
SAN JUAN	153.72	321.3	19	49	2						
TRINIDAD	155.11	301.0	19	53	4						
LA PAZ	159.47	224.8	19	58	3					20	38 PKP2
HUANCAYO	167.47	217.3	20	9	7					21	14 PKP2
CHINCHINA	169.80	313.3	20	4	0					21	20 PKP2

FEBRUARY 21 14.H 30.M 11.S EPICENTRE 53.02-171.27 DEPTH= 126.KM

DEPTH OF FOCUS= 0.015R

A=-0.59711 B=-0.09168 C= 0.79690 D=-0.1518 E= 0.9884
G=-0.7877 H=-0.1209 K=-0.6041 HT= -6.5

SE= 1.84

	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	16.81	36.0	3	49	0	6	59	6	4	14	5	25	
PETROPAVLOVK	18.02	282.4	4	2	-1	7	20	3			15	34	SCS
SITKA	20.83	64.5	4	35	2	8	22	9	5	8	5	21	*SP
MAGADAN	21.80	302.5	4	45	2								
ALBERNI	28.98	78.5	5	27	-23	11	5	35					
Y.-SAKHLINSK	29.78	277.0	5	55	-2						16	22	SCS
HORSESHOE B.	29.84	77.4	5	58	1	12	29	105	6	20	8	58	PCP
VICTORIA	30.14	79.0	6	1	1				6	24	16	29	SCS
SEATTLE	31.21	79.8	6	13	4	11	13	8					
CORVALLIS	32.17	85.6	6	19	1								
BANFF	33.56	70.2	6	31A	1	12	43	61			9	9	PCP
SHASTA	34.95	90.6	6	43A	1	12	9	6					
UKIAH	35.42	93.4	6	45	0								
MINERAL	35.64	90.4	6	49A	2	12	48	34					
HUNGRY HORSE	35.73	73.9	6	49	1	12	18	3	7	13	9	15	PCP
RESOLUTE	36.29	25.9	6	52K	-1	12	23	0			8	19	PP
BERKELEY	36.80	94.2	6	57A	0	12	35	4					
RENO	37.22	90.1	7	1A	0	12	43	5					

LICK	37.52	94.4	7	4A	1	12	55	13				
SASKATOON	38.10	64.5	7	9	1	12	54	3				
VLADIVOSTOK	38.30	278.6									17	8 SCS
MATUSIRO	38.57	265.4	7	12K	0	12	59	1			9	22 PCP
BOZEMAN	38.87	75.9				13	5	2				
FRESNO	39.00	93.5	7	16A	1	13	9	4				
EUREKA	39.57	87.2	7	22	2				7	44	9	12 PP
TINEMAHA	39.76	91.9	7	24A	2	13	23	7	7	49	17	19 SCS
WOODY	40.28	94.0	7	26A	0				7	50	13	4 SCP
ISABELLA	40.54	93.7	7	28A	0	13	34	6	7	54	9	12 PP
KYOTO	41.09	265.8	7	34	1							
SALT LAKE C.	41.25	82.6	7	35	1				7	59	13	11 SCP
PASADENA	41.75	95.1	7	38A	0	13	50	5	8	1	9	22 PP
CHANGCHUN	41.79	283.8	7	37K	-1							
PALOS VERDES	41.90	95.7	7	40A	1							
RIVERSIDE	42.33	94.6	7	43A	0	13	56	2	8	9	17	32 SCS
BOULDER CITY	42.53	90.3	7	45	1				8	9	13	15 SCP
PALOMAR	43.09	94.8	7	50A	1	14	14	9	8	14	17	28 SCS
BARRETT	43.67	95.4	7	55A	1	14	18	5	8	20	9	37 PCP
RAPID CITY	44.35	73.0	8	0	1	14	30	7	8	24	13	22 SCP
BOULDER	45.62	78.9	8	11	2							
TUCSON	47.49	91.0	8	24	0	15	11	3	8	49	13	35 SCP
IRKUTSK	48.33	305.0	8	31K	1	15	23	3	8	53	10	25 PP
PEKING	49.49	285.5	8	39K	0	15	38	2				
LUBBOCK	51.98	82.8	8	52	-6	16	14	4	9	22	10	37 PCP
ZO-SE	52.59	273.6	9	2K	-1	16	21	3				
NANKING	53.35	276.2	9	6K	-2	16	28	-1				
KIRKLAND LA.	54.32	55.5	9	15	0	16	41	-1				
FAYETTEVILLE	54.78	75.1	9	17A	-2				9	40	10	18 PCP
SCORESBY SD.	54.84	12.1	9	20	1				9	51	21	31 SS
FLORISSANT	55.11	70.2	9	20	-1	16	53	1	9	46	18	57 SCS
ST. LOUIS 1	55.30	70.2	9	20K	-3	16	53	-2	9	44	18	58 SCS
SCHEFFERVLLE	55.82	42.6	9	51K	25						14	37 PCS
OTTAWA	58.38	55.4	9	43K	-1	17	35	0	10	1	11	49 PP
BUFFALO L.	58.68	59.3	9	45	-1							
SHAWINIGAN	59.00	52.8	9	47K	-2				10	14	14	24 SCP
KIRUNA	59.15	354.9	9	49	-1	17	50	5	10	16	11	57 PP
SEVEN FALLS	59.51	51.2	6	14	-218	14	11	-219				
PITTSBURGH	59.72	62.1	9	52A	-2	17	53	1				
MORGANTOWN	60.30	62.7	9	51	-6	18	1	1				
SEMIPALATNSK	60.67	315.9	9	59	-1				10	27		
PALISADES	62.46	57.8	10	12	0	18	28	1	10	35	19	52 SCS
SVERDLOVSK	62.56	330.8	10	12	-1	18	31	2	10	38	12	30 PP
PHILADELPHIA	62.59	59.4	10	16	3	18	31	2			19	13 *SS
FORDHAM	62.60	57.9	10	13K	0	18	33	4	10	40	20	45 *SSCS
WESTON	62.75	55.2	10	14	0							
CANTON	63.23	273.3	10	17K	0	18	40	3				
HONG KONG	63.28	272.0	10	17K	0	18	42	4				
CHAPEL HILL	63.48	65.0	10	18	-1	18	32	-8				
SKALSTUGAN	63.71	358.2	10	20K	0				10	49		
BAGUIO CITY	63.92	262.6	10	19	-3	18	47	2				
TACUBAYA	63.98	92.0	10	27	5	18	47	1			12	45 PP
HALIFAX	64.73	48.8	10	25	-2	18	57	2			25	37 SSS
MANILA	65.11	261.1	10	30	1	18	58	-2				
PULKOVO	66.23	348.3	10	37	1				11	4	13	7 PP
UPPSALA	67.25	355.1	10	42K	-1	19	26	0	11	9	39	10 PKPPKP
FRUNSE	68.98	314.1	10	54	0	19	51	4	11	22	15	10 PPP
MOSCOW	69.02	343.0	10	53	-1	19	48	1	11	21	15	13 PPP
COPENHAGEN	71.62	357.8	11	10K	1	20	24	7	11	39		
TASHKENT	72.52	316.6	11	13	-2				11	40		
RATHFARNHAM	73.31	9.3	11	20K	1							
HAMBURG	73.77	359.2	11	24	2							
BERMUDA	73.81	57.6	11	17	-5	20	43	1			25	28 SS
SHILLONG	73.92	291.1	11	23	0							
WITTEVEEN	74.52	1.3	11	28K	2							
WARSAW	74.62	352.2	11	28	1	20	57	6	11	57	14	10 PP
STALINABAD	75.05	315.3	11	28	-1	21	0	5				
CHATRA	75.55	295.3	11	30	-2							
JENA	76.40	358.1	11	38	1				12	6		
LWOW	76.71	349.9	11	39	0				12	8		
KRAKOW	76.87	352.6	11	40	0						12	27 PCP
RACIBORZ	76.96	353.8	11	41	1							
PRAGUE	77.17	356.2	11	42K	1				12	11	14	32 PP
LAHORE	78.35	307.5	11	47	-1							
PARIS	78.41	4.2	11	48K	0							
STUTTGART	78.59	359.7	11	49K	0				12	13		
STRASBOURG	78.77	0.6	11	51K	1	21	49	13	12	21	14	51 PP
IASI	78.88	347.0	12	10	19							

BRATISLAVA	78.94	354.3	11	55	4				12	23		
EBINGEN	79.18	359.8	11	53	1				12	21		
ASHKABAD	79.71	322.3	11	56K	1	21	52	6	12	32	22	26
BASLE	79.81	0.8	11	57	2							
SIMFEROPOL	80.01	342.0	11	58K	1	21	58	9	12	27	15	2 PP
BESANCON	80.08	1.9	11	56	-1						15	5 PP
NEUCHATEL	80.35	1.2	11	59	0							
TIFLIS	80.63	333.5	12	1	1	22	1	6	12	31	15	8 PP
CLERMONT-FD.	81.47	4.0	11	43	-21				12	18		
GORIS	82.27	331.5	12	10	1	22	19	7				
QUETTA	82.93	312.1	12	12K	0	22	13	-6	12	38	15	23 PP
FLORENCE X.	83.55	358.2	12	14	-1							
MONACO	83.62	0.9	12	17	2							
SAN JUAN	84.27	67.1	12	20	1				12	48		
TOLEDO	86.81	9.8	12	31	0	22	49	-7				
ALICANTE	88.65	7.2	12	31	-9	23	21	7				
POONA	89.39	300.6	12	44	1				12	55		
GRANADA	89.53	9.8	12	27A	-17							
BOMBAY	89.62	301.6	12	47	3							
MALAGA	89.90	10.5	12	45A	-1						16	47 PP
KSARA	90.35	337.7	12	50	2				13	27	16	22 PP
ALGIERS UNI.	90.44	4.6	12	47	-1	23	32	2	13	14	23	16 SKS
BOGOTA	90.67	R1.5	12	54	5	23	37	5			13	38 *SP
RELIZANE	91.31	6.6	12	52	0						13	53 *SP
RIVERVIEW	92.47	210.5				23	55	7	13	29	23	22 SKS
TAMANRASSET	104.47	3.1	13	53	1	25	13	-16			24	18 SKS
LWIRO	126.73	334.7	18	51K	2							
ASTRIDA	126.82	333.4	18	51K	2							
TANANARIVE	134.62	303.5	19	4A	0						22	27 PKS
PRETORIA	149.10	324.2	19	31	2							
PIETERMZBURG	151.73	317.2	19	41K	8							
KIMBERLEY	153.01	327.7	19	36A	1							
GRAHAMSTOWN	156.52	319.9	19	41A	2							

FEBRUARY 23 20.H 26.M 19.S EPICENTRE 24.01 121.42 DEPTH= 70.KM

DEPTH OF FOCUS= 0.006R

A=-0.47668 B= 0.78046 C= 0.40455 D= 0.8534 E= 0.5212
G=-0.2109 H= 0.3452 K=-0.9145 HT= 3.6

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
HWALIEN	0.19	100.8	0	3	-9	0	7	-14				
TAICHUNG	0.69	282.2	0	13	-3	0	26	-3				
ALISHAN	0.74	229.5	0	9	-8	0	21	-9				
ILAN	0.82	21.8	0	13	-5	0	24	-7				
HSINCHU	0.89	332.9	0	17	-1	0	32	0				
TAIPEI	1.02	5.3	0	15	-5	0	31	-3				
TAITUNG	1.27	191.1	0	23	0	0	40	0				
TAINAN	1.49	227.8	0	24	-2	0	46	1				
TAWU	1.72	196.1	0	22	-7							
KAOHSIUNG	1.74	217.6	0	24	-5	0	47	-4				
PENGHU	1.77	254.9	0	35	5	1	3	11				
HENGCHUN	2.09	197.2	0	32	-2	0	58	-1				
HONG KONG	6.89	257.1	1	37A	-3							
ZO-SE	7.07	358.4	1	38A	-5							
CANTON	7.52	264.6	1	45	-4							
BAGUIO CITY	7.59	186.1	1	49	-1							
NANKING	8.34	344.5	1	57	-3							
FUTZELING	8.56	329.2	3	55	111							
MANILA	9.39	182.6	2	13	-2	3	43	-17				
YAKUSIMA	10.32	49.6	2	24	-3	4	32	10				
TOMIE	10.75	35.4	2	40	7							
KAGOSIMA	11.05	45.0	2	35	-2	4	37	-3				
NAGASAKI	11.44	38.7	2	38	-5	5	3	14				
UNZENDAKE	11.66	39.8	2	47	2	5	6	11				
MIYAZAKI	11.84	46.1	2	45	-3	5	3	4				
KUMAMOTO	11.99	40.8	2	47	-3	5	19	16				
TSINGTAU	12.06	355.8	2	53	2							
SAGA	12.06	38.3	2	51	0							
ITUHARA	12.26	32.3	2	52	-1	5	10	1				
ASOSAN	12.27	41.6	2	50	-4	5	3	-6				
HUKUOKA	12.38	37.6	2	51	-4	5	18	6				
OOITA	12.83	42.0	3	0	-1	5	29	6			8	52 PCP
SIMONOSEKI	12.93	37.9	3	0	-2	5	28	3				
SIMIDU	13.40	46.7	3	5	-4	5	57	21				

UWAZIMA	13.41	44.3	3	9	0	6	10	34			
MATUYAMA	13.93	42.8	3	10	-5	5	51	2	8	38	PCP
HIROSIMA	14.10	40.4	3	16	-2	6	0	7	8	59	PCP
KOTI	14.25	45.4	3	9	-10	6	1	5			
HAMADA	14.27	38.1	3	19	-1	6	2	5			
MUROTO	14.50	47.7	3	31	8						
LINFEN	14.77	326.9	3	30	4						
DAIREN	14.85	0.7	3	29	2						
SIAN	14.93	315.9	3	28	0						
TAKAMATU	15.07	44.1	3	25	-5	6	20	5			
OKAYAMA	15.22	42.8	3	23	-9				9	35	PCP
TOKUSIMA	15.25	45.9	3	30	-2	6	29	9			
YONAGO	15.38	39.5	3	44	10	6	33	10			
HIMEJI	15.40	44.3	3	40	6						
SUMOTO	15.62	45.7	3	35	-2	6	35	7			
TAIYUAN	15.68	333.3	3	41	3						
SIOMISAKI	15.70	50.0	3	37	-1	6	41	11			
TOTTORI	15.95	41.2	3	43	2						
KOBE	16.02	45.3	3	48	6	7	6	29			
OSAKA	16.23	46.0	3	53	8	6	17	-25			
TOYOOKA	16.33	42.3	3	48	2						
OWASE	16.34	48.8	3	35	-11	6	51	6			
PEKING	16.58	345.8	3	50A	1	7	2	12			
MAIZURU	16.70	43.6	3	58	7	6	56	3			
TU	16.94	47.5	4	6	12						
KAMEYAMA	16.97	47.0	4	7	13	7	48	49			
HIKONE	17.07	45.5	4	2	7	7	19	18			
IBUKISAN	17.22	45.4	4	3	6						
TIENSHUI	17.23	311.2	3	59	2						
TATUNG	17.45	338.8	4	3	3						
NAGOYA	17.49	47.0	4	3	2	7	43	32			
GIHU	17.49	46.0	3	59	-2	7	37	26	4	11	
HUKUI	17.57	43.5	4	8	7						
HAMAMATU	17.75	49.3	4	17	13	7	45	28			
OMAESAKI	18.04	50.4	4	7	0	7	48	25			
KANAZAWA	18.11	42.9	4	10	2						
TAKAYAMA	18.25	44.8	4	19	9	8	9	41			
IIDA	18.27	47.3	4	16	6	7	38	10			
SHIZUOKA	18.36	49.6	4	9	-2	7	41	11			
TOYAMA	18.56	43.4	4	19	6	8	11	36			
MATUMOTO	18.78	45.7	4	15	-1	7	46	7			
WAZIMA	18.81	41.3	4	21	5	8	4	24			
MISIMA	18.82	50.0	4	12	-4	7	49	9			
KOFU	18.83	48.1	4	15	-2	7	40	-1			
AJIRO	18.89	50.3	4	28	11				6	38	
HUNAIU	18.90	48.7	4	17	0	7	52	10			
OSIMA	18.95	51.4	4	16	-2	7	44	1			
PAOTOW	19.09	332.6	4	21	1						
MATUSIRO	19.12	45.3	4	13	-7	7	42	-5	4	43	PP
NAGANO	19.18	45.0	4	19	-1	7	53	5	4	45	PP
OIWAKE	19.21	46.3	4	25	4	8	2	13			
YINCHUAN	19.34	321.7	4	25	3						
MIRA	19.34	51.6	4	18	-4	7	55	3	4	35	PP
TITIEU	19.37	47.9	4	19	-4						
LANCHOW	19.37	312.4	4	24	1						
TAKADA	19.47	44.0	4	23	-1	7	55	1			
YOKOHAMA	19.47	50.1	4	20	-4	7	50	-4	8	46	PCP
MAEBASI	19.59	46.9	4	18	-7	7	56	-1	8	48	PCP
KUMAGAYA	19.66	47.9	4	24	-2	8	20	22			
TOKYO C.M.O.	19.67	49.5	4	24	-2	7	56	-2			
CHANGCHUN	20.03	8.3	4	27A	-3						
AIKAWA	20.04	41.9	4	28	-2	8	28	22			
UTUNOMIYA	20.21	47.5	4	28	-4	8	27	18			
KAKIOKA	20.25	48.7	4	26	-6						
NIIGATA	20.47	43.2	4	31	-3				4	56	PP
MITO	20.53	48.7	4	34	-1						
SHIRAKAWA	20.76	46.6	4	37	0	8	43	23	15	57	SCS
VLADIVOSTOK	20.94	21.9	4	35	-4	8	27	4			
SINING	21.03	311.2	4	43	3						
ONAHAMA	21.12	47.9	4	48	7	8	34	7			
WUWEI	21.20	315.3	4	42	0						
HUKUSIMA	21.28	45.5	4	38	-4	8	34	4	5	15	PP
YAMAGATA	21.49	44.2	4	33	-11						
SAKATA	21.55	42.1	5	25	40						
SENDAI	21.85	44.9	4	44	-4	8	53	13			
ISINOMAKI	22.22	45.0	4	37	-15	8	50	3			
AKITA	22.23	40.8	5	11	19	9	27	40	5	54	PP
MIZUSAWA	22.50	43.3	4	52	-2	8	53	1			

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MORIOKA	22.87	42.2	4	49	-9	9	11	13				
AOMORI	23.33	39.4	5	2	-1	9	6	0			5	43 PP
MIYAKO	23.33	43.2	4	57	-6	9	6	0				
HATINOHE	23.59	40.9	4	59	-6	9	7	-4			5	30 PP
HAKODATE	23.93	37.6	5	11	3							
SUTTSU	24.36	35.1	5	11	-1	9	23	-1			6	13 PP
GUAM	24.42	111.2	5	8	-5							
MURORAN	24.43	36.9	5	27	14							
TOMAKOMAI	24.90	37.3	5	19	1							
SAPPORO	25.14	36.0	5	15	-5	9	25	-12			6	7 PP
URAKAWA	25.34	39.3	5	14	-8	9	41	1				
OBIHIRO	26.06	38.4	5	25	-4							
YUMEN	26.15	314.2	5	30	1							
ASAHIGAWA	26.17	36.0	5	31	1							
KUSIRO	26.79	39.5	5	37	2	10	6	2			6	46 PP
SHILLONG	26.85	279.5	5	35A	-1	9	17	-48			6	21 PP
WAKKANAI	26.95	32.6	5	57	20	10	27	20			6	56 PP
ABASHIRI	27.37	37.6	5	41	0	10	5	-9				
NEMURO	27.69	40.0	5	34	-10	10	25	6				
Y.-SAKHLINSK	28.55	31.4	5	50	-1							
CHATRA	31.00	282.5	6	14	1	11	26	14				
IRKUTSK	31.10	339.5	6	12A	-2	11	16	3	6	35		
BOKARO	32.51	277.1	6	25A	-1	11	44	9			7	31 PP
DJAKARTA	33.21	207.2	6	28A	-4	11	56	10				
DEHRA DUN	38.91	289.1	7	18	-2	13	19	6			9	3 PP
NEW DELHI	39.74	286.4	7	22	-5	13	29	3			9	18 PPP
PETROPAVLOVK	40.39	34.2	7	33	0						9	10 PP
MADRAS	40.47	261.8	7	35A	2	13	53	16			9	13 PP
HYDERABAD	40.60	269.1	7	36A	2	13	49	10			9	5 PP
RABAUL	41.03	129.0	7	35K	-3						13	19 SCP
MAGADAN	41.06	22.4	7	35	-3							
SEMIPALATNSK	41.28	320.3	7	37	-3	13	55	6	8	0		
LAHORE	42.07	291.1	7	46	0							
FRUNSE	42.76	307.8	7	51	-1	14	23	13	8	15	17	32 SS
COLOMBO	43.29	253.8	7	55	-1						14	30
KODAIKANAL	43.99	259.6	6	50	-72	14	47	19			9	44 PP
POONA	44.50	272.4	8	4	-2	14	43	7			9	40 PP
BOMBAY	45.34	273.3	8	13	0	14	54	6			10	10 PP
TASHKENT	46.46	304.9	8	21	-1	15	9	5	8	43	18	45 SS
STALINABAD	46.67	301.0	8	23	0	15	2	-5				
QUETTA	48.50	289.8	8	38A	0	15	38	6			10	30 PP
SVERDLOVSK	54.32	323.8	9	19	-2	16	54	2	9	41	11	25 PP
ASHKABAD	54.88	300.5	9	25A	-1						17	41 PS
PERTH	55.90	185.7	9	31	-2						17	21
BRISBANE	59.59	147.3	9	55	-4	18	0	-2				
NOUMEA	63.52	132.9	10	27	2				10	54		
GORIS	64.00	303.7	10	29	1						12	58 PP
RIVERVIEW	64.10	152.7	10	34	5	19	6	7	10	45	11	10 PCP
TIFLIS	64.74	306.4	10	33	0	19	16	9			12	57 PP
MELBOURNE	65.37	159.6	10	33	-4	19	22	8			13	28 PP
MOSCOW	67.07	322.4	10	46	-2	19	39	4			13	15 PP
APATITY	67.30	335.4	10	46	-3	19	39	1			13	45 PP
COLLEGE	68.86	27.2	10	56A	-3	19	59	3			24	10 SS
SUVA	69.62	121.7	11	20	16	20	11	6				
PULKOVO	70.12	327.5	11	7	0	20	14	3	11	37	11	31 PCP
SIMFEROPOL	71.61	311.6	11	15A	-1	20	34	6	11	41	21	8 SCS
KIRUNA	72.05	330.9	11	16A	-2	20	33	0			14	13 PP
HONOLULU	73.32	73.8	11	27	1							
KSARA	73.54	300.1	11	28K	1	21	4	14			14	20 PP
JERUSALEM	74.71	298.2	11	35K	1	21	19	16				
IASI	75.28	315.3	11	36	-1	21	17	8	12	6	14	39 PP
APIA	75.28	112.6	11	38	1							
BACAU	75.93	314.8	11	42	1	21	24	7			21	53 PS
FOCSANI	76.03	313.9	11	51	10	21	32	14			21	48 PS
UPPSALA	76.16	329.7	11	40A	-2	21	21	2			14	37 PP
LWOW	76.58	318.7	11	44	-1	21	29	5	12	10	14	40 PP
SKALSTUGAN	76.84	334.3	11	43	-3							
SITKA	77.05	33.1	11	46	-1	21	32	3			22	44
BUCHAREST	77.20	313.0	11	48K	0	21	44	14	12	16	14	42 PP
WARSAW	77.44	321.7	11	48	-1	21	36	3			22	12 PS
CAMPULUNG	77.61	314.1	11	42	-8							
ONERAHI	77.72	138.4	11	56	5							
AUCKLAND	78.71	139.0	12	26	30	21	57	10				
RESOLUTE	78.81	9.2	11	53A	-4	21	50	2			26	25 SS
KRAKOW	78.94	319.9	11	56	-2	21	56	7			22	20 SCS
SKALNATE PL.	79.10	319.0	12	1	3	22	3	12			15	11 PP
DABROWA	79.24	320.4	12	6	7	22	2	10			14	36
BYTOM	79.40	320.5	12	2	2	22	4	10				

ZABRZE	79.50	320.5	12	1	0	22	1	6			14	39	
SOFIA	79.72	312.1	12	5	3	22	7	10					
KARAPIRO	79.84	139.4	12	3	1	22	3	4			15	11	PP
TIMISOARA	79.89	315.6	12	8	5	22	4	5			15	3	PP
RACIBORZ	79.94	320.4	12	3	0	22	9	9			14	56	PP
COBB RIVER	80.37	143.2	12	10	5						15	11	PP
SZEGED	80.38	316.4	12	11	6						14	58	PP
COPENHAGEN	80.50	327.1	12	4	-2	22	8	3			15	16	PP
BUDAPEST	80.52	317.8	12	7	1	22	11	5			14	57	PP
KAIMATA	80.67	145.0	12	17	10								
BELGRADE	80.77	314.9	12	6K	-1	22	17	9			15	13	PP
HURBANOVO	80.89	318.4	12	12	4	22	18	9			15	8	PP
BERGEN	81.30	333.2	12	11A	1	22	19	5			15	14	PP
ATHENS	81.31	307.6	12	5	-5	22	16	2			23	24	PPS
TUAI	81.38	139.2	12	8	-3								
BRATISLAVA	81.42	319.0	12	13	2	22	27	12			15	23	PP
WELLINGTON	81.63	142.3	12	14K	2	22	13	-4			12	39	SP
POTSDAM	81.77	324.0	12	16	3	22	23	5	12	41	15	44	PP
VIENNA	81.83	319.3	12	13	0	22	29	9			12	40	PP
CHRISTCHURCH	82.00	145.1	12	15	1								
PRAGUE	82.11	321.5	12	13A	-1	22	25	3	12	38	23	17	PS
GEBBIES PASS	82.14	145.2	12	16	2						15	27	PP
SCORESBY SD.	82.28	348.3	12	14	-1	22	31	7			15	46	PP
HAMBURG	82.80	326.0	12	18	0	22	31	2	12	41			
ZAGREB	83.17	317.2	12	18	-2	22	40	7			15	57	PP
JENA	83.29	323.2	12	19	-1	22	16	-18	12	47	15	20	PP
CHEB	83.34	322.2	12	21	0						24	46	PPS
TANANARIVE	83.67	246.2	12	22K	0	22	48	10	12	44	12	26	PCP
TRIESTE	84.63	317.8	12	20A	-7	22	46	-1	12	51	15	47	PP
TARANTO	84.79	312.0	12	21	-7	23	1	12					
STUTTGART	85.72	322.1	12	31A	-1	22	54	-4	13	0	15	55	PP
TUBINGEN	85.92	321.9	12	32	-1				13	1	13	12	*SP
KARLSRUHE	86.04	322.6	12	33K	-1	22	41	-20	13	2	12	39	PCP
DE BILT	86.04	326.3	12	40	6	22	58	-3	12	57	16	19	PP
EBINGEN	86.16	321.7	12	33	-2				13	2	12	41	PCP
ALBERNI	86.31	36.9	12	34	-1								
ABERDEEN	86.32	332.9	12	39	4	23	11	7			16	4	PP
STRASBOURG	86.62	322.5	12	36A	-1	23	4	-2			16	6	PP
BOLOGNA	86.68	317.7	12	41	4	23	19	12	13	10	16	17	PP
ZURICH	86.82	321.1	12	41	3								
REGGIO CALA.	86.99	310.5	12	37A	-2	23	20	10	13	8			
MESSINA	87.01	310.6	12	42K	3	23	22	12			16	9	PP
HORSESHOE B.	87.09	36.3	12	38A	-1	23	19	8			12	55	
FLORENCE X.	87.10	317.1	12	39A	0	23	1	-10			15	52	PP
PRATO	87.14	317.2	12	42	3	23	14	3					
ROME	87.27	315.0	12	40A	0	23	8	-5			16	1	PP
VICTORIA	87.50	37.0	12	41A	0	23	20	5					
REYKJAVIK	87.60	344.8	12	47	5								
PAVIA	87.64	319.1	12	41	-1	23	27	11	13	6	16	13	PP
DURHAM	87.64	330.9	12	46	4	23	21	4			16	17	PP
NEUCHATEL	87.95	321.4	12	41	-2	23	23	4			16	11	PP
OROPA	88.12	319.9	12	42	-2	23	11	-10					
BESANCON	88.36	322.0	12	43	-2				13	19	16	18	PP
SEATTLE	88.61	37.3	12	48	2	23	17	-8	13	21			
KEW	89.15	327.9	12	51	2	23	21	-9			16	23	PP
PARIS	89.37	324.6	12	49	-2						16	20	PP
MONACO	89.47	318.5	12	49	-1						16	23	PP
CORVALLIS	89.78	40.3	12	52	0	22	45	-51					
BANFF	89.98	31.9	12	51A	-2								
RATHFARNHAM	90.69	331.6	13	9	13	23	31	-13			16	38	PP
CLERMONT-FD.	90.83	321.9	12	57	0	23	59	14			16	37	PP
JERSEY	91.50	326.8				24	1	10					
SHASTA	92.53	43.1	13	4	-1	23	8	-52					
HUNGRY HORSE	92.56	33.4	13	4A	-1	24	10	10			23	35	SKS
ASTRIDA	92.58	268.3	13	5A	0								
UKIAH	92.89	44.7	13	9	3	24	9	6			23	22	SKS
MINERAL	93.22	43.0	13	6	-2								
SASKATOON	93.35	27.3	13	13	5	24	13	6			45	41	L
BARCELONA	94.00	318.9				24	22	9			26	3	PS
BERKELEY	94.22	45.3	13	12	0	23	44	-31					
RENO	94.81	42.9	13	15	0						24	7	
BUTTE	94.85	34.4	13	15K	0	24	26	6			16	56	PP
LICK	94.93	45.5	13	15	-1						16	59	PP
BOZEMAN	95.87	34.0	13	19	-1						13	48	
ALGIERS UNI.	96.19	314.7	13	19	-2	24	34	3			17	16	PP
FRESNO	96.46	45.1	13	21	-2								
EUREKA	97.20	41.1	13	23K	-3						17	2	PP
PINEMAHA	97.29	44.1	13	26	0	23	59	-42			17	18	PP
ALICANTE	97.47	317.7	13	31	4	24	54	12			17	33	PP

WOODY	97.70	45.5	13	29A	1				17	29	PP
ISABELLA	97.98	45.3	13	28	-1				17	18	PP
RELIZANE	98.41	315.1	13	29	-2	25	0	10	17	28	PP
CHINA LAKE	98.45	44.8	13	30	-2				16	3	
TOLEDO	98.62	320.7	13	39	7	24	12	-40	17	54	PP
SALT LAKE C.	98.76	38.0	13	35K	2	25	2	9	24	12	SKS
PASADENA	99.09	46.4	13	37	2				17	36	PP
ALMERIA	99.64	317.5	13	38	1	24	16	-45	17	41	PP
RIVERSIDE	99.70	46.1	13	37	0	24	13	-48	17	32	PP
BOULDER CITY	100.11	43.2	13	41K	2						
GRANADA	100.12	318.4	13	59K	20	24	17	-48	17	36	PP
PALOMAR	100.44	46.4	13	43	2				17	57	PP
RAPID CITY	100.88	31.0	13	45K	2	25	18	7	24	10	SKS
MALAGA	100.90	318.4	14	4	21	24	2	-69	17	22	PP
BARRETT	100.97	46.8	13	46	3				17	46	PP
HAYFIELD	101.02	45.4	13	49	6	24	21	-51	17	45	PP
SCHEFFERVLLE	101.19	4.8	13	47	3						
TAMANRASSET	102.29	301.8	13	43	-6	24	28	-55	18	3	PP
PIETERMZBURG	102.30	243.0	13	49	0						
LISBON	102.31	322.5	13	55A	6				18	16	PP
PRETORIA	102.79	247.4	13	52	1						
TUCSON	105.05	43.9	14	3	777	26	11	1	18	17	PP
KIRKLAND LA.	105.64	14.7	14	6	777	25	56	26	18	32	PP
GRAHAMSTOWN	106.61	240.5	14	7	777						
KIMBERLEY	106.64	245.6	14	6	777						
SEVEN FALLS	108.35	8.8				22	34	0	14	53	
SHAWINIGAN	108.61	10.3	14	21	777				18	43	PP
OTTAWA	109.19	12.7	14	24	777	26	19	0	18	49	PP
CHICAGO CGS.	109.25	22.6	26	26	777				28	10	PS
LUBBOCK	109.47	37.4	14	26	777	25	4	0	19	5	PP
FLORISSANT	110.79	26.1							26	38	
BUFFALO L.	110.93	15.7	17	37	-48						
ST. LOUIS 1	110.99	26.1	14	33	-232	25	1	2	19	1	PP
FAYETTEVILLE	111.41	30.4							14	33	PP
CLEVELAND	111.46	18.3	14	35	-231	25	40	39	28	31	SP
HALIFAX	111.56	3.8	18	44	18				38	47	SSS
HERMANUS	112.78	241.2	19	17	48	25	19	13	26	22	SKKS
WESTON	112.91	10.2	14	40	-229	26	53	106	19	19	PP
PENNSYLVANIA	113.08	15.8	19	24	55				28	48	PS
MORGANTOWN	113.62	17.9	14	46	-224				18	38	
PALISADES	113.77	12.6	18	17	-14	25	47	37	19	30	PP
FORDHAM	113.93	12.6	18	31	0				26	22	SKKS
C.C.N.Y.	113.94	12.7	20	10	99						
MAZATLAN	114.00	48.3				26	53	102	29	59	PPS
PHILADELPHIA	114.52	14.0	19	35	63	27	4	111	28	59	PS
WASHINGTON	115.07	15.9	18	27K	-6	27	25	130			
CHAPEL HILL	117.33	18.6	18	14	-23						
COLUMBIA	118.49	21.2	18	45	5	25	27	0	19	56	PP
TACUBAYA	121.45	46.1				25	37	0	20	20	PP
VERA CRUZ	123.57	43.7	19	2	12				33	50	
BERMUDA	123.63	6.2	20	37	107				23	47	PPP
MBOUR	124.24	308.9	18	52	1	26	2	16	20	37	PP
MERIDA	126.06	36.6							20	56	
SAN JUAN	137.24	10.6	19	19	4				22	4	PP
DOMINICA	140.84	4.3	19	23	1						
BALBOA HTS.	141.36	34.5	19	20	-3						
FORT FRANCE	141.42	4.0	19	24	1				22	55	
GALERAZAMBA	141.77	27.1	19	29	5				22	27	PP
ST. LUCIA	142.12	3.8	19	24	0						
ST. VINCENT	142.96	4.3	19	24	-2						
BARBADOS	143.09	1.6	19	46	20						
TRINIDAD	145.42	5.1	19	28	-2						
CHINCHINA	146.76	32.2	19	34	2				19	42	PKP2
BOGOTA	147.79	30.0	19	38	4				19	46	PKP2
HUANCAYO	160.15	56.1	19	55	4				24	21	PPP
LA PAZ	168.34	51.9	20	0	2	26	58	5	25	5	PP

MARCH 2 0.H 27.M 36.S EPICENTRE 18.30 -78.15 DEPTH= 0.KM

A= 0.19512 B=-0.92982 C= 0.31202 D=-0.9787 E=-0.2054
G= 0.0641 H=-0.3054 K=-0.9501 HT= 5.1

SE= 3.55

	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
GALERAZAMBA	7.97	159.2	1	57	-1	3	31	2			2	22
BALBOA HTS.	9.38	188.6	2	13	-4							

SANTIAGO MA.	11.02	245.8	2	40	0	4	52	8			
MERIDA	11.13	285.6	2	42	1	4	42	-5		3	22
SAN JUAN	11.42	87.7	2	43	-2	4	56	2		4	2
AYAGUALO	11.66	248.2	2	50	1						
CHINCHINA	13.47	169.1	3	10	-3					6	9
BOGOTA	14.16	163.2	3	21	-1						
COLUMBIA	15.85	351.2	3	35	-9	5	50	-50			
ANTIGUA	16.27	91.9	3	38	-11						
DOMINICA	16.31	98.0	3	49	-1					4	7
FORT FRANCE	16.68	99.8	3	50	-4	6	52	-7			
ST. LUCIA	17.01	101.9	3	57	-2						
ST. VINCENT	17.02	105.0	3	57	-2						
VERA CRUZ	17.06	275.9	4	1A	2	7	25	18		5	28
CHAPEL HILL	17.57	357.6	4	0	-6	7	28	9			
TRINIDAD	17.79	112.9	4	9	1						
OAXACA	17.79	268.8	4	6	-2	7	33	9		5	29
BERMUDA	18.54	38.3	4	12	-6	7	18	-23			
BARBADOS	18.58	103.4	4	20	2						
PUEBLA	19.01	275.4	4	28	5						
TACUBAYA	19.95	276.5	4	34A	0	8	23	10		4	57 PP
WASHINGTON	20.55	2.4	4	45	5	8	31	6			
MORGANTOWN	21.32	356.2	4	46	-2	8	27	-12			
PITTSBURGH	22.12	356.3	4	53	-3	8	55	1			
PENNSYLVANIA	22.43	0.6	5	6	7	9	14	14		5	51 PP
TERRE HAUTE	22.58	341.0	4	57	-4						
FAYETTEVILLE	22.70	324.5	5	0	-2	9	13	8		5	47
FORDHAM	22.78	8.4	5	2	-1	8	55	-11			
ST. LOUIS 1	22.84	335.0	5	1K	-2	9	8	0	5 8		
PALISADES	22.93	8.3	5	3	-1	9	11	2			
FLORISSANT	23.03	335.0	5	4A	-1	9	12	1			
CLEVELAND	23.29	353.6	5	9	1	9	21	6			
GUADALAJARA	23.84	279.8	5	19K	6	9	39	14			
BUFFALO L.	24.50	359.1	5	18	-1						
WESTON	24.70	12.2	5	21A	0	9	46	6			
CHICAGO CGS.	24.76	342.9				9	47	6			
MANZANILLO	24.81	275.9	5	22K	0					10	14
LUBBOCK	26.10	310.3	5	34	-1	10	6	3			
MAZATLAN	26.84	285.3	5	40	-1					8	32
OTTAWA	27.10	3.8	5	46	2	10	27	7			
CHIHUAHUA	27.55	297.1	5	44	-4	10	22	-5			
SHAWINIGAN	28.52	7.8	5	55A	-2	12	0	78			
HALIFAX	28.94	21.8	6	8	8						
SEVEN FALLS	29.37	10.2	6	13	9						
KIRKLAND LA.	29.82	357.4	6	6	-2	11	2	-1			
HUANCAYO	30.28	174.5	6	17A	5	11	16	6		7	21 PP
BOULDER	31.90	318.5	6	25	-2						
TUCSON	32.51	301.6	6	32	0	11	48	3			
RAPID CITY	33.22	326.1	6	35	-3	11	54	-2		7	51 PP
LA PAZ	35.96	163.5	7	0	-2	12	37	-2		8	27 PP
SALT LAKE C.	36.55	315.0	7	6	-1	12	58	10		17	33 SCS
HAYFIELD	36.79	302.1	7	8	-1	13	4	12		8	48 PP
BOULDER CITY	36.82	306.1	7	9	0	13	5	13			
BARRETT	37.39	300.1	7	14K	0					8	51 PP
SCHEFFERVLLE	37.50	10.9	7	12	-3						
RIVERSIDE	38.27	302.0	7	20K	-1	13	16	2		8	54 PP
BOZEMAN	38.57	322.3	7	22	-2	13	29	10			
EUREKA	38.88	310.9	7	25	-1						
CHINA LAKE	38.92	304.7	7	26K	0					9	28 PP
PASADENA	38.95	302.0	7	27	0	13	26	2		9	1 PP
ISABELLA	39.56	304.2	7	32K	0	13	36	2		9	38 PP
BUTTE	39.65	321.9	7	27	-6	13	30	-5		8	41 PP
TINEMAHA	39.76	306.4	7	34K	1	13	40	3		9	54 PP
WOODY	39.88	304.1	7	34K	0					9	37 PP
SASKATOON	40.49	333.1	7	40	1	13	51	3		17	10 SS
FRESNO	40.89	305.4	7	41K	-2					9	24 PP
RENO	41.69	309.4	7	52	3						
HUNGRY HORSE	41.76	324.1	7	48	-2	14	15	9			
LICK	42.46	305.6	7	55K	-1					9	46 PP
SANTA CLARA	42.70	305.6	8	1	3	14	28	8			
BERKELEY	43.06	306.2	8	0K	-1	14	30	4		9	47 PP
MINERAL	43.25	309.9	8	0K	-2						
UKIAH	44.11	307.7	8	14	5	14	45	4		9	58 PP
CORVALLIS	45.81	315.0	8	24K	1					10	11 PP
SEATTLE	46.31	319.4	8	24	-3						
VICTORIA	47.34	320.0	8	32	-3	15	32	5			
HORSESHOE B.	47.61	321.2	8	32	-5	15	37	6			
RESOLUTE	57.13	354.8	9	43K	-5	17	46	5		22	16 SS
MBOUR	58.61	84.0	9	52	-6	18	5	5		10	45 PCP

SCORESBY SD.	61.87	18.5	10	19	-2	18	48	6		22	51 SS
LISBON	62.57	55.4	10	24K	-1	18	51	0	10 32	11	35 PP
RATHFARNHAM	64.72	39.1	10	38K	-1	19	27	9		13	7 PP
COLLEGE	64.97	333.8	10	38	-3	19	23	2		13	1 PP
TOLEDO	66.45	53.8	10	49	-1	19	42	3		13	21 PP
MALAGA	66.46	57.3	10	50A	-1	19	32	-7		13	22 PP
GRANADA	67.05	56.7	10	56A	2	19	56	10		13	32 PP
ABERDEEN	67.27	35.0	11	2	6	19	47	-2		13	47 PP
JERSEY	67.31	43.7	11	1	5	20	0	11		13	27 PP
DURHAM	67.53	37.6	10	54	-3	19	48	-4		20	52 SKS
ALMERIA	67.99	57.0	10	56	-4	19	53	-4		11	35 PCP
KEW	68.36	41.1	11	1	-2	20	9	7		20	37 PS
ALICANTE	69.37	55.2	11	7	-2	20	15	1		21	3 SKS
PARIS	70.35	43.8	11	12A	-3	20	21	-4		13	41 PP
RELIZANE	70.55	57.8	11	15	-1					13	47 PP
BARCELONA	70.96	51.6	11	26	8	20	42	10			
BERGEN	71.05	31.4				20	33	0		21	19 SKS
CLERMONT-FD.	71.11	47.0	11	19	0						
DE BILT	71.72	40.2	11	30K	7	20	43	2		25	24 SS
ALGIERS UNI.	72.38	56.4	11	23	-4	20	47	-2		14	11 PP
WITTEVEEN	72.54	39.3	11	27	-1						
NEUCHATEL	73.56	45.3	11	31	-3	21	1	-1			
STRASBOURG	73.85	43.6	11	34A	-1	21	3	-2		14	19 PP
SKALSTUGAN	73.99	27.7	11	41	5						
KARLSRUHE	74.19	43.1	11	31A	-6	20	57	-12			
HAMBURG	74.40	38.2	11	38	-1	21	13	2		16	11 PPP
MONACO	74.45	48.6	11	38	-1						
OROPA	74.49	46.6	11	45	6	21	22	10			
EBINGEN	74.70	43.9	11	38	-2					11	46 PCP
STUTTGART	74.75	43.2	11	38	-3	21	16	1		14	29 PP
PAVIA	75.40	46.9	11	53	9	21	45	22		14	40 PP
COPENHAGEN	75.43	35.8	11	45	0	21	26	3		26	18 SS
JENA	75.85	40.7	11	46	-1	21	27	0		14	47 PP
KIRUNA	76.42	22.7	11	48	-2	21	30	-4		22	12 PS
POTSDAM	76.46	39.1	11	51	1	21	34	0		14	50 PP
CHEB	76.53	41.5	11	57	6	21	46	11		22	30 PS
PRATO	77.02	47.9	11	34	-20	21	35	-5			
BOLOGNA	77.05	47.2	12	6	12	22	14	33			
FLORENCE X.	77.15	48.0	11	51	-3	21	51	9	12 11	14	50 PP
UPPSALA	77.23	31.0	11	53	-2	21	41	-2		22	15 SKS
TAMANRASSET	77.48	70.0	11	56	0	22	0	15		14	56 PP
PRAGUE	77.82	41.2	11	57	-1	21	47	-2		14	56 PP
TRIESTE	78.45	45.7	11	59	-2	21	57	1		15	8 PP
ROME	78.47	49.6	12	1A	-1	22	0	4	12 18	15	15 PP
ZAGREB	79.91	45.1	12	20	11	22	21	10			
BRATISLAVA	80.00	42.6	12	12	2	22	26	14		15	35 PP
RACIBORZ	80.16	40.5	12	17	6	22	19	5		22	27 SKS
HURBANOVO	80.80	42.7								13	52
APATITY	81.15	21.2	12	22	6	22	24	0		15	55 PP
WARSAW	81.20	37.9	12	14	-2	22	14	-10		15	25 PP
KRAKOW	81.23	40.2	12	16	0	22	26	1		12	24 PCP
BUDAPEST	81.47	42.9	12	33	15	22	27	0		15	43 PP
SKALNATE PL.	81.70	41.0	12	29	10	22	36	6		15	31 PP
MESSINA	81.73	52.6	12	20	1	22	39	9		15	32 PP
TARANTO	82.33	50.0	12	29	7	22	54	18		24	49
BELGRADE	83.22	45.1	12	27A	0	22	58	13		15	38 PP
PULKOVO	83.29	28.9	12	36	9	22	56	10		15	50 PP
TIMISOARA	83.43	44.1	12	38	10	23	1	14			
LWOW	83.80	39.6	12	29	-1	22	52	1		28	30 SS
SOFIA	85.90	46.4	12	40	0					15	14
BUCHAREST	87.13	44.1				23	37	14		23	24 SKS
TIKSI	88.42	351.7	12	56	4	23	42	7		23	22 SKS
MOSCOW	88.65	30.6	12	52	-1	23	33	-4		23	17 SKS
SIMFEROPOL	92.06	41.1	13	16K	7	24	20	12		23	50 SKS
MAGADAN	92.82	337.4	13	32	19						
PETROPAVLOVK	93.70	329.7	13	21	4					16	59 PP
KSARA	98.58	50.3	13	41	2					26	45 PS
TIFLIS	100.37	39.7	13	55	8	24	40	-39		27	4 PS
Y.-SAKHLINSK	105.36	332.3								18	34 PP
HERMANUS	106.05	121.5				24	54	0		28	3 PS
UVIRA	107.48	87.9	18	43	777						
ASTRIDA	107.78	86.8	18	30	777						
SEMIPALATNSK	109.00	14.4								18	49 PP
IRKUTSK	109.70	358.4								18	54 PP
ASHKABAD	110.72	35.6	18	44	12	25	26	16		28	44 PS
VLADIVOSTOK	112.93	336.5								19	31 PP
TASHKENT	113.44	26.2				25	31	10		19	22 PP
FRUNSE	114.15	21.7				25	40	16		19	44 PP
STALINABAD	115.50	28.3								19	44 PP

QUETTA	121.24	35.4	18	53	1	26	4	15			20	29	PP
LAHORE	123.84	28.4	19	3	6								
DEHRA DUN	126.51	25.7									21	11	PP
TANANARIVE	128.71	99.9	18	59	-8						22	40	PKS
BOMBAY	133.31	39.2									21	50	PP
RIVERVIEW	133.52	240.5	19	20A	4	28	37	133			21	43	PP
POONA	134.21	38.4	19	17	0								
SHILLONG	135.33	12.9	19	10	-9								
HYDERABAD	137.69	34.3	19	15	-8	26	41	10			22	17	PP
HONG KONG	137.89	342.9									23	9	PKS
BAGUIO CITY	140.88	330.8									22	42	
MADRAS	142.26	36.0									23	24	

MARCH 2 8.H 10.M 32.S EPICENTRE -5.85 151.08 DEPTH= 39.KM

DEPTH OF FOCUS= 0.001R

A=-0.87084 B= 0.48104 C=-0.10117 D= 0.4835 E= 0.8753
G= 0.0886 H=-0.0489 K=-0.9949 HT= 7.0

SE= 2.23

	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	1.96	33.5	0	32K	0								
GUAM	20.19	341.9	4	36	2								
BRISBANE	21.60	175.3	4	45	-4	8	43	2					
NOUMEA	22.09	139.3	4	55	1								
RIVERVIEW	27.85	179.9	5	43A	-5	10	24	-3	5	50	6	36	PP
MELBOURNE	32.32	189.1	6	25	-3								
MANILA	36.10	304.5	7	1	1	12	43	7					
ONERAHI	36.68	147.4	7	12	7								
APIA	37.39	105.0	7	7	-4								
BAGUIO CITY	37.42	306.7	7	13	1	12	58	1					
KARAPIRO	38.90	148.6	7	28	4								
KAIMATA	40.73	156.8	7	44	5								
WELLINGTON	41.14	152.6	7	44	2						9	38	
PERTH	41.93	227.2	7	50	1	14	11	7			9	36	PP
GEBBIES PASS	42.21	156.6	7	48	-3						8	7	
MATUSIRO	43.86	345.0	8	1	-4	14	36	3			13	40	PCS
DJAKARTA	44.00	267.2	8	8A	2	15	0	25					
HONG KONG	45.69	309.0	8	21	2								
ZO-SE	46.55	323.9	8	27	1	15	30	19					
CANTON	46.81	309.3	8	30	2								
CHANGCHUN	54.65	337.3	9	28	0								
PEKING	55.83	327.9	9	38	2								
HONOLULU	56.66	59.9	9	40	-2								
SHILLONG	65.39	301.4	10	38	-3								
CHATRA	69.79	301.2	11	8	-1								
IRKUTSK	70.19	331.6	11	11	0								
DEHRA DUN	78.45	302.4	12	13	14								
TIKSI	78.69	353.0	11	59	-1								
POONA	79.83	289.9	12	4	-2	22	5	0					
BOMBAY	80.85	290.1	12	12	0	22	37	21					
LAHORE	81.84	302.9	12	16	-1	22	27	1					
SEMIPALATNSK	82.46	322.4	12	21	1								
COLLEGE	83.46	22.1	12	22	-3								
FRUNSE	84.14	314.1	12	28	-1	22	42	-7					
NAMANGAN	85.85	311.7	12	38	1	22	58	-8					
QUETTA	87.85	300.5	12	47A	0	23	32	7			23	16	SKS
BERKELEY	90.91	52.2	13	1	0								
CORVALLIS	90.94	45.5	13	8	6								
SHASTA	91.14	49.4	13	4	2								
LICK	91.34	52.8	13	3K	0						16	23	PP
VICTORIA	91.35	41.5	13	2	-1	24	3	6					
HORSESHOE B.	91.55	40.7	13	4	0								
MINERAL	91.70	49.8	13	5K	0								
SEATTLE	92.00	42.5	12	28	-38								
FRESNO	92.75	53.5	13	10	0								
RENO	92.99	50.7	13	12	1						17	1	
WOODY	93.41	54.6	13	12A	-1				13	19	16	11	
ISABELLA	93.73	54.7	13	13	-1	24	1	-17	13	21	17	2	
PASADENA	93.86	56.2	13	15	0	24	27	8	13	22	25	32	PS
TINEMAHA	94.03	53.3	13	17	1	23	48	-32	13	24	16	55	
CHINA LAKE	94.45	54.6	13	18	0				13	23	17	8	
RIVERSIDE	94.50	56.4	13	18	0				13	25	16	31	
BARRETT	95.00	57.8	13	21	1				13	27			

HAYFIELD	95.94	56.8	13 25	1	13 36	17 19	
EUREKA	95.95	51.0	13 23	-1		17 16	PP
BOULDER CITY	96.70	54.5	13 28	0		17 20	PP
HUNGRY HORSE	97.58	42.1	13 30	-2			
BUTTE	98.58	44.5	13 36	0		17 35	PP
SALT LAKE C.	99.13	49.8	13 39	0			
BOZEMAN	99.65	44.8	13 42	1		17 51	PP
TUCSON	99.92	58.4	13 44	2		17 30	PP
RESOLUTE	101.84	14.4	13 49K	-2			
BOULDER	104.16	50.3	14 20	19			
RAPID CITY	105.33	46.0	14 6	777		18 9	PP
KIRUNA	109.85	342.2	18 27	777			
TACUBAYA	110.50	71.6				15 17	
FAYETTEVILLE	113.35	53.3				29 24	PKKP
KSARA	114.13	304.4	18 36	0		19 39	PP
JERUSALEM	115.00	302.3	18 40	3			
SKALSTUGAN	115.17	341.0	18 43	5			
UPPSALA	115.64	336.0	18 38	-1			
ASTRIDA	120.84	263.5	18 51	2			
LWIRO	121.81	263.7	18 53	2			
BRATISLAVA	122.52	325.2	18 57	5		20 37	
SCHEFFERVLLE	122.53	24.9	18 55	3			
HAMBURG	122.89	333.5	18 55	2			
OTTAWA	123.48	38.0	18 54K	0			
COLUMBIA	124.32	52.6	18 57	2		20 43	PP
SHAWINIGAN	124.63	35.5	18 54	-2			
WITTEVEEN	124.85	334.5	18 58	2			
STUTTGART	126.42	329.5	18 59	0		21 10	PP
PALISADES	126.77	41.9	19 1	1			
EBINGEN	126.92	329.1	19 0	0			
STRASBOURG	127.26	330.1	19 2	1		38 16	SS
FLORENCE X.	128.35	323.4	19 2K	-1		38 6	SS
ROME	128.64	320.8	19 8	4		37 48	SS
KEW	128.71	337.4	19 5	1			
NEUCHATEL	128.73	329.1	19 4	0			
BESANCON	129.05	329.9	19 8	4		20 45	
RATHFARNHAM	129.20	342.7	19 5K	0			
PARIS	129.59	333.4	19 8	2		39 2	SS
HUANCAYO	130.54	111.2	19 11	4			
CLERMONT-FD.	131.50	330.3	19 11	2			
CHINCHINA	133.51	88.7	19 13	0		22 42	SKP
LA PAZ	135.31	120.4	19 19	3	26 43 22	22 47	PP
BERMUDA	137.47	47.0				23 12	
ALGIERS UNI.	137.56	321.0	19 19	-1		22 49	
RELIZANE	139.77	321.7	19 28	4		21 21	
SAN JUAN	141.65	67.7	19 30	2		22 36	PP
TAMANRASSET	142.79	300.4	19 28A	2		22 57	PP
ANTIGUA	146.59	67.9	19 35	-1			
DOMINICA	146.76	71.0	19 41	4			
FORT FRANCE	147.12	71.9	19 39	2			
ST. VINCENT	147.30	74.8	19 40	3			
TRINIDAD	147.39	79.4	19 39	1			
ST. LUCIA	147.40	73.1	19 39	1			
BARBADOS	148.91	74.3				19 59	

MARCH 3 3.H 18.M 28.S EPICENTRE 8.66-102.86 DEPTH= 0.KM

A=-0.22008 B=-0.96396 C= 0.14951 D=-0.9749 E= 0.2226
G=-0.0333 H=-0.1458 K=-0.9888 HT= 6.7

SE= 2.33

	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	
OAXACA	10.21	34.9	2	34	3						4	56	SS
MANZANILLO	10.43	352.3	2	36	2	4	40	7					
TACUBAYA	11.25	18.0	2	49K	3						5	33	
GUADALAJARA	11.96	357.9	2	53	-2	5	17	6					
VERA CRUZ	12.35	31.2	3	5K	5	5	35	15			3	43	
COMITAN	12.91	53.2	3	2	-6						5	44	SS
MAZATLAN	14.84	347.2									6	52	
MERIDA	17.68	44.8	4	6K	-4	7	32	6					
CHIHUAHUA	20.10	351.7	4	32	-7	8	22	2					
BALBOA HTS.	23.03	87.5	5	10	2	9	27	12					
TUCSON	24.62	343.6	5	25	1	9	40	-3					
LUBBOCK	24.82	2.0	5	26	0								
BARRETT	27.11	333.8	5	48	1						6	5	
CHINCHINA	27.29	95.9	5	49	0	10	37	10					

HAYFIELD	27.57	336.5	5	53	2						
PALOMAR	27.77	334.2	5	51	-2						
FAYETTEVILLE	28.43	14.9	6	0A	1	10	33	-13			
RIVERSIDE	28.54	334.2	6	0	0						
BOGOTA	28.87	96.1	6	9	6	11	7	14	7	9	PP
PASADENA	29.02	333.2	6	5	1	10	43	-12	6	26	
BOULDER CITY	29.31	339.9	6	8	1				6	20	
WOODY	30.63	333.9	6	18	-1				9	58	
BOULDER	31.32	356.4	6	25	0						
TINEMAHA	31.53	336.1	6	27	1				6	58	
COLUMBIA	32.25	35.4	6	34	1	11	49	3	7	27	PP
EUREKA	32.86	341.1	6	40	2						
SALT LAKE C.	32.96	347.4	6	40	1	12	7	10			
LICK	33.24	332.1	6	40	-1						
TERRE HAUTE	33.66	21.8	7	2	17	11	37	-31			
HUANCAYO	34.24	126.5	6	52	2	12	32	15	7	50	
CHAPEL HILL	34.76	35.1	6	54	0	12	33	8			
RAPID CITY	35.29	359.6	6	59	0	12	32	-1			
MINERAL	35.71	335.1	7	3	0						
SAN JUAN	36.94	71.0	8	11	58	13	22	23	8	40	PP
MORGANTOWN	37.03	30.0	7	15	1	13	4	4			
BOZEMAN	37.55	350.6	7	19	1	13	12	4			
WASHINGTON	37.98	33.5	7	22	0	13	22	7	8	56	PP
BUTTE	38.15	349.0	7	24	1	13	25	8			
HUNGRY HORSE	40.67	348.6	7	44	0	14	27	32			
PALISADES	41.19	33.8	7	49	1	14	9	6	9	29	PP
FORT FRANCE	41.24	77.6	7	46	-3						
SEATTLE	42.22	340.4	7	32	-25						
LA PAZ	42.49	126.0	7	56	-3	14	17	-5	9	43	PP
BERMUDA	42.50	50.7	7	57	-2	14	28	6	13	4	PCS
VICTORIA	43.35	340.1	8	5	-1						
OTTAWA	43.45	27.9	8	7A	0	14	44	8			
KIRKLAND LA.	43.83	22.0	8	8A	-2	14	46	5			
HORSESHOE B.	44.05	340.9	8	13	1						
SEVEN FALLS	47.03	29.7				15	29	2			
SCHEFFERVLLE	54.28	24.9	9	28	-3				11	2	PP
COLLEGE	64.28	340.4	10	37	-3						
RESOLUTE	66.14	2.3	10	49A	-3						
RATHFARNHAM	87.04	36.7							14	5	
STRASBOURG	96.87	38.8							31	47	
STUTTGART	97.68	38.2	13	20	-18						
FLORENCE X.	100.92	42.3							27	6	
ROME	102.50	43.7							26	56	
RABAUL	105.40	268.0							6	0	
MATUSIRO	107.24	312.4							33	59	SS
QUETTA	140.17	13.8	19	27	-4						
SHILLONG	143.08	337.5							32	58	
TANANARIVE	149.56	112.7							19	56	PKP2

MARCH 5 12.H 24.M 37.S EPICENTRE 33.15 -39.86 DEPTH= 0.KM

A= 0.64401 B=-0.53765 C= 0.54423 D=-0.6409 E=-0.7676
G= 0.4178 H=-0.3488 K=-0.8389 HT= 0.8

SE= 2.53

	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	
ANGRA DO HO.	11.61	58.2	2	50	0								
BERMUDA	20.88	274.7	4	48	2	8	51	16			7	23	
HALIFAX	21.66	308.8	4	54A	0	8	58	9					
ANTIGUA	25.00	235.2	5	29	3								
LISBON	25.41	68.6	5	31K	1	10	3	8			5	56	PP
DOMINICA	26.40	232.8	5	38	-1								
WESTON	26.40	299.6	5	40A	0	9	56	-16					
FORT FRANCE	26.64	231.6	5	37	-5	10	21	5			12	20	
ST. LUCIA	27.06	230.3	5	44	-2								
SEVEN FALLS	27.28	309.9	5	46	-2	10	37	11			12	11	SS
ST. VINCENT	27.88	229.5	5	51	-2								
FORDHAM	28.11	295.7	5	55	0						6	5	*PP
PALISADES	28.14	296.1	5	57	2	10	44	4			6	32	PP
C.C.N.Y.	28.16	295.6	6	13	17	11	0	20					
SHAWINIGAN	28.37	307.9	5	59	2						7	12	PPP
SCHEFFERVLLE	28.70	327.1	6	0	0						9	6	PCP
MALAGA	29.18	72.9	6	2A	-3	10	24	-33			6	58	PP
TOLEDO	29.41	66.5	6	3	-4	11	3	3			6	57	PP
GRANADA	29.80	71.9	6	16A	6	11	6	-1			7	12	PP
TRINIDAD	29.95	226.6	6	10	-2								

OTTAWA	30.09	304.6	6	13	0	11	13	2	7	29 PPP
ALMERIA	30.72	72.4	6	17	-1	11	24	3	7	9 PP
RATHFARNHAM	31.26	39.8	6	32	9	12	4	34	13	41 SS
ALICANTE	32.20	69.4	6	33	2	11	46	2		
JERSEY	32.23	48.9	6	38	6	13	1	76	10	52
RELIZANE	33.26	74.0	6	37	-4					
KIRKLAND LA.	33.56	308.6	6	42K	-1	12	9	4		
KEW	33.97	45.4	6	47	0	12	12	0	14	23 SS
DURHAM	34.39	39.5	6	48	-3	12	38	20		
CLERMONT-FD.	35.08	56.1	6	57	1	12	41	12		
PARIS	35.09	50.8	6	59	3	12	34	5	8	5 PP
ALGIERS UNI.	35.14	71.8	6	53	-4	12	20	-10	8	1 PP
ABERDEEN	35.14	35.4							11	1
BESANCON	37.19	53.9	7	14	0				7	56 PP
DE BILT	37.43	45.9	7	17	1	13	5	0	15	53 SS
MONACO	38.06	59.8	7	22	1					
CHICAGO CGS.	38.45	297.1	7	28	3	13	24	3	8	48 PP
WITTEVEEN	38.48	45.1	7	23	-2					
STRASBOURG	38.52	52.0	7	30	5	13	26	4	8	32 PP
SCORESBY SD.	38.66	9.5	7	26	-1	13	33	9	16	29 SS
KARLSRUHE	38.98	51.4	7	33	4	13	23	-6		
EBINGEN	39.28	52.7	7	31	-1					
PAVIA	39.30	57.5	7	43A	11	13	45	11	9	27 PP
GALERAZAMBA	39.38	243.8	7	41	8	13	45	10		
STUTTGART	39.48	51.8	7	33	0	13	40	4	9	7 PP
BERGEN	39.99	33.2				13	13	-31		
HAMBURG	40.58	44.5	7	44	2	13	52	-1	9	25 PP
ST. LOUIS 1	40.76	292.5	7	43A	-1	14	2	7	9	18 PP
FLORENCE X.	40.82	59.6	7	43	-1	13	59	3	8	59 PP
TAMANRASSET	41.11	92.6	7	45	-2	13	50	-11	9	17 PP
JENA	41.21	48.7	7	47	-1	13	55	-7	9	46 PP
CHEB	41.65	50.0	7	50	-1	14	12	3	9	38 PP
ROME	41.86	62.3	7	56A	3	14	7	-5	9	11 PP
POTSDAM	42.27	46.6	7	58	2	14	18	0	9	42 PP
COPENHAGEN	42.35	41.7	7	58	1	14	23	4		
TRIESTE	42.52	56.7	7	58	0	14	21	0	9	41 PP
PRAGUE	42.97	50.1	8	3K	1	14	26	-2	9	58 PP
CHINCHINA	43.53	237.7	8	5	-2	14	39	3		
BALBOA HTS.	43.79	245.8	8	8	-1	14	47	7		
ZAGREB	44.07	56.3	8	17	6					
SKALSTUGAN	44.19	30.4	8	12	0					
FAYETTEVILLE	44.33	289.7	8	13A	0	14	48	0	9	55 PP
BRATISLAVA	44.72	52.9	8	23	7	14	56	3	10	11 PP
MESSINA	44.73	67.2	8	17	1	14	52	-2	10	1 PP
RACIBORZ	45.40	50.2	8	22	0				10	1 PP
MERIDA	45.58	267.6							15	7
TARANTO	45.62	63.7	7	33	-50				11	8
UPPSALA	45.78	36.4	8	24	-1	15	7	-2	18	11 SCS
KRAKOW	46.51	50.2	8	30	0				10	23 PP
SKALNATE PL.	46.76	51.3	8	35	3	15	27	4	10	23 PP
WARSAW	47.14	47.1							10	27 PP
BELGRADE	47.31	57.3	8	37	0	15	29	-1	15	36 PS
KIRUNA	48.60	26.1	8	44	-3	15	45	-4	10	7 PCP
RESOLUTE	49.27	343.3	8	50K	-2	16	5	7	9	23
RAPID CITY	49.57	302.2	8	52	-2	16	22	20	10	52 PP
SOFIA	49.71	59.6	8	1	-54				8	33
SASKATOON	50.77	313.0				16	28	9		
LUBBOCK	51.06	288.6	9	4	-2	16	28	5		
BUCHAREST	51.35	56.9	9	10	2	14	47	-100	11	39 PP
VERA CRUZ	51.82	269.2							11	47 PP
IASI	51.85	53.2	9	14	2					
BOULDER	51.95	297.5	9	11	-1					
PULKOVO	52.17	37.1	9	13	-1	16	36	-2		
KISHINEV	52.73	53.2	9	16	-2	16	45	-1		
APATITY	53.48	27.2				17	2	6		
TACUBAYA	54.31	271.1	10	15	45				12	11 PP
BOZEMAN	54.71	305.6	9	33	0					
BUTTE	55.66	306.3	9	42	2	17	27	2		
HUNGRY HORSE	56.08	309.3	9	40	-3	17	41	10		
CHIHUAHUA	56.17	284.4							12	23 PP
HUANCAYO	56.26	223.1	9	43	-1	17	33	0	10	28 PCP
LA PAZ	56.28	213.1	9	42	-2	17	41	8	11	32 PP
BANFF	56.40	312.9	9	43K	-2					
MOSCOW	56.52	41.5	9	46	0					
SALT LAKE C.	56.57	300.1	9	45	-1	17	40	3		
SIMFEROPOL	56.80	54.7	9	48	0	18	3	23		
GUADALAJARA	57.18	274.6	10	31	40				19	31
TUCSON	58.62	290.2	10	0	-1	18	19	15	12	33 PP
EUREKA	59.97	299.8	10	9	-1				11	8 PCP

BOULDER CITY	60.35	295.7	10	12	-1						
KSARA	61.73	66.4	10	20	-2	18	44	0	12	42	PP
HAYFIELD	61.80	293.5	10	21	-2						
JERUSALEM	62.02	68.7	10	24	0				10	45	
TINEMAHA	62.50	297.9	10	27K	0	19	3	9	12	47	PP
RENO	62.73	301.1	10	32	3				12	51	PP
PALOMAR	62.89	293.6	10	31	1						
BARRETT	63.01	292.9	10	30	-1				12	42	PP
RIVERSIDE	63.04	294.5	10	30	-1						
ISABELLA	63.21	296.6	10	31K	-1				39	32	PKPPKP
WOODY	63.49	296.8	10	33K	-1				12	55	PP
PASADENA	63.57	294.9	10	34	0	19	19	11	13	2	PP
MINERAL	63.70	302.5	10	34	-1						
FRESNO	63.77	298.2	10	35	-1						
SHASTA	64.13	303.1	10	31	-7						
BERKELEY	65.14	300.2	10	45	1	19	35	8			
TIFLIS	65.21	55.2	10	45	0	19	35	7			
MAKHACH-KALA	66.55	53.1	10	42	-12						
COLLEGE	67.57	333.9	10	58	-2	20	26	30	39	23	PKPPKP
SVERDLOVSK	68.24	35.6	11	2	-2	20	5	1			
LWIRO	73.51	103.9	10	35	-61						
TIKSI	75.21	3.7	11	45	-1						
SEMIPALATNSK	81.44	34.0	12	19	-1						
NAMANGAN	82.97	45.2	12	26	-2	22	53	6			
FRUNSE	83.46	42.3	12	32	2	23	1	9			
QUETTA	86.44	56.2	12	44	-1	23	20	-1	23	9	SKS
KIMBERLEY	86.84	127.4	12	48	1						
HERMANUS	87.13	134.8	13	9	20	23	26	-1	24	26	PS
PRETORIA	87.26	123.1	12	49	0						
IRKUTSK	89.35	21.1	12	57	-2						
PIETERMZBURG	91.19	124.9	13	16	8						
PETROPAVLOVK	92.58	349.0	13	26	12						
DEHRA DUN	93.79	50.0	13	41	21						
BOMBAY	97.53	61.8							16	50	
TANANARIVE	98.02	107.3	13	41	2				15	11	
COLOMBO	110.37	66.9							19	18	
MATUSIRO	110.64	1.7							27	1	
RABAUL	149.09	336.1	19	50	4						
TONGARIRO	150.93	247.8	19	47	-1						
GEBBIES PASS	152.60	237.9	20	12	21						
RIVERVIEW	170.78	262.8							21	45	PKP2

MARCH 8 12.H 14.M 14.S EPICENTRE 39.30 22.72 DEPTH= 0.KM

A= 0.71574 B= 0.29975 C= 0.63077 D= 0.3863 E=-0.9224
G= 0.5818 H= 0.2437 K=-0.7760 HT= -1.4

SE= 2.64

	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	1.54	149.2	0	30A	1						0	55	SG
SOFIA	3.43	7.5	0	58	2	1	40	2			1	56	SG
TARANTO	4.37	287.3	1	2	-7	2	2	0					
REGGIO CALA.	5.66	260.0	1	27	0	2	31	-3			2	41	
BUCHAREST	5.71	25.1	1	29	1	2	47	12			2	12	PG
MESSINA	5.71	263.2	1	26K	-2	2	33	-2			1	39	P*
BELGRADE	5.77	343.7	1	34K	5	2	43	6			1	54	PG
CAMPULUNG	6.21	15.2	1	38	3	3	5	17			2	15	PG
TIMISOARA	6.54	350.7	1	41	1	2	56	0			1	57	P*
FOCSANI	7.20	25.9	1	57	8	3	20	7			3	53	S*
SZEGED	7.21	345.5	1	54	5	3	23	10			2	33	PG
KALOCSA	7.73	340.4	1	56	-1	3	21	-5			2	26	PG
BACAU	7.89	21.5	2	3	4	3	57	27			3	33	
KECSKEMET	7.90	344.8	2	2	3	3	34	4			2	49	PG
ZAGREB	8.20	324.8	2	2	-1								
ROME	8.22	291.7	2	4A	1	3	37	-1			2	32	P*
BUDAPEST	8.60	343.2	2	8	-1	3	37	-11			4	32	SG
IASI	8.65	22.5	2	9	0	4	19	30			2	57	
RAKHOV	8.69	6.1	2	9	-1								
KISHINEV	8.91	28.0	2	12	-1	3	57	2					
HURBANOVO	9.18	340.5	2	19	2	4	8	6			3	11	PG
TRIESTE	9.18	316.7	2	12	-5	4	0	-2			3	42	PGPG
CERNAUTI	9.27	13.4	2	20	2	4	14	10					
UZHGOROD	9.34	358.3	2	16	-3	4	4	-2					
FLORENCE X.	9.70	301.2	2	21K	-3	4	11	-4					

BRATISLAVA	9.76	337.2	2	29	4	4	14	-2	5	6 SG
PRATO	9.84	301.5	2	30	4	4	14	-4		
BOLOGNA	9.96	305.1	2	31	4	4	17	-4	2	47 P*
YALTA	9.97	55.0	2	24	-4	4	14	-7		
SKALNATE PL.	10.04	350.6	2	32	3	4	31	8	2	55
VIENNA-H.	10.06	334.9	2	27	-2	4	28	4	5	48 SGSG
SIMFEROPOL	10.17	52.6	2	30	0	4	24	-2		
ALUSHTA	10.24	54.4	2	26	-5	4	17	-11		
KRAKOW	10.93	350.5	2	39	-2	4	55	10		
CUGLIERI	10.94	279.1	2	48	7	4	26	-19		
RACIBORZ	11.25	344.9							2	50 PP
PAVIA	11.63	304.7	2	49K	-1	4	43	-19		
KSARA	11.90	113.3	2	58K	4	5	16	7		
PRAGUE	12.27	334.1	2	55	-4	5	16	-2		
MONACO	12.29	296.0	2	58	-1					
OROPA	12.59	304.9	3	3	0	5	22	-3	3	56
JERUSALEM	12.63	122.6	3	4	0	5	7	-19		
RAVENSBURG	12.73	316.0	3	2	-3	5	34	5		
WARSAW	12.99	355.3	3	10	1	5	44	9		
ZURICH	13.07	312.7	3	7	-3	5	39	2		
EBINGEN	13.31	316.3	3	0	-13	5	30	-13	3	16 PP
SOTCHI	13.45	66.0	3	14	-1	5	42	-4		
TUBINGEN	13.47	317.7	3	10	-5					
STUTTGART	13.56	318.7	3	14K	-2	5	46	-3	3	28 PP
BASLE	13.73	311.7	3	17	-1				5	27
NEUCHATEL	13.84	308.9	3	18	-2	6	1	6		
JENA	14.02	329.7	3	20	-2	5	51	-9	4	0
KARLSRUHE	14.11	318.1	3	29A	6	6	8	6	3	38 PP
STRASBOURG	14.20	315.7	3	25A	0	6	5	1	5	14
BESANCON	14.54	308.6	3	26	-3					
POTSDAM	14.69	336.1	3	32	1					
ALGIERS UNI.	15.71	266.9	3	43	-1	6	47	7	3	55 PP
CLERMONT-FD.	15.81	300.5	3	47	1	6	46	4		
BARCELONA	15.84	284.3	3	47	1	6	47	4		
HAMBURG	16.72	332.8	3	54K	-3	7	6	3		
TIFLIS	16.96	74.7	4	3	3					
PARIS	17.33	309.9	4	6	1	7	20	3	4	20 PP
WITTEVEEN	17.47	326.0	4	11	4					
DE BILT	17.66	322.2	4	14	5	7	35	10		
COPENHAGEN	17.77	340.7	4	12	2	7	32	5		
RELIZANE	17.93	265.6	4	9	-3	7	28	-3		
ALICANTE	18.10	274.4	4	16	2	7	41	6	8	26 SSS
MOSCOW	19.21	26.3	4	25	-3	7	56	-4		
ALMERIA	19.97	270.9	4	35	-2	8	23	7	4	53 PP
KEW	20.15	314.7	4	39A	0	8	21	1	5	3 PP
JERSEY	20.26	307.3	4	40	0	8	28	6		
TOLEDO	20.62	280.2	4	43K	0	8	32	2		
GRANADA	20.76	272.5	4	46A	1	8	39	6	5	10 PP
UPPSALA	20.83	352.8	4	41	-5	8	29	-5	5	1 PP
PULKOVO	21.05	10.7	4	47	-1	8	39	1		
MALAGA	21.50	271.7	4	48K	-4	8	48	1	5	20 PPP
TAMANRASSET	22.04	226.7	4	57	-1	9	8	11		
DURHAM	22.50	321.5	5	1	-1	9	5	0		
BERGEN	23.78	338.4	5	15	0	9	31	3		
EDINBURGH	23.90	322.6				9	30	0	6	8
ABERDEEN	24.13	326.0	5	16	-2	9	30	-4	5	49 PP
RATHFARNHAM	24.24	314.9	5	20A	1	9	40	4	5	51 PP
LISBON	24.71	278.9	5	22A	-2	9	49	5	8	55 PCP
SKALSTUGAN	25.11	349.0	5	24A	-4					
ASHKABAD	27.76	81.4	5	51	-1				11	59 SS
KIRUNA	28.62	358.2	5	56A	-4	10	49	1	9	2 PCP
APATITY	28.93	8.5	6	3	0	10	53	0	6	19 *SP
SVERDLOVSK	30.29	42.0	6	16	1	11	14	-1	7	15 PP
TASHKENT	35.23	71.4	6	56	-2				8	9 PP
STALINABAD	35.53	76.2	7	2	1	12	34	-2		
REYKJAVIK	35.99	328.4	7	5	0					
QUETTA	37.16	90.3	7	13	-1	13	6	5	8	39 PP
FRUNSE	38.74	67.5	7	27K	-1				15	54 SS
SCORESBY SD.	38.78	337.8	7	27	-1	13	29	3	9	1 PP
RUMANGABO	40.88	169.9	7	46	1					
SEMIPALATNSK	41.30	54.9				13	48	-16	8	26
LWIRO	41.72	170.9	7	52	0					
ASTRIDA	42.19	169.5	7	56	0					
MBOUR	42.75	245.7	8	4	3	14	29	4	9	45 PP
UVIRA	42.97	170.6	8	2	0					
DEHRA DUN	45.69	83.6	8	28	4	15	3	-5	10	18 PP
NEW DELHI	45.84	86.2	8	25	-1	14	59	-11	10	13 PP
BOMBAY	47.60	100.4	8	41	2	15	41	6	10	36 PP
POONA	48.60	100.0	8	46	-1	15	50	1	10	43 PP

HYDERABAD	52.77	97.8	9	18	-1					
BOKARO	54.89	86.5	9	34	-1				16	33
IRKUTSK	55.44	47.6	9	38K	-1				17	29 PS
KODAIKANAL	56.48	105.4	9	48	2					
MADRAS	56.78	100.8	9	48	0				19	13 SCS
TIKSI	58.01	21.0							12	3 PP
SHILLONG	58.65	81.2	9	57	-4	18	3	-2		
SCHEFFERVLLE	58.73	317.4	9	58	-4				11	22
RESOLUTE	59.18	344.1	10	0	-5					
COLOMBO	60.45	106.5	10	12	-2					
HALIFAX	61.51	305.8	10	19	-2					
TANANARIVE	62.39	153.4	10	29A	2					
SEVEN FALLS	64.66	311.0	10	42	0	19	24	3	23	56 SS
PRETORIA	64.91	174.6	10	45A	2					
SHAWINIGAN	66.10	311.3	10	49	-2					
SIAN	66.67	64.2	11	8	13					
KIMBERLEY	67.72	178.0	11	OK	-1					
PEKING	68.39	55.5	11	5	-1	20	12	5		
OTTAWA	68.45	311.5	11	5	-1	20	8	1	24	34 SS
BERMUDA	68.54	294.7	11	6	0	20	3	-5		
PIETERMZBURG	68.93	172.8	11	10	1					
KIRKLAND LA.	69.30	315.7	11	10	-1					
PALISADES	69.85	306.8	11	15	0	20	22	-2	25	10 SS
BUFFALO L.	71.63	310.6	11	24	-1					
CHANGCHUN	71.77	48.0	11	24A	-2					
GRAHAMSTOWN	72.34	176.6	11	24	-6					
MAGADAN	72.60	24.8	11	32K	1					
HERMANUS	73.42	183.0	11	41	5	21	9	4	14	16 PP
MORGANTOWN	74.38	308.5	11	42	1					
COLLEGE	75.91	355.9	11	50	0	21	37	4	12	20 PCP
FORT FRANCE	76.14	277.8	11	50	-2					
CANTON	76.18	71.5	11	53	1	21	45	9		
HONG KONG	77.30	71.6	11	59	1					
SAN JUAN	77.73	283.7	12	0	0	22	0	8		
COLUMBIA	78.59	304.6	12	5	0					
Y.-SAKHLINSK	78.83	37.2	12	3A	-3	22	6	2	15	9 PP
PETROPAVLOVK	80.36	25.2	12	14	-1	22	16	-4	15	20 PP
SITKA	82.24	348.1	12	28	3	23	36	56		
BANFF	82.79	335.0	12	27	0					
RAPID CITY	83.73	324.0	12	31	-1					
MATUSIRO	83.97	47.0	12	34	1	22	51	-6		
HUNGRY HORSE	84.67	332.7	12	35	-2				37	44 PKPPKP
BAGUIO CITY	85.68	72.4	12	40	-2					
BOZEMAN	85.80	329.5	12	43	0					
BUTTE	86.09	330.6	12	46	2	23	2	-16		
HORSESHOE B.	86.74	338.5	12	49	2					
VICTORIA	87.55	338.2	12	52	1					
SEATTLE	88.00	337.2	11	46	-67					
SALT LAKE C.	90.19	327.2	13	2	-2					
LUBBOCK	91.17	316.6	13	8	0					
BOGOTA	92.35	277.8	13	24	10					
EUREKA	92.96	329.2	13	18	2					
CHINCHINA	93.32	279.1	13	19	1					
SHASTA	94.26	334.1							14	2
MINERAL	94.30	333.5	13	18	-5					
RENO	94.38	331.9	13	24	1					
BOULDER CITY	95.48	326.6	13	32	4					
CHINA LAKE	96.77	328.5	13	37	3				18	12 PP
TUCSON	96.78	321.8	13	34	0					
FRESNO	96.81	330.5	13	48	14					
LICK	96.99	332.1	13	50	15					
ISABELLA	97.26	329.0	13	39	3				18	1 PP
WOODY	97.38	329.3	13	40	3				18	5 PP
HAYFIELD	97.75	326.0	13	53	15				18	13 PP
RIVERSIDE	98.26	327.4	13	46	6	25	14	8	18	9 PP
PASADENA	98.45	328.1				25	10	3	18	21 PP
PALOMAR	98.59	326.7	13	46	4					
BARRETT	99.08	326.2	13	46	2					
TACUBAYA	100.31	305.5	13	45	-5				20	3 PPP
LA PAZ	100.90	257.7	13	56	4	24	56	-32	18	14 PP
RABAUL	122.52	66.0	18	59	1				32	3 PPS
MELBOURNE	135.49	107.2	19	26	4					
RIVERVIEW	138.68	99.0	19	33A	5	26	40	3	32	25 PS

MARCH 8 12.H 21.M 13.S EPICENTRE 39.33 22.63 DEPTH= 0.KM

A= 0.71590 B= 0.29839 C= 0.63123 D= 0.3847 E=-0.9230
G= 0.5826 H= 0.2429 K=-0.7756 HT= -1.4

SE= 2.33

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
ATHENS	1.61	147.4	0	31	1	0	52	1					
SOFIA	3.41	8.8	0	59	4	1	41	4			1	57	SG
TARANTO	4.29	287.1	1	11	3	2	1	1					
REGGIO CALA.	5.59	259.5	1	28	2	2	28	-4					
MESSINA	5.64	260.7	1	27A	0	2	31	-2					
BUCHAREST	5.71	25.9	0	47	-41						1	28	
BELGRADE	5.72	344.3	1	30A	2	2	38	3			1	44	PG
CAMPULUNG	6.20	15.9	1	44	9	3	11	24					
FOCSANI	7.20	26.5									2	31	
BACAU	7.88	22.0	1	58	0	3	17	-12			3	50	
ZAGREB	8.13	325.1	1	56	-6								
ROME	8.13	291.5	2	2	0	3	34	-2			4	3	S*
IASI	8.65	23.0	2	11	2	4	8	19					
TRIESTE	9.10	316.8	2	19	4						4	53	SG
FLORENCE X.	9.62	301.2	2	9	-13								
BOLOGNA	9.87	305.2	2	13	-13	4	20	1					
VIENNA-H.	9.99	335.2				5	7	45			3	7	
YALTA	10.01	55.4	2	27	-1	4	12	-10					
SIMFEROPOL	10.21	52.9	2	29	-2	4	16	-11					
ALUSHTA	10.28	54.7	2	29	-3	4	17	-12					
KSARA	11.99	113.2	3	2	7	5	17	7					
MONACO	12.21	296.0	2	59	1								
PRAGUE	12.21	334.3	3	6	8	5	26	10			4	55	
RAVENSBURG	12.65	316.1	3	12A	8	5	59	32			3	47	PPP
JERUSALEM	12.71	122.5	3	5	0	5	9	-19					
ZURICH	12.99	312.8	3	8	0	5	22	-13					
EBINGEN	13.24	316.4	3	8A	-4	5	41	0					
TUBINGEN	13.40	317.7	3	12	-2								
STUTTGART	13.48	318.8	3	14A	-1	5	59	12			3	34	PP
SOTCHI	13.50	66.2	3	14	-1	5	34	-13					
BASLE	13.65	311.8	3	16	-1	5	53	2					
NEUCHATEL	13.76	308.9	3	19	1	6	1	8					
JENA	13.96	329.8	3	32	11								
ALGIERS UNI.	15.63	266.7	3	44	1	6	48	10					
TIFLIS	17.02	74.8	4	3	2						7	33	SS
PARIS	17.25	309.9	4	5	1						4	19	PP
COPENHAGEN	17.71	340.8	4	12	3								
RELIZANE	17.86	265.4	4	9	-2								
ALICANTE	18.02	274.2	4	7	-6	7	25	-8			4	25	PP
ALMERIA	19.89	270.8	4	32	-4	8	24	10					
KEW	20.07	314.7	4	39A	1	8	20	2					
TOLEDO	20.54	280.1	4	41	-1	8	26	-2					
GRANADA	20.69	272.3	4	41A	-3								
UPPSALA	20.78	352.9	4	40	-5								
MALAGA	21.42	271.6	4	51K	0								
TAMANRASSET	22.00	226.4	4	54	-3	9	5	9					
DURHAM	22.43	321.5	5	0	-1								
BERGEN	23.72	338.4	5	13	-1						5	31	
RATHFARNHAM	24.16	314.9	5	19A	1	9	39	5					
LISBON	24.63	278.7	5	23A	0						5	54	PP
SKALSTUGAN	25.06	349.1	5	23K	-4								
KIRUNA	28.58	358.3	5	58K	-1						6	49	PP
SVERDLOVSK	30.32	42.1	6	16	1						9	8	
VIK	34.46	328.1				12	33	13					
AKUREYRI	35.11	332.0	7	11	14	13	17	47					
REYKJAVIK	35.92	328.4	7	4	0						14	37	
QUETTA	37.23	90.3	7	15K	0	13	7	5			8	49	PP
SCORESBY SD.	38.72	337.8	7	27	0	13	29	4			8	54	PP
RUMANGABO	40.93	169.7	7	46K	1								
ASTRIDA	42.23	169.4	7	57K	1						9	32	
MBOUR	42.70	245.6	8	2	2	14	27	3			9	46	PP
UVIRA	43.02	170.5	8	1	-2								
DEHRA DUN	45.76	83.6	8	25	0								
NEW DELHI	45.91	86.2									10	22	PP
BOMBAY	47.68	100.4	8	39	-1	15	39	3			10	32	PP
POONA	48.68	100.0	8	48	0	15	52	2			10	45	PP
HYDERABAD	52.85	97.8	9	19	0								
CHATRA	54.46	82.5	9	27	-4	17	15	6					
BOKARO	54.96	86.4	9	34	-1								
IRKUTSK	55.47	47.6	9	37K	-2						17	26	PS
YUMEN	55.51	63.3	9	40	1								
KODAIKANAL	56.57	105.4	9	49	3								

MADRAS	56.86	100.8	9	48	-1					
CHANGYEH	58.58	63.4	10	3	2					
SCHEFFERVLLE	58.65	317.3	10	4K	3					
SHILLONG	58.72	81.2	9	58	-4	17	58	-8		
RESOLUTE	59.12	344.1	10	2	-2	18	11	0		
WUWEI	60.48	63.5	10	14	0					
SINING	60.51	65.2	10	14	0					
COLOMBO	60.53	106.5	10	9	-5					
HALIFAX	61.42	305.8	10	17	-3				16	8
TANANARIVE	62.46	153.3	10	27A	0	18	58	4	11	9 PCP
YINCHUAN	62.71	61.4	10	31	2					
PAOTOW	64.16	57.7	10	38	0					
TIENSHUI	64.33	65.4	10	40	1					
SEVEN FALLS	64.59	311.0	10	39	-2				14	37 PP
PRETORIA	64.95	174.5	10	45	2					
SHAWINIGAN	66.02	311.2	10	48K	-2					
TATUNG	66.53	56.7	10	55	1					
SIAN	66.72	64.1	10	57	2	19	54	8		
WESTON	67.40	306.8	10	59K	0	19	57	3		
LINFEN	67.52	61.2	11	0	0					
KIMBERLEY	67.76	178.0	11	2	1					
OTTAWA	68.37	311.4	11	5	0	20	9	3	20	52 PS
PEKING	68.43	55.5	11	5K	-1	20	11	4		
BERMUDA	68.45	294.7	11	5	-1	20	7	0	24	57 SS
PIETERMZBURG	68.98	172.8	11	11	2					
KIRKLAND LA.	69.22	315.7	11	9K	-1	20	12	-4		
PALISADES	69.77	306.7	11	12	-2	20	23	0	25	11 SS
FORDHAM	69.84	306.6	11	14	0	20	22	-1		
PHILADELPHIA	71.17	306.4	11	22	0	20	42	3		
BUFFALO L.	71.56	310.5	11	24	-1					
CHANGCHUN	71.80	48.0	11	24A	-2	20	50	4		
GRAHAMSTOWN	72.38	176.5	11	31	2					
HERMANUS	73.45	182.9	11	32	-4	21	6	1	11	40 PCP
PITTSBURGH	73.80	309.1	11	37K	-1	20	52	-17		
MORGANTOWN	74.30	308.5	11	42	1				14	6 PP
ANTIGUA	74.67	279.5	11	46	3					
NANKING	74.78	61.0	11	43	0					
COLLEGE	75.87	355.8	11	48	-2	21	31	-1	38	42 PKPPKP
VLADIVOSTOK	75.97	45.4				21	33	0		
FORT FRANCE	76.06	277.7	11	51	0					
CANTON	76.24	71.5	11	52K	0	21	42	6		
ST. LUCIA	76.37	277.0	11	53	0					
ZO-SE	76.97	60.5				21	43	-1		
UGLEGORSK	77.00	36.0	11	55	-1				21	50 SKS
ST. VINCENT	77.10	276.5	11	57	0					
CINCINNATI	77.33	310.4	11	57	-1					
HONG KONG	77.36	71.6	11	57	-1	21	53	5	14	52 PP
CHICAGO CGS.	77.38	314.0	11	56	-2	21	48	0	14	52 PP
SAN JUAN	77.65	283.6	11	59	-1	21	51	0	26	59 SS
COLUMBIA	78.51	304.5	12	5	1					
SASKATOON	78.79	330.9	12	4	-2					
TRINIDAD	78.82	274.6	12	8	2					
TERRE HAUTE	78.82	312.2	11	22	-44				15	17
FLORISSANT	80.96	313.3	12	18	0					
ST. LOUIS 1	80.99	313.1	12	17K	-1	22	19	-8	15	29 PP
SITKA	82.20	348.0	12	20	-4	22	44	5		
BANFF	82.73	335.0	12	28K	1					
KYOTO	83.64	49.4	12	35	4	23	7	13		
RAPID CITY	83.66	324.0	12	31	-1	22	55	1	32	10 SSS
MIZUSAWA	83.75	43.4	12	34	2				13	2 PCP
MATUSIRO	84.00	46.9	12	32K	-1	22	54	-3	34	51
HUNGRY HORSE	84.61	332.6	12	36	0	22	59	-4	38	52 PKPPKP
BOZEMAN	85.73	329.4	12	42	0					
BAGUIO CITY	85.74	72.4	12	41	-1					
BUTTE	86.03	330.5	12	45	2	23	19	2	24	1 SCS
HORSESHOE B.	86.68	338.5	12	46	-1	23	42	19		
MANILA	87.20	73.6	12	54	5	21	47	-101		
VICTORIA	87.49	338.2	12	50K	-1	23	33	2		
GALERAZAMBA	89.28	283.3	13	50	51	24	36	48	15	28
DJAKARTA	89.40	98.4	12	56K	-4				23	31
SALT LAKE C.	90.12	327.2	13	2	-1	23	34	-21	16	40 PP
CORVALLIS	91.01	336.4	13	10	3				16	43 PP
LUBBOCK	91.09	316.5	13	7	0					
BOGOTA	92.27	277.8	13	22	9					
MERIDA	92.87	300.0							16	50 PP
EUREKA	92.90	329.2	13	16	0				38	22 PKPPKP
CHINCHINA	93.24	279.0	13	19	2	23	53	-30		
BALBOA HTS.	93.67	284.6	13	19	0					

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SHASTA	94.19	334.1	13 22	0			
MINERAL	94.23	333.4	13 21	-1			
RENO	94.31	331.8	13 22	0			
BOULDER CITY	95.41	326.6	13 28	1			
TINEMAHA	95.88	329.5	13 32	3			17 22 PP
UKIAH	95.88	334.0	13 33	3			
BERKELEY	96.68	332.7	13 26	-7	24 52 0		
CHINA LAKE	96.70	328.4	13 34	1			17 32 PP
TUCSON	96.71	321.7	13 33	0			16 55 PP
FRESNO	96.74	330.5	13 34	1			
LICK	96.92	332.0	13 35	1			
ISABELLA	97.19	329.0	13 35	0			17 27 PP
CHIHUAHUA	97.21	316.3					35 49 PS
WOODY	97.31	329.3	13 35	-1			17 26 PP
HAYFIELD	97.68	325.9	13 39	1			17 22 PP
RIVERSIDE	98.19	327.4	13 40	0			17 37 PP
PASADENA	98.38	328.0	13 41	0	24 26 -41		17 33 PP
VERA CRUZ	98.41	303.1					24 11 SKS
PALOMAR	98.52	326.6	13 40	-1			17 24 PP
BARRETT	99.01	326.2	13 43	-1			
TACUBAYA	100.23	305.4			24 59 -23		18 5
OAXACA	100.41	302.1					15 11
LA PAZ	100.84	257.6	13 54	2	24 29 -58		18 7 PP
HUANCAYO	103.65	265.6					17 54 PP
PERTH	111.67	114.0					19 30 PP
RABAUL	122.57	65.9	18 57	0			31 55 PPS
MELBOURNE	135.57	107.1	19 25	3			
BRISBANE	137.42	89.4	19 27	1	26 31 -4		
RIVERVIEW	138.76	98.9	19 30A	2			23 8 PKS
APIA	151.57	30.5					19 58 PKP2
KAIMATA	156.27	107.8	20 7	11			20 31
CHRISTCHURCH	157.18	110.3	20 5	8			20 29
WELLINGTON	158.70	104.2	20 1A	2			20 52 PKP2
TONGARIRO	159.04	98.3	19 57	-2			20 35

MARCH 8 20.H 37.M 57.S EPICENTRE 39.31 23.01 DEPTH= 0.KM

A= 0.71410 B= 0.30329 C= 0.63093 D= 0.3909 E=-0.9204
G= 0.5807 H= 0.2466 K=-0.7758 HT= -1.4

SE= 4.54

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ATHENS	1.45	157.2	0 30	2	0 50	2		
SOFIA	3.40	4.0	0 55	-1				1 53 SG
TARANTO	4.58	286.5	1 11	-1	2 51	43		1 53
BUCHAREST	5.60	23.3	1 19	-8	2 33	0		3 2
BELGRADE	5.83	341.7	1 36K	6	2 40	1		1 56. PG
REGGIO CALA.	5.88	260.5	1 33	2	2 31	-9		
MESSINA	5.94	261.6	1 29A	-3	2 35	-6		1 41 P*
TIMISOARA	6.57	349.0	1 59	18	3 22	25		
FOCSANI	7.10	24.5						2 38
SZEGED	7.25	344.0	0 58	-52				
KALOCSA	7.80	339.0			3 25	-3		2 33 PG
ZAGREB	8.32	323.7	2 12	7				4 33
ROME	8.42	291.3	2 18	12	3 48	5		4 18 S*
IASI	8.56	21.4	2 8	0				
BUDAPEST	8.66	342.0	2 11	1	3 49	0		4 45 SG
HURBANOVO	9.24	339.4			3 39	-25		4 53 SG
TRIESTE	9.32	315.8	2 18	-1	3 52	-14		2 50 PG
BRATISLAVA	9.83	336.2	2 31	5	4 17	-1		
FLORENCE X.	9.88	300.7	2 51	24				
BOLOGNA	10.13	304.6	2 38	8	4 45	19		
KRAKOW	10.96	349.5	2 39	-2	4 50	4		3 40
RACIBORZ	11.30	344.0	2 44	-2				
KSARA	11.70	113.9	3 1	9				3 10 PP
PAVIA	11.81	304.2			5 13	6		
PRAGUE	12.36	333.3	2 59	-1				
JERUSALEM	12.45	123.4	3 3	1	5 5	-17		
MONACO	12.48	295.7	3 9	7				
OROPA	12.76	304.5			5 23	-7		
WARSAW	13.00	354.5	3 17	8	5 43	7		
CHEB	13.14	328.5	3 21	10				3 41
ZURICH	13.22	312.2	3 15	3	5 39	-2		
EBINGEN	13.46	315.8	3 9	-6				
TUBINGEN	13.62	317.1	3 11	-6				
STUTTGART	13.70	318.2	3 13	-5				

BASLE	13.89	311.3	3 17	-4	5 51	-6				
NEUCHATEL	14.00	308.5	3 18	-4					6 7	
JENA	14.13	329.1	3 29	5						
KARLSRUHE	14.26	317.6	3 35A	9						
STRASBOURG	14.35	315.2	3 35A	8	6 12	4				
BESANCON	14.71	308.2	3 29	-2						
ALGIERS UNI.	15.93	267.1	3 43	-4	6 47	2				
CLERMONT-FD.	16.00	300.2	3 53	5						
HAMBURG	16.82	332.3	3 58K	-1						
PARIS	17.50	309.6	3 54A	-13					4 18	PP
WITTEVEEN	17.58	325.6	4 8	0						
COPENHAGEN	17.83	340.2			7 41	12				
RELIZANE	18.16	265.8	4 10	-5	7 28	-8			4 23	
ALICANTE	18.32	274.5	4 10	-7	7 27	-13				
KEW	20.30	314.4	4 41	1	8 25	1				
UPPSALA	20.84	352.4	4 41A	-5	8 31	-4				
GRANADA	20.99	272.6	4 43K	-5	8 46	9				
TAMANRASSET	22.21	227.2	4 58	-2	9 10	10				
RATHFARNHAM	24.39	314.7	5 21	0	9 41	2				
SKALSTUGAN	25.14	348.7	5 25	-3						
KIRUNA	28.61	358.0	5 57A	-3	10 39	-9				
QUETTA	36.93	90.5	7 12	-1						
SCORESBY SD.	38.85	337.8	7 29	0						
LWIRO	41.70	171.3	7 52K	0						
SHILLONG	58.43	81.4	9 57	-3						
SCHEFFERVLLE	58.87	317.5	9 55	-8						
RESOLUTE	59.23	344.1	10 2	-4						
SHAWINIGAN	66.26	311.4	10 49	-3						
KIMBERLEY	67.73	178.3	11 6	4						
OTTAWA	68.61	311.6	11 4	-3						
COLLEGE	75.91	356.0	11 47	-3						
RAPID CITY	83.85	324.2	12 33	0						
HUNGRY HORSE	84.76	332.8	12 35	-3						
EUREKA	93.07	329.4	13 25	8						

MARCH 8 23.H 35.M 9.5 EPICENTRE 39.24 22.77 DEPTH= 0.KM

A= 0.71601 B= 0.30057 C= 0.63007 D= 0.3871 E=-0.9221
G= 0.5810 H= 0.2439 K=-0.7765 HT= -1.4
SE= 2.78

	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	
ATHENS	1.47	149.4									0	33	PG
SOFIA	3.48	6.8	0	57	0						1	49	SG
TARANTO	4.42	287.8	1	9	-1								
REGGIO CALA.	5.69	260.6	1	29	1	2	33	-2					
BUCHAREST	5.74	24.6	1	30	1	2	51	15			2	9	PG
MESSINA	5.74	261.8	1	30K	1	2	33	-4			1	37	P*
BELGRADE	5.83	343.5	1	31K	1						1	51	PG
CAMPULUNG	6.25	14.8	1	38	2	3	6	17					
TIMISOARA	6.60	350.5	1	49	8	2	59	1			3	19	S*
FOCSANI	7.23	25.5	1	56	6	3	20	6					
SZEGED	7.27	345.4	1	51	1	3	9	-6			2	37	PG
KALOCSA	7.79	340.3	2	0	2	3	24	-4			2	35	PG
BACAU	7.92	21.1	2	1	1	3	59	28			4	32	
KECSKEMET	8.00	344.7	2	1	1	3	25	-8			3	53	S*
ZAGREB	8.26	324.9	2	6	2								
ROME	8.27	292.0	2	3K	-1	3	32	-8			2	22	P*
IASI	8.69	22.2	2	10	0	4	34	44			3	10	
BUDAPEST	8.69	343.0	2	9	3	3	45	0			4	37	SG
KISHINEV	8.94	27.7	2	13	-1								
HURBANOVO	9.24	340.5	2	24	6	4	7	3			5	9	SG
TRIESTE	9.24	316.8	2	10	-8	3	14	-50			4	23	SG
FLORENCE X.	9.76	301.4	2	23	-2								
BRATISLAVA	9.82	337.2	2	32	6	4	21	3					
PRATO	9.90	301.7	2	31	4	4	9	-11					
BOLOGNA	10.02	305.3	2	25	-4	4	17	-6					
SKALNATE PL.	10.10	350.5	2	33	3	4	21	-4					
SIMFEROPOL	10.18	52.3	2	32	1	4	25	-2					
KRAKOW	10.99	350.4	2	42	0	4	52	5			5	17	SSS
RACIBORZ	11.31	344.8	2	46	0						2	52	PP
PAVIA	11.69	304.9	2	52	0	5	11	7			3	28	
KSARA	11.85	113.1	2	57	3	5	15	7					
PRAGUE	12.34	334.1	2	57	-3	5	29	9					
MONACO	12.34	296.2	2	59	-1								

JERUSALEM	12.57	122.5	3	0	-3	5	5	-20			
OROPA	12.65	305.0	3	22	18	5	32	5			
RAVENSBURG	12.79	316.1	3	8	2	5	4	-27			
WARSAW	13.04	355.2	3	13	3	5	47	10	3	31	PP
CHEB	13.10	329.2	3	12	2	5	38	0			
ZURICH	13.13	312.8	3	10	-1						
EBINGEN	13.38	316.4	3	10A	-4	5	24	-21	3	23	PP
TUBINGEN	13.54	317.7	3	12	-4						
STUTTGART	13.62	318.8	3	15	-2	5	57	6	3	33	PP
BASLE	13.79	311.8	3	17	-3	6	1	6			
NEUCHATEL	13.90	309.0	3	19	-2	6	6	9			
JENA	14.09	329.7	3	24	1	6	15	13	3	51	
KARLSRUHE	14.18	318.2	3	28A	3	6	11	7			
STRASBOURG	14.26	315.7	3	27	1	6	9	3			
BESANCON	14.60	308.7	3	28	-2	6	54	40	3	41	PP
POTSDAM	14.76	336.1	3	41	9	6	31	13			
ALGIERS UNI.	15.74	267.2	3	46	1	6	51	10			
CLERMONT-FD.	15.87	300.6	3	51	4	6	55	11			
BARCELONA	15.89	284.5							7	29	
HAMBURG	16.79	332.8	3	58K	0	7	15	10	4	14	
PARIS	17.39	310.0	4	5A	-1	7	18	-1	4	19	PP
WITTEVEEN	17.53	326.0	4	16	8						
DE BILT	17.73	322.2	4	21	11	7	36	10			
COPENHAGEN	17.83	340.6	4	11	0	7	29	0			
RELIZANE	17.97	265.8	4	13	0				4	29	PP
ALICANTE	18.14	274.5	4	18	3	7	44	8			
GORIS	18.21	81.7	4	18	2						
MAKHACH-KALA	18.98	70.7	4	27	1	8	2	7			
MOSCOW	19.24	26.1	4	24	-5	7	54	-7			
ALMERIA	20.01	271.1	4	36	-1	8	23	5	5	0	PPP
KEW	20.22	314.8	4	40A	0	8	22	0			
JERSEY	20.32	307.4	4	47	6	7	21	-63			
TOLEDO	20.67	280.3	4	43	-1	8	32	1			
GRANADA	20.80	272.6	4	47K	1	8	28	-6	5	3	PP
UPPSALA	20.88	352.7	4	43K	-4	8	32	-3	4	59	PP
PULKOVO	21.10	10.6	4	47	-2	8	39	-1			
MALAGA	21.54	271.9	4	50K	-3						
TAMANRASSET	22.03	226.9	5	0K	2	9	7	10			
DURHAM	22.56	321.5	5	2	-2	9	7	0	5	49	
BERGEN	23.84	338.4	5	12	-4	9	27	-3			
ABERDEEN	24.20	326.0				9	34	-2	5	59	
RATHFARNHAM	24.30	314.9	5	18A	-2	9	38	1	6	26	
LISBON	24.76	279.0	5	26A	1						
SKALSTUGAN	25.16	349.0	5	26K	-3						
KIRUNA	28.67	358.1	5	58K	-3	10	51	2	12	50	PCS
APATITY	28.97	8.4	6	4	0	10	57	3	12	30	SS
SVERDLOVSK	30.30	42.0	6	15	-1	11	13	-2			
NAMANGAN	37.05	71.2	7	15	1						
QUETTA	37.12	90.3	7	14K	0	13	0	-1	8	42	PP
FRUNSE	38.73	67.4	7	29	1						
SCORESBY SD.	38.84	337.8	7	27	-2				9	3	PP
RUMANGABO	40.82	169.9	7	49	4						
SEMIPALATNSK	41.30	54.9	7	49	0						
ASTRIDA	42.13	169.6	7	57	1						
LAHORE	42.25	84.0	7	57	0						
MBOUR	42.77	245.8	8	6	5	14	30	4	9	44	PP
UVIRA	42.91	170.7	8	3K	1				10	12	
DEHRA DUN	45.66	83.6	8	25	0				18	50	
BOMBAY	47.55	100.4	8	40	1	15	40	5	10	32	PP
POONA	48.55	100.0	8	46	-1	15	53	4	10	43	PP
TIKSI	58.04	21.0	9	55	-3						
SHILLONG	58.62	81.2	9	58	-4	18	4	-1			
SCHEFFERVLLE	58.79	317.4	9	56	-7						
RESOLUTE	59.24	344.1	10	3K	-3						
HALIFAX	61.57	305.9	10	18	-4						
TANANARIVE	62.33	153.4	10	28A	1						
SEVEN FALLS	64.73	311.1	10	40	-3						
PRETORIA	64.85	174.6	10	46A	3						
SHAWINIGAN	66.16	311.3	10	50K	-2						
KIMBERLEY	67.67	178.1	11	3	2						
PEKING	68.39	55.5	11	4K	-2	19	58	-9			
OTTAWA	68.51	311.5	11	6K	-1						
BERMUDA	68.59	294.8				20	23	14	13	35	PP
KIRKLAND LA.	69.36	315.8	11	11K	-1						
CHANGCHUN	71.77	48.1	11	25K	-2						
COLLEGE	75.96	355.9	11	49	-2						
CANTON	76.16	71.5	11	52	0						
ZO-SE	76.91	60.6	11	56K	0						

Y.-SAKHLINSK	78.85	37.2	12 5	-2				
BANFF	82.85	335.0	12 28K	0				
RAPID CITY	83.80	324.1	12 32	-1				
MATUSIRO	83.98	47.0	12 34	0				
HUNGRY HORSE	84.73	332.7	12 37	-1				
FAYETTEVILLE	85.16	313.6	12 39A	-1				
BOZEMAN	85.86	329.5	12 43	0				
BUTTE	86.16	330.6	12 50	5				
LUBBOCK	91.23	316.6	13 10	1				
EUREKA	93.03	329.3	13 16	-1			30 27	PKKP
CHINA LAKE	96.83	328.5	13 26	-8			17 14	
TUCSON	96.85	321.8	13 34	-1				
ISABELLA	97.32	329.1	13 36	-1			17 20	
WOODY	97.44	329.4					17 26	
BARRETT	99.15	326.3					17 43	

MARCH 9 14.H 22.M 28.S EPICENTRE 51.90-175.33 DEPTH= 0.KM

A=-0.61754 B=-0.05042 C= 0.78492 D=-0.0814 E= 0.9967
G=-0.7823 H=-0.0639 K=-0.6196 HT= -6.1

SE= 3.74

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
KLYUCHI	14.67	296.9	3 33	2					
PETROPAVLOVK	15.86	284.7	3 42A	-4				7 23	
COLLEGE	19.19	36.9	4 27A	-1					
MAGADAN	20.36	305.3	4 38A	-3				9 8	SSS
SITKA	23.55	61.6	5 14K	1	9 40	16			
KURILSK	25.04	269.2	5 25A	-2					
UGLEGORSK	26.97	281.0	5 42A	-3					
NEMURO	27.42	267.4	5 40	-9	10 40	11		6 12	*PP
Y.-SAKHLINSK	27.44	276.4	5 46K	-4	10 55	26			
ABASHIRI	27.87	269.7	5 55	2	10 44	8		6 45	PP
KUSIRO	28.34	267.7	5 55	-3	11 25	41			
WAKKANAI	28.79	274.2	6 6	4	11 49	58		6 37	PP
OBIHIRO	29.12	268.6	6 5	0	11 15	19			
ASAHIGAWA	29.18	270.8	6 4	-1	11 28	31		7 4	PP
URAKAWA	29.80	267.7	6 20	9	11 12	5			
SAPPORO	30.18	270.4	6 16	2	11 17	4		7 9	PP
TOMAKOMAI	30.34	269.3	6 55	39					
MURORAN	30.82	269.4	6 16	-4				7 5	PP
SUTTSU	31.02	270.8	6 29	7	11 31	5		7 16	PP
MORI	31.19	269.4	6 22	-1	11 50	21		7 9	PP
TIKSI	31.26	329.6	6 23	-1					
HAKODATE	31.28	268.7	6 33	9	11 58	28		7 19	PP
HATINOHE	31.49	266.1	6 21	-5	11 43	9			
ALBERNI	31.66	74.4	6 34	7					
MIYAKO	31.74	264.4	6 52	24	11 54	16		8 7	PP
AOMORI	31.79	267.2	6 28	0	12 12	34		7 6	PP
MORIOKA	32.21	265.1	6 29	-3	12 8	23		6 54	PP
HORSESHOE B.	32.53	73.4	6 35	0				6 55	
MIZUSAWA	32.57	264.3	6 42	7	12 27	36			
VICTORIA	32.81	74.9	6 37	0				6 53	
AKITA	32.86	266.1	7 11	33	12 51	56			
ISINOMAKI	32.89	263.1	6 53	15	12 31	35		8 26	PP
SENDAI	33.25	263.3	6 38	-3	12 5	4		7 24	PP
HONOLULU	33.35	149.8	6 37	-5					
SAKATA	33.52	265.1	7 20	37					
YAMAGATA	33.60	263.8	7 0	16	12 43	36			
SEATTLE	33.88	75.7	6 56	9	12 14	3			
ONAHAMA	34.08	261.5	6 56	8	12 37	23			
SHIRAKAWA	34.39	262.3	6 51	0	12 53	34		8 28	PP
NIIGATA	34.60	264.4	7 36	43					
MITO	34.71	261.1	7 5	11				16 21	
CORVALLIS	34.77	81.1	7 0A	6	12 24	-1			
TYOSI	34.91	259.9	6 48	-7					
UTUNOMIYA	34.97	261.9	6 38	-18	12 32	4		7 35	PP
KAKIOKA	34.99	261.2	6 52	-4				15 3	
TUKUBASAN	35.04	261.2	6 51	-6					
KUMAGAYA	35.53	261.8						9 58	
MAEBASI	35.56	262.4	6 58	-3					
TOKYO C.M.O.	35.61	260.8	7 9	8	12 53	15			
TAKADA	35.61	264.0	7 16	15	13 2	24			
TITIBU	35.83	261.8	7 1	-2				15 31	
YOKOHAMA	35.84	260.6	7 4	1	13 32	51			

NAGANO	35.92	263.5	7	4	0	12	51	8		
UIWAKE	35.92	262.8	6	46	-18					
MATUSIRO	35.98	263.3	7	0A	-5	12	49	5	8	55 PPP
VLADIVOSTOK	35.99	277.3	7	13	8					
MERA	36.07	259.8	7	8	3					
WAZIMA	36.27	265.6	7	24	17	13	27	39	8	52 PP
BANFF	36.28	66.8	7	8K	1					
HUNATU	36.33	261.5	7	8	0	13	16	27		
MATUMOTO	36.33	263.2	7	4	-4					
KOHU	36.37	261.8	7	7	-1	13	4	15		
AJIRO	36.43	260.6	7	22	14					
OSIMA	36.44	260.0	7	5	-3	13	14	23		
MISIMA	36.47	260.9	7	5	-4	13	2	11		
TOYAMA	36.52	264.4	7	13	4	13	24	32		
TAKAYAMA	36.84	263.7	7	26	14	12	43	-14		
NAGATURO	36.88	260.3	7	24	12					
IIDA	36.89	262.4	7	10	-2					
SHIZUOKA	36.91	261.2	7	9	-3	12	43	-15		
KANAZAWA	36.96	264.7	7	36	23					
SUIHWA	37.15	285.3	7	29	15					
OMAESAKI	37.27	260.9	7	30	15	13	18	15		
HATIDYOZIMA	37.31	257.6	7	37	21					
SHASTA	37.46	86.0	7	18	1					
HAMAMATU	37.49	261.5	7	20	3					
HUKUI	37.51	264.4	7	20	3	13	35	28		
GIHU	37.62	263.2	7	17	-1					
NAGOYA	37.65	262.7	7	19	0	13	41	32		
IBUKISAN	37.88	263.5	7	22	1					
UKIAH	37.88	88.6	7	22K	1	13	29	16		
TSURUGA	37.89	264.1	7	18	-3	13	47	34		
HIKONE	38.03	263.5	7	17	-5	14	0	45		
MINERAL	38.16	85.8	7	22A	-1					
KAMEYAMA	38.17	262.8	7	19	-4	12	45	-32	8	41 PP
TU	38.22	262.6	7	19	-4					
RESOLUTE	38.37	25.0	7	31	6					
MAIZURU	38.38	264.4	7	38	13	13	57	37	18	36 SCS
HUNGRY HORSE	38.44	70.2	7	26K	1	13	32	11		
KYOTO	38.51	263.6	7	24	-2	13	22	0		
NARA	38.68	263.1	7	18	-9				8	38 PP
TOYOOKA	38.74	265.0	7	25	-3	13	55	29		
OWASE	38.86	262.1	7	4	-25	13	44	17		
OSAKA	38.88	263.4	7	30	1					
KOBE	39.08	263.7	7	32	1	13	48	17	9	25 PP
TOTTORI	39.13	265.5	7	39	8	14	11	40		
SAIGO	39.23	267.1	7	58	26					
BERKELEY	39.25	89.5	7	30	-2	13	46	13		
WAKAYAMA	39.38	263.2	7	59	26				10	13 PP
SUMOTO	39.48	263.6	7	31	-3	14	18	41	9	29 PP
SIOMISAKI	39.54	261.7	7	31	-3	14	22	44		
CHANGCHUN	39.63	282.5	7	30A	-5					
YONAGO	39.71	266.1	7	39	3					
RENO	39.74	85.6	7	28A	-8					
SANTA CLARA	39.76	89.9	7	47	11	13	14	-27		
TOKUSIMA	39.85	263.5	7	36	-1	14	10	28		
OKAYAMA	39.86	264.8	7	41	4	14	13	31		
MATSUE	39.87	266.4	7	58	21	14	24	41		
LICK	39.96	89.7	7	37A	-1					
TAKAMATU	40.01	264.2	7	34	-4	14	0	15		
MUROTO	40.65	262.9	7	41	-3					
SASKATOON	40.82	61.5	7	45	0	14	17	20	15	41
KOTI	40.85	263.8	7	43	-2	14	27	30	9	59 PP
HAMADA	40.85	266.6	7	46	1	14	24	27		
HIROSIMA	40.98	265.7	7	44	-2	14	25	26		
FRESNO	41.46	88.9	7	51A	1					
BOZEMAN	41.57	72.2	7	51A	0					
UWAZIMA	41.67	264.3	8	10	18	14	53	44	10	15 PP
SIMIDU	41.72	263.4	7	49	-3	14	40	30		
EUREKA	42.15	82.9	7	55A	-1					
SIMONOSEKI	42.19	266.5	7	54	-2	14	40	23		
OOITA	42.24	265.1	7	51	-6	14	43	25		
TINEMAHA	42.25	87.4	7	57	0				8	45
WOODY	42.73	89.4	7	58	-3	14	44	19		
HUKUOKA	42.75	266.5	7	58	-3	14	23	-2	10	18 PP
HUKUOKA	42.75	266.5	6	44	-77	12	47	-98	8	13 PP
ASOSAN	42.81	265.2	8	1	0	14	55	29		
ISABELLA	43.00	89.1	8	2	-1					
ITUHARA	43.04	268.1	8	1	-2	14	53	23		
SAGA	43.05	266.2	7	31	-32					

KUMAMOTO	43.09	265.4	8	4	0	15	4	34			
MIYAZAKI	43.26	263.9	8	4	-1	15	19	46			
UNZENDAKE	43.43	265.7	8	6	0	14	39	4			
CHINA LAKE	43.43	88.3	8	4	-2				8	32	
NAGASAKI	43.66	266.0	8	7	-1	15	8	29			
SALT LAKE C.	43.89	78.6	8	9	-1	14	28	-14			
KAGOSIMA	44.04	264.2	8	9	-2	14	30	-14			
PASADENA	44.17	90.6	8	10A	-2	15	2	16	9	14	PCP
TOMIE	44.42	266.8	8	6	-8	14	51	1	10	28	PP
DAIREN	44.76	279.0	8	17	0						
RIVERSIDE	44.77	90.1	8	17	0				9	22	PCP
YAKUSIMA	44.84	263.1	8	14	-4	15	38	42			
BOULDER CITY	45.04	86.0	8	17A	-2						
PALOMAR	45.52	90.4	8	21	-2				8	36	
SAN DIEGO	45.73	91.3	8	44	19						
HAYFIELD	46.04	89.0	8	29	2						
BARRETT	46.09	90.9	8	26	-2						
IRKUTSK	46.92	304.0	8	30A	-4	16	9	44			
RAPID CITY	47.07	69.5	8	37	2	15	31	3			
TSINGTAU	47.36	276.9	8	54	16						
PEKING	47.37	283.8	8	34A	-4						
KWANTING	47.59	284.4	8	38	-1						
TATUNG	49.06	285.8	8	52	1						
GUAM	49.91	234.7	8	50	-7						
TUCSON	50.00	86.8	8	57K	-1	15	50	-19			
ZO-SE	50.16	271.3	8	56A	-3	16	28	17			
PAOTOW	50.68	288.3	9	3	0						
TAIYUAN	50.95	283.9	9	4	-1						
NANKING	50.98	274.0	9	1	-5						
LINFEN	52.71	283.0	9	15	-4						
TAIPEI	54.26	265.7	9	50	20	17	40	33			
YINCHUAN	54.26	288.7	9	30	0						
ILAN	54.31	265.3	9	51	21	17	13	5			
LUBBOCK	54.61	79.1	9	32	-1						
HSINCHU	54.77	266.0	10	2	28	17	39	25			
HWALIEN	54.97	264.7	9	28	-7						
TAICHUNG	55.42	265.7	9	36	-3	18	2	39			
CHIHUAHUA	55.45	86.5	9	42	3				17	50	
SIAN	55.52	283.1	9	41	2						
HSINKONG	55.77	264.2	9	44	3	17	36	9			
ALISHAN	55.81	265.0	9	38	-3						
TAITUNG	56.16	264.1	9	47	3	18	19	47			
SCORESBY SD.	56.42	10.4	9	44	-2	17	37	1			
TAINAN	56.55	265.1	10	4	17						
PENGHU	56.57	266.1	9	15	-32				27	11	
TAWU	56.61	264.0	9	53	6	18	10	32			
WUWEI	56.74	290.5	9	46	-2						
HENGCHUN	56.97	263.9	10	8	18	18	19	36			
KIRKLAND LA.	56.99	52.7	9	49A	-1						
TIENSHUI	57.20	285.6	9	50	-1						
CHANGYEH	57.25	292.7	9	54	2						
LANCHOW	57.31	288.1	9	41	-11						
CHICAGO CGS.	57.36	62.6	9	52A	0	17	56	8	13	36	PP
FAYETTEVILLE	57.48	71.6	9	51A	-2				10	11	
FLORISSANT	57.84	66.9	9	54A	-2						
ST. LOUIS 1	58.03	66.9	9	54A	-3						
SINING	58.14	290.0	10	0	2						
SCHEFFERVLLE	58.30	40.1	9	53A	-6						
YUMEN	58.32	296.1	10	1	2						
APATITY	58.93	347.5	10	2	-1	18	8	-1	10	38	PCP
MAZATLAN	59.19	91.1	10	13	8	18	25	13	20	17	SCS
SEMIPALATNSK	59.71	314.1	10	0	-9				10	48	PCP
KIRUNA	60.01	353.2	10	8	-3	18	8	-15	12	13	PP
HAMILTON	60.49	56.7	10	6	-8	18	28	-1	10	55	PCP
CANTON	60.79	270.7	10	12A	-4						
HONG KONG	60.81	269.4	10	13	-3						
CINCINNATI	60.89	62.9	10	30	13						
OTTAWA	61.04	52.6	10	13	-5	18	50	14	11	0	
BAGUIO CITY	61.29	259.8	10	23	3	19	15	36			
BUFFALO L.	61.38	56.3	10	20	0						
AKUREYRI	61.47	10.5	10	34	13	18	55	14	13	49	PP
SEVEN FALLS	62.13	48.4	10	24	-1	19	1	11			
SVERDLOVSK	62.29	329.0	10	25	-1				12	49	PP
RABAUL	62.35	217.2	10	19	-8	18	57	4	12	28	PP
PITTSBURGH	62.43	59.0	10	28	1						
MANILA	62.47	258.2	10	27	-1						
REYKJAVIK	62.47	12.8	10	27	-1				13	33	PP
GUADALAJARA	62.95	90.6	10	40	9	19	4	4	22	8	
MORGANTOWN	63.02	59.6	8	23	-128						

PENNSYLVANIA	63.27	57.4	10	42	9	19	24	20		
VIK	63.53	11.6	11	13	38	20	5	58	13	37 PP
MANZANILLO	63.55	92.6	10	40	5	19	16	8	18	0
SKALSTUGAN	64.70	356.2	10	44	2					
PALISADES	65.15	54.8	10	43	-2	19	38	11	17	13
FORDHAM	65.29	54.9	10	44	-2	19	37	8		
WESTON	65.42	52.2	10	45	-2	19	47	16		
APIA	65.50	176.2	11	0	13				19	4
TACUBAYA	66.46	88.3	10	51	-2	19	53	9	13	10 PP
COLUMBIA	66.53	64.6	10	51A	-3	19	48	4		
PULKOVO	66.77	346.2	10	58	3	19	58	11	20	46 SCS
HALIFAX	67.32	46.0	10	55	-4					
PUEBLA	67.36	87.8	11	2	3	19	55	1	11	53
FRUNSE	67.93	311.8	11	0A	-3				11	27 PCP
BERGEN	68.05	359.7	11	4	0	20	19	16	14	0 PP
UPPSALA	68.11	353.0	11	2	-2				13	50 PP
VERA CRUZ	68.51	86.1							21	3 SCS
MOSCOW	69.32	340.8	11	10	-1					
OAXACA	69.76	88.1	11	10	-4	20	15	-8	21	23 SCS
SUVA	69.96	186.3	11	37	22	20	34	9		
ABERDEEN	71.15	3.9	11	25	2	21	0	21	14	6 PP
MERIDA	71.20	79.9	11	32	9	20	50	10		
TASHKENT	71.57	314.2	11	21	-4	21	45	61		
SHILLONG	71.96	288.4	11	22	-5	20	49	0	11	41 PCP
EDINBURGH	72.35	4.6	11	46	16	21	13	20	14	17 PP
COPENHAGEN	72.59	355.4	11	34	3	21	10	14		
COMITAN	73.22	85.0	11	32	-3	20	52	-11	22	2 SCS
DURHAM	73.57	3.8	11	34	-3	21	19	12	14	29 PP
CHATRA	73.73	292.6	11	34	-4				12	29
STALINABAD	74.04	312.8	11	40	0				21	40 PS
CHITTAGONG	74.43	286.3	11	39	-3					
RATHFARNHAM	74.77	6.8	11	41	-3	21	42	22	14	31 PP
HAMBURG	74.81	356.7	11	43	-1				22	1 PPS
WARSAW	75.33	349.7	11	51	4				22	5 PS
NOUMEA	75.59	197.4	12	25	37	21	37	8	22	14 SKS
WITTEVEEN	75.64	358.7	11	58	9					
POTSDAM	75.85	354.7	11	53	3	21	52	20		
DEHRA DUN	76.05	301.4	11	48	-3	21	42	8	14	59 PP
DE BILT	76.37	359.7	11	58K	5	22	3	25		
BERMUDA	76.50	54.5	11	56	2					
BERMUDA NAVY	76.50	54.7	11	56	2					
BOKARO	76.83	291.7	11	56	1	21	56	13		
KEW	76.92	3.2	11	51	-5	22	19	35	22	41 SCS
SAN SALVADOR	76.94	84.4	12	37	41				22	2
LAHORE	77.01	304.8	11	51	-5					
JENA	77.38	355.5	11	57	-2	22	0	11		
SANTIAGO MA.	77.59	84.0	12	42	42				16	5 PP
HEERLEN	77.59	359.1	12	32	32					
KRAKOW	77.60	350.0	11	58	-2	22	34	43	22	10 SKS
RACIBORZ	77.75	351.1	12	1	0	21	55	2	12	17 PCP
NEW DELHI	77.88	300.9	12	2	1	22	15	21	15	17 PP
PRAGUE	78.07	353.6	12	1	-1	22	32	36	15	15 PP
CHEB	78.19	354.9	12	23	20	22	34	37	13	55
SKALNATE PL.	78.43	349.6	12	18	14	22	30	30	15	32
ASHKABAD	79.01	319.5	12	5A	-3					
JERSEY	79.13	4.5	12	34	26	22	32	24		
IASI	79.34	344.3	12	10	1	23	0	50	22	40 SKS
KARLSRUHE	79.42	357.5	12	6A	-4	22	32	21		
STUTTGART	79.63	357.0	12	9	-2	23	7	54	15	38 PP
PARIS	79.65	1.5	12	10	-1	22	15	2		
BRATISLAVA	79.74	351.6	12	18	7	22	2	-12	12	58
STRASBOURG	79.86	357.9	12	12	0	22	13	-2	37	0 L
TUBINGEN	79.88	357.0	12	14	2					
HURBANOVO	79.94	350.8	12	18	6	22	14	-2	23	12 PS
BACAU	80.07	344.6	12	27	14	23	25	68	23	11 SKS
EBINGEN	80.23	357.1	12	12	-2	23	6	47	15	39 PP
BUDAPEST	80.23	350.1	12	26	12	22	19	0	15	16 PP
SIMFEROPOL	80.24	339.3	12	12K	-2				22	18 SCS
TIFLIS	80.46	330.7	12	13	-2				22	53 PS
RAVENSBURG	80.61	356.6	12	27	11	23	7	44	15	45
KECSKEMET	80.72	349.6	12	32	15				23	15 SCS
FOCSANI	80.86	344.2	12	19	2				23	4 SKS
BASLE	80.92	358.0	12	19	1	22	42	16		
ZURICH	81.05	357.3	12	17	-1	23	1	33		
KALOCSA	81.18	350.1	12	29	10				15	17 PP
BESANCON	81.22	359.1	12	16	-3					
SZEGED	81.33	349.2	12	51	31	23	0	30	15	33 PP
NEUCHATEL	81.46	358.4	12	21	0				22	5

CAMPULUNG	81.63	345.6	12	24	3	23	31	57	23	15	SKS
TIMISOARA	81.69	348.4	12	41	19	23	0	26	14	6	
QUETTA	81.78	309.2	12	19A	-3	22	30	-5	22	35	SKS
ZAGREB	82.17	352.0	12	22	-2	22	28	-11			
BUCHAREST	82.29	344.7	12	24	-1	23	18	38	22	50	SKS
TRIESTE	82.52	353.6	12	23	-3				15	40	PP
BELGRADE	82.70	348.7	12	26A	-1				15	12	PP
CLERMONT-FD.	82.70	1.1	12	30	3						
OROPA	82.82	357.7	12	24	-4	22	50	4	28	48	SS
PAVIA	83.22	356.8	12	29A	-1	23	4	14	17	37	PPP
PORT-PRINCE	83.34	68.5				24	4	73			
BRISBANE	83.78	208.0	12	28	-4				22	57	SKS
BOLOGNA	83.81	355.2	12	39	6	23	3	7	15	58	PP
SOFIA	84.40	346.3	12	40	4	23	1	0	16	18	PP
PRATO	84.44	355.3	12	38	2	23	17	15			
FLORENCE X.	84.53	355.2	12	32	-4	23	17	14			
MONACO	84.72	358.0	12	37	0						
ANGRA DO HO.	85.62	24.5	13	34	52	23	39	26			
HYDERABAD	86.07	293.2	12	40	-4	23	17	-1	15	56	PP
ROME	86.33	354.2	12	44A	-1	23	26	6	12	50	PCP
BALBOA HTS.	86.57	80.0	12	44	-2						
SAN JUAN	87.00	63.9	12	48K	-1	22	56	-31			
BARCELONA	87.03	1.9	12	56	7	23	40	13	13	22	
TARANTO	87.36	350.4	13	16	26	23	40	10	17	16	PP
DJAKARTA	87.37	256.6	12	46K	-4	23	16	-14			
COIMBRA	87.57	10.0	13	10	19	23	50	18	16	34	PP
GALERAZAMBA	87.74	75.5	13	15	23				41	32	L
POONA	87.76	297.4	12	49A	-3	33	45	611	16	36	PP
BOMBAY	88.03	298.4	12	51	-2	23	48	12	16	38	PP
CUGLIERI	88.23	357.0	13	41	47				25	36	PS
TOLEDO	88.28	6.7	12	55	0	23	57	18	16	28	PP
MADRAS	88.60	289.3	12	55	-1						
LISBON	88.95	10.8	13	9K	11	23	45	0			
ATHENS	88.97	345.0	13	16	18	23	47	2	16	57	PP
MESSINA	89.77	351.4	13	2	0	23	57	4	16	38	PP
KARAPIRO	89.80	187.2	13	7	5	23	47	-6	13	46	
REGGIO CALA.	89.86	351.4	13	18	16	24	18	25	13	47	
ALICANTE	90.01	4.0	13	4	1	23	59	4	16	41	PP
RIVERVIEW	90.28	207.4	12	57K	-7	24	13	16	16	39	PP
KSARA	90.36	334.4	13	3	-1	24	0	2	23	37	SKS
TUAI	90.56	185.9	13	35	30	24	2	2			
GRANADA	91.00	6.6	13	11A	4	24	13	9	17	22	PP
TONGARIRO	91.07	187.1	13	13	5				15	11	
MALAGA	91.40	7.3	13	6K	-3	23	44	-23	16	40	PP
ALMERIA	91.40	5.7	13	11	2	24	8	1	17	8	PP
ALGIERS UNI.	91.69	1.3	13	9	-2	24	12	2	16	51	PP
KODAIKANAL	92.40	289.8	13	16	2	24	22	6	17	13	PP
JERUSALEM	92.47	334.3	13	9	-5	24	22	5			
RELIZANE	92.65	3.4	13	13	-2				23	33	SKS
FORT FRANCE	92.71	62.1	13	14	-1	24	18	-1	14	9	
COBB RIVER	93.18	189.0	13	30	13				14	20	
WELLINGTON	93.20	187.5	13	34	16	24	22	-1	23	44	SKS
ST. LUCIA	93.36	62.4	13	18	0	23	53	-31	23	25	
COLOMBO	93.64	285.9	13	20	0	24	28	1	46	53	
ST. VINCENT	93.92	63.1	13	20	-1	23	55	-34	23	19	
BARBADOS	94.88	61.7	13	40	15						
CHRISTCHURCH	95.62	188.8	13	26	-3	23	58	-46			
GEBBIES PASS	95.79	188.7	14	2	33						
TRINIDAD	95.83	64.7	13	28	-2						
MELBOURNE	95.85	210.6	13	41	11	25	5	19	18	7	PP
PERTH	102.90	234.4	14	4	3	25	20	-25	18	49	PP
HUANCAYO	105.55	89.7	14	35	777				19	12	PP
TAMANRASSET	105.64	359.2	14	14	777	26	5	0	18	35	PP
MACQUARIE I.	108.18	195.5	18	19	777	29	42	0	21	47	PP
MBOUR	111.37	22.6	14	38	-238	25	26	8	19	39	PP
LA PAZ	113.41	87.0	18	36	-4	25	32	6	14	58	P
LOME	122.13	4.0				26	26	29	21	19	PP
RUMANGABO	125.52	329.2	19	7	3						
LWIRO	126.56	329.4	19	6K	1				73	32	L
ASTRIDA	126.59	328.2	19	9	3						
UVIRA	127.61	328.6	19	25	17						
SCOTT BASE	129.96	184.9	19	33	21				22	44	PP
BUENOS AIRES	132.42	94.5	20	4	47				23	6	PP
TANANARIVE	133.06	298.2	19	19A	1				20	23	
PRETORIA	148.38	316.7	19	48A	3				38	35	
PIETERMZBURG	150.69	309.4	19	54K	5						
GRAHAMSTOWN	155.57	311.0	20	3	8						
HERMANUS	159.62	323.4	20	11	10				20	41	PKP2

MARCH 9 15.H 41.M 51.S EPICENTRE 50.65-176.00 DEPTH= 0.KM

A=-0.63503 B=-0.04438 C= 0.77121 D=-0.0697 E= 0.9976
G=-0.7693 H=-0.0538 K=-0.6366 HT= -5.7

SE= 3.20

	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	
ALBERNI	32.42	72.1	6	43K	9								
HORSESHOE B.	33.31	71.3	6	43K	1						9	26	PCP
VICTORIA	33.57	72.8	6	45	1								
CORVALLIS	35.40	78.9	7	9	9								
MATUSIRO	35.43	264.5	7	0	0						8	6	
SUIHWA	37.09	286.5	7	18	4								
BANFF	37.18	65.0	7	15K	0								
HUNGRY HORSE	39.28	68.5	7	35	3								
CHANGCHUN	39.50	283.6	7	29	-5	13	32	-5					
BERKELEY	39.70	87.5	7	36	0								
LICK	40.41	87.7	7	42	0								
TINEMAHA	42.75	85.5	8	2	1						8	12	
WOODY	43.19	87.6	8	11	6								
ISABELLA	43.46	87.3	8	15	8								
DAIREN	44.55	279.8	8	16	0								
PASADENA	44.60	88.8	8	20	4								
RIVERSIDE	45.21	88.3	8	20	-1								
HAYFIELD	46.50	87.3	8	39	8								
BARRETT	46.51	89.2	8	30	-1								
KWANTING	47.50	285.1	8	40	1								
TATUNG	49.00	286.4	8	55	4								
ZO-SE	49.77	271.9	8	56	-1								
TUCSON	50.50	85.3	9	3	1								
NANKING	50.65	274.6	8	59	-4								
PAOTOW	50.68	288.9	9	3	0								
TAIYUAN	50.85	284.5	9	4	-1								
LINFEN	52.58	283.5	9	18	0								
ILAN	53.79	265.6	9	6	-21	16	46	-15					
YINCHUAN	54.27	289.1	9	29	-1								
HSINKONG	55.23	264.5	9	38	1	17	30	10					
LUBBOCK	55.27	77.7	9	38	0								
ALISHAN	55.28	265.4	9	37	-1								
TAITUNG	55.62	264.4	9	41	1								
WUWEI	56.79	290.9	9	48	-1								
TIENSHUI	57.13	285.9	9	51	0								
LANCHOW	57.31	288.5	9	52	0								
CHANGYEH	57.35	293.0	10	1	8								
SCORESBY SD.	57.73	10.0	9	53	-2								
SINING	58.17	290.2	9	59	1	18	2	3					
FAYETTEVILLE	58.28	70.5	9	56K	-3								
SCHEFFERVLLE	59.53	39.3	10	3K	-5								
MAZATLAN	59.60	89.9	11	14	66								
HONG KONG	60.38	269.6	10	10K	-4								
BAGUIO CITY	60.66	259.9	10	10	-5	18	20	-11					
RABAUL	61.10	216.9	10	14	-4						10	34	PCP
KIRUNA	61.20	353.0	10	15	-4						39	22	PKPPKP
OTTAWA	62.15	51.6	10	23K	-3								
SEVEN FALLS	63.28	47.6	10	33	0								
PITTSBURGH	63.44	58.0	10	33	-1								
REYKJAVIK	63.78	12.3	10	35	-1								
APIA	64.28	175.4	10	43	3								
SKALSTUGAN	65.92	356.0	10	47	-3						39	9	PKPPKP
PALISADES	66.22	54.0	7	13	-219								
TACUBAYA	66.93	87.3	10	54	-3						13	12	PP
PUEBLA	67.84	86.8	10	56	-6						22	30	
UPPSALA	69.30	352.7	11	8	-3	20	14	-4					
SHILLONG	71.96	288.3	11	4	-24								
COPENHAGEN	73.80	355.0	11	37	-1								
NOUMEA	74.27	196.9	11	42	1	21	14	-1			14	43	
CHITTAGONG	74.38	286.2	11	40	-2								
HAMBURG	76.03	356.3	11	51	0						37	9	L
RATHFARNHAM	76.06	6.3	11	42	-9								
DEHRA DUN	76.34	301.2	12	49	56								
WARSAW	76.49	349.3	12	44	50								
WITTEVEEN	76.88	358.3	11	56	0								
LAHORE	77.37	304.5	11	56	-3	21	46	-3					
KEW	78.19	2.8	12	1	-2								

JENA	78.59	355.1	12	3	-2					
RACIBORZ	78.92	350.7	12	7	0				12	15 PCP
PRAGUE	79.26	353.2	12	9	0	22	9	0	12	27
IASI	80.43	343.9	12	15	0	22	20	-1		
KARLSRUHE	80.65	357.1	12	17	1					
STUTTGART	80.86	356.5	12	16K	-2					
PARIS	80.91	1.0	12	17	-1					
BRATISLAVA	80.92	351.2	12	23	5					
STRASBOURG	81.10	357.5	12	18	-1					
BACAU	81.16	344.2	12	22	3	22	34	5		
EBINGEN	81.46	356.6	12	19K	-2					
FOCSANI	81.95	343.8	12	29	6					
QUETTA	82.24	308.9	12	23	-2	22	39	-1	12	29 PCP
BESANCON	82.46	358.6	12	25	-1					
BRISBANE	82.47	207.5	12	24	-2					
SZEGED	82.48	348.8	13	1	35	23	8	26		
NEUCHATEL	82.70	358.0	12	27	0					
CAMPULUNG	82.73	345.2	12	30	3	22	48	3		
ZAGREB	83.35	351.6	12	36	6	23	1	10		
BUCHAREST	83.38	344.3	12	29	-2	22	52	0		
BELGRADE	83.84	348.3	12	33A	0	22	47	-9		
CLERMONT-FD.	83.96	0.6	12	33	-1					
OROPA	84.05	357.2	12	33	-1				13	29
PAVIA	84.44	356.3	12	36	0				14	15
BOLOGNA	85.02	354.7	12	44	5				13	9
MONACO	85.95	357.5	12	43	-1					
BALBOA HTS.	87.21	79.4	12	49	-1					
ROME	87.53	353.7	12	59	8				14	2
POONA	87.96	297.0	12	51	-2					
KARAPIRO	88.51	186.7	12	55	-1				13	19
RIVERVIEW	88.98	206.8	12	59K	1					
TUAI	89.28	185.3	13	0	0				13	46
CUGLIERI	89.46	356.5	13	3	3					
TOLEDO	89.57	6.2	13	1	0					
TONGARIRO	89.78	186.6	13	0	-2					
ATHENS	90.06	344.5				23	51	-4	23	29 SKS
LISBON	90.26	10.2	12	56A	-8				14	8
MESSINA	90.94	350.9	13	4	-3	23	44	-19	13	22
REGGIO CALA.	91.03	350.8	13	16	8					
KSARA	91.30	333.9	12	12	-57	24	5	-1		
COBB RIVER	91.88	188.5	13	11	-1					
GRANADA	92.29	6.1	13	9K	-5					
ALMERIA	92.69	5.2	13	17	2					
MALAGA	92.69	6.7	13	15	0					
ALGIERS UNI.	92.95	0.8	13	14K	-3	24	20	-1	17	0 PP
FORT FRANCE	93.67	61.6	13	23	3					
RELIZANE	93.92	2.8	13	18	-3					
ST. LUCIA	94.32	61.9	13	26	3					
GEBBIES PASS	94.49	188.2	13	29	5					
MELBOURNE	94.56	210.0	13	16	-8				16	56
ST. VINCENT	94.87	62.6	13	29	4					
BARBADOS	95.84	61.3	13	48	18					
TRINIDAD	96.74	64.3	13	36	2					
HUANCAYO	105.98	89.5							18	31 PP
MBOUR	112.69	22.1	18	43	4	25	32	9	19	36 PP
LWIRO	127.41	328.1	19	7A	0				32	23
ASTRIDA	127.42	326.9	19	6	-1					
UVIRA	128.45	327.2	19	13	4					
TANANARIVE	133.26	296.4	19	22	4				21	54 PP
PRETORIA	148.97	314.2	19	12	-34					
PIETERMZBURG	151.13	306.7	19	35	-14					

MARCH 9 20.H 39.M 18.S EPICENTRE 52.77-169.57 DEPTH= 0.KM

A=-0.59753 B=-0.1.003 C= 0.79426 D=-0.1811 E= 0.9835
G=-0.7811 H=-0.1438 K=-0.6076 HT= -6.4

SE= 3.08

	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	16.43	34.0	3	46	-7	7	4	8					
KLYUCHI	17.50	293.5	4	8A	1						8	0	SS
PETROPAVLOVK	19.08	283.8	4	25	-1	8	3	7			5	0	PPP
SITKA	20.01	64.0	4	35A	-2								
HORSESHOE B.	28.89	77.9	6	2	0	10	53	1			9	10	PCP
VICTORIA	29.17	79.6	6	10	5	10	57	0			9	8	PCP

SEATTLE	30.24	80.5	6	20	6	11	17	4		
Y.-SAKHLINSK	30.83	278.6	6	15A	-4					
NEMURO	30.98	270.5	6	13	-8	11	23	-2		
CORVALLIS	31.16	86.4	6	27	5	11	33	5		
ABASHIRI	31.39	272.6				11	35	3		
KUSIRO	31.89	270.9	6	33	4	11	28	-11		
WAKKANAI	32.22	276.7	6	39	7	11	41	-4		
HONOLULU	32.64	159.9	6	29	-6					
OBIHIRO	32.65	271.7	6	32	-3					
BANFF	32.67	70.7	6	35	0				9	21 PCP
URAKAWA	33.35	270.9	6	42	1	11	18	-44		
SAPPORO	33.69	273.3	6	33	-11	11	56	-11		
SHASTA	33.91	91.6	6	44	-2	12	9	-2	6	58
UKIAH	34.37	94.5	6	48	-2	12	19	1	8	5 PP
SUTTSU	34.52	273.8	6	47	-5	11	27	-53		
MINERAL	34.60	91.5	6	41	-11					
MORI	34.72	272.5	7	2	9					
HUNGRY HORSE	34.81	74.5	6	54K	0	12	25	0		
HAKODATE	34.81	271.9	6	45	-9					
AOMORI	35.34	270.5	6	52	-7					
BERKELEY	35.75	95.4	7	0	-2	12	37	-2		
RESOLUTE	36.06	25.8	7	6	1				8	18 PP
MIZUSAWA	36.16	268.0	7	10	4	12	41	-5		
RENO	36.18	91.1	7	5	-1	11	47	-59	7	40
LICK	36.47	95.5	7	6K	-2				7	18
BUTTE	36.84	77.1	7	10A	-1	12	55	-1	8	21 PP
SENDAI	36.84	267.0	7	3	-8	12	50	-6		
SASKATOON	37.27	65.0	7	16	1	13	4	1	17	42 L
HUKUSIMA	37.44	266.7	6	54	-22					
ONAHAMA	37.70	265.4	7	24	6	13	10	1		
BOZEMAN	37.93	76.6	7	21K	1					
FRESNO	37.95	94.6	7	20	-1					
SHIRAKAWA	38.00	266.2	7	17	-4	13	8	-6	8	16
EUREKA	38.55	88.2	7	14	-12					
UTUNOMIYA	38.58	265.8	7	26	0	13	15	-8		
KAKIOKA	38.60	265.1	7	27	1					
AIKAWA	38.61	268.9				13	18	-5		
TINEMAHA	38.72	93.0	7	31	4	13	23	-2	7	43
KUMAGAYA	39.14	265.7	7	39	8					
MAEBASI	39.17	266.3	7	32	1	13	26	-5	8	46 PP
WOODY	39.23	95.1	7	41	10					
TOKYO C.M.O.	39.23	264.8							11	42
TITIBU	39.44	265.8	7	34	1					
YOKOHAMA	39.46	264.6	7	34	1	13	44	8	8	41 PP
ISABELLA	39.49	94.8	7	36	3				7	52
NAGANO	39.52	267.3	7	39	5	13	34	-3		
MATUSIRO	39.58	267.2	7	34A	0	13	30	-8		
MERA	39.69	263.9	7	20	-15					
CHINA LAKE	39.91	93.9	7	36	-1				7	56
MATUMOTO	39.93	267.0	7	38	1					
HUNATU	39.94	265.5	7	38	1	13	40	-3		
KOHU	39.98	265.8	7	44	7	13	58	14		
OSIMA	40.07	264.1	7	49	11	13	36	-9		
MISIMA	40.09	264.9	7	38	0	13	19	-26	9	41
TOYAMA	40.10	268.2	7	36	-2	13	46	0		
SALT LAKE C.	40.26	83.5	7	39K	-1	13	5	-43	7	54
IIDA	40.50	266.3	7	42	0	13	38	-13		
PASADENA	40.69	96.3	7	46	3	13	50	-4	8	2
OMAESAKI	40.88	264.9	7	43	-2	14	11	14		
HUKUI	41.09	268.2	7	49	2					
GIHU	41.22	267.0	7	50	2	14	2	0		
NAGOYA	41.26	266.6	8	0	12					
RIVERSIDE	41.28	95.8	7	50	2	14	1	-2	8	8
BOULDER CITY	41.49	91.4	7	50A	0					
HIKONE	41.63	267.3	7	51	0	13	59	-9		
KAMEYAMA	41.77	266.7	7	53	1	13	28	-42		
PALOMAR	42.04	96.0	7	52	-2				8	11
KYOTO	42.11	267.5	7	56	1	14	15	0		
TOYOOKA	42.32	268.8	7	58	1					
OSAKA	42.48	267.2	7	57	-1					
HAYFIELD	42.53	94.6	8	0	2				8	16
BARRETT	42.61	96.6	7	57	-2	14	15	-8	9	52
KOBE	42.67	267.6	7	56	-4	14	26	2		
CHANGCHUN	42.85	285.1	7	58	-3	14	21	-5		
SUMOTO	43.08	267.4	8	3	0	14	12	-18		
YONAGO	43.28	269.8	7	42	-23					
RAPID CITY	43.43	73.8	8	6A	0	14	25	-10	10	3 PP
TOKUSIMA	43.45	267.4	8	8	2	14	49	14		
TAKAMATU	43.60	268.1	8	4	-3	14	35	-2		

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HAMADA	44.41	270.3	8	14	0	14	48	-1		
KOTI	44.44	267.7	8	16	2	14	47	-2	18	13 SS
HIROSIMA	44.55	269.5	8	15	0	14	47	-4		
MATUYAMA	44.72	268.6	8	18	2	14	51	-2	18	6 SS
SIMIDU	45.31	267.4	7	55	-26					
SIMONOSEKI	45.75	270.2	8	49	25	15	33	25		
HUKUOKA	46.31	270.2	8	49	20					
ASOSAN	46.38	269.0	8	32	3	15	18	1		
TUCSON	46.45	92.1	8	29	-1	15	18	0	10	38 PP
ITUHARA	46.58	271.8	8	31	0					
SAGA	46.61	270.0	8	29	-2					
KUMAMOTO	46.66	269.3	8	34	2					
MIYAZAKI	46.85	267.8	8	33	0	15	22	-2		
UNZENDAKE	47.00	269.5	8	36	2	15	25	-1		
NAGASAKI	47.22	269.8	8	36	0	15	21	-8		
KAGOSIMA	47.62	268.2	8	40	1	15	37	2		
TOMIE	47.97	270.6	8	37	-5	15	38	-2		
YAKUSIMA	48.44	267.1							9	9
IRKUTSK	49.32	306.0	8	51A	-1				10	7 PCP
PEKING	50.55	286.9	9	1	-1	16	17	1		
KWANTING	50.75	287.4	9	6	3					
LUBBOCK	50.98	83.9	9	3	-2	16	21	-1	18	56 SS
CHIHUAHUA	51.90	91.6	9	11K	-1	16	19	-15	20	7 SS
GUAM	53.36	240.2	9	17	-6					
KIRKLAND LA.	53.61	56.3	9	23	-2					
ZO-SE	53.64	275.1	9	23A	-2	16	57	-1		
CHICAGO CGS.	53.79	66.6	9	26	0	16	50	-10	11	34 PP
FAYETTEVILLE	53.84	76.1	11	24	118					
TAIYUAN	54.13	287.1	9	32	4					
FLORISSANT	54.22	71.1	9	25K	-4	16	59	-7		
NANKING	54.41	277.7	9	30	-1	17	9	1		
ST. LOUIS 1	54.41	71.2	9	25A	-6	17	3	-5		
SCORESBY SD.	54.86	12.7	9	33	-1	17	19	5	25	42 L
MAZATLAN	55.72	96.4	9	45	5	17	25	-1	21	28 SS
HAMILTON	57.01	60.6	9	49A	0	17	38	-5	11	57 PP
CINCINNATI	57.31	67.0	9	57	5	17	48	1		
OTTAWA	57.66	56.3	9	52A	-2	17	50	-2	12	2 PP
TAIPEI	57.83	269.8	10	25	30					
ILAN	57.88	269.4	9	58	3	17	58	3		
BUFFALO L.	57.91	60.2	9	54	-2					
SHAWINIGAN	58.32	53.6	9	56A	-3	17	57	-3		
HWALIEN	58.55	268.8	10	7	7	18	32	29		
SIAN	58.72	286.5	10	2	1	18	9	3		
APATITY	58.77	349.9	10	5	3	18	7	1	12	16 PP
SEVEN FALLS	58.86	52.1	10	3	1	18	4	-3	12	10 PP
PITTSBURGH	58.92	63.0	10	1	-2					
TAICHUNG	58.99	269.7	10	11	8	18	13	4		
HSINKONG	59.35	268.4	10	10	4					
ALISHAN	59.39	269.2	10	34	28	18	14	0		
GUADALAJARA	59.47	95.7	10	9	2	18	18	3	12	47
KIRUNA	59.49	355.6	10	7	0	18	13	-3	12	19 PP
WUWEI	59.69	293.8	10	10	2					
TAITUNG	59.75	268.3	10	20	11					
PENNSYLVANIA	59.78	61.4	10	10	1	18	13	-6		
AKUREYRI	59.88	13.2							18	50
MANZANILLO	60.10	97.8							28	52
TAINAN	60.13	269.2	10	23	12					
TAWU	60.20	268.2	10	15	3					
TIENSHUI	60.32	289.0	10	13	1					
HENGCHUN	60.56	268.0	10	21	7					
REYKJAVIK	60.76	15.6	10	18	3					
WASHINGTON	61.57	62.4	9	40	-41					
PALISADES	61.71	58.8	10	3	-19	19	43	59		
PHILADELPHIA	61.82	60.4	10	21	-2	18	44	-1	12	54 PP
FORDHAM	61.85	58.9	10	22	-1	18	44	-2		
VIK	61.88	14.5							14	31
WESTON	62.04	56.1	10	24K	0					
COLUMBIA	62.94	68.8	10	28K	-2	18	54	-5	11	5 PCP
TACUBAYA	62 94	93.3	10	29	-1	18	56	-3	14	51
SVERDLOVSK	63.28	331.8	10	33	1				23	17 SS
SKALSTUGAN	63.98	359.1	10	37	0					
HALIFAX	64.11	49.7	10	37	-1					
CANTON	64.28	274.7	10	36	-3					
HONG KONG	64.33	273.5	10	38	-1					
BAGUIO CITY	64.92	264.2	10	47	4	19	23	-1		
VERA CRUZ	64.95	91.0	10	42	-1	19	27	3	11	12 PCP
RABAUL	65.29	222.8	10	39	-6					
OAXACA	66.23	93.0				19	11	-29	18	40

APIA	66.32	182.3	10	56	4				19	42	
PULKOVO	66.67	349.2	10	54	0	19	48	3	11	10	PCP
BERGEN	67.11	2.8	10	48	-9	19	48	-3	24	48	
MERIDA	67.58	84.6	10	55	-5	19	46	-10	13	45	
UPPSALA	67.58	356.1	10	58	-2	19	53	-3	15	25	PCS
MOSCOW	69.56	344.0	11	5	-7						
COMITAN	69.65	89.8	11	13	0	20	1	-20	24	40	SS
FRUNSE	69.89	315.2	11	14A	0				21	6	SCS
ABERDEEN	69.94	7.2	11	6	-9	20	22	-2	13	43	PP
SUVA	71.39	192.0	11	37	14	20	32	-9	20	57	PS
COPENHAGEN	71.90	358.8	11	27	1	20	57	10	13	52	PP
DURHAM	72.36	7.3	11	29	0	20	51	-1	21	50	SKS
BERMUDA NAVY	73.07	58.9	11	30	-3	20	58	-2	15	56	PPP
RATHFARNHAM	73.38	10.4	11	38A	3	21	20	16	14	30	PP
TASHKENT	73.40	317.7				21	15	11	16	5	PPP
HAMBURG	74.03	0.3	11	35	-4	21	12	1	25	54	SS
WITTEVEEN	74.73	2.4	11	47	4						
SHILLONG	74.98	292.4	11	41	-3	21	15	-7	11	56	PCP
WARSAW	74.99	353.3	11	46	1	21	14	-8	14	29	PP
POTSDAM	75.20	358.3	11	40	-6	21	17	-7	12	13	
DE BILT	75.41	3.3	11	47	0	21	52	25			
KEW	75.74	6.9	11	48	-1	21	33	3	14	41	PP
STALINABAD	75.94	316.5	11	48	-2						
CHATRA	76.59	296.6	11	54	0						
JENA	76.67	359.3	11	53	-1						
KRAKOW	77.24	353.7	11	57	0	21	41	-6	12	0	PCP
RACIBORZ	77.31	354.9	11	58	0	21	48	1	12	17	PCP
PRAGUE	77.48	357.4	11	59	1	21	45	-4	15	4	PP
CHEB	77.51	358.7	11	58	-1	21	49	-1	22	49	PPS
CHITTAGONG	77.52	290.4	12	0	1						
JERSEY	77.87	8.4							18	12	
SKALNATE PL.	78.08	353.4	12	1	-1	22	0	4	15	10	PP
DEHRA DUN	78.53	305.3	12	4	0	22	3	3	14	58	PP
PARIS	78.57	5.3	12	6	2	22	19	18	15	5	PP
KARLSRUHE	78.58	1.4	12	5A	0	22	10	9			
STUTTGART	78.83	0.8	12	3	-3	22	8	4	15	2	PP
STRASBOURG	79.00	1.8	12	8A	1	22	8	2	15	8	PP
TUBINGEN	79.07	0.9	12	8	1	22	4	-2			
VIENNA-H.	79.23	356.0	12	10	2	22	10	2	15	2	PP
BRATISLAVA	79.28	355.5	12	15	7	22	15	7			
LAHORE	79.32	308.7	12	7	-2	22	7	-2			
IASI	79.34	348.2	12	8	-1	22	22	13	22	10	
EBINGEN	79.42	1.0	12	9	0	22	12	2	15	9	PP
BOKARO	79.72	295.8	12	8	-3	22	8	-5			
RAVENSBURG	79.82	0.6	12	14	3	22	24	10			
BUDAPEST	79.86	354.1	12	11	0	22	18	3	15	9	PP
BASLE	80.05	2.0	12	13	1	22	3	-14	43	42	L
ZURICH	80.22	1.3	12	15	2						
BESANCON	80.28	3.1	12	15	1				12	49	
NEW DELHI	80.38	304.9	12	17	3	22	32	12	15	22	PP
SIMFEROPOL	80.55	343.2	12	14A	-1	22	24	2	15	22	PP
NEUCHATEL	80.56	2.4	12	16	1				22	18	
KALOCSA	80.81	354.0	12	23	6				22	35	SKS
SZEGED	81.01	353.2	12	11	-7				14	58	PP
TIFLIS	81.31	334.7	12	20	1				22	38	SCS
TIMISOARA	81.42	352.4	12	24	4	22	35	4			
CAMPULUNG	81.54	349.6	12	23	3	22	35	3			
CLERMONT-FD.	81.64	5.2	12	22	1						
ZAGREB	81.67	356.1	12	32	11	22	37	4	23	25	SKKS
TRIESTE	81.92	357.7	12	19	-3	22	36	0	15	25	PP
OROPA	81.96	1.7	12	20	-3	22	17	-19	16	15	
BUCHAREST	82.25	348.7	12	25	1	22	41	2			
BELGRADE	82.41	352.8	12	26	1	22	44	3	23	59	PPS
PAVIA	82.42	0.9	12	27A	2	22	51	10	15	58	PP
BALBOA HTS.	82.94	84.6	12	25	-3						
BOLOGNA	83.10	359.4	12	34	6	22	52	4			
SAN JUAN	83.41	68.4	12	30K	0	23	8	17			
FLORENCE X.	83.82	359.4	12	32A	0						
MONACO	83.84	2.2	12	32	0				16	0	PP
QUETTA	83.86	313.4	12	32A	0	22	58	2	15	50	PP
SOFIA	84.26	350.5							20	31	
ROME	85.69	358.5	12	42A	1	23	17	3	16	15	PP
BARCELONA	85.91	6.3	12	50	7	23	23	7	35	50	L
COIMBRA	85.97	14.4	12	43	0	23	13	-3	16	5	PP
BRISBANE	86.32	212.7	12	42	-3				23	8	SKS
TOLEDO	86.87	11.1	12	48	1	23	14	-11	16	3	PP
TARANTO	86.95	354.8	12	26	-22	22	24	-62	14	26	
LISBON	87.31	15.2	12	50K	1	23	31	2			

CUGLIERI	87.41	1.4							13	37	
CHINCHINA	88.47	83.9	12	56	1				23	18	SKS
DOMINICA	88.54	66.5	12	57	2						
ALICANTE	88.76	8.6	12	52	-4	23	19	-24	42	9	L
HYDERABAD	88.89	297.7	12	58	1	23	7	-37	16	0	PP
ATHENS	88.90	349.5				23	22	-22	25	11	PPS
FORT FRANCE	89.14	66.7	12	58	0	23	46	0			
MESSINA	89.29	356.0	12	58	-1	23	46	-2	16	28	PP
REGGIO CALA.	89.39	355.9	12	38	-21	23	20	-28	21	51	
GRANADA	89.59	11.2	13	0A	0	23	53	3	17	14	PP
ST. LUCIA	89.79	66.9	13	0	-1						
MALAGA	89.95	11.9	13	1A	-1	23	55	1			
ALMERIA	90.04	10.3	13	7	5	23	33	-21	16	46	PP
ST. VINCENT	90.34	67.6	13	3	-1						
POONA	90.41	301.9	13	3	-1	23	58	0			
ALGIERS UNI.	90.60	5.9	13	3	-2	23	34	-25	16	43	PP
BOMBAY	90.62	303.0	13	4	-1	24	0	0	18	0	PPP
KSARA	90.96	339.0	13	6K	-1	23	38	-25			
RELIZANE	91.43	8.0	13	9	0	24	4	-3	15	53	
MADRAS	91.57	293.8	13	7	-2	23	42	-26			
TRINIDAD	92.23	69.3	13	12	0						
RIVERVIEW	92.79	211.8	13	13	-2	24	17	-2	17	4	PP
WELLINGTON	94.65	191.8				24	22	-13	23	47	SKS
KODAIKANAL	95.35	294.5	13	24	-3	24	1	-40	33	51	
COLOMBO	96.72	290.6	13	33	0	24	11	-41	48	13	
CHRISTCHURCH	97.14	193.0	13	34	-1	24	47	-9	24	3	SKS
MELBOURNE	98.49	214.8							24	11	
TAMANRASSET	104.65	4.7	14	8	-1				18	23	PP
MBOUR	109.07	28.2	14	34	777	25	24	3	19	2	PP
LA PAZ	109.86	91.2				25	12	-2	19	14	PP
LWIRO	127.38	336.7	19	6	-1						
ASTRIDA	127.49	335.4	19	8	1						
UVIRA	128.49	335.9	19	11	2						
TANANARIVE	135.61	305.3	19	22A	0				22	4	PP
PRETORIA	149.89	326.8	19	51	4						
GRAHAMSTOWN	157.36	322.8	19	59	2				20	32	
HERMANUS	160.61	337.6	20	6	5				20	48	PKP2

MARCH 10 3.H 6.M 13.S EPICENTRE 52.10-174.05 DEPTH= 0.KM
A=-0.61351 B=-0.06394 C= 0.78709 D=-0.1037 E= 0.9946
G=-0.7829 H=-0.0816 K=-0.6168 HT= -6.2

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	
KLYUCHI	15.29	296.0	3	44K	5								
PETROPAVLOVK	16.58	284.4	3	55	0	6	49	-11			4	19	PPP
COLLEGE	18.56	36.4	4	20	0	7	47	2			6	52	
SITKA	22.76	62.1	5	5	0	9	19	9					
Y.-SAKHLINSK	28.20	276.9	5	56A	0	10	47	5					
NEMURO	28.22	268.1	5	56	-1	10	40	-2					
KUSIRO	29.14	268.4	6	16	11	11	33	36					
WAKKANAI	29.56	274.8	6	19	10	11	27	24					
OBIHIRO	29.91	269.3	6	13	1								
ASAHIGAWA	29.97	271.4	6	14	2								
URAKAWA	30.60	268.4				14	7	167					
SAPPORO	30.97	271.0	6	20	-1	11	18	-8			9	7	
TIKSI	31.49	329.4	6	30	4	11	39	5			7	40	PP
HORSESHOE B.	31.71	74.4	6	30	2	11	40	3			9	16	PCP
SUTTSU	31.81	271.4									11	50	
VICTORIA	32.00	75.9	6	32	2	11	41	-1			9	20	PCP
AOMORI	32.59	267.9	6	36	1	11	50	-1					
MORIOKA	33.01	265.9	6	36	-3								
SEATTLE	33.06	76.8	6	45	6	12	5	7					
HONOLULU	33.14	152.1	6	32	-8	11	33	-27					
MIZUSAWA	33.38	265.1	6	45	3	12	7	4					
CORVALLIS	33.96	82.2	6	53	6								
SENDAI	34.06	264.1	6	48	0								
HUKUSIMA	34.65	263.8	6	54	1						10	46	
ONAHAMA	34.89	262.3	7	4	9								
SHIRAKAWA	35.20	263.2	7	9	11								
BANFF	35.47	67.7	6	57	-3						9	51	PCP
UTUNOMIYA	35.78	262.7	7	3	0						8	37	
KAKIOKA	35.80	262.0	7	2	-1						9	49	
TUKUBASAN	35.86	262.1	7	0	-3								

KUMAGAYA	36.34	262.7	7	12	4					
MAEBASI	36.37	263.3	7	9	1					
TOKYO C.M.O.	36.43	261.7	7	13	5	12	46	-4		
TITIBU	36.64	262.7	7	16	6					
YOKOHAMA	36.65	261.5	7	25	15	13	38	44		
SHASTA	36.66	87.2	7	10	0					
NAGANO	36.73	264.4	7	15	4	13	0	5		
OIWAKE	36.73	263.6	7	12	1					
VLADIVOSTOK	36.75	277.9	7	11	0	12	54	-1		
MATUSIRO	36.79	264.2	7	8A	-3	12	52	-4	8	30
MERA	36.88	260.7	7	7	-5					
UKIAH	37.09	89.9	7	17	3	12	57	-3		
MATUMOTO	37.14	264.0	7	12	-2				10	7
HUNATU	37.14	262.4	7	4	-10	13	21	20		
KOHU	37.18	262.7	7	18	3	13	18	16		
OSIMA	37.26	260.9	7	17	2					
MISIMA	37.29	261.8	7	15	-1					
TOYAMA	37.32	265.3	7	22	6					
MINERAL	37.35	87.1	7	11	-5					
HUNGRY HORSE	37.63	71.2	7	16	-2	13	6	-3		
IIDA	37.71	263.3	7	15	-4	13	6	-4		
SHIZUOKA	37.72	262.1	7	21	2	13	13	3		
RESOLUTE	37.85	25.2	7	17K	-3	13	3	-9	8	43 PP
OMAESAKI	38.08	261.8	7	40	18					
GIHU	38.43	264.0	7	15	-10	13	17	-4		
BERKELEY	38.45	90.8	7	24	-1	13	21	0		
NAGOYA	38.46	263.6	7	29	4					
HIKONE	38.84	264.3	7	27	-2	13	7	-20		
RENO	38.94	86.8	7	29	0					
SANTA CLARA	38.97	91.2	7	31	1	13	33	4		
KAMEYAMA	38.98	263.6	7	31	1					
LICK	39.17	90.9	7	30	-1					
KYOTO	39.32	264.5	7	31	-2	13	39	5		
NARA	39.49	264.0	7	41	7	13	41	4		
TOYOOKA	39.55	265.9	7	37	3	13	39	1		
BUTTE	39.67	73.6	7	34	-1	13	37	-3	8	0
OSAKA	39.69	264.2	7	44	8	13	28	-12		
KOBE	39.89	264.6	7	31	-6	13	46	3		
SASKATOON	40.03	62.3	7	43	5	13	47	2		
SUMOTO	40.29	264.4	7	39	-2	14	4	15		
SIOMISAKI	40.35	262.6	7	47	6	13	53	3		
CHANGCHUN	40.36	283.1	7	39	-2					
YONAGO	40.52	267.0	7	15	-27					
TOKUSIMA	40.66	264.4	7	42	-2	13	55	1		
FRESNO	40.67	90.1	7	43	-1					
BOZEMAN	40.75	73.2	7	42	-2					
TAKAMATU	40.82	265.1	7	42	-3	13	46	-11		
EUREKA	41.34	84.0	7	44	-5					
TINEMAHA	41.45	88.6	7	49	-1	14	11	5	8	46
HAMADA	41.66	267.4	7	54	2	14	13	4		
KOTI	41.66	264.7	7	49	-3	14	9	0		
HIROSIMA	41.78	266.5	7	55	2	14	8	-3		
WOODY	41.94	90.6	7	55	1				8	9
MATUYAMA	41.95	265.7	7	52	-2	14	14	0	9	43 PP
ISABELLA	42.20	90.4	7	54	-2				10	7
SIMIDU	42.53	264.3	7	58	-1	14	19	-3	10	5 PP
CHINA LAKE	42.64	89.5	7	52	-8				9	11
SIMONOSEKI	42.99	267.3	8	11	8	14	23	-6		
OOITA	43.05	265.9	8	3K	0					
SALT LAKE C.	43.07	79.7	8	4	1	14	29	-1		
PASADENA	43.39	91.8	8	4	-2	14	31	-4	8	20
HUKUOKA	43.55	267.3	8	7	0	14	37	0		
ASOSAN	43.61	266.1	8	10	2	14	56	18		
SAGA	43.85	267.1	8	31	21					
KUMAMOTO	43.89	266.3	8	15	5					
RIVERSIDE	43.98	91.3	8	8	-3	14	38	-5	8	33
MIYAZAKI	44.07	264.7	8	9	-2	14	47	3		
BOULDER CITY	44.24	87.2	8	7	-6					
NAGASAKI	44.46	266.9	8	17	2	14	52	2		
PALOMAR	44.73	91.6	8	16	-1				9	8
KAGOSIMA	44.84	265.1	8	15	-3	14	59	3		
TOMIE	45.22	267.7	8	20	-1					
HAYFIELD	45.25	90.2	8	20	-1				8	36
BARRETT	45.30	92.1	8	19	-2	14	55	-7		
YAKUSIMA	45.65	264.0	8	24	0					
RAPID CITY	46.25	70.5	8	25	-4	15	16	0	18	2 SCS
IRKUTSK	47.46	304.4	8	36A	-2				18	32 SCS
BOULDER	47.48	76.2	8	40	1					
PEKING	48.09	284.5	8	43	0	15	46	4		

KWANTING	48.31	285.1	8	47	2				
TUCSON	49.20	88.0	8	48	-4	16	20	22	19 27
TATUNG	49.77	286.4	8	58	2				
ZO-SE	50.94	272.2	9	2	-3	16	22	0	11 53 PPP
LUBBOCK	53.79	80.1	9	27	0	17	2	1	24 59 L
CHIHUAHUA	54.65	87.6	9	41K	8	17	17	5	20 14
TAIPEI	55.06	266.6	9	44	8	17	19	1	
HWALIEN	55.78	265.7	9	38	-3				
SCORESBY SD.	56.08	10.9	9	41	-2	17	30	-1	21 23 SS
KIRKLAND LA.	56.24	53.5	9	42K	-2				
SIAN	56.25	283.9	9	48	4				
CHICAGO CGS.	56.56	63.5	10	4	17	17	30	-8	20 22 SCS
HSINKONG	56.58	265.2	9	49	2	17	38	0	
ALISHAN	56.62	266.0	9	52	5				
FAYETTEVILLE	56.66	72.6	9	46	-1	17	38	-1	12 34
TAITUNG	56.97	265.1	9	52	2				
FLORISSANT	57.03	67.8	9	50K	0	17	39	-5	
ST. LOUIS 1	57.22	67.8	9	49K	-2	17	41	-5	
APATITY	58.90	348.1	10	3	0	18	6	-2	12 21 PP
HAMILTON	59.71	57.6	10	8	-1	18	18	-1	22 56 SS
KIRUNA	59.90	353.7	10	8	-2	18	22	1	10 54 PCP
SEMIPALATNSK	60.13	314.7	10	10	-2	18	42	18	
OTTAWA	60.29	53.4	10	8A	-5	18	23	-3	
BUFFALO L.	60.60	57.2	10	13	-2				
SHAWINIGAN	60.90	50.8	10	12	-5	18	43	9	11 8 PCP
SEVEN FALLS	61.40	49.2	10	19	-1	18	38	-3	20 11 SCS
CANTON	61.58	271.6	10	43	21				
HONG KONG	61.60	270.3	10	22	0	18	45	2	
PITTSBURGH	61.65	59.9	10	22	0				
REYKJAVIK	62.09	13.4	10	47	22				
BAGUIO CITY	62.11	260.8	10	27	2	18	47	-3	
GUADALAJARA	62.16	91.7	10	52	27	18	59	9	18 24
PENNSYLVANIA	62.49	58.3	10	43	15	18	52	-2	12 0 PP
SVERDLOVSK	62.52	329.6	10	25	-3				
RABAUL	62.99	218.5	10	25	-6				13 54
MANILA	63.28	259.2	10	40	7	19	3	-1	
WASHINGTON	64.29	59.3	10	39	-1	19	25	8	
PALISADES	64.39	55.7	10	37	-3	19	17	-1	
FORDHAM	64.52	55.8	10	38	-3				
PHILADELPHIA	64.52	57.3				19	14	-6	
SKALSTUGAN	64.55	356.9	10	40	-1				
WESTON	64.67	53.1	10	41A	-1	19	21	-1	
CHAPEL HILL	65.41	62.8	10	41	-6				
APIA	65.66	177.6	10	45	-3				
TACUBAYA	65.67	89.4	10	57	9	19	37	3	13 9 PP
COLUMBIA	65.73	65.5	10	50	1	19	28	-7	
HALIFAX	66.61	46.8	10	54	0				
PULKOVO	66.76	346.9	10	53	-2	19	53	6	13 29 PP
VERA CRUZ	67.71	87.2	11	3	2	19	53	-6	
BERGEN	67.85	0.3							20 11
UPPSALA	68.01	353.7	11	1A	-2	20	14	12	11 31 PCP
FRUNSE	68.38	312.6	11	5A	-1	20	8	1	15 21 PPP
OAXACA	68.97	89.2	12	19	70				18 55
MOSCOW	69.38	341.5	11	9	-3				
MERIDA	70.38	81.0	11	22	4	20	29	-1	23 11
ABERDEEN	70.89	4.6							20 46
TASHKENT	71.99	314.9	11	23	-5	21	34	45	
COMITAN	72.41	86.1				19	40	-74	
COPENHAGEN	72.45	356.1	11	29	-1	21	1	7	21 14 PS
SHILLONG	72.65	289.3	11	28A	-3	20	54	-2	14 17 PP
DURHAM	73.31	4.5	11	17	-18	20	53	-11	
CHATRA	74.38	293.5	11	39	-3	21	27	11	
RATHFARNHAM	74.47	7.6	11	40	-2				
STALINABAD	74.48	313.6	11	41	-1				
HAMBURG	74.65	357.5	11	44A	1				21 39 SKS
WARSAW	75.27	350.5	11	47	0				21 40 SKS
WITTEVEEN	75.45	359.5	11	48	0				
POTSDAM	75.72	355.5	11	50	1	21	31	0	
BERMUDA	75.74	55.5	11	49	0	21	32	1	14 23 PP
DE BILT	76.17	0.5	11	55	3	21	52	16	22 24 PS
DEHRA DUN	76.62	302.2	11	45	-9	21	39	-1	14 39 PP
KEW	76.67	4.0	11	54	-1	21	46	5	22 30 PS
JENA	77.23	356.4	11	56	-2	21	47	0	
BOKARO	77.49	292.6	12	1	2	21	57	7	15 29
KRAKOW	77.54	350.8	11	58	-1				22 6 SCS
LAHORE	77.54	305.6	11	57	-2				
RACIBORZ	77.67	352.0	12	0	0				13 19
PRAGUE	77.95	354.4	12	1	-1	21	55	0	14 50 PP

CHEB	78.05	355.8	12	1	-1	21	53	-3	27	17	SS
SKALNATE PL.	78.36	350.5	12	10	6	22	8	9	15	0	PP
NEW DELHI	78.45	301.8	12	7	3	22	7	7	14	51	
JERSEY	78.86	5.4							22	29	
KARLSRUHE	79.24	358.4	12	8A	-1				12	21	
IASI	79.36	345.2	12	10	1	22	24	14			
ASHKABAD	79.37	320.4	12	11	2	22	5	-5			
PARIS	79.42	2.3	12	9	-1	22	24	13			
STUTTGART	79.47	357.8	12	9A	-1	22	22	11	23	9	PS
BRATISLAVA	79.65	352.4	12	15	4				15	4	PP
STRASBOURG	79.68	358.8	12	11A	0	22	16	3	27	27	SS
TUBINGEN	79.71	357.9	12	11A	0						
HURBANOVO	79.86	351.7	12	17	5	22	23	8	23	1	PS
EBINGEN	80.06	357.9	12	13A	0				12	27	PCP
BUDAPEST	80.16	351.0	12	15	1				22	19	SKS
SIMFEROPOL	80.32	340.1	12	13	-2	22	23	3	15	15	PP
TIFLIS	80.67	331.6	12	15	-1				22	28	SCS
BASLE	80.74	358.9	12	16	-1				15	6	
ZURICH	80.88	358.2	12	17	0	22	37	11			
BESANCON	81.03	360.0	12	18	0				12	27	PCP
NEUCHATEL	81.27	359.3	12	19	-1				15	8	
CAMPULUNG	81.62	346.5	12	26	5	22	45	12	15	14	PP
TIMISOARA	81.65	349.3	12	23	2	22	46	12			
ZAGREB	82.08	352.9	12	26	2						
QUETTA	82.26	310.2	12	23A	-2	22	44	4	22	55	SCS
BUCHAREST	82.30	345.6	12	24	-1	22	48	8	15	13	PP
TRIESTE	82.40	354.5	12	37	12	22	47	6	15	44	PP
CLERMONT-FD.	82.48	2.0	12	26	0						
OROPA	82.64	358.6	12	26	-1	22	54	10	15	14	PP
BELGRADE	82.65	349.6	12	26A	-1	22	51	7	19	7	
PAVIA	83.06	357.7	12	21	-8	22	54	6	28	48	SS
BOLOGNA	83.67	356.1	12	34	2	23	15	21			
PRATO	84.29	356.3	12	36	1	22	58	-2			
BRISBANE	84.33	209.0	12	32	-3	22	19	-42			
FLORENCE X.	84.39	356.1	12	34	-2						
MONACO	84.54	358.9	12	35	-1						
BALBOA HTS.	85.75	81.0	12	44	2						
SAN JUAN	86.20	64.9	12	41	-4						
ROME	86.21	355.1	12	44A	-1	23	24	5	16	20	PP
HYDERABAD	86.72	294.2	12	51	4	23	12	-12	15	45	PP
GALERAZAMBA	86.92	76.5	12	58	10	23	28	2	41	47	L
TARANTO	87.28	351.4	13	31	41				23	11	
TOLEDO	87.98	7.7	12	52	-1	23	32	-4	15	40	PP
CUGLIERI	88.07	358.0	13	3	9				29	37	
DJAKARTA	88.19	257.7	12	56	2	23	36	-2			
POONA	88.37	298.4	12	53	-2	23	40	0			
BOMBAY	88.62	299.4	12	54	-2	23	42	0	15	45	PP
MADRAS	89.28	290.3	13	0	1	23	28	-20	16	12	PP
MESSINA	89.68	352.5	12	48	-13	23	41	-11	16	20	PP
ALICANTE	89.75	5.1	12	50	-12	23	39	-13	16	23	PP
REGGIO CALA.	89.77	352.4	13	7	5				25	35	
ANTIGUA	90.05	61.8	13	4	1				15	49	
KSARA	90.52	335.5	13	4	-1	23	59	0	16	39	PP
GRANADA	90.70	7.6	13	9A	3	24	3	2	26	4	PPS
RIVERVIEW	90.83	208.4	13	5A	-2	23	57	-5	23	33	SKS
MALAGA	91.09	8.3	13	5A	-3	24	10	6			
ALMERIA	91.11	6.7	13	13	5				39	37	L
CHINCHINA	91.28	80.3	13	11	2	24	3	-3	24	19	SKKS
DOMINICA	91.31	63.0	13	14	5						
ALGIERS UNI.	91.46	2.3	13	7	-3	24	5	-3	16	55	PP
FORT FRANCE	91.91	63.1	13	15	3	24	19	7	23	51	
RELIZANE	92.39	4.4	13	12	-2	24	28	12	17	17	PP
ST. LUCIA	92.57	63.4	13	26	11						
KODAIKANAL	93.07	290.8	13	21	4						
ST. VINCENT	93.12	64.1	13	31	14						
WELLINGTON	93.51	188.4				24	1	-25	23	37	SKS
COLOMBO	94.34	286.9	13	26	3	23	56	-37	53	47	L
TRINIDAD	95.02	65.7	13	23	-3						
CHRISTCHURCH	95.95	189.7				24	35	-11	23	51	SKS
PERTH	103.66	235.4							18	24	
HUANCAYO	104.76	90.7							18	48	PP
TAMANRASSET	105.44	0.4	14	12	777	24	56	-37	18	33	PP
MBOUR	110.87	23.8	19	15	40	25	19	3	19	15	PP
LA PAZ	112.61	88.0				25	15	-8	19	31	PP
RUMANGABO	125.75	330.7	19	5	1						
LWIRO	126.78	331.0	19	7A	1				24	4	
ASTRIDA	126.82	329.8	19	5	-1						
UVIRA	127.84	330.2	19	9	1						

TANANARIVE	133.66	299.7	19	24	5					22	6	PP
PRETORIA	148.76	318.9	19	OK	-46							
KIMBERLEY	152.78	321.7	19	13	-39							
GRAHAMSTOWN	156.02	313.5	18	57	-59					19	27	
HERMANUS	159.91	326.4								23	47	

MARCH 10 11.H 20.M 46.S EPICENTRE 52.00-170.77 DEPTH= 0.KM

A=-0.61019 B=-0.09917 C= 0.78602 D=-0.1604 E= 0.9870
G=-0.7758 H=-0.1261 K=-0.6182 HT= -6.1

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	
KLYUCHI	17.15	295.8	4	6	3								
COLLEGE	17.48	33.7	4	7	0	7	54	34					
PETROPAVLOVK	18.56	285.6	4	19A	-1						4	43	PP
SITKA	21.02	62.1	4	49	1	8	42	4					
MAGADAN	22.62	304.6	5	4	0								
HORSESHOE B.	29.78	75.9	6	14	4	11	6	-1			9	14	PCP
VICTORIA	30.05	77.6	6	15	2	11	14	3			9	15	PCP
Y.-SAKHLINSK	30.22	279.1	6	13	-1	11	9	-5					
HONOLULU	32.19	157.4	6	36	4								
TIKSI	32.61	329.2	6	34	-1	11	56	5			7	52	PP
BANFF	33.63	69.0	6	42	-2						9	13	PCP
SHASTA	34.64	89.5	6	54K	1						9	6	
UKIAH	35.06	92.4	7	0	3	12	50	21					
MINERAL	35.33	89.4	6	58K	-1								
HUNGRY HORSE	35.73	72.8	7	2	0	12	39	-1					
BERKELEY	36.43	93.3	7	8	0	12	50	0					
RENO	36.92	89.1	7	13K	1								
RESOLUTE	37.07	25.3	7	11A	-3	13	19	19					
LICK	37.14	93.5	7	14K	0								
BUTTE	37.74	75.4	7	18	-1	15	49	159					
FRESNO	38.64	92.7	7	28	1								
VLADIVOSTOK	38.77	280.2	7	27A	-1	13	26	0					
MATUSIRO	38.81	267.1	7	27A	-1	13	20	-6					
BOZEMAN	38.83	74.9	7	29	1								
EUREKA	39.33	86.3	7	32	0	13	24	-10					
TINEMAHA	39.43	91.0	7	35	2						7	46	
WOODY	39.91	93.2	7	44	7								
ISABELLA	40.18	92.9	7	40	0						8	4	
CHINA LAKE	40.61	92.0	7	44	1								
SALT LAKE C.	41.09	81.8	7	47	0	14	0	-1					
KYOTO	41.34	267.3	7	50	1								
PASADENA	41.36	94.4	7	50	1	14	1	-4			17	20	Q
RIVERSIDE	41.95	93.9	7	54	0	14	7	-6					
BOULDER CITY	42.22	89.6	7	57	1								
CHANGCHUN	42.34	285.2	7	56A	-1	14	20	1					
PALOMAR	42.70	94.2	8	1	1						10	25	
HAYFIELD	43.22	92.8	8	9	5								
BARRETT	43.27	94.7	8	5	0	14	33	0			10	17	
RAPID CITY	44.36	72.3	8	13	-1						8	28	
BOULDER	45.52	78.2	8	23	0								
TUCSON	47.17	90.4	8	35	-1	15	30	1					
IRKUTSK	49.17	306.0	8	50A	-2	16	4	7					
PEKING	50.07	286.7	8	58A	0	16	13	3					
TATUNG	51.73	288.6	9	16	5								
LUBBOCK	51.80	82.4	9	10	-2								
CHIHUAHUA	52.63	90.1									15	54	
ZO-SE	52.97	274.7	9	20A	0	16	51	2					
KIRKLAND LA.	54.65	55.2	9	33	0								
FAYETTEVILLE	54.75	74.8	9	26K	-7						31	29	SCS
SCORESBY SD.	55.77	12.2	9	41	0	17	44	17			21	50	SS
HSINKONG	58.59	267.9	10	3	2	18	8	4					
OTTAWA	58.70	55.2	10	1A	-1	18	6	0			12	6	PP
BUFFALO L.	58.93	59.1	10	4	1								
SHAWINIGAN	59.37	52.6	10	7	1								
APATITY	59.39	349.5	10	6	0	18	18	3					
SEVEN FALLS	59.91	51.0	10	15	5	18	19	-2					
PITTSBURGH	59.93	61.9	10	9	-1								
KIRUNA	60.20	355.1	10	10A	-2								
SEMIPALATNSK	61.62	316.5	10	19	-3						20	10	SCS
WASHINGTON	62.58	61.3	10	38	10								
PALISADES	62.75	57.7	10	28	-1								
SVERDLOVSK	63.60	331.3	10	34	-1								

CANTON	63.60	274.2	10	34A	-1	19	10	2			
HONG KONG	63.63	272.9	10	34	-1	19	10	1			
CHAPEL HILL	63.64	64.9	10	35	0						
TACUBAYA	63.64	91.9	10	35	0						
COLUMBIA	63.91	67.7	10	36	-1	19	22	10			
BAGUIO CITY	64.10	263.6	10	34	-4	19	11	-3			
RABAUL	64.23	221.9	10	35	-4						
SKALSTUGAN	64.73	358.5	10	41A	-1						
HALIFAX	65.17	48.7	10	47	2						
MANILA	65.27	261.9	10	41	-5						
VERA CRUZ	65.69	89.7				19	26	-8	35	29	L
PULKOVO	67.29	348.6	10	57	-2				20	19	PS
UPPSALA	68.30	355.4	11	4	-1				20	46	SKS
FRUNSE	69.92	314.7	11	15A	0	20	38	13			
MOSCOW	70.09	343.4	11	15	-1						
COPENHAGEN	72.65	358.1	11	31	0	21	5	9	21	37	SKS
DURHAM	73.22	6.5	11	37	2						
TASHKENT	73.47	317.1	11	33	-3	21	10	5	21	46	PS
BERMUDA	74.10	57.7	11	44	4	21	13	1	25	54	
RATHFARNHAM	74.27	9.6	11	42	1	21	22	8	13	58	
SHILLONG	74.58	291.7	11	39	-4						
HAMBURG	74.80	359.5	11	47	3				12	4	PCP
WITTEVEEN	75.53	1.6	11	51	3						
STALINABAD	75.99	315.8	11	52	1	21	38	5			
DE BILT	76.22	2.6	11	50	-2	22	2	26	39	14	L
CHATRA	76.26	295.9	11	53	1						
KEW	76.59	6.1	11	57A	3	21	48	8	12	39	
JENA	77.42	358.5	11	58	-1						
KRAKOW	77.92	353.0	12	12	11				12	37	
RACIBORZ	78.01	354.1	12	3	1				12	20	
PRAGUE	78.21	356.6	11	57	-6				15	1	PP
CHEB	78.26	357.9	13	6	63						
DEHRA DUN	78.37	304.6	12	1	-3	21	57	-2	22	34	PS
KARLSRUHE	79.36	0.6	12	10A	1						
PARIS	79.40	4.5	12	12	3	22	21	11			
STUTTGART	79.61	0.0	12	10A	-1	22	17	5			
STRASBOURG	79.79	1.0	12	12A	0	22	17	3	22	31	SCS
TUBINGEN	79.85	0.1	12	13	1						
IASI	79.93	347.4	12	15	3						
BRATISLAVA	79.98	354.7	12	14	1						
EBINGEN	80.20	0.2	12	14	0						
NEW DELHI	80.21	304.2	12	14	0	22	14	-5			
ASHKABAD	80.71	322.7	12	12	-4						
BASLE	80.84	1.1	12	19	2						
ZURICH	81.01	0.4	12	17	-1						
SIMFEROPOL	81.07	342.4	12	20	2	22	34	6	22	44	SCS
NEUCHATEL	81.36	1.6	12	21	1						
TIFLIS	81.68	333.9	12	22	0	22	40	6	23	38	PS
CLERMONT-FD.	82.47	4.3	12	26	0						
TRIESTE	82.65	356.8	12	21	-6	22	40	-4	15	42	PP
BUCHAREST	82.86	347.9				22	46	0			
BELGRADE	83.07	352.0	12	29A	0	23	14	26	12	41	
PAVIA	83.20	0.0	12	32	3				22	54	
QUETTA	83.84	312.6	12	33A	0	22	58	2			
SAN JUAN	84.38	67.4	12	34	-1						
FLORENCE X.	84.58	358.5	12	35	-1						
MONACO	84.63	1.3	12	36	-1						
BRISBANE	85.27	211.8	12	38	-2				23	4	SKS
ROME	86.43	357.6	12	36A	-10	23	39	18	16	18	PP
TARANTO	87.64	353.9							22	14	
TOLEDO	87.77	10.2	12	54	2						
TOLEDO	87.77	10.2	12	54	2						
ANTIGUA	88.29	64.4	12	52	-3						
HYDERABAD	88.59	296.8	12	56	0	23	24	-17	23	39	SKS
DOMINICA	89.53	65.6	13	2	2						
ALICANTE	89.62	7.6	12	11	-50	22	59	-52	41	59	L
MESSINA	90.00	355.0	12	59	-4	23	46	-8	25	25	PPS
POONA	90.18	301.0	13	7	4	23	54	-2			
BOMBAY	90.42	302.0	13	7	2	24	10	12	23	34	
GRANADA	90.48	10.2	13	10A	5	24	0	1	15	58	PP
MALAGA	90.85	10.9	13	3K	-4						
MADRAS	91.20	292.9	13	9	1	23	37	-28			
KSARA	91.41	338.1	13	9	0				23	55	SKS
ALGIERS UNI.	91.43	5.0	13	8	-1						
RIVERVIEW	91.75	210.9				24	11	1	23	43	SKS
RELIZANE	92.29	7.1	13	15	2				16	54	PP
TRINIDAD	93.19	68.3	13	16	-1						
JERUSALEM	93.51	338.0	13	20A	1						

KODAIKANAL	94.99	293.4	12	59	-27								
COLOMBO	96.30	289.5	17	50	258	24	5	-44			61	5	
TAMANRASSET	105.47	3.6	14	8	777						24	56	SKS
MBOUR	110.09	27.1									19	8	PP
LA PAZ	110.59	90.6									19	34	
LWIRO	127.78	334.9	19	9A	1								
PRETORIA	150.10	324.0	19	53	5								
KIMBERLEY	154.04	327.5	19	54	1								

MARCH 10 12.H 36.M 6.S EPICENTRE 51.26-170.68 DEPTH= 0.KM

A=-0.62001 B=-0.10180 C= 0.77796 D=-0.1620 E= 0.9868
G=-0.7677 H=-0.1260 K=-0.6283 HT= -5.9

SE= 2.37

	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	18.07	32.3	4	14	0	7	34	0				
HORSESHOE B.	29.91	74.7	6	13	2						9	16
VICTORIA	30.16	76.4	6	17	3							
BANFF	33.84	68.1	6	45	-1							
SHASTA	34.59	88.5	6	53	1						7	20
UKIAH	34.98	91.4	6	58	2							
MINERAL	35.29	88.4	6	59	1							
HUNGRY HORSE	35.90	71.8	7	4	0							
BERKELEY	36.33	92.4	7	7	0							
RENO	36.88	88.2	7	12	0							
LICK	37.05	92.6	7	13K	0							
RESOLUTE	37.72	24.9	7	18	-1							
BUTTE	37.88	74.5	7	22	2							
FRESNO	38.55	91.8	7	26	0							
MATUSIRO	38.83	268.1	7	26	-2							
BOZEMAN	38.97	74.1	7	30	1							
EUREKA	39.32	85.5	7	33	1							
TINEMAHA	39.36	90.2	7	34	1							
WOODY	39.82	92.4	7	42	6							
ISABELLA	40.09	92.1	7	39	0							
CHINA LAKE	40.53	91.2	7	44	2							
PASADENA	41.25	93.6	7	49	1						8	15
KYOTO	41.37	268.3	7	50	1							
RIVERSIDE	41.85	93.2	7	52	-1							
BOULDER CITY	42.17	88.9	7	56	0							
PALOMAR	42.59	93.4	8	1	2						8	24
HAYFIELD	43.13	92.0	8	7	3							
BARRETT	43.16	94.0	8	4	0							
RAPID CITY	44.54	71.7	8	15	0							
BOULDER	45.62	77.6	8	24	0							
TUCSON	47.11	89.8	8	35	0	15	42	14				
LUBBOCK	51.85	81.9	9	11	-1							
CHIHUAHUA	52.57	89.6									17	49
FAYETTEVILLE	54.89	74.3	9	32K	-2							
KIRKLAND LA.	55.03	54.8	9	35	0							
SCORESBY SD.	56.48	12.1	9	46	0	17	46	10			28	54 L
OTTAWA	59.08	54.9	10	3K	-1							
BUFFALO L.	59.27	58.7	10	4	-1							
SHAWINIGAN	59.78	52.3	10	8	-1							
SEVEN FALLS	60.34	50.7	10	18	5							
KIRUNA	60.94	355.2	10	14	-3							
PALISADES	63.10	57.4	10	30	-1							
TACUBAYA	63.56	91.7	10	38	4						12	44 PP
RABAUL	63.71	222.2	10	31	-4							
HONG KONG	63.73	273.4	10	33	-2							
CHAPEL HILL	63.90	64.6	10	32	-5							
BAGUIO CITY	64.08	264.0	10	54	16	19	10	-4				
COLUMBIA	64.14	67.4	10	38	0							
SKALSTUGAN	65.48	358.5	10	45	-2							
PULKOVO	68.03	348.7	11	22	19							
UPPSALA	69.04	355.5	11	8	-1							
FRUNSE	70.48	314.9	11	18	0							
MOSCOW	70.82	343.5	11	23	3							
NAMANGAN	73.30	315.6	11	33	-2							
COPENHAGEN	73.39	358.2	11	37	2	21	19	15			16	6 PPP
SHILLONG	74.91	291.9	11	38	-6							
RATHFARNHAM	74.99	9.6	11	45K	0							
HAMBURG	75.54	359.6	11	48	0						11	57
WITTEVEEN	76.27	1.7	11	54	2							
CHATRA	76.64	296.1	12	3	9							

KEW	77.32	6.2	12	1	3				35	54 L
JENA	78.17	358.5	12	0	-2					
KRAKOW	78.66	353.0	12	3	-2				12	12 PCP
RACIBORZ	78.75	354.2	12	7	1					
DEHRA DUN	78.84	304.8	12	17	11					
PRAGUE	78.95	356.7	12	13	6				15	8 PP
CHEB	79.00	358.0	12	6	-1					
KARLSRUHE	80.10	0.6	12	14	1				12	44
PARIS	80.14	4.6	12	14	1				12	38
STUTTGART	80.35	0.1	12	14K	0					
STRASBOURG	80.53	1.0	12	15	0	22	30	8	38	54 L
TUBINGEN	80.59	0.2								
IASI	80.67	347.5	12	17	1	21	41	-42	21	56 PS
BRATISLAVA	80.72	354.7	12	19	3					
EBINGEN	80.94	0.2	12	18K	1					
BASLE	81.58	1.2	12	22	1					
ZURICH	81.75	0.5	12	24	2					
SIMFEROPOL	81.79	342.5	12	23	1					
SOTCHI	81.92	338.2	12	22	-1					
NEUCHATEL	82.10	1.6	12	24	1					
CLERMONT-FD.	83.20	4.4	12	30	1					
TRIESTE	83.39	356.9	12	30	0	22	56	5	15	54 PP
BELGRADE	83.82	352.1	12	33K	1	23	3	8		
PAVIA	83.94	0.1	12	33	0				14	42
QUETTA	84.39	312.7	12	34A	-1	23	1	0	15	52 PP
SAN JUAN	84.61	67.4	12	37	1					
BRISBANE	84.67	211.9	12	37	0				23	4 SKS
FLORENCE X.	85.32	358.6	12	38	-2					
MONACO	85.37	1.4	12	40	0					
ROME	87.18	357.6	12	48	-1	23	27	-1	25	11 PPS
TARANTO	88.38	354.0	12	38	-17				22	38
ANTIGUA	88.56	64.4	12	55K	-1					
DOMINICA	89.78	65.6	13	13	12					
FORT FRANCE	90.38	65.8							19	20 PP
POONA	90.61	301.1	13	5	0					
MESSINA	90.75	355.1	12	59	-7					
GRANADA	91.20	10.3	12	57A	-11					
MALAGA	91.56	11.0	13	3	-7					
KSARA	92.12	338.1	13	15	3	24	15	2		
ALGIERS UNI.	92.17	5.0	13	11	-1					
RELIZANE	93.02	7.1	13	15	-1					
JERUSALEM	94.22	338.1	13	22	0					
TAMANRASSET	106.21	3.7	14	5	777				18	19 PP
RUMANGABO	127.46	334.5	19	10	3					
LWIRO	128.48	334.8	19	10	1					
ASTRIDA	128.56	333.5	19	12	3					
PRETORIA	150.73	323.4	19	54A	6					
PIETERMZBURG	153.26	315.9							20	2 PKP2
KIMBERLEY	154.69	326.8	19	57	3					
GRAHAMSTOWN	158.09	318.3							20	33 PKP2

MARCH 10 13.H 10.M 13.S EPICENTRE 51.35 179.98 DEPTH= 0.KM

A=-0.62706 B= 0.00026 C= 0.77897 D= 0.0004 E= 1.0000
G=-0.7790 H= 0.0003 K=-0.6271 HT= -5.9

SE= 2.36

	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
COLLEGE	21.42	38.6	4	53	1	8	23	-23				
MATUSIRO	33.01	259.8	6	37	-2	12	0	2				
HONOLULU	34.54	142.1	6	52	0							
HORSESHOE B.	35.48	70.3	6	56	-5							
KYOTO	35.54	260.1	7	3	2							
VICTORIA	35.77	71.7	7	4	1	12	48	7				
CORVALLIS	37.74	77.4	7	28	8							
BANFF	39.17	64.1	7	31	-1							
RESOLUTE	40.08	24.3	7	37	-2	13	29	-17				
SHASTA	40.43	82.0	7	45K	3							
UKIAH	40.83	84.5	7	49	4							
MINERAL	41.12	81.9	7	48K	0							
HUNGRY HORSE	41.37	67.2	7	50	0							
BERKELEY	42.19	85.3	7	57	1							
RENO	42.71	81.7	8	0	-1							
LICK	42.91	85.5	8	3K	1							

BUTTE	43.43	69.4	8	6	0				8	45
FRESNO	44.41	84.8	8	15	1					
BOZEMAN	44.51	69.0	8	16	1				8	42
IRKUTSK	44.77	302.3	8	22	5					
EUREKA	45.12	79.2	8	20	0					
TINEMAHA	45.21	83.4	8	22	1					
ISABELLA	45.95	85.1	8	28	1					
CHINA LAKE	46.39	84.3	8	29	-1					
SALT LAKE C.	46.86	75.1	8	33	-1					
PASADENA	47.11	86.4	8	35	-1				8	47
RIVERSIDE	47.71	86.0	8	42	1				9	0
BOULDER CITY	48.01	82.1	8	42	-1					
PALOMAR	48.46	86.3	8	47	1				9	10
BARRETT	49.02	86.8	8	49	-2					
RAPID CITY	49.98	66.4	8	56	-2					
BOULDER	51.25	71.8	9	7	-1					
HSINKONG	52.80	260.7	9	12	-7	16	59	12		
TUCSON	52.96	82.9	9	19	-2					
SCORESBY SD.	57.45	8.6	9	54	1					
LUBBOCK	57.58	75.5	9	56	2					
HONG KONG	57.87	266.0	9	54	-2	18	1	6		
SEMIPALATNSK	57.94	311.9	9	58	1					
BAGUIO CITY	58.32	256.1	10	5	6	18	25	24		
MANILA	59.50	254.4	10	8	0	18	17	1		
KIRKLAND LA.	59.62	49.9	10	8	0					
KIRUNA	60.15	351.2	10	11	-1				18	50 PS
RABAUL	60.23	212.4	10	9	-4					
FAYETTEVILLE	60.41	68.3	10	14A	0					
SVERDLOVSK	61.20	326.9	10	20	1					
OTTAWA	63.66	49.6	10	34	-2					
BUFFALO L.	64.08	53.3	10	37	-1					
SHAWINIGAN	64.19	47.1	10	37	-2					
SKALSTUGAN	65.00	354.0	10	41A	-3					
FRUNSE	66.06	309.2	10	50	-1					
PULKOVO	66.54	343.8	10	54	0					
PALISADES	67.82	51.7	11	3	1					
UPPSALA	68.24	350.5	11	2A	-3				39	17 PKPPKP
MOSCOW	68.81	338.2	11	9	1					
NAMANGAN	68.91	309.6	11	8	-1					
CHAPEL HILL	69.02	58.6	11	10	0					
SHILLONG	69.32	285.2	11	8	-4	20	19	1		
COLUMBIA	69.38	61.2	11	11	-1					
TACUBAYA	69.42	84.5	10	57	-15					
CHATRA	71.20	289.5	11	26	3					
COPENHAGEN	72.83	352.6	11	33	0					
DEHRA DUN	73.79	298.2	11	35	-3	21	22	13	16	12 PPP
MERIDA	74.17	76.3	11	37	-4				21	27
HAMBURG	75.11	353.8	11	46	0				48	47 L
RATHFARNHAM	75.59	3.9	11	48A	-1					
WITTEVEEN	76.05	355.8	11	52	1					
KEW	77.55	0.2	12	0	0	21	45	-6		
KRAKOW	77.55	347.0	12	0	0				12	31
JENA	77.62	352.5	12	0	0					
RACIBORZ	77.76	348.1	11	53	-8					
PRAGUE	78.21	350.5	12	5	2				15	12 PP
IASI	79.00	341.2	12	2	-6					
SOTCHI	79.36	331.8	12	14	4					
TIFLIS	79.43	327.5	12	12	2					
SIMFEROPOL	79.63	336.1	10	50	-81					
KARLSRUHE	79.76	354.4	12	12A	0					
BRATISLAVA	79.77	348.4	12	15	3					
QUETTA	79.79	305.9	12	11	-1	22	14	-1	12	19 PCP
STUTTGART	79.94	353.8	12	11	-2					
PARIS	80.19	358.3	12	15	1					
STRASBOURG	80.22	354.8	12	16	2					
EBINGEN	80.55	353.9	12	15	-1					
BASLE	81.28	354.8	12	21	1					
NEUCHATEL	81.84	355.2	12	23	0				17	10
BRISBANE	82.01	204.0	12	23	-1				22	41 SKS
BELGRADE	82.58	345.5	12	27A	0					
TRIESTE	82.65	350.3	12	30	3					
CLERMONT-FD.	83.22	357.8	12	30	0					
PAVIA	83.52	353.5	12	44	13				16	25
FLORENCE X.	84.74	351.8	12	36	-2					
MONACO	85.08	354.6	12	40	1				13	9
POONA	85.36	293.9	12	42	1	23	20	9		
BOMBAY	85.66	294.9	12	49	7	23	32	18	23	21 SKS
ROME	86.49	350.7	12	48A	2	23	20	-2	12	52 PCP
TARANTO	87.32	346.9	12	31	-19	23	11	-19	19	31 PP

RIVERVIEW	88.53	203.7	12	58A	2	23	47	6			13	0	PCP
KSARA	89.50	330.8	13	3	2								
BALBOA HTS.	89.54	76.3	13	4	3								
MESSINA	89.78	347.8	13	2	0	23	51	-2					
KODAIKANAL	89.78	286.1	13	14	12								
SAN JUAN	89.84	60.2	13	1	-1								
GRANADA	91.78	2.9	13	35	24						17	42	PP
ALGIERS UNI.	92.21	357.5	13	12	-1								
RELIZANE	93.27	359.5	13	16	-2								
TAMANRASSET	106.03	354.7	14	13	777	25	63785				18	39	PP
LA PAZ	116.37	83.5									20	19	PP
LWIRO	125.40	323.8	19	4	1								
TANANARIVE	130.66	292.9	19	15	1						21	35	PP
PRETORIA	146.61	309.2									19	44	PKP2
PIETERMZBURG	148.64	302.1	19	20	-26								
GRAHAMSTOWN	153.56	302.7									20	0	PKP2

MARCH 10 13.H 28.M 30.S EPICENTRE 51.38-178.92 DEPTH= 0.KM
A=-0.62654 B=-0.01184 C= 0.77930 D=-0.0189 E= 0.9998
G=-0.7792 H=-0.0147 K=-0.6267 HT= -5.9

SE= 2.07

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
COLLEGE	20.96	38.1	4	46	-1							
SITKA	25.76	60.1	5	45	11							
MATUSIRO	33.70	260.8	6	46A	1						9	24
HONOLULU	34.14	143.8	6	45	-4							
HORSESHOE B.	34.82	70.9	6	54	-1							
VICTORIA	35.10	72.3	6	57	0							
KYOTO	36.23	261.1	7	12	5							
CORVALLIS	37.06	78.1	7	16	2							
BANFF	38.53	64.6	7	23K	-3							
SHASTA	39.74	82.8	7	35	-1							
RESOLUTE	39.77	24.4	7	33	-3	13	25	-16				
UKIAH	40.14	85.3	7	53	14							
MINERAL	40.43	82.7	7	41A	-1							
HUNGRY HORSE	40.71	67.8	7	43	-1							
BERKELEY	41.50	86.2	7	49	-1							
RENO	42.02	82.5	7	53	-2							
LICK	42.21	86.4	7	56A	0						8	8
BUTTE	42.77	70.1	8	0	-1							
FRESNO	43.72	85.7	8	17	8							
BOZEMAN	43.85	69.6	8	11	1							
EUREKA	44.43	79.9	8	13	-1							
TINEMAHA	44.52	84.2	8	14	-1							
ISABELLA	45.25	85.9	8	19	-2							
CHINA LAKE	45.69	85.1	8	23	-1							
PASADENA	46.42	87.3	8	31	1							
RIVERSIDE	47.02	86.9	8	34	-1							
BOULDER CITY	47.32	82.9	8	35	-2							
PALOMAR	47.76	87.1	8	40	-1							
BARRETT	48.33	87.6	8	42	-3							
RAPID CITY	49.33	67.0	8	50	-3							
BOULDER	50.58	72.5	9	1	-1							
TUCSON	52.27	83.7	9	13	-2							
LUBBOCK	56.90	76.2	9	49	0							
CHIHUAHUA	57.72	83.4	9	57	2						11	15 PCP
HONG KONG	58.56	266.9	10	2	1							
KIRKLAND LA.	59.07	50.5	10	4	0							
FAYETTEVILLE	59.76	69.0	10	7A	-2							
KIRUNA	60.23	351.7	10	10	-2							
RABAUL	60.63	213.6	10	13	-2							
OTTAWA	63.11	50.3	10	30	-2							
BUFFALO L.	63.50	53.9	10	32	-2							
SHAWINIGAN	63.66	47.7	10	32	-3							
SEVEN FALLS	64.13	46.2	10	42	4							
SKALSTUGAN	65.04	354.5	10	43	-1							
PALISADES	67.26	52.4	10	56	-2							
UPPSALA	68.32	351.1	11	4	-1							
CHAPEL HILL	68.41	59.3	11	7	1							
TACUBAYA	68.72	85.3	11	17	9							
COLUMBIA	68.76	62.0	11	5	-3							
MOSCOW	69.03	338.9	11	7	-3							

SHILLONG	69.98	286.0	11	13	-2						
VERA CRUZ	70.79	83.2							23	36	
COPENHAGEN	72.89	353.3	11	34	1						
HAMBURG	75.15	354.5	11	47	1				12	1	PCP
WARSAW	75.40	347.5	11	50	3				19	59	
LAHORE	75.43	302.4	11	48	1						
RATHFARNHAM	75.51	4.6	11	48A	0						
WITTEVEEN	76.06	356.5	11	52	1						
KEW	77.52	0.9	12	1	2						
JENA	77.67	353.2	12	0	0						
KRAKOW	77.68	347.7							12	9	PCP
RACIBORZ	77.87	348.8	12	3	2						
PRAGUE	78.29	351.3	12	5	2				13	51	
KISHINEV	79.11	341.1	12	8	0						
IASI	79.19	342.0	12	10	2						
KARLSRUHE	79.79	355.1	12	12A	0						
BRATISLAVA	79.88	349.2	12	15	3						
SIMFEROPOL	79.88	336.8	12	12	0						
STUTTGART	79.98	354.6	12	11	-2						
PARIS	80.18	359.1	12	14	0						
STRASBOURG	80.25	355.5	12	14A	0						
QUETTA	80.33	306.7	12	15A	1	22	21	1			
EBINGEN	80.59	354.7	12	16	0						
BRISBANE	82.32	204.9	12	25	0				22	16	SKS
BELGRADE	82.72	346.2	12	25A	-2				23	21	SCS
CLERMONT-FD.	83.21	358.6	12	29	-1						
FLORENCE X.	84.81	352.6	12	38	0						
DJAKARTA	85.08	253.8	14	16	97						
MONACO	85.11	355.4	12	38	-1						
POONA	85.98	294.7	12	45	2						
BOMBAY	86.27	295.7	12	46	1	23	18	-2			
ROME	86.57	351.5	12	46K	0						
RIVERVIEW	88.84	204.5	12	58A	1	23	45	1	16	29	PP
TOLEDO	89.00	3.9	12	56	-2						
SAN JUAN	89.22	61.1	12	58	-1						
MESSINA	89.89	348.6							14	1	
GRANADA	91.71	3.7	13	13A	2						
ALMERIA	92.08	2.9	13	13	1				38	50	L
ALGIERS UNI.	92.20	358.4	13	12	-1						
ANTIGUA	93.03	58.0	13	15	-2						
RELIZANE	93.24	0.4	13	18	0						
ST. LUCIA	95.57	59.5	13	28	0						
TRINIDAD	98.05	61.8	13	36	-4						
TAMANRASSET	106.06	355.7	14	16	777				18	42	PP
PRETORIA	147.12	310.8							19	46	PKP2
PIETERMZBURG	149.20	303.6							19	52	PKP2
KIMBERLEY	151.25	312.8	19	57	8						
GRAHAMSTOWN	154.12	304.4	19	57	4						

MARCH 10 15.H 26.M 24.S EPICENTRE 52.16-172.42 DEPTH= 0.KM

A=-0.61065 B=-0.08129 C= 0.78772 D=-0.1320 E= 0.9913
G=-0.7808 H=-0.1039 K=-0.6160 HT= -6.2

SE= 3.31

	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
KLYUCHI	16.17	295.5	3	52	2							
PETROPAVLOVK	17.54	284.6	4	0A	-7	7	11	-10				
COLLEGE	17.92	35.3	4	15	3	7	56	26				
MAGADAN	21.69	304.4	4	52A	-2	8	51	1				
SITKA	21.84	62.4	5	2	7	9	4	11				
Y.-SAKHLINSK	29.20	277.8	6	1A	-4	11	5	8				
NEMURO	29.23	269.3	5	59	-6	10	47	-11				
KUSIRO	30.15	269.7	6	15	2	11	5	-7				
WAKKANAI	30.56	275.8				11	29	10				
HORSESHOE B.	30.73	75.3	6	27	9	11	28	7				
OBIHIRO	30.92	270.5	6	20	0							
VICTORIA	31.00	76.9	6	24	3	11	34	8				
SAPPORO	31.98	272.2	6	17	-12	11	40	-1				
MURORAN	32.62	271.3	6	33	-2							
HONOLULU	32.74	154.8	6	25	-11	11	46	-7				
CORVALLIS	32.95	83.4	6	44K	6	12	6	10				
MORI	32.99	271.2	6	14	-24	11	21	-36				
MORIOKA	34.02	267.2	6	54	7	12	0	-13				
MIZUSAWA	34.39	266.5				12	21	3				
BANFF	34.52	68.5	6	54	2							

SHASTA	35.65	88.5	7	4K	3					
UKIAH	36.08	91.3	7	7	2	12	52	8		
SHIRAKAWA	36.21	264.5	7	4	-2					
MINERAL	36.34	88.4	7	9A	2					
HUNGRY HORSE	36.65	72.1	7	14	4	12	59	6	8	59 PP
UTUNOMIYA	36.79	264.1	7	5	-6					
KAKIOKA	36.81	263.4	7	8	-3					
KUMAGAYA	37.35	264.0				13	52	48		
RESOLUTE	37.37	25.3	7	15A	-1	13	8	4	8	36 PP
MAEBASI	37.38	264.6	7	17	1	13	1	-3		
TOKYO C.M.O.	37.43	263.1	8	16	60					
BERKELEY	37.45	92.2	7	19K	3	13	4	-1		
TITIBU	37.64	264.1	7	15	-3					
NAGANO	37.74	265.7	7	21	2	13	5	-5		
VLADIVOSTOK	37.74	278.9	7	15A	-4	13	1	-9	8	36 PP
OIWAKE	37.74	265.0	7	23	4					
MATUSIRO	37.80	265.5	7	14A	-5	13	2	-9	8	37
MERA	37.89	262.1	7	34	14					
RENO	37.93	88.1	7	24K	4	13	19	6		
SANTA CLARA	37.97	92.6	7	26A	5	13	25	12		
MATUMOTO	38.15	265.4	7	16	-6					
LICK	38.17	92.3	7	24K	2					
KOHU	38.19	264.1	7	19	-4	13	10	-7		
MISIMA	38.29	263.1	7	10	-13	13	9	-9		
TOYAMA	38.33	266.6	7	10	-14					
BUTTE	38.68	74.6	7	30	3	13	24	0		
IIDA	38.71	264.6	7	25	-2					
OMAESAKI	39.08	263.2	8	17	47	13	24	-6		
GIHU	39.44	265.4	7	31	-2	13	34	-2		
NAGOYA	39.47	264.9	7	35	2					
FRESNO	39.66	91.5	7	36	1					
BOZEMAN	39.77	74.2	7	40	4					7 55
HIKONE	39.85	265.6	7	50	14	13	38	-4		
KAMEYAMA	39.99	265.0	7	35	-3	13	24	-20		
EUREKA	40.33	85.3	7	17	-23					
KYOTO	40.33	265.8	7	37	-3	13	44	-5		
TINEMAHA	40.44	89.9	7	45	4	13	56	5		
NARA	40.50	265.3	7	41	-1	13	34	-17		
TOYOOKA	40.56	267.1	7	38	-4					
OSAKA	40.70	265.5	7	50	7	13	45	-9		
KOBE	40.90	265.9	7	41	-4	13	50	-7		
WOODY	40.93	92.0	8	1	16	14	0	2		
ISABELLA	41.20	91.7	7	50	3	14	6	4	8	3
SUMOTO	41.30	265.7	7	47	-1	14	9	6		
CHANGCHUN	41.32	284.0	7	44A	-4					
SIOMISAKI	41.36	264.0	7	46	-3	14	12	8		
YONAGO	41.53	268.2	8	2	12	13	34	-33		
CHINA LAKE	41.63	90.9	7	54	3	14	8	0		
TOKUSIMA	41.67	265.7	7	48	-3	13	56	-13		
TAKAMATU	41.83	266.4	7	52	-1	13	35	-36		
SALT LAKE C.	42.07	80.8	7	58	3	14	19	4		
PASADENA	42.38	93.2	7	59	2	14	22	3	17	48 SS
HAMADA	42.66	268.7	7	57	-2	14	18	-5		
KOTI	42.67	266.0	7	56	-4	14	0	-24		
HIROSIMA	42.79	267.8	7	56	-5	14	16	-9		
MATUYAMA	42.96	266.9	8	7	5	14	22	-6		
RIVERSIDE	42.98	92.7	8	4	2	14	32	4		
BOULDER CITY	43.23	88.5	8	5	1					
SIMIDU	43.53	265.6	7	53	-14					
PALOMAR	43.73	93.0	8	10	2	14	46	7	8	49
SIMONOSEKI	44.00	268.6	8	7	-3	14	40	-3		
OOITA	44.06	267.2	8	7A	-4	14	20	-24		
HAYFIELD	44.24	91.6	8	14	2					
BARRETT	44.30	93.5	8	15	2	14	52	5	10	0 PP
HUKUOKA	44.56	268.6	8	9	-6	13	43	-68		
SAGA	44.86	268.3	8	31	14					
KUMAMOTO	44.90	267.6	8	18	0					
MIYAZAKI	45.08	266.0	8	19	0	14	54	-5		
RAPID CITY	45.28	71.5	8	24	3	15	4	3	10	24 PP
KAGOSIMA	45.85	266.4	8	31	6	15	5	-5		
TOMIE	46.23	268.9	8	25	-3	15	8	-7		
BOULDER	46.48	77.3	8	23	-7					
YAKUSIMA	46.66	265.3	8	40	8					
TUCSON	48.19	89.3	8	46	2	15	47	4		
IRKUTSK	48.25	305.1	8	41A	-3	15	39	-5	10	35 PP
PEKING	49.05	285.5	8	47A	-3					
ZO-SE	51.95	273.4	9	8A	-4	16	29	-6		
LUBBOCK	52.79	81.3	9	20	1	16	50	4	19	10

CHIHUAHUA	53.64	88.9				17	25	27			
KIRKLAND LA.	55.39	54.4	9	40A	2						
CHICAGO CGS.	55.63	64.5	9	35	-5	17	23	-2			
FAYETTEVILLE	55.68	73.8	10	5A	25						
SCORESBY SD.	55.83	11.6	9	41	0						
TAIPEI	56.07	267.9	9	50	7	17	20	-11			
FLORISSANT	56.07	68.9	9	44	1	17	33	2			
ST. LOUIS 1	56.26	68.9	9	45K	1	17	33	0			
HWALIEN	56.79	266.9	9	37	-11						
SIAN	57.21	284.9	9	48	-3						
MAZATLAN	57.40	93.6				17	48	0	27	52	
HSINKONG	57.58	266.5	9	53	0	17	52	1			
WUWEI	58.32	292.2	9	55	-4						
HAMILTON	58.83	58.6	10	10	8	18	16	9	12	12	PP
CLEVELAND	59.16	61.0	10	6	2	18	15	4			
OTTAWA	59.44	54.3	10	8K	2	18	16	1			
BUFFALO L.	59.72	58.2	10	8	0						
KIRUNA	59.95	354.4	10	10	0						
SHAWINIGAN	60.08	51.7	10	12K	1				11	3	PCP
SEVEN FALLS	60.60	50.2	10	18	4	18	36	6			
PITTSBURGH	60.74	60.9	10	17	2						
SEMIPALATNSK	60.80	315.6	10	12	-4	18	26	-6			
GUADALAJARA	61.16	93.1				17	57	-40			
PENNSYLVANIA	61.60	59.4	10	25	4	18	46	3			
CANTON	62.58	272.8	10	23A	-5	18	51	-4			
HONG KONG	62.61	271.6	10	23	-5	18	36	-19			
SVERDLOVSK	62.97	330.5	10	29	-1				14	31	PPP
BAGUIO CITY	63.11	262.1	10	29	-2	18	52	-10			
WASHINGTON	63.39	60.3	10	25	-8	19	9	4			
PALISADES	63.52	56.7	10	36	2	19	11	4			
PHILADELPHIA	63.64	58.3				19	8	0			
FORDHAM	63.65	56.8	10	37	2	19	14	6			
RABAUL	63.68	220.2	10	27	-8	19	6	-3	12	41	PP
WESTON	63.82	54.1	10	38K	2				20	30	SCS
MANILA	64.29	260.5	10	34	-5	19	5	-11			
SKALSTUGAN	64.54	357.7	10	40	-1						
TACUBAYA	64.66	90.7	10	39	-2	19	20	-1			
COLUMBIA	64.78	66.6	10	44	2	19	22	0			
HALIFAX	65.83	47.8	10	51	2						
VERA CRUZ	66.70	88.4	10	56	2	19	45	-1	21	15	SCS
PULKOVO	66.93	347.7	10	55	-1						
BERGEN	67.78	1.2							20	49	
OAXACA	67.96	90.5				19	58	-3			
UPPSALA	68.05	354.6	11	2	-1	20	5	3	20	29	PS
FRUNSE	69.08	313.6	11	8	-1						
MERIDA	69.38	82.2	11	17	6	20	14	-4			
MOSCOW	69.64	342.4	11	13	0						
SUVA	70.46	189.2				20	25	-6	20	48	PS
ABERDEEN	70.74	5.6							20	56	
COMITAN	71.40	87.4				21	3	22			
COPENHAGEN	72.45	357.1	11	29	-1	20	43	-10	11	46	PCP
TASHKENT	72.66	316.0	11	28	-3	20	55	-1	21	29	PS
DURHAM	73.17	5.5	11	57	23				21	43	
SHILLONG	73.58	290.5	11	33	-3	20	58	-8	11	53	PCP
RATHFARNHAM	74.27	8.6	11	40K	0						
HAMBURG	74.62	358.5	11	44	2				11	59	PCP
BERMUDA	74.87	56.6	11	42	-2	21	26	5	26	2	SS
STALINABAD	75.16	314.7	11	42	-3				22	28	
WARSAW	75.37	351.5	11	51	4				21	48	SKS
WITTEVEEN	75.39	0.6	11	49	2						
POTSDAM	75.73	356.5	11	50	1						
DE BILT	76.10	1.5	11	50	-1	21	45	11	37	36	L
NOUMEA	76.41	200.1	11	51	-2						
KEW	76.53	5.1	11	54	1	21	49	10	22	21	SCS
JENA	77.23	357.4	11	57	0						
DEHRA DUN	77.43	303.4	11	56	-2	21	47	-2	14	47	PP
KRAKOW	77.63	351.9	12	1	2				21	59	SKS
RACIBORZ	77.74	353.0	12	2	2				46	36	L
PRAGUE	77.98	355.5	12	1	0				15	11	PP
CHEB	78.06	356.8	12	1	-1				12	16	
LAHORE	78.32	306.8	12	0	-3	21	52	-6			
BOKARO	78.39	293.8	12	0	-3	21	56	-3			
KARLSRUHE	79.21	359.4	12	7A	-1				12	20	
NEW DELHI	79.27	303.0	12	6	-2	22	6	-2	27	15	SS
PARIS	79.32	3.4	12	11	2	22	10	1	22	34	SCS
STUTTGART	79.44	358.9	12	10A	1	22	16	6	22	26	SKS
IASI	79.55	346.3	12	0	-10	22	47	36			
STRASBOURG	79.64	359.9	12	11A	1	22	17	5	28	1	SS

			P	O-C	S	O-C	*PP	SUPP.
	DELTA DEG.	AZ. DEG.	M S	S	M S	S	M S	M S
TUBINGEN	79.68	359.0	12 11	0				
BRATISLAVA	79.72	353.5	12 13	2	22 14	1		38 36 Q
EBINGEN	80.03	359.1	12 13	1				12 26 PCP
BUDAPEST	80.25	352.1	12 54	40				23 16 PPS
SIMFEROPOL	80.60	341.2	12 16A	1	22 22	0		22 32 SCS
BASLE	80.69	0.0	12 21	5				
ZURICH	80.85	359.3	12 8	-9				
TIFLIS	81.08	332.7	12 18	0	22 27	0		
NEUCHATEL	81.22	0.4	12 21	2				
ZAGREB	82.13	354.1	13 3	40	22 43	5		
CLERMONT-FD.	82.37	3.2	12 27	2				
TRIESTE	82.43	355.6	12 23	-2	22 44	3		15 46 PP
BUCHAREST	82.48	346.7	12 4	-21	23 2	20		15 45 PP
BELGRADE	82.77	350.8	12 26K	-1	22 49	4		23 36
QUETTA	82.98	311.3	12 27A	-1	22 45	-2		12 32 PCP
PAVIA	83.03	358.9	12 29A	1				22 15 SKS
BOLOGNA	83.67	357.3	12 49	18	23 14	20		
FLORENCE X.	84.39	357.3	12 36	1				
MONACO	84.49	0.1	12 36	1				
SOFIA	84.54	348.4	12 36	0	23 2	0		
BALBOA HTS.	84.75	82.3	12 35	-2				
BRISBANE	84.88	210.4	12 33	-4				22 56 SKS
SAN JUAN	85.26	66.1	12 41	2				
GALERAZAMBA	85.92	77.8			23 23	7		41 36 L
ROME	86.22	356.3	12 43A	-1	23 23	4		16 23 PP
HYDERABAD	87.61	295.5	12 48	-3	23 12	-20		16 17 PP
TOLEDO	87.78	8.9	12 50	-2	23 26	-7		
ANTIGUA	89.13	63.1	12 59K	1				
POONA	89.22	299.7	12 57	-2	23 44	-3		
POONA	89.22	299.7	11 33	-86				
ALICANTE	89.59	6.3	12 59	-1	23 46	-4		16 33 PP
MESSINA	89.75	353.7	12 59	-2	23 48	-4		16 32 PP
REGGIO CALA.	89.84	353.6	12 59	-2	23 17	-36		
MADRAS	90.20	291.6	13 0	-3	23 27	-29		
CHINCHINA	90.28	81.6	13 8	4				24 0 SKKS
GRANADA	90.50	8.9	13 9K	4	24 8	10		23 37 SKS
KSARA	90.87	336.8	13 5	-1	23 57	-5		16 49 PP
MALAGA	90.87	9.6	13 3	-3				45 1 L
ALMERIA	90.93	8.1	13 8	1				40 56 L
FORT FRANCE	90.98	64.4	13 10	3	24 6	3		23 38
ALGIERS UNI.	91.35	3.6	13 8	0				
RIVERVIEW	91.37	209.6	13 12A	3	24 8	2		23 37 SKS
ST. VINCENT	92.19	65.4	13 9	-3				
RELIZANE	92.24	5.7	13 7	-6	24 1	-13		16 48 PP
JERUSALEM	92.98	336.7	13 15K	-1				23 59
WELLINGTON	93.72	189.6			24 2	-25		23 40 SKS
KODAIKANAL	93.99	292.1	13 21	0	24 6	-23		
TRINIDAD	94.08	67.0	13 21	0				
COLOMBO	95.28	288.2	13 27	0	23 57	-43		
CHRISTCHURCH	96.18	190.9			24 39	-9		24 1 SKS
TAMANRASSET	105.36	2.0	14 4	777				24 54 SKS
MBOUR	110.40	25.4						19 12 PP
LA PAZ	111.60	89.2	19 36	60				26 16 SKKS
RUMANGABO	126.17	332.7	19 12	8				
LWIRO	127.20	333.0	19 7	1				22 17
ASTRIDA	127.26	331.8	19 8	2				19 21
TANANARIVE	134.49	301.5	19 18	-2				21 53 PP
PRETORIA	149.36	321.5	19 17	-29				
PIETERMZBURG	151.86	314.3	18 27	-83				
KIMBERLEY	153.34	324.7	18 38	-74				
GRAHAMSTOWN	156.70	316.5						20 27 PKP2

MARCH 11 3.H 12.M 43.S EPICENTRE 51.20-176.70 DEPTH= 0.KM

A=-0.62808 B=-0.03618 C= 0.77731 D=-0.0575 E= 0.9983
F=-0.7760 H=-0.0447 K=-0.6291 HT= -5.9

SE= 3.30

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KLYUCHI	14.24	299.8	3 31K	6				
PETROPAVLOVK	15.23	286.9	3 35	-3	6 28	0		3 57 PPP
MAGADAN	20.08	307.2	4 41	3				
COLLEGE	20.26	36.6	4 41A	1	8 24	1		
SITKA	24.64	60.1	5 25K	2	9 52	9		
UGLEGORSK	26.26	281.7	5 36A	-3	10 8	-2		

NEMURO	26.54	267.6	5	37	-4	10	20	5	
Y.-SAKHLINSK	26.67	276.9	5	39A	-3				
ABASHIRI	27.01	270.0				10	37	15	6 54 PP
KUSIRO	27.46	267.9				11	30	60	7 42
WAKKANAI	27.99	274.6				10	52	14	6 35 PP
ASAHIGAWA	28.33	271.0	5	57	-1				
URAKAWA	28.91	267.8				10	57	4	
SAPPORO	29.33	270.5							7 44
TOMAKOMAI	29.47	269.4				12	1	59	
SUTTSU	30.18	270.9	6	22	8	11	14	1	
MORI	30.33	269.5							7 1 PP
AOMORI	30.90	267.2	6	23	3	11	34	10	6 43 PP
AOMORI	30.90	267.2				11	34	10	
MORIOKA	31.29	265.1				11	45	14	
TIKSI	31.43	330.4	6	22	-3	11	32	-1	13 25 SS
MIZUSAWA	31.65	264.2	6	25	-2	11	40	4	
AKITA	31.95	266.0	6	34	4				
SENDAI	32.31	263.1	6	35	2	11	47	0	
YAMAGATA	32.67	263.6	6	43	7	11	54	2	
HUKUSIMA	32.90	262.8	6	35	-3				
ONAHAMA	33.13	261.2	6	41	1	11	38	-21	
HONOLULU	33.20	147.1	6	38K	-3				
SHIRAKAWA	33.45	262.1	6	45	2	11	49	-15	
HORSESHOE B.	33.56	71.7	6	45K	1	12	15	9	
MITO	33.76	260.8	6	59	14				
VICTORIA	33.83	73.2	6	47K	1	12	19	9	
UTUNOMIYA	34.02	261.6	6	45	-3				
KAKIOKA	34.03	260.9	6	48	0	12	7	-6	
AIKAWA	34.12	265.1	6	47	-2				
KUMAGAYA	34.58	261.5	6	49	-4				
MAEBASI	34.62	262.1	6	50	-3	12	30	8	17 19 SCS
TOKYO C.M.O.	34.65	260.5	6	52	-1	12	17	-6	7 57 PP
TAKADA	34.69	263.8	6	55	2				
TITIBU	34.88	261.6	6	51	-4				
YOKOHAMA	34.88	260.3	6	52	-3				
SEATTLE	34.88	74.0	6	59	4	12	45	19	
OIWAKE	34.99	262.5	6	56	0				
NAGANO	34.99	263.3	6	53	-3	12	34	6	8 14 PP
MATUSIRO	35.05	263.1	6	50K	-7	12	33	4	8 11 PP
MERA	35.10	259.5	7	13	16	13	24	54	
MATUMOTO	35.40	262.9	6	58	-2				
KOHU	35.42	261.6	6	57	-3	12	49	14	
AJIRO	35.47	260.3	6	59	-1				
OSIMA	35.48	259.7	6	58	-2	12	33	-3	17 26 SCS
MISIMA	35.51	260.5	6	55	-6	12	13	-23	17 20 SCS
TOYAMA	35.60	264.2	7	2	1				
CORVALLIS	35.73	79.3	7	7	5				8 2 PP
TAKAYAMA	35.91	263.4	7	1	-3				
IIDA	35.95	262.1	7	3	-1				
SHIZUOKA	35.95	260.9	7	2	-2	12	49	6	
OMAESAKI	36.31	260.6	7	6	-1	12	48	0	
GIHU	36.69	262.9	7	8	-2	12	57	3	
NAGOYA	36.71	262.4	7	18	7				
HIKONE	37.10	263.2	7	11	-3	13	18	17	8 33 PP
ARCATA	37.22	85.0				13	32	30	
KAMEYAMA	37.23	262.4	7	12	-3	13	9	6	
BANFF	37.35	65.4	7	16	0				
KYOTO	37.58	263.3	7	16	-2				
TOYOOKA	37.83	264.7	7	16	-4				
OWASE	37.91	261.7	7	8	-13				
OSAKA	37.95	263.0	7	21	0	13	15	1	
KOBE	38.15	263.4	7	27	4	13	34	17	
SHASTA	38.38	84.1	7	27K	2	13	53	33	12 38
SUMOTO	38.55	263.2	7	24	-2	13	35	12	
SIOMISAKI	38.59	261.4	7	17	-9				
UKIAH	38.76	86.7	7	30K	2	13	39	13	
YONAGO	38.81	263.8	7	37	9	13	22	-5	
TOKUSIMA	38.92	263.2	7	27	-2	13	22	-6	
CHANGCHUN	38.94	282.5	7	25	-4	13	28	-1	9 23 PPP
MINERAL	39.07	84.0	7	31K	1				
TAKAMATU	39.09	263.9	7	29	-2	13	30	-1	
RESOLUTE	39.36	24.5	7	33K	0				9 8 PP
HUNGRY HORSE	39.49	68.7	7	35K	1	13	48	11	
KOTI	39.92	263.4	7	35	-3	13	49	6	9 25 PP
HIROSIMA	40.07	265.3	7	37	-2	13	38	-8	
BERKELEY	40.12	87.6	7	40K	1	13	58	12	
MATUYAMA	40.23	264.4	8	39	59	14	50	62	
SANTA CLARA	40.63	88.0	7	53A	10	14	7	13	
RENO	40.66	83.8	7	45K	1				

LICK	40.83	87.8	7	46K	1				7	57
SIMONOSEKI	41.29	266.1	7	47	-2	14	7	3		
OOITA	41.33	264.7	7	58	9	14	12	8		
BUTTE	41.52	71.1	7	51K	0	14	14	7		
HUKUOKA	41.85	266.1	7	53	0	14	18	6		
ASOSAN	41.89	264.8	7	44	-10					
SASKATOON	41.91	60.2	7	58	4	14	8	-5		
SAGA	42.14	265.8	8	57	61					
KUMAMOTO	42.18	265.0	8	10	14					
MIYAZAKI	42.33	263.4	7	12	-45	13	16	-63		
FRESNO	42.34	87.1	7	59K	2					
BOZEMAN	42.60	70.7	8	1K	1	14	29	6		
EUREKA	43.09	81.2	8	5K	2					
TINEMAHA	43.15	85.6	8	6K	2	15	13	42	8	20
TOMIE	43.52	266.4	6	51	-76				8	8 PP
WOODY	43.60	87.6	8	8K	0	15	14	36		
ISABELLA	43.87	87.4	8	10K	0				10	2
CHINA LAKE	44.32	86.5	8	14K	1				10	1
SALT LAKE C.	44.87	77.0	8	19K	1	15	4	8		
PASADENA	45.03	88.8	8	20K	1	15	24	26	14	6 SCP
RIVERSIDE	45.63	88.4	8	23K	-1	15	25	18	15	48
BOULDER CITY	45.96	84.4	8	27K	0					
PALOMAR	46.38	88.6	8	31K	1				8	41
IRKUTSK	46.60	303.9	8	28A	-4	15	18	-3	18	41 SS
PEKING	46.71	283.6	8	29	-3	15	29	7	9	24 PP
HAYFIELD	46.92	87.3	8	33	-1	15	43	18		
KWANTING	46.93	284.2	8	41	7					
BARRETT	46.94	89.2	8	34	0	15	42	16	8	46
RAPID CITY	48.12	68.2	8	44A	0	16	9	27	10	47 PP
TATUNG	48.42	285.5	8	48	2	15	51	4		
GUAM	48.81	233.7	8	43	-6				19	5
BOULDER	49.30	73.7	8	54	1					
ZO-SE	49.31	270.9	8	50	-3	16	5	6	10	51 PP
PAOTOW	50.09	288.0	8	58	-1					
NANKING	50.17	273.6	8	55	-4					
TUCSON	50.90	85.2	9	5K	0	16	46	25		
TAIPEI	53.35	265.1	9	11	-12	16	31	-24		
YINCHUAN	53.67	288.3	9	27	1	17	13	14		
HSINKONG	54.84	263.6	9	31	-3	17	20	5		
ALISHAN	54.89	264.4	9	34	-1					
TAITUNG	55.24	263.5	9	37	0					
LUBBOCK	55.59	77.6	9	39	-1				17	30 PS
TAINAN	55.63	264.4	9	43	3					
TAWU	55.69	263.4	9	52	12	17	28	2		
HENGCHUN	56.04	263.2	9	45	2					
WUWEI	56.18	290.1	9	43	-1					
CHIHUAHUA	56.36	85.0	9	52	7	17	50	15	29	26
TIENSHUI	56.56	285.1	9	48	1					
LANCHOW	56.71	287.7	9	41	-7					
CHANGYEH	56.73	292.3	9	53	5					
SCORESBY SD.	57.26	9.8	9	52	0	17	50	3	19	32 SCS
SINING	57.57	289.5	9	54	0					
YUMEN	57.86	295.7	9	54	-2					
KIRKLAND LA.	58.10	51.6	10	2K	4					
CHICAGO CGS.	58.44	61.4	9	59	-1	18	7	5		
FAYETTEVILLE	58.52	70.3	9	59A	-1	17	55	-8	20	47
FLORISSANT	58.90	65.6	10	4A	1	18	5	-3		
ST. LOUIS 1	59.09	65.6	10	3K	-1	18	8	-3		
APATITY	59.42	347.1	9	56	-11	17	58	-17	18	16 PS
SEMIPALATNSK	59.58	313.7	10	2	-6	18	10	-7		
CANTON	59.94	270.0	10	7A	-3	18	28	6	10	43 PCP
HONG KONG	59.94	268.7	10	7A	-3	18	29	7		
MAZATLAN	60.04	89.7	10	19	8	18	27	4	26	25
TERRE HAUTE	60.12	63.2	8	17	-115	15	37	-167		
BAGUIO CITY	60.32	259.0	10	14	1	18	32	5		
KIRUNA	60.60	352.6	10	15	0	18	28	-2	12	34 PP
RABAUL	61.28	216.0	10	12	-7				11	57
MANILA	61.48	257.4	10	24	3	18	47	5		
HAMILTON	61.59	55.6	10	20	-2	18	54	11	11	14 PCP
CLEVELAND	61.95	58.0	10	24	0	18	49	2		
CINCINNATI	61.97	61.7	10	28	4				19	2 PS
OTTAWA	62.15	51.5	10	24K	-1	18	53	3		
SVERDLOVSK	62.44	328.5	10	26	-1	18	55	1	12	46 PP
BUFFALO L.	62.48	55.2	10	27	0					
SHAWINIGAN	62.74	48.9	10	28	-1					
SEVEN FALLS	63.24	47.4	10	38	5	19	2	-2	22	16
PITTSBURGH	63.53	57.9	10	34	0	19	13	6		
GUADALAJARA	63.81	89.2	10	42	6	19	29	18	33	17

MORGANTOWN	64.11	58.5	10	37	-1	19	27	12		
PENNSYLVANIA	64.37	56.3	10	42	2	19	28	10	12	30 PP
MANZANILLO	64.38	91.2	10	47	7	19	38	20	36	23
APIA	64.87	174.7	10	42	-1	19	44	20		
SKALSTUGAN	65.34	355.6	10	45K	-1				39	24 PKPPKP
WASHINGTON	66.17	57.2	10	54A	2	19	48	8		
PALISADES	66.25	53.7	10	51A	-1	19	45	4	24	17 SS
FORDHAM	66.39	53.8	10	53	0	19	45	2		
PHILADELPHIA	66.39	55.3	10	59	6	19	45	2	24	50 SS
WESTON	66.52	51.2	10	53K	-1				20	5 PS
PULKOVO	67.24	345.6	11	0	2	19	53	0	11	29 PCP
TACUBAYA	67.35	87.0	11	2	3	20	3	9	13	33 PP
COLUMBIA	67.61	63.4	11	1K	0	20	1	4		
FRUNSE	67.75	311.2	10	59A	-3	20	2	3	20	55 SCS
HALIFAX	68.42	44.9	11	10	4					
UPPSALA	68.70	352.3	11	4	-3	20	7	-3	11	28 PCP
BERGEN	68.74	358.9				20	6	-5	32	22 L
SUVA	69.18	185.0				20	22	6	14	3 PP
VERA CRUZ	69.42	84.8	11	19	7	20	25	6	28	49
MOSCOW	69.69	340.1	11	10	-4	20	17	-5	11	43 PCP
OAXACA	70.65	86.8	11	23	4				25	21 SS
SHILLONG	71.37	287.7	11	19K	-5	20	33	-9	14	4 PP
TASHKENT	71.43	313.5	11	20	-4	20	39	-3	11	49 PCP
ABERDEEN	71.90	3.1	11	45	18	20	40	-8	21	25 PS
MERIDA	72.17	78.7	11	31	2	20	58	7		
CHATRA	73.20	291.9	11	30	-5	21	8	5		
COPENHAGEN	73.21	354.6	11	37	2	21	4	1	14	24 PP
STALINABAD	73.88	312.1	11	37	-2				21	34 SCS
COMITAN	74.14	83.8							19	28
DURHAM	74.32	2.9	11	38	-3	21	26	11		
HAMBURG	75.45	355.9	11	49	1	21	30	2	12	1 PCP
RATHFARNHAM	75.56	5.9	11	45K	-3	21	31	2	33	37
DEHRA DUN	75.68	300.6	11	46	-3	21	30	0	14	44 PP
WARSAW	75.86	348.9	11	51	1	21	18	-14	13	37
BOKARO	76.28	290.8	11	49	-3	21	37	0	23	7 PPS
WITTEVEEN	76.31	357.9	11	52	-1					
POTSDAM	76.46	353.9	11	54	1				12	47
LAHORE	76.69	303.9	11	50	-5					
DE BILT	77.06	358.8	11	57	0	21	47	2	22	17
BERMUDA	77.60	53.4	11	59	-1	21	57	6	26	53 SS
KLW	77.66	2.3	12	0	0	21	53	1	22	21 SCS
JENA	78.00	354.7	11	57	-5	21	38	-17		
ZABRZE	78.02	349.9							22	21
KRAKOW	78.13	349.1	12	1	-2	21	50	-7	12	8 PCP
RACIBORZ	78.30	350.3	12	4	0				15	3 PP
PRAGUE	78.66	352.7	12	5K	0	22	1	-1	14	51 PP
CHEB	78.80	354.0	12	6	0	22	10	6	22	53 PS
SKALNATE PL. *	78.95	348.8	12	20	13	22	26	20	27	41 SS
ASHKABAD	78.98	318.7							22	47 PS
IASI	79.78	343.5	12	13	1	22	26	12	12	30
KARLSRUHE	80.07	356.6	12	12A	-1					
STUTTGART	80.28	356.0	12	11	-3	22	15	-4	15	43 PP
BRATISLAVA	80.30	350.7	12	11	-3	22	17	-3	27	17 SS
PARIS	80.36	0.5	12	13	-2	22	19	-1	15	27 PP
HURBANOVO	80.48	349.9				22	17	-5	23	40
BACAU	80.50	343.7	12	19	4				12	35
STRASBOURG	80.52	357.0	12	13	-3	22	26	4	28	0 SS
TUBINGEN	80.52	356.1	12	13	-3				12	24
SIMFEROPOL	80.58	338.4	12	15	-1	22	20	-3	12	21 PCP
TIFLIS	80.64	329.8	12	13	-3	22	23	0	27	52 SS
BUDAPEST	80.77	349.2	12	22	5	22	41	16	17	46 PPP
EBINGEN	80.88	356.2	12	13	-4				12	29 PCP
RAVENSBURG	81.25	355.7	12	23	4					
QUETTA	81.55	308.3	12	18	-3	22	28	-5	22	41 SCS
BASLE	81.58	357.1	12	20	-1	22	22	-11	28	17 SS
ZURICH	81.70	356.4	12	21	-1					
KALOCSA	81.71	349.1							12	30 PCP
SZEGED	81.85	348.3							13	50
CAMPULUNG	82.09	344.7	12	25	1	22	51	13		
NEUCHATEL	82.13	357.5	12	18	-6	22	47	8	18	19
TIMISOARA	82.19	347.4	12	32	8	23	23	44		
BUCHAREST	82.73	343.7	12	27	0	23	20	35	16	10 PP
ZAGREB	82.74	351.1	12	36	9	22	46	1		
BRISBANE	82.76	206.8	12	22	-5	22	52	7		
TRIESTE	83.11	352.6	12	26	-3	22	50	1	23	9 SCS
BELGRADE	83.21	347.8	12	31A	1	22	54	4	13	22
CLERMONT-FD.	83.41	0.1	12	32	1					
OROPA	83.47	356.7	12	35	4	23	7	15		

PAVIA	83.86	355.8	12 37A	4	23 9	13		17 44 PPP
BOLOGNA	84.42	354.2	12 44	8	23 5	3		23 54 PS
SOFIA	84.87	345.3	12 28	-10	22 39	-27		
PRATO	85.06	354.3	12 41	2	22 59	-9		
FLORENCE X.	85.15	354.2	12 36A	-3				
MONACO	85.38	357.0	12 41	1				13 29
HYDERABAD	85.55	292.2	12 37	-4	23 31	18		18 19 PPP
CIUD. TRUJL.	85.87	65.7	13 0	17	22 52	-24		
DJAKARTA	86.37	255.6	12 41K	-4	23 19	-2		
ROME	86.93	353.1	12 48A	0	23 19	-7		29 21 SS
POONA	87.32	296.4	12 47	-3	23 32	2		23 25 SKS
BALBOA HTS.	87.54	78.9	12 51	0				
BOMBAY	87.60	297.4	12 49	-2	23 40	8		16 17 PP
BARCELONA	87.75	0.9			23 56	22		23 26
TARANTO	87.89	349.4	13 2	9	23 22	-13		28 0 SS
AUCKLAND	88.02	186.8			23 29	-7		
MADRAS	88.02	288.2	12 49	-4	23 40	4		16 46 PP
SAN JUAN	88.08	62.8	12 53A	-1				
COIMBRA	88.40	9.0			23 31	-9		25 6 PPS
GALERAZAMBA	88.74	74.4	13 10	13	23 58	15		42 17 L
KARAPIRO	89.01	186.1	12 55	-3	23 50	5		24 29
TOLEDO	89.07	5.6	12 59	1	23 35	-11		41 57 L
RIVERVIEW	89.27	206.3	12 57A	-2	23 48	0		16 32 PP
LISBON	89.79	9.7	13 0A	-2	24 9	16		30 23 SS
TONGARIRO	90.28	186.0	13 0	-4				
MESSINA	90.33	350.4	13 0	-4	23 51	-6		23 33 SKS
REGGIO CALA.	90.41	350.3						14 2
KSARA	90.61	333.4	13 7	1	24 5	5		16 50 PP
ALICANTE	90.76	3.0	13 6	0	24 4	3		16 45 PP
GRANADA	91.78	5.5	13 18K	7	24 22	12		17 56 PP
KODAIKANAL	91.82	288.7	12 48	-23				22 48
ANTIGUA	91.93	59.7	13 10	-2				
ALMERIA	92.17	4.6	13 16	3	24 0	-14		25 23 PS
MALAGA	92.19	6.2	13 14A	1				16 32 PP
ALGIERS UNI.	92.40	0.2	13 11	-3				17 7 PP
WELLINGTON	92.40	186.4	13 15K	1	24 30	14		23 57 SKS
JERUSALEM	92.72	333.2	13 14	-1	23 56	-23		
COLOMBO	93.00	284.8	12 37	-40				24 12
CHINCHINA	93.07	78.3	13 21	4				24 33 SKKS
RELIZANE	93.38	2.2	13 17	-1	24 18	-6		16 57 PP
FORT FRANCE	93.79	61.0	13 21	1	24 33	5		
ST. LUCIA	94.45	61.3	13 25	2				
CHRISTCHURCH	94.81	187.8	13 32	7				24 10 SKS
MELBOURNE	94.82	209.5	13 24	-1				26 58
ST. VINCENT	95.00	62.0	13 28	2				
BARBADOS	95.96	60.7	13 39	9				
TRINIDAD	96.90	63.6	13 36	2				
PERTH	101.79	233.3	14 3	6				32 54 SS
TAMANRASSET	106.32	357.9	14 10	777	26 2	0		18 34 PP
HUANCAYO	106.41	88.8						18 51 PP
MBOUR	112.34	21.3			25 24	2		19 34 PP
LA PAZ	114.31	86.2						19 42 PP
RUMANGABO	125.67	327.3	19 7	3				21 4 PP
LWIRO	126.71	327.5	19 7	1				21 6 PP
ASTRIDA	126.71	326.3	19 7	1				21 11 PP
TANANARIVE	132.62	296.1	19 16A	-1				21 46 PP
PIETERMZBURG	150.44	306.5	19 52K	4				
KIMBERLEY	152.37	316.1	19 56	5				
HERMANUS	159.63	319.3						20 41

MARCH 11 9.H 58.M 44.S EPICENTRE 52.74-168.41 DEPTH= 0.KM

A=-0.59561 B=-0.12213 C= 0.79394 D=-0.2009 E= 0.9796
G=-0.7778 H=-0.1595 K=-0.6080 HT= -6.4

SE= 3.58

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
COLLEGE	16.06	32.9	3 55	6	6 57	9		
KLYUCHI	18.16	293.7	4 12A	-3				7 38 SS
SITKA	19.39	64.0	4 37A	7	8 9	5		
PETROPAVLOVK	19.77	284.3	4 40	5	7 42	-30		
MAGADAN	23.41	303.1	5 10A	-2				
HORSESHOE B.	28.21	78.5	6 3	6	10 54	12		9 13 PCP
VICTORIA	28.49	80.2	6 5A	6	10 51	5		13 22 L
SEATTLE	29.55	81.2	6 16	7	11 18	15		

CORVALLIS	30.46	87.2	6	23	6	11	31	13			
UGLEGORSK	30.94	283.4	6	17A	-4				13	1	SS
Y.-SAKHLINSK	31.53	279.4	6	20	-6	11	17	-18	7	17	PP
NEMURO	31.68	271.5	6	22A	-6	11	27	-10			
BANFF	32.02	71.2	6	33	2				9	20	PCP
ARCATA	32.07	93.7				11	51	8			
ABASHIRI	32.09	273.5	6	29	-2						
HONOLULU	32.38	161.8	6	31K	-3	11	46	-2			
KUSIRO	32.59	271.8	6	33	-3	11	38	-13			
TIKSI	32.72	328.6	6	35	-2				9	23	PCP
WAKKANAI	32.92	277.6	6	38	0	12	1	5			
SHASTA	33.22	92.0	6	42	2				13	4	
OBIHIRO	33.35	272.6	6	38	-4						
UKIAH	33.67	95.5	6	52K	7	12	19	11			
MINERAL	33.90	92.4	6	51A	4						
URAKAWA	34.05	271.8	6	44	-4	11	51	-23			
HUNGRY HORSE	34.14	75.1	6	52K	3	12	24	9			
SAPPORO	34.39	274.2	6	38	-13	11	29	-50	7	24	PP
TOMAKOMAI	34.56	273.3	6	53	0						
MURORAN	35.04	273.4	6	54	-3						
BERKELEY	35.05	96.4	7	1	4	12	33	4	7	18	
SUTTSU	35.22	274.6	6	44	-14	12	14	-18			
MORI	35.42	273.4	6	56	-4	12	28	-7	8	8	PP
RENO	35.48	92.0	7	8	7						
HAKODATE	35.51	272.8	6	52	-9						
SANTA CLARA	35.57	96.8	7	15A	14	12	47	10			
HATINOHE	35.76	270.5	6	54	-9	12	24	-16			
LICK	35.77	96.5	7	5	2				7	20	
RESOLUTE	35.78	25.8	7	3	0	12	40	-1	8	35	PP
MIYAKO	36.03	269.0	7	2	-3	12	15	-29			
AOMORI	36.04	271.5	7	4	-1	12	40	-5	8	26	PP
BUTTE	36.17	77.7	7	9K	3	12	54	7			
MORIOKA	36.49	269.7	7	7	-2	12	40	-11			
SASKATOON	36.64	69.5	7	15	5	12	52	-2			
MIZUSAWA	36.86	268.9	7	9	-3	12	50	-7			
AKITA	37.12	270.5	7	12A	-2	12	56	-5	9	34	PP
ISINOMAKI	37.19	267.9	7	9	-6	12	54	-8			
BOZEMAN	37.25	77.3	7	19A	4	13	7	4			
SENDAI	37.54	268.0	7	15	-3	12	59	-9			
EUREKA	37.85	89.0	7	23A	3	13	23	11			
YAMAGATA	37.89	268.5	7	5	-16	12	56	-17			
TINEMAHA	38.01	93.9	7	28	6	13	26	11			
HUKUSIMA	38.14	267.7	7	18	-5						
ONAHAMA	38.39	266.4	7	23	-2	13	14	-7			
WOODY	38.53	96.1	7	30	4	13	32	9			
SHIRAKAWA	38.69	267.2	7	25	-3	12	51	-34	8	41	PP
ISABELLA	38.79	95.8	7	32	4				7	45	
NIIGATA	38.89	269.1	7	26	-3						
MITO	39.03	266.1	7	29	-1	13	23	-7			
CHINA LAKE	39.21	94.9	7	37	5				7	51	
UTUNOMIYA	39.28	266.8	7	31	-1	13	20	-14			
KAKIOKA	39.30	266.1	7	30	-3	13	26	-8			
AIKAWA	39.31	269.9	7	30	-3						
TUKUBASAN	39.36	266.2	6	28	-65						
SALT LAKE C.	39.56	84.3	7	37A	2	13	37	-1			
KUMAGAYA	39.84	266.7	7	34	-3	13	21	-21			
MAEBASI	39.86	267.3	7	34K	-3	13	30	-13	8	59	PP
TAKADA	39.90	268.8	8	0	22						
TOKYO C.M.O.	39.93	265.9	7	31	-7	13	10	-34	8	53	PP
PASADENA	39.99	97.3	7	46	8	13	48	3	8	0	
VLADIVOSTOK	40.06	280.8	7	44A	5	13	40	-6			
TITIBU	40.13	266.8	7	38	-2	13	36	-11			
YOKOHAMA	40.15	265.7	7	38	-2	13	44	-3			
NAGANO	40.21	268.3	7	39	-1	13	45	-3	17	44	SCS
OIWAKE	40.23	267.6	7	29	-11				8	59	PP
MATUSIRO	40.28	268.1	7	25A	-16	13	41	-8	7	37	
MERA	40.39	264.9	7	38	-4	13	44	-7			
RIVERSIDE	40.58	96.8	7	47	4	14	19	26	8	0	
MATUMOTO	40.63	268.0	7	41	-3	13	48	-6	17	47	SCS
HUNATU	40.64	266.5	7	21	-23						
KOHU	40.68	266.8	7	42	-2	13	48	-7			
AJIRO	40.74	265.7	7	42	-3	13	49	-7			
OSIMA	40.76	265.1	7	38K	-7	13	47	-9	17	50	SCS
MISIMA	40.79	265.9	7	41K	-4	13	42	-15	17	48	SCS
BOULDER CITY	40.79	92.3	7	47A	2						
TOYAMA	40.80	269.1	7	41	-4	13	54	-3			
TAKAYAMA	41.13	268.5	7	44	-4						
IIDA	41.20	267.3	7	46	-2	13	54	-9	17	48	SCS

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SHIZUOKA	41.22	266.2	7	39	-9	13	57	-6		
PALOMAR	41.34	97.0	7	54	5				8	8
OMAESAKI	41.58	265.9	7	46	-5	14	4	-4		
HUKUI	41.80	269.2	7	50	-3	14	4	-8	17	54 SCS
HAYFIELD	41.83	95.5	7	54	1	14	17	5	8	9
BARRETT	41.92	97.6	7	55	1	14	24	11	8	16
GIHU	41.92	268.0	7	51	-3	14	2	-11	17	52 SCS
NAGOYA	41.95	267.6	7	52	-2				17	55 SCS
HIKONE	42.33	268.3	7	55	-3	13	42	-37		
KAMEYAMA	42.47	267.7	7	54	-5	14	16	-5	17	59 SCS
TU	42.52	267.5	8	0	1					
MAIZURU	42.67	269.1	7	56	-4	14	15	-9		
RAPID CITY	42.77	74.5	8	4K	3	14	30	4	9	53 PP
KYOTO	42.81	268.4	7	58	-3	14	19	-7		
NARA	42.98	268.0	8	3	0	14	8	-21		
TOYOOKA	43.02	269.7	8	0	-3	14	2	-28	18	1 SCS
OWASE	43.16	267.0	7	50	-14	14	21	-11	17	50 SCS
OSAKA	43.18	268.2	8	4	0	14	25	-7		
KOBE	43.37	268.5	8	2	-4	14	22	-13		
CHANGCHUN	43.54	285.9	8	3	-4				9	55 PP
SUMOTO	43.78	268.4	8	5	-4	14	30	-11		
SIOMISAKI	43.85	266.7	8	8A	-2	14	30	-12		
HIMEJI	43.97	269.0	8	7	-4	14	31	-12		
YONAGO	43.98	270.8	8	12	1	14	46	3		
TOKUSIMA	44.15	268.4	8	10	-2	14	38	-8	17	59 SCS
TAKAMATU	44.30	269.1	8	8	-6	14	35	-13		
HAMADA	45.11	271.2	8	17	-3	14	46	-14		
KOTI	45.14	268.7	8	18	-2	14	51	-9	18	17 SS
HIROSIMA	45.25	270.4	8	17K	-4	14	55	-7		
MATUYAMA	45.42	269.6	8	19	-4	15	0	-4	18	14 SS
TUCSON	45.75	93.0	8	26	1	15	16	7		
UWAZIMA	45.96	269.1	8	26	-1	15	0	-12		
SIMIDU	46.01	268.4	8	22	-5					
SIMONOSEKI	46.45	271.2	8	27K	-4	15	11	-8		
OOITA	46.52	269.9	8	32A	1					
HUKUOKA	47.01	271.2	8	32A	-3	15	8	-19		
ASOSAN	47.08	270.0	8	34	-2	14	58	-30		
SAGA	47.31	270.9	8	40	3					
KUMAMOTO	47.36	270.2	8	36	-2	15	23	-9		
MIYAZAKI	47.55	268.8	8	34	-5	15	26	-9		
NAGASAKI	47.92	270.8	8	41K	-1	15	35	-5		
KAGOSIMA	48.32	269.1	8	44	-1	15	42	-3		
TOMIE	48.67	271.5	8	46	-2	15	40	-10		
IRKUTSK	49.90	306.6	8	54A	-4	15	55	-13	10	14 PCP
LUBBOCK	50.29	84.7	9	3	2	16	20	7	18	55 SCS
CHIHUAHUA	51.20	92.5	9	7	0	16	27	2	18	59 SCS
PEKING	51.23	287.6	9	2A	-6	16	16	-10	11	1 PP
TATUNG	52.85	289.5	9	21	1					
KIRKLAND LA.	53.04	56.9	9	24A	3	16	58	7		
CHICAGO CGS.	53.16	67.3	9	24	2	16	38	-14	11	28 PP
FAYETTEVILLE	53.16	76.9	9	25	3	16	38	-14	19	10 SCS
FLORISSANT	53.57	71.8	9	27A	2	16	59	1	11	35 PP
ST. LOUIS 1	53.76	71.9	9	27K	0	17	0	0	11	36 PP
GUAM	53.96	241.4	9	22	-6					
ZO-SE	54.34	275.9	9	26A	-5	17	2	-6	11	30 PP
PAOTOW	54.38	292.1	9	30	-1					
SCORESBY SD.	54.73	13.1	9	33	-1	16	56	-18		
TAIYUAN	54.80	287.9	9	33	-1	17	13	-2		
TERRE HAUTE	54.81	69.3	9	36	2	17	16	1		
SCHEFFERVLLE	54.84	43.9	9	36	1				11	57 PP
MAZATLAN	55.02	97.4	9	28	-8	16	58	-19	25	46
NANKING	55.11	278.5	9	31	-6					
HAMILTON	56.41	61.3	9	56	10	17	42	6	10	26 PCP
LINFEN	56.59	287.1	9	47	0					
CINCINNATI	56.68	67.7	9	54	6	17	47	8		
CLEVELAND	56.72	63.8	9	50	2	17	42	2		
OTTAWA	57.09	57.0	9	51A	0	17	44	-1	12	4 PP
BUFFALO L.	57.31	60.9	9	53	1					
SHAWINIGAN	57.77	54.3	9	55A	-1	17	54	0	12	21 PP
YINCHUAN	57.94	292.6	9	57	0					
PITTSBURGH	58.30	63.7	10	1	2	18	8	7		
SEVEN FALLS	58.32	52.7	10	1	2	18	3	2	12	15 PP
TAIPEI	58.53	270.7	9	33	-28	17	23	-41		
ILAN	58.58	270.3	9	51	-10					
GUADALAJARA	58.77	96.7	10	18	15	18	16	9	22	24 SS
MORGANTOWN	58.87	64.4	10	5	2	18	12	4		
APATITY	58.92	350.4	10	4	0	18	7	-2	12	13 PP
PENNSYLVANIA	59.18	62.1	10	8	3	18	12	0	12	22 PP
HWALIEN	59.25	269.8	10	4	-2	18	24	11		

SIAN	59.40	287.3	10	7	0	18	12	-3	19	46	SCS
MANZANILLO	59.41	98.8				17	51	-24			
KIRUNA	59.57	356.1	10	6	-2	18	9	-8	10	56	PCP
TAICHUNG	59.69	270.7	10	6	-3						
AKUREYRI	59.75	13.7							14	10	
HSINKONG	60.05	269.3	10	10	-1	18	21	-3			
ALISHAN	60.09	270.1	10	13	1						
WUWEI	60.34	294.5	10	9	-4						
TAITUNG	60.45	269.2	10	12	-2						
REYKJAVIK	60.59	16.1	10	17	2						
CHANGYEH	60.76	296.7	10	18	2						
TAINAN	60.83	270.2	10	10	-7						
TAWU	60.90	269.1	10	13	-4	18	25	-9			
WASHINGTON	60.96	63.2	10	19A	1	18	47	12			
LANCHOW	61.01	292.3	10	19	1						
PALISADES	61.13	59.5	10	20A	1	18	36	-1	12	32	PP
PHILADELPHIA	61.23	61.1	10	20	1	18	36	-3	12	41	PP
HENGCHUN	61.26	269.0	10	15	-5	18	30	-9			
FORDHAM	61.26	59.6	10	20	0	18	45	6			
WESTON	61.47	56.8	10	22A	1	18	46	4			
YUMEN	61.68	300.0	10	20	-2						
VIK	61.73	15.1							19	22	
SINING	61.76	294.0	10	23	0						
SEMIPALATNSK	62.06	317.6	10	20	-5	18	38	-11			
TACUBAYA	62.24	94.2	10	31	5	18	57	6			
COLUMBIA	62.29	69.6	10	27K	0	18	51	-1			
HALIFAX	63.59	50.4	10	38	3						
SVERDLOVSK	63.63	332.4	10	34	-1	19	0	-9	12	58	PP
SKALSTUGAN	64.02	359.7	10	37	-1						
VERA CRUZ	64.25	91.9	10	54	15	19	18	1	29	18	
CANTON	64.98	275.6	10	38A	-6	19	18	-8	13	6	PP
HONG KONG	65.03	274.4	10	41A	-4	19	18	-8			
OAXACA	65.53	93.9	10	56	8	19	38	6			
BAGUIO CITY	65.61	265.1	10	43	-5	19	4	-29			
RABAUL	65.75	224.0	10	42	-7	19	28	-7	11	11	PCP
APIA	66.33	183.6	11	8	15	19	36	-6			
MANILA	66.79	263.6	10	53	-3	19	15	-33			
PULKOVO	66.83	349.8	10	55	-1				23	56	SS
MERIDA	66.88	85.5	10	57	1	19	48	-1	30	12	L
BERGEN	67.10	3.4	10	59	1	19	51	0	13	23	PP
UPPSALA	67.66	356.7	11	0K	-1	19	54	-4	11	29	PCP
COMITAN	68.94	90.7	11	7	-2	20	3	-10	28	3	L
MOSCOW	69.78	344.7	11	12	-2	20	17	-6	13	51	PP
ABERDEEN	69.88	7.9	11	17	2	20	29	4	24	56	SS
SUVA	71.51	193.2				20	36	-8	21	4	PS
COPENHAGEN	71.94	359.5	11	26	-1	20	44	-4	15	51	PPP
DURHAM	72.30	8.0	11	30	0	20	48	-5			
BERMUDA	72.48	59.5	11	34	3	20	58	3	14	13	PP
RATHFARNHAM	73.28	11.1	11	35	0	21	25	21			
TASHKENT	73.89	318.5	11	35	-4	20	57	-14	11	53	PCP
HAMBURG	74.05	1.0	11	40	0	21	30	18	22	27	PPS
WITTEVEEN	74.73	3.1	11	46	2						
WARSAW	75.10	354.0	11	47	1	21	24	0	11	54	PCP
POTSDAM	75.24	359.1	11	42	-5	21	26	0			
DE BILT	75.39	4.1	11	49A	1	21	35	8	36	16	L
SHILLONG	75.63	293.2	11	43A	-6	21	14	-16	14	37	PP
KEW	75.68	7.7	11	50	1				14	43	PP
STALINABAD	76.45	317.3	11	49	-5	21	38	-1			
JENA	76.70	0.0	11	51	-4	21	43	1	14	51	PP
ZABRZE	77.15	355.3							16	24	
CHATRA	77.22	297.5	11	53	-5	21	37	-10			
KRAKOW	77.34	354.5	11	58	-1	21	48	-1	16	28	
RACIBORZ	77.40	355.6	12	0	1	21	36	-13	12	4	PCP
PRAGUE	77.54	358.1	12	0A	0	21	44	-7	12	16	
CHEB	77.55	359.5	12	0	0	21	51	0	13	7	
JERSEY	77.79	9.1				21	53	0			
NOUMEA	77.86	203.7	12	5	4	21	58	4			
SKALNATE PL.	78.19	354.2	12	7	4	21	57	-1	14	39	
PARIS	78.53	6.1	12	5	0	22	0	-1	15	5	PP
KARLSRUHE	78.59	2.1	12	6	1	22	0	-2	12	23	
STUTTGART	78.85	1.6	12	6	-1	22	5	0	12	26	PCP
STRASBOURG	79.00	2.6	12	8A	0	22	8	2	14	49	
TUBINGEN	79.08	1.7	12	8	0				12	39	
DEHRA DUN	79.12	306.2	12	3	-5	21	59	-9	15	0	PP
VIENNA-H.	79.30	356.7	12	9	0	22	6	-4	15	11	PP
BRATISLAVA	79.36	356.2	12	8	-2	22	11	1	22	35	
EBINGEN	79.43	1.8	12	10A	0				12	29	PCP
IASI	79.51	349.0	12	11	1	22	9	-3	22	23	

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HURBANOVO	79.61	355.5	12	12	1	22	17	4	15	9	
RAVENSBURG	79.84	1.3	12	15	3				18	0	
LAHORE	79.88	309.6	12	9	-3	22	14	-2			
BUDAPEST	79.95	354.9	12	12	-1				22	18	SKS
BASLE	80.05	2.8	12	16	3	22	30	13	39	16	L
BOKARO	80.36	298.0	12	14	-1	22	13	-8	15	8	PP
CIUD. TRUJL.	80.53	72.1	12	17	1	22	29	7			
NEUCHATEL	80.56	3.2	12	16	0				16	57	
SIMFEROPOL	80.78	344.0	12	15	-2	22	22	-3	23	8	PS
ASHKABAD	80.97	324.3	12	13	-5				15	15	PP
SZEGED	81.12	354.0	12	9	-10				32	37	SSS
TIMISOARA	81.54	353.2	12	16	-5	22	37	4	40	16	L
CLERMONT-FD.	81.60	6.0	12	22	1						
TIFLIS	81.63	335.5	12	21	-1	22	33	-1	22	55	SCS
CAMPULUNG	81.69	350.5	12	24	2	22	37	3			
ZAGREB	81.75	356.9	12	26	4	22	38	3			
OROPA	81.97	2.6	12	23	0	22	56	19			
TRIESTE	81.97	358.5	12	22	-1	22	36	-1	22	55	SCS
BALBOA HTS.	82.25	85.5	12	26	1						
BUCHAREST	82.42	349.6	12	27	1	22	41	-1			
PAVIA	82.44	1.7	12	25A	-1	22	54	12	28	44	SS
BELGRADE	82.52	353.7	12	28A	2	22	42	-1	14	32	
SAN JUAN	82.77	69.3	12	29K	1						
BOLOGNA	83.14	0.2	12	34A	5				22	52	SKS
GALERAZAMBA	83.41	81.0	12	45	14	22	30	-22	38	16	L
PRATO	83.76	0.4	12	34	1	22	56	1			
MONACO	83.84	3.0	12	34A	1				13	10	
FLORENCE X.	83.86	0.2	12	32A	-1						
QUETTA	84.38	314.3	12	33A	-3	23	0	-2	15	49	PP
ROME	85.73	359.3	12	42A	-1	23	7	-8	16	12	PP
COIMBRA	85.82	15.2	12	33	-10	22	55	-21	15	51	PP
BARCELONA	85.86	7.1	12	44	1	23	16	0			
ANTIGUA	86.67	66.2	12	46	-1						
BRISBANE	86.68	213.7	12	45	-2				23	11	SKS
TOLEDO	86.76	12.0	12	50	2	23	18	-7	15	58	PP
TARANTO	87.04	355.7	12	53	4				23	3	SKS
CHINCHINA	87.78	84.8	12	57	5	22	18	-76	23	41	SKS
FORT FRANCE	88.51	67.6	12	52	-4	23	46	5	13	32	
ALICANTE	88.68	9.5	12	58	1	23	38	-7	16	24	PP
ST. LUCIA	89.16	67.8	13	1	2						
MESSINA	89.37	356.9	12	59	-1	23	46	-3	16	32	PP
REGGIO CALA.	89.46	356.8	13	12	11	23	25	-25			
GRANADA	89.48	12.1	13	5K	4	23	47	-3	17	34	PP
ST. VINCENT	89.70	68.6	13	7	5						
MALAGA	89.83	12.8	13	2A	0	23	58	5	16	42	PP
ALMERIA	89.94	11.2	12	57	-6	23	34	-20	16	40	PP
AUCKLAND	90.43	193.4							23	34	SKS
ALGIERS UNI.	90.55	6.8	13	5	-1	24	8	8	16	43	PP
BARBADOS	90.68	67.3	13	32	26						
POONA	91.01	302.9	13	6	-2				23	39	SKS
BOMBAY	91.23	303.9	13	5	-4	23	55	-11	16	42	PP
KSARA	91.23	340.0	13	13K	4	24	9	3	16	52	PP
RELIZANE	91.35	9.0	13	10	1	24	4	-3	16	5	
KARAPIRO	91.36	192.6	13	7	-2	24	6	-1			
TRINIDAD	91.58	70.2	13	9	-1						
DJAKARTA	91.70	262.1	13	8	-3	23	42	-28			
TUAI	92.03	191.2				23	52	-21			
MADRAS	92.23	294.8	13	11	-2	23	41	-34	16	52	PP
TONGARIRO	92.62	192.4	13	12	-3				13	27	
RIVERVIEW	93.14	212.7	13	17	0	24	22	-1	17	7	PP
JERUSALEM	93.34	340.0	14	14	56				24	42	SKS
WELLINGTON	94.77	192.6	13	22	-3	24	32	-5	17	14	PP
KODAIKANAL	96.00	295.4	13	35	4	24	23	-24			
CHRISTCHURCH	97.28	193.8	13	36	0	24	55	-3	17	41	PP
COLOMBO	97.39	291.5	13	36	-1	24	16	-43			
MELBOURNE	98.87	215.6	13	45	1	25	13	2	17	55	PP
HUANCAYO	101.34	94.9				24	34	-58	18	25	PP
TAMANRASSET	104.62	5.8	14	11	2				24	51	SKS
PERTH	106.91	239.5	14	19	777	25	8	0	18	42	PP
MBOUR	108.76	29.3	14	31	777				25	9	SKS
LA PAZ	109.16	92.2	18	13	777	25	9	0	19	11	PP
LOME	120.71	12.0				26	1	8	20	24	PP
RUMANGABO	126.67	337.7	19	2K	-4				19	11	
LWIRO	127.68	338.1	19	10K	2				22	30	
ASTRIDA	127.80	336.8	16	3	-185						
UVIRA	128.80	337.3	19	0	-10				19	10	
TANANARIVE	136.20	306.6	19	24A	0				22	6	PP
PRETORIA	150.29	328.7	19	50	2						

KIMBERLEY	154.12	332.7	19	55A	1					
GRAHAMSTOWN	157.80	325.1	20	2	3					
HERMANUS	160.89	340.4	20	10	8	26	58	-8	20	49 PKP2

MARCH 11 12.H 9.M 12.S EPICENTRE 1.99 97.06 DEPTH= 0.KM

A=-0.12280 B= 0.99183 C= 0.03454 D= 0.9924 E= 0.1229
G=-0.0042 H= 0.0343 K=-0.9994 HT= 7.2

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	
DJAKARTA	12.69	129.8	3	4	0	6	5	38					
COLOMBO	17.81	286.4									9	24	
MADRAS	19.97	304.0	4	41	5	8	19	3			4	57	PP
SHILLONG	23.97	348.4	5	14A	-2	9	30	-1					
BOKARO	24.29	334.2	4	19	-60						9	40	
HONG KONG	26.15	38.2	5	37A	0	10	23	15					
CANTON	26.21	35.6	5	37A	-1								
CHATRA	26.46	339.9	5	40	0	10	22	9					
MANILA	26.73	60.8	5	41	-1	10	11	-6					
POONA	28.07	307.4	5	56	1								
BOMBAY	29.09	306.9	6	6	2	10	56	0					
HENGCHUN	30.44	47.4	4	24	-112								
DEHRA DUN	33.45	329.3	6	42	0	12	2	-2			13	23	SS
WUWEI	36.13	7.5	7	6	1								
NANKING	36.24	32.1	7	5	-1								
LAHORE	36.39	326.2	7	6	-1								
ZO-SE	36.85	35.8	7	12	1								
YINCHUAN	37.27	12.0	7	18	3								
YUMEN	38.13	360.0	7	22	0								
QUETTA	40.01	317.5	7	38	0	13	46	2					
TATUNG	40.69	19.2	7	50	7								
PEKING	41.65	22.2	7	52A	1								
NAMANGAN	45.08	332.7	8	20	1								
FRUNSE	45.39	336.7	8	22	0								
CHANGCHUN	48.63	27.2	8	46	-1								
SEMIPALATNSK	50.30	346.1	8	58	-2								
MATUSIRO	51.22	42.8	9	6K	-1								
TOKYO C.M.O.	51.82	44.6									11	27	PP
TANANARIVE	52.90	244.5	9	18A	-2								
RABAUL	55.42	96.4	9	36	-2	17	24	2			10	43	
MELBOURNE	59.38	136.9	10	7	1								
BRISBANE	61.25	122.9	10	18	-1	18	38	0					
RIVERVIEW	62.05	130.2	10	23A	-1	18	50	2			19	2	PS
JERUSALEM	65.18	304.2	11	42	57						16	12	PP
ASTRIDA	67.46	266.4	10	59	0								
RUMANGABO	67.80	267.8	11	2	1								
UVIRA	68.12	265.5	11	4	1								
LWIRO	68.37	266.8	11	5	0								
MOSCOW	71.58	329.1	11	23	-2								
IASI	74.69	318.5	11	43	0								
KIMBERLEY	75.49	239.8	11	46A	-1								
PULKOVO	76.73	331.5	11	53	-1								
BELGRADE	79.11	315.2	12	8K	1								
KAIMATA	79.87	133.7	12	29	17								
WARSAW	79.89	322.7	12	19	7								
KRAKOW	80.22	320.4	12	12	-1						12	18	PCP
COBB RIVER	80.54	132.0	12	18	3								
GEBBIES PASS	80.99	134.7	12	24	6								
RACIBORZ	81.32	320.3	12	20	1						12	31	PCP
BRATISLAVA	81.82	318.2	12	19	-3								
MESSINA	82.09	308.1	12	22	-1						12	47	
KARAPIRO	82.14	128.5	11	48	-35								
TONGARIRO	82.33	129.8	12	24	0								
UPPSALA	82.97	330.0	12	27A	-1								
KIRUNA	83.13	338.2	12	28A	-1	22	45	-3					
PRAGUE	83.74	320.0	12	34	2						15	52	PP
TRIESTE	83.90	315.5	12	24	-9								
ROME	84.64	311.7	12	38	2								
JENA	85.61	320.7	12	39	-2								
SKALSTUGAN	85.90	333.5	12	42A	-1								
HAMBURG	86.67	323.4	12	41	-5						12	59	PCP
STUTTGART	87.10	318.5	12	48	0								
EBINGEN	87.25	318.0	12	45	-4						16	17	PP
STRASBOURG	88.05	318.4	13	0	7								

NEUCHATEL	88.63	316.8	12 55	-1		
WITTEVEEN	88.66	322.6	12 56	0		
TAMANRASSET	90.66	292.7	13 6A	1		16 37 PP
CLERMONT-FD.	91.34	315.7	13 8	0		
PARIS	91.53	318.8	13 5	-4		
ALGIERS UNI.	92.03	306.7	13 12	0		
ABERDEEN	93.31	327.4				13 48
COLLEGE	98.62	23.0				17 25 PP
RESOLUTE	103.10	3.2	14 0	-2		
SCHEFFERVLLE	121.81	349.0	18 56	0		30 32
HUNGRY HORSE	123.04	24.3	18 59	1		
BUTTE	125.49	25.0	19 5	2		20 50 PP
EUREKA	128.80	32.8	19 11	2		
TINEMAHA	129.19	36.6				20 17
WOODY	129.70	38.4	19 12	1		
ISABELLA	129.96	38.1	19 18	6		
KIRKLAND LA.	130.00	357.5	19 12	0		22 29 PKS
CHINA LAKE	130.39	37.4	19 13	1		19 41
RAPID CITY	130.68	19.2	19 14	1		
SHAWINIGAN	130.84	350.7	19 13K	0		21 33 PP
PASADENA	131.13	39.4	19 16	2		
RIVERSIDE	131.73	39.0	19 17	2		
PALOMAR	132.48	39.3	19 20	4		
BARRETT	133.03	39.8	19 20	3		
TUCSON	136.90	35.5	19 2	-22		
LUBBOCK	140.38	25.1	19 29	-2		
ANTIGUA	151.36	312.1	19 58	9		
TACUBAYA	153.41	36.2	20 13	21		
TRINIDAD	155.25	301.0	20 0	6		
LA PAZ	159.50	224.4	20 11	11		
HUANCAYO	167.48	216.7	20 11	4		

MARCH 11 14.H 55.M 19.S EPICENTRE 51.31-178.75 DEPTH= 0.KM

A=-0.62476 B=-0.01362 C= 0.78070 D=-0.0218 E= 0.9998
G=-0.7805 H=-0.0170 K=-0.6249 HT= -6.0

SE= 2.66

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	PP M S	SUPP. M S
KLYUCHI	12.98	299.8	3 11A	2				
PETROPAVLOVK	13.91	285.5	3 25A	4	6 9	12		
MAGADAN	18.87	307.1	4 27A	3				
COLLEGE	20.80	38.2	4 43A	-3	8 36	2		
NEMURO	25.28	265.2	5 30	0	9 57	-2		
Y.-SAKHLINSK	25.36	274.9	5 33A	2	9 59	4		
SITKA	25.60	60.4	5 34A	1	10 8	9	6 4	PP
ABASHIRI	25.73	267.7	5 34	0	10 4	2		
KUSIRO	26.19	265.6	5 39	1	10 10	1		
WAKKANAI	26.68	272.5	5 45	2	9 57	-20		
OBIHIRO	26.97	266.5	5 47	1				
URAKAWA	27.65	265.5	5 46	-6	10 27	-6		
SAPPORO	28.05	268.3	5 56	1	9 54	-45		
TOMAKOMAI	28.20	267.2	6 0	3				
MURORAN	28.68	267.3	6 1	0				
SUTTSU	28.89	268.8	6 6	3	10 45	-8	6 48	PP
MORI	29.06	267.3	6 2	-2	11 1	5	7 29	PP
HAKODATE	29.14	266.6	6 9	4				
HATINOHE	29.34	263.8	6 6	-1	10 58	-2		
MIYAKO	29.58	261.9	6 9	0	10 57	-7		
MORIOKA	30.05	262.7	6 10	-3				
MIZUSAWA	30.42	261.9	6 20	3	11 17	0		
TIKSI	30.53	330.4	6 18	0	11 23	4	7 30	PP
AKITA	30.70	263.7	6 19	0	11 19	-3		
ISINOMAKI	30.73	260.6	7 8	49	12 49	87		
SENDAI	31.09	260.8	6 23	1	11 30	2		
YAMAGATA	31.44	261.2	6 28	2	11 31	-2		
HUKUSIMA	31.68	260.4	6 29	1				
ONAHAMA	31.92	258.8	6 14	-16	11 35	-6		
SHIRAKAWA	32.23	259.7	6 29	-3	11 46	0		
NIIGATA	32.45	262.0	6 22	-12				
MITO	32.55	258.4	6 37	2				
UTUNOMIYA	32.81	259.2	6 37	-1	11 53	-2		
KAKIOKA	32.83	258.5	6 38	0	11 57	2		
AIKAWA	32.88	262.8	6 42	4				
TUKUBASAN	32.88	258.6	6 38	0				

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KUMAGAYA	33.37	259.2	6	45	3	11	55	-8		
MAEBASI	33.40	259.8	6	43	0	12	7	3	17	12 SCS
TOKYO C.M.O.	33.45	258.2	6	29	-14	11	56	-9		
TITIBU	33.66	259.2	6	48	3				17	11 SCS
YOKOHAMA	33.68	257.9	6	47	2					
NAGANO	33.76	261.0	6	47	1	12	12	3		
OIWAKE	33.76	260.2	6	45	-1				17	9 SCS
ALBERNI	33.81	72.1	6	45	-1					
MATUSIRO	33.82	260.8	6	46A	0	12	10	0	13	7
MERA	33.91	257.1	6	41	-6					
VLADIVOSTOK	33.92	275.5	6	48A	1					
HUNATU	34.17	258.9	7	8	19					
MATUMOTO	34.17	260.6	6	53	4				17	16 SCS
HONOLULU	34.19	144.2	6	49A	0	12	11	-5		
KOHU	34.21	259.2	6	53	3	12	20	4	17	14 SCS
AJIRO	34.26	257.9	7	9	19				17	17 SCS
OSIMA	34.28	257.3	6	51	1	12	20	3	17	12 SCS
MISIMA	34.31	258.2	6	50	-1	12	7	-11	17	13 SCS
TOYAMA	34.36	261.9	6	27	-24					
HORSESHOE B.	34.68	71.2	6	53	-1	10	54	-90	9	28 PCP
IIDA	34.73	259.8	6	57	3					
SHIZUOKA	34.75	258.5	6	56	2	12	30	5		
VICTORIA	34.97	72.6	6	55	-1	12	27	-1		
OMAESAKI	35.10	258.2	6	57	0	12	33	3		
SUIHWA	35.19	283.9	7	0	2					
GIHU	35.46	260.6	7	1	1	12	38	2	17	21 SCS
NAGOYA	35.49	260.1	7	4	3					
HIKONE	35.87	260.9	7	4	0	12	33	-9		
KAMEYAMA	36.01	260.2	7	5	0	12	45	1		
KYOTO	36.35	261.1	7	9	1	12	53	3		
NARA	36.52	260.6	7	15	6					
TOYOOKA	36.58	262.5	7	14	4					
OWASE	36.70	259.5	7	3	-8					
OSAKA	36.72	260.8	7	14	3	12	48	-7		
KOBE	36.92	261.1	7	11	-2	12	54	-4		
CORVALLIS	36.93	78.4	7	16K	3	12	59	1		
SUMOTO	37.32	261.0	7	15	-1	13	4	0		
SIOMISAKI	37.38	259.1	7	16	-1	13	6	1		
HIMEJI	37.52	261.6	7	22	4					
CHANGCHUN	37.62	280.8	7	18	-1	13	7	-2	8	46 PP
TAKAMATU	37.85	261.7	7	21	0	13	11	-1		
BANFF	38.38	64.8	7	23	-2					
ARCATA	38.47	84.0	7	42	16	13	22	0		
KOTI	38.69	261.3	7	31	3	13	29	4	8	57 PP
HAMADA	38.70	264.2	7	32	4	13	23	-2		
HIROSIMA	38.83	263.2	7	24	-5	13	24	-3		
UWAZIMA	39.51	261.8	7	38	4					
SIMIDU	39.56	260.9	7	19	-16					
RESOLUTE	39.61	24.5	7	34A	-1	13	27	-12	9	11 PP
SHASTA	39.62	83.1	7	34	-1					
UKIAH	40.02	85.6	7	43K	4	13	45	0	9	22 PP
SIMONOSEKI	40.03	264.0	7	29	-10	13	48	3		
OOITA	40.09	262.6	7	45K	6	13	47	1		
MINERAL	40.31	83.0	7	39A	-2					
HUNGRY HORSE	40.57	68.0	7	43A	0				10	26
HUKUOKA	40.60	264.0	7	44	1	13	56	2		
ASOSAN	40.65	262.7	7	46	2	14	8	13		
KUMAMOTO	40.93	262.9	7	50	4	14	2	3		
BERKELEY	41.39	86.5	7	47	-3	14	2	-4	9	35 PP
NAGASAKI	41.50	263.5	7	53	2	14	17	10		
KAGOSIMA	41.88	261.7	7	54	0	13	47	-26		
RENO	41.90	82.7	7	54	0	14	6	-7		
SANTA CLARA	41.90	86.8	7	57K	3	14	12	-1		
LICK	42.10	86.6	7	54A	-2					
BUTTE	42.62	70.3	7	58A	-2	14	19	-5	9	53 PCP
SASKATOON	42.86	59.6	8	2	0	14	28	1		
FRESNO	43.61	85.9	8	7	-1					
BOZEMAN	43.71	69.9	8	8A	-1	14	36	-4		
EUREKA	44.31	80.2	8	12A	-2					
TINEMAHA	44.40	84.5	8	14A	0	14	51	1	8	29
WOODY	44.87	86.4	8	16A	-2	14	54	-2		
ISABELLA	45.14	86.2	8	18A	-2	14	57	-3	8	29
IRKUTSK	45.35	302.7	8	22A	0	14	58	-5	9	54 PCP
PEKING	45.39	282.0	8	22K	0	15	0	-4	10	3 PCP
CHINA LAKE	45.58	85.3	8	22A	-2	15	0	-7	8	31
KWANTING	45.61	282.6	8	28	4					
SALT LAKE C.	45.05	76.0	8	26A	-2	15	13	0		
PASADENA	46.31	87.5	8	28	-2	15	14	-3	10	28 PP
RIVERSIDE	46.91	87.1	8	32A	-2	15	22	-4		

TATUNG	47.10	283.9	8	40	4					
BOULDER CITY	47.20	83.2	8	35A	-2					
PALOMAR	47.65	87.4	8	39A	-1	15	36	0	9	12
ZO-SE	48.03	269.0	8	42	-1	15	41	0	10	36 PP
HAYFIELD	48.18	86.1	8	43	-1	15	38	-6	8	54
BARRETT	48.22	87.9	8	42	-3	15	44	0	8	57
PAOTOW	48.77	286.5	8	50	1					
NANKING	48.87	271.8	8	47	-3					
TAIYUAN	48.96	282.0	8	56	6					
RAPID CITY	49.19	67.2	8	51K	-1	15	54	-4	10	52 PP
BOULDER	50.44	72.7	9	1	-1					
TAIPEI	52.10	263.2	9	14	0					
TUCSON	52.15	84.0	9	13K	-2	16	34	-5		
HWALIEN	52.81	262.2	9	25	5					
SIAN	53.52	281.0	9	26	1	16	56	-1		
HSINKONG	53.61	261.6	9	29	3	17	5	7		
ALISHAN	53.65	262.5	9	33	7					
TAINAN	54.39	262.5	9	34	3					
TAWU	54.45	261.4	9	34	2					
HENGCHUN	54.81	261.3	9	32	-2					
WUWEI	54.87	288.6	9	35	0					
LANCHOW	55.39	286.1	9	41	2					
CHANGYEH	55.42	290.8	9	44	5					
SINING	56.25	288.0	9	45	0					
YUMEN	56.56	294.2	9	48	1					
LUBBOCK	56.77	76.4	9	47	-2	17	39	-2	19	37
SCORESBY SD.	57.17	9.1	9	49	-2	17	48	2	13	24 PPP
SEMIPALATNSK	58.43	312.5	9	57	-3	18	3	0	10	41 PCP
CANTON	58.66	268.2	10	1A	-1	18	4	-2	13	39 PPP
HONG KONG	58.67	266.9	10	1A	-1	18	9	3		
APATITY	58.82	346.2	10	1	-2	18	5	-3	12	13 PP
KIRKLAND LA.	58.90	50.6	10	2	-2					
BAGUIO CITY	59.13	257.1	10	4	-1	18	11	-1		
CHICAGO CGS.	59.42	60.3	10	3A	-4	18	11	-4	19	43 SCS
FAYETTEVILLE	59.61	69.2	10	6A	-2	18	3	-15	36	14 L
FLORISSANT	59.94	64.5	10	9A	-2	18	19	-3	12	17 PP
SCHEFFERVLLE	59.95	38.3	10	9K	-2					
KIRUNA	60.11	351.7	10	10A	-2	18	19	-5	10	56 PP
ST. LOUIS 1	60.12	64.5	10	8K	-4	18	18	-7	19	58 SCS
MANILA	60.31	255.4	10	13	0	18	23	-4		
RABAUL	60.80	213.7	10	11	-6	18	31	-2	12	13 PP
TERRE HAUTE	61.12	62.1	10	11	-8	18	26	-11		
MAZATLAN	61.32	88.3				18	1	-39		
SVERDLOVSK	61.50	327.4	10	22	1	18	45	3	11	4 PCP
HAMILTON	62.46	54.5	10	35K	7	18	59	5	11	14 PCP
CINCINNATI	62.94	60.5	10	35	4	18	48	-12		
OTTAWA	62.95	50.4	10	27A	-4	18	55	-5	20	15 SCS
BUFFALO L.	63.34	54.1	10	31	-3					
SHAWINIGAN	63.50	47.8	10	32A	-3					
SEVEN FALLS	63.96	46.3	10	37	-1	19	1	-12	13	2 PP
PITTSBURGH	64.44	56.7	10	39	-2	19	11	-8		
SKALSTUGAN	64.92	354.6	10	41A	-3				11	13 PCP
MORGANTOWN	65.03	57.3	10	43K	-2	19	26	0		
GUADALAJARA	65.09	87.8	10	47	2	19	27	0	20	43 SCS
PENNSYLVANIA	65.25	55.2	10	46	0	19	27	-2		
APIA	65.32	172.5	10	56	10	19	29	-1		
FRUNSE	66.57	309.9	10	54A	0	19	42	-3	11	27 PCP
PULKOVO	66.61	344.5	10	53	-2	19	43	-3	13	21 PP
PALISADES	67.10	52.6	10	56A	-2	19	49	-2	21	19 SCS
FORDHAM	67.23	52.7	10	56	-3	19	50	-3		
WESTON	67.32	50.0	10	57K	-2	19	48	-6		
UPPSALA	68.21	351.2	11	3A	-2	20	1	-4	11	29 PCP
BERGEN	68.39	357.8	11	6	0	20	5	-2	13	35 PP
COLUMBIA	68.61	62.2	11	6A	-1	20	0	-9		
TACUBAYA	68.61	85.5	11	4	-3	19	59	-11		
MOSCOW	68.95	338.9	11	8	-1	20	12	-2	13	48 PP
HALIFAX	69.10	43.8	11	9A	-1					
SHILLONG	70.05	286.1	11	14A	-2	20	20	-7	13	48 PP
TASHKENT	70.28	312.1	11	16	-1	20	29	0	13	50 PP
VERA CRUZ	70.67	83.3	11	17	-3	20	5	-29		
ABERDEEN	71.65	1.9	11	24	-2	20	43	-2	14	9 PP
CHATRA	71.90	290.3	11	26	-1	20	52	4		
OAXACA	71.91	85.3	11	29	2	20	47	-1		
STALINABAD	72.71	310.6	11	33	1	20	58	1		
COPENHAGEN	72.77	353.4	11	32	0	20	59	1	14	16 PP
EDINBURGH	72.87	2.6				20	52	-7		
MERIDA	73.36	77.3	11	35K	-1	20	58	-7		
DURHAM	74.06	1.7	11	42	2	21	11	-1		

DEHRA DUN	74.41	299.1	11	41	-1	21	10	-6	14 30 PP
NOUMEA	74.63	194.2	11	46	3	21	33	14	
BOKARO	74.97	289.3	11	46	1	21	22	-1	14 28 PP
HAMBURG	75.03	354.6	11	45	-1	21	12	-11	22 14 PPS
WARSAW	75.29	347.6	11	49	2	21	10	-16	21 59 PS
RATHFARNHAM	75.37	4.7	11	46K	-1	21	32	5	
LAHORE	75.45	302.4	11	47	-1				
WITTEVEEN	75.94	356.6	11	51	0				
POTSDAM	76.00	352.6	11	54	3	21	33	-1	14 43 PP
NEW DELHI	76.22	298.5	11	53	1	21	32	-4	14 46 PP
DE BILT	76.71	357.5	11	55A	0	21	43	1	26 41 SS
KEW	77.39	1.0	11	59	0	21	50	1	22 47 PPS
BYTOM	77.41	348.5				21	40	-9	
ZABRZE	77.47	348.6				21	44	-6	
JENA	77.56	353.3	11	59	-1	22	2	11	14 53
KRAKOW	77.57	347.8	11	59	-1	21	47	-4	16 35 PPP
RACIBORZ	77.76	348.9	12	2	1				22 53 PPS
PRAGUE	78.18	351.4	12	2A	-1	21	51	-7	14 57 PP
CHEB	78.34	352.7	12	2	-2	21	52	-7	
SKALNATE PL.	78.38	347.4	12	7	3	21	58	-2	15 18 PP
BERMUDA	78.44	52.1	12	3	-2	21	53	-7	
IASI	79.10	342.1	12	10	2	22	12	5	
JERSEY	79.65	2.2				22	12	-1	12 54
KARLSRUHE	79.67	355.2	12	12A	1	22	15	2	15 13 PP
TIFLIS	79.72	328.4	12	12	0	22	14	0	15 6 PP
BRATISLAVA	79.77	349.3	12	9	-3	22	24	10	15 14 PP
VIENNA-H.	79.78	349.8	12	13	1	22	14	-1	15 12 PP
SIMFEROPOL	79.81	336.9	12	11	-1	22	15	0	15 15 PP
BACAU	79.83	342.3	12	14	2	22	14	-1	
STUTTGART	79.87	354.7	12	12	0	22	14	-1	15 15 PP
HURBANOVO	79.94	348.5	12	16	3	22	18	2	15 19 PP
PARIS	80.05	359.2	12	13A	0	22	15	-2	15 19 PP
TUBINGEN	80.11	354.7	12	14	0				
STRASBOURG	80.13	355.6	12	13A	-1	22	19	1	15 16 PP
BUDAPEST	80.21	347.8	12	16	2	22	16	-3	22 24 SKS
QUETTA	80.34	306.8	12	16A	1	22	23	3	15 21 PP
EBINGEN	80.47	354.8	12	15A	-1				
FOCSANI	80.61	341.9	12	24	8	22	28	5	
RAVENSBURG	80.83	354.3	12	24	7	22	25	0	
KALOCSA	81.15	347.7							12 23 PCP
BASLE	81.19	355.7	12	19A	0	22	20	-9	
SZEGED	81.27	346.9	12	23	3				15 20 PP
CAMPULUNG	81.43	343.3	12	26	5	21	45	-47	
TIMISOARA	81.60	346.0	12	25	4	22	44	11	
NEUCHATEL	81.75	356.1	12	22	0	22	35	0	15 47
BUCHAREST	82.06	342.3	12	26	2	22	38	0	
ZAGREB	82.22	349.7	12	24	-1	22	51	11	22 8
BRISBANE	82.48	205.1	12	25	-1				22 43
TRIESTE	82.62	351.2	12	25A	-2	22	40	-4	23 4 SCS
BELGRADE	82.62	346.3	12	25	-2	22	49	5	23 52 PS
OROPA	83.07	355.3	12	19	-10	22	48	-1	
CLERMONT-FD.	83.09	358.7	12	30	1				
PAVIA	83.45	354.4	12	32A	1	22	42	-10	15 59 PP
BOLOGNA	83.97	352.8	12	40	6	22	57	0	
SOFIA	84.23	343.8	12	37	2	22	56	-4	
HYDERABAD	84.25	290.7	12	35	0	22	54	-6	15 54 PP
PRATO	84.61	352.9	12	37	0	22	55	-9	
FLORENCE X.	84.69	352.7	12	37A	0				
MONACO	84.99	355.5	12	40	1				13 3
DJAKARTA	85.22	254.0	12	22	-18	23	1	-9	
POONA	86.03	294.8	12	45	1	23	17	-1	
BOMBAY	86.31	295.8	12	44	-1	23	7	-13	16 7 PP
ROME	86.45	351.6	12	47A	1	23	22	0	16 19 PP
MADRAS	86.70	286.6	12	47	0	23	12	-12	16 10 PP
CIUD. TRUJL.	86.90	64.1	12	50	2	23	29	3	
TARANTO	87.34	347.8	13	8	18				23 28 SKS
BARCELONA	87.44	359.3	13	1	10	23	31	0	
AUCKLAND	88.19	185.2				23	36	-2	23 17 SKS
COIMBRA	88.28	7.4				23	53	14	23 37 SKS
BALBOA HTS.	88.73	77.3	12	56	-1				
TOLEDO	88.87	4.1	12	59	1	23	26	-18	16 18 PP
RIVERVIEW	89.00	204.7	12	57	-1	23	46	0	23 26 SKS
SAN JUAN	89.06	61.2	12	58A	-1	23	21	-25	
KARAPIRO	89.20	184.5	12	57	-2	23	46	-2	23 22 SKS
LISBON	89.68	8.1	13	1A	-1	23	31	-21	
KSARA	89.75	331.8	13	4K	2	24	0	7	16 38 PP
MESSINA	89.79	348.8	12	59	-3	23	51	-2	16 34 PP
REGGIO CALA.	89.88	348.7	12	50	-12				23 53

GALERAZAMBA	89.89	72.8	13	10	7	23	57	3	23	34	SKS
TONGARIRO	90.47	184.4	13	1	-4	--			13	16	
ALICANTE	90.50	1.4	13	3	-2	23	56	-3	16	38	PP
KODAIKANAL	90.50	287.1	13	9	4	23	36	-23			
GRANADA	91.58	3.9	13	17	7	24	12	3	17	13	PP
COLOMBO	91.68	283.2	13	14	3				23	42	
JERUSALEM	91.85	331.6	13	9	-3						
ALMERIA	91.95	3.0	13	6	-6	23	42	-30	16	50	PP
MALAGA	92.00	4.5	13	12A	0						
ALGIERS UNI.	92.08	358.6	13	12	-1	23	41	-32	16	58	PP
COBB RIVER	92.51	186.4	13	15	0	24	8	-9			
WELLINGTON	92.59	184.9	13	19	4	24	7	-11	23	39	SKS
ANTIGUA	92.87	58.1	13	14	-2						
CHINCHINA	94.26	76.6	13	23	0	24	33	1	23	51	SKS
MELBOURNE	94.47	208.0	13	22	-2	24	36	2	23	54	SKS
FORT FRANCE	94.75	59.4	13	21	-4	24	21	-15	23	53	
CHRISTCHURCH	94.96	186.3	13	29	3	24	31	-7	23	55	SKS
ST. LUCIA	95.41	59.6	13	27	-1						
BOGOTA	95.47	75.6	13	34	6	24	52	9	23	56	SKS
ST. VINCENT	95.98	60.3	13	30	-1						
BARBADOS	96.92	59.0	13	38	3						
TRINIDAD	97.90	61.9	13	37	-2						
PERTH	100.96	231.9	13	54	1				18	2	PP
TAMANRASSET	105.94	355.9	14	16	777	24	53	-69	18	37	PP
HUANCAYO	107.69	87.1				25	1	3	19	17	PP
MBOUR	112.49	19.1	18	37	-1	25	45	22	14	44	P
LA PAZ	115.56	84.4	18	57	12	25	31	-3	19	53	PP
LOME	122.60	0.0				26	0	1			
RUMANGABO	124.69	325.1	19	3A	1						
ASTRIDA	125.73	324.1	19	4	0				20	58	PP
LWIRO	125.74	325.3	19	5A	1				20	59	PP
TANANARIVE	131.32	294.3	19	18A	3				22	44	PKS
PRETORIA	147.12	311.2							19	46	PKP2
PIETERMZBURG	149.22	304.0	19	55	8						
KIMBERLEY	151.24	313.2	19	51	1						
GRAHAMSTOWN	154.13	304.8	19	57	3						
HERMANUS	158.53	315.8	19	59	-1				34	21	SKKS

MARCH 11 15.H 35.M 54.S EPICENTRE 51.26-178.92 DEPTH= 0.KM

A=-0.62827 B=-0.01181 C= 0.77791 D=-0.0188 E= 0.9998
G=-0.7778 H=-0.0146 K=-0.6284 HT= -5.9

SE= 1.92

	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
COLLEGE	21.06	37.9	4	48	0	8	34	-4				
SITKA	25.82	59.9	5	51	17						6	43 PP
MATUSIRO	33.68	261.0	6	45A	1						10	13
ALBERNI	33.99	71.6	6	48	1							
HONOLULU	34.04	143.7	6	46	-1							
HORSESHOE B.	34.86	70.7	6	56	2							
VICTORIA	35.15	72.2	6	58	1							
SEATTLE	36.21	72.9	7	9K	3	12	52	6				
KYOTO	36.21	261.3	7	9	3							
CORVALLIS	37.09	78.0	7	15A	2	13	2	2				
UKIAH	40.15	85.2	7	41	2							
BUTTE	42.81	69.9	8	1	0							
BOZEMAN	43.90	69.5	8	10	0							
EUREKA	44.46	79.8	8	14	0							
BOULDER CITY	47.34	82.8	8	38	1							
HAYFIELD	48.31	85.7	8	45	0							
BARRETT	48.34	87.5	8	45	0							
PAOTOW	48.74	286.6	8	50	2							
NANKING	48.77	271.9	8	47	-1							
RAPID CITY	49.39	66.9	8	54	1							
BOULDER	50.62	72.4	9	3	1							
TUCSON	52.28	83.6	9	16	1							
HSINKONG	53.46	261.7	9	26	2	17	47	51				
ALISHAN	53.51	262.5	9	28	4							
LUBBOCK	56.93	76.1	9	49	0	17	42	0				
SCORESBY SD.	57.44	9.0	9	51	-1							
HONG KONG	58.55	266.9	10	0A	0							
BAGUIO CITY	58.97	257.1	10	0	-3	18	8	-1				
KIRKLAND LA.	59.15	50.4	10	4	0							
FAYETTEVILLE	59.81	68.9	10	8A	-1							

FLORISSANT	60.14	64.3	10	11	0	18	22	-2		
SCHEFFERVLLE	60.22	38.1	10	9A	-3				10	59
ST. LOUIS 1	60.33	64.3	10	11A	-2	18	23	-3	20	0 SCS
KIRUNA	60.35	351.7	10	11A	-2				14	56
RABAUL	60.53	213.6	10	11	-3				11	12
CINCINNATI	63.16	60.3	10	31	-1				20	21 SCS
OTTAWA	63.20	50.2	10	29A	-3				12	45 PP
REYKJAVIK	63.56	11.0	10	34	0					
BUFFALO L.	63.58	53.9	10	33	-1					
SHAWINIGAN	63.75	47.7	10	32A	-3					
SEVEN FALLS	64.22	46.1	10	36	-2					
PITTSBURGH	64.67	56.5							11	39
SKALSTUGAN	65.17	354.5	10	43A	-2				11	16 PCP
GUADALAJARA	65.20	87.5							18	16
MORGANTOWN	65.26	57.1	10	45K	0					
PALISADES	67.34	52.4	10	58	0					
WESTON	67.57	49.8	10	58A	-2					
UPPSALA	68.44	351.1	11	4A	-1					
CHAPEL HILL	68.48	59.3	11	6	0	20	8	1		
TACUBAYA	68.74	85.3	11	9	2	20	4	-6		
COLUMBIA	68.82	61.9	11	9	1					
HALIFAX	69.35	43.6	11	10	-1					
SHILLONG	70.02	286.1	11	12	-3					
COPENHAGEN	73.01	353.3	11	33A	0					
MERIDA	73.52	77.1	11	31K	-5					
DEHRA DUN	74.44	299.0	11	41	0					
HAMBURG	75.28	354.5	11	47A	1				12	PCP
LAHORE	75.50	302.4	11	46	-1					
RATHFARNHAM	75.63	4.6	11	47	-1					
WITTEVEEN	76.19	356.5	11	53	2					
KEW	77.64	0.9	11	59	0					
JENA	77.80	353.2	11	59	-1					
KRAKOW	77.80	347.7	12	0	0				12	17 PCP
RACIBORZ	77.99	348.8	12	1	0					
PRAGUE	78.41	351.3	12	4	0					
IASI	79.31	342.0	12	10	1	22	9	0		
BRATISLAVA	80.00	349.2	12	11	-1					
BACAU	80.04	342.2	12	19	7					
STUTTGART	80.11	354.6	12	12A	-1					
PARIS	80.30	359.1	12	14	0				12	24 PCP
TUBINGEN	80.36	354.6	12	13	-1					
STRASBOURG	80.38	355.5	12	14	0					
QUETTA	80.41	306.7	12	15A	1	22	21	1	15	18 PP
EBINGEN	80.71	354.7	12	15A	-1					
BASLE	81.43	355.5	12	20	0					
CAMPULUNG	81.65	343.2	12	27	6	22	40	7		
BESANCON	81.78	356.6	12	22	0					
NEUCHATEL	81.99	355.9	12	23	0					
BRISBANE	82.20	204.9	12	22	-2				12	37
BELGRADE	82.84	346.2	12	28K	1					
CLERMONT-FD.	83.34	358.6	12	30	0					
MONACO	85.23	355.4	12	39	0				12	56
POONA	86.03	294.7	12	44	1	23	15	-2		
CIUD. TRUJL.	87.11	64.0	12	53	5	23	28	1		
AUCKLAND	87.93	185.0							23	19 SKS
RIVERVIEW	88.72	204.5	12	57	1	23	49	7	23	28 SKS
BALBOA HTS.	88.89	77.2	12	57	0					
KARAPIRO	88.94	184.4	12	58	1	23	48	4	23	17 SKS
SAN JUAN	89.28	61.1	12	59	0					
KSARA	89.92	331.6	13	3	1					
MESSINA	90.02	348.6	13	0	-2					
TONGARIRO	90.21	184.3	13	2	-1					
COBB RIVER	92.25	186.3	13	15	2					
WELLINGTON	92.32	184.8	13	7	-6				13	37
ANTIGUA	93.10	58.0	13	15	-1					
MELBOURNE	94.19	207.9	13	23	1					
FORT FRANCE	94.98	59.2	13	27	2					
ST. LUCIA	95.64	59.5	13	28	0					
ST. VINCENT	96.20	60.2	13	31	0					
TRINIDAD	98.12	61.8	13	37	-2					
TAMANRASSET	106.18	355.7	14	16	777				18	32 PP
HUANCAYO	107.81	87.1							19	28 PP
MBOUR	112.77	19.0	19	9	31				19	55 PP
LWIRO	125.88	325.0	19	6	2				19	34
TANANARIVE	131.33	293.9	19	17	3				22	57 PKS
PRETORIA	147.20	310.7	19	47K	5					
PIETERMZBURG	149.27	303.4	19	47	1					
KIMBERLEY	151.34	312.6	19	53	4					
GRAHAMSTOWN	154.19	304.1	20	3	10					

MARCH 12 7.H 28.M 49.S EPICENTRE 52.04-173.38 DEPTH= 0.KM

A=-0.61359 B=-0.07122 C= 0.78640 D=-0.1153 E= 0.9933
G=-0.7812 H=-0.0907 K=-0.6177 HT= -6.2

SE= 2.92

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KLYUCHI	15.69	296.0	3 46K	2				
PETROPAVLOVK	16.99	284.8	4 0A	0				
COLLEGE	18.37	35.8	4 18	1	7 53	13		
MAGADAN	21.27	304.8	4 50A	0				
SITKA	22.42	62.0	5 4	3	9 11	7		
Y.-SAKHLINSK	28.62	277.4	5 59	-1				
NEMURO	28.64	268.7	5 59	-1	10 44	-4		
KUSIRO	29.55	269.1	6 8	0	10 58	-5		
WAKKANAI	29.98	275.3	7 22	70	11 7	-3		
OBIHIRO	30.33	269.9	6 23	8				
URAKAWA	31.01	269.0	6 33	12	11 14	-12		
HORSESHOE B.	31.33	74.6	6 28	4	11 35	4		
SAPPORO	31.39	271.6	6 17	-7	11 23	-9	7 49	PPP
VICTORIA	31.61	76.2	6 28	2	11 40	5		
TIKSI	31.75	329.4	6 28	0			9 15	PCP
MURORAN	32.03	270.7	6 32	2				
MORI	32.40	270.7	6 37	4	11 45	-3		
HAKODATE	32.49	270.1	6 42	8				
SEATTLE	32.67	77.0	6 42A	6	12 1	9		
HATINOHE	32.71	267.5	6 35	-1	11 49	-3		
HONOLULU	32.90	153.1	6 32	-6	11 53	-2		
MIYAKO	32.96	265.9	6 35	-3				
MORIOKA	33.42	266.6	6 44	2	11 55	-8		
CORVALLIS	33.55	82.6	6 47	4				
MIZUSAWA	33.79	265.8	6 43	-2	11 46	-23	7 4	
SENDAI	34.46	264.8	6 41	-10				
HUKUSIMA	35.05	264.5	6 53	-3				
BANFF	35.12	67.9	6 56A	-1				
SHIRAKAWA	35.61	263.9	6 51	-10	11 55	-42		
UTUNOMIYA	36.19	263.4	7 6	0				
KAKIOKA	36.20	262.7	7 3	-3				
SHASTA	36.25	87.6	7 4	-2				
UKIAH	36.67	90.3	7 13	3	12 58	4		
MAEBASI	36.77	263.9	7 9	-2				
TOKYO C.M.O.	36.83	262.4	7 16	5	12 55	-1		
MINERAL	36.94	87.5	7 14K	2				
TITIBU	37.04	263.4	7 14	1				
YOKOHAMA	37.05	262.2	7 15	2				
NAGANO	37.14	265.0	7 17	3				
OIWAKE	37.14	264.3	7 17	3				
VLADIVOSTOK	37.17	278.4	7 14A	0	12 57	-4		
MATUSIRO	37.20	264.9	7 11A	-3	12 58	-4	8 36	PP
MERA	37.28	261.4	7 25	10	13 41	38		
HUNATU	37.55	263.1	7 27	10				
MATUMOTO	37.55	264.7	7 15	-2				
KOHU	37.58	263.4	7 19	1	13 5	-3		
MISIMA	37.69	262.4	7 16	-2	13 7	-2		
RESOLUTE	37.73	25.2	7 19A	0	13 24	14	9 9	PP
BERKELEY	38.04	91.2	7 22K	1	13 16	1		
IIDA	38.11	263.9	7 21	-1	13 11	-5		
SHIZUOKA	38.12	262.8	7 24	2	12 14	-62		
RENO	38.53	87.2	7 27K	1	13 26	4		
SANTA CLARA	38.56	91.6	7 35K	9				
LICK	38.76	91.4	7 28A	1				
GIHU	38.84	264.7	7 45	17				
NAGOYA	38.87	264.2	7 32	4				
IBUKISAN	39.09	265.0	7 54	24				
HIKONE	39.25	265.0	7 32	0				
BUTTE	39.29	73.9	7 35	3	13 29	-4	17 41	SCS
KAMEYAMA	39.39	264.3	7 28	-5				
SASKATOON	39.69	62.5	7 37	2	13 40	0		
KYOTO	39.73	265.1	7 35	-1	13 43	3		
NARA	39.89	264.6	7 39	2	13 48	5		
OSAKA	40.10	264.9	7 48	9	13 53	7		
FRESNO	40.25	90.6	7 40K	0				
KOBE	40.29	265.2			13 46	-3		
BOZEMAN	40.37	73.5	7 41	0				
CHANGCHUN	40.77	283.6	7 42	-2				
YONAGO	40.93	267.6					13 4	

EUREKA	40.93	84.5	7 45	0			
TINEMAHA	41.04	89.0	7 44	-2	14 12	12	
TOKUSIMA	41.07	265.0	7 43	-4	14 14	14	
TAKAMATU	41.23	265.7	8 4	16	14 5	3	
WOODY	41.52	91.1	7 48K	-2			
ISABELLA	41.79	90.8	7 51	-1	14 10	-1	
KOTI	42.07	265.3	7 53	-2	14 12	-3	
HAMADA	42.07	268.0	7 55	0			
CHINA LAKE	42.22	90.0	7 53	-3	14 21	4	10 30
MATUYAMA	42.36	266.3	7 58	1	14 13	-6	
SALT LAKE C.	42.68	80.1	8 2	2	14 25	1	9 32 PP
PASADENA	42.97	92.3	8 2	0	14 28	0	
SIMONOSEKI	43.40	267.9	8 12	6	14 36	2	
OOITA	43.46	266.6	8 1K	-5	14 55	20	
RIVERSIDE	43.56	91.8	8 6	-1	14 34	-3	
BOULDER CITY	43.83	87.6	8 7	-2			
HUKUOKA	43.96	267.9			14 34	-9	
ASOSAN	44.02	266.7	8 5	-6	14 39	-4	
KUMAMOTO	44.30	266.9	8 9	-4			
PALOMAR	44.31	92.1	8 12	-1	14 51	3	10 23
MIYAZAKI	44.47	265.4	8 13	-1	14 35	-15	
HAYFIELD	44.83	90.7	8 15	-2	14 57	2	
NAGASAKI	44.87	267.5	8 16	-2	15 4	8	
BARRETT	44.88	92.6	8 16	-2	14 59	3	10 16
KAGOSIMA	45.25	265.7	8 23	2			
RAPID CITY	45.88	70.8	8 25	-1	15 10	0	
BOULDER	47.09	76.6	8 36	1			
IRKUTSK	47.84	304.8	8 40A	-1			19 31 SS
PEKING	48.51	285.0	8 45K	-1	15 41	-6	10 35 PP
TUCSON	48.78	88.4	8 46	-2			10 39 PP
TATUNG	50.18	286.9	9 1	2			
GUAM	50.99	236.7	8 57	-8			
ZO-SE	51.36	272.7	9 6A	-2	16 25	-2	11 1 PP
TAIYUAN	52.08	285.1	9 13	-1			
NANKING	52.17	275.4	9 11A	-3	16 36	-2	
LUBBOCK	53.39	80.5	9 24	1	16 59	4	
KIRKLAND LA.	55.94	53.8	9 41	-1			
SCORESBY SD.	56.06	11.2	9 41	-2	17 33	2	19 37 SCS
CHICAGO CGS.	56.22	63.8			17 12	-21	19 12 SCS
FAYETTEVILLE	56.29	73.0	9 45K	1	17 31	-3	9 58
SIAN	56.66	284.4	9 49	2			
FLORISSANT	56.67	68.2	9 47A	0	17 37	-2	
ST. LOUIS I	56.86	68.2	9 45K	-3	17 39	-2	
WUWEI	57.82	291.7	9 54	-1			
HAMILTON	59.40	57.9	10 11	5	18 15	0	19 56 SCS
CLEVELAND	59.74	60.4	10 9	0			
CINCINNATI	59.74	64.2	10 10	1	18 22	3	
OTTAWA	60.00	53.7	10 8A	-2	18 23	1	11 2 PCP
KIRUNA	60.01	354.0	10 9	-1	18 26	4	12 29 PP
BUFFALO L.	60.29	57.5	10 11	-1			
SEMIPALATNSK	60.47	315.1	10 11	-3	18 24	-4	
SHAWINIGAN	60.62	51.1	10 12A	-3			
SEVEN FALLS	61.13	49.6	10 18	0	18 34	-3	20 8 SCS
PITTSBURGH	61.32	60.3	10 20	1	18 44	5	
MORGANTOWN	61.90	60.9	10 22A	-1	18 48	1	
CANTON	61.99	272.2	10 21A	-3	18 49	1	22 53 SS
HONG KONG	62.02	270.9	10 23	-1			
PENNSYLVANIA	62.17	58.7	10 26	1	18 50	0	
BAGUIO CITY	62.51	261.4	10 23	-4	18 48	-6	
SVERDLOVSK	62.78	330.0	10 29	0	19 1	3	12 58 PP
RABAUL	63.20	219.2	10 27	-5			
MANILA	63.68	259.7	10 36	1	19 2	-7	
WASHINGTON	63.97	59.7	10 40	3			
PALISADES	64.08	56.1	10 36A	-2	19 13	-1	
PHILADELPHIA	64.20	57.7	10 42	3	19 16	1	
FORDHAM	64.21	56.2	10 37	-2	19 18	2	
WESTON	64.37	53.5	10 39K	-1	19 19	1	
SKALSTUGAN	64.64	357.2	10 40	-1			
CHAPEL HILL	65.07	63.2	10 44	0	19 32	6	
TACUBAYA	65.25	89.9	10 56	11	19 27	-1	
COLUMBIA	65.38	65.9	10 45	-1	19 27	-3	
APIA	65.58	178.3	10 46	-1			
HALIFAX	66.35	47.2	10 51	-1			
PULKOVO	66.92	347.2	10 54	-2	19 49	0	20 50 SCS
BERGEN	67.91	0.7			20 12	11	24 57
UPPSALA	68.11	354.0	11 1K	-3	20 10	7	39 9 PKPPKP
FRUNSE	68.73	313.0	11 5	-2	20 11	1	13 47 PP
MERIDA	69.98	81.5	11 21	6	20 22	-3	

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SUVA	70.25	188.3							20	24 PS
ABERDEEN	70.92	5.0				20	39	3	21	4 PS
TASHKENT	72.33	315.4	11	27	-2	20	51	-1	21	31 PS
COPENHAGEN	72.54	356.5	11	31A	1					
SHILLONG	73.06	289.8	11	30	-3	20	55	-6		
RATHFARNHAM	74.48	8.0	11	42	0	20	31	-45		
HAMBURG	74.73	357.9	11	44	1				11	59 PCP
CHATRA	74.79	294.0	11	44	1					
STALINABAD	74.82	314.1	11	42	-2	21	22	2		
WARSAW	75.40	350.9	11	47	0				21	44 SKS
BERMUDA	75.43	55.9	11	50	3	21	31	4	14	43 PP
WITTEVEEN	75.52	360.0	11	47	-1					
POTSDAM	75.81	355.9	11	51	2					
DE BILT	76.23	0.9	11	53	1	21	46	10	27	11 SS
KEW	76.70	4.5	11	52	-2	21	43	2	21	59 SKS
DEHRA DUN	77.00	302.7	11	55	-1	21	39	-5	14	46 PP
JENA	77.32	356.8	11	56	-2	21	50	2		
RACIBORZ	77.79	352.4	12	0	0				20	54
BOKARO	77.89	293.1	12	0	-1	21	54	0	14	56 PP
LAHORE	77.91	306.1	11	59	-2	21	53	-1		
PRAGUE	78.05	354.9	12	1	-1	21	59	3	27	20 SS
CHEB	78.14	356.2	12	1	-1	22	0	3		
SKALNATE PL.	78.49	350.9	12	0	-4				12	20
JERSEY	78.89	5.8				21	35	-29	10	41
PARIS	79.47	2.8				22	33	22	12	57
IASI	79.52	345.6	12	10	0				14	44
STUTTGART	79.55	358.3	12	9	-1	22	1	-10	12	25 PCP
ASHKABAD	79.68	320.9	12	8	-3	22	20	7	15	12 PP
STRASBOURG	79.76	359.2	12	11K	0	22	16	2	14	55
BRATISLAVA	79.77	352.9	12	13	2				12	52
EBINGEN	80.14	358.4	12	13	0				12	28 PCP
SIMFEROPOL	80.52	340.6	12	15	0	22	21	-1	15	21 PP
BASLE	80.81	359.3	12	16	-1					
TIFLIS	80.92	332.1	12	18	1	22	30	4		
ZURICH	80.96	358.7	12	17	0					
BESANCON	81.09	0.4	12	19	1					
NEUCHATEL	81.34	359.8	12	19	0	22	30	0		
CAMPULUNG	81.78	347.0	12	27	5	22	45	10		
BUCHAREST	82.46	346.1	12	25	0	22	46	4	15	38 PP
TRIESTE	82.50	355.0	12	22	-4	21	42	-60	23	42 PS
GORIS	82.50	330.1	12	26	0	22	44	2		
CLERMONT-FD.	82.53	2.5	12	28	2					
QUETTA	82.61	310.7	12	25A	-1	22	50	7	23	0 SCS
OROPA	82.72	359.0	12	28	1	23	1	17		
BELGRADE	82.79	350.1	12	27K	0				12	44
PAVIA	83.14	358.2	12	30	1	23	5	17	15	41 PP
CIUD. TRUJL.	83.63	68.3	12	49	18	22	59	6		
BOLOGNA	83.76	356.6	12	38	6	22	59	4	23	27
PRATO	84.38	356.7	12	40	5	24	7	66		
FLORENCE X.	84.48	356.6	12	35A	-1					
BRISBANE	84.48	209.6	12	33	-3				22	54 SKS
SOFIA	84.54	347.7	12	36	0	22	56	-6	23	46 PS
MONACO	84.61	359.4	12	36	0				13	0
BALBOA HTS.	85.35	81.5	12	40	0					
SAN JUAN	85.85	65.4	12	45	3	23	7	-8		
ROME	86.30	355.6	12	45A	0	23	38	18	23	10 SKS
HYDERABAD	87.12	294.7	12	50	1	23	10	-17	16	14 PP
TARANTO	87.41	351.9							18	48
POONA	88.76	298.9	12	59	2	23	47	4		
BOMBAY	89.01	300.0	12	54	-4	23	44	-1	23	25 SKS
AUCKLAND	89.14	189.5				23	23	-23		
MADRAS	89.69	290.8	12	59	-2					
ANTIGUA	89.71	62.3	12	59	-2					
ALICANTE	89.77	5.6	12	54	-7	23	47	-5		
MESSINA	89.80	353.0	12	53	-8	23	45	-7	23	24 SKS
KARAPIRO	90.11	188.8	12	59	-4					
GRANADA	90.71	8.1	13	6	0	24	6	6	26	6 PPS
KSARA	90.74	336.0	13	6	0	24	6	5	16	48 PP
CHINCHINA	90.88	80.9	13	5	-1				24	3 SKKS
RIVERVIEW	90.97	208.9	13	4A	-3	23	57	-6	23	36 SKS
MALAGA	91.09	8.8	13	7A	0					
ALMERIA	91.13	7.3	12	57	-11					
TONGARIRO	91.38	188.6	13	17	8					
ALGIERS UNI.	91.51	2.9	13	9	0					
FORT FRANCE	91.57	63.6	13	47	37					
BOGOTA	92.10	79.8	13	22	10	23	37	-36	24	7 SKKS
ST. LUCIA	92.22	63.9	13	15	2					
ST. VINCENT	92.78	64.6	13	17	2					

JERUSALEM	92.85	335.9	13 13	-3			24 41 SKS
KODAIKANAL	93.48	291.3	13 22	4			
WELLINGTON	93.51	188.9					23 32 SKS
COBB RIVER	93.52	190.5	13 25	6			
BARBADOS	93.74	63.3	13 26	6			
TRINIDAD	94.67	66.2	13 26	2			
CHRISTCHURCH	95.96	190.2	13 52	22	24 35	-11	23 59 SKS
MELBOURNE	96.59	212.0					24 51 SCS
HUANCAYO	104.34	91.2					28 51
TAMANRASSET	105.50	1.1	14 12	777	24 54	-1	18 36 PP
LA PAZ	112.20	88.5	18 35	-2	25 41	20	35 11 SS
RUMANGABO	126.00	331.5	19 1	-3			
LWIRO	127.03	331.8	19 7	1			19 25
ASTRIDA	127.09	330.6	19 3	-3			22 20 PP
UVIRA	128.10	331.0	19 6	-2			19 21
TANANARIVE	134.05	300.4	19 19	0			22 54 PKS
PRETORIA	149.08	319.8	19 47	1			
PIETERMZBURG	151.51	312.6					20 26 PKP2
KIMBERLEY	153.09	322.8	19 58	6			
GRAHAMSTOWN	156.37	314.5					20 24 PKP2
HERMANUS	160.19	327.8					20 41 PKP2

MARCH 12 7.H 39.M 17.S EPICENTRE 51.47-178.19 DEPTH= 0.KM

A=-0.62516 B=-0.01979 C= 0.78025 D=-0.0316 E= 0.9995
G=-0.7799 H=-0.0247 K=-0.6255 HT= -6.0

SE= 2.03

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
COLLEGE	20.61	37.8	4 45	1				
SITKA	25.32	60.4	5 33	3				6 46
HONOLULU	33.95	145.0	6 43	-4				
MATUSIRO	34.17	261.4	6 48K	-1				9 36
HORSESHOE B.	34.35	71.4	6 52	1				
VICTORIA	34.64	72.8	6 55A	2				
SEATTLE	35.70	73.6	7 5K	3	12 1	-38		
CORVALLIS	36.59	78.7	7 11	1				
BANFF	38.08	65.0	7 23	1				
SHASTA	39.27	83.4	7 34	2	13 15	-19		9 41 PP
RESOLUTE	39.50	24.5	7 17	-17				
MINERAL	39.97	83.3	7 39K	1				
BERKELEY	41.04	86.8	7 47	0				9 47 PP
RENO	41.55	83.1	7 53K	2				
LICK	41.75	87.0	7 53A	0				
BUTTE	42.31	70.5	7 57	0				
FRESNO	43.26	86.3	8 4K	-1				
BOZEMAN	43.39	70.1	8 7	1				
EUREKA	43.97	80.5	8 11	0				
TINEMAHA	44.05	84.8	8 12	1				9 57
WOODY	44.52	86.8	8 14	-1				
ISABELLA	44.79	86.5	8 17	0				
CHINA LAKE	45.23	85.7	8 20	-1				8 45
SALT LAKE C.	45.72	76.3	8 25	0				
PASADENA	45.96	87.9	8 26	-1	15 12	0		10 2
RIVERSIDE	46.56	87.5	8 29	-2				
BOULDER CITY	46.85	83.5	8 33	-1				
PALOMAR	47.30	87.7	8 37	0				9 13
HAYFIELD	47.83	86.5	8 41	0				
BARRETT	47.87	88.3	8 42	0				
RAPID CITY	48.88	67.5	8 50	1				10 56 PP
BOULDER	50.12	73.0	9 0	1				
TUCSON	51.80	84.3	9 12	0				
LUBBOCK	56.44	76.8	9 47	1	17 34	-2		
SCORESBY SD.	57.15	9.3	9 52	1				
KIRKLAND LA.	58.66	50.9	10 3A	1				
FAYETTEVILLE	59.30	69.5	10 5K	-1				
BAGUIO CITY	59.46	257.6	10 23	16	18 40	24		
SCHEFFERVLLE	59.76	38.6	10 7K	-2				
KIRUNA	60.21	352.0	10 10A	-2				39 34 PKPPKP
RABAUL	60.96	214.3	10 14	-3	18 43	8		
OTTAWA	62.70	50.7	10 27K	-2				
BUFFALO L.	63.08	54.4	10 31	-1				
SHAWINIGAN	63.26	48.2	10 31	-2				
SEVEN FALLS	63.73	46.6	10 36	0				
PITTSBURGH	64.17	57.1	10 39	0				

MORGANTOWN	64.76	57.7	10	42A	-1	19	24	1			
SKALSTUGAN	65.00	354.9	10	43	-1						
APIA	65.23	173.1	10	51	5						
PALISADES	66.84	52.9	10	56	0						
CHAPEL HILL	67.97	59.8	11	4	1	20	5	3			
TACUBAYA	68.26	85.9	11	4	-1	20	0	-5			
UPPSALA	68.30	351.5	11	4A	-1				39	11	PKPPKP
COLUMBIA	68.31	62.5	11	4	-1	20	3	-3			
HALIFAX	68.88	44.1	11	7	-2						
MOSCOW	69.11	339.2	11	9	-1						
NAMANGAN	69.72	310.7	11	6	-8						
VERA CRUZ	70.32	83.7				20	49	20	21	5	
SHILLONG	70.40	286.5	11	16A	-2	20	28	-2	11	50	PCP
CHATRA	72.24	290.7	10	55	-34				20	49	
COPENHAGEN	72.85	353.7	11	33	0	21	2	3			
MERIDA	73.02	77.7	11	35K	1	21	2	1			
DURHAM	74.09	2.0	10	40	-60	20	15	-58	11	41	
DEHRA DUN	74.74	299.5	12	0	16						
HAMBURG	75.11	355.0	11	48K	2						
RATHFARNHAM	75.38	5.0	11	47A	0						
WARSAW	75.41	347.9	12	16	29	22	14	47			
LAHORE	75.77	302.8	11	48	-2						
WITTEVEEN	76.00	357.0	11	50	-1						
POTSDAM	76.09	352.9	11	52	1	21	28	-7			
KEW	77.42	1.4	11	58	-1				13	15	
JENA	77.64	353.7	11	59	-1	21	49	-3			
RACIBORZ	77.87	349.3	11	55	-6				22	12	SCS
PRAGUE	78.27	351.7	12	4	1	22	13	15			
CHEB	78.43	353.1	12	4	0						
IASI	79.25	342.4	12	10	1	22	12	3			
BRATISLAVA	79.88	349.7	12	13	1						
STUTTGART	79.94	355.0	12	13A	0	22	17	1			
SIMFEROPOL	79.98	337.3	12	15	2						
PARIS	80.10	359.5	12	14	1						
TUBINGEN	80.18	355.1	12	15	1						
STRASBOURG	80.20	356.0	12	14	0				12	36	
BUDAPEST	80.32	348.2	12	15	0						
EBINGEN	80.54	355.2	12	16A	0						
QUETTA	80.64	307.2	12	17A	1	22	26	3	22	44	SCS
BASLE	81.25	356.0	12	18	-1						
KALOCSA	81.27	348.1	11	55	-25						
ZURICH	81.37	355.4	12	20	0						
CAMPULUNG	81.57	343.7	12	22	1						
BESANCON	81.59	357.1	12	23	2				15	30	PP
NEUCHATEL	81.81	356.5	12	22	0	22	37	2			
BUCHAREST	82.20	342.7	12	24	0	22	44	5			
ZAGREB	82.32	350.1	12	19	-6	22	39	-2			
TRIESTE	82.71	351.6	12	24A	-3	22	43	-2	23	1	SCS
BELGRADE	82.74	346.7	12	27	0				23	25	SCS
CLERMONT-FD.	83.13	359.1	12	30	1						
FLORENCE X.	84.78	353.2	12	37A	-1						
MONACO	85.05	355.9	12	41	2				13	0	
POONA	86.36	295.3	12	49	4	23	24	3			
ROME	86.55	352.0	12	49A	3						
MADRAS	87.05	287.1	12	58	9						
AUCKLAND	88.18	185.6							23	43	
BALBOA HTS.	88.39	77.7	12	54	-1						
SAN JUAN	88.77	61.7	12	57	0	23	23	-20			
RIVERVIEW	89.11	205.1	12	57K	-2	23	52	6	23	26	SKS
KARAPIRO	89.19	185.0	13	26	27						
MESSINA	89.90	349.2	13	1	-1						
KSARA	89.95	332.2	13	4	1	23	58	4			
KODAIKANAL	90.85	287.5	13	30	23						
COLOMBO	92.03	283.6							24	14	
ALGIERS UNI.	92.13	359.0	13	14	1				14	1	
COBB RIVER	92.51	186.9	13	11	-3						
WELLINGTON	92.58	185.3							23	43	SKS
ANTIGUA	92.59	58.5	13	13	-2						
FORT FRANCE	94.47	59.8	13	59	36						
ST. LUCIA	95.13	60.1	13	27	1						
ST. VINCENT	95.69	60.8	13	30	1						
TRINIDAD	97.61	62.4	13	37	-1						
TAMANRASSET	106.00	356.4	14	18	777				18	45	PP
HUANCAYO	107.34	87.6							19	3	PP
LA PAZ	115.22	84.9							19	59	PP
RUMANGABO	124.93	325.7							20	51	
ASTRIDA	125.96	324.7	20	7	63						
LWIRO	125.97	325.9	19	7	3						
UVIRA	127.00	325.0	20	8A	62						

TANANARIVE	131.66	294.8	19	17	2				22	44	PKS
PRETORIA	147.41	312.0							19	46	PKP2
PIETERMZBURG	149.53	304.7	19	43	-3						
KIMBERLEY	151.53	314.1	19	58	8						
GRAHAMSTOWN	154.44	305.6							20	18	PKP2

MARCH 12 11.H 44.M 54.S EPICENTRE 51.39-176.90 DEPTH= 0.KM

A=-0.62569 B=-0.03391 C= 0.77933 D=-0.0541 E= 0.9985
G=-0.7782 H=-0.0422 K=-0.6266 HT= -5.9

SE= 4.09

	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	15.06	286.2	3	29A	-6						3	44	PP
MAGADAN	19.88	306.8	4	36	1								
SITKA	24.66	60.4	5	25A	2	9	48	5					
NEMURO	26.42	267.1	5	31	-9	10	9	-3					
Y.-SAKHLINSK	26.53	276.4	5	34	-7								
ABASHIRI	26.89	269.5	5	45	1	9	54	-26					
KUSIRO	27.34	267.4	5	45	-3	10	31	4					
WAKKANAI	27.85	274.1	6	5	12	10	26	-9					
ASAHIGAWA	28.21	270.5	5	50	-6								
URAKAWA	28.80	267.3	6	0	-1	10	58	7					
SAPPORO	29.21	270.0	6	1	-4	10	54	-3					
TOMAKOMAI	29.35	268.9	6	1	-5								
MURORAN	29.84	269.1	6	14	3								
SUTTSU	30.05	270.4	6	5	-7	11	7	-4					
MORI	30.21	269.0	6	12	-2	10	56	-17					
HAKODATE	30.29	268.3	6	5	-10	11	8	-6					
HATINOHE	30.48	265.6	6	17K	1	11	12	-5					
MIYAKO	30.72	263.8	6	18	0	11	17	-4					
AOMORI	30.79	266.7	6	23	4								
MORIOKA	31.19	264.6	6	24K	2	11	15	-13					
TIKSI	31.21	330.2	6	23	0	11	37	8			9	6	PCP
MIZUSAWA	31.55	263.8	6	27	1	11	31	-3					
AKITA	31.84	265.6	6	31	3	11	41	2					
ISINOMAKI	31.86	262.5	6	30	2	11	33	-6					
SENDAI	32.21	262.7	6	32	1	11	33	-11					
YAMAGATA	32.57	263.1	6	32	-3	11	50	0					
ALBERNI	32.74	72.8	6	36	0								
HUKUSIMA	32.80	262.3	6	40	3								
ONAHAMA	33.04	260.8	6	40	1	11	58	1					
SHIRAKAWA	33.35	261.6	6	37	-4	12	0	-2					
HONOLULU	33.43	146.9	6	37K	-5								
HORSESHOE B.	33.62	71.9	6	43	-1	12	20	14					
MITO	33.67	260.4	6	47	3								
VICTORIA	33.89	73.4	6	47K	1	12	27	16					
UTUNOMIYA	33.93	261.2	6	49	3	12	9	-2					
KAKIOKA	33.94	260.4	6	44	-3	12	10	-1					
TUKUBASAN	34.00	260.5	6	39	-8								
AIKAWA	34.02	264.7	6	49	2	12	6	-7					
KUMAGAYA	34.49	261.1	6	50	-1	12	20	0					
MAEBASI	34.52	261.7	6	46	-6	12	26	6			17	14	SCS
TOKYO C.M.O.	34.56	260.1	6	48	-4	12	19	-2					
TAKADA	34.59	263.4	6	52	0								
TITIBU	34.78	261.1	6	51	-3						17	9	SCS
YOKOHAMA	34.79	259.9	6	56	2						17	21	SCS
OIWAKE	34.89	262.1	6	50	-5	12	32	6					
NAGANO	34.89	262.8	6	55	0	12	25	-1					
SEATTLE	34.95	74.2	6	57	2	12	46	19					
MATUSIRO	34.95	262.7	6	47A	-8	12	26	-1					
MERA	35.01	259.0	6	54	-2	12	35	7			17	13	SCS
VLADIVOSTOK	35.09	276.9	6	51A	-5								
HUNATU	35.29	260.8	7	2	4	12	36	4					
MATUMOTO	35.30	262.5	6	52	-6	12	43	11			17	38	SCS
KOHU	35.33	261.1	7	7	9	12	41	8			17	22	SCS
OSIMA	35.39	259.3	7	2	3	12	32	-2			17	23	SCS
MISIMA	35.42	260.1	6	51	-8	12	14	-20			17	18	SCS
TOYAMA	35.49	263.8	7	2	2	12	8	-27					
TAKAYAMA	35.81	263.0	7	4	1								
CORVALLIS	35.82	79.4	7	4	1								
IIDA	35.86	261.7	6	58	-5								
SHIZUOKA	35.86	260.4	7	5	2	12	40	-1					
OMAESAKI	36.22	260.1	7	16	10								

SUIHWA	36.35	285.1	7	10	3				
HAMAMATU	36.45	260.7	7	12	4				17 38 SCS
HUKUI	36.49	263.7	7	11	3				
GIHU	36.59	262.5	7	12	3	12	55	3	
IBUKISAN	36.85	262.8	7	11	0				
TSURUGA	36.87	263.4	7	40	29				
HIKONE	37.00	262.8	7	8	-5	12	49	-10	
KAMEYAMA	37.14	262.0	7	11	-3	12	30	-31	
BANFF	37.38	65.5	7	14K	-2				
KYOTO	37.49	262.9	7	11	-6	13	6	0	
NARA	37.65	262.4	7	18	0	13	5	-3	
TOYOOKA	37.72	264.3	7	20	1	13	8	-2	
OWASE	37.82	261.3	7	21	2	13	19	8	
OSAKA	37.85	262.6	7	28	8	13	13	1	
KOBE	38.05	263.0	7	25	4	13	15	0	
SAIGO	38.23	266.4	7	32	9				
SUMOTO	38.45	262.8	7	27	2	13	18	-3	
SHASTA	38.48	84.2	7	23	-2	13	37	16	
SIOMISAKI	38.50	261.0	7	28	3	13	20	-1	
HIMEJI	38.65	263.4	7	15	-11	13	16	-8	
CHANGCHUN	38.78	282.1	7	18A	-10	13	13	-13	9 9 PPP
TOKUSIMA	38.82	262.8	7	24	-4	13	29	3	17 36 SCS
MATSUE	38.87	265.7	7	33	5				
UKIAH	38.88	86.8	7	32	4	13	42	15	9 12 PP
TAKAMATU	38.99	263.5	7	24	-5	13	20	-9	
MINERAL	39.17	84.1	7	28K	-3				
RESOLUTE	39.24	24.6	7	28	-3	13	28	-5	8 58 PP
KOTI	39.82	263.1	7	24	-12	13	40	-1	16 19 SS
HAMADA	39.85	265.9	7	40	4				
HIROSIMA	39.97	265.0	7	39K	2	13	35	-9	
MATUYAMA	40.12	264.1	7	37	-2	13	40	-6	9 47 PP
BERKELEY	40.24	87.7	7	40A	0	14	3	15	
UWAZIMA	40.64	263.5	7	44	1	13	53	-1	
SIMIDU	40.69	262.7	7	26	-17	13	50	-4	
SANTA CLARA	40.75	88.1	7	51K	7	14	18	23	
RENO	40.76	83.9	7	43	-1				
LICK	40.95	87.9	7	44A	-1				
SIMONOSEKI	41.18	265.7	7	51K	4	14	1	-1	
OOITA	41.22	264.3	7	46	-2	13	54	-8	
BUTTE	41.57	71.2	7	49A	-2	14	18	11	9 45 PP
HUKUOKA	41.74	265.7	7	56A	4	14	14	4	
ASOSAN	41.79	264.4	7	56	4	14	9	-2	
SASKATOON	41.92	60.3	8	3	10	14	12	-1	
SAGA	42.03	265.5	7	59	5				
ITUHARA	42.05	267.4	7	56	2	14	20	6	
KUMAMOTO	42.07	264.7	7	58	3	14	14	-1	
MIYAZAKI	42.23	263.1	8	0	4	14	12	-5	
FRESNO	42.46	87.2	7	56K	-2				
NAGASAKI	42.64	265.2	8	1	2	14	24	1	
BOZEMAN	42.66	70.8	7	57A	-2	14	29	6	
KAGOSIMA	43.01	263.4	7	55	-7	14	38	9	
EUREKA	43.18	81.3	7	51K	-13				
TINEMAHA	43.26	85.7	8	3	-1	14	52	20	10 1 PP
TOMIE	43.41	266.1	8	10	4				
WOODY	43.72	87.7	8	6	-2	14	56	17	
YAKUSIMA	43.81	262.3	8	11	2	14	36	-4	
ISABELLA	43.99	87.4	8	8	-2				
CHINA LAKE	44.43	86.6	8	11	-3				10 1 PP
SALT LAKE C.	44.95	77.1	8	17A	-1	15	9	12	10 25 PP
PASADENA	45.15	88.8	8	18	-2	15	11	11	10 7 PP
RIVERSIDE	45.75	88.4	8	22	-2	15	20	12	
BOULDER CITY	46.06	34.4	8	26A	-1				
IRKUTSK	46.39	303.6	8	27	-2				15 21 PS
PALOMAR	46.50	88.7	8	29	-1	15	42	23	
PEKING	46.54	283.3	8	23	-8	15	20	0	
KWANTING	46.77	283.9	8	30	-2	15	23	0	17 27 SCS
HAYFIELD	47.03	87.3	8	32	-2	15	41	15	
BARRETT	47.06	89.2	8	33	-2	15	45	18	
RAPID CITY	48.16	68.2	8	41K	-2	15	54	12	10 57 PP
TATUNG	48.26	285.2	8	44	0	15	47	3	
ZO-SE	49.19	270.6	8	45	-6				10 33 PP
BOULDER	49.37	73.7	8	51	-2				
PAOTOW	49.91	287.7	8	53	-4	16	5	-2	10 49 PP
NANKING	50.04	273.3	8	53	-5	16	7	-2	10 57 PP
TAIYUAN	50.12	283.3	8	58	0				
TUCSON	51.01	85.2	9	3A	-2	16	35	13	11 26 PP
TAIPEI	53.24	264.8	9	33	11	17	39	46	
HWALIEN	53.95	263.8	9	30	3	17	9	7	
SIAN	54.68	282.4	9	36	3	17	11	-1	

	HSINKONG	54.74	263.3	9	34	1	17	12	-1	
	ALISHAN	54.79	264.1	9	36	3				
	TAITUNG	55.14	263.2	9	36	0				
	TAINAN	55.53	264.2	9	47	8				
	TAWU	55.59	263.1	9	49	10	17	21	-3	
	LUBBOCK	55.67	77.6	9	37	-3	17	35	10	9 47 *PP
	HENGCHUN	55.94	262.9	9	56	14				
	WUWEI	56.00	289.8	9	38	-4				
	CHIHUAHUA	56.46	84.9	9	54K	9	17	42	6	
	LANCHOW	56.54	287.4	9	45	-1				
	SCORESBY SD.	57.10	9.8	9	51	1	17	48	4	19 32 SCS
	SINING	57.39	289.2	9	57	5				
	KIRKLAND LA.	58.08	51.6	9	56	-1				
	CHICAGO CGS.	58.46	61.3	10	3	3	18	11	9	19 55 SCS
f	FAYETTEVILLE	58.57	70.3	9	56A	-4	18	13	9	
	FLORISSANT	58.94	65.6	10	0	-3	18	6	-2	18 17 PS
	ST. LOUIS 1	59.13	65.6	10	0A	-4	18	9	-2	18 19 PS
	APATITY	59.21	347.0	10	7	2	18	13	1	18 39 PS
	SCHEFFERVLLE	59.32	39.2	10	4	-2				13 53 PPP
	SEMIPALATNSK	59.36	313.5	10	2	-4	18	12	-2	10 34 PCP
	CANTON	59.81	269.8	10	11K	2	18	23	3	
	HONG KONG	59.83	268.5	10	11K	2	18	6	-14	
	TERRE HAUTE	60.14	63.2	10	31	20	18	36	12	
	MAZATLAN	60.16	89.6				18	36	12	
	BAGUIO CITY	60.24	258.8	10	11	-1	18	21	-4	
	KIRUNA	60.40	352.5	10	6	-7	18	20	-7	20 6 SCS
	RABAUL	61.36	215.7	10	14	-5				10 48 PCP
	MANILA	61.40	257.1	10	19	-1	18	36	-4	
	HAMILTON	61.58	55.5	10	33	12	18	47	5	11 21 PCP
	CLEVELAND	61.95	58.0	10	21	-3				18 57 PS
	CINCINNATI	61.99	61.6	10	26	2				19 1 PS
	OTTAWA	62.13	51.4	10	21K	-4	18	58	9	11 12 PCP
	SVERDLOVSK	62.22	328.4	10	21	-4				20 23 SCS
	BUFFALO L.	62.47	55.1	10	25	-2				
	SHAWINIGAN	62.72	48.9	10	25	-4	19	2	5	20 26 SCS
	REYKJAVIK	63.18	12.0	10	38	6				
	SEVEN FALLS	63.20	47.3	10	34	2	19	9	6	20 40 SCS
	PITTSBURGH	63.53	57.8	10	32	-2	19	17	10	
	GUADALAJARA	63.93	89.1	10	44	7	19	30	18	
	MORGANTOWN	64.12	58.4	10	34K	-4	19	15	1	
	PENNSYLVANIA	64.37	56.3	10	41	2	19	31	14	13 37 PP
	MANZANILLO	64.51	91.1				21	7	108	12 33
	APIA	65.06	174.5	10	44	0	19	20	-6	
	SKALSTUGAN	65.15	355.5	10	39	-5				39 19 PKPPKP
	WASHINGTON	66.18	57.2	10	50A	-1				
	PALISADES	66.24	53.7	10	48A	-3	19	56	16	24 46 SS
	FORDHAM	66.38	53.8	10	48	-4				19 55 PS
	PHILADELPHIA	66.39	55.2	11	3	11	19	49	7	
	WESTON	66.50	51.1	10	48K	-5				19 58 PS
	PULKOVO	67.03	345.4				19	47	-3	11 8 PCP
	CHAPEL HILL	67.31	60.6	10	56	-2	20	0	7	
	TACUBAYA	67.46	86.9	11	7	8	19	59	4	
	FRUNSE	67.54	311.0	10	59A	-1	19	49	-7	11 30 PCP
	COLUMBIA	67.63	63.3	10	58	-2	19	58	1	
	HALIFAX	68.37	44.9	11	1	-4				
	UPPSALA	68.50	352.2	10	59A	-7	20	3	-4	39 17 PKPPKP
	BERGEN	68.55	358.8	11	11	5	20	14	6	24 14
	SUVA	69.36	184.7	11	16	5	20	28	10	20 56 PS
	MOSCOW	69.47	340.0	11	6	-6				
	VERA CRUZ	69.53	84.7	11	14	2	20	18	-2	
	OAXACA	70.76	86.7	11	28	8	20	42	8	25 24
	SHILLONG	71.19	287.5	11	13A	-9	20	31	-8	13 58 PP
	TASHKENT	71.22	313.3	11	22	0	20	41	2	11 32 PCP
	ABERDEEN	71.72	3.0	11	19	-6	20	38	-7	14 9 PP
	MERIDA	72.25	78.6	11	33K	4	21	7	16	14 31 PP
	EDINBURGH	72.93	3.7				21	6	7	
	COPENHAGEN	73.02	354.5	11	38A	5	21	3	3	12 1
	CHATRA	73.02	291.7	11	20	-13	20	58	-2	
	DURHAM	74.14	2.8	11	44	4	21	18	6	
	COMITAN	74.24	83.7	11	50	10	21	25	11	
	NOUMEA	74.81	196.0	11	42	-1	21	44	24	12 23
	HAMBURG	75.26	355.8	11	42	-4	21	24	-1	26 40 SS
	RATHFARNHAM	75.39	5.8	11	32	-15	21	20	-6	
	DEHRA DUN	75.48	300.4	11	52	5	21	28	1	15 7 PP
	WARSAW	75.65	348.7	11	57	9	21	31	2	
	BOKARO	76.10	290.7	11	54	3	21	35	1	14 49 PP
	WITTEVEEN	76.12	357.8	11	46	-5				
	POTSDAM	76.27	353.7	11	58	6	21	42	6	

LAHORE	76.49	303.8	11	47	-6	21	36	-2		
DE BILT	76.87	358.7	12	1A	6	21	48	5	26	30 SS
NEW DELHI	77.30	299.9	12	4	7	21	44	-3	22	14 SCS
KEW	77.48	2.2	12	2	4	21	55	6	22	20 SCS
BERMUDA	77.59	53.3	11	56	-3	21	58	8		
BYTOM	77.75	349.7							20	58
JENA	77.81	354.5	11	54	-6	21	52	-1	12	28
ZABRZE	77.81	349.8	12	14	14					
RACIBORZ	78.10	350.1				21	59	3	12	7 PCP
PRAGUE	78.46	352.6	12	6	2	22	0	0	14	59 PP
CHEB	78.60	353.9	12	6	1	21	56	-5	27	42 SS
SKALNATE PL.	78.75	348.6	12	13	8	22	4	1	27	31 SS
ASHKABAD	78.76	318.5	11	59A	-7	22	7	4	12	5 PCP
IASI	79.56	343.3	12	6	-4	22	14	3		
JERSEY	79.71	3.5				22	16	3		
KARLSRUHE	79.88	356.5	12	18K	6	22	20	5	27	54 SS
STUTTGART	80.09	355.9	12	6	-7	22	23	6	15	52 PP
VIENNA-H.	80.09	351.0	12	19	6	22	21	4	22	40 SCS
BRATISLAVA	80.10	350.5	12	8	-5	22	20	3		
PARIS	80.18	0.4	12	10	-3	22	19	1	22	26 SKS
HURBANOVO	80.28	349.8				22	23	4	12	37
BACAU	80.29	343.6	12	21	7	22	31	12		
TUBINGEN	80.33	356.0	12	9	-5					
STRASBOURG	80.33	356.9	12	10	-4	22	21	2	28	0 SS
SIMFEROPOL	80.36	338.2	12	10	-4				22	31 SCS
TIFLIS	80.42	329.7	12	10	-4				22	41 SCS
BUDAPEST	80.56	349.1				22	24	2	12	19 PCP
EBINGEN	80.68	356.0	12	11	-5	22	28	5	12	45 PCP
KECSKEMET	81.04	348.6	12	19	1	22	31	4		
RAVENSBURG	81.05	355.6	12	24	6	22	36	9		
FOCSANI	81.08	343.2	12	30	12	22	36	9		
QUETTA	81.33	308.2	12	13A	-6	22	21	-9	22	38 SCS
BASLE	81.39	356.9	12	15	-5	22	37	7		
KALOCSA	81.51	349.0				22	21	-11	12	28 PCP
ZURICH	81.51	356.2	12	19	-1	22	38	6		
SZEGED	81.64	348.1	12	28	7	22	46	13	23	42 PS
BESANCON	81.71	358.0	12	26	5					
CAMPULUNG	81.87	344.6	12	22	0	22	44	9	12	44
GORIS	81.93	327.6	12	19	-3				23	38 PS
NEUCHATEL	81.94	357.3	12	18	-4	22	36	0	15	37
TIMISOARA	81.99	347.3	12	30	7	22	49	12		
BUCHAREST	82.52	343.6	12	20	-5	23	5	23	22	48 SKS
ZAGREB	82.54	351.0	12	35	9	22	49	7	23	4 SCS
BRISBANE	82.87	206.7	12	21	-6				22	53 SKS
TRIESTE	82.91	352.5	12	26	-1	22	47	1	38	55 PKPPKP
BELGRADE	83.00	347.7	12	24K	-4	22	53	6	13	6
CLERMONT-FD.	83.22	360.0	12	36	7					
OROPA	83.28	356.6	12	38	9				22	53 SKS
PAVIA	83.67	355.7	12	44K	13	22	56	2	18	0 PPP
BOLOGNA	84.24	354.0	12	41K	7	23	3	4		
SOFIA	84.66	345.2	12	37	1	23	9	6	16	1 PP
PRATO	84.86	354.2	12	40	3	22	58	-7		
FLORENCE X.	84.95	354.1	12	43	5					
MONACO	85.19	356.9	12	44	5					
HYDERABAD	85.37	292.1	12	40	0	23	2	-8	16	10 PP
CIUD. TRUJL.	85.90	65.5	12	51	8	23	21	5		
DJAKARTA	86.30	255.4	12	42	-2				16	8 PP
ANGRA DO HO.	86.49	23.3				23	20	-1		
ROME	86.73	353.0	12	48K	1	23	17	-7	16	21 PP
POONA	87.13	296.3	12	46	-3				23	29
BOMBAY	87.40	297.3	12	49	-1	23	31	1	16	25 PP
BARCELONA	87.57	0.7	13	27	36	23	37	6	24	35 PS
BALBOA HTS.	87.62	78.7	12	51	0					
TARANTO	87.69	349.2	12	58	7	23	18	-15		
MADRAS	87.84	288.1	12	55	3	23	17	-17	16	22 PP
SAN JUAN	88.10	62.7	12	51A	-2	23	26	-10		
AUCKLAND	88.19	186.7	13	4	10	23	48	11	23	24 SKS
COIMBRA	88.24	8.8	13	5	11	23	42	4	23	23 SKS
CUGLIERI	88.69	355.8	13	21	25					
GALERAZAMBA	88.81	74.3	12	15	-42				23	51 SKS
TOLEDO	88.90	5.5	13	2	5	23	29	-15		
KARAPIRO	89.18	186.0	12	59	1	23	35	-11		
RIVERVIEW	89.39	206.1	12	58A	-1	24	0	12	23	36 SKS
LISBON	89.63	10.0	13	7K	6	23	37	-14	13	20 *PP
TUAI	89.96	184.6	13	6	4					
MESSINA	90.12	350.2	13	7K	4	23	59	4	16	42 PP
REGGIO CALA.	90.21	350.1	13	8	5				23	36 SKS
KSARA	90.39	333.2	13	7	3	24	2	4	30	19 SS

TONGARIRO	90.45	185.9	13	3	-1					
ALICANTE	90.58	2.8	13	4	-1	24	2	3	23	36 SKS
GRANADA	91.61	5.4	13	13K	3	24	19	11	23	46 SKS
ANTIGUA	91.94	59.6	13	8	-3					
ALMERIA	92.00	4.5	13	17	6	24	7	-5	23	48 SKS
MALAGA	92.02	6.0	13	16A	4	24	26	14	23	42 SKS
ALGIERS UNI.	92.22	0.0	13	14	2	23	54	-20	23	33 SKS
JERUSALEM	92.50	333.0	14	7	53				24	43 SKS
COBB RIVER	92.53	187.8	13	10	-4	24	10	-6		
WELLINGTON	92.57	186.3	13	12	-2				23	48 SKS
COLOMBO	92.83	284.6	13	12	-3	23	49	-30		
CHINCHINA	93.15	78.1	13	12	-5				23	52 SKS
FORT FRANCE	93.81	60.9	13	22	2	24	30	2	24	2
KAIMATA	94.08	188.6	13	32	11					
BOGOTA	94.38	77.1	13	26	4	24	2	-30	17	16 PP
ST. LUCIA	94.47	61.1	13	21	-2					
MELBOURNE	94.92	209.4	13	28	3	24	54	17	18	5 PP
CHRISTCHURCH	94.97	187.6	13	24K	-1	24	37	-1	24	8 SKS
ST. VINCENT	95.02	61.8	13	23	-2					
BARBADOS	95.98	60.5	13	39	9					
TRINIDAD	96.93	63.5	13	31	-3					
PERTH	101.81	233.2	14	0	4	24	38	-57	18	38 PP
TAMANRASSET	106.13	357.7	14	19	777	24	55	0	18	51 PP
HUANCAYO	106.53	88.6							18	13 PP
MBOUR	112.21	21.1				25	24	3	19	34 PP
LA PAZ	114.42	86.0				25	38	9	19	45 PP
LOME	122.70	2.2				26	3	5	22	36 PKS
RUMANGABO	125.44	327.2	18	56	-7					
LWIRO	126.48	327.4	19	4	-1				21	5
ASTRIDA	126.49	326.2	19	5	0				20	32
UVIRA	127.52	326.5	19	9	2				20	47
TANANARIVE	132.43	296.1	19	22A	6				22	49 PKS
BUENOS AIRES	133.35	93.8							19	15
PRETORIA	148.06	313.7	19	44A	0					
PIETERMZBURG	150.24	306.4	19	50	3					
KIMBERLEY	152.15	316.0	19	55K	5					
HERMANUS	159.41	319.2							20	30 PKP2

MARCH 12 12.H 46.M 12.S EPICENTRE 53.04-168.30 DEPTH= 0.KM

A=-0.59130 B=-0.12243 C= 0.79710 D=-0.2028 E= 0.9792
G=-0.7805 H=-0.1616 K=-0.6038 HT= -6.5

SE= 2.53

	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	15.78	33.3	3	47	1							
SITKA	19.20	54.8	4	30	2							
VICTORIA	28.37	80.9	6	0	2							
CORVALLIS	30.38	87.8	6	18	2							
HONOLULU	32.70	160.0	6	34	-2							
BANFF	31.86	71.7	6	30	1							
SHASTA	33.15	93.1	6	42	1	13	3	63				
UKIAH	33.63	96.0	6	53	8							
MINERAL	33.84	92.9	6	46	-1							
BERKELEY	35.02	96.9	6	57	0							
RENO	35.43	92.5	7	2	2							
RESOLUTE	35.48	26.0	7	0	-1							
LICK	35.74	97.0	7	3K	0							
BUTTE	36.04	78.2	7	5	0							
MIZUSAWA	36.94	268.6	7	6	-7	12	45	-13			13	42
BOZEMAN	37.12	77.7	7	15	1							
FRESNO	37.22	96.1	7	16	1							
EUREKA	37.78	89.5	7	44	24							
TINEMAHA	37.97	94.4	7	23	1							
WOODY	38.50	96.6	7	26	0							
ISABELLA	38.76	96.3	7	29	1							
CHINA LAKE	39.17	95.3	7	32	0						8	0
TUKUBASAN	39.44	265.9	8	32	58							
SALT LAKE C.	39.47	84.7	7	35	1							
PASADENA	39.97	97.7	7	38	0						7	57
MATUSIRO	40.36	267.9	7	40	-1							
RIVERSIDE	40.55	97.2	7	43	0							
BOULDER CITY	40.73	92.8	7	45	0							
PALOMAR	41.31	97.4	7	51	2							
HAYFIELD	41.79	96.0	7	54	1							

BARRETT	41.89	98.0	7	55	!					
RAPID CITY	42.63	74.9	8	0	0					
KYOTO	42.88	268.2	8	3	1					
CHANGCHUN	43.52	285.6	8	4	-3					
BOULDER	43.85	80.9	8	9	-1					
TUCSON	45.70	93.4	8	25	0					
LUBBOCK	50.19	85.0	8	59	-1	16	15	3		
CHIHUAHUA	51.15	92.9							19	34 SCS
TATUNG	52.81	289.4	9	24	4					
KIRKLAND LA.	52.82	57.2	9	20	0					
FAYETTEVILLE	53.03	77.2	9	18A	-3					
GUAM	54.16	241.3	9	26	-4					
ZO-SE	54.38	275.8	9	36	5					
SCORESBY SD.	54.43	13.2	9	34	2				11	16 PP
SCHEFFERVLLE	54.57	44.1	9	31A	-2					
MAZATLAN	54.99	97.7							19	21 SCS
NANKING	55.13	278.4	9	41	4					
OTTAWA	56.87	57.2	9	47K	-2					
BUFFALO L.	57.11	61.1	9	51	0					
SHAWINIGAN	57.54	54.5	9	52K	-2					
SEVEN FALLS	58.09	52.9	9	58	0					
PITTSBURGH	58.11	64.0	9	48	-10					
MORGANTOWN	58.68	64.6	10	1	-1					
GUADALAJARA	58.74	97.0				17	58	-9		
KIRUNA	59.27	356.2	10	3	-3					
SIAN	59.37	287.3	10	28	21					
MANZANILLO	59.39	99.0	10	3	-4	18	7	-8		
PALISADES	60.92	59.7	10	16	-1					
CHAPEL HILL	61.84	67.0	10	23	-1					
COLUMBIA	62.13	69.8	10	24	-2					
TACUBAYA	62.19	94.5	10	31	5	18	51	0		
HALIFAX	63.35	50.6	10	31K	-3					
SKALSTUGAN	63.72	359.7	10	34	-2					
HONG KONG	65.07	274.3	10	44K	-1					
BAGUIO CITY	65.70	265.1	10	50	1	18	58	-37		
RABAUL	66.01	224.0	10	46	-5	19	36	-2		
PULKOVO	66.55	349.9	10	54	0					
MERIDA	66.79	85.7	11	3	7	19	49	1		
UPPSALA	67.36	356.8	10	58	-2					
COMITAN	68.88	90.9	11	43	34					
COPENHAGEN	71.64	359.6	11	26	0					
RATHFARNHAM	72.97	11.2	11	32A	-2					
HAMBURG	73.75	1.1	11	39	1					
WITTEVEEN	74.43	3.2	11	42	0					
KEW	75.37	7.7	11	56	8					
SHILLONG	75.58	293.2	11	44	-5					
JENA	76.41	0.1	11	51	-2					
PRAGUE	77.24	358.2	11	59	1				15	21 PP
PARIS	78.23	6.2	12	4	0					
STUTTGART	78.55	1.7	12	5	0					
STRASBOURG	78.70	2.7	12	7	1					
DEHRA DUN	78.99	306.2	12	7	-1					
BRATISLAVA	79.06	356.3	12	8	0	22	25	18	23	26
EBINGEN	79.13	1.9	12	8	0					
IASI	79.22	349.1	12	38	29					
BUDAPEST	79.66	354.9	12	12	1					
BASLE	79.75	2.8	12	10	-2					
ZURICH	79.93	2.2	12	17	4					
BESANCON	79.97	4.0	12	12	-1					
NEUCHATEL	80.26	3.3	12	13	-2				13	4
KALOCSA	80.61	354.9	12	50	34					
ZAGREB	81.45	357.0	12	47	26	23	1	29		
TRIESTE	81.67	358.5	12	20	-2	22	41	7		
BUCHAREST	82.13	349.6	12	51	27					
BELGRADE	82.23	353.7	12	25A	0				12	56
SAN JUAN	82.60	69.4	12	26	-1					
FLORENCE X.	83.56	0.3	12	35	3					
QUETTA	84.22	314.3	12	34	-1	22	59	-1	15	53 PP
ANTIGUA	86.48	66.3	12	44	-2					
BRISBANE	86.96	213.8	12	48	-1				23	16 SKS
FORT FRANCE	88.33	67.7	12	54	-1					
ST. LUCIA	88.98	67.9	12	57	-1					
GRANADA	89.17	12.2	13	43K	44					
ST. VINCENT	89.53	68.6	13	0	-1					
ALGIERS UNI.	90.25	6.9	13	9	5					
POONA	90.91	303.0	13	9	2					
KSARA	90.97	340.1	13	13	5					
TRINIDAD	91.42	70.3	13	7	-3					
RIVERVIEW	93.43	212.8	13	24	5					

TAMANRASSET	104.31	5.9	14	8	0					29	51 PKKP
LA PAZ	109.10	92.1								19	18 PP
RUMANGABO	126.42	337.9	19	6	0						
LWIRO	127.43	338.3	19	9	1					32	46
ASTRIDA	127.55	337.0	19	10	2						
UVIRA	128.55	337.5	19	10	0						
PIETERMZBURG	152.87	322.2								20	1 PKP2
GRAHAMSTOWN	157.59	325.7								20	32 PKP2

MARCH 12 19.H 11.M 19.S EPICENTRE -16.04-176.57 DEPTH= 382.KM

DEPTH OF FOCUS= 0.055R

A=-0.95984 B=-0.05754 C=-0.27459 D=-0.0598 E= 0.9982
G= 0.2741 H= 0.0164 K=-0.9616 HT= 5.5

SE= 1.33

	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	5.14	64.9	1	21	-2	2	27	-1					
SUVA	5.22	245.6	1	27	3	2	34	4					
NOUMEA	17.20	246.2	3	40	2						7	0	
AUCKLAND	22.12	198.6	4	26	0	8	8	8					
KARAPIRO	22.88	196.2	4	4	-29	8	16	3					
TUAI	23.34	192.5	4	37	0	8	15	-5					
TONGARIRO	24.09	195.2	4	43	-1								
WELLINGTON	26.24	194.9	5	1	-2	9	5	-2			15	12	SCS
COBB RIVER	26.62	198.3	5	6	-1	9	12	-1					
KAIMATA	28.33	198.9	4	55	-27	9	39	-1					
CHRISTCHURCH	28.91	196.4				9	53	4					
GEBBIES PASS	29.06	196.2	5	27	-1	9	48	-3			15	25	SCS
BRISBANE	30.36	242.8	5	39	-1	12	17	125					
RABAUL	32.89	287.6	5	58K	-3	10	46	-5	7	29	11	43	SCP
RIVERVIEW	34.02	232.6	6	11K	0	11	3	-5			7	41	PP
MELBOURNE	40.19	229.7	7	3	1								
HONOLULU	41.29	26.6	7	10	-1								
MATUSIRO	67.50	321.8	10	15	-2						21	5	
BERKELEY	73.97	42.0	10	56K	0								
LICK	74.07	42.7	10	57K	1				12	22			
UKIAH	74.11	40.5	10	56	-1								
PASADENA	74.67	47.1	11	0K	0				12	26			
FRESNO	74.96	44.1	11	2K	0								
BARRETT	74.98	49.1	11	2K	0								
WOODY	75.01	45.4	11	1K	-1				12	28	11	50	
RIVERSIDE	75.14	47.6	11	2K	-1				12	29			
PALOMAR	75.18	48.4	11	3K	0								
ISABELLA	75.26	45.6	11	4K	1				12	29			
SHASTA	75.55	39.5	11	5K	0								
MINERAL	75.83	40.2	11	5K	-1								
CHINA LAKE	75.94	45.9	11	6K	-1				12	34			
TINEMAHA	76.17	44.5	11	9K	1								
HAYFIELD	76.25	48.6	11	9	0								
RENO	76.50	41.7	11	11K	1								
CORVALLIS	77.36	35.9	11	16	1								
HONG KONG	77.78	297.6	11	18	1								
BOULDER CITY	77.96	46.9	11	18	0								
EUREKA	78.96	43.4	11	24	1								
TUCSON	79.11	51.9	11	25	1	21	5	14	12	52			
HORSESHOE B.	80.34	32.1	11	30K	-1								
SITKA	80.50	21.4	11	31	0								
COLLEGE	83.59	11.9	11	46	-1								
TACUBAYA	83.81	67.9	11	53	5								
BUTTE	84.45	39.0	11	52	1								
HUNGRY HORSE	84.77	36.5	11	52	-1								
BOZEMAN	85.20	39.8	11	56	1								
BANFF	85.42	33.5	11	57K	1								
BOULDER	86.49	46.8	10	56	-65								
LUBBOCK	86.54	53.8	12	2	0								
RAPID CITY	89.54	43.7	12	16	0								
FAYETTEVILLE	93.31	53.5							14	33			
LAHORE	114.31	297.7	17	2	-52								
QUETTA	120.57	295.8	17	25	-42								
KIRUNA	127.09	352.0	18	18	-1								
PRETORIA	131.98	210.5									24	39	
SKALSTUGAN	132.12	354.7	18	29	0						21	21	SKP
UPPSALA	135.04	349.9	18	23	-11						21	32	SKP

WARSAW	141.29	342.7	18	46	0					
RATHFARNHAM	142.05	9.5	18	43K	-5					
WITTEVEEN	143.21	356.7	18	46	-4					
KRAKOW	143.54	342.1	18	48	-2				19	48
RACIBORZ	144.00	343.8	18	51	0					
KEW	144.53	4.0	18	49	-3					
JENA	144.58	351.1	18	49	-3	20	27			
PRAGUE	144.91	347.7	18	52	0	20	30			
CHEB	145.28	349.9	18	54	1				19	25
BUCHAREST	145.83	330.5	18	55	1	20	31			
KSARA	145.86	307.3	18	58	4	20	33		22	30 PP
BRATISLAVA	146.04	343.5	18	55	1	20	30			
STUTTGART	147.02	353.0	18	56	0	20	34			
JERUSALEM	147.14	304.2	18	56	0	20	34			
PARIS	147.31	1.2	19	0	4	20	36			
STRASBOURG	147.35	354.7	18	57	1	20	35			
EBINGEN	147.63	353.1	18	56	0	20	35			
BELGRADE	147.92	336.9	18	57K	0	20	36			
ASTRIDA	148.08	236.8	19	1	4					
BASLE	148.41	354.6	19	2	5					
SOFIA	148.44	331.4	19	0	3				21	0
BESANCON	148.81	356.6	19	4	6	20	53			
NEUCHATEL	148.99	355.3	19	5	7					
LWIRO	149.03	236.3	19	2	4	20	41			
RUMANGABO	149.14	238.4	18	57	-2					
TRIESTE	149.24	345.8	18	58K	-1	20	39			
FLORENCE X.	151.56	348.1	18	45	-17	19	18			
MONACO	152.19	353.8	19	11	8					
ROME	153.08	345.0	18	50	-14					
TAMANRASSET	173.01	343.9	19	26	3	20	53	31	1	SKKS

MARCH 12 21.H 22.M 58.S EPICENTRE -1.59 -80.15 DEPTH= 60.KM

DEPTH OF FOCUS= 0.004R

A= 0.17099 B=-0.98489 C=-0.02761 D=-0.9853 E=-0.1711
G=-0.0047 H= 0.0272 K=-0.9996 HT= 7.2

SE= 2.10

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
CHINCHINA	7.94	34.8	1	53	-2	3	38	13			3	0	
BOGOTA	8.66	44.5	2	6	1	4	6	23					
BALBOA HTS.	10.50	3.2	2	33	3								
HUANCAYO	11.44	155.5	2	42	-1	4	42	-8					
GALERAZAMBA	13.22	21.5	3	7	0	5	48	15					
LA PAZ	18.96	142.1	4	19	0	7	47	2	4	48	8	47	PCP
COMITAN	21.31	326.7	4	41	-3								
TRINIDAD	22.18	56.3	4	56	4								
SAN JUAN	24.18	34.2	5	13	1	9	42	19			7	6	
MERIDA	24.25	338.0	5	14K	1	9	34	10					
ST. LUCIA	24.52	50.1	5	15	0								
FORT FRANCE	24.84	48.6	5	18	0	9	40	6					
DOMINICA	25.01	47.2	5	23	3								
BARBADOS	25.09	53.8	5	21	0								
VERA CRUZ	25.95	323.5									6	5	PP
ANTIGUA	26.35	44.6	5	29	-3								
TACUBAYA	28.02	319.0									6	13	
COLUMBIA	35.41	358.7	6	52	0								
BERMUDA	36.83	22.1	7	7	3	12	50	6			8	34	PP
FAYETTEVILLE	39.71	342.1	7	27K	-1								
LUBBOCK	40.52	331.6	7	36	1								
MORGANTOWN	41.02	0.2	7	38K	-1								
PALISADES	42.78	7.0	7	51	-3	14	9	-4					
CLEVELAND	42.89	358.5	7	53	-1								
TUCSON	44.45	321.9	8	8	1								
OTTAWA	46.95	4.3	8	26K	-1						10	19	PP
HALIFAX	48.32	15.8	8	37	-1								
SHAWINIGAN	48.38	6.8	8	37K	-1								
HAYFIELD	48.45	319.7									8	56	
BARRETT	48.50	317.9	8	39	0								
PALOMAR	49.03	318.5	8	44	1								
SEVEN FALLS	49.20	8.4	8	42	-2								
BOULDER CITY	49.41	322.6	8	46	0								
KIRKLAND LA.	49.54	0.1	8	44A	-3								
RIVERSIDE	49.76	318.8	8	48	-1								

RAPID CITY	49.93	338.4	8 50	0						
PASADENA	50.38	318.5	8 54	1						
CHINA LAKE	51.03	320.5	8 58	0						
ISABELLA	51.49	319.8	9 3	1						
WOODY	51.77	319.6	9 4	0						
TINEMAHA	52.20	321.4	9 7	0						
EUREKA	52.42	325.1	9 10	1						
FRESNO	53.02	320.1	9 12	-1						
BOZEMAN	54.43	333.7	9 24	0						
BUTTE	55.37	333.0	9 39	9						
SCHEFFERVLLE	57.31	9.2	9 42	-2						
HUNGRY HORSE	57.79	333.9	9 47	-1						
BANFF	60.55	335.2	10 6	-1						
VICTORIA	62.40	329.1	10 25	6						
HORSESHOE B.	62.88	329.9	10 20	-2						
MBOUR	64.52	73.3	10 33	0	19 13	7			11 10	PCP
RESOLUTE	76.68	356.0	11 44A	-2						
RATHFARNHAM	81.69	35.6	12 10	-4			12 54			
COLLEGE	82.11	336.5	12 14	-2						
KEW	84.90	38.2	12 34	4	22 46	-6				
PARIS	86.33	41.1	12 38	1			13 3			
TAMANRASSET	86.62	67.2	12 39	1	23 16	7			16 2	PP
DE BILT	88.37	38.0			23 32	7				
WITTEVEEN	89.33	37.3	13 4	13						
STRASBOURG	89.80	41.6					13 14			
EBINGEN	90.59	42.0	12 54	-3						
STUTTGART	90.76	41.4	13 0	2						
TRIESTE	93.86	44.5	12 50	-22			13 31			
KIRUNA	95.46	22.0	13 34	15						
BRATISLAVA	96.03	41.9	13 24	2						
QUETTA	137.78	44.4	19 17	-1						
POONA	149.45	54.9	19 49	11						
SHILLONG	154.95	17.2	19 47	1						

MARCH 13 2.H 48.M 21.S EPICENTRE 51.8S-171.07 DEPTH= 0.KM

A=-0.61281 B=-0.09627 C= 0.78435 D=-0.1552 E= 0.9879
G=-0.7748 H=-0.1217 K=-0.6203 HT= -6.1

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	
COLLEGE	17.71	33.7	4 9	-1	7 30	4			
PETROPAVLOVK	18.42	286.0	4 25	6	7 30	-12			
SITKA	21.25	61.7	4 52	2	8 46	4			
HORSESHOE B.	30.00	75.5	6 14	1				9 13	PCP
VICTORIA	30.26	77.2	6 16	1				9 14	PCP
SEATTLE	31.32	78.1	7 4	40					
CORVALLIS	32.16	83.8	6 42	10					
TIKSI	32.64	329.4	6 36	0					
BANFF	33.86	68.7	6 47K	0				9 24	PCP
MINERAL	35.52	89.0	6 51A	-10					
HUNGRY HORSE	35.96	72.4	7 5	0	13 0	17		8 45	PP
BERKELEY	36.61	92.8	7 10	0					
RENO	37.11	88.7	7 16A	2				14 5	
RESOLUTE	37.29	25.2	7 14A	-2	12 58	-6		15 18	
LICK	37.32	93.0	7 17K	1					
BUTTE	37.96	75.0	7 21	0	13 17	3			
MATUSIRO	38.61	267.0	7 25	-2	13 20	-4			
FRESNO	38.82	92.2	7 29K	0					
BOZEMAN	39.05	74.6	7 31	0					
EUREKA	39.52	85.9	7 36	2					
TINEMAHA	39.61	90.6	7 37K	2				9 41	PCP
WOODY	40.09	92.7	7 39K	0	13 47	1		9 42	PCP
ISABELLA	40.36	92.5	7 43K	2	13 53	3		9 45	PCP
CHINA LAKE	40.79	91.6	7 45K	0				9 45	PCP
SALT LAKE C.	41.30	81.4	7 49	0					
PASADENA	41.53	94.0	7 51K	0	14 8	0			
RIVERSIDE	42.13	93.5	7 55K	-1	14 17	1		9 48	PCP
CHANGCHUN	42.20	285.2	7 54	-2					
BOULDER CITY	42.41	89.2	7 59	1					
PALOMAR	42.88	93.8	8 2K	0				8 59	
HAYFIELD	43.40	92.4	8 6	0					
BARRETT	43.45	94.3	8 8K	1				8 57	
RAPID CITY	44.59	72.0	8 15	-1					
TUCSON	47.36	90.0	8 38	0	15 45	13			
IRKUTSK	49.11	306.0	8 50	-1	15 50	-7			

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PEKING	49.93	286.6	8	56	-2	16	4	-4	18	44	SCS
LUBBOCK	52.01	82.0	9	13	-1						
ZO-SE	52.80	274.6	9	17K	-2	16	45	-2	19	4	SCS
KIRKLAND LA.	54.89	54.9	9	33K	-2	17	13	-3			
FAYETTEVILLE	54.97	74.4	9	34K	-1						
SCORESBY SD.	55.96	12.0	9	41	-2	17	41	11			
SCHEFFERVLLE	56.60	42.2	9	46	-1						
HAMILTON	58.28	59.2	10	12	13	18	0	-1			
OTTAWA	58.95	55.0	10	2K	-2	18	3	-6			
SHAWINIGAN	59.62	52.3	10	6K	-2				11	3	PCP
SEVEN FALLS	60.16	50.8	10	10	-2	18	23	-2			
PITTSBURGH	60.16	61.6	10	12	0						
GUADALAJARA	60.31	94.0	10	13	0						
KIRUNA	60.33	355.0	10	10	-3				10	56	PCP
MORGANTOWN	60.73	62.3	10	14K	-2						
SEMIPALATNSK	61.60	316.4	10	19	-3						
WASHINGTON	62.82	61.0	10	30	0						
PALISADES	62.99	57.4	10	28	-3	18	58	-3	23	10	SS
PHILADELPHIA	63.09	59.0				19	3	1			
CANTON	63.43	274.0	10	32	-2	19	35	29	20	19	SCS
HONG KONG	63.45	272.8	10	32	-2	19	2	-5			
SVERDLOVSK	63.65	331.2	10	36	1	19	5	-4			
TACUBAYA	63.82	91.6	10	36	-1						
BAGUIO CITY	63.90	263.4	10	48	11	19	8	-4			
RABAUL	63.98	221.6	10	44	6						
COLUMBIA	64.14	67.4	10	37	-2	18	55	-20			
SKALSTUGAN	64.88	358.3	10	42	-2						
HALIFAX	65.42	48.5	10	46A	-1						
PULKOVO	67.40	348.5	10	59	-1						
UPPSALA	68.44	355.3	11	4	-2				39	9	PKPPKP
FRUNSE	69.89	314.5	11	14	-1	20	16	-9			
MOSCOW	70.18	343.2	11	16	-1						
NAMANGAN	72.71	315.2	11	32	0	20	53	-4			
COPENHAGEN	72.80	357.9	11	32A	-1	21	0	2	26	9	SS
DURHAM	73.39	6.3	11	46	10	21	16	11			
BERMUDA	74.34	57.5	11	51	10	21	18	2	14	50	PP
SHILLONG	74.46	291.5	11	33	-9						
HAMBURG	74.95	359.4	11	47	2				11	58	PCP
WITTEVEEN	75.69	1.4	11	50	1						
WARSAW	75.80	352.4	11	52	2				21	54	SKS
DE BILT	76.38	2.4	11	59	6	21	39	1			
KEW	76.76	5.9				21	39	-3			
JENA	77.57	358.3	11	59	-1	21	42	-9	13	19	
KRAKOW	78.05	352.8	11	46	-16				18	17	
RACIBORZ	78.14	353.9	12	3	0				12	39	
PRAGUE	78.35	356.4	12	4	0	21	54	-5	22	16	
LAHORE	79.17	307.8	12	6	-2						
KARLSRUHE	79.52	0.3	12	11A	1						
PARIS	79.57	4.3	12	11	0	22	15	3	15	17	PP
STUTTGART	79.76	359.8	12	11	-1	22	11	-3	12	24	PCP
STRASBOURG	79.95	0.8	12	13	0	22	15	-1	13	46	
TUBINGEN	80.00	359.9	12	15	2						
BRATISLAVA	80.12	354.5	12	14	0				21	19	
EBINGEN	80.35	360.0	12	15	0						
BASLE	81.00	0.9	12	18	0				19	2	
SIMFEROPOL	81.16	342.2	12	19	0	22	25	-4			
ZURICH	81.16	0.2	12	17	-2						
BESANCON	81.25	2.0	12	21	1				24	11	
SOTCHI	81.28	337.9	12	20	0						
NEUCHATEL	81.52	1.4	12	21	0						
CLERMONT-FD.	82.63	4.1	12	29	2						
TRIESTE	82.79	356.6	12	27	-1	21	41	-65	15	48	PP
OROPA	82.91	0.7	12	39	11	22	46	-1			
BUCHAREST	82.97	347.7	12	40	11	22	46	-1			
BELGRADE	83.20	351.8	12	2	-28	22	48	-2	12	34	
PAVIA	83.35	359.8	12	33	3				22	49	SKS
QUETTA	83.81	312.4	12	32	-1	22	55	-1	22	52	SKS
BALBOA HTS.	83.96	83.3	12	30	-4						
BOLOGNA	84.01	358.3				22	56	-2	12	57	
SAN JUAN	84.62	67.2	12	34	-3						
PRATO	84.63	358.4	12	42	5						
FLORENCE X.	84.73	358.3	12	41	4						
MONACO	84.79	1.1	12	40K	2				14	3	
BRISBANE	85.04	211.5	12	37	-2				22	52	SKS
ROME	86.58	357.3	12	48A	1	23	21	-2	23	9	SKS
HYDERABAD	88.49	296.5	12	56	0	23	22	-19			
ANTIGUA	88.52	64.1	12	54	-2						
CHINCHINA	89.50	82.7	12	58	-3	23	49	-1			

	DOMINICA	89.76	65.3	13	6	4				
	POONA	90.10	300.8	13	3	0	23	49	-7	
	MESSINA	90.14	354.8							13 51
	BOMBAY	90.34	301.8	13	4	-1	23	51	-7	23 30 SKS
	BOGOTA	90.72	81.7	13	5	-1	23	55	-6	
	MALAGA	91.04	10.7	13	4A	-4				
	KSARA	91.48	337.8	13	13	3	24	10	2	16 46 PP
	RIVERVIEW	91.52	210.7	13	7A	-3	23	57	-11	30 28 SS
	ST. VINCENT	91.55	66.5	13	13	3				
	TRINIDAD	93.43	68.1	13	17	-2				
	JERUSALEM	93.59	337.8	13	21	2				18 17 PP
	TAMANRASSET	105.64	3.3	14	16	777	24	51	5	18 40 PP
	LA PAZ	110.77	90.4							29 9 PS
	LWIRO	127.84	334.5	19	11	3				
>	ASTRIDA	127.93	333.3	19	9	1				
	UVIRA	128.93	333.7	19	18	8				
	PIETERMZBURG	152.67	316.0	19	59	7				
	KIMBERLEY	154.06	326.7	19	59	5				

MARCH 13 15.H 42.M 7.S EPICENTRE 51.48-178.61 DEPTH= 0.KM

A=-0.62511 B=-0.01516 C= 0.78039 D=-0.0242 E= 0.9997
G=-0.7802 H=-0.0189 K=-0.6253 HT= -6.0

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	
KLYUCHI	13.07	299.8	3	11K	2								
PETROPAVLOVK	14.00	285.7	3	22K	1	6	0	1					
MAGADAN	18.96	307.1	4	25A	0	7	58	4					
COLLEGE	20.77	38.1	4	43	-2	8	23	-9					
NEMURO	25.36	265.4	5	28	-2	9	52	-3					
Y.-SAKHLINSK	25.45	275.1	5	32	1	9	55	-1					
SITKA	25.54	60.4	5	33	2	10	0	2					
ABASHIRI	25.82	267.9	5	36	2	10	5	3					
KUSIRO	26.28	265.8	5	39	1	10	9	-1					
WAKKANAI	26.77	272.7	5	53	10	10	14	-4					
OBIHIRO	27.06	266.7	5	46	0	10	17	-6					
ASAHIGAWA	27.14	269.0	5	48	2								
URAKAWA	27.74	265.6	5	49	-3	10	28	-6					
SAPPORO	28.14	268.5	5	52	-3	10	36	-4			6	44	
TOMAKOMAI	28.28	267.3	5	55	-2								
SUTTSU	28.98	268.9	5	59	-4	10	51	-3			6	35	
MORI	29.14	267.4	6	7	3	10	54	-2			7	15	PP
HAKODATE	29.22	266.8	6	6	1	10	53	-4					
HATINOHE	29.42	263.9	6	7	0	10	57	-4					
MIYAKO	29.67	262.1	6	7	-2	10	58	-6					
AOMORI	29.72	265.1	6	6	-4	11	1	-4					
MORIOKA	30.13	262.9	6	12	-1	11	6	-6					
MIZUSAWA	30.50	262.0	6	17	1	11	15	-3					
TIKSI	30.60	330.4	6	18	1	11	16	-3			7	26	PP
AKITA	30.79	263.9	6	20	1	11	25	3			7	14	PP
ISINOMAKI	30.81	260.8	6	17	-2								
SENDAI	31.17	260.9	6	22	0	11	23	-5			7	45	
SAKATA	31.44	262.9									7	53	
YAMAGATA	31.52	261.4	6	26	1								
HUKUSIMA	31.76	260.6	6	27	-1								
ONAHAMA	32.00	259.0	6	32	2	11	41	0			7	24	
SHIRAKAWA	32.31	259.9	6	33	1	11	41	-5			7	4	
NIIGATA	32.53	262.1	7	3	29								
MITO	32.63	258.6	6	36	1								
UTUNOMIYA	32.89	259.4	6	37	0	11	49	-6			7	0	
KAKIOKA	32.91	258.7	6	38	0	11	54	-1					
AIKAWA	32.96	263.0	6	36	-2						17	4	SCS
TUKUBASAN	32.96	259.0	6	37	-1	11	53	-4					
KUMAGAYA	33.45	259.3	6	43	1	12	2	-2			7	52	PP
MAEBASI	33.48	260.0	6	42	-1	12	1	-3			7	49	PP
TOKYO C.M.O.	33.53	258.3	6	47	4	12	2	-3			7	54	PP
TAKADA	33.54	261.7	6	46	3								
ALBERNI	33.73	72.1	6	47	2								
TITIBU	33.74	259.4	6	45	0						17	9	
YOKOHAMA	33.76	258.1	6	47	2	12	16	8			7	15	
NAGANO	33.84	261.2	6	47	1	12	8	-2			17	9	SCS
OIWAKE	33.84	260.4	6	46	0	12	15	5					
MATUSIRO	33.91	261.0	6	46	0	12	7	-4			7	54	PP
MERA	33.98	257.2	6	47	0	12	10	-2					

HONOLULU	34.11	144.4	6	46	-2	12	13	-1		
HUNATU	34.25	259.0	6	52	3				7	55 PP
MATUMOTO	34.25	260.8	6	51	2	12	15	-1	8	2 PP
KOHU	34.29	259.4	6	49	-1	12	20	3	7	58 PP
OSIMA	34.36	257.5	6	51	1	12	15	-3	17	9 SCS
MISIMA	34.39	258.4	6	47	-3	12	4	-14		
TOYAMA	34.44	262.1	6	54	3	12	17	-2	8	7 PP
HORSESHOE B.	34.60	71.2	6	51A	-1	12	21	-1	9	24 PCP
IIDA	34.81	259.9	6	55	1				14	48
SHIZUOKA	34.83	258.7	6	53	-1	12	24	-1		
VICTORIA	34.89	72.6	6	56A	1	12	27	1	9	27 PCP
OMAESAKI	35.18	258.4	7	4	7				8	38
SUIHWA	35.28	284.0	6	59	1	12	29	-3		
HAMAMATU	35.41	259.0	7	3	4					
HUKUI	35.43	262.1	7	2	3					
GIHU	35.55	260.8	7	1	1	12	30	-6	8	14 PP
NAGOYA	35.57	260.3	7	2	1					
IBUKISAN	35.80	261.1	7	3	1					
HIKONE	35.95	261.1	7	4	0	12	35	-8		
SEATTLE	35.95	73.4	7	7A	3	12	47	4		
KAMEYAMA	36.09	260.3	7	6	1	12	43	-2	9	5
TU	36.14	260.1	7	7	2					
KYOTO	36.44	261.2	7	9	1	12	49	-1		
NARA	36.60	260.7	7	11	2	12	53	1		
TOYOOKA	36.67	262.7	7	9	-1	12	48	-5		
OSAKA	36.80	261.0	7	13	2	12	52	-4		
CORVALLIS	36.85	78.5	7	14A	3	13	0	4		
KOBE	37.00	261.3	7	13	0				13	57
SUMOTO	37.40	261.2	7	17	1	13	2	-3	9	24
SIOMISAKI	37.46	259.3	7	17	1	13	3	-3		
HIMEJI	37.60	261.8	7	15	-3	13	0	-8		
YONAGO	37.65	263.9	7	31	13	13	7	-1		
CHANGCHUN	37.71	281.0	7	18	-1	13	3	-7	8	46 PP
TOKUSIMA	37.78	261.1	7	21	2	13	5	-5	17	27 SCS
TAKAMATU	37.94	261.9	7	24	4	13	1	-12	8	52
BANFF	38.32	64.9	7	23A	-1					
KOTI	38.77	261.4	7	28	1	13	23	-3	9	6 PP
HAMADA	38.79	264.3	7	28	0	13	20	-6	8	27
HIROSIMA	38.91	263.4	7	33	4	13	24	-4	17	35 SCS
MATUYAMA	39.07	262.5	7	30	0	13	27	-3	8	55 PP
RESOLUTE	39.60	24.5	7	34K	0	13	24	-14	9	14 PCP
SIMIDU	39.64	261.0	7	35	0	13	37	-2		
UKIAH	39.94	85.7	7	37	0	13	43	0		
SIMONOSEKI	40.12	264.2	7	40	1	13	43	-3		
OOITA	40.17	262.7	7	43	4	13	40	-7		
MINERAL	40.23	83.0	7	40	0					
HUNGRY HORSE	40.50	68.1	7	42	0	13	48	-4		
HUKUOKA	40.68	264.2	7	44	1	13	53	-1		
ASOSAN	40.73	262.9	7	45	1	13	55	0		
SAGA	40.98	263.9	7	48	2	14	10	11		
KUMAMOTO	41.02	263.1	7	47	1	13	56	-3		
MIYAZAKI	41.18	261.5	7	48	1	14	1	-1		
BERKELEY	41.30	86.5	7	49A	1	13	55	-8		
NAGASAKI	41.59	263.7	7	54	3	14	8	0		
SANTA CLARA	41.82	86.9	7	54A	1	14	12	1		
RENO	41.82	82.8	7	54	1	14	12	1		
KAGOSIMA	41.96	261.8	7	54	0	14	11	-2		
LICK	42.02	86.7	7	55A	1					
BUTTE	42.55	70.3	7	58	-1	14	16	-6		
SASKATOON	42.80	59.6				17	35	189		9 41 PP
FRESNO	43.52	86.0	8	7A	1	14	31	-5		
BOZEMAN	43.63	69.9	8	8	1	14	37	-1		
EUREKA	44.23	80.2	8	13	1					
TINEMAHA	44.32	84.5	8	14A	1	14	48	0		13 51 SCP
WOODY	44.79	86.5	8	17A	0	14	53	-1		
ISABELLA	45.05	86.2	8	19A	0	14	55	-3		
IRKUTSK	45.44	302.8	8	20	-2				10	6 PP
PEKING	45.48	282.1	8	22	0	15	1	-3	10	11 PP
CHINA LAKE	45.49	85.4	8	23A	1	14	59	-6	10	9 PP
KWANTING	45.70	282.7	8	24	0					
SALT LAKE C.	45.97	76.1	8	27	1	15	5	-6		
PASADENA	46.22	87.6	8	28A	0	15	13	-2		9 47 PCP
RIVERSIDE	46.82	87.2	8	32A	-1	15	21	-2		
BOULDER CITY	47.11	83.3	8	35	0					
TATUNG	47.19	284.0	8	38	2					
PALOMAR	47.57	87.4	8	36A	-3	15	36	2		
GUAM	48.03	231.3	8	38	-4					
HAYFIELD	48.10	86.2	8	43	0	15	38	-4		9 10

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ZO-SE	48.12	269.1	8	43K	0	15	40	-2	10	33 PP
BARRETT	48.13	88.0	8	43A	0	15	39	-3	14	16 SCP
PAOTOW	48.86	286.6	8	50	1					
NANKING	48.96	271.9	8	48K	-2	15	50	-4	10	45 PP
TAIYUAN	49.05	282.1	8	52	2					
RAPID CITY	49.12	67.3	8	51	0	15	53	-3	10	50 PP
LINFEN	50.80	281.1	9	7	3					
TUCSON	52.06	84.0	9	14	1	16	36	-1	20	25 SS
YINCHUAN	52.44	286.9	9	19	3					
SIAN	53.62	281.1	9	26	1	16	57	-1	19	12 SCS
WUWEI	54.96	288.7	9	35	0					
TIENSHUI	55.33	283.6	9	38	1					
LANCHOW	55.49	286.2	9	39	1					
SINING	56.34	288.1	9	45	0					
YUMEN	56.65	294.3	9	47	0					
LUBBOCK	56.69	76.5	9	46	-1	17	36	-3	19	33 SCS
CHIHUAHUA	57.52	83.7							16	2
SEMIPALATNSK	58.51	312.6	9	54	-6	17	58	-5		
CANTON	58.74	268.4	9	59	-3	17	58	-8	19	47 SCS
HONG KONG	58.76	267.1	10	1	-1	17	53	-13		
KIRKLAND LA.	58.85	50.7	10	1K	-1	18	2	-5		
APATITY	58.87	346.2	10	2	0	18	5	-3	12	4 PP
BAGUIO CITY	59.21	257.2	10	2	-3	18	8	-4		
CHICAGO CGS.	59.35	60.4	10	6	0	18	6	-8		
FAYETTEVILLE	59.54	69.3	10	6A	-1	18	13	-3		
FLORISSANT	59.87	64.6	10	8A	-1	18	17	-3	19	56 SCS
SCHEFFERVLLE	59.92	38.3	10	9K	-1				12	12 PP
ST. LOUIS 1	60.06	64.6	10	9A	-2	18	18	-5	19	57 SCS
KIRUNA	60.16	351.8	10	9K	-2	18	20	-4	11	0 PCP
MANILA	60.39	255.6	10	21	8	18	23	-4		
RABAUL	60.82	213.9	10	13K	-3	18	27	-6	10	57 PCP
MAZATLAN	61.23	88.3							20	5 SCS
SVERDLOVSK	61.57	327.5	10	21	0	18	40	-2	12	50 PP
HAMILTON	62.41	54.6	10	29	2	18	50	-3	20	18 SCS
CLEVELAND	62.80	57.0	10	28	-1	18	56	-2		
CINCINNATI	62.88	60.6	10	31	1	18	55	-4		
OTTAWA	62.90	50.5	10	27K	-3	18	53	-6	19	25 PS
BUFFALO L.	63.29	54.2	10	32	0					
REYKJAVIK	63.30	11.2	10	34	2					
SHAWINIGAN	63.45	47.9	10	30K	-3				12	49 PP
SEVEN FALLS	63.92	46.4	10	34	-3	19	7	-5	20	43 PS
PITTSBURGH	64.38	56.8	10	37	-3	19	13	-4	20	28 PS
MORGANTOWN	64.97	57.4	10	43	0	19	15	-10		
GUADALAJARA	65.00	87.9	10	53	9	19	27	2		
PENNSYLVANIA	65.20	55.3	10	46	1	19	27	-1	12	2 PP
APIA	65.28	172.7	10	43	-2					
PULKOVO	66.66	344.5	10	53	-1	19	39	-6	13	23 PP
FRUNSE	66.66	310.0	10	53A	-1	19	46	1	11	13 PCP
WASHINGTON	67.02	56.1	10	58	2	19	48	-2		
PALISADES	67.04	52.7	10	55	-2	19	44	-6	20	20 PS
FORDHAM	67.18	52.7	10	57	-1	19	48	-4		
WESTON	67.27	50.1	10	57K	-1	19	47	-6		
CHAPEL HILL	68.19	59.6	11	4	0	20	2	-2		
UPPSALA	68.25	351.3	11	2K	-2	19	58	-6	13	37 PP
BERGEN	68.43	357.9	11	1	-4	20	2	-5	13	41 PP
TACUBAYA	68.52	85.6	11	8	2	20	5	-3	13	24 PP
COLUMBIA	68.54	62.2	11	6	0	20	5	-3	25	21 SS
MOSCOW	69.01	339.0	11	7	-2	20	7	-6	13	46 PP
HALIFAX	69.05	43.9	11	7K	-2					
SUVA	69.38	183.0	11	7	-4	20	15	-3	13	31 PP
SHILLONG	70.14	286.2	11	14A	-2	20	20	-7	13	51 PP
TASHKENT	70.36	312.2	11	17	0	20	25	-4	21	15 SCS
VERA CRUZ	70.58	83.4				20	32	0	13	44
ABERDEEN	71.67	2.0				20	41	-4	16	23
OAXACA	71.82	85.4				20	53	7		
CHATRA	71.99	290.4	11	27	0	20	45	-3		
STALINABAD	72.80	310.7	11	29	-3	20	51	-6		
COPENHAGEN	72.81	353.5	11	32K	0	20	57	-1	14	20 PP
MERIDA	73.28	77.4	11	36A	1	21	2	-1		
DURHAM	74.09	1.8	11	39	0	21	21	9		
DEHRA DUN	74.50	299.2	11	42	0	21	12	-5	14	45 PP
NOUMEA	74.63	194.3	11	42	0				13	2
BOKARO	75.06	289.4	11	45	0	21	21	-2	12	2 PCP
HAMBURG	75.07	354.7	11	45	0	21	20	-3	14	42 PP
COMITAN	75.29	82.4	11	51	5	21	25	0		
WARSAW	75.34	347.7	11	58	11	21	16	-10	14	38 PP
RATHFARNHAM	75.39	4.7	11	45	-2	21	35	9		
LAHORE	75.54	302.6	11	46	-2					

WITTEVEEN	75.97	356.7	11	50	0					
POTSDAM	76.04	352.7	11	50	-1	21	30	-4		
NEW DELHI	76.32	298.6	11	50	-2	21	28	-9	26	18 SS
DE BILT	76.74	357.6	11	53	-1	21	53	12	14	49 PP
LWOW	77.24	345.2	11	56	-1	21	41	-6	14	58 PP
KEW	77.41	1.1	11	56	-2	21	45	-4	14	53 PP
JENA	77.60	353.4	11	57	-2	21	46	-5	15	8 PP
KRAKOW	77.62	347.9	11	58	-1	21	45	-6	22	43 PPS
RACIBORZ	77.81	349.0	11	59	-1	21	53	0	22	5 SKS
ASHKABAD	77.97	317.3	12	0	-1	21	52	-3		
PRAGUE	78.22	351.5	12	1K	-2	22	4	7	15	2 PP
CHEB	78.38	352.8	11	59	-4	22	9	10	12	42
BERMUDA	78.39	52.1	12	0	-4	21	50	-9	26	56 SS
SKALNATE PL.	78.43	347.5	12	8	4	21	53	-6	14	14
IASI	79.15	342.2	12	8	0	22	5	-2	13	22
JERSEY	79.67	2.3				22	8	-5		
KARLSRUHE	79.71	355.3	12	11A	0	22	5	-8	15	5 PP
TIFLIS	79.79	328.5	12	12	1	22	12	-2	22	28 SCS
BRATISLAVA	79.82	349.4	12	11	0	22	11	-3	15	10 PP
SIMFEROPOL	79.87	337.0	12	11K	-1	22	12	-3	15	22 PP
BACAU	79.89	342.4	12	15	3	22	14	-1		
STUTTGART	79.90	354.8	12	11K	-1	22	12	-3	14	59 PP
HURBANOVO	79.98	348.6							14	11
PARIS	80.08	359.3	12	13A	0	22	13	-4	15	15 PP
TUBINGEN	80.15	354.8	12	13	0					
STRASBOURG	80.17	355.7	12	13K	0	22	17	-1	15	16 PP
BUDAPEST	80.25	347.9	12	16	2	22	28	9	23	21 PPS
QUETTA	80.43	306.9	12	14A	-1	22	18	-3	22	31 SKS
EBINGEN	80.50	354.9	12	14K	-1				15	19 PP
FOCSANI	80.67	342.0	12	21	5	22	25	2		
KALOCSA	81.20	347.8	12	23	4					
BASLE	81.22	355.8	12	17	-2	22	15	-14		
GORIS	81.26	326.4	12	20	1	22	29	0	22	41 SCS
SZEGED	81.32	347.0	12	46	27				15	39 PP
ZURICH	81.33	355.1	12	19	0	22	29	-1		
CAMPULUNG	81.49	343.4	12	23	3	22	34	3	13	0
BESANCON	81.57	356.8	12	21	0				15	20 PP
TIMISOARA	81.65	346.1	12	26	5	22	49	16		
NEUCHATEL	81.78	356.2	12	21	-1	22	25	-10	17	36 PPP
BUCHAREST	82.11	342.4	12	24	1	22	35	-3	12	57 *PP
ZAGREB	82.26	349.8	12	23	-1	22	37	-2		
BRISBANE	82.49	205.2	12	23	-2				22	40 SKS
TRIESTE	82.66	351.3	12	24K	-2	22	39	-5	22	46 SCS
BELGRADE	82.67	346.4	12	19A	-7	22	41	-3	14	17
OROPA	83.11	355.4	12	33	4	22	28	-20	15	30 PP
CLERMONT-FD.	83.12	358.8	12	28	-1					
PAVIA	83.48	354.5	12	32A	2				23	54 PS
BOLOGNA	84.01	352.9	12	35	2	22	55	-2	15	21
SOFIA	84.28	343.9	11	36	-58	22	0	-60	22	24 SCS
HYDERABAD	84.34	290.8	12	36	1	22	55	-5	16	8 PP
PRATO	84.64	353.0	12	35	-1	22	53	-10		
FLORENCE X.	84.73	352.8	12	44	7					
MONACO	85.02	355.6	12	38A	0				13	6
OJAKARTA	85.29	254.1	12	35K	-5	22	59	-11		
POONA	86.12	294.9	12	44	0					
ROME	86.50	351.7	12	45K	-1	23	7	-14	16	17 PP
MADRAS	86.79	286.7	12	46	-1	23	7	-17	16	15 PP
TARANTO	87.38	348.0	13	0	10	22	34	-56		
BARCELONA	87.47	359.4							23	13
BALBOA HTS.	88.65	77.4	12	54	-2					
TOLEDO	88.89	4.5	12	55A	-3	23	24	-20		
SAN JUAN	89.00	61.3	12	55	-3	23	39	-6	23	15 SKS
RIVERVIEW	89.01	204.8	12	56K	-2	23	45	0	16	25 PP
KARAPIRO	89.18	184.6	12	57	-1	23	42	-5		
LISBON	89.70	8.2	13	7K	6					
KSARA	89.81	331.9	13	0	-1	23	54	2	16	36 PP
GALERAZAMBA	89.81	73.0				23	56	4		
MESSINA	89.83	348.9	12	58	-3	23	46	-7	16	30 PP
REGGIO CALA.	89.92	348.8				23	47	-6		
TUAI	89.98	183.3	12	59	-3					
TONGARIRO	90.45	184.5	12	59	-5					
ALICANTE	90.53	1.5	13	1	-4	23	54	-5	16	36 PP
KODAIKANAL	90.59	287.2	13	7	2				23	37
COLOMBO	91.77	283.3	12	9	-61				23	39
JERUSALEM	91.91	331.7	13	11	0				17	55 PP
MALAGA	92.02	4.7	13	6K	-6	24	6	-6	16	26 PP
ALGIERS UNI.	92.11	358.7	13	14	2	24	18	5	23	49 SKS
COBB RIVER	92.49	186.5	13	12	-2					
WELLINGTON	92.56	185.0	13	11	-3	24	8	-9	23	42 SKS

ANTIGUA	92.81	58.2	13	13A	-2					
KAIMATA	94.02	187.4	13	29	8					
DOMINICA	94.09	59.4	13	21	0					
CHINCHINA	94.18	76.8	13	21	-1				23	52 SKS
MELBOURNE	94.48	208.1	13	22	-1	24 37	4		16	59 PP
FORT FRANCE	94.69	59.5	13	24	0	24 32	-3		23	56
CHRISTCHURCH	94.94	186.4	13	25	0				23	56 SKS
ST. LUCIA	95.35	59.7	13	26	-1					
BOGOTA	95.40	75.7	13	32	5				23	52 SKS
ST. VINCENT	95.92	60.4	13	29	0					
BARBADOS	96.86	59.1	13	34	0					
PERTH	101.01	232.0							27	0
TAMANRASSET	105.97	356.0	14	14	777				18	44 PP
HUANCAYO	107.60	87.3							18	53 PP
MBOUR	112.49	19.3	18	22	-16				19	31 PP
LA PAZ	115.48	84.6	18	45	1	25 49	16		19	55 PP
RUMANGABO	124.77	325.2	19	3A	1				20	55
ASTRIDA	125.80	324.2	19	3A	0				31	49
LWIRO	125.81	325.4	19	22	18					
TANANARIVE	131.41	294.4	19	14A	0				21	35 PP
PRETORIA	147.20	311.4	19	33	-10					
PIETERMZBURG	149.31	304.2	19	51K	5					
KIMBERLEY	151.32	313.4	19	49K	0					
GRAHAMSTOWN	154.22	305.0							19	0
HERMANUS	158.62	316.0							23	29 PKS

MARCH 13 19.H 59.M 23.S EPICENTRE 53.89-165.39 DEPTH= 0.KM

A=-0.57275 B=-0.14925 C= 0.80603 D=-0.2522 E= 0.9677
G=-0.7800 H=-0.2033 K=-0.5919 HT= -6.8

SE= 1.79

	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
COLLEGE	14.12	31.9	3	25	1	6	20	18				
SITKA	17.27	67.3	4	7	3	7	21	5				
HORSESHOE B.	26.23	82.6	5	39	0							
VICTORIA	26.54	84.4	5	42	1							
SEATTLE	27.61	85.3	5	54	3	11	37	65				
CORVALLIS	28.64	91.6	6	4K	3							
BANFF	29.95	74.6	6	14A	2							
UKIAH	32.03	100.1	6	31	0							
HUNGRY HORSE	32.11	78.6	6	33	2	11	43	-1				
MINERAL	32.18	96.8	6	32A	0							
TIKSI	32.70	327.6	6	34	-2							
BERKELEY	33.43	100.8	6	44K	1							
RENO	33.76	96.3	6	47A	1	12	14	5				
RESOLUTE	33.95	26.7	6	50A	3						9	3 PP
LICK	34.15	100.9	6	50K	1							
BUTTE	34.17	81.3	6	49	0							
BOZEMAN	35.25	80.8	6	59	0							
FRESNO	35.61	99.9	7	3A	1							
EUREKA	36.06	93.0	7	7	2							
TINEMAHA	36.33	98.1	7	8A	0							
WOODY	36.90	100.3	7	12A	0							
ISABELLA	37.16	100.0	7	15A	0							
CHINA LAKE	37.55	99.0	7	19A	1							
SALT LAKE C.	37.68	88.0	7	20	1							
PASADENA	38.40	101.4	7	25A	0	13	16	-5			9	37 PCP
RIVERSIDE	38.97	100.9	7	30A	0							
BOULDER CITY	39.07	96.3	7	32	1							
PALOMAR	39.73	101.1	7	36A	0						7	52
HAYFIELD	40.19	99.5	7	40	0							
BARRETT	40.32	101.6	7	41A	0							
RAPID CITY	40.73	77.7	7	46	2	13	55	-1			9	22 PP
MATUSIRO	42.12	269.3	7	54	-2	13	59	-17				
TUCSON	44.04	96.7	8	12	1	14	47	3				
CHANGCHUN	44.95	286.6	8	17	-2							
LUBBOCK	48.41	88.0	8	45	-1						18	38 SCS
IRKUTSK	50.65	307.4	9	2	-1	16	12	-6				
KIRKLAND LA.	50.89	59.3	9	4A	-1							
FAYETTEVILLE	51.16	79.9	9	0A	-7							
PEKING	52.59	288.7	9	16	-2	16	41	-4			19	2 SCS
SCHEFFERVLLE	52.74	46.0	9	20	1						9	53
SCORESBY SD.	53.18	14.5	9	22	0	17	13	20				
HAMILTON	54.28	63.8	9	32	2							

OTTAWA	54.94	59.4	9	34A	-1					
BUFFALO L.	55.17	63.4	9	36	-1					
SHAWINIGAN	55.63	56.6	9	38A	-2					
ZO-SE	56.01	277.4	9	42A	-1	17	27	-4	19 25	SCS
SEVEN FALLS	56.18	55.0	9	43	-1	17	33	0	17 53	PS
NANKING	56.71	280.0	9	46	-2					
MORGANTOWN	56.75	67.0	9	47A	-1					
PENNSYLVANIA	57.04	64.7	9	50	0	17	43	-1	10 45	PCP
GUADALAJARA	57.14	100.0	10	20	29	17	49	3	16 37	
KIRUNA	58.52	357.4	10	0A	-1	18	8	4	14 31	PCS
WASHINGTON	58.83	65.7	10	2	-1					
PALISADES	58.98	62.0	10	2	-2	18	8	-2	18 24	PS
CHAPEL HILL	59.91	69.4	10	9	-1	20	25	123		
COLUMBIA	60.20	72.3	10	10	-2					
TACUBAYA	60.55	97.4	10	17	2				17 30	
HALIFAX	61.46	52.7	10	18	-3					
SEMIPALATNSK	62.41	318.9	10	23	-4					
SVERDLOVSK	63.42	333.7	10	31	-3					
MERIDA	65.01	88.4	10	41	-3					
PULKOVO	65.99	351.4	10	51	0	19	35	-3		
UPPSALA	66.58	358.3	10	53	-1					
CANTON	66.65	277.4	10	53	-2					
HONG KONG	66.72	276.2	10	56	1	19	37	-10		
BAGUIO CITY	67.50	267.1	10	57	-3	19	50	-6		
RABAUL	67.85	226.6	11	7	5					
MOSCOW	69.11	346.3	11	10	0					
BERMUDA	70.34	62.0	11	17	-1	20	29	-1	25 7	SS
COPENHAGEN	70.78	1.3	11	21	1	20	53	18	21 37	
FRUNSE	70.81	317.6	11	20	-1	20	34	-1		
DURHAM	70.88	9.8	11	23	2				12 28	
RATHFARNHAM	71.77	13.0	11	58	32					
HAMBURG	72.84	2.9	11	32	-1				11 46	PCP
WITTEVEEN	73.45	5.0	11	37	1					
NAMANGAN	73.57	318.5	11	37	0	20	58	-9		
DE BILT	74.08	6.0	11	42	2	21	12	-1	26 37	SS
WARSAW	74.11	355.9	11	40	0				21 32	SKS
KEW	74.27	9.6	11	41	0					
JENA	75.52	2.0	11	48	0	21	54	25	14 50	
KRAKOW	76.33	356.5	11	53	0				12 37	
RACIBORZ	76.36	357.6	11	54	1					
PRAGUE	76.41	0.1	11	54	1				12 38	
SHILLONG	76.81	295.2	11	54A	-2					
PARIS	77.16	8.2	11	58A	0	21	41	-6	14 55	PP
STUTTGART	77.61	3.7	12	1A	1	22	3	12		
STRASBOURG	77.74	4.6	12	2A	1				15 13	PP
TUBINGEN	77.84	3.8	12	2	1					
EBINGEN	78.19	3.9	12	4A	1					
BRATISLAVA	78.29	358.3	12	4	0	22	7	8		
IASI	78.68	351.0	12	7	1					
BASLE	78.78	4.8	12	7	1					
BESANCON	78.97	6.0	12	8	1				12 34	
NEUCHATEL	79.27	5.3	12	10	1					
MAKHACH-KALA	79.48	336.1	12	11	1	22	11	0		
SIMFEROPOL	80.13	346.1	12	13	-1					
CLERMONT-FD.	80.23	8.1	12	16	2					
LAHORE	80.51	311.6	12	13	-3	22	16	-6		
SOTCHI	80.55	341.8	12	17	1					
SAN JUAN	80.68	71.8	12	15	-2	22	23	-1		
TRIESTE	80.83	0.6	12	17A	0	22	31	6	23 34	PS
PAVIA	81.19	3.9	12	21A	2					
TIFLIS	81.29	337.6	12	22	2	22	34	4		
BELGRADE	81.54	355.8	12	27	6				13 12	
BUCHAREST	81.57	351.7	12	22	1				22 52	SKS
MONACO	82.56	5.2	12	27	1				12 53	
FLORENCE X.	82.66	2.5	12	30	3					
ROME	84.57	1.6	12	37A	0	23	6	3	22 57	SKS
QUETTA	84.83	316.5	12	38A	0	23	5	-1	23 22	SCS
TOLEDO	85.23	14.3	12	40	0	23	20	10		
ST. LUCIA	87.06	70.3	12	49	0					
ALICANTE	87.21	11.8	12	48	-2	24	28	59	18 13	PPP
ST. VINCENT	87.60	71.0	12	51	-1					
MALAGA	88.27	15.2	12	55	0					
MESSINA	88.27	359.3	12	54	-1	23	35	-4	24 41	PS
BRISBANE	88.66	216.1	13	0	3				23 22	SKS
ALGIERS UNI.	89.15	9.3	12	57	-2				16 29	PP
HYDERABAD	90.52	301.0	13	10	5	23	59	0	23 35	SKS
KSARA	90.72	342.4	13	10	4	24	6	5	16 46	PP
POONA	91.87	305.3	13	13	1	24	12	1		

BOMBAY	92.04	306.4	13	12	0	24	8	-5						
RIVERVIEW	95.11	215.1				24	38	-1				17	25	PP
COLOMBO	98.61	294.2				24	13	-56						
TAMANRASSET	103.24	8.6										18	12	PP
LA PAZ	107.42	94.2										28	17	PS
ASTRIDA	127.38	340.9	19	8	1									
UVIRA	128.36	341.4	19	12	3									
PRETORIA	150.13	334.9	19	54	6									
PIETERMZBURG	153.16	328.3	19	53	1									
KIMBERLEY	153.80	339.4	20	4	11									
GRAHAMSTOWN	157.74	332.7										20	32	PKP2

• MARCH 14 14.H 47.M 45.S EPICENTRE 51.32-176.44 DEPTH= 0.KM

A=-0.62639 B=-0.03896 C= 0.77854 D=-0.0621 E= 0.9981
G=-0.7770 H=-0.0483 K=-0.6276 HT= -5.9

SE= 2.97

	DELTA	AZ.	P	O-C	S	O-C	*PP		SUPP.	
	DEG.	DEG.	M	S	S	M	S	S	M	S	M	S	
KLYUCHI	14.33	299.3	3	28K	2								
PETROPAVLOVK	15.35	286.5	3	37A	-2								
COLLEGE	20.08	36.6	4	37A	-1	8	24	6					
MAGADAN	20.15	306.9	4	36A	-2								
SITKA	24.44	60.3	5	25A	4	9	43	4			6	27	
NEMURO	26.71	267.6	5	42	0	10	13	-4			11	25	SS
Y.-SAKHLINSK	26.82	276.8	5	40K	-3	10	3	-16					
ABASHIRI	27.18	270.0	5	45	-2	10	4	-21					
KUSIRO	27.63	267.9	5	49	-2	10	28	-4					
WAKKANAI	28.14	274.5	6	0	5	11	23	43					
OBIHIRO	28.41	268.8	5	56	-2	11	16	31					
ASAHIGAWA	28.49	271.0	6	0	1								
SAPPORO	29.50	270.5	6	4K	-4						6	42	PP
TOMAKOMAI	29.64	269.4	6	14	5								
MURORAN	30.12	269.5	6	9	-4								
SUTTSU	30.34	270.9	6	13	-2	11	9	-6			7	3	PP
MORI	30.50	269.5	6	14	-3	11	13	-5			7	18	PP
HAKODATE	30.57	268.8	6	14	-3								
HATINOHE	30.76	266.1	6	17	-2	11	16	-6					
MIYAKO	31.00	264.4	6	19	-2	11	11	-15					
AOMORI	31.07	267.2	6	16	-6	11	21	-6					
TIKSI	31.42	330.2	6	23	-2								
MORIOKA	31.47	265.1	6	23	-2	11	30	-3					
MIZUSAWA	31.83	264.3	6	30	2	11	34	-5					
AKITA	32.13	266.1	6	27	-4	11	44	1					
ISINOMAKI	32.13	263.1	6	23	-8	11	39	-4					
ALBERNI	32.49	72.9	6	37	3								
SENDAI	32.49	263.2	6	31	-3								
YAMAGATA	32.85	263.7	6	35	-2	11	52	-3					
HUKUSIMA	33.08	262.8	6	40	1								
HONOLULU	33.21	147.6	6	40A	0	12	15	15					
ONAHAMA	33.31	261.3	6	48	7	11	57	-5					
HORSESHOE B.	33.37	72.0	6	42A	0	12	8	5					
SHIRAKAWA	33.63	262.2	6	43	-1	11	58	-9					
VICTORIA	33.64	73.5	6	46	2	12	13	6					
NIIGATA	33.86	264.3	7	10	24	12	32	22					
MITO	33.94	260.9	6	46	-1	12	9	-2					
UTUNOMIYA	34.20	261.7	6	45	-4	11	51	-25					
KAKIOKA	34.21	261.0	6	48	-1	12	16	0					
TUKUBASAN	34.27	261.0	6	46	-4	12	13	-4			8	13	PP
AIKAWA	34.30	265.2	6	51	1	12	15	-2					
SEATTLE	34.70	74.3	6	57	4	12	45	22					
KUMAGAYA	34.76	261.6	6	54	0	12	30	6					
MAEBASI	34.80	262.2	6	53A	-1	12	24	-1			17	23	SCS
TOKYO C.M.O.	34.84	260.6	6	48	-6	12	20	-5					
TAKADA	34.87	263.9	6	47	-8								
TITIBU	35.06	261.6	6	56	0	12	33	4					
YOKOHAMA	35.06	260.4	6	57	1						17	15	SCS
OIWAKE	35.16	262.6	6	55	-2	12	26	-4					
NAGANO	35.17	263.4	6	57	0	12	27	-3			8	17	PP
MATUSIRO	35.23	263.2	6	55K	-3	12	25	-6			8	5	PP
MERA	35.28	259.6	7	3	5	12	37	5					
VLADIVOSTOK	35.38	277.3	6	56K	-3								
WAZIMA	35.53	265.4	6	59	-1	12	35	-1					
CORVALLIS	35.55	79.6	7	3	3						7	31	
HUNATU	35.56	261.3	7	7	6	12	34	-3					

MATUMOTO	35.58	263.0	7	0	-1	12	33	-4		
KOHU	35.60	261.6	7	3	2	12	37	0		
AJIRO	35.65	260.4	7	7	6	12	39	1	17	31 SCS
OSIMA	35.66	259.8	7	3	2	12	32	-6	17	27 SCS
MISIMA	35.70	260.6	6	57	-5	12	22	-17	17	20 SCS
TOYAMA	35.77	264.3	7	4	2	11	53	-47		
TAKAYAMA	36.09	263.5	7	2	-3					
IIDA	36.13	262.2	7	14	9	12	44	-1		
SHIZUOKA	36.13	260.9	7	13	8	12	42	-3		
OMAESAKI	36.49	260.6	7	17	9	12	48	-3		
SUIHWA	36.64	285.5	7	8	-2					
HAMAMATU	36.72	261.3	7	11	1	12	26	-28		
HUKUI	36.76	264.2	7	7	-4	12	55	0	17	15 SCS
GIHU	36.87	263.0	7	17	5	12	47	-10	8	49 PP
NAGOYA	36.89	262.5	7	14	2	12	54	-3		
ARCATA	37.04	85.4	7	21	8					
IBUKISAN	37.12	263.3	7	19	5					
TSURUGA	37.14	263.9	7	12	-2	13	2	1		
BANFF	37.15	65.6	7	16A	2					
HIKONE	37.28	263.3	7	14	-1				8	44 PP
KAMEYAMA	37.41	262.5	7	15	-1	13	1	-4	8	37 PP
TU	37.46	262.3	7	17	0					
MAIZURU	37.63	264.2	7	4	-14	13	0	-8		
KYOTO	37.76	263.4	7	18	-1	13	10	0		
NARA	37.92	262.9	6	21	-59	13	11	-2		
TOYOOKA	38.00	264.8	7	18	-3	13	11	-3	8	50 PP
OWASE	38.09	261.8	7	14	-8	13	15	0	8	53 PP
OSAKA	38.13	263.1	7	19	-3	12	42	-34	8	53 PP
SHASTA	38.20	84.4	7	35A	12					
KOBE	38.33	263.5	7	22	-2	13	17	-2		
SAIGO	38.51	266.9	8	14	49	13	28	6		
UKIAH	38.59	87.1	7	29A	3	13	32	9	8	56 PP
SUMOTO	38.73	263.3	7	24	-3	13	17	-8	9	3 PP
SIOMISAKI	38.77	261.5	7	27	-1	13	24	-2	8	55 PP
MINERAL	38.90	84.3	7	31A	2					
HIMEJI	38.93	263.9	7	23	-6	13	19	-9		
YONAGO	38.98	265.9	7	28	-1	13	29	0		
CHANGCHUN	39.08	282.5	7	26A	-4	13	25	-5	9	4 PP
TOKUSIMA	39.10	263.2	7	30	0	13	27	-4	17	47 SCS
MATSUE	39.15	266.2	7	35	4	13	28	-3		
RESOLUTE	39.19	24.6	7	30	-1					
TAKAMATU	39.27	264.0	7	23	-9	13	14	-17		
HUNGRY HORSE	39.30	69.0	7	34A	2	13	37	3		
BERKELEY	39.95	87.9	7	40A	3	13	48	5		
KOTI	40.10	263.5	7	35	-4	13	38	-8	9	16 PP
HAMADA	40.13	266.4	7	37	-2	13	39	-7		
HIROSIMA	40.25	265.4	7	39	-1	13	27	-21		
MATUYAMA	40.40	264.5	7	42	1	13	35	-15		
SANTA CLARA	40.46	88.3	7	42K	0	13	47	-4		
RENO	40.48	84.1	7	45	3					
LICK	40.66	88.1	7	45A	2					
UWAZIMA	40.92	264.0	7	44	-1	13	56	-2	9	45 PP
SIMIDU	40.96	263.1	7	36	-10	13	57	-2	9	22 PP
BUTTE	41.32	71.3	7	52A	3	14	9	5		
SIMONOSEKI	41.46	266.2	7	51K	1	14	3	-3		
OOITA	41.50	264.8	7	48	-2	14	2	-5		
SASKATOON	41.71	60.4	7	53	1	14	9	-1		
HUKUOKA	42.02	266.2	7	52K	-2	14	6	-8	9	46 PP
ASOSAN	42.07	264.9	8	10	15	15	13	58		
FRESNO	42.17	87.4	7	58	2	13	50	-26		
SAGA	42.32	265.9	7	59	2					
ITUHARA	42.33	267.8	8	5	8	14	16	-3		
KUMAMOTO	42.35	265.1	7	56	-1	14	15	-4		
BOZEMAN	42.41	71.0	7	59A	1	14	15	-5		
MIYAZAKI	42.51	263.5	7	52	-6	14	17	-4		
UNZENDAKE	42.69	265.4	7	59	-1	14	23	-1	17	29 SCS
EUREKA	42.91	81.5	8	4A	2					
NAGASAKI	42.92	265.7	8	2	0	14	26	-1		
TINEMAHA	42.98	85.9	8	6A	4				8	20
KING RANCH	43.12	89.0	8	5A	2				8	24
KAGOSIMA	43.29	263.9	8	4	-1	14	30	-3		
WOODY	43.44	87.9	8	7A	1					
TOMIE	43.69	266.5	8	0	-8	14	30	-9		
ISABELLA	43.71	87.7	8	10A	2					
YAKUSIMA	44.09	262.8	8	10	-1					
CHINA LAKE	44.15	86.8	8	14A	2				8	28
DAIREN	44.17	278.8	8	12	0					
SALT LAKE C.	44.69	77.3	8	18A	2	14	58	5	18	16 SCS
PASADENA	44.87	89.1	8	18A	0	14	54	-2	9	13

RIVERSIDE	45.47	88.7	8	24K	2				11	43	
BOULDER CITY	45.78	84.6	8	26A	1	15	26	17			
PALOMAR	46.21	88.9	8	30A	2				8	48	
IRKUTSK	46.67	303.9	8	30A	-2						
BARRETT	46.78	89.5	8	34A	1	14	53	-30	8	54	
KWANTING	47.07	284.2	8	34	-1	15	25	-2	18	25	SCS
RAPID CITY	47.92	68.4	8	42K	0	15	46	7	10	56	PP
TATUNG	48.55	285.6	8	47	0						
GUAM	49.01	233.9	8	44	-6						
ZO-SE	49.48	271.0	8	52K	-2	15	59	-2	10	48	PP
PAOTOW	50.21	288.1	8	59	0						
NANKING	50.33	273.7	8	57K	-3	16	8	-5	18	42	SCS
TAIYUAN	50.42	283.6	9	2	1						
TUCSON	50.73	85.5	9	4K	1	16	25	7	10	55	PP
LINFEN	52.16	282.7	9	15	1						
YINCHUAN	53.79	288.4	9	27	1						
SIAN	54.98	282.8	9	35	0	17	14	-2			
LUBBOCK	55.40	77.9	9	38	0	17	25	3			
CHIHUAHUA	56.18	85.2	9	46K	2				28	46	
WUWEI	56.30	290.2	9	44	0						
TIENSHUI	56.69	285.2	9	46	-1						
CHANGYEH	56.84	292.4	9	49	1						
LANCHOW	56.84	287.8	9	51	3						
SCORESBY SD.	57.12	9.9	9	49	-1	17	52	7	10	52	PCP
SINING	57.68	289.6	9	54	0						
KIRKLAND LA.	57.90	51.8	9	55A	-1	17	55	0			
YUMEN	57.96	295.8	9	55	-1						
CHICAGO CGS.	58.25	61.6	9	56	-2	18	0	0			
FAYETTEVILLE	58.32	70.6	9	58A	-1	18	9	8	10	31	PCP
FLORISSANT	58.71	65.8	10	1	0	17	18	-48	18	31	PPS
ST. LOUIS 1	58.89	65.9	10	2A	-1	18	8	0			
SCHEFFERVLLE	59.20	39.4	10	4K	-1						
APATITY	59.35	347.2	10	4	-2	18	11	-3			
SEMIPALATNSK	59.62	313.8	10	4	-4	18	9	-8			
TERRE HAUTE	59.92	63.4	10	35	25	18	15	-6			
CANTON	60.10	270.2	10	8K	-3						
HONG KONG	60.11	268.9	10	10A	-1						
BAGUIO CITY	60.50	259.2	10	13	-1	18	30	1			
KIRUNA	60.51	352.7	10	10	-4	18	35	6	11	0	PCP
HAMILTON	61.39	55.8	10	21A	1	18	41	1	19	4	PS
RABAUL	61.47	216.2	10	15	-5	18	39	-2	11	15	PCP
MANILA	61.67	257.5	10	21	-1	18	41	-3			
CLEVELAND	61.75	58.2	10	24	2	18	48	3			
CINCINNATI	61.77	61.9	10	24	2	18	41	-4			
OTTAWA	61.95	51.7	10	22A	-2	18	47	0	21	15	
BUFFALO L.	62.28	55.4	10	26	0						
SVERDLOVSK	62.43	328.6	10	25	-2				19	25	PS
SHAWINIGAN	62.55	49.1	10	25A	-3	18	49	-6	11	14	PCP
SEVEN FALLS	63.04	47.6	10	30	-1	18	51	-10	11	22	PCP
REYKJAVIK	63.19	12.2	10	40	8						
PITTSBURGH	63.33	58.1	10	26A	-7	21	13	128			
GUADALAJARA	63.64	89.4	10	39	4	19	15	7	27	15	
MORGANTOWN	63.91	58.7	10	37	0	19	12	0			
PENNSYLVANIA	64.17	56.5	10	39	1	19	21	6			
MANZANILLO	64.22	91.4				19	27	11	28	27	
VIK	64.24	11.1							13	45	
APIA	64.97	175.0	10	38	-5	19	22	-3			
SKALSTUGAN	65.24	355.7	10	42	-3				39	24	PKPPKP
WASHINGTON	65.97	57.5	10	51A	1						
PALISADES	66.06	53.9	11	54	64	19	42	4	15	22	PCS
FORDHAM	66.19	54.0	10	52	1	19	43	3			
WESTON	66.33	51.4	10	43	-9	19	42	1	24	8	SS
PULKOVO	67.17	345.7	10	57	-1	19	47	-5	11	21	PCP
TACUBAYA	67.18	87.2	11	3K	5	20	0	8			
COLUMBIA	67.41	63.6	11	0A	1	19	41	-14			
FRUNSE	67.80	311.3	10	59	-3	20	0	1	13	41	PP
PUEBLA	68.08	86.7							14	35	
HALIFAX	68.22	45.1	11	3A	-1						
UPPSALA	68.61	352.4	11	4	-3	19	57	-12	11	30	PCP
BERGEN	68.63	359.1	11	7	0	20	15	6	14	3	PP
VERA CRUZ	69.25	85.0	11	21	10	20	29	13			
SUVA	69.31	185.2	11	18	7	20	18	1	20	49	PS
MOSCOW	69.64	340.2	11	11	-2	20	18	-3	11	31	PCP
OAXACA	70.48	87.0	11	16	-2	20	32	1			
TASHKENT	71.48	313.6	11	22	-2	20	39	-3	11	40	PCP
SHILLONG	71.49	287.8	11	19A	-5	20	36	-7	13	54	PP
ABERDEEN	71.78	3.2	11	23	-3	20	51	5	13	54	PP
MERIDA	71.98	78.9	11	27K	0	20	42	-6			

EDINBURGH	72.99	4.0				21	15	15	21	36 SKS
COPENHAGEN	73.12	354.8	11	34A	0	20	56	-5	21	41 SCS
CHATRA	73.32	292.0	11	32	-3				17	15
STALINABAD	73.93	312.2	11	35	-3	20	59	-11		
COMITAN	73.96	84.0	11	38	-1	21	3	-8	11	51
DURHAM	74.20	3.1	11	46	6	21	24	11	11	57 PCP
NOUMEA	74.82	196.4	11	43	-1	21	42	22	14	49
HAMBURG	75.35	356.0	11	47	0	21	29	3	14	37 PP
RATHFARNHAM	75.43	6.1	11	47A	0	21	32	5		
DEHRA DUN	75.76	300.7	11	47	-2	21	21	-10	14	59 PP
WARSAW	75.78	349.0	11	50	1	21	34	3	16	28 PPP
WITTEVEEN	76.21	358.1	11	51	-1					
POTSDAM	76.37	354.0	11	53	1	21	43	6		
BOKARO	76.40	291.0	11	50	-3	21	29	-9	14	34 PP
LAHORE	76.77	304.1	11	55	0					
DE BILT	76.95	359.0	11	57A	1	21	47	3		
BERMUDA	77.41	53.6	12	1	3	21	50	1		
KEW	77.54	2.5	11	53	-6	21	41	-9	14	49 PP
NEW DELHI	77.58	300.2	11	59	0	21	44	-6	14	51 PP
SAN SALVADOR	77.68	83.5	12	23	23					
LWOW	77.73	346.6	12	0	0	21	48	-4	14	51 PP
BYTOM	77.87	350.0	11	35	-26					
JENA	77.90	354.8	12	0	-1	21	51	-3	12	36
ZABRZE	77.94	350.1							14	23
KRAKOW	78.05	349.3	12	1	-1	21	58	2	13	22
RACIBORZ	78.22	350.4	12	1	-2				15	51 PPP
SANTIAGO MA.	78.34	83.0	12	15	12					
PRAGUE	78.57	352.9	12	1	-4	21	40	-21	16	15
CHEB	78.70	354.2	12	5	0				22	22 PS
SKALNATE PL.	78.87	348.9	12	9	3	22	7	3	22	55 PS
ASHKABAD	79.01	318.9	12	7A	0					
IASI	79.72	343.6	12	11	0	22	20	7	12	28
JERSEY	79.77	3.8				22	4	-10	12	13
KARLSRUHE	79.97	356.8	12	15	3	22	12	-4	27	50 SS
STUTTGART	80.18	356.2	12	11	-2	22	13	-5	15	27 PP
VIENNA-H.	80.21	351.4	12	14	0	22	15	-3	15	27 PP
BRATISLAVA	80.22	350.8	12	13	-1	22	25	7	15	23 PP
PARIS	80.25	0.7	12	13	-1	22	19	0	12	23 PCP
HURBANOVO	80.40	350.1	12	16	1	22	26	6	15	23 PP
STRASBOURG	80.42	357.2	12	13A	-2	22	21	0	27	52 SS
TUBINGEN	80.42	356.3	12	13	-2					
BACAU	80.44	343.9	12	22	7					
SIMFEROPOL	80.54	338.5	12	13A	-2	22	17	-5	27	15 SS
TIFLIS	80.63	330.0	12	15	-1	22	22	-1	27	45 SS
BUDAPEST	80.69	349.4	12	15	-1				22	32 SKS
EBINGEN	80.78	356.3	12	14	-3	22	24	1	15	31 PP
RAVENSBURG	81.15	355.9				22	27	-1	12	33
FOCSANI	81.23	343.5	12	20	1	22	54	25		
BASLE	81.48	357.2	12	20	0	22	31	-1		
ZURICH	81.60	356.6	12	23	2	22	34	1		
QUETTA	81.60	308.5	12	20	-1	22	30	-3	15	25 PP
KALOCSA	81.63	349.3	12	17	-4	22	38	5	17	15
SZEGED	81.77	348.5	12	23	1	22	39	4	15	56 PP
BESANCON	81.79	358.3	12	20	-2	22	32	-3	15	23 PP
CAMPULUNG	82.02	344.9	12	23	0	22	42	5	23	8
NEUCHATEL	82.02	357.7	12	22	-1	22	33	-4		
TIMISOARA	82.12	347.6	12	26	2	22	44	6		
GORIS	82.14	328.0	12	22	-2				23	0 SCS
ZAGREB	82.65	351.3	12	28	2	22	42	-2	22	55 SCS
BUCHAREST	82.67	343.9	12	25	-1	22	41	-3	23	20 PS
BRISBANE	82.94	207.0	12	26	-2				22	45 SKS
TRIESTE	83.02	352.8	12	25	-3	22	41	-6	22	57 SCS
BELGRADE	83.14	348.0	12	29A	0	22	59	11	13	1 PCP
CLERMONT-FD.	83.30	0.3	12	29	-1					
OROPA	83.37	356.9	12	32	2	22	42	-9		
PAVIA	83.76	356.0	12	35A	3	22	55	0	16	1 PP
BOLOGNA	84.33	354.4	12	39	4	22	57	-3	24	10
SOFIA	84.80	345.5	12	37	0	22	53	-12	16	17 PP
FLORENCE X.	85.05	354.4	12	37A	-1					
MONACO	85.28	357.2	12	39K	-1	23	10	0	16	46
HYDERABAD	85.66	292.4	12	43	1				16	3 PP
CIUD. TRUJL.	85.67	65.9	12	48	6					
ANGRA DO HO.	86.44	23.7				23	27	6		
DJAKARTA	86.56	255.8				23	13	-9	16	2 PP
ROME	86.84	353.3	12	45A	-2	23	13	-12	16	15 PP
ONERAHI	87.09	187.5	12	50	1					
BALBOA HTS.	87.35	79.1	12	45	-5					
POONA	87.41	296.6	12	37	-13				23	25

BARCELONA	87.64	1.1	13	18	27	24	5	33	16	37	PP
BOMBAY	87.69	297.6	12	50	-1	23	26	-7	16	21	PP
TARANTO	87.81	349.6	12	54	2				22	29	
SAN JUAN	87.88	63.0	12	52A	0	23	27	-8	16	22	PP
MADRAS	88.14	288.4	12	53	-1	23	29	-8	16	32	PP
COIMBRA	88.26	9.2				23	38	0	23	25	SKS
GALERAZAMBA	88.56	74.6	12	58	2						
CUGLIERI	88.78	356.2	13	13	16				16	47	PP
KARAPIRO	89.14	186.3	12	56	-2	23	44	-2			
ATHENS	89.35	344.2	13	1	2				23	22	SKS
RIVERVIEW	89.45	206.5	12	58K	-2	23	43	-6	16	26	PP
LISBON	89.65	9.9	13	0K	-1	23	25	-26	13	25	
TUAI	89.91	185.0	13	0	-2						
MESSINA	90.24	350.6	13	0	-4	23	50	-6	16	34	PP
REGGIO CALA.	90.33	350.5	13	6	2	23	25	-32	24	17	
TONGARIRO	90.41	186.2	13	1	-3						
KSARA	90.59	333.6	13	4	-1	23	56	-3	16	40	PP
ALICANTE	90.64	3.2	13	3	-2	23	56	-4	16	38	PP
GRANADA	91.66	5.7	13	18A	8	24	23	14	17	5	PP
ANTIGUA	91.73	59.9	13	9	-1						
KODAIKANAL	91.94	288.9	13	13	2				18	31	
ALMERIA	92.05	4.8	13	13	1	24	4	-8	18	25	PPP
MALAGA	92.06	6.4	13	8	-4	23	56	-17	16	52	PP
ALGIERS UNI.	92.29	0.4	13	12	-1	24	5	-10	16	39	PP
COBB RIVER	92.50	188.2	13	12	-2						
WELLINGTON	92.53	186.6	13	9	-5				23	41	SKS
CHINCHINA	92.89	78.5	13	17	1				23	17	SKS
RELIZANE	93.27	2.5	13	15	-2						
FORT FRANCE	93.60	61.2	13	18	-1	24	24	-2			
ST. LUCIA	94.25	61.5	13	23	1						
ST. VINCENT	94.80	62.2	13	25	0						
CHRISTCHURCH	94.94	188.0	13	17	-8	24	36	-1	16	52	PP
MELBOURNE	94.99	209.7	13	25	0	24	54	16	17	45	PP
BARBADOS	95.77	60.9	13	55	26						
TRINIDAD	96.70	63.8	13	35	2						
PERTH	101.99	233.5	14	2	5	24	38	-59	18	3	PP
TAMANRASSET	106.21	358.1	14	25	777				18	41	PP
HUANCAYO	106.25	89.0	14	47	777				18	59	PP
MACQUARIE I.	107.43	194.7	14	21	777						
LA PAZ	114.14	86.4				25	41	13	19	43	PP
LWIRO	126.70	327.9	19	6K	1						
ASTRIDA	126.71	326.7	19	6K	1				19	27	
TANANARIVE	132.72	296.5	19	15	-2				22	46	PKS
BUENOS AIRES	133.06	94.2							19	45	
PRETORIA	148.31	314.3	19	38K	-6						
PIETERMZBURG	150.51	307.0	19	54K	6						
KIMBERLEY	152.41	316.7	19	26	-25						
GRAHAMSTOWN	155.41	308.1							20	13	PKP2
HERMANUS	159.65	320.0							20	35	PKP2

MARCH 15 2.H 52.M 9.S EPICENTRE 52.82-166.72 DEPTH= 0.KM

A=-0.59062 B=-0.13943 C= 0.79481 D=-0.2298 E= 0.9732
G=-0.7735 H=-0.1826 K=-0.6069 HT= -6.4

SE= 2.73

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
COLLEGE	15.45	31.3	3	40	0	6	41	8					
SITKA	18.43	64.2	4	21A	3	7	46	4					
KLYUCHI	19.07	293.6	4	25A	-1	7	59	3			5	47	PP
PETROPAVLOVK	20.74	284.8	4	48A	4								
MAGADAN	24.23	303.0	5	19A	0	9	32	-3					
HORSESHOE B.	27.18	79.6	5	48	1	10	28	3			9	6	PCP
VICTORIA	27.46	81.4	5	52	3	10	35	6					
SEATTLE	28.52	82.4	6	9	10	10	56	10					
BANFF	31.01	72.2	6	23K	2								
HONOLULU	32.16	164.8	6	28	-3								
Y.-SAKHLINSK	32.53	280.3	6	33A	-1	11	46	-4			7	45	PP
UKIAH	32.65	97.1	6	42	7	12	0	9					
MINERAL	32.87	93.9	6	39A	2								
HUNGRY HORSE	33.12	76.2	6	41	2	12	2	3			8	10	
TIKSI	33.19	328.5	6	38	-2						7	49	PP
BERKELEY	34.04	98.0	6	49	2	12	17	4			9	26	PCP
RENO	34.46	93.6	6	53	2								
SANTA CLARA	34.56	98.4	6	57A	5	12	28	7					

LICK	34.76	98.2	6	56	2						
BUTTE	35.14	78.9	7	1	4	12	29	-1			
RESOLUTE	35.26	25.9	6	58A	0				9	29	PCP
SASKATOON	35.67	66.4	7	3	2	12	45	7			
BOZEMAN	36.23	78.4	7	9K	3						
FRESNO	36.24	97.2	7	7K	1						
EUREKA	36.82	90.5	7	12	1						
TINEMAHA	36.99	95.5	7	15	2	13	5	6			
KING RANCH	37.24	98.9	7	17	2						
WOODY	37.52	97.7	7	17	0						
ISABELLA	37.78	97.4	7	19	0	13	14	3			
MIZUSAWA	37.89	270.2	7	19	-1	12	15	-57			
CHINA LAKE	38.20	96.4	7	25	2	13	17	0			
SALT LAKE C.	38.53	85.6	7	28	3	13	25	3			
PASADENA	38.99	98.9	7	30	1	13	30	1	7	58	
RIVERSIDE	39.57	98.4	7	35	1						
BOULDER CITY	39.76	93.8	7	37K	1						
PALOMAR	40.33	98.6	7	42	2	13	35	-14	7	57	
HAYFIELD	40.82	97.1	7	47	3						
BARRETT	40.91	99.2	7	47	2						
VLADIVOSTOK	41.05	281.8	7	41A	-5	13	35	-25			
MATUSIRO	41.31	269.4	7	48A	0	13	41	-23	9	29	PP
RAPID CITY	41.75	75.6	7	55	3	14	13	3			
CHANGCHUN	44.50	286.8	8	13	-2						
TUCSON	44.73	94.5	8	17	1	14	57	3	18	4	SS
LUBBOCK	49.25	86.0	8	54	2	16	0	2	18	46	SCS
CHIHUAHUA	50.18	94.0	9	1	2	16	17	6	24	25	
IRKUTSK	50.67	307.4	9	1A	-2				10	52	PP
KIRKLAND LA.	52.13	57.9	9	17	3	16	40	2			
FAYETTEVILLE	52.14	78.1	9	14K	0	16	36	-2			
CHICAGO CGS.	52.17	68.4				16	31	-7			
KWANTING	52.38	289.2	9	1	-15						
FLORISSANT	52.56	73.0	9	17	0	16	42	-1	19	4	SCS
ST. LOUIS 1	52.75	73.1	9	17K	-1	16	46	0	19	7	SCS
SCHEFFERVLLE	54.06	44.7	9	28	0				10	40	PP
SCORESBY SD.	54.41	13.8	9	30	-1	17	8	-1	11	33	PP
GUAM	54.91	243.0	9	32	-2				10	8	
HAMILTON	55.47	62.3	9	38K	0	17	24	1	23	5	SS
CINCINNATI	55.69	68.9	9	43	3				19	32	SCS
CLEVELAND	55.76	64.9	9	40	0	17	25	-2			
OTTAWA	56.18	58.0	9	41	-3	17	31	-1	19	31	SCS
BUFFALO L.	56.37	61.9	9	44	-1						
SHAWINIGAN	56.88	55.3	9	46	-3				11	50	PP
PITTSBURGH	57.34	64.8				17	45	-3	19	41	
SEVEN FALLS	57.45	53.7	9	53	0	17	48	-1	12	5	PP
GUADALAJARA	57.76	98.2							12	51	
MORGANTOWN	57.90	65.5	9	55K	-1	17	43	-12			
PENNSYLVANIA	58.22	63.2	9	58	0	18	1	2	19	47	SCS
APATITY	59.00	351.1	9	2	-61						
KIRUNA	59.55	356.9	10	6A	-1	18	19	3	19	59	SCS
WASHINGTON	60.00	64.3	10	11	1	18	24	2			
PALISADES	60.19	60.6	10	7	-5	18	23	-2	10	59	PCP
PHILADELPHIA	60.28	62.2	10	16	4	18	24	-2	19	58	SCS
FORDHAM	60.33	60.7	10	12	-1	18	27	1			
WESTON	60.56	57.9	10	13A	-1	18	31	2	22	42	SS
TACUBAYA	61.22	95.7	10	24	5	18	39	1	11	36	
COLUMBIA	61.29	70.8	10	19	0	18	11	-28	20	7	SCS
SEMIPALATNSK	62.69	318.5	10	27	-2						
HALIFAX	62.74	51.5	10	29K	0						
VERA CRUZ	63.23	93.3	10	42	10	19	9	6			
SKALSTUGAN	63.93	0.5	10	36A	-1						
SVERDLOVSK	64.03	333.3	10	36	-1	19	11	-2	11	6	PCP
OAXACA	64.51	95.4	10	54	14						
MERIDA	65.85	86.9	10	53	4	19	33	-3			
CANTON	65.99	276.9							8	39	
APIA	66.49	185.4	10	53	0						
RABAUL	66.54	225.6	10	50	-3				12	36	
PULKOVO	66.92	350.7	10	54	-2	19	47	-2	11	17	PCP
BERGEN	66.95	4.3							20	15	
UPPSALA	67.63	357.6	10	59A	-1	19	53	-4			
COMITAN	67.92	92.1				20	3	2			
ABERDEEN	69.65	8.9				20	21	0	23	21	
MOSCOW	69.96	345.6	11	14	-1				21	14	SCS
FRUNSE	71.06	317.0	11	21	0				25	36	SS
BERMUDA	71.55	60.7	11	25	1	20	43	0	17	2	PPP
SUVA	71.84	194.9				20	45	-2			
COPENHAGEN	71.86	0.5	11	29	3	20	53	6			
DURHAM	72.07	9.0	11	29	1	20	50	1			

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RATHFARNHAM	72.99	12.1	11	31A	-2					
HAMBURG	73.94	2.0	11	40	2					
TASHKENT	74.50	319.6	11	41	-1	21	16	-1	25	53 SS
WITTEVEEN	74.58	4.2	11	44	2					
WARSAW	75.12	355.1	11	44	-1				21	34 SKS
POTSDAM	75.17	0.1	11	46	0				21	59
DE BILT	75.23	5.2	11	47A	1	20	51	-34		
KEW	75.45	8.7	11	47	0	21	32	5	26	23 SS
SHILLONG	76.54	294.5	10	49A	-64	20	3	-96	13	35 PP
JENA	76.61	1.1	11	54	0	21	55	15	15	10 PP
STALINABAD	77.08	318.5	11	54	-2	21	44	-1		
LWOW	77.32	352.9	11	59	1	21	47	-1	16	51 PPP
KRAKOW	77.35	355.6	11	59	1	21	50	2	22	2 SKS
RACIBORZ	77.39	356.8	11	58	0					
PRAGUE	77.48	359.2	11	59A	0	21	58	9	27	15 SS
JERSEY	77.54	10.3	10	56	-63	21	19	-31		
CHATRA	78.09	298.7							11	25
SKALNATE PL.	78.20	355.3	12	8	5	22	11	14	23	10 PS
PARIS	78.33	7.3	12	2	-1	22	5	7	15	4 PP
NOUMEA	78.37	205.3	12	5	2					
KARLSRUHE	78.46	3.3	12	6A	2	22	2	2		
STUTTGART	78.72	2.8	12	5	0	21	57	-6	15	6 PP
STRASBOURG	78.87	3.7	12	8A	2	22	4	0	15	3 PP
TUBINGEN	78.96	2.9	12	10	3					
VIENNA-H.	79.27	357.9	12	10	2					
EBINGEN	79.31	2.9	12	9	0	22	1	-8	15	29
BRATISLAVA	79.33	357.4	12	10	1	22	15	6	17	18
HURBANOVO	79.60	356.6	12	14	4	22	20	8	13	6
IASI	79.61	350.1	12	3	-7	22	26	14		
DEHRA DUN	79.89	307.4	12	11	-1	22	35	20	15	15 PP
BASLE	79.91	3.9	12	13	1	22	7	-8		
BUDAPEST	79.95	356.0	12	14	2	22	21	5	22	30 SKS
ZURICH	80.10	3.2	12	16	3	22	35	18		
BESANCON	80.11	5.0	12	15	2				13	26
NEUCHATEL	80.41	4.4	12	15	1	22	24	4		
LAHORE	80.62	310.8	12	15	-1					
SIMFEROPOL	80.97	345.2	12	18A	1					
BALBOA HTS.	81.22	86.8	12	9	-10					
BOKARO	81.24	297.9							11	38
CLERMONT-FD.	81.40	7.2	12	21	1					
ASHKABAD	81.49	325.5	12	23	3					
TIMISOARA	81.57	354.4	12	24	3	22	41	9		
ZAGREB	81.71	358.1	12	14	-7	22	37	3		
NEW DELHI	81.74	307.0	12	19	-3	22	29	-5		
CAMPULUNG	81.77	351.6	12	25	3					
SAN JUAN	81.77	70.6	12	22K	0	22	37	3	27	42 SS
OROPA	81.83	3.8	12	22	0	22	52	17		
TRIESTE	81.90	359.7	12	22A	0	22	34	-2	23	45 PS
TIFLIS	81.97	336.7	12	24	1	22	39	2	22	53 SCS
PAVIA	82.31	2.9	12	26A	2				22	35 SKS
BUCHAREST	82.51	350.8	12	26	1	22	45	3		
BELGRADE	82.54	354.9	12	28A	2	23	0	18	14	16
BOLOGNA	83.04	1.4	12	33	5	23	7	20		
GORIS	83.69	334.9	12	32	0	22	56	2	12	40 PCP
MONACO	83.69	4.3	12	33	1				13	13
FLORENCE X.	83.76	1.5	12	33A	1					
SOFIA	84.46	352.6	12	37	2	22	58	-4		
QUETTA	85.05	315.6	12	38	0	23	5	-2	23	18 SCS
BARCELONA	85.64	8.4				23	26	13		
ROME	85.65	0.6	12	41A	0	23	35	22	23	7 SKKS
ANTIGUA	85.69	67.5	12	39	-3					
TOLEDO	86.45	13.5	12	48	2	23	24	2		
CHINCHINA	86.74	86.1	12	44	-3	23	8	-16	23	24 PS
LISBON	86.77	17.4	12	50K	3	23	47	23		
BRISBANE	87.33	215.1	12	50	0	23	2	-27		
FORT FRANCE	87.52	68.9	12	50	-1	23	32	1		
BOGOTA	87.96	85.1	12	54	1				23	38 PS
ST. LUCIA	88.17	69.2	11	59	-55					
ALICANTE	88.42	10.8	12	47	-8	23	27	-12	16	15 PP
ST. VINCENT	88.71	69.9	12	57	1					
ATHENS	89.13	351.8	12	51	-7				23	24 SKS
GRANADA	89.17	13.4	13	1A	3	23	54	7	16	40 PP
MESSINA	89.33	358.2	12	58K	-1	23	45	-3	23	25 SKS
REGGIO CALA.	89.43	358.1	13	46	46					
MALAGA	89.51	14.1	12	58A	-2					
ALMERIA	89.65	12.6	12	50	-11					
ALGIERS UNI.	90.33	8.2	13	4	0	23	47	-10	16	37 PP
HYDERABAD	90.38	300.0							13	5

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AUCKLAND	90.76	194.7							23	41	SKS
KSARA	91.50	341.3	13	8	-1	24	0	-7	16	48	PP
POONA	91.83	304.2	13	9	-2	24	9	-1			
BOMBAY	92.03	305.3	13	11	-1	24	17	5	23	54	SKS
DJAKARTA	92.73	263.5	13	8	-7	24	8	-10			
MADRAS	93.12	296.1	12	47	-30	23	49	-33			
JERUSALEM	93.60	341.4	13	22	3				16	45	PP
RIVERVIEW	93.77	214.0	13	23K	3	25	31	64	17	13	PP
WELLINGTON	95.09	193.9							23	54	SKS
KODAIKANAL	96.88	296.8	13	14	-20	24	14	-40			
CHRISTCHURCH	97.61	195.0				24	57	-3	24	11	SKS
MELBOURNE	99.55	216.8				25	24	8			
HUANCAYO	100.33	96.2							18	4	PP
TAMANRASSET	104.42	7.4	14	9	1	24	50	-67	18	30	PP
LA PAZ	108.14	93.5				26	5	-3	19	3	PP
MBOUR	108.17	30.9	14	29	777	25	12	-48	18	51	PP
LWIRO	127.97	340.2	19	10A	2				21	11	PP
ASTRIDA	128.12	338.9	18	16K	-52				19	9	
TANANARIVE	136.96	308.6							17	41	
PRETORIA	150.73	331.7							19	57	
PIETERMZBURG	153.62	324.8							20	5	
KIMBERLEY	154.49	336.0							19	55	
HERMANUS	161.12	344.7							20	51	

MARCH 16 0.H 43.M 42.S EPICENTRE 34.94 52.93 DEPTH= 0.KM

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G= 0.3436 H= 0.4549 K=-0.8216 HT= 0.1

SE= 2.23

	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	
BAIRAM-ALI	7.88	67.6	2	3	4								
TIFLIS	9.31	319.1	2	21	2								
QUETTA	12.74	108.0	3	8	2	5	39	10			3	18	PP
SOTCHI	13.38	314.1	3	18	4	5	58	13					
KSARA	14.13	270.3	3	32	8	6	16	13					
NAMANGAN	15.95	62.3	3	49	1	6	57	11					
SIMFEROPOL	17.51	310.5	4	7	-1	7	30	8					
LAHORE	18.21	94.7	4	15	-1								
FRUNSE	18.59	58.3	4	23	2	8	1	15					
DEHRA DUN	21.63	95.2	4	54	0	8	57	7			13	9	
SVERDLOVSK	22.51	11.1	5	4	1								
IASI	22.60	310.5	5	4	0	9	19	12			9	8	
BUCHAREST	22.63	302.8	5	7	3	9	23	15					
MOSCOW	23.31	337.8	5	10	-1	9	26	6					
ATHENS	23.65	285.9	5	15A	1								
SOFIA	24.24	297.5	4	21	-59								
POONA	24.74	126.0	5	27	2	8	50	-55					
SEMIPALATNSK	25.15	43.7	5	29	0	9	56	4					
KRAKOW	28.36	312.3	5	57	-1								
PULKOVO	28.90	336.3	6	0	-3								
MESSINA	30.07	287.3	6	12K	-1	11	19	7			6	30	
CHATRA	30.36	95.9	6	17	1								
TRIESTE	31.46	301.9	6	24	-2	11	37	3			7	30	PP
ROME	32.22	294.7	6	32A	0	11	39	-6			13	48	SS
FLORENCE X.	33.12	298.2	6	40	0								
UPPSALA	33.84	328.4	6	45A	-1						9	23	PCP
COPENHAGEN	34.54	319.6	6	47	-5	12	35	14					
SHILLONG	34.73	94.8	6	53K	-1								
STUTTGART	34.89	306.9	6	53	-3								
TUBINGEN	34.95	306.5	6	54	-2								
EBINGEN	34.98	305.9	6	54K	-2								
ZURICH	35.17	304.4	6	56	-2								
HAMBURG	35.29	315.3	6	59	0						7	57	
STRASBOURG	35.81	306.4	7	2	-1						8	26	
BASLE	35.86	304.6	7	2	-2								
MONACO	35.89	298.1	7	2	-2						7	23	
KIRUNA	37.78	340.6	7	19	-1	13	20	9			15	51	SS
SKALSTUGAN	37.93	331.7	7	20	-1								
CLERMONT-FD.	38.90	301.6	7	29	0								
PARIS	39.32	306.4	7	32	-1						9	41	PCP
KEW	41.21	310.5	7	49	1	14	13	10					
RELIZANE	42.31	286.8	7	47K	-10						9	24	PP
TAMANRASSET	42.90	266.7	8	1	-1	14	21	-7			9	42	PP
ASTRIDA	43.22	215.1	8	7	2								
LWIRO	43.37	216.5	8	18	12								

UVIRA	44.28	215.3	8 11	-2
GRANADA	45.18	290.1	9 30	69
LISBON	49.00	293.7	8 50A	-1
SCORESBY SD.	52.49	335.9	9 17	0
TIKSI	52.84	22.7	9 19	-1
PRETORIA	64.75	204.7	10 40A	-3
MBOUR	65.53	270.8	10 47	-1
MATUSIRO	66.90	60.8	10 55A	-2
RESOLUTE	68.61	351.3	11 7A	0
KIMBERLEY	68.70	206.4	11 7	-1
SCHEFFERVLLE	76.70	328.9	11 54A	-1
COLLEGE	79.20	8.9	12 14	5
HALIFAX	82.13	319.8	12 25K	1
SEVEN FALLS	83.99	325.2	12 34	0
SHAWINIGAN	85.32	325.8	12 41K	1
KIRKLAND LA.	87.23	330.6	12 50	0
OTTAWA	87.53	326.6	12 51K	0
PENNSYLVANIA	92.09	324.9	12 46	-27
BANFF	93.66	352.8	13 20	0
HUNGRY HORSE	96.27	351.3	13 32	0
HUANCAYO	128.02	282.8	19 13	4

MARCH 16 2.H 34.M 15.S EPICENTRE 51.57-178.86 DEPTH= 0.KM

A=-0.62405 B=-0.01245 C= 0.78129 D=-0.0199 E= 0.9998
G=-0.7811 H=-0.0156 K=-0.6242 HT= -6.0

SE= 2.84

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KLYUCHI	12.89	299.6	3 10K	5	5 45	16		
PETROPAVLOVK	13.83	285.3	3 15K	-2	5 50	-2		
MAGADAN	18.79	307.0	4 20A	-1				8 10 SS
COLLEGE	20.80	38.3	4 43	0	8 41	12		
NEMURO	25.21	265.0	5 25	-1	9 49	1		
Y.-SAKHLINSK	25.29	274.7	5 26A	-1				
SITKA	25.63	60.5	5 33	3	10 13	18		6 45
ABASHIRI	25.67	267.5	5 31	0	10 2	6		
KUSIRO	26.13	265.4	5 34	-1	10 2	-2		
WAKKANAI	26.62	272.3	5 44	5	10 22	10		
OBIHIRO	26.91	266.3	5 41	-1	10 38	22		
ASAHIGAWA	26.98	268.6	5 46	3				
URAKAWA	27.59	265.3	5 46	-2	10 21	-6		
SAPPORO	27.99	268.1	5 46	-6	10 5	-29		
TOMAKOMAI	28.13	267.0	5 53	0				
MURORAN	28.62	267.1	5 57	0	10 45	1		
SUTTSU	28.83	268.6	5 48	-11				
MORI	28.99	267.1	6 2	1	10 54	4		7 2 PP
HAKODATE	29.07	266.4	6 1	-1				
HATINOHE	29.28	263.6	6 3	0	10 52	-3		
MIYAKO	29.53	261.7	6 10	4	10 49	-9		
AOMORI	29.58	264.7	6 6	0	11 4	5		
MORIOKA	29.99	262.5	6 9	-1	11 4	-2		
MIZUSAWA	30.36	261.7	6 14	1	11 1	-11		
TIKSI	30.45	330.3	6 21	7				7 36 PP
AKITA	30.64	263.6	6 17	2	11 19	3		
ISINOMAKI	30.67	260.4	6 16	0	11 23	6		
SENDAI	31.03	260.6	6 20	1	11 20	-2		
SAKATA	31.30	262.5	6 45	24				
YAMAGATA	31.38	261.1	6 20	-2	11 31	3		
HUKUSIMA	31.62	260.2	6 36	12				
ONAHAMA	31.86	258.6	6 35	9	11 36	1		
SHIRAKAWA	32.17	259.5	6 30	1	11 33	-7		
NIIGATA	32.39	261.8	6 41	10	12 14	31		
MITO	32.50	258.2	6 41	9	11 47	2		
UTUNOMIYA	32.75	259.1	6 35	1				
KAKIOKA	32.77	258.3	6 35	1	11 47	-2		
AIKAWA	32.82	262.7	6 19	-16	11 53	3		
TUKUBASAN	32.83	258.4	6 30	-5				
KUMAGAYA	33.31	259.0	6 40	1	11 52	-6		
MAEBASI	33.34	259.6	6 37	-2	11 54	-4		17 8 SCS
TOKYO C.M.O.	33.40	258.0	6 39	-1	12 0	1		7 51 PP
TAKADA	33.40	261.4	6 35	-5				
TITIBU	33.61	259.0	6 43	2				17 9 SCS
YOKOHAMA	33.62	257.7	6 39	-3				7 55 PP

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NAGANO	33.70	260.8	6	42	0	12	10	6	13	26 SS
OIWAKE	33.71	260.0	6	41	-1				17	7 SCS
MATUSIRO	33.77	260.6	6	39A	-4	12	6	1	7	52 PP
VLADIVOSTOK	33.85	275.3	6	44	0					
MERA	33.85	256.9	6	43	-1	11	49	-17		
WAZIMA	34.06	263.0	6	46	1	12	6	-3		
HUNATU	34.11	258.7	6	47	1	12	27	17		
MATUMOTO	34.11	260.4	7	3	17	12	27	17		
KOHU	34.15	259.0	6	45	-1	12	8	-3		
AJIRO	34.21	257.8	6	45	-2	12	14	2		
OSIMA	34.23	257.1	6	48	1	12	12	0		
MISIMA	34.26	258.0	6	43	-4	12	8	-4	17	5 SCS
HONOLULU	34.27	144.1	6	43	-4	12	15	2		
TOYAMA	34.30	261.8	6	50	3	12	16	3		
TAKAYAMA	34.62	261.0	6	51	1					
IIDA	34.68	259.6	6	50	-1					
SHIZUOKA	34.69	258.3	6	51	0	12	19	0		
HORSESHOE B.	34.72	71.2	6	50	-1	12	27	7	9	26 PCP
KANAZAWA	34.75	262.0	6	55	4					
VICTORIA	35.01	72.6	6	52	-2	12	31	7	9	31 PCP
OMAESAKI	35.05	258.0	7	11	17	12	43	18		
HUKUI	35.29	261.7	6	59	3	12	33	5		
GIHU	35.41	260.4	6	56	-1	12	30	0		
NAGOYA	35.44	259.9	6	58	1	12	33	2		
IBUKISAN	35.66	260.8	7	5	6					
TSURUGA	35.68	261.4	7	6	7	12	44	10		
HIKONE	35.81	260.7	7	6	6	12	39	2	8	21 PP
KAMEYAMA	35.95	260.0	7	3	1	12	36	-3		
TU	36.00	259.8	7	5	3					
SEATTLE	36.08	73.3	7	6	3	12	50	9		
KYOTO	36.30	260.9	7	3	-1					
NARA	36.46	260.4	7	8	2	12	53	7		
TOYOOKA	36.53	262.4	7	5	-1					
OWASE	36.64	259.3	7	9	2	12	46	-3		
OSAKA	36.67	260.6	7	11	4	12	24	-26		
KOBE	36.86	261.0	7	12	3	12	56	3		
CORVALLIS	36.99	78.4	7	16	6	13	4	9		
SAIGO	37.02	264.5	7	9	-1	13	6	11		
WAKAYAMA	37.17	260.4	7	14	2	13	2	5		
SUMOTO	37.27	260.8	7	11	-2	13	3	4		
HIMEJI	37.46	261.5	7	12	-2	13	1	-1		
YONAGO	37.50	263.5	7	27	12	13	16	14		
CHANGCHUN	37.55	280.7	7	12	-3	12	59	-4	15	57 SSS
TOKUSIMA	37.64	260.8	7	15	-1	13	1	-3		
OKAYAMA	37.64	262.1	7	15	-1	13	9	4		
MATSUE	37.66	263.8	7	13	-3	13	6	1		
TAKAMATU	37.80	261.6	7	17	0	12	37	-30		
BANFF	38.42	64.9	7	20	-2					
ARCATA	38.53	84.0	7	38	15					
KOTI	38.63	261.1	7	23	-1	13	7	-13	15	57 SS
HAMADA	38.64	264.0	7	23	-1	13	21	1		
HIROSIMA	38.77	263.1	7	25	0	13	19	-3	8	58 PP
MATUYAMA	38.93	262.1	7	26	0	13	22	-2	16	32 SS
UWAZIMA	39.45	261.6	7	33	2	13	34	2		
SIMIDU	39.50	260.7	7	32	1					
RESOLUTE	39.59	24.5	7	30A	-2	13	25	-9	11	50
SHASTA	39.68	83.0	7	33K	0	13	32	-3		
SIMONOSEKI	39.97	263.9	7	33	-2	13	43	3		
OOITA	40.03	262.4	7	36	0	13	26	-15		
UKIAH	40.09	85.6	6	48	-48	13	48	6		
MINERAL	40.37	82.9	7	37K	-1					
HUKUOKA	40.54	263.9	7	39	-1	13	37	-11	9	3 PP
ASOSAN	40.59	262.5	7	40	0	13	54	5		
HUNGRY HORSE	40.61	68.0	7	40	0	13	39	-10	17	49 SCS
SAGA	40.83	263.6	7	51	9	14	26	33		
ITUHARA	40.83	265.6	7	38	-4	13	41	-12		
KUMAMOTO	40.87	262.8	7	45	2	13	52	-1		
MIYAZAKI	41.04	261.1	7	43	-1	14	1	5		
UNZENDAKE	41.21	263.1	7	45	0	14	14	16		
NAGASAKI	41.44	263.4	7	50	3	14	5	3		
BERKELEY	41.45	86.4	7	48K	1	14	5	3		
KAGOSIMA	41.82	261.5	7	54	4	13	47	-20		
RENO	41.96	82.7	7	49	-2					
SANTA CLARA	41.96	86.8	8	4	12	14	20	11		
LICK	42.16	86.6	7	54K	1					
TOMIE	42.21	264.2	7	52	-1	14	5	-8		
YAKUSIMA	42.63	260.4	7	56	-1	14	15	-4		
BUTTE	42.67	70.3	7	58	1	14	22	2	17	50 SCS
SASKATOON	42.89	59.6	6	50	-69	12	27	-116	9	26 PCP

FRESNO	43.67	85.9	8	7K	2	14	51	17	
BOZEMAN	43.75	69.9	8	6	0				
EUREKA	44.36	80.1	8	10	-1				
TINEMAHA	44.46	84.4	8	11	-1	14	50	4	8 24
KING RANCH	44.62	87.4	8	14	1				
WOODY	44.93	86.4	8	13	-3				
ISABELLA	45.20	86.1	8	19	1	14	55	-1	
IRKUTSK	45.27	302.6	8	16	-2	14	53	-4	10 16 PP
PEKING	45.31	281.9	8	18A	-1	14	55	-3	10 3 PP
KWANTING	45.54	282.5	8	18	-2				
CHINA LAKE	45.64	85.3	8	20	-1	15	10	7	8 38
SALT LAKE C.	46.10	76.0	8	24	-1	15	14	5	
PASADENA	46.37	87.5	8	24	-3	15	17	4	8 45
RIVERSIDE	46.97	87.1	8	27	-5	15	21	-1	8 47
TATUNG	47.03	283.8	8	34	2				
BOULDER CITY	47.26	83.2	8	33	-1	15	32	6	
PALOMAR	47.72	87.3	8	26	-12	15	36	4	
ZO-SE	47.97	268.9	8	37A	-3	15	36	0	10 27 PP
HAYFIELD	48.24	86.0	8	42	0	15	40	0	8 56
BARRETT	48.28	87.9	8	30	-12	15	45	5	9 0
PAOTOW	48.69	286.4	8	46	1				
NANKING	48.81	271.6	8	44A	-2				
TAIYUAN	48.89	281.8	8	46	-1				
RAPID CITY	49.23	67.2	8	48	-1	15	53	0	
LINFEN	50.63	280.9	9	5	5				
TUCSON	52.21	83.9	9	10	-2	16	36	1	
YINCHUAN	52.27	286.7	9	16	4				
SIAN	53.45	280.9	9	21	0	16	55	3	
WUWEI	54.79	288.5	9	31	0				
TIENSHUI	55.16	283.4	9	34	0				
CHANGYEH	55.34	290.7	9	39	4				
SINING	56.17	287.9	9	42	1				
YUMEN	56.48	294.1	9	43	0				
LUBBOCK	56.82	76.4	9	43	-3	17	42	5	19 36 SCS
SCORESBY SD.	57.12	9.0	9	46	-2	17	42	1	19 36 SCS
CHIHUAHUA	57.66	83.6	9	51	-1	17	38	-10	16 51
SEMIPALATNSK	58.34	312.4	9	55	-1				18 9 PS
CANTON	58.59	268.1	9	56	-2	18	1	1	13 33 PPP
HONG KONG	58.61	266.8	9	55	-3	18	1	1	
APATITY	58.76	346.1	9	58K	-1	18	2	0	12 13 PP
KIRKLAND LA.	58.92	50.6	9	59K	-1	18	4	0	
BAGUIO CITY	59.08	257.0	9	59	-3	18	16	10	
CHICAGO CGS.	59.45	60.3	10	4	0	18	8	-3	
FAYETTEVILLE	59.66	69.1	10	3K	-3	18	10	-4	10 35
SCHEFFERVLLE	59.95	38.3	10	5A	-3				10 48
FLORISSANT	59.97	64.5	10	6K	-2	18	19	1	
KIRUNA	60.05	351.7	10	6A	-2	18	19	0	12 27 PP
ST. LOUIS I	60.16	64.5	10	7K	-2	18	17	-?	
MANILA	60.26	255.3				21	26	185	12 10
RABAUL	60.81	213.6	10	5	-8				12 36 PP
TERRE HAUTE	61.15	62.1	10	30	14	18	45	12	
MAZATLAN	61.39	88.2				18	21	-15	11 0 PCP
SVERDLOVSK	61.42	327.4	10	17	-1	18	41	5	11 0 PCP
LITTLE ROCK	61.64	69.0	10	18	-1	18	42	3	
HAMILTON	62.48	54.5	10	26	1	18	53	3	12 49 PP
OTTAWA	62.97	50.4	10	24A	-4	18	54	-2	14 22 PPP
CINCINNATI	62.97	60.5	10	32	4	18	52	-4	
REYKJAVIK	63.25	11.1	10	29	-1				
BUFFALO L.	63.37	54.0	10	27	-4				
SHAWINIGAN	63.51	47.8	10	29K	-2	19	8	5	
SEVEN FALLS	63.97	46.3	10	36	2	19	7	-1	13 8 PP
PITTSBURGH	64.47	56.7	10	40	2	19	27	13	
SKALSTUGAN	64.86	354.5	10	37	-3				39 21 PKPPKP
MORGANTOWN	65.06	57.3	10	40K	-2	19	25	3	
GUADALAJARA	65.15	87.7	10	42	0	19	18	-5	23 46 SS
PENNSYLVANIA	65.28	55.1	10	42	-1	19	33	9	13 3 PP
APIA	65.38	172.4				19	26	0	10 53
MANZANILLO	65.73	89.7	10	39	-7				20 31 SCS
FRUNSE	66.49	309.8	10	49	-2				
PULKOVO	66.54	344.4	10	51	0	19	40	0	13 19 PP
WASHINGTON	67.10	56.0	10	57	2				
PALISADES	67.12	52.5	10	51	-4	19	48	1	20 44 PS
FORDHAM	67.25	52.6	10	53	-2	19	53	5	
PHILADELPHIA	67.28	54.1	11	0	4	19	48	-1	25 0 SS
WESTON	67.34	50.0	10	54A	-2	19	49	0	11 17 PCP
UPPSALA	68.14	351.1	10	59	-2	19	58	-1	13 40 PP
CHAPEL HILL	68.28	59.4	11	0	-2				
BERGEN	68.34	357.8	11	5	3	20	3	2	15 39 PCS

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COLUMBIA	68.64	62.1	11	2	-2	20	6	1	39	15	PKPPKP
TACUBAYA	68.67	85.5	11	12	8	20	8	3	23	3	
MOSCOW	68.88	338.9	11	3	-3	20	9	1	13	45	PP
SUVA	69.46	182.8	11	12	3	20	10	-5			
SHILLONG	69.97	286.0	11	9A	-3	20	25	4	13	42	PP
TASHKENT	70.20	312.0	11	12	-2	20	23	0	13	44	PP
VERA CRUZ	70.73	83.3	11	13	-4	20	28	-2			
ABERDEEN	71.59	1.9	11	33	11	20	48	8	15	48	PPP
CHATRA	71.81	290.2	11	31	8	20	45	3			
OAXACA	71.97	85.3	11	28	4	20	48	4	15	52	PP
CHITTAGONG	72.40	283.8	11	30	3	20	51	2			
STALINABAD	72.63	310.6	11	28	0	20	51	0			
COPENHAGEN	72.71	353.3	11	28K	-1	20	49	-3	14	15	PP
MERIDA	73.41	77.2	11	34A	1	21	6	6	28	12	
DURHAM	74.01	1.6	11	54	18	21	6	-1			
DEHRA DUN	74.33	299.0	11	30	-8	21	8	-3	14	31	PP
BOKARO	74.89	289.2	11	36A	-5	21	18	1	12	2	PCP
HAMBURG	74.97	354.6	11	42	0	21	23	5	22	24	PPS
WARSAW	75.23	347.5	11	44K	1	21	22	1	21	35	SKS
RATHFARNHAM	75.32	4.6	10	39	-65						
LAHORE	75.36	302.4	11	43	-1						
WITTEVEEN	75.88	356.5	11	47	0						
POTSDAM	75.94	352.5	11	49	2	21	31	3			
NEW DELHI	76.14	298.5	11	47A	-2	21	39	8	14	43	PP
DE BILT	76.65	357.4	11	53	2	21	45	9	22	19	PS
LWOW	77.12	345.0	11	54	0				22	38	PS
KEW	77.33	0.9	11	54	-1	21	54	10	14	58	PP
BYTOM	77.34	348.4	12	0	5						
ZABRZE	77.41	348.5				22	21	37			
JENA	77.50	353.3	11	56	0	21	45	0	14	51	PP
KRAKOW	77.51	347.7	11	48	-8	21	44	-1	21	56	
RACIBORZ	77.70	348.8	12	0	3	22	5	17	12	4	PCP
ASHKABAD	77.81	317.2	11	54A	-4				22	11	SCS
PRAGUE	78.11	351.3	12	1	1	21	51	-1	14	55	PP
CHEB	78.28	352.6	11	59	-2	21	52	-2	27	5	SS
SKALNATE PL.	78.32	347.3	12	8	7	22	5	11	15	5	PP
BERMUDA	78.46	52.0	12	2	1	21	57	1	26	57	SS
IASI	79.03	342.0	12	5	0	22	6	4			
JERSEY	79.59	2.2				22	6	-2			
KARLSRUHE	79.61	355.1	12	7	-1	22	23	15	15	13	PP
TIFLIS	79.64	328.3	12	8	0	22	13	5	15	19	PP
BRATISLAVA	79.71	349.2	12	7	-1	22	19	10	15	1	
VIENNA-H.	79.71	349.7	12	9	1						
SIMFEROPOL	79.73	336.9	12	7A	-1	22	9	0	12	12	PCP
BACAU	79.76	342.3	12	13	4	22	20	11			
STUTTGART	79.81	354.6	12	7	-2	22	21	11	15	33	PP
HURBANOVO	79.87	348.4	12	15	6	22	9	-2	22	59	PS
PARIS	80.00	359.1	12	9K	-1	22	23	11	15	11	PP
TUBINGEN	80.05	354.7	12	9	-1						
STRASBOURG	80.07	355.5	12	9A	-1	22	14	1	15	12	PP
BUDAPEST	80.14	347.8	12	12	1	22	19	6	15	18	PP
QUETTA	80.25	306.7	12	10A	-1	22	14	-1	15	16	PP
EBINGEN	80.41	354.7	12	9	-3	22	35	19	15	36	PP
FOCSANI	80.54	341.8	12	19	6	22	23	5			
RAVENSBURG	80.77	354.2							12	57	
KALOCSA	81.09	347.6	12	19	3				12	47	
GORIS	81.11	326.3	12	17	1				22	50	SCS
BASLE	81.13	355.6	12	15	-1	22	22	-2	21	22	
SZEGED	81.20	346.8	12	20	4	22	20	-4	15	1	PP
ZURICH	81.24	354.9	12	15	-1						
CAMPULUNG	81.36	343.2	12	19	2	22	34	8			
TIMISOARA	81.53	345.9	12	21	3				23	34	
NEUCHATEL	81.69	356.0	12	18	-1	22	29	0	14	53	
BUCHAREST	81.98	342.2	12	21	1	22	43	11	23	23	PS
ZAGREB	82.15	349.6	12	26	5	22	40	6	22	47	SKS
BRISBANE	82.50	205.0	12	21	-2	22	38	0			
BELGRADE	82.55	346.3	12	23A	0	22	42	4	16	59	
TRIESTE	82.56	351.1	12	19	-4	22	41	3	15	41	PP
OROPA	83.02	355.2	12	30	4	22	54	11	13	25	
CLERMONT-FD.	83.03	358.6	12	25	-1						
PAVIA	83.39	354.3	12	30A	3	21	53	-54	15	45	PP
BOLOGNA	83.91	352.7	12	34	4	23	9	17	29	10	SS
SOFIA	84.15	343.7	12	34	3	22	52	-2	19	18	
HYDERABAD	84.16	290.6	12	30A	-1	22	55	1	15	54	PP
PRATO	84.54	352.8	12	31	-2	22	59	1			
FLORENCE X.	84.63	352.7	12	32	-2						
MONACO	84.93	355.4	12	34K	-1				13	29	
DJAKARTA	85.17	253.9	12	35A	-1	23	3	-1			

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.

POONA	85.94	294.7	12 40	0					23 18	
BOMBAY	86.23	295.7	12 42	0	23 17	2			16 11	PP
ROME	86.39	351.5	12 44A	2	23 20	4			16 18	PP
MADRAS	86.62	286.5	12 45	1	23 22	4			16 9	PP
ANGRA DO HO.	86.79	21.9			23 37	17				
TARANTO	87.27	347.8	13 32	45					23 29	
BARCELONA	87.39	359.3	13 26	39	23 50	24			24 51	PS
COIMBRA	88.23	7.3	12 51	0	23 35	1			24 41	PS
AUCKLAND	88.24	185.1			23 21	-13			29 21	SS
CUGLIERI	88.40	354.3	13 15	23	23 45	10			17 7	
ATHENS	88.67	342.3			23 19	-19			16 29	PP
TOLEDO	88.82	4.0	12 52	-2	23 41	2			29 38	SS
RIVERVIEW	89.02	204.6	12 54K	-1	23 43	2	13	6	23 24	SKS
SAN JUAN	89.10	61.2	12 55	-1	23 23	-19			16 52	PP
KARAPIRO	89.25	184.4	12 55	-1	23 48	5				
LISBON	89.64	8.0	13 0A	2	23 47	0				
KSARA	89.67	331.7	12 58	0	23 39	-8			16 26	PP
MESSINA	89.72	348.7	12 56	-2	23 40	-7			16 25	PP
REGGIO CALA.	89.81	348.6	12 58	-1	23 57	9				
GALERAZAMBA	89.94	72.8			24 0	11				
TUAI	90.06	183.1	13 5	5						
ALICANTE	90.45	1.3	12 57	-5	23 45	-9				
TONGARIRO	90.52	184.4	12 58	-4						
GRANADA	91.53	3.8	13 7A	0	24 11	8			13 34	*PP
COLOMBO	91.60	283.1	13 8	1					24 4	
JERUSALEM	91.77	331.5	13 6	-2					16 55	PP
ALMERIA	91.90	2.9	13 14	5	24 3	-4			30 14	SS
MALAGA	91.95	4.5	13 9A	0	23 59	-8			16 49	PP
ALGIERS UNI.	92.02	358.5	13 9	0	23 42	-26			16 56	PP
COBB RIVER	92.56	186.4	13 10	-2						
WELLINGTON	92.63	184.8	13 20	8	23 35	-38			25 15	PS
ANTIGUA	92.90	58.0	13 10	-3						
RELIZANE	93.05	0.5	13 6	-8					16 44	PP
CHINCHINA	94.31	76.5	13 23	3	23 51	-37			24 22	SKKS
MELBOURNE	94.48	208.0	13 20	0	24 35	6			17 27	PP
FORT FRANCE	94.78	59.3	13 25	3	24 33	1			24 1	SKS
CHRISTCHURCH	95.00	186.2	13 33	10	24 37	3			23 55	SKS
ST. LUCIA	95.44	59.5	13 25	0						
BOGOTA	95.53	75.5	13 34	9	24 0	-38			17 12	PP
ST. VINCENT	96.01	60.2	13 29	2						
BARBADOS	96.95	58.9	13 37	5						
TRINIDAD	97.93	61.8	13 35	-1						
PERTH	100.94	231.9	13 49	-1	24 35	-49			18 3	PP
TAMANRASSET	105.88	355.8	14 11	777	24 50	0			18 34	PP
HUANCAYO	107.75	87.0							18 37	PP
MBOUR	112.46	19.0	14 44	-231	25 30	13			19 23	PP
LA PAZ	115.62	84.3	18 51	10	25 35	6			20 10	PP
ASTRIDA	125.64	324.0	19 3	2					32 36	
LWIRO	125.65	325.2	19 1	0						
UVIRA	126.68	324.3	19 4A	1					21 9	
TANANARIVE	131.24	294.2	19 12	1					21 33	PP
BUENOS AIRES	134.59	92.2							19 27	
MIRNY	135.06	214.5	19 21	2	26 32	6				
PRETORIA	147.03	311.1	19 38A	-2						
PIETERMZBURG	149.13	304.0	19 47	4						
KIMBERLEY	151.16	313.1	19 49	3						
GRAHAMSTOWN	154.05	304.8	19 53	3						
HERMANUS	158.45	315.7	20 3	7					20 39	PKP2

MARCH 17 7.H 53.M 52.S EPICENTRE 51.49-179.58 DEPTH= 0.KM
A=-0.62527 B=-0.00462 C= 0.78040 D=-0.0074 E= 1.0000
G=-0.7804 H=-0.0058 K=-0.6253 HT= -6.0

SE= 2.16

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
KLYUCHI	12.54	300.4	3 8	6					
PETROPAVLOVK	13.42	285.6	3 15	1					
MAGADAN	18.48	307.4	4 22	3	7 58	15			
COLLEGE	21.14	38.5	4 48	-1	8 47	7			
KURILSK	22.39	266.6	5 1K	0	9 11	8			
UGLEGORSK	24.44	279.6	5 22K	1	9 45	6			
SITKA	26.07	60.2	5 42	6	10 23	17			
TIKSI	30.30	330.5			11 19	4		7 15	PP
MATUSIRO	33.31	260.1	6 39K	-2	12 0	-2		7 50	PP
VLADIVOSTOK	33.41	274.9	6 40	-2				7 52	PP

ALBERNI	34.31	71.6	6	52	2				
HORSESHOE B.	35.17	70.7	6	57	0	12	33	2	
VICTORIA	35.47	72.1	6	59	-1	12	37	2	
KYOTO	35.84	260.4	7	5	2	12	46	5	
SEATTLE	36.53	72.9	7	11	2	12	55	3	
CHANGCHUN	37.12	280.4	7	13K	-1	13	1	0	8 42 PP
CORVALLIS	37.44	77.9	7	19	3	13	9	4	
BANFF	38.86	64.4	7	25	-3				
RESOLUTE	39.85	24.4	7	36K	-1	14	30	48	
SHASTA	40.13	82.5	7	48K	9				
UKIAH	40.54	85.0	7	47	5				
MINERAL	40.83	82.4	7	44K	-1				
HUNGRY HORSE	41.06	67.6	7	46	0	13	59	-1	
BERKELEY	41.90	85.8	7	54K	1	14	9	-3	
RENO	42.41	82.1	7	58K	0				
SANTA CLARA	42.42	86.2	8	0	2	14	19	-1	
LICK	42.62	86.0	7	59K	0				
BUTTE	43.12	69.8	8	4	1	14	29	-1	9 35 PP
SASKATOON	43.32	59.2							18 1 SS
FRESNO	44.12	85.3	8	10	-1				
BOZEMAN	44.20	69.4	8	12	0				
EUREKA	44.92	79.6	8	16	-1				
PEKING	44.89	281.5	8	17K	-1	14	54	-2	
TINEMAHA	44.92	83.8	8	17	-1				
IRKUTSK	44.93	302.4	8	18	0				10 5 PP
KING RANCH	45.08	86.8	8	26	7				
WOODY	45.39	85.8	8	21	-1				
ISABELLA	45.66	85.5	8	23	-1				
SALT LAKE C.	46.56	75.5	8	30	-1	15	19	-1	18 25 SS
TATUNG	46.61	283.4	8	35	4				
PASADENA	46.82	86.9	8	32	-1	15	23	-1	
RIVERSIDE	47.42	86.5	8	37	-1				
ZO-SE	47.51	268.4	8	39K	1	15	37	4	18 32 SCS
BOULDER CITY	47.71	82.6	8	39	-1				
PALOMAR	48.17	86.7	8	42	-2				
NANKING	48.36	271.2	8	45K	0	15	47	2	18 36 SCS
HAYFIELD	48.70	85.4	8	47	-1				
BARRETT	48.74	87.2	8	47	-1				
RAPID CITY	49.67	66.7	8	54	-1	16	4	0	11 2 PP
TUCSON	52.66	83.3	9	17	-1	16	42	-3	17 48
SIAN	53.02	280.5	9	35	14				
LUBBOCK	57.28	75.8	9	52	1				
SEMIPALATNSK	58.06	312.1	9	56	-1	17	56	-1	12 5 PP
CANTON	58.14	267.6	9	57	0	17	58	0	19 49 SCS
HONG KONG	58.16	266.3	9	59	1	18	0	2	
BAGUIO CITY	58.62	256.4	10	0	-1	18	6	2	
APATITY	58.73	345.8	10	1	-1	18	2	-4	13 35 PPP
KIRKLAND LA.	59.32	50.2	10	5	-1				
MANILA	59.80	254.7	10	11	2	18	23	3	
CHICAGO CGS.	59.88	59.8	10	10	0	18	18	-3	
KIRUNA	60.07	351.4	10	10	-1	18	20	-3	26 42
FAYETTEVILLE	60.11	68.6	10	10A	-1	18	21	-3	20 1
RABAUL	60.49	212.9	10	6	-8				
HAMILTON	62.90	54.0	10	29	-1	19	1	2	20 23 SCS
OTTAWA	63.37	49.9	10	31	-2				20 22 SCS
BUFFALO L.	63.78	53.6	10	35	-1				
SHAWINIGAN	63.90	47.4	10	34	-3				13 42
SEVEN FALLS	64.35	45.8	10	39	0				
PITTSBURGH	64.89	56.2	10	22	-21				
SKALSTUGAN	64.90	354.2	10	42	-1				
MORGANTOWN	65.48	56.8	10	48	1				
PENNSYLVANIA	65.69	54.7	10	48	0	19	35	1	
FRUNSE	66.20	309.4	10	51K	0	19	44	4	13 10 PP
PULKOVO	66.50	344.0	10	55	2				
WASHINGTON	67.52	55.5	11	0	0	20	25	29	
PALISADES	67.52	52.1	10	57	-3	19	59	3	20 55 SCS
PHILADELPHIA	67.70	53.6				19	59	1	20 56 SCS
UPPSALA	68.15	350.7	11	2	-2				20 25 PS
MOSCOW	68.79	338.5	11	8	0				
COLUMBIA	69.07	61.6	11	8	-1	20	11	-3	21 8 SCS
HALIFAX	69.47	43.3	11	10	-2				
SHILLONG	69.56	285.5	11	10	-2	20	18	-2	
TASHKENT	69.91	311.6	11	14	-1	20	28	4	21 1 SCS
CHATRA	71.42	289.7	11	22	-2				
STALINABAD	72.34	310.1	11	30	1	20	56	4	
COPENHAGEN	72.74	352.9	11	33	1				21 35 PS
MERIDA	73.87	76.7	11	33	-5				
DEHRA DUN	73.97	298.5	11	42	3	21	10	-1	21 56 PPS
HAMBURG	75.01	354.1	11	44	-1				

LAHORE	75.03	301.9	11	44	-1					
WARSAW	75.21	347.1	11	46	0				21	51 SKS
RATHFARNHAM	75.44	4.2	11	48	1					
POTSDAM	75.96	352.0	11	40	-10					
DE BILT	76.71	357.0	11	48	-6					
LWOW	77.08	344.6	11	57	1					
KEW	77.42	0.5	11	57	-1	21	44	-5		
JENA	77.52	352.8	11	58	-1				12	48
ASHKABAD	77.56	316.7	12	4K	5				14	38 PP
BERMUDA	78.86	51.5	12	5	-1	21	59	-5	26	57 SS
IASI	78.97	341.5	12	6	-1					
TIFLIS	79.47	327.8	12	10	0	22	10	-1	15	14 PP
SIMFEROPOL	79.63	336.4	12	13A	3				22	33 SCS
BRATISLAVA	79.70	348.7	12	12	1				13	14
STUTTGART	79.84	354.1	12	10	-2	22	38	23	12	20 PCP
QUETTA	79.94	306.2	12	13A	1	22	18	2	12	21 PCP
PARIS	80.07	358.6	12	13A	0				12	25 PCP
TUBINGEN	80.09	354.2	12	13	0					
STRASBOURG	80.12	355.1	12	14	1	22	20	3	15	17 PP
EBINGEN	80.45	354.2	12	15	0					
NEUCHATEL	81.74	355.5	12	21	-1					
BUCHAREST	81.92	341.7				22	32	-4		
BRISBANE	82.24	204.4	12	25	1	22	36	-3		
TRIESTE	82.56	350.6	12	24K	-2	22	42	-1	23	38 PS
CLERMONT-FD.	83.10	358.1	12	29	0					
HYDERABAD	83.77	290.0	12	30A	-2	22	52	-3	23	45 PS
SOFIA	84.11	343.2	12	35	1					
FLORENCE X.	84.65	352.1	12	34A	-2					
MONACO	84.97	354.9	12	38	0				13	9
POONA	85.57	294.2	12	42	1	23	13	1		
BOMBAY	85.86	295.2	12	44	2	23	19	4	24	18 PS
MADRAS	86.21	286.0	12	50	6				23	1
ROME	86.40	351.0	12	43K	-2	23	13	-8	24	33 PS
TARANTO	87.25	347.2							15	59
RIVERVIEW	88.76	204.0	12	59A	2	23	45	2	23	51 SCS
KSARA	89.52	331.1	13	1	1	23	43	-7	16	26 PP
SAN JUAN	89.53	60.6	13	0	0					
MESSINA	89.71	348.1							17	29
ALICANTE	90.54	0.7	13	7	2	24	5	6		
COLOMBO	91.18	282.5							23	43
GRANADA	91.64	3.2	13	4	-6				17	1 PP
MALAGA	92.07	3.9	13	10A	-2					
ALGIERS UNI.	92.09	357.9	13	12	0	23	33	-40	16	49 PP
TRINIDAD	98.37	61.3	13	41	0					
TAMANRASSET	105.92	355.1	18	39	777				14	36
LA PAZ	116.08	83.8							20	0 PP
TANANARIVE	130.86	293.5	19	28	15				21	45 PP
PRETORIA	146.74	310.0							19	43 PKP2
PIETERMZBURG	148.80	302.9	19	51	6					
KIMBERLEY	150.88	311.9	19	55K	7					
GRAHAMSTOWN	153.72	303.6	19	58	6					

MARCH 17 16.H 17.M 13.S EPICENTRE 52.16-165.90 DEPTH= 0.KM

A=-0.59749 B=-0.15009 C= 0.78770 D=-0.2436 E= 0.9699
G=-0.7640 H=-0.1919 K=-0.6161 HT= -6.2

SE= 1.96

	DELTA DEG.	AZ. DEG.	P M	P M S	O-C S	S M	S M S	O-C S	*PP M	PP M S	SUPP. M	SUPP. S
COLLEGE	15.77	29.2	3	42	-3	6	30	-11			4	59
SITKA	18.28	62.4	4	21	5	7	50	12				
VICTORIA	27.07	80.7	5	47K	1						9	7 PCP
SEATTLE	28.11	81.7	5	59A	4							
CORVALLIS	28.95	88.0	6	5	2							
BANFF	30.75	71.5	5	19K	-60						9	13 PCP
SHASTA	31.64	93.7	6	28K	1							
MINERAL	32.33	93.6	6	34K	1							
HUNGRY HORSE	32.80	75.6	6	38	1						9	21 PCP
BERKELEY	33.45	97.8	6	42	0							
RENO	33.92	93.3	6	49	3							
LICK	34.17	97.9	6	49K	0							
BUTTE	34.78	78.5	6	55	1	13	14	50			9	30 PCP
RESOLUTE	35.64	25.6	7	1K	0							
FRESNO	35.66	97.0	7	3K	2							

BOZEMAN	35.87	78.1	7	5	2					
EUREKA	36.32	90.2	7	9	2					
KING RANCH	36.64	98.8	7	11K	1					
WOODY	36.93	97.6	7	13K	1					
ISABELLA	37.20	97.3	7	18K	4					
SALT LAKE C.	38.08	85.4	7	23	1					
PASADENA	38.39	98.8	7	26K	2	13	30	10		
RIVERSIDE	38.98	98.3	7	36K	7					
BOULDER CITY	39.22	93.7	7	33	2					
PALOMAR	39.73	98.6	7	37K	1					
HAYFIELD	40.24	97.1	7	41	1					
RAPID CITY	41.43	75.4	7	50	0					
MATUSIRO	41.81	270.8	7	52K	-1					
BOULDER	42.54	81.7	8	0	1					
TUCSON	44.18	94.5	8	14	2	14	55	9	10	6 PP
CHANGCHUN	45.18	288.0	8	19K	-1	14	59	-1		
LUBBOCK	48.80	86.1	8	48	0				10	13 PP
CHIHUAHUA	49.63	94.1							17	11
IRKUTSK	51.47	308.2	9	8	-1	16	28	-1		
FAYETTEVILLE	51.79	78.2	9	10K	-1					
KIRKLAND LA.	52.06	57.9	9	12	-1					
PEKING	52.88	289.7	9	18	-1	16	47	-1	11	16 PP
TATUNG	54.50	291.5	9	31	0					
SCORESBY SD.	54.94	14.0	9	35	0					
ZO-SE	55.94	278.2	9	41K	-1	17	31	2		
OTTAWA	56.11	58.1	9	41K	-2					
BUFFALO L.	56.24	62.0	9	43	-1					
NANKING	56.72	280.7	9	45K	-2	17	37	-2		
SHAWINIGAN	56.85	55.4	9	46K	-2					
MORGANTOWN	57.72	65.7	9	55	0					
APATITY	59.73	351.5	10	9	0	18	19	0		
WASHINGTON	59.84	64.5	10	9	0					
PALISADES	60.08	60.8	10	9	-2					
KIRUNA	60.24	357.2	10	11	-1	18	25	0	10	23 *PP
SODANKYLA	60.42	354.5	10	14	1				10	54 PCP
TACUBAYA	60.65	96.0	10	8	-7				14	2 PP
CHAPEL HILL	60.82	68.2	10	10	-6					
COLUMBIA	61.04	71.0	10	15	-2				11	4 PCP
SIAN	61.04	289.4				18	38	2		
VERA CRUZ	62.69	93.6	10	27	-2					
HALIFAX	62.76	51.7	10	26	-3					
SKALSTUGAN	64.59	0.9	10	41	0				10	53 *PP
SVERDLOVSK	64.85	333.8	10	42	-1	19	27	4		
MERIDA	65.38	87.2	10	52	6				14	38 PP
RABAUL	66.43	226.6	10	49	-4				13	17 PP
CANTON	66.58	277.8	10	52	-2	19	44	0		
HONG KONG	66.61	276.6	10	53	-1	19	55	10		
PULKOVO	67.66	351.2	11	1	0					
UPPSALA	68.31	358.1	11	4K	-1	20	3	-2	11	16 *PP
MOSCOW	70.73	346.2	11	20	0	20	33	-1		
BERMUDA	71.43	61.1	11	21	-3	20	15	-27	25	12 SS
RATHFARNHAM	73.54	12.6	11	34K	-2					
HAMBURG	74.59	2.5	11	45	3					
NAMANGAN	74.67	318.5	11	43	0	21	21	2		
WITTEVEEN	75.21	4.7	10	48	-58					
WARSAW	75.82	355.6	11	49	0	21	32	1		
POTSDAM	75.83	0.7	11	50	1					
KEW	76.03	9.2	11	52	1					
JENA	77.27	1.6	11	58	1				13	7
SHILLONG	77.28	295.2	11	56K	-1					
KRAKOW	78.05	356.2							11	26
RACIBORZ	78.08	357.3	12	0	0					
PRAGUE	78.15	359.8	12	3	1	21	50	-7	15	14 PP
CHATRA	78.85	299.4	12	5	-1				15	30
PARIS	78.92	7.8	12	8K	1					
STUTTGART	79.36	3.3	12	9K	0					
STRASBOURG	79.49	4.3	12	11	1				12	51
TUBINGEN	79.60	3.4	12	12	2					
EBINGEN	79.94	3.5	12	13K	1					
BRATISLAVA	80.02	358.0	12	14	2					
BASLE	80.53	4.5	12	16	1					
DEHRA DUN	80.69	308.1	12	15	-1					
NEUCHATEL	81.03	4.9	12	19	1					
LAHORE	81.43	311.5	12	19	-1	22	32	1		
SAN JUAN	81.52	71.1	12	20	0					
SIMFEROPOL	81.74	345.8	12	22	0	22	35	1		
CLERMONT-FD.	82.00	7.7	12	23	0					
SOTCHI	82.10	341.5	12	23	0	22	40	2		
TRIESTE	82.57	0.2	12	24A	-2	22	46	3	23	36 PS

BUCHAREST	83.25	351.4				22	52	2		
BELGRADE	83.25	355.5	12	31	2	22	50	0		
PRATO	84.31	2.2	12	20	-15					
MONACO	84.32	4.9	12	36	1				14	11
FLORENCE X.	84.41	2.1	12	36A	1					
SOFIA	85.18	353.2	12	40	1	23	52	43		
ANTIGUA	85.48	68.1	12	39	-2					
QUETTA	85.88	316.2	12	43	0	23	16	0	16	4 PP
ROME	86.31	1.2	12	45K	0	23	16	-4	24	32 PS
ST. LUCIA	87.94	69.8	12	52	-1					
ST. VINCENT	88.47	70.5	12	55K	0					
GRANADA	89.70	14.1	13	0	-1	23	29	-22	16	37 PP
MESSINA	90.01	358.9							24	58 PS
MALAGA	90.03	14.8	13	4A	2					
TRINIDAD	90.31	72.2	13	2	-2					
ALGIERS UNI.	90.92	8.9	13	6	-1				16	44 PP
RELIZANE	91.66	11.0	13	10	0				16	51 PP
KSARA	92.29	342.0	13	17	4	24	16	2	17	15 PP
POONA	92.62	304.9	13	15	1	24	16	-1		
BOMBAY	92.82	305.9	13	19	4	24	22	2		
MADRAS	93.87	296.7	14	14	54				16	47
JERUSALEM	94.39	342.1	13	23	0				17	12
TAMANRASSET	105.01	8.2	14	12	777				18	35 PP
LWIRO	128.77	341.0	19	11	2				21	16 PP
PRETORIA	151.55	332.6	19	54A	5					
KIMBERLEY	155.30	337.1	19	20	-35					

MARCH 17 22.H 44.M 45.S EPICENTRE 53.85-165.21 DEPTH= 0.KM

A=-0.57291 B=-0.15126 C= 0.80554 D=-0.2553 E= 0.9669
G=-0.7789 H=-0.2056 K=-0.5925 HT= -6.8

SE= 2.08

	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	14.10	31.6	3	25	2	6	13	12				
SITKA	17.18	67.2	4	5	2	7	15	2			4	37
KLYUCHI	19.51	291.1	4	31	0	8	11	5				
PETROPAVLOVK	21.37	282.8	4	50K	-1	8	48	4			5	19 PP
MAGADAN	24.45	301.3	5	22A	1							
HORSESHOE B.	26.13	82.6	5	37	0	10	9	2			9	3 PCP
VICTORIA	26.43	84.4	6	11A	31	10	9	-3			9	4 PCP
SEATTLE	27.51	85.3	5	52	2	10	42	12				
CORVALLIS	28.53	91.7	6	1	2							
BANFF	29.86	74.6	6	11A	0							
SHASTA	31.38	97.1	6	24A	0							
UKIAH	31.91	100.2	6	32	3	11	42	2				
HUNGRY HORSE	32.02	78.6	6	30	0	11	41	0			9	20 PCP
MINERAL	32.07	96.9	6	30A	0						12	59
TIKSI	32.79	327.7	6	35	-2						14	15 SS
HONOLULU	32.94	167.7	6	39	1							
Y.-SAKHLINSK	33.24	279.7	6	38A	-3	11	54	-7			8	8 PPP
BERKELEY	33.32	101.0	6	42K	1	12	6	4				
RENO	33.64	96.4	6	46A	2	12	8	1				
SANTA CLARA	33.85	101.3				12	13	3				
RESOLUTE	33.94	26.6	6	26A	-21	12	11	0			8	6 PPP
LICK	34.04	101.1	6	47K	0							
BUTTE	34.07	81.3	6	48	0	12	12	-1			7	56 PP
SASKATOON	34.44	68.5	6	20	-31	12	18	-1				
BOZEMAN	35.15	80.8	6	56	-1							
FRESNO	35.50	100.0	6	59A	-1	12	28	-8				
EUREKA	35.95	93.1	7	4	0							
TINEMAHA	36.22	98.2	7	6A	0	13	13	26			17	21 SCS
KING RANCH	36.53	101.7	7	11	2	13	17	26			9	31 PCP
WOODY	36.79	100.4	7	10A	-1	13	16	21			9	10 PCP
ISABELLA	37.04	100.1	7	14	1							
CHINA LAKE	37.44	99.1	7	17	1	13	10	5				
SALT LAKE C.	37.57	88.1	7	17	0	13	8	1				
PASADENA	38.28	101.6	7	22	-1	13	20	2			17	31 SCS
RIVERSIDE	38.85	101.0	7	27	-1	13	23	-4				
BOULDER CITY	38.95	96.4	7	29	0							
PALOMAR	39.61	101.2	7	34A	0	13	24	-14			9	26 PCP
HAYFIELD	40.07	99.7	7	37	-1	13	29	-16				
BARRETT	40.21	101.7	7	39A	0	13	30	-17			9	44 PCP
RAPID CITY	40.64	77.7	7	43	0	13	49	-5			9	36 PCP

VLADIVOSTOK	41.73	281.7	7	52A	0				9	52 PCP
MATUSIRO	42.23	269.5	7	55A	-1	13	31	-46	18	17 SCS
TUCSON	43.93	96.9	8	10	0	14	41	-1		
KYOTO	44.75	269.9	8	17	1	14	55	1		
CHANGCHUN	45.07	286.8	8	17A	-2					
LUBBOCK	48.30	88.1	8	43	-1				18	39 SCS
CHIHUAHUA	49.37	96.1	10	15	82				10	36 PP
IRKUTSK	50.76	307.5	9	3A	0				18	47 SCS
KIRKLAND LA.	50.82	59.4	9	3A	-1	16	16	-4		
CHIÇAGO CGS.	50.97	70.1				16	13	-9	18	45 SCS
FAYETTEVILLE	51.06	80.0	9	4A	-2				27	28
FLORISSANT	51.41	74.8	9	7A	-1	16	23	-5	18	53 SCS
ST. LOUIS 1	51.60	74.8	9	8A	-2	16	26	-4	18	57 SCS
PEKING	52.71	288.9	9	16A	-2	16	42	-3	11	16 PP
SCORESBY SD.	53.20	14.5	9	24	2	16	52	0	10	30 PCP
TATUNG	54.27	290.8	9	31	1					
CINCINNATI	54.49	70.5	9	31	0	19	43	153		
CLEVELAND	54.51	66.5	9	29	-2	17	5	-5		
OTTAWA	54.87	59.5	9	32A	-2	17	12	-3	11	31 PP
BUFFALO L.	55.10	63.5	9	35	-1					
SHAWINIGAN	55.56	56.7	9	37A	-2	17	34	10	12	5 PP
PITTSBURGH	56.09	66.4	9	40	-3				19	30 SCS
SEVEN FALLS	56.11	55.1	9	42	-1	17	28	-3	11	43 PP
ZO-SE	56.12	277.6	9	42A	-1	17	29	-2	11	51 PP
MORGANTOWN	56.66	67.1	9	46	-1					
NANKING	56.82	280.1	9	46A	-2	17	40	-1		
PENNSYLVANIA	56.96	64.8	9	49	0	17	40	-3	11	57 PP
GUADALAJARA	57.03	100.1	9	56	6	17	51	8	12	1 PP
APATITY	58.12	351.7	9	57	0	17	55	-3	13	36 PPP
KIRUNA	58.57	357.5	9	58A	-2	18	0	-4	18	31
WASHINGTON	58.75	65.8	9	58	-4	18	15	9	19	41 SCS
SODANKYLA	58.78	354.7	10	2	0				10	52 PCP
PALISADES	58.91	62.1	10	0A	-3	18	2	-6	11	54 PP
REYKJAVIK	58.97	17.8	9	55	-8					
PHILADELPHIA	59.01	63.7	10	6	3	18	10	1	20	51 SCS
FORDHAM	59.04	62.2	10	3	-1	18	9	-1		
WESTON	59.26	59.3	10	5A	0	18	11	-2		
CHAPEL HILL	59.82	69.5	10	7	-2					
COLUMBIA	60.11	72.4	10	9	-2	18	16	-8	12	25 PP
TACUBAYA	60.44	97.5	10	18	5	18	27	-1	12	7
SIAN	60.88	289.0	10	14	-2					
HALIFAX	61.40	52.8	8	17K	-123	10	39	-481		
WUWEI	61.61	296.1	10	23	2					
TIENSHUI	62.40	291.4	10	28	1					
VERA CRUZ	62.40	95.1	10	32	5	18	26	-27	12	52 PP
SEMIPALATNSK	62.52	319.0	10	23	-4	18	46	-8	14	14 PPP
SKALSTUGAN	62.90	1.3	10	28A	-2					
SVERDLOVSK	63.51	333.9							12	56 PP
MERIDA	64.90	88.5	10	42	-1	19	19	-5	12	57 PP
HELSINKI	66.04	354.5	10	48	-2				19	52 PS
PULKOVO	66.05	351.5	10	48	-2				19	56 PS
UPPSALA	66.63	358.4	10	53A	-1	19	40	-5	20	1 PS
CANTON	66.76	277.6	10	53A	-2	19	43	-4		
HONG KONG	66.84	276.4	10	54A	-1	19	46	-2		
BAGUIO CITY	67.60	267.3	11	3	3	19	49	-8		
RABAUL	67.90	226.8	11	1	-1					
ABERDEEN	68.49	9.8	11	8	2	20	3	-4	20	38 PS
MANILA	68.81	265.7	11	11	3	20	10	-1		
MOSCOW	69.19	346.4	11	9	-1	20	7	-9	11	33 PCP
BERMUDA	70.26	62.1	11	12	-5	20	24	-4	13	51 PP
COPENHAGEN	70.82	1.4	11	20	0	20	36	1	14	5 PP
DURHAM	70.91	10.0	8	41	-160	18	25	-131		
FRUNSE	70.91	317.8	11	18	-3	20	30	-6	15	42 PPP
RATHFARNHAM	71.79	13.1	11	58K	32	21	38	52		
HAMBURG	72.88	3.0	11	34	2	21	20	22		
WITTEVEEN	73.49	5.1	11	37	1					
DE BILT	74.12	6.1	11	41	2	21	15	3		
POTSDAM	74.13	1.1	11	41	1	21	32	19		
WARSAW	74.17	356.0	11	38	-2	21	12	-1		
KEW	74.29	9.8	11	42A	1	21	26	12	26	27 SS
TASHKENT	74.30	320.4	11	40	-1	21	8	-6	14	18 PP
JENA	75.56	2.1	11	48	0	21	48	20	12	27
KRAKOW	76.39	356.6	11	52	0	21	39	2		
LWOW	76.41	353.9	11	53	0	21	38	0	14	34 PP
RACIBORZ	76.41	357.7	11	53	e					
PRAGUE	76.46	0.2	11	52	-1				21	59 PS
STALINABAD	76.90	319.4	11	55	0	21	41	-2		
SHILLONG	76.93	295.3	11	53	-3					
PARIS	77.19	8.3	11	57A	0	21	49	3	14	55 PP

SKALNATE PL.	77.25	356.3	12	3	6	21	48	1	22	49
KARLSRUHE	77.38	4.3	11	58K	0	21	36	-12		
STUTTGART	77.65	3.8	11	59A	0	21	25	-26	12	13 PCP
STRASBOURG	77.78	4.8	12	1A	1	21	55	3	16	9
TUBINGEN	77.88	3.9	12	1	0				12	14 PCP
EBINGEN	78.23	4.0	12	3A	0				12	17 PCP
BRATISLAVA	78.34	358.4	12	4	1	22	18	19		
CHATRA	78.34	299.6	12	4	1					
HURBANOVO	78.62	357.7	12	9	4	22	16	14		
IASI	78.75	351.2	12	8	2					
BASLE	78.81	5.0	12	7	1	22	5	1		
BUDAPEST	78.98	357.0	12	10	3	22	4	-1	22	29 SCS
NEUCHATEL	79.31	5.5	12	9	0				19	29
DEHRA DUN	79.97	308.4	12	12	0	22	24	8	23	18 PS
SIMFEROPOL	80.20	346.2	12	13A	0	22	15	-3	15	20 PP
CLERMONT-FD.	80.26	8.3	12	15	1					
BALBOA HTS.	80.27	88.2	12	14	0	22	14	-5		
SAN JUAN	80.59	71.9	12	14	-1	22	20	-2	22	43 SCS
LAHORE	80.62	311.8	12	13	-3	22	17	-6		
TIMISOARA	80.63	355.4	12	19	3	22	25	2		
ZAGREB	80.71	359.2	12	17	1					
CAMPULUNG	80.87	352.7	12	21	4					
TRIESTE	80.88	0.7	12	16	-1	22	23	-2	15	43 PP
ANGRA DO HO.	81.01	32.1							21	29
PAVIA	81.23	4.0	12	23A	4				22	14 SKS
GALERAZAMBA	81.36	83.7	12	25	6	22	32	2		
TIFLIS	81.38	337.7	12	20	0	22	33	3	15	28 PP
BOKARO	81.54	298.9	12	22	2					
BELGRADE	81.59	355.9	12	21K	0	22	35	2	21	12
BUCHAREST	81.63	351.8	12	23	2	22	31	-2		
NEW DELHI	81.84	308.1	12	21	-1	22	34	-1	22	56 SCS
MONACO	82.60	5.4	12	26	6					
FLORENCE X.	82.70	2.6	12	56A	30					
GORIS	83.13	335.9	12	30	1	22	49	1	15	43 PP
SOFIA	83.55	353.7	12	30	-1	22	52	-1	15	34 PP
COIMBRA	84.21	17.7	12	33	-1	22	54	-5		
ANTIGUA	84.47	68.8	12	33	-2					
ROME	84.61	1.7	12	37A	1	22	58	-5	16	8 PP
QUETTA	84.94	316.6	12	38A	0	23	5	-1	15	55 PP
TOLEDO	85.24	14.4	12	40	1	23	6	-3		
LISBON	85.52	18.6	12	43A	2	23	14	2		
TARANTO	86.03	358.1	12	58	15				23	3 SKS
FORT FRANCE	86.32	70.1	12	47	2	23	19	-1		
ST. LUCIA	86.97	70.4	12	47	-1					
BOGOTA	86.98	86.4	12	51	3				23	12 SKS
ALICANTE	87.23	12.0	12	49	0	23	31	3		
ST. VINCENT	87.52	71.1	12	51	1					
GRANADA	87.96	14.6	12	57	4	23	45	10	16	45 PP
ATHENS	88.23	352.9				23	16	-22	23	11 SKS
MALAGA	88.29	15.3	12	55A	1	23	45	7	16	23 PP
MESSINA	88.32	359.4	12	52	-2	23	37	-2	18	14 PPP
REGGIO CALA.	88.42	359.3							13	49
ALMERIA	88.45	13.8	12	49	-6					
BARBADOS	88.49	69.8	12	58	3					
BRISBANE	88.68	216.3	12	52	-4				23	22 SKS
ALGIERS UNI.	89.18	9.4	12	58	0	23	45	-2	16	27 PP
TRINIDAD	89.41	72.8	12	57	-3					
RELIZANE	89.92	11.5	13	2	0	24	18	25	16	43 PP
HYDERABAD	90.64	301.2	13	5	0	23	30	-30	16	42 PP
KSARA	90.80	342.6	13	9	3	24	5	4	16	42 PP
POONA	91.98	305.5	13	13	2	24	10	-2		
BOMBAY	92.16	306.5	13	12	0	24	5	-8	25	42 PPS
JERUSALEM	92.91	342.7	13	15	-1				16	41 PP
MADRAS	93.47	297.4				23	49	-36	13	46
RIVERVIEW	95.13	215.2	13	26	0	24	40	1	24	0 SKS
KODAIKANAL	97.21	298.2							12	32
COLOMBO	98.73	294.4				24	41	-28	13	51
HUANCAYO	99.55	37.3				24	24	-52	18	5 PP
TAMANRASSET	103.27	8.8	14	1	-2	24	45	-62	17	21 PP
MBOUR	106.82	32.2	14	19	777				18	45 PP
LA PAZ	107.30	94.3				24	59	-2	28	3 PS
PERTH	109.13	242.0							29	29
LWIRO	127.29	342.3	19	9A	3				21	8 PP
TANANARIVE	137.00	311.3	19	30	5				22	12 PP
GRAHAMSTOWN	157.34	333.1	20	0	2					

MARCH 18 2.H 25.M 36.S EPICENTRE 52.27-170.89 DEPTH= 76.KM

DEPTH OF FOCUS= 0.007R

A=-0.60672 B=-0.09731 C= 0.78893 D=-0.1584 E= 0.9874
G=-0.7790 H=-0.1249 K=-0.6145 HT= -6.2

SE= 2.00

	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	17.29	34.3	3	59	2								
SITKA	20.96	62.7	4	41	3	8	34	12					
HORSESHOE B.	29.79	76.3	6	2	1	11	1	10			10	4	
VICTORIA	30.06	78.0	6	5	1	11	6	11			9	5	PCP
SEATTLE	31.12	78.9	6	16	3	11	36	24					
CORVALLIS	32.00	84.6	6	25	4								
TIKSI	32.34	329.0	6	22	-2								
BANFF	33.60	69.4	6	35	0								
SHASTA	34.71	89.8	6	58	14								
MIZUSAWA	35.34	267.6	6	39	-10	12	15	-2					
MINERAL	35.40	89.7	6	16K	-34								
HUNGRY HORSE	35.72	73.1	6	54	1	12	30	7			9	20	PCP
BERKELEY	36.52	93.6	6	59	0	12	47	12					
RENO	36.99	89.4	7	6	3								
LICK	37.23	93.7	7	6K	1								
BUTTE	37.75	75.6	7	10	0								
MATUSIRO	38.75	266.7	7	17A	-1	13	11	2					
BOZEMAN	38.83	75.2	7	20	1								
EUREKA	39.38	86.5	7	44	21								
TINEMAHA	39.50	91.3	7	26A	2	13	30	9	7	40	13	17	SCP
KING RANCH	39.70	94.6	7	27	1								
WOODY	40.00	93.4	7	28A	0						13	16	SCP
ISABELLA	40.26	93.1	7	32	1						7	47	*PP
CHINA LAKE	40.69	92.2	7	34	0				7	48	13	22	SCP
KYOTO	41.28	266.9	7	40	1	13	52	5					
PASADENA	41.45	94.6	7	41	1				7	54	13	34	SCP
RIVERSIDE	42.04	94.1	7	45A	0	14	0	2			13	25	SCP
CHANGCHUN	42.20	284.8	7	44A	-3								
BOULDER CITY	42.29	89.8	7	48	1								
PALOMAR	42.79	94.4	7	52A	1	14	19	10	8	4	13	29	SCP
HAYFIELD	43.31	93.0	7	56	0	14	24	7					
BARRETT	43.37	94.9	7	56A	0	14	27	9	8	10	13	32	SCP
RAPID CITY	44.35	72.5	8	8	4	14	38	6					
PEKING	49.92	286.4	8	46A	-2	15	54	3					
TATUNG	51.57	288.3	9	15	15								
LUBBOCK	51.84	82.5	8	33	-29								
ZO-SE	52.88	274.4	9	9A	-1	16	37	6			11	11	PP
PAOTOW	53.14	290.8	9	12	0								
NANKING	53.67	277.0	9	14A	-2	16	43	1	9	29			
KIRKLAND LA.	54.56	55.3	9	22	0	17	1	7					
FAYETTEVILLE	54.75	74.9	9	22A	-2								
SCORESBY SD.	55.52	12.1	9	28	-1								
SIAN	58.08	285.9	9	48	1								
OTTAWA	58.61	55.3	9	50A	-1	17	53	6			10	40	PCP
SHAWINIGAN	59.27	52.6	9	54	-2	18	0	4					
SEVEN FALLS	59.80	51.1	10	1	2	18	7	4					
PITTSBURGH	59.86	61.9	9	59	-1								
KIRUNA	59.52	355.1	9	58	-2	18	7	3	10	11			
SODANKYLA	59.95	352.3	10	0	0						12	13	PP
MORGANTOWN	60.43	62.6	10	4	0								
PENNSYLVANIA	60.73	60.4	10	5	-1	18	20	5			10	28	*SP
WASHINGTON	62.52	61.4	10	19	1								
PALISADES	62.66	57.7	10	16	-3	18	43	4			18	59	PS
PHILADELPHIA	62.77	59.3				18	47	6			20	7	SCS
SVERDLOVSK	63.33	331.2	9	35	-48								
CANTON	63.51	274.0	10	3A	-21	18	52	2					
HONG KONG	63.55	272.7	10	23A	-1	18	56	6					
TACUBAYA	63.72	92.0	10	44	19						14	13	PP
COLUMBIA	63.87	67.7	10	25	-1	18	59	5					
BAGUIO CITY	64.06	263.3	10	34	6	19	4	7					
RABAUL	64.38	221.7	10	27	-3						13	5	
SKALSTUGAN	64.46	358.4	10	29	-1						11	4	PCP
HALIFAX	65.05	48.8	10	33A	-1								
MANILA	65.23	261.7	10	35	0	19	17	6					
HELSINKI	67.19	351.5	10	46	-2						11	14	PCP
UPPSALA	68.02	355.4	10	52	-1								
MERIDA	68.43	83.4				19	49	-1					
MOSCOW	69.81	343.3	10	24	-40								
NAMANGAN	72.48	315.2	11	19	-1								

RATHFARNHAM	74.01	9.5	11	30K	1					12	7
BERMUDA	74.02	57.7	11	27	-2	21	1	7		25	46 SS
SHILLONG	74.41	291.5	10	41	-50					11	29
HAMBURG	74.53	359.5	11	33	1					12	5
WITTEVEEN	75.26	1.5	11	36	0						
WARSAW	75.39	352.5	11	28	-9	21	4	-5			
POTSDAM	75.67	357.5	11	40	2						
KEW	76.33	6.1	11	40	-2						
JENA	77.15	358.4	11	48	1					12	53
KRAKOW	77.64	352.9	11	50	1					13	21
RACIBORZ	77.73	354.0	11	58	8						
PRAGUE	77.93	356.5	11	52	1					12	47
KARLSRUHE	79.09	0.5	11	59	2						
PARIS	79.14	4.5	11	57	-1						
STUTTGART	79.34	359.9	11	58	-1						
STRASBOURG	79.52	0.9	12	1A	1					28	24 SS
TUBINGEN	79.58	0.0	12	0	0						
BRATISLAVA	79.70	354.6	12	2	1						
EBINGEN	79.93	0.1	12	2	0						
BASLE	80.57	1.1	12	5	0					20	58
SIMFEROPOL	80.79	342.3	12	1	-5						
NEUCHATEL	81.09	1.5	12	9	1						
CLERMONT-FD.	82.20	4.2	12	15	1					24	4
TRIESTE	82.38	356.7	12	14K	-1	23	21	58			
BELGRADE	82.79	351.9	11	18	-59				11	34	
QUETTA	83.61	312.5	12	21	0	22	42	7		22	56 SCS
FLORENCE X.	84.31	358.4	12	25	1						
SAN JUAN	84.35	67.3	12	25	0	22	47	4		24	11 PPS
MONACO	84.37	1.2	12	26	1						
GALERAZAMBA	84.98	79.0								23	0 PS
ROME	86.16	357.5	12	35A	1	23	15	15		24	37 PS
ANTIGUA	88.24	64.3	12	43	-1						
HYDERABAD	88.40	296.7	12	45	1	23	6	-16		24	35 PPS
POONA	89.98	300.9	12	52	0	23	38	2			
BOMBAY	90.21	301.9	12	54	1	23	45	7			
GRANADA	90.23	10.1	12	56	3	23	41	3			
MALAGA	90.60	10.8	12	58A	3						
KSARA	91.13	338.0	12	59	2						
ALGIERS UNI.	91.17	4.9	12	57	0						
RIVERVIEW	91.94	210.8				24	7	14		23	32 SKS
RELIZANE	92.03	7.0	13	1	0						
TRINIDAD	93.16	68.2	13	6	-1						
JERUSALEM	93.24	338.0	13	7	0						
TAMANRASSET	105.21	3.4	14	1	777					18	26 PP
LA PAZ	110.66	90.4	18	44	21						
LWIRO	127.51	334.9	19	0K	4						
TANANARIVE	135.23	303.3	19	5	-6					22	42 PKS
PRETORIA	149.84	324.1	18	50	-46						
PIETERMZBURG	152.44	316.9	19	1K	-39						

MARCH 18 21.H 14.M 20.S EPICENTRE -6.19 152.43 DEPTH= 28.KM

A=-0.88133 B= 0.46019 C=-0.10719 D= 0.4629 E= 0.8864
G= 0.0950 H=-0.0496 K=-0.9942 HT= 6.9

SE= 1.81

	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	2.00	352.6	0	32	-1							
NOUMEA	20.97	141.2	4	46	3	8	36	6			6	34
GUAM	20.97	338.7	4	42	-1							
BRISBANE	21.18	178.5	4	43	-2	8	40	6				
RIVERVIEW	27.52	182.3	5	47A	1	10	25	1	6	12	6	42 PP
SUVA	28.01	117.4	5	46	-5							
MELBOURNE	32.21	191.1	6	26	-2						7	51 PP
MANILA	37.40	303.7	7	15	3							
BAGUIO CITY	38.70	305.9	7	24	1	8	58	-260				
TONGARIRO	38.92	151.0	7	24	-1							
WELLINGTON	40.22	153.7	9	7	91							
GEBBIES PASS	41.37	157.7	7	44	-1							
PERTH	42.69	228.4	8	0	4						14	25
KYOTO	43.91	340.1	8	5	-1							
MATUSIRO	44.56	343.6	8	8	-3	14	37	-7			9	54 PP
HONG KONG	46.96	308.3	8	32	2	15	22	3				
ZO-SE	47.62	323.0	8	37A	2	15	25	-3	9	2	10	27 PP
CANTON	48.07	308.6	8	40	1	15	35	1			10	8 PP

NANKING	49.73	321.9	8	54A	2	15	56	-1	9	19		
CHANGCHUN	55.49	336.4	9	34	-1							
PEKING	56.84	327.2	9	43	-1				10	8		
TATUNG	58.49	325.4	9	53	-3							
SHILLONG	66.71	301.1	10	49K	-1	19	39	0				
CHATRA	71.11	300.9	11	17	-1							
IRKUTSK	71.13	331.1	11	17	-1							
SCOTT BASE	72.01	176.8	11	23	0							
COLOMBO	73.56	279.0	11	34	2						20	59
KODAIKANAL	76.40	282.0									11	54
HYDERABAD	76.70	289.5				21	42	8				
TIKSI	79.20	352.6	12	2	-2							
DEHRA DUN	79.77	302.2				22	8	2				
BOMBAY	82.23	290.0	12	21	1	22	35	3				
LAHORE	83.15	302.7	12	23	-2	22	42	1				
COLLEGE	83.28	21.8	12	22	-3	22	48	6			26	12 PPS
SITKA	85.65	31.5	12	37	0							
QUETTA	89.18	300.3	12	53	-1	23	41	2			16	28 PP
BERKELEY	90.07	52.1	12	59	1							
CORVALLIS	90.23	45.3	13	1	2							
SHASTA	90.35	49.3	13	0	0							
LICK	90.49	52.7	13	1	1							
VICTORIA	90.73	41.4	13	1	-1							
MINERAL	90.90	49.7	13	2	0							
HORSESHOE B.	90.95	40.6	13	2K	-1							
KING RANCH	91.77	54.8	13	8	2							
FRESNO	91.88	53.4	13	7	0							
RENO	92.17	50.6	13	8	0							
WOODY	92.53	54.5	13	9	-1							
PASADENA	92.94	56.1	13	12	0	24	19	6			25	40 PS
TINEMAHA	93.16	53.2	13	14	1							
CHINA LAKE	93.56	54.5	13	15	0							
RIVERSIDE	93.58	56.4	13	16	1							
PALOMAR	93.96	57.0	13	17	1							
BARRETT	94.06	57.7	13	19	2							
HAYFIELD	95.01	56.8	13	23	2							
EUREKA	95.13	51.0	13	22	0							
BOULDER CITY	95.81	54.5	13	26	1							
BANFF	96.05	39.3	12	38	-48							
SVERDLOVSK	96.12	326.5	13	26	0							
HUNGRY HORSE	96.94	42.1	13	30	0							
TUCSON	98.96	58.4	13	45	6							
RAPID CITY	104.61	46.2	14	5	1						18	21 PP
MOSCOW	108.92	327.1									18	51 PP
KIRUNA	110.59	342.5	14	30	-240	25	15	8			19	7 PP
SOTCHI	110.64	314.2									19	8 PP
PULKOVO	111.09	332.7									19	6 PP
SIMFEROPOL	114.22	316.7									19	37 PP
KSARA	115.43	304.5	18	43	4	25	52	27			19	46 PP
SCORESBY SD.	115.69	357.9	19	47	67						26	42 SKKS
SKALSTUGAN	115.93	341.4	18	41	1							
UPPSALA	116.50	336.4									19	48 PP
KIMBERLEY	118.81	232.5	18	49	3							
WARSAW	119.27	328.1	18	47	0						30	9 SKSP
COPENHAGEN	121.31	334.8									19	52 PP
ASTRIDA	122.12	263.0	18	55	3							
MORGANTOWN	122.47	46.5	18	54A	1							
UVIRA	122.58	261.9	18	56	3							
OTTAWA	122.92	38.7	18	54K	0							
LWIRO	123.09	263.3	18	54	0						20	32 PP
POTSDAM	123.17	331.5									20	38
COLUMBIA	123.47	53.1	18	56	1							
SHAWINIGAN	124.13	36.3	18	57	1							
CHAPEL HILL	124.42	50.3									18	55
JENA	124.81	330.9	18	59	2						20	28 PP
PALISADES	126.12	42.7	19	0	0	26	34	33			20	47 PP
TRIESTE	126.88	324.6									21	26
DE BILT	126.88	335.3									21	0 PP
STUTTGART	127.39	330.1	19	3	1	25	52	-13			21	8 PP
EBINGEN	127.90	329.7	19	6	3							
STRASBOURG	128.22	330.7	19	5	1						28	4 SKKS
HUANCAYO	129.17	110.9	19	13	7							
KEW	129.53	338.2									22	30 PKS
PAVIA	129.74	326.6									21	23 PP
ROME	129.75	321.3	19	45	38						21	25 PP
HALIFAX	130.49	33.5	19	9	1							
PARIS	130.49	334.2	19	41A	33						21	18
CHINCHINA	132.18	88.9	19	11	0	22	39	-218				

CLERMONT-FD.	132.45	331.0						21 38	PP
GALERAZAMBA	132.64	81.1				22 50-208			
BOGOTA	133.69	89.5	19 20	6		22 48-212			
LA PAZ	133.98	119.9	19 20	5				22 49	PKS
BERMUDA	136.72	48.1	19 20	0				29 4	SKKS
ALGIERS UNI.	138.67	321.7	19 24	1				22 18	PP
SAN JUAN	140.53	68.6	19 19	-8				22 26	PP
RELIZANE	140.86	322.6	19 31	4				22 27	
ALMERIA	141.83	326.6	19 24	-5					
GRANADA	142.20	328.0	19 32A	2		27 8 33		23 14	PP
MALAGA	142.96	328.3	19 30K	-1		26 40 4			
TAMANRASSET	144.10	300.8	19 33K	0				22 52	PP
ANTIGUA	145.47	68.9	19 33	-2					
FORT FRANCE	145.95	72.9	19 39	3					
ST. VINCENT	146.10	75.7	19 38	2					
TRINIDAD	146.14	80.1	19 37	0					
ST. LUCIA	146.22	74.1	19 39	2					
BARBADOS	147.71	75.3	19 47	8					
MBOUR	166.78	308.8	20 8	5				21 9	PKP2

MARCH 18 23.H 17.M 26.S EPICENTRE 44.55 33.18 DEPTH= 0.KM

A= 0.59842 B= 0.39126 C= 0.69915 D= 0.5472 E=-0.8370
G= 0.5852 H= 0.3826 K=-0.7150 HT= -3.4

SE= 2.58

	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	
YALTA	0.70	95.6									0	16	PG
SIMFEROPOL	0.78	59.0									0	20	PG
ALUSHTA	0.90	80.1									0	18	PG
THEODOSIA	1.64	72.6	0	33	3	0	56	4					
KISHINEV	3.92	310.6	1	5	3								
FOCSANI	4.38	287.3	1	17	8	2	4	2					
IASI	4.73	306.0	1	16	2	2	5	-5			1	40	PG
SOTCHI	4.81	99.4	1	14	-1	2	6	-7					
BACAU	4.85	296.8	1	17	1	2	14	1					
BUCHAREST	5.07	271.0	1	22	3	2	14	-5			1	40	PG
CAMPULUNG	5.83	279.9	1	32	3	2	32	-6					
CERNAUTI-2	6.26	309.4	1	36	1	2	46	-3					
RAKHOV	7.14	301.4	1	48	0								
SOFIA	7.38	258.9	1	49	-2	3	7	-10					
LWOW	8.17	313.5	2	2	0	3	32	-4					
UZHGOROD	8.53	302.4	2	6	-1	3	40	-5					
TIMISOARA	8.54	282.3	2	34	27						3	50	
TIFLIS	8.96	104.4	2	11	-2	3	47	-9					
BELGRADE	9.07	276.2	2	14A	-1	4	3	4			3	47	
SZEGED	9.34	285.1				3	56	-9			3	34	
EREVAN	9.45	113.6	2	23	3	4	3	-5					
ATHENS	9.69	230.5	2	29A	6	4	56	42			2	52	PPP
SKALNATE PL.	9.99	302.2	2	32	5						3	53	
BUDAPEST	10.24	291.6	2	30	-1						5	56	
KRAKOW	10.54	306.1	2	31	-4	5	31	56			2	35	PP
HURBANOVO	10.90	293.0									5	16	
KSARA	10.92	168.0	2	37	-3	4	41	-3					
GORIS	11.01	112.7	2	43	2	4	50	4					
WARSAW	11.14	317.9	2	41	-2	4	42	-8			5	54	
BYTOM	11.25	306.1	2	47	2								
MOSCOW	11.55	12.7	2	47	-2	4	55	-5					
RACIBORZ	11.57	303.9									2	47	PP
BRATISLAVA	11.68	293.7	2	49	-2	4	48	-15			4	21	
ZAGREB	12.20	282.0									7	29	
TARANTO	12.44	256.4									4	28	
JERUSALEM	12.35	172.2									3	2	
BAKU	13.03	102.8	3	21	12	5	44	8					
TRIESTE	13.77	281.4	3	20	1	6	0	7			7	55	
PRAGUE	13.85	300.1	3	18	-2	6	2	7			4	48	
MESSINA	14.67	250.5				6	30	15			3	26	
ROME	15.32	267.3	3	41	2	6	49	19					
PULKOVO	15.34	354.5	3	37	-2	6	19	-12					
POTSDAM	15.43	307.6	3	44	4						6	42	
FLORENCE X.	15.75	274.9	3	47	3	6	56	16					
JENA	15.84	301.4	3	43	-3	7	14	32			4	40	
HELSINKI	16.40	345.4	3	52	-1	6	43	-12					
STUTTGART	16.97	292.9	3	58	-2	9	10	122			10	4	
PAVIA	17.02	280.6									8	49	

TUBINGEN	17.03	292.0	4	6	5						
EBINGEN	17.08	290.8	4	0	-1						
COPENHAGEN	17.26	317.5	3	59	-5	7	8	-7			
ZURICH	17.31	288.1	4	4	0						
KARLSRUHE	17.51	293.5				9	9	108			
HAMBURG	17.61	309.1	4	5K	-3						
STRASBOURG	17.90	292.0	4	12	0						
UPPSALA	17.96	334.0	4	9	-3	7	19	-12			
BASLE	17.99	288.6	4	13	0						
KIZYL-ARVAT	18.06	99.8				7	32	-1			
NEUCHATEL	18.43	286.9	4	13	-5						
BESANCON	19.08	287.8									
WITTEVEEN	19.27	304.8	4	28	0						
SVERDLOVSK	21.12	44.7	4	48	0						
PARIS	21.40	292.4	4	50	-1						
SKALSTUGAN	22.47	335.3	5	2	0	9	11	7			
BAIRAM-ALI	22.82	97.6	5	6	1						
APATITY	23.05	0.2	5	9	1	9	14	-1			
SODANKYLA	23.14	353.6	5	10	2	9	20	4			
KEW	23.30	299.2	5	12	2						
ALGIERS UNI.	24.04	261.6	5	16	-1	9	32	0			
KIRUNA	24.29	348.3	5	20A	0	9	46	10			
RELIZANE	26.30	261.8	5	37	-2						
TASHKENT	26.49	84.2	5	44	4						
RATHFARNHAM	27.06	303.0	5	29	-17						
GRANADA	28.59	268.0	6	22	23						
FRUNSE	29.75	78.5	6	11	1						
QUETTA	30.19	106.8	6	14	0	11	15	2			
TAMANRASSET	31.39	235.3	6	23	-1						
LWIRO	46.76	186.0	8	29	-3						
ASTRIDA	47.04	184.7	8	33	-2						
UVIRA	47.95	185.5	8	38	-4						
SHILLONG	50.53	91.6	8	58	-4						
HUNGRY HORSE	83.11	338.7	12	30	1						
RAPID CITY	83.59	330.0	12	32	1						
EUREKA	91.85	336.6	13	12	1						

MARCH 19 11.H 28.M 51.S EPICENTRE 51.60-176.67 DEPTH= 0.KM

A=-0.62260 B=-0.03620 C= 0.78170 D=-0.0580 E= 0.9983
F=-0.7804 H=-0.0454 K=-0.6237 HT= -6.0

SE= 2.21

	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	
COLLEGE	19.93	37.2	4	34	-2	8	29	14					
SITKA	24.43	60.8	5	23	2	9	52	13					
TIKSI	31.09	330.0	6	21	-1								
HORSESHOE B.	33.41	72.3	6	43K	1	12	8	5					
VICTORIA	33.70	73.8	6	46A	2								
SEATTLE	34.76	74.6	6	57	3								
MATUSIRO	35.12	262.6	6	55A	-2	12	28	-2			9	29	PCP
CORVALLIS	35.64	79.8	7	3	2						9	1	
BANFF	37.17	65.9	7	15A	1								
SHASTA	38.32	84.6	7	25	1								
UKIAH	38.72	87.3	7	48	21								
CHANGCHUN	38.88	282.0	7	26A	-2								
RESOLUTE	38.99	24.7	7	29	0						19	43	
MINERAL	39.01	84.5	7	29A	0								
HUNGRY HORSE	39.33	69.2	7	34	2	13	28	-6					
BERKELEY	40.09	88.1	7	39A	1	13	53	8					
RENO	40.60	84.3	7	44	1								
LICK	40.80	88.3	7	45A	1								
BUTTE	41.37	71.5	7	50	1	14	6	2					
FRESNO	42.30	87.6	7	57A	0								
BOZEMAN	42.45	71.1	7	59	1								
EUREKA	43.01	81.7	8	3	1						10	49	PP
TINEMAHA	43.10	86.1	8	5	2								
KING RANCH	43.26	89.1	8	5	1								
WOODY	43.57	88.1	8	7A	0								
ISABELLA	43.84	87.8	8	10	1								
CHINA LAKE	44.28	87.0	8	13	0								
SALT LAKE C.	44.76	77.4	8	17	0	15	57	63					
PASADENA	45.01	89.2	8	19	1	14	44	-14			11	11	
RIVERSIDE	45.61	88.8	8	21	-2								
BOULDER CITY	45.90	84.8	8	26	0								

	PALOMAR	46.35	89.0	8	30	1				
	IRKUTSK	46.39	303.6	8	27	-2	15	19	2	
	PEKING	46.63	283.2	8	30A	-1	15	15	-6	
	KWANTING	46.86	283.8	8	33	0				
	HAYFIELD	46.88	87.7	8	45	12				9 27
	BARRETT	46.92	89.6	8	33	-1				8 55
	RAPID CITY	47.95	68.5	8	42	0	15	39	0	10 38 PP
	TATUNG	48.34	285.2	8	45	0				
	BOULDER	49.18	74.1	8	53	2				
	ZO-SE	49.33	270.5	8	51A	-1	15	56	-3	10 56 PP
	PAOTOW	49.98	287.7	8	57	0				
	NANKING	50.17	273.3	8	57A	-2	16	7	-3	18 45 SCS
	TUCSON	50.85	85.6	9	4	0	16	21	1	
	YINCHUAN	53.56	288.0	9	26	2				
F	LUBBOCK	55.48	77.9	9	37	-1	17	24	1	
	KIRKLAND LA.	57.83	51.8	9	55A	0				
	FAYETTEVILLE	58.36	70.6	9	58A	-1				
	APATITY	59.03	347.0				18	7	-3	
	SCHEFFERVLLE	59.06	39.4	10	3K	-1				
	HONG KONG	59.97	268.5	10	9K	-1	18	21	-1	
	SODANKYLA	60.06	349.8	10	11	0				10 56 PCP
	KIRUNA	60.20	352.6	10	11	-1				
	BAGUIO CITY	60.42	258.8	10	19	6	18	25	-2	
	MANILA	61.59	257.2	10	27	6	20	41	119	
	RABAUL	61.61	215.9	10	16	-5				10 48
	OTTAWA	61.88	51.7	10	22A	-1				11 16 PCP
	SHAWINIGAN	62.47	49.1	10	26A	-1				
	SEVEN FALLS	62.95	47.5	10	32	2	19	9	9	23 33 SS
	MORGANTOWN	63.88	58.7	10	37A	1				
	PENNSYLVANIA	64.13	56.5	10	38	0	19	16	2	
	SKALSTUGAN	64.94	355.6	10	45	2				11 16 PCP
	WASHINGTON	65.94	57.4	10	50	0	19	36	-1	
	PALISADES	66.00	53.9	10	48	-2	19	32	-5	20 40 SCS
	C.C.N.Y.	66.12	54.1	11	9	18	20	1	22	
	PULKOVO	66.86	345.5	10	55	0				
	CHAPEL HILL	67.08	60.9	10	56	-1				
	HELSINKI	67.22	348.5	10	57	-1				11 25 PCP
	COLUMBIA	67.41	63.6	10	59	0	19	43	-11	
	HALIFAX	68.12	45.1	11	3	0				
	UPPSALA	68.30	352.3	11	4	-1				
	MOSCOW	69.32	340.1	11	6	-5	20	12	-5	
	SHILLONG	71.26	287.6	11	20A	-3	20	37	-3	13 53 PP
	MERIDA	72.07	78.8	11	22	-5	20	40	-9	20 4
	COPENHAGEN	72.82	354.6	11	31	-1	21	2	4	
	CHATRA	73.07	291.8	11	36	3				
	HAMBURG	75.05	355.9	11	44	-1				
	RATHFARNHAM	75.16	5.9	11	46A	1				
	DEHRA DUN	75.49	300.5	11	46	-1	21	26	-2	
	LAHORE	76.49	303.9	11	52	-1	21	54	16	
	DE BILT	76.66	358.8	11	53	-1	22	9	29	
	KEW	77.26	2.3	12	3	6	21	54	7	27 9 SS
	BERMUDA	77.35	53.5	12	0	2	21	42	-6	14 46 PP
	STUTTGART	79.88	356.1	12	11A	-1	22	18	3	17 12 PPP
	BRATISLAVA	79.91	350.7	12	13	1				
	PARIS	79.96	0.6	12	5	-7	22	14	-2	12 15 PCP
	STRASBOURG	80.12	357.0	12	15	2	22	36	19	28 57 SS
	SIMFEROPOL	80.21	338.4	12	11	-2				
	TIFLIS	80.30	329.8	12	14	0	22	21	2	
	EBINGEN	80.48	356.2	12	16	1				
	QUETTA	81.31	308.3	12	19A	0	22	29	-1	22 48 SCS
	BESANCON	81.50	358.2	12	21	1				12 49
	CAMPULUNG	81.70	344.7	12	25	4				
	NEUCHATEL	81.73	357.5	12	21	0				
	BUCHAREST	82.35	343.7	12	27	2	22	55	15	
	TRIESTE	82.71	352.7	12	29	3	22	44	0	13 36
	CLERMONT-FD.	83.01	0.1	12	29	1				
	BRISBANE	83.13	206.8	12	25	-4	22	40	-8	
	PAVIA	83.46	355.8	12	23	-7	22	53	1	21 58
	FLORENCE X.	84.75	354.2	12	38A	1				
	MONACO	84.98	357.0	12	39	1				
	HYDERABAD	85.42	292.2	12	37	-3	23	1	-10	23 23 SCS
	DJAKARTA	86.49	255.6	12	42K	-3	23	13	-8	
	ROME	86.54	353.2	12	45A	-1	23	10	-12	
	POONA	87.16	296.4	12	47	-2				
	BOMBAY	87.43	297.4	12	52	2	23	29	-1	23 45
	TARANTO	87.50	349.4							21 34
	SAN JUAN	87.87	62.8	12	51	-1				23 29
	RIVERVIEW	89.64	206.3	13	8	7	23	53	2	23 28 SKS
	MESSINA	89.93	350.4	13	4	2	24	8	15	14 2

KSARA	90.26	333.4	13	4	1	23	48	-8	16	34 PP
ALICANTE	90.36	3.0	13	2	-2	23	55	-2	23	33 SKS
GRANADA	91.38	5.5	13	12K	3					
ANTIGUA	91.71	59.7	13	10	0					
MALAGA	91.79	6.2	13	12A	2					
ALGIERS UNI.	92.00	0.2	13	11	0					
JERUSALEM	92.37	333.2	13	12	-1					
RELIZANE	92.98	2.3	13	15	-1					
TRINIDAD	96.70	63.6	13	32	-1					
LA PAZ	114.26	86.1							19	29 PP
LWIRO	126.38	327.7	19	7	2					
ASTRIDA	126.39	326.5	19	7	2					
PRETORIA	148.01	314.3	19	45	1					
PIETERMZBURG	150.22	307.1	19	55K	8					
KIMBERLEY	152.10	316.7	19	56	6					
GRAHAMSTOWN	155.12	308.2							20	21 PKP2

MARCH 19 12.H 50.M 54.S EPICENTRE 51.56-174.88 DEPTH= 0.KM
A=-0.62185 B=-0.05566 C= 0.78116 D=-0.0892 E= 0.9960
G=-0.7780 H=-0.0696 K=-0.6243 HT= -6.0

SE= 3.85

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
KLYUCHI	15.07	298.0	3	38A	2							
PETROPAVLOVK	16.22	286.0	3	48K	-3							
NEMURO	27.69	268.4	5	48	-4	10	33	0				
Y.-SAKHLINSK	27.76	277.3	5	47	-5	10	20	-14				
ABASHIRI	28.15	270.7	5	57	1	10	45	4				
KUSIRO	28.61	268.8	6	1	1	10	50	2				
WAKKANAI	29.09	275.2	6	21	17	11	2	6				
OBIHIRO	29.39	269.6	6	9	2							
ASAHIGAWA	29.46	271.7	6	14	6							
URAKAWA	30.06	268.6	6	16	3	11	10	-1				
SAPPORO	30.47	271.3	6	16	-1	11	14	-4				
TOMAKOMAI	30.61	270.2	6	27	9							
MURORAN	31.10	270.4	6	25	3	11	27	0				
SUTTSU	31.31	271.7	7	28	64	13	32	121				
MORI	31.47	270.3	6	28	3	11	54	21				
ALBERNI	31.49	74.1	6	26	0							
TIKSI	31.70	329.9									7	30 PP
HATINOHE	31.75	267.0	6	29	1	11	33	-5				
MIYAKO	31.99	265.3	6	30	0							
AOMORI	32.05	268.1	6	33	2							
HORSESHOE B.	32.36	73.1	6	32A	-1	11	55	8				
MORIOKA	32.46	266.1	6	36	2	11	44	-5				
VICTORIA	32.64	74.6	6	36K	0	12	2	10				
MIZUSAWA	32.82	265.3	6	40	3	11	55	1				
AKITA	33.11	267.0	6	38	-2	12	2	3				
ISINOMAKI	33.13	264.1	6	43	3	12	1	2				
SENDAI	33.48	264.2	6	49	6	12	27	22				
SEATTLE	33.69	75.5	6	47K	2						11	22
YAMAGATA	33.84	264.7	6	40	-6	12	0	-10				
HUKUSIMA	34.07	263.9	6	43	-5							
ONAHAMA	34.31	262.4	6	52	2	12	46	29				
CORVALLIS	34.55	80.9	6	54	2	12	34	13				
SHIRAKAWA	34.62	263.2	6	52	-1	12	26	4				
NIIGATA	34.85	265.3	7	8	13							
MITO	34.94	262.0	6	56	0	12	29	2				
UTUNOMIYA	35.20	262.8	6	59	1	12	29	-2				
KAKIOKA	35.21	262.1	6	52	-6	12	33	2				
TUKUBASAN	35.27	262.1	6	52	-6						9	7
AIKAWA	35.29	266.1	6	51	-7	12	33	0				
KUMAGAYA	35.76	262.7	7	2	-1	12	44	4				
MAEBASI	35.79	263.3	6	58	-5	12	39	-1				
TOKYO C.M.O.	35.83	261.7	7	4	1	12	45	4			8	16 PP
TAKADA	35.86	264.9	7	6	3	12	39	-2				
TITIBU	36.05	262.7	7	3	-2							
ARCATA	36.06	86.8	7	10	5							
YOKOHAMA	36.06	261.5	7	9	4							
OIWAKE	36.16	263.6	7	2	-4	12	30	-16				
NAGANO	36.16	264.4	7	3	-3	12	17	-29			15	0 SS
BANFF	36.16	66.6	7	6	0							
MATUSIRO	36.22	264.2	7	1A	-5	12	46	-1			8	27 PP

MERA	36.28	260.7	7	5	-2					
VLADIVOSTOK	36.32	278.0	7	1K	-6	12	44	-4		
WAZIMA	36.52	266.4	7	15	6	12	54	2		
HUNATU	36.56	262.4	7	15	6	12	54	2		
MATUMOTO	36.57	264.0	7	18	9					
KOHU	36.60	262.7	7	9	-1	12	55	2		
AJIRO	36.65	261.5	7	6	-4	12	57	3		
OSIMA	36.66	260.9	6	47	-23					
MISIMA	36.69	261.7	7	9	-1	12	54	0		
TOYAMA	36.76	265.3	7	14	3					
IIDA	37.13	263.2	7	20	6					
SHIZUOKA	37.13	262.0	7	19	5					
SHASTA	37.21	85.8	7	15K	0					
KANAZAWA	37.21	265.5	7	25	10					
OMAESAKI	37.49	261.7	7	31	14					
SUIHWA	37.51	286.0	7	20	3					
HAMAMATU	37.72	262.3	7	23	4					
HUKUI	37.75	265.2	7	23	4					
GIHU	37.86	264.0	7	10	-10	12	58	-14		
NAGOYA	37.89	263.5	7	20	0					
MINERAL	37.90	85.7	7	20K	-1					
HIKONE	38.27	264.3	7	22	-2	13	19	1		
KAMEYAMA	38.41	263.6	7	27	2	13	23	3		
RESOLUTE	38.56	24.8	7	30	4					
KYOTO	38.76	264.4	7	24	-4	13	31	5		
NARA	38.92	263.9	7	34	5	13	31	3		
BERKELEY	38.97	89.4	7	29K	-1	13	41	12		
TOYOOKA	38.99	265.8	7	31	1	13	27	-2		
OWASE	39.09	262.9	7	26	-4					
OSAKA	39.12	264.2	7	37	6	13	26	-5		
KOBE	39.32	264.5	7	33	1	13	34	0		
SANTA CLARA	39.49	89.8	7	38K	4	13	53	16		
RENO	39.49	85.5	7	35	1					
LICK	39.69	89.6	7	35	0					
SUMOTO	39.72	264.4	7	30	-6	13	43	3		
HIMEJI	39.92	264.9	7	38	1	13	37	-6		
YONAGO	39.97	26E.9	7	41	3	13	32	-12		
CHANGCHUN	39.98	283.2	7	31	-7	13	39	-5		
TOKUSIMA	40.09	264.3	7	42	3	13	40	-6		
TAKAMATU	40.26	265.0	7	36	-4	13	47	-1		
SASKATOON	40.74	61.3	7	46	2	14	1	5		
KOTI	41.09	264.6	7	51	4					
HAMADA	41.11	267.3	7	51	4	13	54	-7		
FRESNO	41.19	88.9	7	48K	0					
HIROSIMA	41.23	266.4	7	49	1	13	58	-5		
MATUYAMA	41.39	265.6	7	51	2	14	6	1		
UWAZIMA	41.91	265.1	7	46	-8					
SIMIDU	41.96	264.2	7	52	-2	13	30	-43		
TINEMAHA	41.99	87.3	7	55K	1	14	33	19	10	19
KING RANCH	42.14	90.5	7	56K	0					
SIMONOSEKI	42.45	267.2	7	55	-3	14	23	2		
WOODY	42.46	89.4	7	58K	0					
OOITA	42.49	265.8	7	55	-4	14	30	9		
ISABELLA	42.73	89.1	8	0K	0					
HUKUOKA	43.01	267.2	8	7	4	14	26	-3		
ASOSAN	43.06	265.9	8	0	-3	14	21	-9		
CHINA LAKE	43.17	88.3	8	3K	-1				10	23
SAGA	43.30	267.0	8	29	24	15	34	61		
KUMAMOTO	43.34	266.2	8	9	4	14	37	3		
MIYAZAKI	43.50	264.6	8	5	-2	14	27	-9		
PASADENA	43.89	90.6	8	9K	-1	14	48	6	10	34
NAGASAKI	43.91	266.7	8	14	4	14	48	6		
KAGOSIMA	44.28	265.0	8	15	2	14	55	8		
RIVERSIDE	44.49	90.1	8	14K	-1	14	48	-2		
YAKUSIMA	45.08	263.9	8	40	20					
DAIREN	45.09	279.6	8	24	4					
PALOMAR	45.24	90.4	8	21K	0				8	48
SAN DIEGO	45.44	91.3	11	13	171					
HAYFIELD	45.77	89.0	8	23	-2	14	50	-19		
BARRETT	45.80	90.9	8	24K	-1					
IRKUTSK	47.34	304.4	8	31	-6				15	28 PS
PEKING	47.73	284.4	8	37A	-3	15	31	-6		
KWANTING	47.95	285.0	8	39	-3					
BOULDER	48.11	75.2	9	44	61					
TATUNG	49.42	286.3	8	51	-3					
GUAM	49.94	235.4	6	51	-127					
ZO-SE	50.45	272.0	8	56	-5	16	11	-4		
PAOTOW	51.06	288.9	9	2	-4					
NANKING	51.28	274.6	9	2	-6	16	22	-4		

TAIYUAN	51.30	284.5	9	4	-4				
LUBBOCK	54.40	79.1	9	28	-3	17	17	8	19 25 SCS
CHIHUAHUA	55.20	86.6	9	32K	-5	17	22	3	16 40
SIAN	55.87	283.7	9	45	3				
SCORESBY SD.	56.71	10.5	9	44	-4	17	46	6	21 52 SS
KIRKLAND LA.	56.98	52.7	9	48	-2	17	51	8	
FAYETTEVILLE	57.32	71.7	9	49K	-3	17	55	7	10 18
FLORISSANT	57.72	66.9	9	53K	-2	17	53	0	
ST. LOUIS 1	57.91	67.0	9	54K	-2	17	52	-3	
SCHEFFERVLLE	58.39	40.2	9	56A	-3				14 48
MAZATLAN	58.91	91.3	10	10	7	18	24	16	
TERRE HAUTE	58.94	64.5	10	6	3	18	16	7	
APATITY	59.33	347.8	10	7K	1	18	10	-4	12 24 PP
SEMIPALATNSK	60.15	314.5	10	12	0	18	22	-2	
SODANKYLA	60.30	350.6	10	6	-7	18	25	-1	10 54 PCP
KIRUNA	60.39	353.4	10	9	-4	18	25	-2	39 35 PKPPKP
CLEVELAND	60.79	59.2	10	14	-2	18	36	3	
CINCINNATI	60.80	63.0	10	17	1	18	41	8	
OTTAWA	61.03	52.7	10	15K	-3	18	42	6	12 48 PP
HONG KONG	61.09	270.0	10	12	-6	18	34	-2	
BAGUIO CITY	61.51	260.4	10	21	0	18	40	-2	
SHAWINIGAN	61.65	50.1	10	18K	-4	18	50	6	
SEVEN FALLS	62.16	48.5	10	22	-3	18	56	6	12 50 PP
RABAUL	62.24	217.8	10	19	-7	18	50	-1	19 12 SCS
PITTSBURGH	62.37	59.1	10	24A	-3	19	3	10	
MANILA	62.67	258.7	10	30	1	18	52	-5	
GUADALAJARA	62.67	90.8				18	30	-27	
SVERDLOVSK	62.73	329.4	10	30	1				20 14 SCS
REYKJAVIK	62.75	13.0	10	26	-3				
MORGANTOWN	62.95	59.8	10	29K	-2	19	6	6	
PENNSYLVANIA	63.22	57.6	10	32	0	19	15	12	
MANZANILLO	63.25	92.8				19	15	11	
SKALSTUGAN	65.07	356.5	10	40	-4				39 20 PKPPKP
PALISADES	65.12	55.0	10	41A	-4	19	29	2	24 29 SS
APIA	65.13	176.7	10	44	-1				11 40
C.C.N.Y.	65 24	55.1	11	1	15	19	50	22	
FORDHAM	65.26	55.1	10	43	-3	19	34	5	
WESTON	65.41	52.4	10	44K	-3	19	37	6	24 9 SS
CHAPEL HILL	66.13	62.0	10	49	-2	19	49	10	
TACUBAYA	66.19	88.5	10	50	-2	19	13	-27	13 6 PP
PULKOVO	67.17	346.5	11	1	3	19	52	0	11 33 PCP
HALIFAX	67.36	46.1	10	54K	-5				
HELSINKI	67.48	349.4	10	56	-4	19	52	-4	11 24 PCP
VERA CRUZ	68.26	86.3	11	12	7	21	18	73	14 10
FRUNSE	68.37	312.2	11	1	-4	20	2	-4	
BERGEN	68.40	359.9	11	17	11	20	17	10	24 22 SS
UPPSALA	68.49	353.2	11	1A	-5	20	2	-6	39 14 PKPPKP
OAXACA	69.50	88.3							11 50
SUVA	69.65	186.8							20 41 PS
MOSCOW	69.74	341.1	11	15	1	20	17	-5	21 7 SCS
MERIDA	70.98	80.2	11	21K	0	20	37	0	14 28
ABERDEEN	71.48	4.1	11	42	18	20	51	8	15 54 PPP
TASHKENT	72.01	314.5	11	23	-5	20	46	-3	21 37
SHILLONG	72.34	288.9	11	24	-5	20	47	-6	13 56 PP
COPENHAGEN	72.96	355.7	11	36	3	21	6	6	25 36 SS
DURHAM	73.90	4.0	11	46	7	21	14	4	21 58 SKS
CHATRA	74.12	293.1	11	42	2				21 50
STALINABAD	74.48	313.2	11	38	-4				21 20 SCS
CHITTAGONG	74.80	286.7	12	4	20	21	52	32	
RATHFARNHAM	75.08	7.0	11	41A	-4	21	29	6	
HAMBURG	75.17	357.0	11	45	-1	21	33	9	26 14 SS
NOUMEA	75.34	197.8	11	46	-1				
WARSAW	75.72	350.0	11	56	7	21	36	5	26 50 SS
WITTEVEEN	75.99	359.0	12	29	38				
POTSDAM	76.22	355.0	11	54	2	21	40	4	26 57 SS
DEHRA DUN	76.47	301.8	11	47	-6	21	38	-1	16 20 PPP
BERMUDA	76.48	54.8	11	58	5	21	39	0	
DE BILT	76.72	360.0	12	2	7	21	50	9	
KEW	77.25	3.5	12	0	2	21	52	5	15 1 PP
LAHORE	77.43	305.1	11	53	-6	21	37	-12	
LWOW	77.72	347.6	11	58	-2				22 19 SCS
JENA	77.75	355.8	11	56	-4	21	54	1	22 11 SKS
KRAKOW	77.99	350.3	11	59	-3	21	41	-14	
RACIBORZ	78.13	351.4	12	9	7	22	11	14	11 5
NEW DELHI	78.30	301.3	12	8	5	11	58	-600	26 59 SS
NEW DELHI	78.30	301.3	12	8	5	21	58	0	26 59 SS
PRAGUE	78.44	353.9	12	3	-1	22	4	4	15 17 PP
SKALNATE PL.	78.82	349.9	12	14	8	22	7	3	27 48 SS

JERSEY	79.46	4.8	11	38	-32	21	36	-35			
ASHKABAD	79.46	319.9							12	11	PCP
IASI	79.75	344.7	12	17	6				22	37	SKS
KARLSRUHE	79.78	357.8	12	8	-3	22	19	5	15	7	PP
PARIS	79.99	1.8	12	12	-1	22	20	4	15	20	PP
STUTTGART	79.99	357.3	12	7	-6	22	6	-10	22	22	SKS
BRATISLAVA	80.13	351.9	12	19	6	22	37	19	28	13	SS
STRASBOURG	80.22	358.2	12	10	-4	22	28	9	15	13	PP
TUBINGEN	80.24	357.3	12	10	-4						
BACAU	80.47	345.0	12	19	4						
EBINGEN	80.59	357.4	12	12	-4				12	23	PCP
BUDAPEST	80.62	350.5	12	42	26	22	9	-14	15	5	PP
SIMFEROPOL	80.66	339.6	12	19A	3	22	22	-1	15	24	PP
TIFLIS	80.90	331.0	12	15	-2	22	29	3	12	21	PCP
FOCSANI	81.27	344.5	12	28	9				22	46	SKS
BASLE	81.27	358.3	12	18	-1	22	37	7			
KALOCSA	81.57	350.4	12	50	29						
BESANCON	81.57	359.4	12	18	-3						
SZEGED	81.72	349.5	12	29	7	22	45	11	15	59	PP
NEUCHATEL	81.81	358.7	12	14	-8	22	31	-4			
CAMPULUNG	82.03	345.9	12	31	8				22	52	SKS
TIMISOARA	82.09	348.7	12	41	17	22	53	15	22	20	
QUETTA	82.21	309.6	12	21A	-3	22	36	-3	22	51	SCS
GORIS	82.44	329.1	12	22	-3				12	29	PCP
ZAGREB	82.55	352.4	12	35	9	22	46	3	31	8	SSS
BUCHAREST	82.70	345.0	12	26	-1	24	1	77	23	6	SKS
TRIESTE	82.89	353.9	12	27	-1	22	43	-3	15	42	PP
CLERMONT-FD.	83.04	1.4	12	26	-3						
BELGRADE	83.09	349.1	12	29K	0	22	55	7	13	4	PCP
OROPA	83.18	358.0	12	32	3	22	49	0			
PAVIA	83.58	357.1	12	36	5	23	0	7	28	47	SS
BOLOGNA	84.18	355.5	12	42	8	23	6	7			
SOFIA	84.80	346.6	12	42	5	23	9	4	16	25	PP
PRATO	84.80	355.7	12	24	-13	22	9	-56			
FLORENCE X.	84.90	355.5	12	41	3						
MONACO	85.08	358.3	12	37	-2						
HYDERABAD	86.47	293.6	12	46A	0	23	13	-8	28	34	PP
ROME	86.70	354.5	12	50A	3	23	17	-7	16	1	PP
BARCELONA	87.37	2.2	13	0	10	23	39	9	23	56	
GALERAZAMBA	87.55	75.9	12	53	2	23	45	13			
DJAKARTA	87.56	257.0	12	44K	-7	23	17	-15			
TARANTO	87.74	350.8	12	22	-30	23	32	-2	15	2	PP
COIMBRA	87.86	10.3	12	54	2	23	26	-9	29	15	SS
POONA	88.17	297.8	12	50	-4	23	41	3			
BOMBAY	88.44	298.8	12	53	-2	23	43	3	23	26	SKS
TOLEDO	88.59	7.0	12	53	-3	23	47	6	16	33	PP
MADRAS	88.98	289.6	12	58	0	23	30	-15	16	40	PP
LISBON	89.24	11.1	12	59	0	23	35	-12	30	0	SS
ATHENS	89.37	345.4				23	32	-17			
KARAPIRO	89.49	187.6	13	8	8						
RIVERVIEW	90.11	207.7	12	58A	-5	23	54	-1	23	35	SKS
MESSINA	90.15	351.8	13	9	6	23	55	-1	23	36	SKS
REGGIO CALA.	90.25	351.7	13	10	6				23	18	SKS
ALICANTE	90.34	4.4	13	0	-4	23	53	-4	23	31	SKS
ANTIGUA	90.77	61.1	13	3	-3						
KSARA	90.79	334.8	13	10	4	24	5	3	16	45	PP
GRANADA	91.31	7.0	13	15K	6	24	30	24	28	54	SS
MALAGA	91.70	7.6	13	15K	5						
ALMERIA	91.72	6.1	13	16	5	23	47	-23			
ALGIERS UNI.	92.03	1.7	13	8	-4	23	46	-27	16	36	PP
FORT FRANCE	92.62	62.5	13	12	-3	24	21	3			
WELLINGTON	92.89	187.8				24	36	16	24	1	SKS
JERUSALEM	92.90	334.7	13	12	-4				17	17	
RELIZANE	92.97	3.7	13	20	4				24	6	SKS
BOGOTA	93.11	78.7	13	18	1				24	0	SKS
ST. LUCIA	93.28	62.7	13	17	-1						
ST. VINCENT	93.83	63.4	13	19	-1				13	50	
COLOMBO	94.00	286.2	13	32	11				23	59	SKS
CHRISTCHURCH	95.32	189.1							24	24	SKS
MELBOURNE	95.69	210.9	13	29	0	24	51	7	23	55	SKS
TRINIDAD	95.72	65.1	13	26	-3						
PERTH	102.92	234.7	14	9	8				18	16	PP
HUANCAYO	105.27	90.2				25	22	2	18	40	PP
TAMANRASSET	105.99	359.6	14	16	777				19	41	PP
MBOUR	111.58	23.1							19	27	PP
LA PAZ	113.15	87.5	18	46	7				22	10	PKS
LOME	122.46	4.6				26	8	10			
LWIRO	127.00	329.8	19	5A	-1				21	9	PP

ASTRIDA	127.03	328.6	19	4	-2					19	10
TANANARIVE	133.47	298.3	19	23	4					22	48 PKS
MIRNY	136.48	215.5	19	31	7						
PRETORIA	148.82	317.0	19	44A	-1						
PIETERMZBURG	151.12	309.6	19	52A	3						
KIMBERLEY	152.88	319.6	19	50	-2						
GRAHAMSTOWN	156.01	311.1								20	20 PKP2

MARCH 21 8.H 44.M 46.S EPICENTRE 14.33 -92.87 DEPTH= 0.KM

A=-0.04856 B=-0.96807 C= 0.24592 D=-0.9987 E= 0.0501
G=-0.0123 H=-0.2456 K=-0.9693 HT= 5.9

SE= 2.04

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
COMITAN	2.04	20.4	0	52K	16	1	24	22				
SAN SALVADOR	3.58	99.1	1	1	3	1	44	2				
OAXACA	4.61	306.0	1	16	4	2	5	-3				
VERA CRUZ	5.76	327.7	1	35	6	2	35	-1				
PUEBLA	6.92	313.2	2	8	23						3	12
MERIDA	7.28	24.7	2	0	10	3	28	14				
TACUBAYA	7.88	310.6	2	1	3	3	32	3				
GUADALAJARA	11.80	303.8	2	54	2	5	24	18			7	26
BALBOA HTS.	14.08	110.8	2	23	-60	6	20	19				
CHIHUAHUA	18.78	321.4	4	28	5	8	6	16			11	17
CHINCHINA	19.37	117.0	4	32	2	8	23	20				
LUBBOCK	20.83	338.5	4	46	1	8	40	6				
BOGOTA	20.88	115.7	4	47	1	8	51	16				
FAYETTEVILLE	21.70	357.1	4	55	1	9	2	12				
COLUMBIA	22.33	26.7	5	1	0	9	6	4				
TUCSON	24.23	320.5	5	20	1	9	48	12				
SAN JUAN	25.97	77.4	5	40	4							
HAYFIELD	28.25	317.0	5	56	-1							
BARRETT	28.35	314.2	5	57K	0							
PALOMAR	28.86	315.2	6	3K	1							
BOULDER CITY	29.19	321.5	6	3	-2							
RIVERSIDE	29.58	315.7	6	6K	-3							
PASADENA	30.21	315.2	6	13K	-1	11	29	16				
CHINA LAKE	30.82	318.4	6	19K	-1							
RAPID CITY	30.94	345.4	6	21	0							
SALT LAKE C.	31.11	331.4	6	23	1	11	32	4				
PALISADES	31.30	28.3	6	22	-2	11	25	-3			14	53
HUANCAYO	31.45	145.6	6	26	1	11	36	3				
WOODY	31.57	317.1	6	24	-2							
KING RANCH	31.94	315.7	6	29	0							
TINEMAHA	31.98	319.7	6	31K	1						6	44
EUREKA	32.25	325.3	6	31	-1						7	17 PP
FRESNO	32.81	317.8	6	36K	-1							
OTTAWA	34.20	21.7	6	48K	-1	12	16	0			8	11 PP
LICK	34.34	317.2	6	50K	0							
RENO	34.50	321.8	6	52K	0							
BERKELEY	35.04	317.4	6	56	0							
KIRKLAND LA.	35.36	14.9	7	16	17							
BUTTE	35.68	336.3	7	2	0						8	37 PP
MINERAL	36.08	321.4	7	4K	-1							
SHAWINIGAN	36.28	23.6	7	6K	-1						8	31 PP
SHASTA	36.77	321.3	7	8K	-3							
HUNGRY HORSE	38.17	337.1	7	23	0						9	35 PCP
LA PAZ	39.19	140.5	7	32	1	13	44	12			16	24 SS
BANFF	41.05	338.3	7	46A	-1							
VICTORIA	42.38	329.9	7	57	0							
HORSESHOE B.	42.91	330.9	8	0A	-2							
SCHEFFERVLLE	45.26	21.1	8	19K	-2							
RESOLUTE	60.36	359.4	10	12K	-1	18	32	5				
COLLEGE	62.61	336.8	10	25	-3						12	42 PP
MALAGA	80.38	54.6	12	13A	-2	22	17	-3				
SKALSTUGAN	83.88	25.7	12	32	-1						12	47
CLERMONT-FD.	83.98	44.4	12	33	0							
RELIZANE	84.49	54.7	12	34	-2							
KIRUNA	85.30	20.5	12	41	1	23	16	6				
BESANCON	85.50	42.5	12	41	0						13	36
ALGIERS UNI.	86.20	53.2	12	42	-2							
STRASBOURG	86.27	40.8	12	44	-1						13	6
KARLSRUHE	86.55	40.3	12	46K	0						13	9
STUTTGART	87.12	40.4	12	48A	-1							

EBINGEN	87.16	41.0	12	48	-1							
MONACO	87.49	45.6	12	50	-1							
SODANKYLA	87.59	19.7	12	49	-2							
UPPSALA	87.65	28.2				23	32	-1				
JENA	87.86	37.8	12	51	-1							
TRIESTE	91.10	42.2	13	7	-1	24	5	1				
ROME	91.60	46.1									25	56
TAMANRASSET	92.06	66.0	13	13A	1						17	3 PP
MESSINA	95.16	48.6									26	57
QUETTA	131.67	23.6	19	15	0							
SHILLONG	140.08	353.3	19	22	-8							
POONA	144.82	22.2	19	39	0							

MARCH 22 14.H 21.M 10.S EPICENTRE 53.74-165.66 DEPTH= 20.KM

A=-0.57547 B=-0.14715 C= 0.80448 D=-0.2477 E= 0.9688
G=-0.7794 H=-0.1993 K=-0.5940 HT= -6.8

SE= 2.25

	DELTA	AZ.	P		O-C	S		O-C	*PP		SUPP.	
	DEG.	DEG.	M	S	S	M	S	S	M	S	M	S
COLLEGE	14.33	31.9	3	23	0							
SITKA	17.47	66.9	4	6	3	7	14	-1				
KLYUCHI	19.30	291.2	4	26A	1	8	0	4				
PETROPAVLOVK	21.14	282.9	4	45A	0						5	11 PP
MAGADAN	24.27	301.4	5	17A	1	9	32	2				
ALBERNI	25.55	83.3	5	33	5							
HORSESHOE B.	26.41	82.1	5	37	1	10	10	4				
VICTORIA	26.71	83.9	5	41	2	10	8	-3			9	3 PCP
SEATTLE	27.78	84.8	5	53	5	10	38	10				
CORVALLIS	28.79	91.1	6	3	6	10	54	10				
BANFF	30.14	74.2	6	8	-2							
ARCATA	30.53	97.8	6	23	10							
KURILSK	30.88	273.2	6	15A	-1						7	26 PP
SHASTA	31.63	96.5	6	22K	-1	11	38	9				
UKIAH	32.16	99.6	6	30K	3	11	44	7				
HUNGRY HORSE	32.30	78.2	6	27A	-2	11	37	-2				
UGLEGORSK	32.32	283.4	6	27A	-2	11	40	0			7	47 PPP
MINERAL	32.32	96.3	6	28A	-1							
TIKSI	32.74	327.8	6	32	0	11	46	0			7	43 PP
HONOLULU	32.90	167.0	6	34	0	11	50	1				
Y.-SAKHLINSK	33.00	279.6	6	33A	-2	11	51	1			8	0 PPP
NEMURO	33.30	272.0	6	38	1	11	41	-14				
BERKELEY	33.56	100.4	6	41A	2	12	2	3				
ABASHIRI	33.68	274.0	6	34	-7							
RENO	33.90	95.8	6	45	3	12	10	6				
SANTA CLARA	34.09	100.8	6	48K	4	12	10	3				
RESOLUTE	34.15	26.6	6	45A	0	12	7	-1				
KUSIRO	34.21	272.4	6	47	2	12	10	1				
LICK	34.28	100.5	6	47K	1							
BUTTE	34.35	80.9	6	47A	1	12	9	-2				
WAKKANAI	34.43	277.9	6	52	5							
SASKATOON	34.73	68.1	6	46	-4	12	20	3				
OBIHIRO	34.96	273.2	7	9	17							
BOZEMAN	35.43	80.4	6	56A	0	12	30	2				
URAKAWA	35.66	272.5	6	55	-3							
FRESNO	35.74	99.4	7	0	2	12	41	8				
SAPPORO	35.96	274.8	6	58A	-2	12	30	-6			8	36 PPP
TOMAKOMAI	36.15	273.9	7	45	43							
EUREKA	36.21	92.6	7	0A	-2	12	38	-2				
TINEMAHA	36.47	97.6	7	5	1	12	46	2			13	15
SUTTSU	36.79	275.3	7	6	-1	12	42	-7			8	39 PPP
MORI	37.01	274.1	7	8	-1	12	45	-7				
WOODY	37.03	99.9	7	9	0							
HAKODATE	37.11	273.6	7	12	2							
ISABELLA	37.28	99.5	7	12	1	13	2	5			13	40
HATINOHE	37.40	271.3	7	16	4	13	19	21				
AOMORI	37.67	272.3	7	6	-8	12	53	-9				
MIYAKO	37.70	269.8	7	13	-2	12	57	-6				
SALT LAKE C.	37.84	87.6	7	17K	1	13	9	4			8	53 PP
MORIOKA	38.14	270.5	7	18	0	12	36	-34				
PASADENA	38.52	101.0	7	23	1	12	52	-23			9	53 PP
MIZUSAWA	38.53	269.9	7	24	2	13	0	-16				
AKITA	38.76	271.4	7	4	-20						8	25 PPP
ISINOMAKI	38.87	268.9	7	10	-14							
RIVERSIDE	39.09	100.4	7	27	1	13	28	4				

BOULDER CITY	39.21	95.9	7 29A	2				
SENDAI	39.23	269.0	7 27	0	13 15	-11		
SAKATA	39.45	270.6	7 40	11				
YAMAGATA	39.56	269.4	7 30	0	13 30	-1		
HUKUSIMA	39.82	268.8	7 31	-1				
PALOMAR	39.85	100.7	7 34	1	13 42	7		8 29
ONAHAMA	40.10	267.5	7 46	11	13 38	-1		
HAYFIELD	40.32	99.1	7 38	2	13 43	0		
SHIRAKAWA	40.39	268.2	7 37	0	12 54	-50		
BARRETT	40.44	101.2	7 39	1	13 49	5	7 52	
MITO	40.74	267.2	7 42	2	13 50	1		
RAPID CITY	40.92	77.3	7 44A	3	13 53	2		
AIKAWA	40.96	270.9	7 44	2	14 14	22		
UTUNOMIYA	40.98	267.9	7 36	-6	13 27	-25		
KAKIOKA	41.01	267.3	7 40	-2	13 37	-16		
TUKUBASAN	41.07	267.3	7 41	-2	13 36	-18		17 29
VLADIVOSTOK	41.49	281.5	7 45A	-1	14 1	1		
KUMAGAYA	41.54	267.8	7 49	2	13 12	-49		
MAEBASI	41.56	268.4	7 46	-1	14 17	16		
TAKADA	41.57	269.8	7 28	-19				
TOKYO C.M.O.	41.64	267.0	7 48	1	13 50	-12		
TITIBU	41.84	267.9	7 49	0				
YOKOHAMA	41.87	266.8	7 50	1	14 9	3		
OIWAKE	41.91	268.7	7 46	-4	14 3	-3		
MATUSIRO	41.96	269.2	7 49K	-1	13 43	-24		9 28 PP
MERA	42.12	266.1	7 49	-2	14 1	-8		
BOULDER	42.19	83.6	7 51	-1				
WAZIMA	42.19	271.2						9 31 PP
SUIHWA	42.23	288.8	7 52	0				
MATUMOTO	42.31	269.1	7 57	4	13 55	-17		
HUNATU	42.35	267.6	7 53	0	13 51	-21		
KOHU	42.38	267.9	7 53	0	13 51	-22		
TOYAMA	42.47	270.2	7 55	1	14 18	4		
OSIMA	42.49	266.3	7 53	-1	14 2	-13		
MISIMA	42.50	267.1	7 53	-1	14 6	-9		
IIDA	42.89	268.4	7 58	0				
SHIZUOKA	42.93	267.4	7 58	0	14 22	1		
OMAESAKI	43.29	267.1	7 56	-5				
HUKUI	43.46	270.3	8 4	2				
HAMAMATU	43.51	267.7	7 58	-5				
GIHU	43.60	269.2	8 2	-1	14 25	-6		
NAGOYA	43.64	268.8	8 4	0				
IBUKISAN	43.85	269.5	8 43	38				
HIKONE	44.00	269.5	8 6	-1	14 28	-9		10 6 PP
KAMEYAMA	44.16	268.9	8 7	-1	14 10	-29		
TUCSON	44.18	96.4	8 10K	2	14 38	-1		
KYOTO	44.48	269.6	8 12	2	14 41	-3		
NARA	44.66	269.2	8 14	2				
TOYOOKA	44.67	270.9	8 12	0				
CHANGCHUN	44.85	286.6	8 12	-1	14 40	-9		9 59 PP
OSAKA	44.86	269.4	8 16	3	14 52	3		
OWASE	44.86	268.3	8 13	-1				
KOBE	45.04	269.7	8 12	-3	14 46	-6		
SUMOTO	45.45	269.6	8 16	-2	14 51	-6		
SIOMISAKI	45.55	268.0	8 19	0	14 57	-2		
YONAGO	45.61	271.9	8 23	3	15 2	2		
TOKUSIMA	45.82	269.6	8 19	-2	14 28	-35		
TAKAMATU	45.96	270.3	8 22	0	14 42	-23		
HAMADA	46.74	272.4	8 28	0	15 18	2		
KOTI	46.81	269.9	8 30	1	15 0	-17		10 29 PP
HIROSIMA	46.89	271.6	8 30	0	15 16	-2		18 24 SCS
SIMIDU	47.68	269.6	8 33	-3	15 20	-9		10 20 PP
SIMONOSEKI	48.07	272.4	8 39	0	15 35	0		
OOITA	48.17	271.1	8 41	1	15 18	-18		
LUBBOCK	48.57	97.7	7 43	-60	15 43	1		18 35 SCS
HUKUOKA	48.64	272.4	8 44	1	15 36	-7		
ASOSAN	48.73	271.3	8 43	-1				
SAGA	48.94	272.2	8 49	3				
KUMAMOTO	49.00	271.5	8 47	1				
MIYAZAKI	49.22	270.1	8 50	2	15 50	-1		
UNZENDAKE	49.34	271.8	8 48	-1				
NAGASAKI	49.56	272.1	8 51	1	15 58	3		
CHIHUAHUA	49.62	95.6	8 53K	2	16 2	6		19 26 SS
KAGOSIMA	49.98	270.5	8 54	0	15 58	-3		
TOMIE	50.29	272.8	8 56	0	15 44	-22		
IRKUTSK	50.62	307.3	8 58A	0				18 45 SCS
YAKUSIMA	50.82	269.5	8 56	-4				
KIRKLAND LA.	51.10	59.1	9 1A	-1	16 21	4		
CHICAGO CGS.	51.25	69.8	9 2K	-1	16 14	-5		

FAYETTEVILLE	51.34	79.6	9	4K	0	16	14	-6			
PEKING	52.49	288.7	9	12A	-1	16	34	-2	10	24	PCP
KWANTING	52.68	289.2	9	12	-2	16	34	-4			
TERRE HAUTE	52.91	71.8	9	0	-16	16	40	-2			
SCHEFFERVLLE	52.95	45.7	9	15	-5				10	26	PCP
SCORESBY SD.	53.36	14.4	9	19	0	16	51	3	19	6	SCS
MAZATLAN	53.54	100.5				16	38	-12	24	56	
TATUNG	54.06	290.6	9	25	1						
CINCINNATI	54.77	70.2	9	33	4				14	11	
CLEVELAND	54.79	66.2	9	19	-11	16	55	-12			
OTTAWA	55.15	59.1	9	31A	-1	17	6	-6	11	38	PP
BUFFALO L.	55.38	63.1	9	32	-2						
SHAWINIGAN	55.84	56.4	9	35	-2	17	6	-15	19	13	SCS
ZO-SE	55.87	277.3	9	36	-1	17	15	-7	11	42	PP
GUAM	55.89	243.5	9	33	-4						
TAIYUAN	56.06	289.1	9	39	0						
BREBEUF	56.15	57.8	9	38A	-2						
PITTSBURGH	56.38	66.1	9	43	2	17	46	18			
SEVEN FALLS	56.39	54.3	9	42	1	17	25	-3	11	50	PP
NANKING	56.58	279.9	9	42A	0	17	24	-7	11	49	PP
MORGANTOWN	56.95	66.6	9	44A	-1	17	35	-1			
PENNSYLVANIA	57.25	64.4	9	47	0	17	47	7			
GUADALAJARA	57.27	99.7	9	50	3	17	46	6	19	38	SCS
LINFEN	57.86	288.4	9	50	-1						
MANZANILLO	57.95	101.7				18	2	13			
APATITY	58.19	351.5	9	50K	-4	17	51	-1	10	44	PCP
FUTZELING	58.59	281.1	9	55	-2						
KIRUNA	58.66	357.3	9	54	-3	17	56	-2	13	34	PP
SODANKYLA	58.86	354.5	9	59	1	18	2	1	12	4	PP
YINCHUAN	59.06	293.8	10	0	0						
REYKJAVIK	59.15	17.6	10	4	4						
PALISADES	59.19	61.7	10	0A	-1	17	57	-8	11	57	PP
PHILADELPHIA	59.29	63.4	10	0	-1	18	6	0	12	18	PP
FORDHAM	59.32	61.8	10	3	1	18	10	3			
WESTON	59.54	59.0	10	0	-3	18	10	0	12	16	PP
COLUMBIA	60.40	72.0	10	9A	0	18	18	-3	19	50	SCS
SIAN	60.66	288.7	10	8	-3	18	19	-5			
TACUBAYA	60.69	97.1	10	15	4	18	27	3	12	25	PP
WUWEI	61.41	295.8	10	15	-1						
LANCHOW	62.14	293.6	10	21	0						
TIENSHUI	62.19	291.2	10	21	0						
SEMIPALATNSK	62.42	318.8	10	23	0	18	43	-3	14	18	PPP
VERA CRUZ	62.66	94.6	10	23	-1	18	38	-11			
SKALSTUGAN	63.00	1.0	10	25	-2						
SVERDLOVSK	63.49	333.6	10	30	0	19	0	0	14	25	PPP
OAXACA	63.98	96.7	10	34	1	19	10	4			
MERIDA	65.17	88.1	10	41A	0	19	17	-3			
BERGEN	65.98	4.9	10	46	0	19	31	1	19	52	PS
PULKOVO	66.11	351.2	10	46	-1	19	29	-3	11	16	PCP
HELSINKI	66.12	354.2	10	46	-1	19	25	-7	14	51	PPP
CANTON	66.51	277.3	11	50A	61	19	37	0	13	21	PP
HONG KONG	66.59	276.1	10	50A	0	19	38	0			
UPPSALA	66.73	358.2	10	47	-4	19	35	-4	13	14	PP
BAGUIO CITY	67.33	267.0	10	50	-4	19	48	1			
APIA	67.47	186.4							11	1	
RABAUL	67.63	226.4	10	53	-3	19	43	-7	11	24	PCP
MANILA	68.54	265.4	11	3	1	19	59	-2			
ABERDEEN	68.63	9.5	10	56	-7	19	56	-6	20	26	PS
MOSCOW	69.22	346.2	11	5	-1	20	5	-4	11	34	PCP
EDINBURGH	69.76	10.4				20	16	0			
BERMUDA	70.55	61.8	11	10	-4	20	24	-1	24	54	SS
FRUNSE	70.81	317.5	11	16A	0	20	21	-7	13	56	PP
COPENHAGEN	70.93	1.1	11	17	0	20	30	1	11	40	PCP
DURHAM	71.05	9.7	11	17	0	20	33	2	24	10	SS
RATHFARNHAM	71.95	12.8	11	23A	0	20	40	-1			
SUVA	72.90	195.8				20	52	0	21	35	PS
HAMBURG	72.99	2.7	11	31A	2	20	55	2			
WITTEVEEN	73.61	4.8	11	33A	1						
TASHKENT	74.21	320.2	11	36	0	21	7	0			
POTSDAM	74.24	0.8	11	36	0				21	6	
WARSAW	74.25	355.7	11	38	2	21	14	7	21	23	PS
KEW	74.44	9.5	11	37A	0	21	8	-1	14	27	PP
JENA	75.67	1.8	11	44	0	21	22	-1	14	25	
KRAKOW	76.47	356.3	11	51	2	21	29	-3	16	30	PPP
LWOW	76.48	353.6	11	50	1	21	31	-1	22	20	PS
RACIBORZ	76.50	357.4	11	49	0	21	32	0	21	53	SKS
JERSEY	76.51	11.0	12	6	17	21	33	1			
PRAGUE	76.56	359.9	11	48A	-1	21	28	-5	12	6	PCP

SHILLONG	76.74	295.0	11	46	-4	21	20	-14	12 7	PCP
STALINABAD	76.80	319.1	11	51	0				22 34	PS
SKALNATE PL.	77.33	356.0	11	57	3	21	45	4	27 32	SS
PARIS	77.33	8.0	11	54A	0	21	44	3	14 56	PP
KARLSRUHE	77.50	4.0	11	57K	2	21	43	0	15 2	PP
STUTTGART	77.77	3.5	11	56	0	21	42	-4	12 11	PCP
STRASBOURG	77.90	4.5	11	58A	1	21	50	3	14 55	PP
TUBINGEN	78.00	3.6	11	58	1					
CHATRA	78.20	299.3	12	3	5				22 17	
EBINGEN	78.35	3.7	12	0A	1				12 26	PP
VIENNA-H.	78.37	358.6	12	0	1	21	54	2	22 32	PS
BRATISLAVA	78.44	358.1	12	1	1	21	54	1	15 3	PP
HURBANOVO	78.71	357.4	12	3	2	22	0	4	22 50	PS
RAVENSBURG	78.77	3.2	12	2	0					
IASI	78.81	350.8	12	3	1	21	57	0		
BASLE	78.94	4.7	12	3A	0	21	55	-3		
BUDAPEST	79.07	356.7	12	6	3	21	57	-2	15 0	PP
BESANCON	79.13	5.8	12	4	0				15 46	
ZURICH	79.14	4.0	12	4	0	22	2	2		
CHITTAGONG	79.34	293.1	12	10	5	22	16	14		
NEUCHATEL	79.44	5.1	12	6	1	22	5	2		
NOUMEA	79.47	206.1	12	6	1	22	38	34		
DEHRA DUN	79.83	308.0	12	8	1	21	53	-14	22 28	PPS
SZEGED	80.26	355.9	12	12	2	22	7	-5	15 29	PP
FOCSANI	80.33	350.9	12	14	4	22	12	-1		
CLERMONT-FD.	80.40	7.9	12	10	0					
LAHORE	80.49	311.4	12	9	-2	22	5	-9		
BALBOA HTS.	80.54	87.8	12	8	-3	22	12	-3		
TIMISOARA	80.71	355.1	12	17	5	22	21	4		
ZAGREB	80.80	358.8	12	13	0	22	16	-2	27 52	SS
OROPA	80.86	4.5	12	6	-7	22	5	-13		
SAN JUAN	80.87	71.5	12	13A	0	22	19	1	15 10	PP
CAMPULUNG	80.94	352.4	12	16	3	22	25	6		
TRIESTE	80.98	0.4	12	14A	1	22	19	0	15 21	PP
ASHKABAD	81.09	326.2				22	19	-2		
ANGRA DO HO.	81.23	31.7				22	32	10		
PAVIA	81.35	3.7	12	17A	2	22	34	11	15 45	PP
POKARO	81.36	298.6	12	16A	1	22	16	-7	27 12	SS
TIFLIS	81.37	337.4	12	17	2	22	27	4	15 23	PP
GALERAZAMBA	81.63	83.3	12	21	4	22	35	9		
BELGRADE	81.67	355.6	12	18	1	22	28	1	13 14	
NEW DELHI	81.69	307.7	12	18A	1	22	26	-1	15 19	PP
BOLOGNA	82.10	2.2	12	27	8	22	34	3		
PRATO	82.71	2.4	12	22	0	22	36	1		
MONACO	82.72	5.0	12	24	2	22	50	13		
FLORENCE X.	82.82	2.3	12	25A	2	22	39	1		
GORIS	83.12	335.6	12	25	1	22	43	2	15 38	PP
SOFIA	83.62	353.3	12	27	0	22	47	1	15 37	PP
COIMBRA	84.39	17.3	12	30K	-1	22	52	-2		
BARCELONA	84.63	9.2	12	33	1	22	52	-4		
ROME	84.72	1.4	12	34A	1	22	51	-6	16 4	PP
ANTIGUA	84.75	68.4	12	32	-1					
QUETTA	84.83	316.3	12	34A	1	23	2	4	15 53	PP
LISBON	85.70	18.2	12	40A	3	23	1	-6	13 17	
CHINCHINA	86.05	87.0	12	39	0				22 57	SKS
TARANTO	86.13	357.8	12	49	9				22 56	SKS
FORT FRANCE	86.60	69.8	12	43	1	23	16	1		
BOGOTA	87.25	86.0	12	46	1	23	19	-3	23 4	SKS
ST. LUCIA	87.25	70.1	12	46	1					
ALICANTE	87.39	11.6	12	47	1	23	30	7	23 13	SKS
ST. VINCENT	87.80	70.8	12	48	0					
GRANADA	88.12	14.3	12	51	2	23	33	3	16 2	PP
MESSINA	88.42	359.0	12	49A	-2	23	32	-1	16 18	PP
BRISBANE	88.45	215.9	12	50	-1	23	34	1		
MALAGA	88.45	15.0	12	53A	2	23	17	-16	16 19	PP
REGGIO CALA.	88.52	359.0	12	51	0	23	36	3		
ALMERIA	88.61	13.4	12	50	-2	23	35	1	16 12	PP
KARACHI	88.61	314.2	12	54	2					
BARBADOS	88.77	69.5	12	57	5					
ALGIERS UNI.	89.33	9.0	12	55	0	23	49	8	16 18	PP
TRINIDAD	89.69	72.4	12	57	0					
RELIZANE	90.07	11.2	12	58	0	23	54	6	16 30	PP
HYDERABAD	90.47	300.8	13	1A	1	23	23	-28	16 8	PP
KSARA	90.82	342.2	13	4K	2	23	58	4	16 34	PP
AUCKLAND	91.82	195.6				23	13	-50	29 40	SS
POONA	91.83	305.1	13	7A	0	24	0	-3		
BOMBAY	92.01	306.1	13	8	1	24	0	-5	16 17	PP
KARAPIRO	92.73	194.8				24	13	2		

JERUSALEM	92.93	342.3	13	12	0				16	58	PP
MADRAS	93.28	297.0	13	14	1	23	47	-29	17	1	PP
DJAKARTA	93.46	264.4	13	13	-1	24	8	-10			
RIVERVIEW	94.89	214.9	13	19	-2	24	35	5	17	11	PP
WELLINGTON	96.14	194.7				23	50	-50	31	6	SS
KODAIKANAL	97.03	297.8	15	1A	91				26	19	PS
COLOMBO	98.53	294.0	13	39	2	24	36	-25	17	41	PP
CHRISTCHURCH	98.67	195.8				24	12	-50	25	10	S
CHRISTCHURCH	98.67	195.8				24	12	-50	25	10	S
HUANCAYO	99.80	96.9	13	46	3	24	18	-53	32	22	SS
MELBOURNE	100.67	217.7				24	23	-56	25	29	SKKS
TAMANRASSET	103.42	8.4	14	1	2	24	42	-60	18	27	PP
MBOUR	107.05	31.8	14	18	777	25	3	3	18	45	PP
LA PAZ	107.56	94.0	14	20	777	24	50	-7	19	2	PP
PERTH	108.85	241.7							14	27	
ASTRIDA	127.47	340.5	19	4	2						
UVIRA	128.45	341.0	19	16	12				21	1	
TANANARIVE	136.87	310.7	19	22	2				22	7	PP
PIETERMZBURG	153.20	327.7	19	23	-24						
KIMBERLEY	153.88	338.8	19	51	3						
GRAHAMSTOWN	157.80	332.0	19	53	-1						
HERMANUS	160.37	347.9	20	6	10				20	40	PKP2

MARCH 22 19.H 44.M 19.S EPICENTRE 37.66-122.59 DEPTH= 0.KM

A=-0.42748 B=-0.66861 C= 0.60845 D=-0.8425 E= 0.5387
G=-0.3278 H=-0.5126 K=-0.7936 HT= -0.8

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	
BERKELEY	0.33	52.0	0	7A	-4								
BRANNER	0.41	126.5	0	9A	-4								
SANTA CLARA	0.60	121.3	0	17	2								
LICK	0.82	112.8	0	16K	-2								
UKIAH	1.54	341.6	0	27	-2	0	46	-4					
FRESNO	2.40	111.0	0	40K	-1	1	7	-5					
MINERAL	2.79	15.8	0	45K	-2								
RENO	2.87	48.2	0	48K	0								
YERINGTON	3.00	62.9	0	50	0								
SHASTA	3.04	2.9	0	47K	-3								
KING RANCH	3.27	134.5	0	52	-1								
ARCATA	3.41	340.7	0	54	-1								
FALLON	3.49	57.7	0	58	1								
TINEMAHA	3.53	98.5	0	59	2								
WOODY	3.58	122.0	0	56	-2								
ISABELLA	3.87	119.9	1	1	-1								
STA. BARBARA	3.98	143.2	1	0	-3								
HAIWEE	4.02	110.8	1	6	2								
CHINA LAKE	4.41	113.2	1	10	0								
PASADENA	5.02	133.0	1	17	-1	2	13	-5					
EUREKA	5.50	68.7	1	23	-2								
BOULDER CITY	6.45	102.8	1	40	2								
SAN DIEGO	6.62	136.9									3	34	SG
CORVALLIS	6.93	355.8	1	47K	2						4	1	
SALT LAKE C.	8.90	66.3	2	18	5	3	55	0					
SEATTLE	9.98	1.1	2	30A	2	4	18	-4					
VICTORIA	10.87	357.1	2	40	0								
TUCSON	11.06	115.7	2	48	6								
BUTTE	11.20	38.6	2	45	1	5	7	16					
HORSESHOE B.	11.72	357.8	2	53	2						5	24	
BOZEMAN	11.76	43.5	2	48	-4	5	1	-4					
HUNGRY HORSE	12.37	27.6	3	1	1	5	21	1					
RAPID CITY	15.99	60.3	3	49	1	6	52	6			7	22	PCP
CHIHUAHUA	16.49	118.3	4	1	7	7	13	15			9	1	
LUBBOCK	17.35	97.4	4	7	2	7	33	16					
SASKATOON	18.30	32.7	4	1	-16								
MAZATLAN	20.04	131.5									7	56	
SITKA	21.16	340.5	4	47	-2	8	32	-8					
FAYETTEVILLE	22.74	85.3	5	15A	10						11	50	SS
GUADALAJARA	23.79	130.0	5	17	2						8	53	
CHICAGO CGS.	27.11	70.3	6	25	39	10	29	5					
TACUBAYA	27.33	125.3	5	51	3						7	0	PP
COLLEGE	31.05	339.3	6	21	-1	11	21	-6					
KIRKLAND LA.	32.50	57.4	6	34	0								
MORGANTOWN	33.14	73.1	6	39	-1								

BUFFALO L.	33.64	67.1	6 43	-1						
COLUMBIA	33.70	83.4	6 44	-1						
OTTAWA	35.51	62.3	6 59K	-1					9 29	PCP
PALISADES	37.42	69.3	7 14K	-2	13 12	7			8 40	PP
SHAWINIGAN	37.47	60.1	7 15A	-2					9 29	PCP
RESOLUTE	39.34	11.2	7 33K	0					9 2	PP
SCHEFFERVLLE	41.10	46.8	7 50	3						
BALBOA HTS.	48.15	115.2	8 29	-15						
SAN JUAN	52.63	95.1	9 16	-2					11 27	PP
KIRUNA	71.20	14.0	11 22	-1						
SODANKYLA	72.71	12.0	11 31	-1						
SKALSTUGAN	72.92	19.4	11 33A	0						
LA PAZ	74.29	125.8	11 41	0	21 17	2				
MATUSIRO	75.00	304.6	11 45K	0						
UPPSALA	77.45	19.3	11 58	-1						
KEW	77.90	32.7	12 1	0						
DE BILT	79.69	29.7	12 17	6						
WITTEVEEN	79.70	28.5	12 13	2						
HAMBURG	80.32	26.5	12 16	2						
PARIS	81.08	33.2	12 19	1						
JENA	83.04	27.2	12 28	-1					12 58	
KARLSRUHE	83.39	30.0	12 32A	2					12 49	
STRASBOURG	83.48	30.6	12 32A	1					12 47	
BESANCON	83.78	32.4	12 10	-22					12 47	
STUTTGART	83.90	29.7	12 33	0						
TUBINGEN	84.04	30.0	12 35	1						
EBINGEN	84.28	30.2	12 36	1						
WARSAW	85.02	21.5							12 39	PP
TAMANRASSET	102.58	48.1	14 0	0					18 16	PP
KSARA	106.11	18.5	14 15	777					18 39	PP
QUETTA	111.92	351.1	19 21	44						
BOMBAY	121.90	342.8							21 44	PP
PRETORIA	152.56	72.8	19 56K	5						

MARCH 23 5.H 12.M 43.S EPICENTRE -5.54 130.97 DEPTH= 147.KM

DEPTH OF FOCUS= 0.018R

A=-0.65263 B= 0.75158 C=-0.09590 D= 0.7551 E= 0.6557
G= 0.0629 H=-0.0724 K=-0.9954 HT= 7.0

SE= 1.90

	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	
MAMBAJAO	15.64	340.0	3	7	-26	5	59	-23					
RABAUL	21.17	87.3	4	33	-2	8	25	9			12	1	SCP
MANILA	22.31	333.7	4	48	2	8	41	5					
GUAM	23.32	35.8	4	55	-1								
DJAKARTA	24.02	267.3	4	58A	-4	9	7	1					
BAGUIO CITY	24.12	334.9	>	2	-1	9	8	1					
PERTH	29.85	206.5	5	57	2	10	45	5	6	25			
BRISBANE	30.27	138.6	5	58	-1	10	43	-4					
HONG KONG	32.19	329.8	6	15A	-1	11	12	-5			7	36	PP
CANTON	33.29	329.3	6	24A	-1	11	32	-2			7	54	PPP
RIVERVIEW	33.81	148.9	6	31K	1	11	46	4	7	3	7	50	PP
MELBOURNE	34.58	160.3	6	38	2	12	6	12	7	13	7	59	PP
YAKUSIMA	35.79	359.3	6	47	0	12	14	2					
KAGOSIMA	36.90	359.4	6	56	0	12	32	3					
MIYAZAKI	37.25	0.6	7	0K	1	12	39	4					
ZO-SE	37.62	346.2	7	3K	1	12	40	0	7	41	15	4	SS
TOMIE	38.01	357.0	7	5K	0	12	44	-2					
UNZENDAKE	38.06	359.0	7	8	2	12	48	1					
NAGASAKI	38.07	358.5	7	7	1	12	48	1					
NOUMEA	38.11	119.4	7	4	-2				7	31			
KUMAMOTO	38.15	359.6	7	6	0	12	49	1					
SIMIDU	38.16	2.7	7	7K	1	12	49	1					
ASOSAN	38.23	0.1	7	8	1	12	51	2					
OOITA	38.56	0.9	7	13	3	12	57	3					
SAGA	38.58	359.1	7	11K	1	12	57	2					
UWAZIMA	38.59	2.1	7	11K	1	12	54	-1					
HUKUOKA	38.91	359.3	7	13K	0	13	1	1					
KOTI	38.95	3.4	7	7	-6	13	15	15			17	16	SCS
SIOMISAKI	39.04	6.4	7	14	0	13	2	0					
NANKING	39.14	343.5	7	15K	0	13	4	1	8	53	15	57	SS
MATUYAMA	39.19	2.3	7	15	0	13	4	0					
FUTZELING	39.22	340.0	7	17	2								
SIMONOSEKI	39.27	359.9	7	16	0	13	4	-1					

	TOKUSIMA	39.54	4.7	7 19	1	13 9	0		
	ITUHARA	39.56	357.8	7 19	1				
	OWASE	39.70	6.8	7 19	0	13 12	1		
	HIROSIMA	39.72	1.9	7 19K	0	13 11	-1	16 20	SCS
	TAKAMATU	39.75	4.0	7 20	0	13 12	0		
	WAKAYAMA	39.75	5.4	7 21	1	13 22	10		
	SUMOTO	39.85	5.1	7 21K	1	13 14	0		
	HIMEJI	39.95	4.4	7 25	4	13 22	7		
	OKAYAMA	40.10	3.8	7 23	1	13 16	-1		
	KOBE	40.20	5.4	7 23	0	13 20	1		
	OSAKA	40.20	5.8	7 24K	1	13 21	2		
	HAMADA	40.24	1.4	7 23	-1	13 19	0		
	NARA	40.26	6.2	7 26	2	13 22	2		
	TU	40.39	7.1	7 23	-2	13 37	15		
J	OMAESAKI	40.51	9.2	7 27	1	13 22	-1		
	KAMEYAMA	40.51	7.0	7 27	1	13 25	2	16 34	SCS
	KYOTO	40.59	6.0	7 25	-2	13 23	-2		
	YONAGO	40.81	3.0	7 44	16				
	OSIMA	40.87	10.6	7 28	-1	13 23	-6		
	NAGOYA	40.88	7.5	7 30	1	13 30	1		
	HIKONE	40.89	6.6	7 29K	0	13 30	1		
	SHIZUOKA	40.90	9.3	7 29K	0	13 26	-3		
	TOYOOKA	41.01	4.8	7 30	0	13 32	1	16 33	SCS
	IBUKISAN	41.02	6.7	7 26	-4				
	GIHU	41.09	7.2	7 31K	0	13 27	-5		
	AJIRO	41.09	10.2	7 27	-4	13 25	-7		
	MERA	41.10	11.1	7 29	-2	13 31	-1		
	MISIMA	41.13	10.0	7 28K	-3				
	TSURUGA	41.25	6.3	7 30	-2				
	IIDA	41.35	8.5	7 33	0	13 37	1		
	HUNATU	41.48	9.6	7 33	-1	13 50	12		
	YOKOHAMA	41.56	10.7	7 33	-1	13 40	1		
	KOHU	41.57	9.3	7 32K	-3	13 29	-10		
	HUKUI	41.67	6.5	7 37	2	13 39	-1		
	TOKYO C.M.O.	41.82	10.7	7 36	-1	13 42	-1		
	TAKAYAMA	41.89	7.6	7 30	-7				
	TITIBU	42.00	9.8	7 36K	-2	13 45	0		
	TYOSI	42.08	12.0	7 39	0				
	MATUMOTO	42.08	8.5	7 39	0	13 45	-2		
	KANAZAWA	42.19	6.8	7 42	2				
	KUMAGAYA	42.21	10.1	7 41	1	13 45	-3		
	OIWAKE	42.25	9.1	7 39	-1	13 49	0		
	MAEBASI	42.40	9.7	7 39K	-2	13 33	-18	16 55	SCS
	TUKUBASAN	42.41	11.0	7 40	-1	13 49	-2	13 9	
	MATUSIRO	42.42	8.7	7 40K	-1	13 48	-3	10 3	PPP
	TOYAMA	42.42	7.4	7 43	1	13 53	2		
	KAKIOKA	42.44	11.1	7 42	0	13 38	-14		
	NAGANO	42.53	8.6	7 43	1	13 53	0		
	MITO	42.64	11.3	7 42	-1	13 55	0		
	UTUNOMIYA	42.69	10.6	7 41K	-3	13 54	-1	17 27	SCS
	WAZIMA	43.05	6.9	7 47	0	14 1	0	17 34	SCS
	ONAHAMA	43.28	11.6	7 53	5	14 4	0	17 11	SCS
	SHIRAKAWA	43.31	10.8	7 49	0	14 9	5	17 32	SCS
	AIKAWA	43.86	8.3	7 53	0	14 10	-2		
	NIIGATA	43.89	9.2	7 57	4	14 12	-1		
	HUKUSIMA	43.97	10.9	7 55	1	14 18	4		
	YAMAGATA	44.43	10.6	7 59	1	14 21	0		
	SENDAI	44.55	11.2	7 57K	-2	14 21	-1		
	SIAN	44.72	333.8	7 57	-3				
	ISINOMAKI	44.79	11.6	8 1	0	14 26	0		
	SAKATA	44.97	9.8	8 7	5	14 31	3		
	LINFEN	45.26	337.7	8 7	3				
	MIZUSAWA	45.43	11.1	8 7	1	14 35	0		
	AKITA	45.82	9.8	8 8	-1	14 44	4	17 32	SCS
	MORIOKA	45.99	11.0	8 10K	0	14 44	1		
	MIYAKO	46.10	11.8	8 10	-1	14 44	0		
	TAIYUAN	46.38	339.8	8 15	2				
	TIENSHUI	46.46	331.0	8 15	1				
	HATINOHE	46.86	11.0	8 16K	-1	14 56	1		
	AOMORI	47.00	10.2	8 19	1	14 59	2		
	PEKING	47.35	344.5	8 20K	-1	15 2	0	9 59	19 2 SCS
	KWANTING	47.69	344.1	8 24	1				
	HAKODATE	47.93	9.8	8 25	0				
	SUVA	47.96	109.4	8 25	0			18 15	SCS
	MORI	48.21	9.6	8 31	4	15 18	4	10 13	PP
	TATUNG	48.25	341.8	8 30	2				
	VLADIVOSTOK	48.44	0.9	8 29	0	15 20	3		
	MURORAN	48.50	9.9	8 29	-1				

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.

LANCHOW	48.60	330.5	8	32	2					
URAKAWA	48.67	11.7	8	32	1	15	21	0		
TOMAKOMAI	48.80	10.4	8	35	3					
SUTTSU	48.84	9.1	8	33	1	15	21	-2		
SHILLONG	48.96	311.0	8	31A	-2	15	18	-7	9 17	10 28 PP
SAPPORO	49.29	10.0	8	35K	-1	15	29	0	9 11	18 5 SCS
CHANGCHUN	49.41	354.6	8	35	-2	15	29	-2		18 11 SCS
YINCHUAN	49.42	334.4	8	38	1					
OBIHIRO	49.49	11.8	8	37	0					
PAOTOW	49.76	339.1	8	40	1					
KUSIRO	49.81	12.9	8	40	0	15	37	1		10 24 PP
ONERAHI	49.91	133.1	8	59	19				9 22	
SINING	50.05	329.2	8	44	3					
ASAHIGAWA	50.16	10.7	8	53	11					
NEMURO	50.41	13.8	8	42K	-2	15	43	-2		
WUWEI	50.64	331.0	8	46	0					
AUCKLAND	50.72	134.2				16	14	25	9 13	16 55 *SS
KAIMATA	51.35	142.1	8	53	2	16	0	2		9 30 *SP
COBB RIVER	51.38	139.9	8	52	0	16	3	5	9 11	16 42 *SS
WAKKANAI	51.63	9.6	8	45	-8	16	4	3		
KARAPIRO	51.71	135.0	8	54	0	16	18	15		9 29 *SP
TONGARIRO	52.31	136.4	8	58	0					9 33 *SP
CHANGYEH	52.43	330.1	9	2	3					
COLOMBO	52.47	283.0	9	1A	1	16	20	7	9 44	17 33 *SS
CHRISTCHURCH	52.64	142.5	9	2	1	16	20	5		17 9 *SS
GEBBIES PASS	52.76	142.7	9	2	0	16	23	6		9 38 *SP
KURILSK	52.76	15.0	9	1	-1					
WELLINGTON	52.81	139.1	9	1K	-1	16	11	-6	9 24	9 36 *SP
CHATRA	53.21	309.4	9	7	2	16	33	10		
TUAI	53.25	135.3	9	6	1	16	23	0		9 38 *SP
MADRAS	53.71	290.4	9	9A	0	16	33	3	9 53	10 13 PCP
MACQUARIE I.	53.80	160.2	9	10	1				9 44	
UGLEGORSK	55.25	8.9	9	20K	0	16	52	2		
YUMEN	55.27	328.7	9	22	2					
KODAIKANAL	55.54	286.3	10	22A	60	18	1	67		
HYDERABAD	56.65	294.9	9	27A	-3	17	9	0		11 28 PP
APIA	56.92	102.8	9	32	0					14 0
POONA	61.16	294.5	9	59	-2	18	8	1		22 4 SS
NEW DELHI	61.85	306.4	10	2	-4	18	11	-5		22 21 SS
IRKUTSK	61.90	341.8	10	5A	-1	18	21	5		
DEHRA DUN	61.91	308.6	10	6	0	18	18	2		22 19 SS
BOMBAY	62.20	294.6	10	6	-2	18	20	0	10 45	12 25 PP
PETROPAVLOVK	62.96	18.3	10	10	-3					
LAHORE	65.33	308.3	10	27	-1	18	52	-7		
MIRNY	66.30	195.6	10	34	-1	19	13	2		
KLYUCHI	66.32	17.6	10	34K	-1	19	13	2		20 20 SCS
MAGADAN	66.77	10.8	10	37K	-1	19	20	4		
FRUNSE	70.12	319.4	10	58A	0	20	0	4		11 16 PCP
SEMIPALATNSK	70.75	328.4	11	1	-1	19	58	-5		20 47 SCS
QUETTA	70.75	304.5	11	2A	0	20	6	3	11 31	11 21 PCP
STALINABAD	72.27	313.3	11	11	0	20	22	2		
TASHKENT	72.99	316.1				20	32	3		14 0 PP
HONOLULU	74.42	66.2	11	25	2					
SCOTT BASE	74.65	172.6	11	26	1					14 19 PP
TIKSI	77.03	359.3	11	37	-1	21	11	-2		14 44 PP
ASHKABAD	79.84	310.0	11	55A	2	21	46	3	12 25	22 8 SCS
TANANARIVE	82.02	251.7	12	7K	2	22	16	11	12 19	
SVERDLOVSK	84.03	328.6	12	15	0	22	25	0		15 28 PP
TIFLIS	90.79	311.7	12	48	0	23	34	5		23 6 SKS
COLLEGE	91.25	25.0	12	48K	-2	23	28	-5		23 4 SKS
PIETERMZBURG	96.42	239.5	13	27K	14					
MOSCOW	96.42	325.4	13	13	0	24	13	-4		23 38 SKS
SITKA	96.63	33.3	13	14	0	23	40	-39	13 55	17 18 PP
KSARA	97.28	303.3	13	30	13	24	41	17		19 45 PPP
JERUSALEM	97.77	301.2	13	20	1					
APATITY	97.97	337.4	13	19	-1	24	27	-3	14 1	23 43 SKS
GRAHAMSTOWN	98.91	235.2	13	37	12					
PRETORIA	99.05	242.9	13	22A	-3					
PULKOVO	100.12	329.7	13	30	0	24	47	-1	13 51	23 55 SKS
SODANKYLA	100.59	337.6	13	31	-1	25	49	57	14 12	23 55 SKS
ASTRIDA	100.92	266.3	13	34	0					
UVIRA	101.43	265.3	13	37	1					
LWIRO	101.88	266.5	13	33	-5					
KIRUNA	102.78	338.6	13	41	-1	25	7	-4		24 6 SKS
IASI	103.15	317.1	13	47	4	24	51	-23		
HORSESHOE B.	104.43	40.5	13	50A	1					
VICTORIA	104.46	41.4	13	50K	1					
BUCHAREST	104.47	314.3				24	20	-65		16 48
HERMANUS	104.53	232.5				24	23	-62		18 45

CORVALLIS	105.07	45.4	13	55	777						18	15 PP
LWOW	105.13	320.1	13	56	777	24	20	-48			18	55 PP
SEATTLE	105.33	42.2	13	56	777	24	27	-42			19	11 PP
UKIAH	105.74	51.0	13	58	777						18	17 PP
RESOLUTE	106.06	11.5	13	57K	777	24	25	-1			18	22 PP
SHASTA	106.20	49.3	13	59K	777						18	4 PP
UPPSALA	106.37	331.1	13	56K	777	25	38	1			24	22 SKS
WARSAW	106.53	322.9	18	6	777	25	10	2			18	32 PP
BERKELEY	106.61	52.3	14	1K	777	24	30	-1			17	55 PKP
SOFIA	106.69	312.8	14	0	777						18	24 PP
MINERAL	106.84	49.6	14	1K	777						18	1 PKP2
SANTA CLARA	106.91	52.8	18	24A	777	24	32	1				
SKALSTUGAN	107.43	335.7	14	3	777						29	25 PKKP
KRAKOW	107.68	320.8	13	56	777	25	18	-1			18	34 PP
TIMISOARA	107.70	316.2				25	33	-29			19	32
RENO	108.31	50.3	14	9K	777						18	38 PP
BELGRADE	108.40	315.4	18	11	777	24	37	0			33	41 SS
RACIBORZ	108.76	321.1	13	53	777						18	28 PP
KING RANCH	108.91	54.7	18	15	777						14	12 P
BANFF	108.92	37.6	14	10K	777							
WOODY	109.58	54.2	18	16	777						14	14 P
TINEMAHA	109.90	52.7	18	18	777						14	18 P
ISABELLA	109.90	54.2	18	14	777				14	56	14	15 P
PASADENA	110.34	55.7	18	17	3	26	20	101	15	0	14	17 P
COPENHAGEN	110.38	327.9	17	59	-15						14	17 P
CHINA LAKE	110.58	53.9	18	34	19						14	19 P
HUNGRY HORSE	110.61	40.2	18	17	2						14	18 P
RIVERSIDE	111.01	55.8	18	20	4	24	48	6	15	6	14	20 P
PRAGUE	111.10	321.8	17	58	-18	26	23	101			14	22 P
EUREKA	111.25	49.8	18	28	12						14	22 P
PALOMAR	111.52	56.4	18	21	4				15	9	14	23 P
TARANTO	111.56	311.3									25	49
BARRETT	111.77	57.1	18	16	-1						14	27 P
BERGEN	111.80	334.3				26	25	100			28	24 PS
BUTTE	112.20	42.4	14	25K	-233	24	53	6			19	6 PP
CHEB	112.35	322.3	18	12	-6	26	29	102			33	47 SS
HAYFIELD	112.49	55.9	18	24	6	24	56	8			14	29 P
HAMBURG	112.50	326.4	19	13	55	25	57	69			28	24 SP
JENA	112.54	323.3	18	46	28				19	15	14	26 P
BOULDER CITY	112.77	53.4	18	22	3						14	24 P
TRIESTE	112.81	317.4	18	25	6	24	52	3	19	1	26	36 S
SCORESBY SD.	112.84	350.4				25	48	59			19	4 PP
REGGIO CALA.	113.25	309.1	18	54	34	24	54	3				
MESSINA	113.31	309.2	18	23K	3	24	53	2	18	50	19	13 PP
BOZEMAN	113.32	42.4	14	29	-231	24	48	-3			25	56 SKKS
SALT LAKE C.	114.06	47.7	14	38K	-224						19	17 PP
WITTEVEEN	114.62	326.5	18	19	-4						19	9 PP
ROME	114.72	313.7	18	33A	10	25	7	11			19	23 PP
STUTTGART	114.75	321.7	18	25	2				18	45	26	57 SKKS
BOLOGNA	114.79	316.8									19	30 PP
TUBINGEN	114.92	321.5	18	23	0						19	37 PP
FLORENCE X.	115.06	316.0	18	23	0						27	1
EBINGEN	115.11	321.2	18	23	-1						19	40 PP
PRATO	115.13	316.2	18	35	11						30	9
ZURICH	115.64	320.5	18	29	4						19	28
STRASBOURG	115.70	321.9	18	28	3				19	15	35	23 SS
DE BILT	115.76	326.2									19	33 PP
PAVIA	116.03	318.0									19	20 PP
BASLE	116.22	320.9	18	39	13							
OROPA	116.67	318.8									19	17 PP
TUCSON	116.71	56.7	18	29	2	27	22	138			14	46 P
NEUCHATEL	116.81	320.5	18	28	1							
BESANCON	117.33	321.1	18	30	2				19	23		
MONACO	117.69	317.0	18	32	3						19	51 PP
PARIS	118.78	323.8	18	27	-4				19	11		
KEW	119.06	327.5	19	20	49	27	30	138			20	0 PP
RAPID CITY	119.11	42.0	18	33	2						15	6 P
CLERMONT-FD.	119.74	320.5	18	38	5							
RATHFARNHAM	121.03	331.6	19	26	51	25	24	5	20	13		
CHIHUAHUA	121.44	59.8									20	5 PP
ALGIERS UNI.	123.25	310.8	18	41	2				19	22	32	10 SKKP
LUBBOCK	123.71	53.1	18	43	3	25	35	8			20	24 PP
TAMANRASSET	124.73	293.8	18	45A	3	25	37	7	19	22	15	13 P
ALICANTE	125.26	313.8	18	40	-3	25	28	-4			30	41 PS
RELIZANE	125.50	310.5	18	47	3				19	26	20	48 PP
TOLEDO	127.09	317.0	18	49	2						20	49 PP
ALMERIA	127.32	312.9	18	50	3							
GRANADA	128.00	313.8									21	41

FAYETTEVILLE	128.66	47.4								18	52 PP
MALAGA	128.77	313.6	18	49A	-1						
SCHEFFERVLLE	128.84	13.0	18	45	-5						
TACUBAYA	129.31	69.5	18	56	5				19 20	20	58 PP
KIRKLAND LA.	129.98	26.8	18	54K	2					22	5 SKP
LOME	130.02	273.3				27	56 131			22	7
FLORISSANT	130.08	42.4	18	56	4	27	48 123			21	5 PP
ST. LOUIS 1	130.25	42.5	18	43	-10					22	5 SKP
LITTLE ROCK	130.58	48.0	18	54	1					22	9 SKP
TERRE HAUTE	131.65	40.0	15	17	-218					22	12
OAXACA	131.94	72.2								22	27
VERA CRUZ	132.20	69.1	18	52	-4						
CINCINNATI	133.68	38.6	19	4	5					23	20
OTTAWA	134.00	26.1	18	46K	-14				19 38	38	57 SS
SHAWINIGAN	134.28	22.8	18	48	-11				19 42	21	23 PP
BUFFALO L.	134.52	30.6	18	47	-14						
SEVEN FALLS	134.53	20.8	19	2	1						
PITTSBURGH	135.54	34.0	18	37	-26					22	24
MORGANTOWN	136.09	34.9	18	50	-14					21	32
PENNSYLVANIA	136.42	32.1	19	51	47					21	45 PP
MERIDA	137.78	64.8	19	11K	4	28	37 156			21	53 PP
PALISADES	138.25	28.6	18	57	-11	28	36 154		19 52	21	48
WESTON	138.32	25.0	18	59	-9						
FORDHAM	138.39	28.7	19	1	-7					22	45 PKS
COLUMBIA	139.00	42.1	19	2	-7					21	58 PP
HALIFAX	139.04	15.9	18	59	-10				19 48		
CHAPEL HILL	139.08	38.3	19	11	2					19	43
MBOUR	147.26	288.0	19	30	6	26	36 21		20 11	22	56 PP
HUANCAYO	148.55	123.8	19	34	8					42	17 SS
BERMUDA	149.56	26.8	19	33	6				20 17	34	24 SKKS
LA PAZ	151.08	139.5	19	35	6				20 7	42	33 SS
CHINCHINA	153.52	90.0	19	36	3				19 57	20	26 PKP2
GALERAZAMBA	153.52	77.0	19	37	4	30	17 234			20	0 PKP2
BOGOTA	155.04	90.9	19	40	5					43	12 SS
SAN JUAN	159.00	51.1	19	43	3				20 21	23	55 PP
ANTIGUA	163.55	45.1	19	47	2				20 24	21	20
FORT FRANCE	164.99	51.6	19	49	3					20	47 PKP2
ST. LUCIA	165.51	53.5	19	49	3				20 34	20	49 PKP2
ST. VINCENT	165.75	57.0	19	48	1				20 32	20	49 PKP2
TRINIDAD	166.63	66.8	19	52	5						
BARBADOS	167.14	53.4	20	59	71						

MARCH 24 8.H 22.M 22.S EPICENTRE 50.89-130.36 DEPTH= 0.KM

A=-0.41015 B=-0.48265 C= 0.77384 D=-0.7620 E= 0.6476
G=-0.5011 H=-0.5897 K=-0.6334 HT= -5.7

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
ALBERNI	3.92	112.3	1	0	-3	1	44	-7				
HORSESHOE B.	4.80	105.6	1	14	-1	2	11	-2				
VICTORIA	5.09	115.1	1	16	-3	2	37	17			1	40 PG
SEATTLE	6.19	118.5	1	39A	4	3	6	19				
SITKA	6.83	336.6	1	40	-4	2	58	-5				
CORVALLIS	7.90	140.3	2	1A	2	4	34	64				
BANFF	9.35	82.5	2	19	0	4	57	51				
HUNGRY HORSE	10.89	97.2	2	40	0							
ARCATA	10.92	154.0	2	41	0							
SHASTA	11.60	148.4	2	50A	0							
MINERAL	12.18	146.5	2	58A	0							
BUTTE	12.76	105.5	3	5	-1	5	43	13				
UKIAH	12.79	154.1	3	6A	0							
RENO	13.55	142.8	3	17A	1							
BOZEMAN	13.86	104.6	3	16	-4							
BERKELEY	14.23	153.0	3	24A	-1	6	17	12				
SANTA CLARA	14.81	152.9	3	34K	1	6	43	25				
SASKATOON	14.81	76.0	4	37	64	7	13	54				
LICK	14.91	152.0	3	32A	-2							
EUREKA	15.23	133.0	3	37A	-1							
FRESNO	16.01	147.8	3	48A	0	7	12	25				
TINEMAHA	16.32	143.3	3	53A	1							
SALT LAKE C.	16.35	121.1	3	52A	-1	7	1	6				
COLLEGE	16.72	333.5	3	55A	-2	6	48	-15				
WOODY	17.30	146.9	4	4A	-1							
KING RANCH	17.35	149.6	4	5A	0							

ISABELLA	17.47	146.0	4	7A	0				4	40
CHINA LAKE	17.65	143.7	4	12A	3					
BOULDER CITY	18.63	137.2	4	20A	-1					
PASADENA	18.94	147.4	4	24A	-1					
RIVERSIDE	19.36	145.8	4	27A	-3					
RAPID CITY	19.50	99.9	4	29K	-2	8	2	-4		
PALOMAR	20.13	145.4	4	37A	-1					
HAYFIELD	20.27	142.3	4	38	-2					
BOULDER	20.56	112.2	4	42	0					
BARRETT	20.80	145.8	4	47A	2					
TUCSON	23.54	134.8	5	12A	-1	9	45	21		
RESOLUTE	27.97	19.2	5	34	-20	9	46	-52		
CHIHUAHUA	28.79	131.4				11	0	9	10	2
FAYETTEVILLE	29.77	105.7	6	13	2	11	13	6		
FLORISSANT	30.45	97.7	6	15	-2	11	18	1		
CHICAGO CGS.	30.52	90.5				11	15	-3		
ST. LOUIS 1	30.63	97.8	6	17	-1	11	19	-1	7	18 PP
LITTLE ROCK	31.77	105.7	6	30	2					
TERRE HAUTE	31.91	94.1	7	23	54	14	53	193		
KIRKLAND LA.	32.26	74.9	6	32	0	12	44	58		
CINCINNATI	33.94	92.1	6	49	2				14	56
BUFFALO L.	35.60	82.4	6	58	-3					
OTTAWA	36.15	76.9	6	45A	-21	12	46	0	8	31 PP
MORGANTOWN	36.55	87.9	7	11	2					
SHAWINIGAN	37.41	73.5	7	15	-2				8	40 PP
SEVEN FALLS	38.31	71.7	7	26	2	13	15	-4		
PALISADES	39.58	81.8	7	34	-1	13	41	3	16	9 SS
FORDHAM	39.69	82.0	7	38	2				9	8 PP
TACUBAYA	39.90	130.4	7	43	6	13	33	-10	9	16 PP
WESTON	40.44	78.4	7	43	1				16	44 SS
OAXACA	43.12	129.3							15	43
MERIDA	43.64	117.9	8	14	6	14	44	6	18	8 SCS
TIKSI	45.86	334.3	8	24	-2					
BERMUDA	50.72	85.0				16	18	-1	19	30 SS
KIRUNA	59.59	12.4	10	6	-2	18	24	7		
SAN JUAN	59.74	98.0	10	7K	-2					
GALERAZAMBA	60.00	111.5	10	13	2	18	36	13		
SODANKYLA	60.80	10.0	10	14	-2					
SKALSTUGAN	62.17	17.9	10	25K	-1					
MATUSIRO	63.50	295.9	10	30K	-4	19	21	14		
CHINCHINA	64.47	115.6	10	38	-3	19	26	7		
CHANGCHUN	65.13	309.4	10	43	-2					
FORT FRANCE	65.60	96.7	10	51	3	19	35	2		
BOGOTA	65.65	114.5	10	53	5	19	42	8		
UPPSALA	66.62	17.0	10	53	-1					
IRKUTSK	67.33	327.1	10	54	-5					
HELSINKI	67.52	13.1	10	57	-3				11	25 PCP
PULKOVO	68.59	10.4	11	11	4	20	10	1		
KEW	69.58	30.7	11	13	0	20	26	5	20	56 SS
HAMBURG	70.71	23.8	11	21	1					
SVERDLOVSK	72.26	353.7	11	28	-1					
PEKING	72.42	312.4	11	31	1					
PARIS	72.79	30.5	11	34	2				21	37 SCS
MOSCOW	73.28	7.1	11	35	0					
JENA	73.53	24.0	11	36	-1					
KARLSRUHE	74.41	26.8	11	38	-4					
WARSAW	74.44	17.8	11	45	3					
STRASBOURG	74.61	27.4	11	43	0				14	32 PP
STUTTGART	74.85	26.4	11	44	0					
EBINGEN	75.32	26.8	11	46	-1					
SEMIPALATNSK	75.77	340.4	11	50	0					
KRAKOW	76.29	19.2	10	49	-63					
ZO-SE	76.96	303.4	11	57	1	21	45	1		
LWOW	77.30	16.7	13	35	97	25	21	213		
BRATISLAVA	77.44	21.6	11	59	0					
PAVIA	78.10	28.0							39	26
HUANCAYO	78.78	125.2	12	10	4	22	12	8		
TRIESTE	78.95	24.8	12	13	6	22	16	10	22	26 SKS
GRANADA	80.62	40.4	12	25	9	22	53	30		
MALAGA	80.69	41.2	12	21K	5					
KISHINEV	80.84	14.3	12	17	0					
ALICANTE	80.86	37.7	12	13	-4	22	19	-7		
BELGRADE	81.37	20.6	12	21A	1					
ROME	82.07	27.1							23	24
ALGIERS UNI.	83.59	35.9	12	36	5	22	58	5	15	52 PP
SIMFEROPOL	83.60	11.0	12	35	3	22	56	3		
FRUNSE	84.12	341.8	12	35	1					
TARANTO	84.71	24.2							20	43
SOTCHI	85.52	7.2	12	45	4	23	13	1		

LA PAZ	86.29	121.7	12	44	-1	23	14	-6		24	32 PS
MESSINA	86.37	26.3								11	59
NAMANGAN	86.50	343.5	12	46	0						
TIFLIS	87.68	3.6	12	53	1						
HONG KONG	87.73	303.2				23	21	-13			
KSARA	94.79	11.5	13	33	8	24	41	5		17	19 PP
DEHRA DUN	95.34	335.6								24	8
TAMANRASSET	96.99	40.3	13	36	1					17	31 PP
BOMBAY	107.58	337.0								18	57
RIVERVIEW	108.88	239.6	14	6A	777						
TANANARIVE	148.06	3.7								19	53 PKP2
PRETORIA	149.99	41.3								19	54 PKP2
KIMBERLEY	151.03	49.7	19	56	7						

MARCH 24 11.H 6.M 10.S EPICENTRE 52.39-169.68 DEPTH= 0.KM

A=-0.60292 B=-0.10977 C= 0.79022 D=-0.1791 E= 0.9838
G=-0.7774 H=-0.1415 K=-0.6128 HT= -6.3
SE= 2.15

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
COLLEGE	16.78	33.4	3	58	0	7	11	6				
PETROPAVLOVK	19.10	284.8	4	27	0							
SITKA	20.24	63.1	4	38	-2	8	27	5			5	19
HONOLULU	32.31	159.5	6	29	-4							
BANFF	32.86	70.1	6	36A	-2							
SHASTA	33.97	91.0	6	47	0							
UKIAH	34.41	93.9	6	57	6							
MINERAL	34.66	90.8	6	54	1							
HUNGRY HORSE	34.98	73.9	6	55	-1						9	27 PCP
BERKELEY	35.79	94.8	7	2	-1	12	39	-2				
RENO	36.25	90.5	7	13A	6							
SANTA CLARA	36.31	95.2									8	15 PP
LICK	36.50	94.9	7	7	-2							
BUTTE	37.00	76.5	7	15	2							
FRESNO	37.99	94.1	7	21	-1							
BOZEMAN	38.09	76.1	7	18	-4							
EUREKA	38.64	87.6	7	26	-1							
TINEMAHA	38.77	92.4	7	27	-1							
KING RANCH	38.98	95.8	7	36	6							
WOODY	39.27	94.6	7	29	-3							
MATUSIRO	39.49	267.5	7	34A	0	13	27	-10				
ISABELLA	39.53	94.3	7	34	0							
CHINA LAKE	39.96	93.4	7	39	1							
SALT LAKE C.	40.37	83.0	7	40	-1							
PASADENA	40.72	95.8	7	43	-1	14	17	22				
RIVERSIDE	41.32	95.3	7	48	-1							
BOULDER CITY	41.55	90.9	7	49	-2							
BOULDER CITY	41.55	90.9	7	49	-2							
PALOMAR	42.07	95.5	7	54	-1							
HAYFIELD	42.57	94.1	8	5	6							
BARRETT	42.64	96.1	8	5	5							
CHANGCHUN	42.89	285.4	9	3A	61	16	35	128				
RAPID CITY	43.61	73.4	8	6	-2							
LARAMIE	43.84	78.1	8	7	-3							
BOULDER	44.79	79.3	8	16	-1							
TUCSON	46.51	91.7	8	29	-2							
IRKUTSK	49.48	306.3	8	54	0							
TATUNG	52.24	289.0	9	11	-4							
ZO-SE	53.60	275.2	9	27A	2	17	18	20				
KIRKLAND LA.	53.88	56.0	9	27	0							
FAYETTEVILLE	54.00	75.8	9	25	-3							
NANKING	54.39	277.8	9	30A	-1	17	21	12				
SCORESBY SD.	55.25	12.6	9	37	0							
OTTAWA	57.93	56.0	9	54A	-2						10	57 PCP
BUFFALO L.	58.16	59.9	9	56	-2							
SHAWINIGAN	58.60	53.4	9	59	-2						11	3 PCP
SIAN	58.76	286.7	10	6	4							
APATITY	59.13	349.9	10	4	-1	18	5	-7			22	18 SS
SEVEN FALLS	59.15	51.8	10	6	1							
MORGANTOWN	59.72	63.4	10	8A	-1							
KIRUNA	59.86	355.6	10	9	-1	18	37	16				
SODANKYLA	59.93	352.8	10	10	0							
SEMIPALATNSK	61.80	317.0	10	21	-2							
PALISADES	61.97	58.5	10	22	-2	18	45	-3			23	37 SS

TACUBAYA	62.99	93.0	10 32	1			14 28 PPP
SVERDLOVSK	63.58	331.8	10 33	-2			
CANTON	64.24	274.8	10 39	0			
HONG KONG	64.28	273.6	10 39	0	19 24	7	
SKALSTUGAN	64.36	359.0	10 39A	-1			
BAGUIO CITY	64.81	264.3			19 39	16	
RABAUL	64.96	222.8	10 40	-4			
APIA	65.94	182.2	11 4	14			
MANILA	65.98	262.7					9 52
PULKOVO	67.03	349.2	10 57	0			
HELSINKI	67.17	352.1	10 57	-1			
MERIDA	67.68	84.4			19 50	-8	
UPPSALA	67.96	356.0	11 2A	-1			
MOSCOW	69.90	344.0	11 14	-1			
FRUNSE	70.11	315.2	11 17	1	20 46	19	
NAMANGAN	72.92	316.0	11 34	1	21 20	21	
BERMUDA	73.33	58.6	11 34	-1	21 0	-4	25 46 SS
RATHFARNHAM	73.77	10.3	11 36K	-2			12 5 PCP
HAMBURG	74.41	0.2	11 43	1			
SHILLONG	75.06	292.4	11 42A	-4	21 22	-1	11 54 PCP
WITTEVEEN	75.12	2.3	11 47	1			
WARSAW	75.36	353.2	11 48	1			21 52 SKS
CHATRA	76.69	296.6	11 55	0			
JENA	77.05	359.2	11 57	0			
LWOW	77.49	351.0	13 1	62			
KRAKOW	77.61	353.7	12 1	1			12 15 PCP
RACIBORZ	77.69	354.8	11 58	-2			
PRAGUE	77.86	357.3	12 2	1			12 11 PCP
DEHRA DUN	78.69	305.3					22 21
PARIS	78.96	5.3	12 8K	1	22 10	4	12 15 PCP
KARLSRUHE	78.96	1.3	12 8	1			
STUTTGART	79.21	0.8	12 9A	0	22 29	21	12 20 PCP
STRASBOURG	79.38	1.7	12 10A	0	22 14	4	28 2
TUBINGEN	79.45	0.8	12 12	2			
LAHORE	79.50	308.7	12 10	0			
BRATISLAVA	79.65	355.4	12 12	1			
IASI	79.69	348.1	12 12	1			
KISHINEV	79.71	347.2	12 12	1			
EBINGEN	79.80	0.9	12 13A	1			12 23 PCP
BASLE	80.43	1.9	12 16A	1			
BESANCON	80.67	3.0	12 17	1			
SIMFEROPOL	80.90	343.1	12 19	1	22 43	17	
NEUCHATEL	80.95	2.3	12 18	0			
SOTCHI	81.09	338.8	12 19	0			
TIFLIS	81.62	334.6	12 22	1			
CLERMONT-FD.	82.02	5.1	12 25	2			
TRIESTE	82.29	357.6	12 25	0			
BELGRADE	82.78	352.8	12 28A	1	22 59	14	23 12 SKKS
SAN JUAN	83.62	68.3	12 30	-2			
QUETTA	84.07	313.4	12 35A	1	23 0	2	
FLORENCE X.	84.20	359.3	12 35	0	23 18	18	
MONACO	84.22	2.1	12 36	1			
BRISBANE	85.96	212.7	12 44	1			
ROME	86.07	358.4	12 45A	1	23 27	9	24 16 PS
TARANTO	87.32	354.7					23 35
KARACHI	87.74	311.1	12 57	5	23 43	9	
MESSINA	89.67	355.9	12 58	-3	23 47	-5	29 45 SS
MALAGA	90.33	11.8	13 4A	0			
POONA	90.55	301.9	13 6	1	23 54	-6	
BOMBAY	90.77	302.9	13 12	6	24 19	17	23 36 SKS
KSARA	91.29	338.9	13 9	0	24 7	1	16 51 PP
JERUSALEM	93.40	338.9	13 21	2			14 32
TAMANRASSET	105.03	4.6					17 57
LWIRO	127.71	336.4	19 10	2			
PRETORIA	150.17	326.2	19 54K	6			
PIETERMZBURG	152.84	319.1	20 9	17			
KIMBERLEY	154.05	329.9	20 2	9			
GRAHAMSTOWN	157.62	322.0					20 33 PKP2

MARCH 24 12.H 5.M 16.S EPICENTRE 36.55 70.92 DEPTH= 194.KM

DEPTH OF FOCUS= 0.025R

A= 0.26323 B= 0.76101 C= 0.59294 D= 0.9451 E=-0.3269
G= 0.1938 H= 0.5604 K=-0.8052 HT= -0.4

SE= 2.10

	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	
KHOROG	1.08	30.2	0	31	1	0	55	1					
KULYAB	1.63	326.3	0	35	0	1	2	0					
OBI-GARM	2.35	336.1	0	43	0	1	17	1					
KARA-SU	2.47	321.9	0	43	-1	1	16	-2					
GARM	2.49	348.8	0	45	1	1	17	-2					
STALINABAD	2.63	320.1	0	46	0	1	20	-1					
DZHERGETAL	2.68	5.0	0	48	1	1	23	1					
MURGAB	3.01	51.9	0	52	2	1	31	2					
FERGANA	3.88	9.7	1	1	0	1	46	-2					
ANDIJAN	4.34	14.7	1	6	-1	1	58	-1					
SAMARKAND	4.40	316.3	1	6	-2	1	56	-4					
NAMANGAN	4.46	7.3	1	9	0	2	0	-1					
LUNACHARSKOE	4.93	345.9	1	14	-1	2	9	-3					
TASHKENT	4.93	345.5	1	13	-2	2	6	-6					
LAHORE	5.73	149.5	1	23	-2	2	25	-6					
NARYN	6.28	37.5	1	34	2								
FRUNSE	6.92	22.9	1	40	0	2	57	-1					
BAIRAM ALI	7.11	281.1	1	39	-4	2	57	-6					
RYBACHE	7.11	32.5	1	43	0	3	7	4					
QUETTA	7.17	208.7	1	42	-2	2	59	-5			2	22	*SP
FABRICHNAYA	7.85	30.8	1	52	0								
PRZHEVALSK	8.27	42.0	1	58	0								
ALMATA-2	8.34	34.5	2	1	2	3	32	0			3	58	
DEHRA DUN	8.61	134.2	2	1	-1	3	31	-7			3	44	SS
KURMENTY	8.61	38.8	2	3	1								
ILI	8.76	30.6	2	3	-1								
NEW DELHI	9.55	144.6	2	10	-5	3	50	-10			4	12	SS
ASHKABAD	10.12	281.7	2	21	-1						5	2	
KARACHI	11.19	198.3	2	45	9	4	50	12					
KIZYL ARVAT	11.85	286.5	2	48	4								
SEMIPALATNSK	15.39	23.0	3	29	0								
CHATRA	16.87	120.5	3	47	1	6	59	10					
BOMBAY	17.66	174.1	1	17	-158						3	54	
POONA	18.14	171.0	4	0	0	7	14	1					
GORIS	19.58	286.1	4	14	-1	7	52	11					
TIFLIS	20.87	292.3	4	30	2	8	14	9			9	3	
SHILLONG	20.98	115.6	4	27	-2								
SVERDLOVSK	21.43	344.4	4	34	0								
MADRAS	24.88	158.1	5	11	4	9	48	35					
MOSCOW	29.57	321.0	5	48	-1						11	50	
PULKOVO	34.84	324.8	6	34	-1								
LWOW	36.09	306.6									7	46	
HELSINKI	37.49	323.8	6	57	0				7	39			
KRAKOW	38.74	306.8	7	7	0								
SODANKYLA	39.66	335.0	7	15	0				7	56	8	49	PP
UPPSALA	40.99	321.9	7	25	-1				8	8			
KIRUNA	42.01	334.1	7	34	0								
PRAGUE	42.28	307.0	7	44	8				8	42	8	56	*SP
JENA	44.03	308.4	7	51	1				8	55	9	47	
SKALSTUGAN	44.13	326.7	7	51	0				8	35			
STUTTGART	45.81	305.7	8	2	-2				8	58			
EBINGEN	46.05	304.9	8	7	1				8	55			
STRASBOURG	46.78	305.6							9	16			
PARIS	50.16	306.8	8	22	-16								
TAMANRASSET	57.48	275.6	9	30	-1				10	16	12	3	PP
PRETORIA	73.91	219.6	11	15	-1								
COLLEGE	74.46	16.1	11	18	-1				12	4	12	26	*SP
RABAUL	85.47	98.6	10	54	-83								

MARCH 25 0.H 39.M 27.S EPICENTRE 52.84-167.03 DEPTH= 0.KM

A=-0.59116 B=-0.13613 C= 0.79499 D=-0.2244 E= 0.9745
G=-0.7747 H=-0.1784 K=-0.6066 HT= -6.5

SE= 1.80

	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
COLLEGE	15.53	31.7	3	41	-1	6	45	9			4	18
SITKA	18.60	64.3	4	22	1	7	56	10				
PETROPAVLOVK	20.55	284.6	4	38	-5	7	54	-35				
HORSESHOE B.	27.37	79.5	5	51	2							
VICTORIA	27.64	81.3	5	51	-1							
SHASTA	32.38	93.9	6	34	0							

UKIAH	32.84	96.9	6 40	2				
MINERAL	33.07	93.7	6 41	1				
HUNGRY HORSE	33.30	76.0	6 42	0			17 7	SCS
BERKELEY	34.23	97.7	6 51	1	12 23	6		
RENO	34.65	93.3	6 55	2				
LICK	34.95	97.9	6 57	1				
BUTTE	35.32	78.7	6 58	-1	12 31	-3		
RESOLUTE	35.33	26.0	6 58A	-1				
BOZEMAN	36.41	78.3	7 8	0				
FRESNO	36.43	97.0	7 8	-1				
EUREKA	37.01	90.2	7 13	-1				
TINEMAHA	37.19	95.2	7 15	0				
KING RANCH	37.43	98.7	7 18	1				
WOODY	37.71	97.4	7 18	-1				
ISABELLA	37.97	97.1	7 22	0				
CHINA LAKE	38.39	96.2	7 24	-1				
SALT LAKE C.	38.72	85.4	7 27	-1				
PASADENA	39.18	98.6	7 33	1				
RIVERSIDE	39.76	98.1	7 36	-1				
BOULDER CITY	39.95	93.6	7 37	-1				
PALOMAR	40.52	98.3	7 43	0				
HAYFIELD	41.01	96.9	7 49	2				
BARRETT	41.10	98.9	7 47	-1				
MATUSIRO	41.12	269.1	7 48A	0	14 12	10		
RAPID CITY	41.93	75.5	7 55	1				
BOULDER	43.12	81.6	8 4	0				
CHANGCHUN	44.32	286.6	8 14A	0				
TUCSON	44.92	94.3	8 18	-1				
PEKING	52.00	288.4	9 13A	-1				
KIRKLAND LA.	52.28	57.7	9 15K	-1				
FAYETTEVILLE	52.33	77.9	9 13	-3				
SCHEFFERVLLE	54.18	44.6	9 31K	1			9 48	
ZO-SE	55.16	276.9	9 38A	1	17 24	5		
NANKING	55.92	279.5	9 41	-1	17 30	0		
OTTAWA	56.33	57.8	9 43K	-2				
SHAWINIGAN	57.03	55.1	9 49K	-1				
MORGANTOWN	58.07	65.3	9 55	-3				
KIRUNA	59.52	356.7	10 6	-2				
SODANKYLA	59.67	353.9	10 8	-1			10 54	PCP
PALISADES	60.35	60.4	10 11	-3	18 28	0	12 48	PP
TACUBAYA	61.41	95.4	10 19	-2	18 42	1	12 33	PP
COLUMBIA	61.47	70.6	10 20	-1				
SEMIPALATNSK	62.55	318.3	10 26	-2				
SKALSTUGAN	63.92	0.3	10 35	-2				
SVERDLOVSK	63.93	333.1	10 36	-1				
RABAUL	66.41	225.3	10 51	-2			11 24	PCP
BAGUIO CITY	66.45	266.2	10 53	-1				
PULKOVO	66.88	350.6	10 57	1	19 25	-24		
HELSINKI	66.93	353.5	10 56	-1				
UPPSALA	67.60	357.5	11 0	-1				
MOSCOW	69.90	345.4	11 15	0				
FRUNSE	70.91	316.8	11 22	1				
BERMUDA	71.71	60.5			20 45	-1	25 30	SS
RATHFARNHAM	73.02	11.9	11 33K	-1				
NAMANGAN	73.70	317.6	11 39	1				
HAMBURG	73.93	1.9	11 41	2				
WITTEVEEN	74.58	4.0	11 45	2				
WARSAW	75.09	354.9	11 46	0				
KEW	75.46	8.5	11 48	0				
SHILLONG	76.36	294.2	11 51A	-2				
JENA	76.60	0.9	11 55	1				
LWOW	77.28	352.7	11 58	0				
KRAKOW	77.32	355.4	12 0	2				
RACIBORZ	77.36	356.5	11 57	-2				
PRAGUE	77.46	359.0	12 0	1				
PARIS	78.34	7.1	12 5A	1			12 14	PCP
STUTTGART	78.72	2.5	12 7A	1			12 27	
STRASBOURG	78.86	3.5	12 8A	1			12 31	
TUBINGEN	78.95	2.6	12 9	2				
EBINGEN	79.30	2.7	12 11A	2				
BRATISLAVA	79.31	357.2	12 12	3				
IASI	79.56	349.9	12 12	1				
KISHINEV	79.60	349.0	12 11	0				
DEHRA DUN	79.73	307.2			22 36	22		
BASLE	79.90	3.7	12 13A	0				
BESANCON	80.11	4.8	11 56	-18			12 39	
NEUCHATEL	80.41	4.2	12 16	1				
LAHORE	80.46	310.6	12 16	0				
SIMFEROPOL	80.91	345.0	12 20	2				

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SOTCHI	81.23	340.7	12	11	-9						
TRIESTE	81.89	359.4	12	19	-4						
BELGRADE	82.51	354.6	12	27A	1						
MONACO	83.69	4.0	12	35	3				12	53	
FLORENCE X.	83.75	1.3	12	34	1	23	17	22	13	4	
QUETTA	84.91	315.3	12	40A	2	23	15	8	23	5	SKS
ROME	85.64	0.4	12	43	1	23	26	12	24	52	PPS
KARACHI	88.64	313.1	13	3	6						
ST. VINCENT	88.88	69.7	12	59	1						
KSARA	91.42	341.1	13	12	2						
JERUSALEM	93.53	341.1	13	23	4						
RIVERVIEW	93.68	213.8	13	22A	2						
LWIRO	127.89	339.8	19	11K	3						
PRETORIA	150.62	331.2							19	54	PKP2
PIETERMZBURG	153.49	324.2							20	4	PKP2
KIMBERLEY	154.39	335.4	19	49	-5						

MARCH 25 2.H 28.M 33.S EPICENTRE 13.11 -91.08 DEPTH= 0.KM

A=-0.01838 B=-0.97408 C= 0.22544 D=-0.9998 E= 0.0189
G=-0.0043 H=-0.2254 K=-0.9743 HT= 6.1

SE= 2.37

	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 SALVADOR	1.90	71.0	0	36A	1	1	7	7					
SANTIAGO MA.	2.57	81.3	0	47	3	1	23	7					
COMITAN	3.28	342.1	0	50	-4								
OAXACA	6.73	306.0	1	47	4	3	5	4					
VERA CRUZ	7.75	321.9	2	2	5								
MERIDA	7.92	10.0	2	3K	3	3	36	5			4	27	
TACUBAYA	9.99	309.8	2	31A	3	4	21	-1					
GUADALAJARA	13.91	304.4	3	22	1								
GALERAZAMBA	15.64	96.8	3	53	9	6	50	12					
CHINCHINA	17.27	116.5	4	3	-2						7	33	
BOGOTA	18.79	115.2	4	26	3	8	5	14			4	50	PP
CHIHUAHUA	20.81	320.2	4	51	5	7	31	-63			9	12	SS
LUBBOCK	22.61	336.1	5	4	0								
COLUMBIA	22.71	22.1	5	5	0	9	12	2					
FAYETTEVILLE	23.05	353.6	5	8K	0	9	31	15					
TUCSON	26.27	319.7	5	40	1	10	34	23					
MORGANTOWN	28.18	18.4	5	54K	-3								
HUANCAYO	29.48	147.3	6	10	2	10	27	-35					
BOULDER	29.59	337.5	6	9	0								
BARRETT	30.44	314.0	6	15K	-2								
BERMUDA	30.85	47.2	7	9	49	11	49	25					
PALOMAR	30.94	314.9	6	22	1						6	42	
BOULDER CITY	31.22	320.9	6	23	-1								
PALISADES	31.59	25.2	7	14	47	11	34	-2					
RIVERSIDE	31.66	315.5	6	26	-2						9	18	PP
PASADENA	32.30	315.0	6	33	0	12	21	34			9	19	PP
RAPID CITY	32.56	343.7	6	36	0						7	36	PP
CHINA LAKE	32.88	318.0	6	37	-1						9	20	PP
SALT LAKE C.	33.02	330.4	6	41	2								
ISABELLA	33.35	317.0	6	42K	0						9	22	PP
WOODY	33.64	316.8	6	45K	0						9	23	PP
KING RANCH	34.02	315.5	6	49	1								
TINEMAHA	34.03	319.3	6	48K	0						9	24	PP
EUREKA	34.23	324.6	6	50	0								
OTTAWA	34.73	19.1	6	52A	-2								
FRESNO	34.87	317.6	6	54	-1								
KIRKLAND LA.	36.12	12.6	7	5K	-1								
LICK	36.41	316.9	7	8	-1								
RENO	36.53	321.4	7	11	1								
BOZEMAN	36.60	336.3	7	11	1								
SHAWINIGAN	36.73	21.3	7	9A	-2								
BERKELEY	37.11	317.2	7	14	0								
LA PAZ	37.15	141.7	7	11	-4	13	0	-2					
BUTTE	37.50	335.2	7	20	2						8	48	PP
MINERAL	38.11	321.0	7	23	0								
UKIAH	38.43	318.3	7	37	11								
SHASTA	38.80	320.9	7	27	-2								
HUNGRY HORSE	39.97	336.1	7	39	1						9	42	PPP
BANFF	42.82	337.4	8	2	0								
VICTORIA	44.30	329.4	8	12	-2								

HORSESHOE B.	44.81	330.4	8 17A	-1
RESOLUTE	61.59	358.8	10 19K	-3
COLLEGE	64.40	336.7	10 38	-3
BESANCON	85.21	42.7	12 34	-6
STRASBOURG	86.04	41.1	12 44	0
STUTTGART	86.90	40.7	12 47	-1
EBINGEN	86.92	41.3	12 49	0
JENA	87.74	38.2	12 51	-1
TAMANRASSET	90.95	66.5	13 6	-2
QUETTA	132.04	25.9	19 16	0
SHILLONG	141.44	355.7	19 22	-12
POONA	145.22	25.6	19 41	1

																11 13 PCP
																22 49 PKS

MARCH 28 20.H 8.M 20.S EPICENTRE 51.61-171.24 DEPTH= 0.KM

A=-0.61625 B=-0.09501 C= 0.78180 D=-0.1524 E= 0.9883
G=-0.7727 H=-0.1191 K=-0.6235 HT= -6.0

SE= 2.15

	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	17.96	33.4	4	14	1	7	40	8				
PETROPAVLOVK	18.39	286.6	4	18	0							
SITKA	21.46	61.2	4	55	3	8	51	5			5	22
Y.-SAKHLINSK	30.00	279.5	6	13	0							
HORSESHOE B.	30.16	75.0	6	17	3							
VICTORIA	30.42	76.7	6	17	0	11	19	2				
BANFF	34.04	68.3	6	47	-1							
SHASTA	34.93	88.6	6	57	1							
MINERAL	35.63	88.5	7	3	1							
HUNGRY HORSE	36.13	72.0	7	7	1							
BERKELEY	36.70	92.4	7	22	11	13	1	6				
LICK	37.41	92.6	7	13	-4							
RESOLUTE	37.55	25.1	7	17K	-1						15	46
BUTTE	38.12	74.6	7	11	-12	13	15	-2				
MATUSIRO	38.50	267.2	7	26K	0	13	24	2			8	56 PP
FRESNO	38.91	91.8	7	22	-7							
BOZEMAN	39.22	74.2	7	33	1							
EUREKA	39.64	85.5	7	36	0							
TINEMAHA	39.71	90.2	7	37	1							
KING RANCH	39.87	93.5	7	38	1							
WOODY	40.18	92.3	7	40	0							
CHINA LAKE	40.89	91.2	7	47	1							
PASADENA	41.62	93.6	7	52	0	14	7	-2				
CHANGCHUN	42.17	285.3	7	55	-1							
RIVERSIDE	42.22	93.1	7	56	-1							
BOULDER CITY	42.51	88.8	8	0	1							
PALOMAR	42.97	93.4	7	58	-5						8	16
HAYFIELD	43.49	92.0	8	10	3							
BARRETT	43.53	93.9	8	8	1							
RAPID CITY	44.76	71.7	8	19	2							
TUCSON	47.46	89.7	8	40	1	15	58	25			10	29 PP
IRKUTSK	49.17	306.1	8	50	-2							
PEKING	49.90	286.7	9	0A	2	16	12	4				
LUBBOCK	52.15	81.7	9	14	-1							
ZO-SE	52.71	274.7	9	18A	-1	16	49	3				
NANKING	53.54	277.3	9	26K	1	16	55	-3			19	8 SCS
KIRKLAND LA.	55.11	54.7	9	42	5							
FAYETTEVILLE	55.13	74.2	9	34	-3							
SCHEFFERVLLE	56.85	42.0	9	49K	0							
OTTAWA	59.16	54.8	10	4K	-1							
SHAWINIGAN	59.84	52.1	10	9	-1							
KIRUNA	60.56	354.9	10	13	-2							
SODANKYLA	60.58	352.2	10	16	1							
MORGANTOWN	60.93	62.1	10	17K	0							
SEMIPALATNSK	61.70	316.4	10	20	-3	18	29	-16				
PALISADES	63.20	57.2				19	7	3			23	19 SS
CANTON	63.34	274.0				19	5	0				
HONG KONG	63.36	272.8				19	8	2				
SVERDLOVSK	63.81	331.2	10	40	3							
COLUMBIA	64.32	67.2	10	40	0							
SKALSTUGAN	65.12	358.3	10	44	-1							
HELSINKI	67.81	351.3	11	0	-2						11	27 PCP
UPPSALA	68.66	355.2	11	6	-2							
FRUNSE	69.98	314.5	11	17	1							
NAMANGAN	72.80	315.1	11	33	0							

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DURHAM	73.64	6.2				18	41	-147			
SHILLONG	74.46	291.5	11	39	-3						
BERMUDA	74.55	57.3	12	12	29	21	16	-2	25	55	SS
RATHFARNHAM	74.70	9.3	11	39A	-5						
HAMBURG	75.18	359.2	11	48	2						
WARSAW	76.02	352.3							22	13	PS
DE BILT	76.62	2.3	12	25	30	22	10	29			
JENA	77.81	358.2	12	1	0				12	51	
DEHRA DUN	78.35	304.3				22	11	12			
PRAGUE	78.58	356.3	12	6	1						
LAHORE	79.23	307.7	12	6	-3						
KARLSRUHE	79.76	0.2	12	13A	1						
PARIS	79.81	4.2	12	15	3	22	15	0	15	17	PP
MAKHACH KALA	79.98	332.2	12	12	-1						
STUTTGART	80.00	359.7	12	14	1	22	25	8	23	25	PPS
STRASBOURG	80.18	0.7	12	15	1	22	34	15	28	4	SS
EBINGEN	80.59	359.9	12	17	1						
SIMFEROPOL	81.35	342.1	12	21	1						
BESANCON	81.49	1.9	12	23	2						
TIFLIS	81.90	333.6	12	24	1						
CLERMONT FD.	82.88	4.0	12	28	0						
TRIESTE	83.02	356.5	12	28	-1	22	43	-5			
BUCHAREST	83.18	347.6				23	6	16			
QUETTA	83.89	312.3	12	34A	1	22	57	0			
SAN JUAN	84.80	67.0	12	37	-1						
FLORENCE X.	84.96	358.2	12	54	15	23	15	8			
MONACO	85.03	1.0	12	40	1				13	27	
ROME	86.81	357.2	12	50K	2	23	22	-3	24	52	PPS
HYDERABAD	88.50	296.4				23	38	-3			
POONA	90.13	300.6	13	4	0						
MESSINA	90.36	354.7				23	47	-11	31	49	
BOMBAY	90.38	301.6							24	6	
RIVERVIEW	91.26	210.5	13	13	4	24	5	-1	23	45	
KSARA	91.66	337.7	13	2	-9	23	58	-12			
TAMANRASSET	105.88	3.1							24	57	
LWIRO	128.01	334.2	19	11	2						
PRETORIA	150.24	322.8							19	53	PKP2
PIETERMZBURG	152.76	315.5	19	58	6						
KIMBERLEY	154.20	326.2							20	18	PKP2

MARCH 28 22.H 26.M 1.S EPICENTRE 39.30 22.70 DEPTH= 0.KM

A= 0.71581 B= 0.29948 C= 0.63081 D= 0.3860 E=-0.9225
G= 0.5819 H= 0.2435 K=-0.7759 HT= -1.4

SE= 2.85

	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	1.55	148.7	0	31A	2	0	55	5					
SOFIA	3.43	7.7	1	0	4	1	43	5			1	6	P*
TARANTO	4.35	287.3	1	12	3	2	11	9			1	38	PG
REGGIO CALA.	5.65	260.0	1	26	-1	2	31	-3			1	44	PG
MESSINA	5.70	261.1	1	27K	-1	2	35	0			1	38	P*
BUCHAREST	5.71	25.3	1	28	0	2	34	-2			1	57	PG
BELGRADE	5.77	343.8	1	32A	3						3	1	PGSG
CAMPULUNG	6.21	15.4	1	38	3						2	17	
TIMISOARA	6.54	350.8	2	10	30	3	23	27			2	39	PG
SZEGED	7.20	345.6	1	55	6	3	22	9			2	11	P*
FOCSANI	7.21	26.0	1	8	-41	2	28	-45					
BACAU	7.89	21.6	2	1	2	3	31	1					
KECSKEMET	7.93	344.9									4	29	
ZAGREB	8.19	324.9	2	8	5	3	38	0			4	16	
ROME	8.20	291.7	2	12A	9	3	35	-3			4	12	S*
IASI	8.66	22.6	2	8	-2						3	18	
KISHINEV	8.92	28.1	2	12	-1	3	48	-8					
TRIESTE	9.16	316.7	2	12	-5	3	46	-16			3	2	PGPG
HURBANOVO	9.17	340.6	2	21	4	4	3	1			4	53	
FLORENCE X.	9.68	301.2	2	49	25	4	27	12					
BRATISLAVA	9.75	337.3	2	17	-8	3	59	-17			2	32	
PRATO	9.82	301.5	2	50	24	4	28	10					
BOLOGNA	9.94	305.2	2	30	3						4	21	
SKALNATE PL.	10.03	350.7				4	13	-10			3	23	PP
SIMFEROPOL	10.18	52.7	2	29	-2								
LWOW	10.57	4.7	2	38	2								
KRAKOW	10.93	350.5	2	41	0	4	49	4			2	49	PP
RACIBORZ	11.24	345.0	2	41	-4						7	56	PCP
ZABRZE	11.34	347.2									5	58	

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PAVIA	11.62	304.7	2	23	-27				4	23
KSARA	11.92	113.2	3	5	11	5	31	22		
PRAGUE	12.26	334.1	2	59	0	5	9	-9	3	19 PP
MONACO	12.27	296.0	3	1	2				3	50
OROPA	12.57	304.9	2	29	-34				4	30
JERUSALEM	12.65	122.5	3	6	2	5	27	0		
WARSAW	12.99	355.4	3	15	6	5	33	-2	5	47 SS
CHEB	13.03	329.2	3	10	1	5	44	8	3	33 PP
CHEB	13.03	329.2	3	10	1	5	44	8	3	33 PP
ZURICH	13.05	312.7	3	8	-2				5	38
EBINGEN	13.30	316.3	3	8	-5	5	30	-13	3	23 PP
TUBINGEN	13.46	317.7	3	10	-5	5	31	-16		
STUTTGART	13.54	318.7	3	11	-5	5	35	-14	3	15 PP
NEUCHATEL	13.82	308.9	2	59	-21				3	23
JENA	14.01	329.7	3	23	1	6	24	24	4	6
KARLSRUHE	14.10	318.2	3	9	-15	5	35	-27	3	21 PP
STRASBOURG	14.18	315.7	3	24	-1	6	8	4		
BESANCON	14.52	308.6	3	27	-2	6	47	35	3	53 PP
POTSDAM	14.68	336.1							8	19 PCP
ALGIERS UNI.	15.69	266.9	3	45	1	6	45	6		
CLERMONT-FD.	15.80	300.5	3	49	3					
HAMBURG	16.71	332.8	4	4	7				4	43
PARIS	17.32	309.9	4	4	-1	7	15	-2	4	21 PP
COPENHAGEN	17.76	340.7	4	10	0	7	31	4		
RELIZANE	17.92	265.5	4	10	-2				4	26 PP
ALICANTE	18.08	274.3	4	12	-3	7	31	-3		
MOSCOW	19.21	26.3	4	27	-1					
ALMERIA	19.95	270.9	4	40	3					
KEW	20.14	314.7	4	40	1	8	25	5		
TOLEDO	20.60	280.2	4	49	5					
GRANADA	20.75	272.5	4	46K	1				6	0 PP
UPPSALA	20.82	352.8	4	43	-3	8	34	0		
HELSINKI	20.94	3.2	4	44	-3					
MALAGA	21.48	271.7	4	44A	-9	8	47	0		
TAMANRASSET	22.03	226.6	4	59K	1	9	2	5	5	28 PP
DURHAM	22.49	321.5	5	3	0	9	5	0		
RATHFARNHAM	24.22	314.9	5	20	0	9	42	6	5	54 PPP
SKALSTUGAN	25.10	349.0	5	26	-2					
SODANKYLA	28.21	3.2	5	58	1					
KIRUNA	28.61	358.2	6	1K	1					
SVERDLOVSK	30.30	42.0	6	15	0					
NAMANGAN	37.08	71.3	7	16	2					
QUETTA	37.17	90.3	7	14	-1	13	3	1		
FRUNSE	38.76	67.5	7	30	2					
SCORESBY SD.	38.77	337.8	7	27	-1					
SEMIPALATNSK	41.31	54.9	7	49	0					
LWIRO	41.72	170.8	7	52A	-1				9	53 PP
LAHORE	42.29	84.1	7	57	0					
MBOUR	42.74	245.7	8	2	1				9	45 PCP
SCHEFFERVLLE	58.72	317.4	10	1	-1					
RESOLUTE	59.17	344.1	10	3	-2					
TANANARIVE	62.40	153.3	10	27	0				11	0 PCP
PRETORIA	64.91	174.3	10	12K	-32					
SHAWINIGAN	66.08	311.3	10	50A	-1					
KIMBERLEY	67.73	178.0	11	0A	-2					
OTTAWA	68.43	311.5	11	6	0					
GRAHAMSTOWN	72.34	176.6	11	14A	-16					
MORGANTOWN	74.37	308.5	11	42	0					
COLLEGE	75.90	355.8	11	49	-1					
BANFF	82.78	335.0	12	26	-2					
RAPID CITY	83.72	324.0	12	32	0					
MATUSIRO	83.98	46.9	12	35K	1					
HUNGRY HORSE	84.66	332.7	12	36	-1					
BUTTE	86.08	330.6	12	40	-4					
EUREKA	92.95	329.2	12	48	-29					
UKIAH	95.94	334.0	12	15	-75					

MARCH 29 5.H 10.M 29.5 EPICENTRE 53.52-166.86 DEPTH= 0.KM

A=-0.58146 B=-0.13579 C= 0.80216 D=-0.2274 E= 0.9738
G=-0.7811 H=-0.1824 K=-0.5971 HT= -6.7

SE= 2.49

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

COLLEGE	14.90	32.8	3	36A	3				39	13 PKPPKP
SITKA	18.21	66.1	4	17K	2	7	44	7	4	44
KLYUCHI	18.72	291.6	4	25A	3	7	56	8		
PETROPAVLOVK	20.49	282.9	4	43A	1	8	27	0	5	4 PP
MAGADAN	23.78	301.7	5	17A	2	9	29	1		
ALBERNI	26.28	82.1	5	41	3					
HORSESHOE B.	27.14	80.9	5	46	0	10	26	2	9	7
VICTORIA	27.44	82.7	5	50	1	10	31	2	6	6
SEATTLE	28.51	83.6	6	1	2	10	53	7	6	36
CORVALLIS	29.50	89.7	6	9	1	11	7	5		
KURILSK	30.17	272.7	6	11A	-3				7	29 PPP
BANFF	30.89	73.2	6	19	-1					
ARCATA	31.21	96.3	6	26	3					
UGLEGORSK	31.67	283.0	6	26A	-1	11	34	-2		
SHASTA	32.32	95.1	6	33A	1					
Y.-SAKHLINSK	32.33	279.1	6	32A	-1	11	44	-2		
TIKSI	32.35	327.9	6	36	2	11	47	-3	7	49 PP
NEMURO	32.60	271.4	6	44	9					
UKIAH	32.83	98.1	6	38K	1	11	58	4		
HONOLULU	32.86	164.8	6	35K	-2	11	53	-2		
MINERAL	33.01	94.9	6	37A	-1					
HUNGRY HORSE	33.04	77.1	6	39K	0	11	57	0	8	18 PP
KUSIRO	33.50	271.8	6	46	3	11	59	-6		
WAKKANAI	33.75	277.4	6	47	2					
BERKELEY	34.22	98.9	6	49A	0	12	18	2		
RENO	34.59	94.5	6	54A	2	12	26	5		
RESOLUTE	34.67	26.4	6	53A	0	12	22	-1	13	7
SANTA CLARA	34.75	99.3	6	57A	3	12	29	1		
LICK	34.94	99.0	6	55K	0					
URAKAWA	34.96	271.9	6	54	-1	12	9	-18		
BUTTE	35.09	79.8	6	56K	0	12	24	-5	8	20 PP
SAPPORO	35.27	274.2	6	56A	-2	12	17	-15		
TOMAKOMAI	35.46	273.3	7	49	49					
SASKATOON	35.47	67.2	7	2	2	12	34	-1		
SUTTSU	36.09	274.7				12	35	-10		
BOZEMAN	36.17	79.3	7	7A	1	12	43	-3	7	30
MORI	36.31	273.5	7	5	2					
FRESNO	36.41	98.0	7	8A	0	12	51	1		
EUREKA	36.92	91.3	7	11K	-1					
AOMORI	36.96	271.6	7	6	-6					
MIYAKO	36.98	269.2	7	10	-2	13	11	13		
TINEMAHA	37.15	96.3	7	14A	0	13	6	5		
MORIOKA	37.43	269.9	7	5	-11					
KING RANCH	37.43	99.7	7	18	2					
WOODY	37.70	98.5	7	19A	1					
MIZUSAWA	37.81	269.2	7	24	5	13	9	-2		
AKITA	38.05	270.8				12	59	-16		
CHINA LAKE	38.36	97.2	7	24A	0	13	22	3		
SENDAI	38.51	268.3	7	24	1	13	17	-5		
SALT LAKE C.	38.57	86.4	7	16	-10	13	14	-8	9	11 PCP
YAMAGATA	38.85	268.7	7	30	2					
HUKUSIMA	39.10	268.0	7	33	3	13	57	26		
PASADENA	39.18	99.6	7	32	1	13	30	-2	9	3 PP
ONAHAMA	39.38	266.7	7	30	-3	13	25	-10		
SHIRAKAWA	39.67	267.5	7	35	0					
RIVERSIDE	39.76	99.1	7	35A	-1	13	39	-1	9	19 PP
NIIGATA	39.84	269.4	7	40	4					
BOULDER CITY	39.90	94.6	7	38A	1	13	41	-2		
MITO	40.01	266.4	7	38	0					
AIKAWA	40.25	270.2				15	3	75		
UTUNOMIYA	40.26	267.1	7	37	-3	13	50	2		
KAKIOKA	40.29	266.5	7	40	0					
TUKUBASAN	40.34	266.6	7	40	0	13	31	-18		
PALOMAR	40.52	99.3	7	42A	0	13	53	1		
KUMAGAYA	40.82	267.1	7	44	0					
VLADIVOSTOK	40.83	280.9	7	44A	0	13	52	-4		
MAEBASI	40.84	267.6	7	45A	0	13	41	-16		
TAKADA	40.86	269.1	7	43	-2					
TOKYO C.M.O.	40.92	266.3	7	51K	6	13	53	-5		
HAYFIELD	40.99	97.8	7	54	8	13	59	0		
BARRETT	41.11	99.8	7	47	0	14	1	0		
TITIBU	41.11	267.2	7	47	0					
YOKOHAMA	41.15	266.1	7	54	7					
NAGANO	41.17	268.7	7	49	2	13	54	-8		
OIWAKE	41.19	268.0	7	47	0					
MATUSIRO	41.24	268.5	7	47A	-1	13	27	-36	9	41 PP
MERA	41.39	265.4	7	49A	0	13	56	-9		
WAZIMA	41.48	270.5	7	50	0					
MATUMOTO	41.59	268.4	7	52	1	14	8	0		

HUNATU	41.62	266.9	7 54	3	13 54 -14	
KOHU	41.65	267.2	7 56	5	14 17 8	
RAPID CITY	41.66	76.3	7 51K	0	14 6 -3	9 47 PP
AJIRO	41.73	266.1	7 52	0		
TOYAMA	41.75	269.5	8 59	67		
OSIMA	41.76	265.6	7 54	2		
MISIMA	41.78	266.3	7 48	-4	13 42 -28	
TAKAYAMA	42.09	268.9	7 57	2		
IIDA	42.17	267.7	7 56	1		
SHIZUOKA	42.21	266.6	7 56	0	13 57 -20	
OMAESAKI	42.57	266.4	8 29	30		
GIHU	42.88	268.4	8 1	0	14 15 -12	
NAGOYA	42.92	268.0	7 58	-4		
BOULDER	42.92	82.5	8 10	8		
TSURUGA	43.13	269.3	8 0	-3		
HIKONE	43.28	268.7	8 4	-1	14 23 -10	
KAMEYAMA	43.44	268.1	8 6A	0	14 10 -25	
TU	43.49	267.9	8 8	2		
KYOTO	43.76	268.9	8 11	3	14 38 -2	
TOYOOKA	43.96	270.2	8 10	0		
OSAKA	44.14	268.7	8 14	2		18 15 SCS
CHANGCHUN	44.23	286.1	8 11A	-1		
KOBE	44.33	269.0	8 13	0	14 40 -8	
SUMOTO	44.73	268.9	8 13	-3		
TUCSON	44.87	95.1	8 16K	-1	14 55 -1	18 23 SS
YONAGO	44.91	271.2			14 48 -8	
TOKUSIMA	45.11	268.8	8 21	2	14 50 -9	18 18 SCS
TAKAMATU	45.25	269.5	8 20	0	14 35 -26	
HAMADA	46.03	271.7	8 22	-5	15 13 1	
KOTI	46.09	269.2	8 28	1	15 17 4	18 26 SS
HIROSIMA	46.18	270.9	8 28A	0	14 18 -56	
MATUYAMA	46.37	270.1	8 43	14	15 12 -5	
SIMIDU	46.97	268.9	8 34	0	15 2 -24	
OOITA	47.46	270.4	8 38K	0		
HUKUOKA	47.93	271.7	8 40	-2	15 31 -8	
SAGA	48.23	271.5	8 48	4		
KUMAMOTO	48.30	270.7	8 44	0		
MIYAZAKI	48.90	269.3	8 47A	1	15 50 3	
UNZENDAKE	48.63	271.0				9 41 PP
KAGOSIMA	49.27	269.7	8 52	0	15 53 -5	
LUBBOCK	49.29	86.5	8 51	-1	15 57 -1	18 42 SS
TOMIE	49.59	272.1	8 55	1	15 56 -6	
IRKUTSK	50.18	306.9	8 59A	0	16 8 -3	10 57 PP
CHIHUAHUA	50.31	94.4	8 58	-2	16 10 -2	22 14
KIRKLAND LA.	51.83	58.3	9 12A	1	16 24 -9	11 16
PEKING	51.89	288.0	9 11A	-1	16 31 -3	11 12 PP
CHICAGO CGS.	52.00	68.8	9 6K	-7	16 30 -6	
KWANTING	52.07	288.6	9 13	0		
FAYETTEVILLE	52.08	78.6	9 11K	-2	16 43 6	18 57 SCS
TATUNG	53.47	290.0	9 26	2		
SCHEFFERVLLE	53.62	45.0	9 25	0		18 28
SCORESBY SD.	53.75	13.9	9 26	0	17 2 2	11 42 PP
PAOTOW	54.95	292.5	9 35	0		
ZO-SE	55.19	276.6	9 36A	0	17 16 -3	11 42 PP
TAIYUAN	55.45	288.4	9 40	2		
OTTAWA	55.88	58.3	9 39K	-2	17 17 -11	11 50 PP
NANKING	55.91	279.1	9 40	-2	17 24 -5	
BUFFALO L.	56.12	62.3	9 42	-1		
SHAWINIGAN	56.56	55.6	9 45K	-1	17 36 -1	11 56 PP
SEVEN FALLS	57.10	54.0	9 49	-1	17 41 -3	12 1 PP
PITTSBURGH	57.12	65.2	9 47	-3	17 39 -6	
LINFEN	57.25	287.7	9 51	0		
MORGANTOWN	57.69	65.8	9 52K	-2	17 12 -40	
GUADALAJARA	57.94	98.5			18 9 14	11 54 PP
PENNSYLVANIA	57.98	63.5	8 53	-63	16 57 -59	10 58 PP
APATITY	58.30	351.0	9 57	-1	17 55 -5	12 15 PP
YINCHUAN	58.50	293.2	9 54	-6		
KIRUNA	58.85	356.8	10 1	-1	18 0 -7	39 39 PKPPKP
SODANKYLA	59.01	354.0	10 3	0		39 40 PKPPKP
WASHINGTON	59.77	64.6	10 8A	-1	18 29 10	12 23 PP
PALISADES	59.93	60.9	10 8A	-2	18 6 -15	12 26 PP
PHILADELPHIA	60.03	62.5	10 13	3	18 19 -4	12 25 PP
CHAPEL HILL	60.85	68.2	10 13	-3		
COLUMBIA	61.14	71.1	10 16A	-2	18 31 -6	11 59 PP
TACUBAYA	61.37	95.9	10 16	-4	18 31 -9	12 29 PP
SEMIPALATNSK	62.11	318.2	10 23	-2		14 16 PPP
HALIFAX	62.37	51.7	10 26	0		
SKALSTUGAN	63.24	0.4	10 32A	0		39 47 PKPPKP

VERA CRUZ	63.35	93.5				16	59	126	19	46
SVERDLOVSK	63.37	333.0				19	5	0	13	5 PP
CANTON	65.83	276.5	10	49A	0	19	34	-1		
MERIDA	65.89	87.1	10	46	-3	19	31	-5		
HONG KONG	65.90	275.2	10	50A	1	19	29	-7		
PULKOVO	66.22	350.6	10	51	0	19	35	-5	11	21 PCP
BERGEN	66.26	4.2	10	51	-1	19	39	1		
HELSINKI	66.26	353.6	10	52	0					
BAGUIO CITY	66.61	266.1	10	51	-3	19	39	-6		
UPPSALA	66.92	357.5	10	55A	-1	19	43	-6	39	19 PKPPKP
RABAUL	66.97	225.3	10	52	-4				13	25 PP
APIA	67.18	185.2	11	7	9					
MANILA	67.81	264.5	11	2	1	19	53	-6		
COMITAN	68.03	92.3				19	49	-13		
ABERDEEN	68.97	8.8	11	3	-6	20	10	-3	24	53 SS
MOSCOW	69.26	345.5	11	11A	1				21	8 SCS
FRUNSE	70.49	316.8	11	19A	1	20	31	0	13	53 PP
COPENHAGEN	71.16	0.4	11	22	0	20	36	-3	20	56 PS
BERMUDA	71.28	60.8	11	14	-9	20	41	1	13	58 PP
DURHAM	71.39	8.9	11	19	-4	20	31	-10	20	39 SKS
RATHFARNHAM	72.33	12.1	11	28A	-1	21	2	10	12	27
SUVA	72.50	194.7				20	50	-4	21	40 PS
HAMBURG	73.25	2.0	11	36	2	20	51	-12		
WITTEVEEN	73.89	4.1	11	41A	3					
TASHKENT	73.92	319.4	11	38	0	21	3	-7	14	17 PP
WARSAW	74.41	355.0	11	41A	0	21	14	-2		
DE BILT	74.54	5.1	11	42A	0	21	17	0	26	31 SS
KEW	74.77	8.7	11	44A	1	21	18	-2	14	35 PP
JENA	75.91	1.0	11	50	0	21	41	9		
SHILLONG	76.18	294.2	11	49	-2	21	26	9	14	32 PP
STALINABAD	76.50	318.3	11	52	1	21	36	3		
LWOW	76.61	352.8	11	55	1	21	37	3	21	56 SCS
KRAKOW	76.64	355.5	11	54	0	21	35	-5	12	9 PCP
RACIBORZ	76.68	356.7	11	56	2					
CHEB	76.77	0.5	11	55	0	21	59	17	14	49 PP
PRAGUE	76.78	359.1	11	54	-1	21	39	-3	14	37 PP
SKALNATE PL.	77.50	355.2	12	1	2	21	50	1	27	1 SS
PARIS	77.65	7.2	12	0	1	21	54	3	14	54 PP
CHATRA	77.69	298.4	12	0	0	21	48	-3		
KARLSRUHE	77.77	3.2	12	2A	2	21	53	1	22	7 SCS
STUTTGART	78.03	2.7	12	3A	1	20	52	-63	14	57 PP
STRASBOURG	78.17	3.6	12	3	1	22	0	3	15	0 PP
TUBINGEN	78.27	2.8	12	5A	2				12	21
EBINGEN	78.61	2.8	12	6A	1				13	11
BRATISLAVA	78.63	357.3	12	7	2	22	4	2	27	31 SS
HURBANOVO	78.89	356.5	12	5	-1	21	53	-11	23	11
NOUMEA	78.97	205.1	12	4	-3				22	54
DEHRA DUN	79.40	307.2	12	8	-1	22	2	-8	15	22 PP
ZURICH	79.41	3.2	12	9	0	22	24	14		
BESANCON	79.42	5.0	12	9	0				16	14
NEUCHATEL	79.72	4.3	12	12	1	22	11	-2		
LAHORE	80.10	310.6	12	13	0					
KALOCSA	80.20	355.9	12	7	-6					
SZEGED	80.43	355.1	12	26	11				12	53
CLERMONT-FD.	80.72	7.1	12	17	1					
BOKARO	80.84	297.7	12	18A	1	22	17	-8	23	9 PS
TIMISOARA	80.87	354.3	12	21	4	22	22	-3		
ASHKABAD	80.87	325.4	12	17A	0				15	27 PP
ZAGREB	81.01	358.0	12	19	1	22	28	1		
OROPA	81.14	3.7	12	28	10				12	59
TRIESTE	81.20	359.6	12	18	-1	22	26	-3	23	37 PS
NEW DELHI	81.26	306.9	12	20	1	22	22	-7	15	19 PP
BALBOA HTS.	81.26	86.8	12	17	2	22	25	-4		
TIFLIS	81.30	336.6	12	21	2	22	31	1		
PAVIA	81.62	2.8	11	53A	-28	22	5	-28	14	50 PP
SAN JUAN	81.62	70.6	12	20	-1	22	32	-1		
BUCHAREST	81.81	350.7	12	21	-1	22	34	-1	12	33
BELGRADE	81.84	354.8	12	23K	1	22	56	21	15	5 PP
BOLOGNA	82.34	1.3	12	29	4	23	16	36		
PRATO	82.96	1.5	12	26	-2	22	43	-4		
MONACO	83.00	4.2	12	29	1				13	56
GORIS	83.02	334.7	12	29	1	22	50	3	15	40 PP
FLORENCE X.	83.06	1.4	12	19A	-9	22	56	8		
SOFIA	83.76	352.5	12	32	0				14	14
QUETTA	84.50	315.4	12	36	0	23	4	2	22	56 SKS
COIMBRA	84.81	16.4	12	31	-6					
ROME	84.95	0.5	12	40A	2	23	9	3	23	0 SKS
BARCELONA	84.96	8.3	12	29	-9	23	11	5		

TOLEDO	85.79	13.2	12	43	1	23	0	-15	16	8	PP
LISBON	86.13	17.3	12	44A	0	23	18	0			
TARANTO	86.32	356.9	13	7	22				23	12	
CHINCHINA	86.78	86.1	12	47	0	23	7	-17	23	23	SKKS
FORT FRANCE	87.35	68.8	12	49	1	23	28	-1			
ALICANTE	87.74	10.7	12	49	3	23	31	-2			
BRISBANE	87.85	214.9	12	51	-1				23	17	SKS
BOGOTA	87.98	85.0	12	55	2	23	13	-22	23	33	SKKS
ST. LUCIA	88.00	69.1							12	53	
KARACHI	88.25	313.2	13	2	8	23	47	9			
GRANADA	88.51	13.3	12	55K	0				14	1	
ST. VINCENT	88.55	69.8	12	55	0						
MESSINA	88.63	358.1	12	54A	-2	23	40	-1	16	28	PP
REGGIO CALA.	88.72	358.0	12	6	-50				23	44	PS
MALAGA	88.85	14.0	13	7A	10	23	25	-18	15	25	PP
ALMERIA	88.99	12.5	12	57	-1						
BARBADOS	89.52	68.5	13	3	3						
ALGIERS UNI.	89.65	8.1	13	1A	0	23	49	-2	16	32	PP
HYDERABAD	89.96	299.8	13	2A	0	23	22	-32	30	35	
RELIZANE	90.43	10.2	13	5	1				16	43	PP
TRINIDAD	90.44	71.4	12	2	-2						
KSARA	90.81	341.2				23	53	-8	16	35	PP
POONA	91.36	304.1	13	9	0	23	56	-10	25	34	PS
AUCKLAND	91.42	194.6				23	56	-11	30	23	SS
BOMBAY	91.56	305.2	13	8	-1	24	0	-8	16	49	PP
KARAPIRO	92.34	193.9				24	13	2			
DJAKARTA	92.73	263.4	13	15	0	23	53	-25			
MADRAS	92.74	296.0	13	9	6	24	4	14	25	40	PS
JERUSALEM	92.91	341.3	13	17	1				25	31	PS
RIVERVIEW	94.31	214.0	13	24A	2	24	33	1	23	56	SKS
WELLINGTON	95.75	193.8				24	36	-8	23	51	SKS
CHRISTCHURCH	98.27	194.9				25	4	-1	24	10	SKS
HUANCAYO	100.48	96.0	14	5	15				18	20	PP
TAMANRASSET	103.73	7.2	14	6A	1	25	54	3	24	41	SKS
MBOUR	107.61	30.7	14	24	777				18	53	PP
PERTH	108.12	240.8	14	26	777				18	53	PP
LA PAZ	108.26	93.1				25	32	27	18	59	PP
LWIRO	127.29	340.2	19	7	1						
TANANARIVE	136.46	309.1	19	23	-1				23	1	PKS
PRETORIA	150.07	332.0	19	46K	-1						
PIETERMZBURG	153.00	325.3	19	59	8						
KIMBERLEY	153.81	336.3	19	53K	0						

MARCH 29 22.H 49.M 51.S EPICENTRE 52.76-168.49 DEPTH= 0.KM

A=-0.59546 B=-0.12123 C= 0.79418 D=-0.1995 E= 0.9799
G=-0.7782 H=-0.1584 K=-0.6077 HT= -6.4

SE= 2.22

	DELTA DEG.	AZ. DEG.	P M	O C S	S M	O C S	*PP M	S	SUPP. M	S
COLLEGE	16.07	33.0	3 48	1	7 2	14			6	3
SITKA	19.43	64.0	4 31	1	8 13	9				
PETROPAVLOVK	19.71	284.2	4 34	0						
HORSESHOE B.	28.25	78.5	6 4	7	10 42	0				
VICTORIA	28.53	80.2	6 1	2	10 47	0				
SEATTLE	29.59	81.1	6 27	18	11 9	5				
CORVALLIS	30.51	87.2	6 18	1						
Y.-SAKHLINSK	31.48	279.3	6 24	-2	11 37	3				
BANFF	32.06	71.2	6 28	-3						
SHASTA	33.26	92.5	6 40K	-1						
UKIAH	33.72	95.5	6 45	0						
MINERAL	33.95	92.3	6 46K	-1						
HUNGRY HORSE	34.18	75.1	6 47	-2	12 13	-3			9	23 PCP
BERKELEY	35.10	96.3	6 55K	-2	12 28	-2				
RENO	35.53	92.0	7 1	0	12 36	-1				
SANTA CLARA	35.62	96.7			12 45	7				
RESOLUTE	35.78	25.9	7 1A	-2	12 6	-34			16	40 SCS
LICK	35.82	96.5	7 0K	-3						
BUTTE	36.21	77.7	7 6	0	12 40	-7			8	16 PP
BOZEMAN	37.29	77.3	7 15	-1	12 57	-7				
FRESNO	37.30	95.6	7 13	-3						
EUREKA	37.90	89.0	7 20	-1						
TINEMAHA	38.06	93.9	7 21	-1	13 15	0				
KING RANCH	38.30	97.3	7 28	4						
WOODY	38.58	96.0	7 24A	-2						

CHINA LAKE	39.26	94.8	7	31	-1					
SALT LAKE C.	39.61	84.3	7	34	-1					
PASADENA	40.05	97.2	7	42A	3	13	36	-9	7	59
MATUSIRO	40.23	268.0	7	40A	0	13	47	-1		
RIVERSIDE	40.63	96.7	7	40	-3	13	39	-15		
BOULDER CITY	40.84	92.3	7	44	-1					
PALOMAR	41.39	97.0	7	49A	-1				8	6
HAYFIELD	41.88	95.5	8	0	6					
BARRETT	41.97	97.5	7	50	-4				8	10
RAPID CITY	42.81	74.5	8	0	-1	14	25	-1	9	52 PCP
CHANGCHUN	43.49	285.8	8	6	-1					
TUCSON	45.80	93.0	8	24	-1	15	11	2	18	41 SCS
IRKUTSK	49.85	306.6	8	57	0	16	15	8		
LUBBOCK	50.33	84.7	9	4	3	16	11	-2	18	50 SCS
PEKING	51.18	287.6	9	7K	0	16	29	4	18	56 SCS
KIRKLAND LA.	53.07	56.9	9	19A	-2	16	47	-4		
FAYETTEVILLE	53.21	76.8	9	18	-4					
ZO-SE	54.29	275.9	9	31	1	17	12	5	19	19 SCS
SCORESBY SD.	54.72	13.1	9	33	0					
SCHEFFERVLLE	54.85	43.9	9	34A	0					
NANKING	55.05	278.4	9	35A	-1	17	20	2	19	22 SCS
OTTAWA	57.12	56.9	9	48A	-3	17	39	-6		
BUFFALO L.	57.34	60.8	9	49	-3					
SHAWINIGAN	57.80	54.2	9	53A	-2				12	10 PP
SEVEN FALLS	58.34	52.7	10	0	1	17	59	-2	18	23 PS
MORGANTOWN	58.90	64.4	10	1A	-2					
PENNSYLVANIA	59.21	62.1	10	3	-2	18	9	-3		
KIRUNA	59.54	356.1	10	7	-1					
SODANKYLA	59.65	353.3	10	8	0					
PALISADES	61.16	59.5	10	17	-2	18	36	-2	20	1 SCS
PHILADELPHIA	61.26	61.1				18	38	-1		
SEMIPALATNSK	62.01	317.5	10	24	0	18	56	8		
TACUBAYA	62.29	94.2	10	29	3				12	56 PP
COLUMBIA	62.33	69.6	10	24	-3	18	43	-9		
SVERDLOVSK	63.59	332.3	10	34	-1	19	17	9		
HALIFAX	63.62	50.4	10	32	-3					
SKALSTUGAN	63.99	359.6	10	36A	-2					
CANTON	64.93	275.6	10	42K	-2	19	27	2		
HONG KONG	64.98	274.3	10	44	0	19	29	4		
BAGUIO CITY	65.56	265.1	10	53	5					
UPPSALA	67.63	356.7	11	0A	-1					
MOSCOW	69.74	344.6	11	14	0					
ABERDEEN	69.86	7.8	12	1	46	21	32	68	30	39
FRUNSE	70.36	315.9	11	18	0	20	37	7		
COPENHAGEN	71.92	359.4	11	28	1					
DURHAM	72.28	7.9	11	26	-3	21	29	37		
BERMUDA	72.51	59.5	11	37	6	20	41	-14	25	23 SS
NAMANGAN	73.15	316.7	11	35	1					
RATHFARNHAM	73.27	11.0	11	34K	-1	21	8	5		
HAMBURG	74.03	0.9	11	42	3					
WITTEVEEN	74.71	3.0	11	45A	2					
WARSAW	75.07	354.0	11	41	-5					
POTSDAM	75.22	359.0	11	47	1					
DE BILT	75.37	4.0	11	49	2	21	39	12		
SHILLONG	75.58	293.2	11	46A	-2					
KEW	75.66	7.6	11	49	0	21	41	11	22	21
JENA	76.68	360.0	11	54	-1					
LWOW	77.23	351.7	11	58	0					
KRAKOW	77.31	354.4	12	0	2	21	48	0	12	24
PARIS	78.51	6.1	12	5A	0	22	10	9	22	20 SKS
KARLSRUHE	78.57	2.1	12	6A	1					
STUTTGART	78.82	1.6	12	7A	1	22	23	19	12	17 PCP
STRASBOURG	78.98	2.5	12	8A	1	22	20	14	28	3 SS
DEHRA DUN	79.06	306.1	12	10	2	22	43	36		
TUBINGEN	79.06	1.6	12	8	0					
BRATISLAVA	79.33	356.2	12	11	2				12	45
EBINGEN	79.41	1.7	11	11	-59					
IASI	79.47	348.9	12	10	0					
KISHINEV	79.50	348.0	12	10	0					
LAHORE	79.83	309.5	12	11	-1					
BESANCON	80.25	3.8	12	16	2					
NEUCHATEL	80.54	3.2	12	17	1					
SIMFEROPOL	80.74	343.9	12	18	1	22	41	17		
SOTCHI	81.00	339.6	12	19	1	22	37	10		
CLERMONT-FD.	81.58	5.9	12	20	-1					
TIFLIS	81.59	335.5	12	23	2					
TRIESTE	81.95	358.4	12	24	1	22	50	13	23	33 PS
PAVIA	82.41	1.7	12	0	-25					
BELGRADE	82.49	353.6	12	27	1					

SAN JUAN	82.80	69.2	12	26	-1					
MONACO	83.82	3.0	12	33	0					
FLORENCE X.	83.83	0.2	12	38A	5	23	0	4	23 39	PS
QUETTA	84.33	314.2	12	36	1	23	9	8	23 1	SKS
ROME	85.71	359.3	12	44A	2	23	34	20	16 18	PP
MESSINA	89.34	356.8	12	57	-3	23	39	-10	25 17	
GRANADA	89.47	12.0	13	4K	4	23	44	-6		
HYDERABAD	89.47	298.5	13	1	1	23	28	-22		
MALAGA	89.82	12.7	13	1A	-1					
ALGIERS UNI.	90.53	6.8	13	5	0	23	50	-9	16 38	PP
POONA	90.96	302.8	13	7	0					
BOMBAY	91.17	303.8	13	6	-2	23	56	-9	23 38	SKKS
RELIZANE	91.34	8.9	13	7	-2					
TAMANRASSET	104.60	5.7	14	16	7	24	54	-65	18 18	PP
MBOUR	108.76	29.2							19 1	PP
KIMBERLEY	154.07	332.5	19	53	0					

MARCH 30 9.H 17.M 0.S EPICENTRE 51.95-175.16 DEPTH= 0.KM
A=-0.61672 B=-0.05224 C= 0.78545 D=-0.0844 E= 0.9964
G=-0.7826 H=-0.0663 K=-0.6189 HT= -6.1

SE= 1.67

	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	15.95	284.6	3	53	6	6	55	10					
COLLEGE	19.09	36.8	4	27	0	8	10	13			5	10	
SITKA	23.44	61.7	5	14	2	9	32	10			5	45	
Y.-SAKHLINSK	27.54	276.4	5	51	1	10	32	1					
HORSESHOE B.	32.41	73.6	6	35	1								
VICTORIA	32.70	75.1	6	37A	1	11	55	2					
SEATTLE	33.76	75.9	6	48	3								
CORVALLIS	34.66	81.3	6	56	3								
MATUSIRO	36.10	263.4	7	6A	1	12	42	-3			8	22	PP
BANFF	36.17	67.0	7	6A	0								
SHASTA	37.35	86.2	7	17	1								
UKIAH	37.77	88.8	7	34	14								
MINERAL	38.05	86.0	7	23	1								
RESOLUTE	38.28	25.0	7	24K	0	13	20	1			9	37	
HUNGRY HORSE	38.33	70.4	7	25	1	13	18	-1			9	39	PCP
BERKELEY	39.14	89.7	7	32	1								
RENO	39.63	85.8	7	36	1								
CHANGCHUN	39.72	282.6	7	36K	0								
LICK	39.85	89.9	7	38	1								
BUTTE	40.37	72.8	7	43	2	13	48	-2			9	2	PP
FRESNO	41.35	89.1	7	51	2								
BOZEMAN	41.45	72.3	7	46	-4						8	10	
EUREKA	42.03	83.1	7	55	0								
TINEMAHA	42.14	87.6	7	57	1						8	13	
KING RANCH	42.32	90.7	7	59	2								
WOODY	42.62	89.6	8	0	0						8	42	
CHINA LAKE	43.32	88.5	8	6	1						9	54	PP
SALT LAKE C.	43.77	78.8	8	10	1								
PASADENA	44.07	90.7	8	12	1	14	44	0			10	9	PP
RIVERSIDE	44.66	90.3	8	15	-1								
BOULDER CITY	44.93	86.2	8	18	0								
PALOMAR	45.41	90.5	8	23	1								
HAYFIELD	45.93	89.2	8	26	0								
BARRETT	45.98	91.1	8	25	-2								
RAPID CITY	46.95	69.7	8	34	0	15	25	-1					
PEKING	47.46	283.9	8	40	2	15	31	-2					
TUCSON	49.89	87.0	8	57	0								
ZO-SE	50.26	271.4	9	1	1	16	9	-3					
NANKING	51.08	274.1	9	5	-1	16	18	-6					
LUBBOCK	54.49	79.2	9	32	0								
SCORESBY SD.	56.36	10.5	9	44	-1								
KIRKLAND LA.	56.88	52.8	9	49	0								
FAYETTEVILLE	57.36	71.8	9	51A	-1								
SEMIPALATNSK	59.75	314.2	10	7	-2	18	16	-3					
SODANKYLA	59.88	350.4	10	10	0								
KIRUNA	59.97	353.2	10	10	-1						10	24	*PP
CANTON	60.89	270.8	10	17	0	18	33	-1					
HONG KONG	60.92	269.5	10	17	0	18	34	0					
OTTAWA	60.93	52.7	10	16K	-1								
BUFFALO L.	61.26	56.4	10	19	0								

BAGUIO CITY	61.41	259.9	10	18	-2						
SHAWINIGAN	61.53	50.1	10	20K	-1						
SVERDLOVSK	62.30	329.1	10	24	-2						
RABAUL	62.45	217.4	10	25	-2						
MORGANTOWN	62.90	59.8	10	30A	0						
SKALSTUGAN	64.66	356.3	10	41	-1						
PALISADES	65.04	55.0	10	43	-1	19	23	-3	24	3	SS
TACUBAYA	66.35	88.5	10	47	-6						
COLUMBIA	66.41	64.7	10	53	0	19	39	-4			
FRUNSE	67.98	314.0	11	2	-1						
HALIFAX	67.21	46.1	10	57	-1						
UPPSALA	68.08	353.1	11	3	-1				11	17	*PP
MOSCOW	69.31	340.9	11	8	-3						
NAMANGAN	70.81	312.5	11	20	0						
SHILLONG	72.05	288.5	11	26K	-2						
CHATRA	73.81	292.8	11	38	0						
RATHFARNHAM	74.71	6.9	11	37	-6						
HAMBURG	74.76	356.8	11	46	2						
WITTEVEEN	75.59	358.9	11	49	1						
BERMUDA	76.39	54.6	11	53	0	21	32	-6			
JENA	77.34	355.6	11	58	0				14	56	PP
KARLSRUHE	79.37	357.6	12	12	3						
STUTTGART	79.59	357.1	12	10	-1				12	22	PCP
PARIS	79.60	1.6	12	13A	2	22	29	17	15	11	PP
BRATISLAVA	79.71	351.7	12	12	1						
STRASBOURG	79.82	358.0	12	13A	1				27	36	SS
SOTCHI	80.18	335.1	12	14	0						
EBINGEN	80.19	357.2	12	14A	0						
SIMFEROPOL	80.23	339.4	12	14	0						
TIFLIS	80.47	330.8	12	17	2						
BESANCON	81.18	359.2	12	19	0				13	20	
NEUCHATEL	81.41	358.5	12	21	1						
QUETTA	81.83	309.4							21	52	
CLERMONT-FD.	82.65	1.2	12	27	0						
ROME	86.29	354.3							13	15	
SAN JUAN	86.88	64.0	12	47	-1						
POONA	87.84	297.6	12	52	0						
BOMBAY	88.10	298.6	12	53	-1	23	34	-3			
RIVERVIEW	90.38	207.5				24	2	4	23	35	SKS
LWIRO	126.57	329.7	19	6	1				21	50	
TANANARIVE	133.13	298.4	12	43A	-395						
PRETORIA	148.42	317.0	19	46	1						
PIETERMZBURG	150.74	309.8	19	49A	0						
KIMBERLEY	152.47	319.6	19	22	-29						

MARCH 31 10.H 8.M 28.S EPICENTRE 51.51-178.47 DEPTH= 0.KM

A=-0.62471 B=-0.01665 C= 0.78068 D=-0.0266 E= 0.9996
G=-0.7804 H=-0.0208 K=-0.6249 HT= -6.0

SE= 2.04

	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
PETROPAVLOVK	14.07	285.6	3	24	2	6	6	5				
COLLEGE	20.69	38.0	4	41	-3	8	32	1				
Y.-SAKHLINSK	25.54	275.1	5	32	1							
TIKSI	30.62	330.3	6	17	0							
MATUSIRO	34.00	261.1	6	48A	1	12	16	4			7	57 PP
HORSESHOE B.	34.51	71.3	6	51	0							
VICTORIA	34.80	72.7	6	54	0							
CORVALLIS	36.76	78.6	7	13	2							
CHANGCHUN	37.79	281.0	7	17	-2							
BANFF	38.23	65.0	7	22	-1							
SHASTA	39.45	83.2	7	34	1							
RESOLUTE	39.54	24.5	7	38	4	13	26	-11				
MINERAL	40.14	83.1	7	38A	-1							
HUNGRY HORSE	40.41	68.2	7	42	1							
BERKELEY	41.21	86.7	7	48	0	14	8	6				
RENO	41.73	82.9	7	53	1							
LICK	41.93	86.8	7	54A	1							
BUTTE	42.46	70.4	7	58	0							
FRESNO	43.43	86.1	8	14	8							
BOZEMAN	43.54	70.0	8	6	1							
EUREKA	44.14	80.3	8	2	-9							
TINEMAHA	44.23	84.6	8	13	1							
WOODY	44.70	86.6	8	16	0							
CHINA LAKE	45.41	85.5	8	22	0							

IRKUTSK	45.50	302.8	8	21	-1					
PEKING	45.56	282.2	8	24A	1					
SALT LAKE C.	45.88	76.2	8	26	1					
PASADENA	46.13	87.7	8	29	2	15	17	3		
RIVERSIDE	46.73	87.3	8	33	1					
BOULDER CITY	47.03	83.4	8	35	1					
PALOMAR	47.48	87.6	8	37	-1					
HAYFIELD	48.01	86.3	8	46	4					
BARRETT	48.05	88.1	8	41	-1					
ZO-SE	48.20	269.2	8	44A	0	15	55	12	10	41 PP
RAPID CITY	49.03	67.4	8	50	0	15	55	0		
NANKING	49.05	272.0	8	49A	-1					
TUCSON	51.98	84.2	9	12	-1	16	37	2		
LUBBOCK	56.60	76.6	9	45	-1					
KIRKLAND LA.	58.77	50.8	10	10	8					
CANTON	58.83	268.5	10	2	0					
HONG KONG	58.85	267.1	10	2A	0					
BAGUIO CITY	59.30	257.4	10	3	-2					
FAYETTEVILLE	59.45	69.4	10	6K	0					
KIRUNA	60.14	351.8	10	10	-1					
RABAUL	60.89	214.0	10	14	-2				11	34
SVERDLOVSK	61.59	327.6	10	18	-3					
OTTAWA	62.82	50.6	10	27	-2					
BUFFALO L.	63.20	54.2	10	32	0					
SHAWINIGAN	63.37	48.0	10	31	-2					
MORGANTOWN	64.89	57.5	10	39	-4					
SKALSTUGAN	64.94	354.7	10	42	-1					
FRUNSE	66.71	310.0	10	53	-1					
PALISADES	66.96	52.7	11	5	9	19	43	-6	20	3 PS
UPPSALA	68.23	351.3	11	3	-1					
TACUBAYA	68.44	85.7	11	5	0				14	7
COLUMBIA	68.45	62.3	11	5	0	19	58	-9		
MOSCOW	69.01	339.1	11	6	-3					
NAMANGAN	69.56	310.5	11	12	0					
SHILLONG	70.22	286.3	11	16A	0					
CHATRA	72.06	290.5	11	28	1					
DEHRA DUN	74.56	299.3				21	15	-3		
HAMBURG	75.05	354.8	11	46	1					
RATHFARNHAM	75.36	4.8	11	45	-2					
LAHORE	75.60	302.6	11	47	-1					
WITTEVEEN	75.95	356.8	11	51	1					
JENA	77.58	353.5	11	58	-1					
KISHINEV	79.08	341.4	12	6	-1					
IASI	79.16	342.3	12	8	0					
SOTCHI	79.67	332.8	12	10	0					
BRATISLAVA	79.81	349.5	12	13	2					
TIFLIS	79.81	328.6	12	11	0	22	16	2		
SIMFEROPOL	79.88	337.1	12	11	-1					
STUTTGART	79.88	354.9	12	11	-1					
STRASBOURG	80.15	355.8	12	13	0				28	8 SS
QUETTA	80.48	307.0	12	15	0	22	16	-5	22	28 SKS
EBINGEN	80.48	355.0	12	14	-1					
BESANCON	81.55	356.9	12	20	0				12	54
BELGRADE	82.66	346.5	12	27A	1				12	39
CLERMONT-FD.	83.09	358.9	12	30	2					
HYDERABAD	84.41	290.9	12	33	-2	22	57	-4		
FLORENCE X.	84.72	352.9	12	37A	0	23	18	14		
MONACO	85.00	355.7	12	39	1					
POONA	86.18	295.0	12	44	0					
BOMBAY	86.47	296.0	12	45	0	23	18	-3		
ROME	86.48	351.8	12	44A	-1	23	21	0		
TARANTO	87.38	348.1							21	48
SAN JUAN	88.91	61.5	12	58	1					
RIVERVIEW	89.07	204.9				23	48	2	23	26 SKS
MESSINA	89.82	349.0				23	49	2		
KSARA	89.83	332.0	13	6	5				16	46 PP
MALAGA	91.99	4.8	13	13A	2					
PRETORIA	147.25	311.6	19	44K	1					
PIETERMZBURG	149.36	304.4	19	52K	6					
KIMBERLEY	151.37	313.7	19	56	7					
GRAHAMSTOWN	154.28	305.3							20	12 PKP2

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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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/

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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