

RE-SCALING OF SEISMIC EVENTS AT SYOWA STATION, ANTARCTICA, 1987-1990

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1. Introduction

Seismic observations at Syowa Station were started in 1959 using a short period vertical component seismometer at the foot of west side hill of main buildings. A new vault for seismic observation was constructed in 1970. The seismic observations were continued at this seismographic vault ($69^{\circ}00'31.7''\text{S}$, $39^{\circ}35'31.6''\text{E}$, 20 m above mean sea level) using the following three instruments: 1) Short-period (SP) seismometer (HES seismometer; 1.0 s pendulum natural period), 2) Long-period (LP) seismometer (PELS seismometer; 12.0 s natural period) and 3) Broad-band digital seismometer (Streckeisen seismometer (STS); with a flat frequency response from 10 Hz to 360 s). Each seismometer has three-component sensors.

The main purpose of this report is to investigate and re-evaluate the detection capability of teleseismic events at Syowa Station. The seismic events recorded at Syowa Station have already been compiled and published by the National Institute of Polar Research as JARE Data Reports, Seismological bulletin of Syowa Station, Antarctica (for these four years, see Akamatsu and Kaminuma, 1989; Kaminuma and Ichikawa, 1990; Kaminuma and Murakami, 1991; Kaminuma and Nagasaka, 1992). We re-scaled the events which were reported on the PDE (Preliminary Determination of Epicenters) by NEIC (National Earthquake Information Center), but were not recognized as earthquakes in these JARE Data Reports for the 1987-1990 period.

2. Observed Phases and Arrival Times

Seismograms were re-scaled carefully based on an estimated arrival time of the initial phase of each event. The arrival time was calculated using the hypocenter data in PDE. The onsets of teleseismic events which were recorded on the three-component SP-seismogram were re-scaled, and arrival times of initial phases as well as several other predominant phases were determined. The re-scaled arrival times of P- and S-phases are listed in Tables 1a-1d.

Most phases were scaled on the vertical component seismogram, and only clear phases were determined on the horizontal component seismogram.

The teleseismic events reported in the PDE are marked with serial numbers (#-xxx) in the Tables 1a-1d. The events without serial numbers are teleseisms whose locations have not been determined by NEIC. In Tables 1a-1d, K denotes the PKP phase while X indicates a clear phase whose type was not identified. Symbols E and I in the phase column denote emergent and sharp onsets, respectively. The initial ground motion is denoted by + for upward and - for downward direction, respectively. Arrival time is in UTC. The time accuracy of the read-out data is estimated to be ± 0.2 s, which results from the read-out error in the identification of the arrival time of each phase. Paper speed was 4 mm/s for SP-seismogram, and 2 mm/s for LP and STS seismograms, respectively.

3. Teleseismic Events

The list of hypocenters which were determined by NEIC is shown in Tables 2a-2d with the same serial numbers given in Tables 1a-1d. Figure 1 shows the number of events per year that were already listed in the JARE Data Reports (left hand side column; Reports) and those reported in this paper (right hand side column; Re-scaled). The total number of the re-scaled earthquakes for the four year period is 2490, which is about 3 times larger than that reported in the JARE Data Reports (790 events).

The relationship between the epicentral distance and body-wave magnitude for the re-scaled 2490 events is shown in the upper part of Fig. 2. The lower limit of body-wave magnitude of the events detected at Syowa Station is about 4.0, for the range of epicentral distance from 60° to 100° . There exists a maximum number of scaled events in this distance range. The relationship between the epicentral distance and the focal depth is shown in the lower part of Fig. 2. The focal depths of the events with body-wave magnitude 4.0 - 4.5 are mostly found to be between 100 and 200 km in this investigation. Since the range of epicentral distances from 100° to 140° is within the shadow zone of seismic body-waves, very few observations of initial arrival phases were detected. For distances over 140° , PKP phases are mainly observed as first arrival phases.

4. Earthquake Detectability

Detection capability of teleseismic events has been evaluated by Ringdal (1986) using the reports to ISC from a network of 115 global stations for a ten year period (1971-1980). This detection capability of earthquakes relied on recurrence statistics. Ringdal (1986) also pointed out that the magnitude threshold of earthquake detection has a gradual increase with increasing southern latitude. The bias problem of network magnitude determination is significant at small and middle magnitudes, particularly in the southern high latitude.

According to Ringdal (1986) the 90 % incremental Mb threshold ranges from 4.2 to 4.8 in the southern hemisphere. At latitude of Syowa Station (69°S), this threshold is estimated to be from 4.6 to 4.8.

The relationship between the number of scaled events and the body-wave magnitude (Mb) is shown in Fig. 3. The number of scaled events is averaged per year over the four year period (1987-1990) and is shown with solid circles with an increment of 0.1 Mb. It can be seen from Fig. 3 that the peak number of the events for Mb exists around 5.3 for the re-scaled data at Syowa Station.

5. Data Processing Staffs

Syowa Station contributes to the epicentral determination of global seismicity as described above. The seismic observations at Syowa Station are organized by the author, Prof. K. Kaminuma, and Dr. K. Shibuya of the National Institute of Polar Research (NIPR). Information on the seismic observation at Syowa Station is available from them.

Acknowledgments

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References

- Akamatsu, J. and Kaminuma, K. (1989): Seismological bulletin of Syowa Station, Antarctica, 1989. JARE Data Rep., **145** (Seismology 22), 1-73.
- Kaminuma, K. and Ichikawa, N. (1990): Seismological bulletin of Syowa Station, Antarctica, 1990. JARE Data Rep., **151** (Seismology 23), 1-78.
- Kaminuma, K. and Murakami, H. (1991): Seismological bulletin of Syowa Station, Antarctica, 1989. JARE Data Rep., **160** (Seismology 24), 1-66.
- Kaminuma, K. and Nagasaka, K. (1992): Seismological bulletin of Syowa Station, Antarctica, 1990. JARE Data Rep., **172** (Seismology 25), 1-106.
- Ringdal, F. (1986): Study of magnitudes, seismicity and earthquake detectability using a global network. Bull. Seismol. Soc. Am., **76**, 1641-1659.

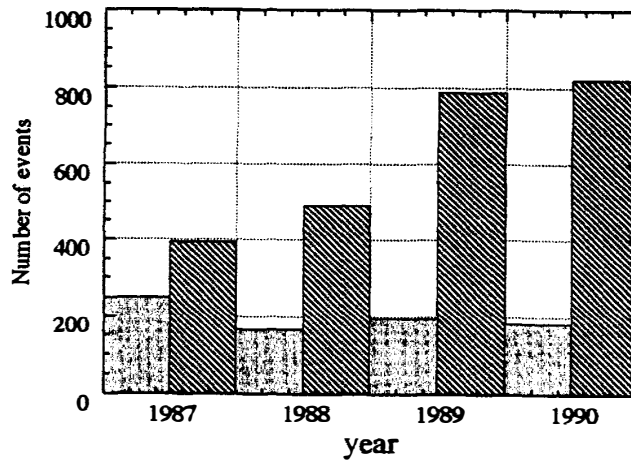


Fig. 1. Number of events for the four year period (left; JARE Data Reports, right; Re-scaled in this report).

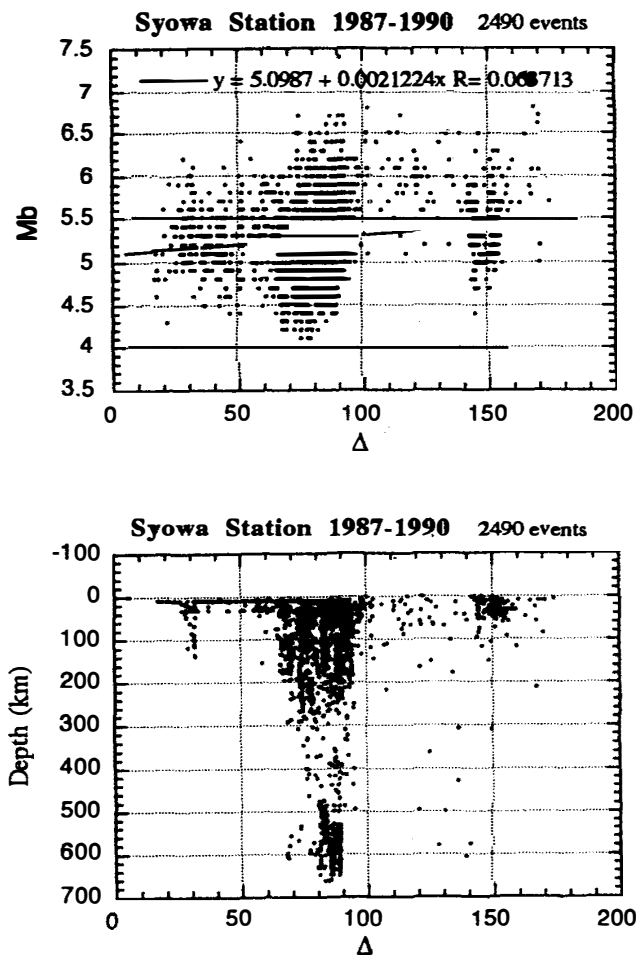


Fig. 2. Relationship between the epicentral distance (Δ) and body-wave magnitude (Mb) (upper part); and the focal depth (lower part) for the re-scaled 2490 events for the four year period. Solid line in the upper figure shows the regression curve with a linear constant.

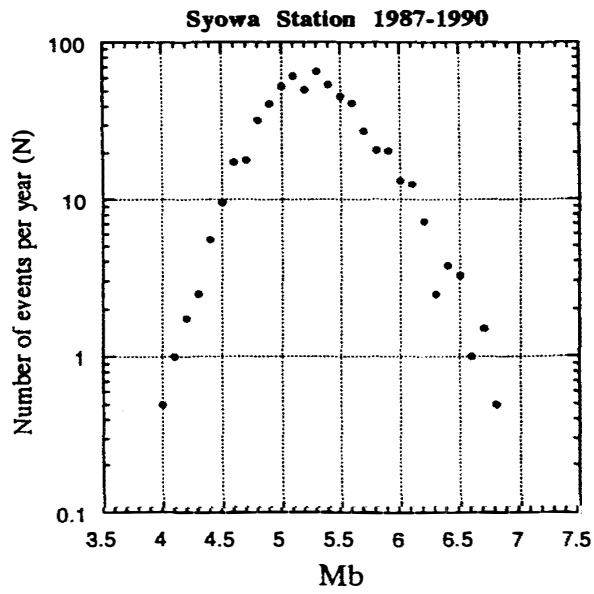


Fig. 3. Number of scaled events (N) for body-wave magnitude (M_b), which is averaged per year over the four year period (1987-1990). The number of events are marked by solid circles with an increment of 0.1 Mb.

Table 1a. Observed phases and arrival time (1987).

Date	Phase	Arrival time			Remarks	Date	Phase	Arrival time			Remarks
		h	m	s				h	m	s	
Jan. 02	+IPZ	07	50	17.4	#-1	Feb. 17	-IPZ	06	27	51.4	#-29
03	+IPZ	22	16	57.8	#-2	23	+IPZ	16	02	17.5	#-30
05	EKZ	12	31	54.5	#-3	25	-IXZ	10	53	34.7	#-31
09	EXZ	06	33	46.3	#-4		+IPZ	14	48	34.6	#-32
	EPZ	08	14	25.0	#-5	27	EKZ	08	51	53.3	#-33
11	+IPZ	07	42	55.7	#-6	Mar. 05	+IPZ	09	28	35.4	#-34
13	+IPZ	11	07	13.0	#-7		EPZ	10	03	25.8	#-35
14	EXZ	11	22	45.2	#-8		-IPZ	11	06	46.2	#-36
	+IPZ	12	55	18.6	#-9	06	EPZ	07	18	19.2	#-37
16	+IPZ	15	18	57.7	#-10		EPZ	09	51	28.5	#-38
	-IPZ	16	40	50.9	#-11	11	EPZ	03	01	58.0	#-39
21	-IPZ	04	59	15.9	#-12	19	EPZ	23	04	02.5	#-40
	+IPZ	20	49	05.7	#-13	21	-IKZ	11	01	45.1	#-41
23	+IPZ	18	04	05.0	#-14	22	EPZ	03	35	33.5	#-42
28	EPZ	20	22	29.3	#-15	26	EPZ	16	30	14.6	#-43
29	EPZ	02	56	43.4	#-16	Apr. 01	+IPZ	01	59	18.4	#-44
	EPZ	17	33	40.6	#-17	03	EXZ	01	36	04.4	#-45
30	-EPZ	22	35	31.4	#-18		EPZ	18	07	18.4	#-46
Feb. 03	-IXZ	00	38	34.5	#-19	07	+IPZ	01	02	52.5	#-47
03	+IPZ	16	53	03.4	#-20	16	EXZ	01	29	32.8	#-48
07	EXZ	19	31	40.2	#-21	17	-IXZ	01	22	00.6	#-49
08	EPZ	18	46	58.5	#-22	18	-IKZ	13	59	39.6	#-50
10	-IPZ	01	11	34.9	#-23	25	EPZ	19	34	27.3	#-51
	EXZ	06	38	17.6	#-24	29	IPZ	14	39	44.5	#-52
11	+IPZ	08	09	00.6	#-25	30	EKZ	13	49	36.4	#-53
	+IXZ	18	03	39.0	#-26	May 06	+IKZ	04	26	11.3	#-54
13	+IPZ	07	31	24.1	#-27	07	EXZ	03	24	03.5	#-55
14	+IKZ	17	02	07.1	#-28	10	+IPZ	15	26	50.5	#-56

Date	Phase	Arrival time h m s	Remarks
May 11	-IPZ	02 49 27.5	#-57
	+IPZ	10 12 39.9	#-58
12	+IPZ	01 43 49.9	#-59
	+IPZ	14 09 28.8	#-60
	-IPZ	16 24 17.2	#-61
15	-IPZ	13 59 22.3	#-62
16	EPZ	03 47 03.2	#-63
17	+IPZ	05 24 50.5	#-64
19	+IPZ	13 07 26.0	#-65
31	EPZ	01 12 38.5	#-66
June 01	-IPZ	02 01 50.7	#-67
15	+IPZ	21 16 04.7	#-68
16	EPZ	20 29 20.4	#-69
17	+IPZ	01 45 24.3	#-70
18	EPZ	14 16 12.3	#-71
19	+IPZ	19 11 45.8	#-72
	EPZ	21 12 15.5	#-73
20	EPZ	00 56 27.2	#-74
	EXZ	01 12 01.3	#-75
	+IPZ	05 51 52.2	#-76
	EPZ	21 57 34.7	#-77
22	-IPZ	05 28 10.8	#-78
26	EXZ	23 08 09.0	#-79
27	EXZ	00 30 14.9	#-80
	-IPZ	08 47 44.4	#-81
	-IPZ	09 21 38.7	#-82
July 03	-IPZ	23 09 14.4	#-83
06	EXZ	00 43 05.2	#-84

Date	Phase	Arrival time h m s	Remarks
July 06	-EPZ	01 18 24.0	#-85
	EPZ	03 02 34.6	#-86
	EPZ	03 17 52.5	#-87
	EXZ	23 41 33.8	#-88
07	EPZ	10 49 06.7	#-89
	+IPZ	18 24 00.2	#-90
08	-IPZ	12 02 31.2	#-91
	EPZ	14 47 33.8	#-92
09	-IPZ	04 19 23.4	#-93
	EPZ	04 44 31.9	#-94
	EPZ	07 33 43.3	#-95
10	EPZ	01 37 39.2	#-96
	+IPZ	10 57 12.3	#-97
	EKZ	19 09 43.8	#-98
11	+IPZ	00 31 13.8	#-99
	-IXZ	05 32 42.5	#-100
	EXZ	06 35 49.4	#-101
12	-IPZ	19 18 26.1	#-102
13	EPZ	01 57 59.5	#-103
	+IPZ	19 26 55.4	#-104
15	+IXZ	00 07 09.4	#-105
	EXZ	07 35 00.0	#-106
17	+IPZ	01 09 53.2	#-107
	-IXZ	01 36 02.2	#-108
20	EPZ	08 06 50.6	#-109
21	EPZ	13 38 26.5	#-110
22	-IPZ	08 16 13.9	#-111
23	-IPZ	01 10 15.9	#-112

Date	Phase	Arrival time h m s	Remarks	Date	Phase	Arrival time h m s	Remarks
July 23	-IPZ	04 09 27.0	#-113	Aug. 10	EPZ	15 04 44.2	#-141
25	+IPZ	16 26 19.3	#-114	11	EPZ	02 18 26.3	#-142
	-IPZ	18 24 31.4	#-115		EPZ	04 46 50.3	#-143
26	EPZ	22 11 09.8	#-116		EPZ	17 57 58.2	#-144
29	EPZ	10 13 06.5	#-117	12	EPZ	00 19 19.3	#-145
	-IPZ	15 33 24.7	#-118		EKZ	04 54 20.0	#-146
	-IPZ	20 49 02.0	#-119		-IPZ	06 26 07.5	#-147
	-IPZ	21 44 20.1	#-120	13	+IPZ	08 55 53.3	#-148
31	+IPZ	00 40 04.4	#-121		+IXZ	14 19 37.9	#-149
	+IPZ	16 39 56.8	#-122		EPZ	15 35 14.6	#-150
Aug. 01	EXZ	00 16 45.5	#-123		EPZ	20 45 53.0	#-151
02	+IXZ	01 17 03.0	#-124		EPZ	21 59 43.7	#-152
	-IKZ	02 19 30.2	#-125	14	+IPZ	06 12 03.4	#-153
03	+IPZ	02 35 36.0	#-126		EXZ	17 59 45.5	#-154
	EPZ	14 19 47.3	#-127		+IPZ	22 31 34.8	#-155
	-IPZ	23 24 39.3	#-128		-IPZ	09 46 17.6	#-156
04	+IPZ	10 30 45.6	#-129		EPZ	14 01 38.0	#-157
	+IPZ	15 14 44.6	#-130		IPZ	18 15 36.1	#-158
	EPZ	19 17 35.8	#-131	16	+IPZ	21 50 03.5	#-159
	+IPZ	20 04 36.8	#-132	19	EPZ	00 36 50.2	#-160
	EPZ	22 27 39.4	#-133		-IPZ	08 03 59.2	#-161
06	+IPZ	13 21 42.0	#-134	20	-IPZ	05 52 18.7	#-162
07	+IXZ	12 28 21.3	#-135	21	EXZ	18 35 46.2	#-163
08	EPZ	07 59 12.2	#-136		+IPZ	19 57 24.6	#-164
	-IPZ	16 00 53.8	#-137		EPZ	21 45 58.5	#-165
09	+IPZ	08 30 43.0	#-138	22	EXZ	05 29 07.2	#-166
	+EPZ	08 35 49.7	#-139	24	EPZ	06 21 41.3	#-167
10	+IPZ	10 10 59.1	#-140	26	+IPZ	07 08 27.9	#-168

Date	Phase	Arrival time			Remarks
		h	m	s	
Aug. 26	EPZ	13	12	28.8	#-169
	EPZ	17	08	04.3	#-170
28	EPZ	13	29	29.7	#-171
29	+IPZ	00	44	49.3	#-172
	-IPZ	13	04	26.3	#-173
	EPZ	14	21	32.5	#-174
	EPZ	15	20	18.8	#-175
30	+IPZ	12	27	23.0	#-176
31	EXZ	07	04	29.7	#-177
Sept. 01	+IPZ	04	37	22.3	#-178
	-IPZ	22	58	24.1	#-179
02	-IPZ	05	33	44.3	#-180
03	-IPZ	01	28	18.8	#-181
	EPZ	06	48	25.0	#-182
	EPZ	08	09	43.1	#-183
	EPZ	08	44	23.2	#-184
	EXZ	09	50	35.7	#-185
	EPZ	11	16	31.8	#-186
	+IPZ	04	46	39.6	#-187
04	+IPZ	11	34	57.8	#-188
06	+IXZ	15	46	51.5	#-189
	+IXZ	20	19	02.5	#-190
	+IXZ	22	13	30.6	#-191
07	EPZ	12	08	54.5	#-192
	-IPZ	17	55	25.8	#-193
	EPZ	20	45	25.0	#-194
08	-IXZ	13	54	40.4	#-195
	EPZ	16	43	31.8	#-196

Date	Phase	Arrival time			Remarks
		h	m	s	
Sept. 08	EPZ	21	48	45.8	#-197
10	+IPZ	02	37	37.6	#-198
	EPZ	20	44	08.8	#-199
11	-IPZ	00	46	23.0	#-200
	-IPZ	04	12	51.3	#-201
13	+IPZ	20	19	29.8	#-202
14	+IPZ	10	35	07.2	#-203
15	+IPZ	17	20	39.9	#-204
16	EPZ	00	19	40.4	#-205
17	EPZ	05	00	20.8	#-206
	+IPZ	09	37	13.4	#-207
18	-IPZ	08	54	54.4	#-208
19	+IPZ	09	34	13.4	#-209
	EPZ	21	31	24.7	#-210
	-IXZ	22	17	25.0	#-211
20	+IPZ	04	34	55.4	#-212
	EPZ	06	10	10.5	#-213
22	-IPZ	04	38	35.7	#-214
	EPZ	07	29	03.5	#-215
	EPZ	13	05	24.6	#-216
	EPZ	13	57	16.3	#-217
23	+IPZ	15	23	28.4	#-218
	+IPZ	15	31	18.8	#-219
24	EPZ	01	59	25.6	#-220
	+IKZ	15	19	38.8	#-221
26	-IPZ	00	36	07.3	#-222
	EKZ	05	50	27.5	#-223
27	EPZ	04	20	10.5	#-224

Date	Phase	Arrival time			Remarks	
		h	m	s		
Sept. 28	EPZ	13	58	48.0	#-225	
	+IPZ	23	22	10.4	#-226	
29	EXZ	15	22	03.8	#-227	
30	EPZ	01	52	00.9	#-228	
	-IPZ	22	26	33.4	#-229	
Oct. 01	EPZ	07	42	22.8	#-230	
	+IPZ	13	26	45.7	#-231	
	-IXZ	15	01	47.5	#-232	
03	-IPZ	03	47	01.8	#-233	
	+IPZ	10	28	56.4	#-234	
04	EPZ	11	48	11.4	#-235	
	EXZ	18	54	01.7	#-236	
	+IPZ	23	20	57.2	#-237	
05	EPZ	13	43	11.7	#-238	
06	EPZ	04	32	05.2	#-239	
	EPZ	14	42	21.5	#-240	
	EPZ	14	51	14.9	#-241	
	EPZ	16	02	28.9	#-242	
	EPZ	16	20	12.3	#-243	
	EXZ	20	31	14.2	#-244	
	07	-IPZ	01	03	05.6	#-245
	08	+IPZ	03	33	33.0	#-246
09	+IPZ	03	23	46.1	#-247	
	EPZ	10	29	11.3	#-248	
	+IPZ	18	15	20.1	#-249	
10	-IPZ	14	37	38.5	#-250	
11	EPZ	08	17	12.8	#-251	
	EPZ	09	51	48.8	#-252	

Date	Phase	Arrival time			Remarks
		h	m	s	
Oct. 11	+IPZ	18	14	11.7	#-253
	+IPZ	18	59	45.1	#-254
12	EPZ	14	10	07.3	#-255
13	+IPZ	02	55	01.8	#-256
	EPZ	17	50	28.6	#-257
14	+IPZ	02	22	37.1	#-258
	+IPZ	21	04	41.0	#-259
	+IPZ	23	42	41.1	#-260
15	EPZ	01	18	28.5	#-261
	-IPZ	06	20	08.2	#-262
	+IPZ	14	21	07.5	#-263
16	-IPZ	07	04	52.8	#-264
	EPZ	21	00	59.2	#-265
17	+IPZ	06	43	43.8	#-266
20	EPZ	11	03	03.4	#-267
	+IKZ	09	43	28.0	#-268
	21	EPZ	06	24	15.1
22	+IPZ	07	37	29.5	#-270
	+IPZ	19	06	06.7	#-271
	-IPZ	23	37	38.0	#-272
23	EPZ	00	13	05.4	#-273
	-IPZ	12	24	27.3	#-274
24	+IXZ	01	19	25.5	#-275
	EPZ	05	06	40.4	#-276
	+IPZ	13	47	28.9	#-277
25	+IKZ	16	19	37.7	#-278
	-IPZ	18	24	18.1	#-279
26	+IPZ	14	50	05.6	#-280

Date	Phase	Arrival time			Remarks
		h	m	s	
Oct. 25	EPZ	16	57	51.5	#-281
	EPZ	17	07	06.4	#-282
	+IPZ	23	05	06.4	#-283
27	+IPZ	13	09	40.9	#-284
	-IPZ	22	08	15.5	#-285
28	EPZ	09	10	09.4	#-286
	-IPZ	18	33	31.4	#-287
29	+IPZ	20	36	40.5	#-288
30	-IPZ	20	58	44.4	#-289
31	-IPZ	02	45	34.3	#-290
	EPZ	05	22	38.5	#-291
	EPZ	09	05	44.3	#-292
Nov. 01	+IPZ	08	54	02.7	#-293
	+IPZ	19	09	31.3	#-294
	EPZ	23	19	39.8	#-295
02	-IPZ	21	55	07.3	#-296
03	+IPZ	08	27	53.4	#-297
05	EPZ	03	26	02.5	#-298
	+IPZ	09	25	06.5	#-299
	-IPZ	19	59	00.8	#-300
06	-IPZ	18	45	00.6	#-301
	-IPZ	18	58	11.9	#-302
	-IPZ	20	29	29.4	#-303
07	EPZ	16	37	05.4	#-304
08	+IPZ	04	50	53.2	#-305
	EPZ	06	18	37.9	#-306
09	EPZ	01	51	10.1	#-307
	-IPZ	17	58	02.5	#-308

Date	Phase	Arrival time			Remarks
		h	m	s	
Nov. 10	EPZ	20	29	55.8	#-309
11	+IPZ	01	08	55.6	#-310
	EPZ	10	54	43.6	#-311
12	EPZ	00	36	56.3	#-312
14	+IPZ	21	33	30.0	#-313
15	+IXZ	04	00	00.2	#-314
16	-IPZ	03	28	30.2	#-315
	EPZ	06	13	05.2	#-316
	-IPZ	11	49	00.0	#-317
17	EXZ	03	58	40.2	#-318
	EXZ	09	06	54.2	#-319
18	+IPZ	01	45	36.1	#-320
	-IPZ	12	58	08.7	#-321
19	-IPZ	11	39	30.1	#-322
20	-IPZ	21	26	15.0	#-323
	EPZ	21	45	21.8	#-324
23	EPZ	12	08	45.4	#-325
24	+IPZ	07	46	13.6	#-326
	-IPZ	12	50	35.4	#-327
	EXZ	13	35	24.0	#-328
	EPZ	15	18	57.5	#-329
25	EPZ	16	21	27.2	#-330
	-IKZ	17	47	53.5	#-331
	-IPZ	20	02	49.4	#-332
26	EPZ	01	55	23.2	#-333
	EPZ	17	41	40.5	#-334
27	+IPZ	00	14	57.0	#-335
	EPZ	13	18	36.9	#-336

Date	Phase	Arrival time			Remarks
		h	m	s	
Nov. 27	EPZ	13	46	03.5	#-337
	-IPZ	14	45	04.8	#-338
28	+IPZ	04	16	33.3	#-339
29	EPZ	08	07	00.5	#-340
30	EPZ	04	54	27.7	#-341
	EKZ	19	43	16.3	#-342
Dec. 01	EPZ	04	17	10.9	#-343
	+IPZ	18	35	26.8	#-344
02	EPZ	14	34	40.5	#-345
03	-IPZ	11	16	14.7	#-346
04	-IPZ	20	04	33.6	#-347
05	EPZ	11	59	30.4	#-348
06	+IXZ	18	36	22.0	#-349
07	EPZ	00	13	18.4	#-350
	+IPZ	12	39	05.3	#-351
08	EPZ	13	27	31.6	#-352
	EPZ	19	33	23.4	#-353
	+IPZ	14	45	07.3	#-354
09	+IPZ	14	59	49.6	#-355
	-IPZ	17	39	06.7	#-356
10	EPZ	20	02	50.2	#-357
	EPZ	05	58	09.7	#-358
11	+IPZ	22	36	11.4	#-359
	EPZ	02	15	47.2	#-360
12	EPZ	16	53	44.5	#-361
	EXZ	05	10	23.2	#-362
13	EPZ	19	35	24.8	#-363
	+IXZ	03	40	01.1	#-364

Date	Phase	Arrival time			Remarks
		h	m	s	
Dec. 13	EPZ	06	37	26.2	#-365
	EPZ	10	47	56.2	#-366
14	EPZ	0	59	27.4	#-367
	-IXZ	12	35	05.8	#-368
15	EPZ	12	55	35.6	#-369
	EPZ	20	54	36.3	#-370
16	EPZ	08	39	55.3	#-371
17	+IXZ	15	16	19.8	#-372
18	-IPZ	03	29	13.1	#-373
	EPZ	05	13	02.9	#-374
19	-IXZ	02	27	16.0	#-375
	EXZ	12	07	23.8	#-376
20	-IPZ	20	34	41.8	#-377
	-IXZ	23	54	07.6	#-378
21	-IPZ	10	27	15.0	#-379
	+IPZ	10	23	06.4	#-380
22	+IPZ	17	43	50.3	#-381
	EPZ	01	45	34.9	#-382
23	EPZ	23	09	16.8	#-383
	EPZ	11	07	14.6	#-384
24	+IXZ	03	24	00.7	#-385
25	+IPZ	08	27	33.4	#-386
	EPZ	13	37	09.1	#-387
26	+IPZ	06	51	16.6	#-388
	+IPZ	12	06	46.6	#-389
27	EPZ	20	31	28.1	#-390
	EPZ	21	29	31.0	#-391
28	-IPZ	22	45	28.9	#-392
	+IPZ	06	35	26.8	#-393

Table 1b. Observed phases and arrival time (1988).

Date	Phase	Arrival time			Remarks	Date	Phase	Arrival time			Remarks
		h	m	s				h	m	s	
Jan. 01	EXZ	21	14	28.6	#-1	Jan. 22	+IPZ	00	47	32.0	#-25
02	-IPZ	06	48	25.5	#-2		+IPZ	04	08	59.6	#-26
	+IXZ	13	04	12.6	#-3		-IPZ	05	40	05.9	#-27
04	+IPZ	17	32	12.7	#-4		+IPZ	12	16	31.9	#-28
06	EPZ	15	02	33.6	#-5		+IPZ	12	51	08.4	#-29
07	+IPZ	09	30	09.6	#-6	23	-IPZ	09	10	55.7	#-30
08	+IXZ	11	35	42.4	#-7		+IPZ	23	00	36.8	#-31
09	+IPZ	23	19	11.4		24	-IPZ	16	12	00.4	#-32
10	EXZ	04	17	23.4	#-8	25	+IPZ	07	28	45.5	#-33
	+IPZ	06	28	28.8		26	+IPZ	17	02	59.5	#-34
11	+IKZ	21	27	17.7	#-9	28	EPZ	11	33	21.8	#-35
12	-IPZ	07	41	31.6	#-10	29	+IPZ	10	31	03.8	#-36
13	-IPZ	15	50	36.9	#-11		EPZ	17	00	59.3	#-37
	+IPZ	22	28	23.1	#-12	Feb. 01	+IPZ	13	44	22.8	#-38
14	-IPZ	19	15	11.7	#-13	05	+IPZ	14	12	33.4	#-39
15	-IPZ	08	52	46.6	#-14		+IPZ	19	01	02.4	#-40
	-IPZ	21	16	17.8	#-15	06	+IPZ	11	40	39.0	#-41
16	EPZ	05	54	46.6	#-16		+IPZ	15	28	12.3	#-42
17	EPZ	14	03	11.8	#-17		+IPZ	18	15	26.5	#-43
	-IPZ	17	27	21.2	#-18		+IPZ	21	42	58.0	#-44
18	EPZ	10	05	07.3	#-19	07	-IPZ	18	34	46.3	
19	-IPZ	03	37	55.6	#-20	08	+IPZ	16	08	30.5	#-45
	+IPZ	07	42	05.8	#-21	09	+IPZ	04	44	02.2	#-46
	EXZ	21	27	50.7		18	-IPZ	14	03	55.3	#-47
20	EXZ	03	06	24.5		22	-IPZ	19	25	03.9	#-48
	EPZ	15	13	03.5	#-22	26	IPZ	06	23	58.9	#-49
21	EPZ	07	29	21.0	#-23	Mar. 04	IPZ	03	20	09.0	#-50
	+IPZ	08	34	58.5	#-24	06	EKZ	22	55	41.0	#-51

Date	Phase	Arrival time	Remarks
		h m s	
Mar. 08	EKZ	16 47 12.8	#-52
09	+IPZ	04 55 32.4	#-53
	-IPZ	05 11 18.5	#-54
	-IPZ	21 46 11.8	#-55
10	+IPZ	10 36 41.2	#-56
	EPZ	21 06 38.5	#-57
11	EPZ	02 43 25.7	#-58
	-IPZ	09 20 48.9	#-59
12	+IPZ	00 55 49.4	#-60
	+IKZ	08 58 39.1	#-61
13	EPZ	11 42 15.6	#-62
	EPZ	13 05 44.4	#-63
14	+IPZ	11 11 15.1	#-64
	-IPZ	12 42 41.7	#-65
	-IXZ	19 36 32.0	
15	EPZ	12 17 25.5	#-66
16	EPZ	06 20 25.9	#-67
24	-IPZ	15 41 43.6	#-68
25	-IPZ	05 33 34.8	#-69
	+IPZ	17 31 43.3	#-70
	EKZ	19 58 10.1	#-71
27	-IPZ	07 58 58.0	#-72
	+IPZ	23 30 59.1	#-73
28	EPZ	18 47 49.7	#-74
31	+IPZ	00 02 27.5	#-75
	EPZ	08 51 26.7	#-76
	EPZ	23 09 47.5	#-77
Apr. 01	-IPZ	14 38 32.2	#-78

Date	Phase	Arrival time	Remarks
		h m s	
Apr. 02	EXZ	05 03 39.2	
	-IPZ	05 25 28.6	#-79
	-IPZ	07 27 54.2	#-80
	IPZ	14 39 38.8	#-81
03	+IXZ	01 52 01.5	
	EPZ	14 39 30.5	#-82
06	EPZ	16 42 32.5	#-83
	+IPZ	20 04 41.5	#-84
	-IPZ	21 18 43.5	#-85
08	+IPZ	11 32 35.8	#-86
11	-IPZ	21 04 14.4	#-87
	-IPZ	22 47 58.1	#-88
12	EPZ	05 14 42.8	#-89
	EPZ	23 32 09.5	#-90
13	EPZ	00 07 38.3	#-91
	EPZ	00 51 47.4	#-92
	+IPZ	08 10 00.5	#-93
14	EPZ	02 32 56.8	#-94
16	EPZ	02 42 23.2	#-95
17	EPZ	03 02 51.9	#-96
	EPZ	05 17 31.9	#-97
19	+IPZ	21 01 47.5	#-98
	+IPZ	23 22 18.5	#-99
20	EPZ	04 38 06.8	#-100
23	+IPZ	04 25 22.6	#-101
25	EPZ	01 31 48.5	#-102
	EPZ	10 23 38.0	#-103
27	IPZ	21 33 12.2	#-104

Date	Phase	Arrival time			Remarks
		h	m	s	
Apr. 28	EPZ	22	52	57.2	#-105
29	+IPZ	05	26	58.3	#-106
	EPZ	07	47	54.0	#-107
May 01	EXZ	08	16	30.3	
	-IXZ	10	26	16.0	#-108
	EPZ	15	34	58.0	#-109
	+IPZ	23	12	44.3	#-110
03	EPZ	23	34	24.9	#-111
04	EPZ	00	10	59.5	#-112
	+IXZ	01	16	02.0	#-113
05	EXZ	00	05	45.5	
	EPZ	08	10	24.4	#-114
	+IPZ	17	50	24.8	#-115
	EXZ	22	45	08.5	#-116
	+IPZ	23	43	06.5	#-117
06	+IPZ	16	46	42.3	#-118
	EPZ	19	26	30.2	#-119
07	EXZ	02	18	34.6	
	EPZ	14	32	05.2	#-120
	EPZ	17	16	11.8	#-121
	-IKZ	23	09	27.2	#-122
09	+IPZ	12	33	52.2	#-123
10	EXZ	10	17	34.0	#-124
	EXZ	17	39	34.5	
11	+IPZ	20	08	33.7	#-125
13	-IPZ	02	08	25.1	#-126
	EPZ	03	35	34.3	#-127
	EKZ	15	54	38.3	#-128

Date	Phase	Arrival time			Remarks
		h	m	s	
May 15	EXZ	11	54	33.3	
16	EPZ	23	20	34.5	#-129
17	+IPZ	09	18	06.1	#-130
	-IPZ	20	52	38.7	#-131
18	+IPZ	04	08	47.3	#-132
	EKZ	06	33	40.3	#-133
	+IPZ	22	01	51.4	#-134
	-IXZ	23	48	01.6	#-135
20	-IPZ	03	31	50.6	#-136
	+IPZ	03	46	11.1	#-137
	+IPZ	09	30	28.0	#-138
	EPZ	15	12	00.7	#-139
21	EPZ	14	39	25.2	#-140
22	+IPZ	12	59	19.9	#-141
	EKZ	19	40	11.8	#-142
23	+IPZ	00	06	38.8	#-143
	-IPZ	00	39	02.7	#-144
	EPZ	07	57	33.7	#-145
	EKZ	19	10	44.0	#-146
	EPZ	23	07	16.1	#-147
24	+IPZ	05	11	02.6	#-148
	EPZ	06	04	43.2	#-149
25	EPZ	00	46	05.3	#-150
	EXZ	14	25	05.5	#-151
27	+IPZ	02	56	34.3	#-152
28	EPZ	10	36	32.2	#-153
	-IPZ	16	39	20.1	#-154
29	+IPZ	12	05	42.0	#-155

Date	Phase	Arrival time			Remarks
		h	m	s	
May 30	+IPZ	21	23	26.6	#-156
June 02	+IPZ	12	10	00.5	#-157
	+IKZ	13	19	38.6	#-158
03	EPZ	01	25	50.6	#-159
	+IPZ	11	57	25.6	#-160
	+IPZ	23	37	32.8	#-161
05	EPZ	01	53	23.4	#-162
	EPZ	17	41	31.0	#-163
	+IPZ	18	35	26.8	#-164
07	EPZ	05	36	51.7	#-165
10	EPZ	03	23	10.3	#-166
	EXZ	05	19	14.9	
	-IPZ	11	42	35.7	#-167
	-IKZ	23	26	14.9	#-168
11	-IPZ	12	30	33.5	#-169
12	EPZ	13	52	47.3	#-170
14	+IPZ	04	48	17.4	#-171
16	-IPZ	15	53	04.8	#-172
	EPZ	23	50	52.9	#-173
17	EPZ	13	05	08.0	#-174
18	EXZ	23	09	03.8	
19	+IPZ	04	50	57.4	#-175
	EPZ	06	09	50.8	#-176
	EPZ	13	17	13.3	#-177
21	EXZ	03	45	10.5	
22	EPZ	22	05	57.0	#-178
23	+IPZ	04	24	09.4	#-179
24	-IPZ	06	10	38.2	#-180

Date	Phase	Arrival time			Remarks
		h	m	s	
June 25	+IPZ	06	35	53.0	#-181
26	EXZ	00	05	33.5	
	+IPZ	03	34	10.4	#-182
27	EPZ ISN	06 06	20 30	13.3 28.0	#-183
	-IPZ	16	27	24.6	#-184
28	+IPZ	14	44	01.6	#-185
	EPZ	16	48	28.4	#-186
29	EPZ	09	13	24.3	#-187
	EPZ	10	37	39.6	#-188
29	+IPZ	15	09	22.4	#-189
30	-IPZ	15	10	18.5	#-190
July 01	EPZ	03	08	33.4	#-191
02	+IPZ	10	14	07.1	#-192
	EPZ	17	45	21.9	#-193
03	+IXZ	01	50	05.4	
	EPZ ISN	05 05	21 30	05.7 32.6	#-194
	EPZ	11	57	03.6	#-195
04	+IPZ	08	39	51.1	#-196
	+IPZ	14	06	27.4	#-197
05	+IPZ	08	19	42.6	#-198
	IPZ IXN	20 20	45 55	06.5 30.5	#-199
06	EPZ	01	22	50.5	#-200
	EXZ	01	24	46.9	
	EXZ	02	01	39.5	
	EXZ	16	13	32.4	
	+IPZ	23	13	31.6	#-201
07	EPZ	02	22	00.4	#-202

Date	Phase	Arrival time			Remarks
		h	m	s	
July 07	+IXZ	13	24	33.2	
	+IKZ	15	25	08.0	#-203
08	+IPZ	14	13	59.7	#-204
	-IPZ	16	48	40.0	#-205
09	+IPZ	15	22	23.2	#-206
	EXZ	17	44	47.2	
	IPZ	18	36	31.5	#-207
10	EPZ	19	57	20.2	#-208
11	-IPZ	00	25	46.1	#-209
12	EPZ	10	06	25.6	#-210
13	EXZ	06	19	04.5	
	-IPZ	17	37	05.3	#-211
14	EPZ	05	40	48.3	#-212
16	-IPZ	08	45	39.8	#-213
	IXZ	08	47	13.7	
	+IPZ	17	07	09.8	#-214
17	EPZ	23	34	24.2	#-215
18	+IPZ	02	42	15.4	#-216
19	EPZ	01	12	54.7	#-217
	EPZ	16	36	47.1	#-218
	-IPZ	23	54	05.1	#-219
22	-IPZ	18	23	03.0	#-220
	+IPZ	19	53	48.6	#-221
23	EPZ	14	38	02.0	#-222
	-IPZ	15	30	15.5	#-223
	-IPZ	17	24	43.3	#-224
24	-IXZ	00	42	13.4	
	+IPZ	06	33	08.5	#-225
	EPZ	19	10	51.5	#-226

Date	Phase	Arrival time			Remarks
		h	m	s	
July 25	-IPZ	06	58	43.2	#-227
26	EXZ	00	02	04.0	
	EKZ	00	51	26.0	#-228
	-IPZ	16	47	02.5	#-229
	EPZ	19	25	11.9	#-230
27	EXZ	17	27	22.4	
	EPZ	21	33	43.8	#-231
	+IPZ	22	07	49.0	#-232
	+IPZ	22	57	13.7	#-233
28	EKZ	04	17	40.6	#-234
	-IPZ	17	23	42.5	#-235
	ISN	17	32	56.5	
30	EPZ	02	57	49.5	#-236
	EXZ	07	34	27.2	
	EPZ	11	32	16.4	#-237
	-IPZ	16	34	27.5	#-238
	EXZ	21	26	32.4	
31	+IPZ	13	02	23.3	#-239
	-IPZ	15	30	10.3	#-240
Aug. 03	+IPZ	12	00	45.7	#-241
04	-IPZ	06	29	00.0	#-242
	+IPZ	17	28	17.0	#-243
	+IPZ	21	39	19.0	#-244
	EPZ	23	47	20.6	#-245
05	EPZ	04	39	33.3	#-246
	EPZ	10	15	36.5	#-247
	-IXZ	17	47	29.6	
	EPZ	21	53	45.3	#-248
06	+IPZ	00	50	08.5	#-249

Date	Phase	Arrival time			Remarks	
		h	m	s		
Aug. 06	EXZ	01	06	10.8	#-250	
	+IPZ	06	39	56.0	#-251	
	EPZ	07	44	02.9		
	EXZ	09	21	23.5		
07	-IPZ	14	06	30.7	#-252	
	EPZ	11	42	29.6	#-253	
	+IPZ	15	46	14.9	#-254	
08	EXZ	22	44	44.5		
	-IPZ	17	27	18.1	#-255	
09	EXZ	20	18	51.0		
	EPZ	14	46	35.3	#-256	
10	+IXZ	01	10	11.5		
	EPZ	04	51	25.5	#-257	
	+IPZ	05	09	40.0	#-258	
	EPZ	06	51	41.8	#-259	
	+IPZ	09	42	25.7	#-260	
	EPZ	11	59	00.0	#-261	
	+IPZ	13	23	56.5	#-262	
	EPZ	16	02	42.5	#-263	
	11	EXZ	03	24	45.8	
		EPZ	03	41	09.2	#-264
EPZ		13	38	40.6	#-265	
12	+IXZ	05	33	46.5		
13	EPZ	05	59	11.8	#-266	
	-IPZ	12	49	03.0	#-267	
	EPZ	14	29	10.8	#-268	
14	-IXZ	11	15	27.8		
	+IPZ	13	23	26.4	#-269	

Date	Phase	Arrival time			Remarks
		h	m	s	
Aug. 14	EXZ	17	58	47.6	
	+IPZ	18	04	27.1	#-270
	-IXZ	20	22	40.2	
15	+IPZ	10	12	48.2	#-271
	EXZ	14	37	07.8	
16	EPZ	08	53	42.5	#-272
	EPZ	09	52	37.6	#-273
	EXZ	10	21	19.2	
17	+IPZ	14	10	57.6	#-274
	+IPZ	02	10	44.3	#-275
	+IPZ	08	27	41.8	#-276
18	+IPZ	11	46	09.4	#-277
	EPZ	12	49	32.3	#-278
	EPZ	14	37	21.6	#-279
19	+IKZ	17	19	37.6	#-280
	EPZ	23	22	35.2	#-281
20	-IPZ	06	45	08.5	#-282
	EPZ	18	33	55.0	#-283
21	+IXZ	23	02	21.9	
	EPZ	08	32	19.9	#-284
	+IPZ	16	13	34.9	#-285
22	-IXZ	23	23	09.9	#-286
	+IPZ	14	01	59.0	#-287
23	EPZ	11	25	00.0	#-288
	-IXZ	04	30	30.5	
24	EPZ	20	06	38.3	#-289
	-IPZ	09	34	53.6	#-290
	-IPZ	10	19	18.8	#-291

Date	Phase	Arrival time			Remarks
		h	m	s	
Aug. 24	+IXZ	15	31	14.5	
26	+IPZ	09	38	40.8	#-292
27	EPZ	05	35	56.2	#-293
	EPZ	10	14	18.8	#-294
	+IPZ	16	43	23.0	#-295
29	EXZ	04	42	08.4	
30	EPZ	12	59	42.2	#-296
	+IKZ	18	19	36.7	#-297
Sept. 01	-IPZ	05	48	05.9	#-298
02	+IPZ	04	52	54.0	#-299
	+IKZ	10	47	31.3	#-300
	EPZ	16	19	35.6	#-301
	-IPZ	22	45	34.7	#-302
03	+IPZ	00	41	12.5	#-303
	-IPZ	09	21	27.6	#-304
04	-IPZ	07	45	42.2	#-305
	-IPZ	20	38	38.5	#-306
05	+IPZ	09	27	09.4	#-307
06	+IPZ	12	35	57.7	#-308
	+IPZ	15	57	50.4	#-309
07	+IPZ	07	27	07.1	#-310
	EXZ	08	09	49.6	
	EXZ	12	11	17.5	
08	-IPZ	13	00	48.8	#-311
	EPZ	22	39	04.5	#-312
09	EPZ	17	03	23.2	#-313
	-IPZ	23	21	01.1	#-314
10	EPZ	05	44	22.1	#-315

Date	Phase	Arrival time			Remarks
		h	m	s	
Sept. 10	EPZ	21	47	56.0	#-316
11	EPZ	06	29	03.3	#-317
12	EPZ	11	57	35.7	#-318
13	EXZ	01	16	44.6	
14	+IXZ	02	47	54.8	
	+IXZ	04	18	51.2	
	EPZ	10	15	55.6	#-319
	EPZ	21	34	29.7	#-320
	-IPZ	22	25	29.7	#-321
16	EPZ	00	19	20.6	#-322
	-IPZ	02	28	01.7	#-323
	EPZ	06	40	07.6	#-324
18	+IPZ	01	54	33.0	#-325
19	EPZ	19	11	05.5	#-326
	+IPZ	20	02	29.8	#-327
	-IXZ	21	13	52.4	
20	-IPZ	14	55	42.9	#-328
	+IPZ	19	28	11.8	#-329
22	+IPZ	00	12	31.7	#-330
24	EPZ	11	42	01.2	#-331
25	-IPZ	01	14	40.6	#-332
	+IPZ	07	12	45.5	#-333
	+IPZ	09	07	39.3	#-334
	+IPZ	20	12	38.1	#-335
	+IXZ	21	46	06.1	
26	-IPZ	02	35	08.1	#-336
	EXZ	08	42	20.8	
	-IPZ	13	43	55.2	#-337

Date	Phase	Arrival time			Remarks
		h	m	s	
Sept. 26	EPZ	21	19	30.8	#-338
30	-IPZ	03	35	36.5	#-339
	EPZ	05	58	50.8	#-340
	+IPZ	08	40	02.3	#-341
	+IPZ	09	40	31.9	#-342
	+IPZ	20	54	31.1	#-343
	-IPZ	21	56	52.3	#-344
Oct. 01	EPZ	09	54	54.4	#-345
	EPZ	20	05	39.4	#-346
02	+IPZ	06	29	21.9	#-347
	+IPZ	12	04	56.3	#-348
03	-IPZ	00	58	48.7	#-349
	EPZ	19	31	22.4	#-350
04	+IPZ	15	19	28.6	#-351
	IXZ	15	22	16.3	
05	+IPZ	01	12	43.0	#-352
	EPZ	04	16	33.8	#-353
	EPZ	09	57	26.8	#-354
07	EPZ	15	23	19.0	#-355
08	+IPZ	04	59	17.1	#-356
	EPZ	07	47	12.5	#-357
	EPZ	21	45	13.3	#-358
09	EPZ	04	30	04.0	#-359
	EPZ	17	15	16.2	#-360
	EPZ	22	52	37.9	#-361
10	EPZ	06	44	20.7	#-362
	EPZ	07	31	39.4	#-363
	+IPZ	18	32	27.3	#-364

Date	Phase	Arrival time			Remarks
		h	m	s	
Oct. 10	EPZ	19	38	21.0	#-365
11	+IPZ	02	04	37.6	#-366
12	-IKZ	18	24	24.9	#-367
13	+IKZ	14	19	38.2	#-368
14	EPZ	03	38	31.0	#-369
	-IPZ	19	23	11.4	#-370
15	+IPZ	18	16	21.5	#-371
17	EKZ	06	16	30.2	#-372
	EKZ	06	26	50.5	#-373
	-IPZ	20	44	54.8	#-374
	+IPZ	21	50	56.6	#-375
18	+IPZ	13	17	09.7	#-376
	EPZ	16	44	19.8	#-377
20	-IPZ	01	20	19.7	#-378
21	+IPZ	09	04	30.5	#-379
22	-IKZ	16	23	40.7	#-380
23	EPZ	00	35	51.8	#-381
	+IXZ	06	57	14.3	
	EXZ	13	51	21.6	
	EXZ	13	57	39.9	
24	+IXZ	12	08	17.7	
25	-IPZ	03	54	58.7	#-382
26	EXZ	11	35	42.2	
27	EPZ	10	03	07.5	#-383
	+IPZ	11	02	48.4	#-384
	-IPZ	15	18	25.4	#-385
	-IPZ	19	52	15.6	#-386
28	-IPZ	10	50	38.2	#-387

Date	Phase	Arrival time			Remarks
		h	m	s	
Oct. 28	+IPZ	15	02	21.0	#-388
31	-IPZ	02	19	27.7	#-389
	+IPZ	18	01	06.0	#-390
Nov. 01	+IPZ	01	17	03.4	#-391
	+IPZ	22	37	13.0	#-392
02	-IPZ	00	27	25.2	#-393
	EPZ	23	47	48.3	#-394
03	-IXZ	02	07	45.2	
	EPZ	05	49	50.5	#-395
	EXZ	15	05	47.0	
	EXZ	18	17	31.9	
04	EPZ	03	01	39.8	#-396
05	EPZ	03	17	24.9	#-397
	EPZ	09	22	22.4	#-398
	EPZ	12	28	08.4	#-399
06	EXZ	08	40	43.8	
07	EPZ	03	59	25.2	#-400
	-IPZ	04	02	26.0	#-401
	+IPZ	17	36	49.1	#-402
	-IPZ	23	28	36.2	#-403
08	EPZ	16	24	35.3	#-404
	-IXZ	22	01	00.6	
11	-IKZ	23	31	33.2	#-405
12	-IXZ	03	49	00.0	
	-IPZ	19	14	33.4	#-406
13	+IPZ	02	49	51.1	#-407
14	EPZ	02	28	52.4	#-408
	+IPZ	04	41	27.9	#-409

Date	Phase	Arrival time			Remarks
		h	m	s	
Nov. 14	EPZ	11	43	35.4	#-410
	+IPZ	17	06	22.3	#-411
15	EPZ	05	35	31.5	#-412
	EKZ	09	01	35.7	#-413
16	+IPZ	05	21	56.2	#-414
	+IPZ	06	04	54.6	#-415
	EPZ	07	31	05.5	#-416
17	+IKZ	01	19	39.1	#-417
	EPZ	07	09	26.2	#-418
18	-IPZ	19	51	54.4	#-419
19	+IPZ	23	40	53.7	#-420
20	+IPZ	04	34	46.9	#-421
	+IPZ	08	14	47.3	#-422
	+IPZ	09	18	09.9	#-423
	-IPZ	11	03	57.5	#-424
	+IPZ	15	32	25.6	#-425
	EKZ	22	56	08.6	#-426
21	+IXZ	12	37	43.0	
	EPZ	15	45	37.9	#-427
	EPZ	18	02	56.2	#-428
22	EPZ	10	17	40.8	#-429
23	-IPZ	05	34	19.9	#-430
	+IPZ	09	38	52.4	#-431
25	EPZ	08	42	39.5	#-432
	+IPZ	11	12	41.3	#-433
26	EXZ	00	05	30.0	
	EXZ	11	41	13.3	
	+IPZ	20	59	53.3	#-434

Date	Phase	Arrival time			Remarks
		h	m	s	
Nov. 27	EPZ	02	11	58.6	#-435
	EPZ	16	33	49.9	#-436
28	EPZ	00	11	29.6	#-437
	-IPZ	00	42	59.8	#-438
29	+IPZ	07	57	36.3	#-439
	+IXZ	08	03	59.8	
	-IPZ	20	28	37.5	#-440
30	EXZ	09	15	18.0	
Dec. 03	EXZ	03	32	22.5	
	-IPZ	06	48	41.2	#-441
	EPZ	13	38	15.7	#-442
04	+EKZ	05	39	22.3	#-443
	-IPZ	11	37	16.0	#-444
	EXZ	13	56	34.3	
	EXZ	14	53	56.3	
05	+IPZ	11	33	19.3	#-445
	IPZ	11	33	32.5	#-446
	-IPZ	14	49	04.0	#-447
	EXZ	15	49	55.9	
	+IPZ	16	18	40.0	#-448
07	-IPZ	06	32	39.7	#-449
	EXZ	07	59	54.7	
	EKZ	14	13	09.5	#-450
	EPZ	18	51	16.5	#-451
09	-IPZ	07	55	13.8	#-452
	EXZ	16	17	09.9	
10	EPZ	07	36	12.4	#-453
	EPZ	15	48	18.6	#-454

Date	Phase	Arrival time			Remarks
		h	m	s	
Dec. 10	EPZ	17	17	17.3	#-455
	EKZ	20	49	37.9	#-456
11	+IPZ	03	38	51.6	#-457
12	+IPZ	10	21	28.3	#-458
13	EKZ	04	21	14.5	#-459
14	EXZ	17	19	23.9	
	+IKZ	09	40	53.2	#-460
	EXZ	21	21	55.2	
16	+IPZ	10	09	10.2	#-461
17	EPZ	01	10	03.2	#-462
	+IXZ	04	36	01.8	
	+IPZ	20	32	27.0	#-463
18	-IPZ	15	07	55.6	#-464
19	EPZ	06	48	40.4	#-465
	+IPZ	10	29	19.7	#-466
20	EPZ	02	56	47.7	#-467
	EPZ	03	47	27.3	#-468
	EPZ	09	00	20.5	#-469
	-IPZ	14	28	55.8	#-470
	+IPZ	14	40	03.8	#-471
	EPZ	20	37	27.9	#-472
21	EKZ	02	57	04.9	#-473
	-IPZ	05	29	34.3	#-474
22	+IXZ	02	03	42.8	
	EXZ	02	38	10.8	
	EPZ	08	21	48.5	#-475
23	EPZ	04	43	11.5	#-476
	EPZ	18	12	31.8	#-477

Date	Phase	Arrival time			Remarks
		h	m	s	
Dec. 23	EPZ	22	01	36.3	#-478
24	-IPZ	04	38	07.5	#-479
	+IPZ	09	50	14.8	#-480
	-IPZ	10	49	48.0	#-481
	-IPZ	13	22	08.6	#-482
27	-IPZ	10	17	31.3	#-483
29	EPZ	05	20	33.3	#-484
30	EXZ	00	40	54.2	
	+IPZ	22	42	50.6	#-485
31	+IPZ	11	29	29.7	#-486
	EXZ	14	33	32.0	
	-IPZ	15	23	58.8	#-487
	+IPZ	20	36	55.4	#-488
	+IPZ	21	57	33.4	#-489

#-No. --- corresponds to that in Table 2.

Table 1c. Observed phases and arrival time (1989).

Date	Phase	Arrival time h m s	Remarks	Date	Phase	Arrival time h m s	Remarks
Jan. 01	EPZ	10 29 04.5	#-1	Jan. 25	+IPZ	14 51 34.2	#-27
02	-IPZ	00 12 27.6	#-2	26	-IPZ	04 02 09.4	#-28
	-IPZ	02 04 52.5	#-3	27	-IXZ	00 09 26.1	#-29
	-IPZ	07 38 59.3	#-4		EKZ	08 54 45.5	#-30
03	EXZ	04 59 54.7		30	EPZ	06 33 04.3	#-31
04	-IPZ	10 27 13.0	#-5		EPZ	21 09 12.6	#-32
	EXZ	19 13 41.8	#-6	31	EPZ	00 59 17.6	#-33
05	EPZ	14 14 12.7	#-7		EPZ	07 18 16.5	#-34
07	EPZ	05 14 12.8	#-8		-IPZ	12 42 11.4	#-35
	-IPZ	07 37 40.2	#-9		-IPZ	16 52 01.4	#-36
08	EPZ	15 07 33.2	#-10		+IXZ	21 42 48.7	#-
	EXZ	20 16 56.9	#-11	Feb. 03	EPZ	18 56 16.1	#-37
10	EPZ	06 07 44.9	#-12	04	EPZ	14 35 36.6	#-38
12	-IPZ	06 34 27.4	#-13		EPZ	22 23 52.1	#-39
13	-IPZ	16 12 29.4	#-14	06	+IPZ	23 41 09.2	#-40
14	+IPZ	01 03 42.6	#-15	07	EPZ	04 14 23.9	#-41
15	+IPZ	01 38 40.4	#-16		+IPZ	12 53 41.0	#-42
	EPZ	03 30 45.3	#-17		EPZ	13 46 55.3	#-43
	EPZ	18 58 40.7	#-18	08	EPZ	23 53 05.1	#-44
17	EPZ	00 48 24.4	#-19	09	EPZ	02 13 02.7	#-45
18	-IPZ	17 45 05.0	#-20		EPZ	02 22 18.3	#-46
19	-IPZ	20 47 17.7	#-21		EPZ	19 05 35.3	#-47
20	-IPZ	02 07 58.6	#-22		IPZ	23 00 15.2	#-48
	EPZ	02 10 40.8	#-23	10	+IPZ	11 28 25.3	#-49
	EPZ	02 22 47.7	#-24		EPZ	11 39 10.6	#-50
22	+IXZ	04 16 03.2			EPZ	11 50 18.9	#-51
24	EPZ	04 06 57.6	#-25		+IKZ	11 51 08.1	#-52
25	-IPZ	10 22 24.8	#-26		IPZ	12 20 46.5	#-53

Date	Phase	Arrival time	Remarks
		h m s	
Feb. 10	IPZ	12 25 06.7	#-54
	IPZ	12 29 53.5	#-55
	EPZ	12 40 48.4	#-56
	EPZ	13 12 34.4	#-57
	EPZ	13 54 56.5	#-58
	EPZ	14 19 32.5	#-59
	EPZ	14 34 43.5	#-60
	+IPZ	15 36 59.5	#-61
	EPZ	16 43 45.7	#-62
	EPZ	17 11 45.5	#-63
	EPZ	20 09 58.9	#-64
	+IPZ	20 25 38.5	#-65
	IPZ	20 42 47.0	#-66
11	EPZ	01 48 30.3	#-67
	EPZ	02 10 07.5	#-68
12	-IXZ	04 34 03.4	
13	EPZ	12 28 28.6	#-69
14	EPZ	06 33 22.4	#-70
16	-IPZ	10 11 04.4	#-71
17	EPZ	01 27 21.9	#-72
	+IXZ	05 14 18.9	
18	-IPZ	02 54 24.6	#-73
19	-IPZ	11 34 52.0	#-74
	+IPZ	13 01 51.2	#-75
21	+IPZ	13 27 15.4	#-76
	-IPZ	22 18 46.2	#-77
23	+IPZ	02 00 28.4	#-78
	+IPZ	06 03 47.4	#-79

Date	Phase	Arrival time	Remarks
		h m s	
Feb. 24	-IPZ	02 11 06.5	#-80
25	+IPZ	11 38 30.0	#-81
	EPZ	12 15 05.1	#-82
26	+IPZ	21 11 51.3	#-83
28	-IPZ	13 12 27.3	#-84
Mar. 06	-IXZ	14 58 42.6	
08	EPZ	02 47 15.2	#-85
	EPZ	11 57 28.8	#-86
09	EPZ	05 18 38.9	#-87
	EKZ	14 24 38.8	#-88
10	EPZ	14 27 23.6	#-89
	EPZ	21 59 19.9	#-90
11	IPZ	05 17 34.4	#-91
	IPZ	18 59 01.8	#-92
13	EPZ	03 49 59.3	#-93
	EPZ	22 18 00.8	#-94
14	EPZ	11 53 50.4	#-95
15	EPZ	04 24 30.9	#-96
	EPZ	04 29 21.0	#-97
16	EPZ	07 31 03.6	#-98
	+IPZ	09 45 48.9	#-99
17	EPZ	02 05 44.4	#-100
	EPZ	13 51 38.2	#-101
	+IPZ	19 44 33.5	#-102
20	EXZ	01 27 35.1	
22	EPZ	18 22 35.6	#-103
23	EXZ	09 42 28.4	
	IXZ	09 50 20.5	

Date	Phase	Arrival time			Remarks
		h	m	s	
Mar. 23	IPZ	21	33	30.8	#-104
24	-IPZ	00	34	52.4	#-105
	+IPZ	09	57	28.7	#-106
25	EPZ	08	23	05.4	#-107
	EPZ	17	08	53.7	#-108
26	EXZ	06	52	35.5	#-109
	EXZ	22	33	48.2	
29	EPZ	04	18	20.8	#-110
30	EPZ	20	51	54.6	#-111
31	EPZ	09	43	08.5	#-112
Apr. 01	-IPZ	22	08	51.1	#-113
02	EPZ	10	56	09.8	#-114
	-IPZ	21	03	08.7	#-115
03	EXZ	03	58	54.6	
04	EXZ	11	16	23.1	
05	+IPZ	11	39	41.7	#-116
	EPZ	23	59	27.3	#-117
	EPZ	08	18	15.0	#-118
06	EPZ	17	45	16.5	#-119
	-IPZ	19	00	54.5	#-120
	EPZ	22	45	32.0	#-121
08	EPZ	00	35	21.3	#-122
	EPZ	01	39	14.3	#-123
	EPZ	03	19	10.5	#-124
	EXZ	09	38	38.7	
09	EXZ	05	28	03.2	#-125
	EXZ	09	27	53.6	
	EPZ	09	34	15.0	#-126

Date	Phase	Arrival time			Remarks
		h	m	s	
Apr. 11	-IKZ	04	16	12.4	#-127
	EPZ	07	25	56.4	#-128
	EXZ	11	39	38.8	#-129
	EPZ	14	06	10.7	#-130
	EPZ	15	38	14.5	#-131
13	EPZ	00	53	26.4	#-132
	EXZ	04	00	29.8	
	-IPZ	09	14	32.4	#-133
	-IPZ	12	12	31.0	#-134
14	+IPZ	01	28	19.9	#-135
	-IPZ	13	14	41.7	#-136
	IPZ	13	16	31.3	#-137
16	-IPZ	07	03	12.3	#-138
	EPZ	08	47	54.6	#-139
	EPZ	08	55	23.0	#-140
	EPZ	11	04	07.5	#-141
	EPZ	11	17	15.6	#-142
	-IPZ	19	59	51.5	#-143
	-IXZ	21	22	17.2	
17	EPZ	05	06	27.3	#-144
	EPZ	11	28	12.7	#-145
	EPZ	13	15	44.8	#-146
	EPZ	14	32	09.3	#-147
	EPZ	14	35	46.1	#-148
18	-IPZ	02	13	05.0	#-149
	+IPZ	04	33	46.8	#-150
	-IXZ	05	18	02.9	
	EXZ	10	06	05.3	#-151

Date	Phase	Arrival time			Remarks
		h	m	s	
Apr. 18	+IPZ	12	45	22.6	#-152
	EPZ	19	21	46.3	#-153
19	EPZ	00	20	08.5	#-154
	EPZ	07	15	41.5	#-155
	EPZ	13	21	02.2	#-156
20	EPZ	08	21	51.3	#-157
	EPZ	15	11	54.0	#-158
22	EPZ	04	59	56.2	#-159
	EPZ	06	31	25.9	#-160
	-IPZ	12	02	14.5	#-161
23	EXZ	03	07	48.1	
	EKZ	19	42	46.0	#-162
24	+IPZ	20	53	50.9	#-163
25	EPZ	00	43	03.5	#-164
26	EPZ	13	56	53.4	#-165
	IPZ	19	46	13.9	#-166
27	EXZ	02	38	49.8	
	-IPZ	08	49	58.3	#-167
	EPZ	09	46	28.8	#-168
	EPZ	12	49	20.5	#-169
	EPZ	09	36	04.5	#-170
28	EPZ	17	50	13.5	#-171
	+IPZ	20	32	23.3	#-172
	EPZ	21	21	44.7	#-173
	EXZ	08	41	33.5	
	EPZ	15	45	47.5	#-174
May 01	EPZ	08	57	07.9	#-175
	EPZ	02	43	29.7	#-176

Date	Phase	Arrival time			Remarks
		h	m	s	
May 02	+IPZ	07	09	48.1	#-177
	+IXZ	23	20	52.0	
03	EPZ	06	22	26.2	#-178
04	EPZ	10	43	17.3	#-179
	+IPZ	13	26	42.9	#-180
05	+IPZ	18	45	32.5	#-181
	+IPZ	13	42	27.2	#-182
07	-IPZ	18	40	35.2	#-183
	EXZ	18	58	04.5	
08	EPZ	17	06	22.7	#-184
	EPZ	03	48	33.6	#-185
09	+IPZ	14	40	00.7	#-186
	EXZ	23	36	54.7	
10	-IPZ	15	43	08.9	#-187
	EPZ	21	26	56.3	#-188
12	EPZ	01	15	47.4	#-189
	-IPZ	22	30	17.0	#-190
14	EPZ	00	13	37.2	#-191
	+IPZ	01	11	39.0	#-192
15	EPZ	01	46	42.3	#-193
	-IPZ	08	14	57.4	#-194
	EPZ	09	23	04.6	#-195
	EPZ	09	50	39.2	#-196
	EPZ	17	17	16.9	#-197
15	+IPZ	06	25	15.5	#-198
	EKZ	13	29	39.4	#-199
15	EPZ	18	29	08.8	#-200
	-IPZ	19	56	10.4	#-201

Date	Phase	Arrival time			Remarks
		h	m	s	
May 15	IPZ	23	47	37.0	#-202
16	EKZ	12	41	10.3	#-203
	EPZ	17	32	24.8	#-204
17	EPZ	05	59	05.6	#-205
	+IPZ	08	35	36.5	#-206
	EXZ	09	42	14.2	
	EPZ	16	20	41.2	#-207
19	EPZ	02	14	14.6	#-208
	+IPZ	12	02	24.1	#-209
19	+IPZ	19	49	22.9	#-210
20	+IPZ	06	12	05.1	#-211
	EPZ	16	13	33.6	#-212
	EXZ	20	49	24.0	
21	EPZ	04	15	27.1	#-213
	EPZ	06	33	05.0	#-214
	EPZ	19	36	42.6	#-215
	-IPZ	22	08	43.0	#-216
22	EKZ	11	27	51.6	#-217
	EXZ	13	46	14.7	#-218
	EPZ	15	55	52.5	#-219
23	+IPZ	11	03	50.6	#-220
	EXZ	11	33	26.2	
	EPZ	14	18	45.4	#-221
	+IPZ	16	17	03.6	#-222
	EPZ	17	20	51.3	#-223
24	EPZ	02	24	13.5	#-224
	EPZ	02	26	04.6	#-225

Date	Phase	Arrival time			Remarks
		h	m	s	
May 24	EPZ	07	53	24.5	#-228
	EPZ	08	18	18.5	#-227
	EKZ	13	51	10.4	#-228
	EPZ	15	30	16.9	#-229
	EKZ	16	03	26.9	#-230
	EPZ	17	39	25.1	#-231
25	+IPZ	01	04	00.5	#-232
	+IPZ	04	52	18.4	#-233
	EPZ	06	58	13.6	#-234
	EPZ	08	19	25.7	#-235
	EPZ	09	48	32.5	#-236
	EPZ	11	46	41.6	#-237
	EPZ	12	08	28.4	#-238
	EPZ	13	12	16.9	#-239
	EXZ	13	39	27.5	
	EPZ	20	02	20.3	#-240
	-IKZ	20	33	24.4	#-241
26	EPZ	02	03	14.6	#-242
	EPZ	07	09	06.6	#-243
	EXZ	13	05	36.3	
27	EPZ	03	11	07.2	#-244
	EPZ	08	44	14.8	#-245
	+IPZ	14	37	02.2	#-246
	EPZ	20	22	19.3	#-247
28	+IPZ	03	06	15.6	#-248
	EXZ	03	33	04.5	
	EPZ	09	59	32.4	#-249
	EPZ	10	33	01.7	#-250

Date	Phase	Arrival time h m s	Remarks
May 28	EPZ	15 32 06.5	#-251
	+IPZ	16 02 09.7	#-252
	EPZ	21 14 59.7	#-253
29	EPZ	02 20 25.3	#-254
	EPZ	03 55 32.4	#-255
	EPZ	22 20 07.5	#-256
30	+IPZ	22 34 08.0	#-257
	-IXZ	04 49 46.9	
	EPZ	13 52 17.7	#-258
31	EPZ	14 05 34.7	#-259
	+IPZ	06 04 24.0	#-260
	EPZ	17 01 58.4	#-261
June 01	EPZ	06 32 12.2	#-262
	EPZ	07 34 13.1	#-263
	EPZ	12 29 57.0	#-264
	EPZ	13 37 35.3	#-265
	EPZ	21 07 35.7	#-266
02	EPZ	11 14 44.7	#-267
05	IPZ	16 33 44.3	#-268
06	EPZ	08 41 33.2	
	EPZ	13 29 21.8	#-269
07	EPZ	22 00 33.5	#-270
08	EPZ	01 37 34.8	#-271
	EPZ	06 35 56.3	#-272
	EPZ	10 04 48.6	#-273
09	-IPZ	15 45 46.5	#-274
11	EPZ	12 30 54.2	#-275
12	EPZ	00 17 46.4	#-276

Date	Phase	Arrival time h m s	Remarks
June 12	+IPZ	05 59 58.9	#-277
	-IPZ	13 23 35.0	#-278
	EPZ	18 33 33.3	#-279
13	EPZ	18 02 36.1	#-280
	EPZ	23 05 05.5	#-281
15	+IPZ	12 21 47.9	#-282
16	EPZ	02 24 45.1	#-283
	EKZ	11 11 34.5	#-284
	EPZ	22 23 15.0	#-285
17	EPZ	22 46 23.4	#-286
	EXZ	22 57 54.8	
	EXZ	23 17 37.2	
	EXZ	00 00 48.5	
	EXZ	09 45 17.4	
18	+IPZ	15 08 38.0	#-287
	+IPZ	15 41 15.1	#-288
	-IPZ	18 38 15.6	#-289
	EXZ	20 59 32.9	#-290
	+IPZ	05 06 51.4	#-291
19	+IXZ	07 06 20.2	
	EXZ	02 12 34.0	
	EXZ	10 14 36.5	
20	EPZ	13 13 15.6	#-292
	-IPZ	16 12 10.0	#-293
	+IPZ	20 22 36.5	#-294
	+IXZ	06 01 34.9	#-295
	-IPZ	06 32 18.7	#-296
	EKZ	18 27 36.9	#-297

Date	Phase	Arrival time h m s	Remarks
June 20	EPZ	23 52 05.7	#-298
21	EPZ	00 20 05.0	#-299
	EXZ	09 07 34.0	
22	+IPZ	00 03 22.7	#-300
	EPZ	12 37 25.4	#-301
	EPZ	20 03 11.5	#-302
	+IKZ	21 34 39.2	#-303
23	EPZ	00 48 42.7	#-304
	EXZ	12 19 14.5	
24	EXZ	03 45 15.8	
	EPZ	13 09 45.0	#-305
25	+IPZ	06 47 53.0	#-306
	EPZ	12 43 04.1	#-307
	EXZ	19 45 22.8	
26	EXZ	03 46 17.2	
27	EPZ	08 22 45.7	#-308
	EPZ	11 39 10.5	#-309
	EKZ	15 49 39.3	#-310
28	EPZ	21 33 32.0	#-311
	EPZ	22 24 58.0	#-312
	EPZ	23 56 54.5	#-313
29	-IPZ	00 31 12.0	#-314
	EPZ	04 10 37.4	#-315
	EXZ	08 32 42.6	
	EXZ	15 16 35.1	
30	EPZ	01 28 31.2	#-316
	EPZ	01 46 52.5	#-317
July 01	EPZ	04 12 13.9	#-318

Date	Phase	Arrival time h m s	Remarks
July 01	+IPZ	21 03 59.3	#-319
03	EPZ	08 48 46.7	#-320
	EPZ	17 11 28.5	#-321
	EXZ	17 29 45.2	#-322
04	EPZ	17 09 38.1	#-323
05	EXZ	16 29 46.1	
	EXZ	20 48 37.0	
06	EPZ	04 37 55.7	#-324
	EPZ	17 38 31.1	#-325
	EPZ	20 36 17.1	#-326
07	EXZ	10 59 36.5	
	EPZ	12 39 04.1	#-327
	EPZ	19 27 17.1	#-328
	EPZ	19 53 53.8	#-329
	EPZ	23 42 25.3	#-330
08	EPZ	01 01 07.2	#-331
	-IXZ	04 05 54.1	
	+IKZ	09 51 40.0	#-332
	EPZ	10 45 54.8	#-333
09	EXZ	02 29 12.7	
	EPZ	09 58 31.3	#-334
	+IPZ	11 00 06.9	#-335
	EPZ	17 52 30.2	#-336
10	EPZ	01 19 21.2	#-337
	EPZ	15 07 37.0	#-338
11	EPZ	02 04 34.3	#-339
12	EPZ	17 48 33.6	#-340
	EPZ	18 55 06.0	#-341

Date	Phase	Arrival time			Remarks
		h	m	s	
July 13	EXZ	01	53	19.8	
	+IPZ	02	15	00.7	#-342
	EPZ	18	19	31.2	#-343
	EPZ	22	44	14.4	#-344
14	EPZ	15	55	11.0	#-345
	EXZ	18	22	34.2	
	EPZ	20	54	56.3	#-346
15	EPZ	07	40	48.3	#-347
	EPZ	11	16	54.2	#-348
	EPZ	18	56	36.0	#-349
16	-IPZ	22	22	36.9	#-350
17	EPZ	15	15	49.0	#-351
18	EPZ	07	36	37.4	#-352
	EKZ	09	47	18.7	#-353
	+IKZ	11	00	58.6	#-354
	EXZ	22	57	26.5	
19	EPZ	00	05	18.6	#-355
	EXZ	00	38	07.0	#-356
	EXZ	01	05	36.6	
20	+IPZ	04	55	07.7	#-357
	+IPZ	06	39	44.5	#-358
	EPZ	12	22	20.5	#-359
	EPZ	12	32	22.5	#-360
	IPZ	17	35	00.0	#-361
21	+IPZ	03	30	56.9	#-362
22	+IPZ	05	15	03.6	#-363
	EXZ	05	32	22.3	
	EXZ	09	52	15.5	

Date	Phase	Arrival time			Remarks
		h	m	s	
July 22	EPZ	13	02	36.5	#-364
	+IPZ	21	43	19.4	#-365
23	EPZ	03	33	41.6	#-366
	EPZ	11	38	57.0	#-367
	EPZ	12	02	05.1	#-368
24	EPZ	01	49	34.7	#-369
	EPZ	10	16	28.1	#-370
	EPZ	10	24	05.1	#-371
	EPZ	11	05	55.8	#-372
	EPZ	12	08	36.5	#-373
25	EPZ	20	56	18.2	#-374
	EPZ	21	52	30.2	#-375
	EPZ	22	05	34.5	#-376
	-IPZ	22	27	53.9	#-377
	EXZ	22	43	14.9	
26	EXZ	07	20	51.8	
	EPZ	14	12	14.2	#-378
27	EPZ	21	56	17.3	#-379
29	EPZ	15	07	03.2	#-380
	EPZ	17	09	58.5	#-381
30	EXZ	04	57	17.9	
	EPZ	09	33	57.2	#-382
	EPZ	11	07	17.6	#-383
	EPZ	14	16	37.0	#-384
	EPZ	19	27	05.0	#-385
	+IXZ	19	48	53.4	#-386
	EPZ	20	41	32.3	#-387
	EPZ	21	22	13.5	#-388

Date	Phase	Arrival time			Remarks
		h	m	s	
July 31	EPZ	13	53	18.5	#-389
	EPZ	17	19	34.0	#-390
	EPZ	21	41	46.5	#-391
Aug. 01	EPZ	00	31	01.3	#-392
	EPZ	05	37	53.1	#-393
	EXZ	11	43	48.5	
	+IPZ	15	16	11.0	#-394
	EPZ	22	35	35.6	#-395
02	EPZ	03	50	09.2	#-396
	EPZ	11	23	14.3	#-397
	EPZ	12	36	11.4	#-398
03	EPZ	02	37	13.6	#-399
	EPZ	05	17	26.9	#-400
	+IPZ	11	13	09.0	#-401
	EXZ	11	49	49.9	
	EPZ	14	50	03.6	#-402
	+IPZ	15	05	40.2	#-403
	EPZ	16	51	25.3	#-404
	+IPZ	22	37	24.9	#-405
04	EPZ	05	49	47.8	#-406
	EPZ	18	27	33.3	#-407
05	EPZ	04	57	13.5	#-408
	EPZ	10	06	03.8	#-409
	EXZ	23	49	25.8	
06	+IPZ	06	49	22.5	#-410
	EPZ	07	56	34.1	#-411
	-IPZ	08	31	24.7	#-412
	+IPZ	19	54	04.9	#-413

Date	Phase	Arrival time			Remarks
		h	m	s	
Aug. 06	EXZ	23	13	11.3	
07	EPZ	08	02	14.2	#-414
	-IPZ	08	48	14.6	#-415
	+IPZ	23	19	16.4	#-416
08	+IPZ	08	09	40.9	#-417
	EPZ	19	43	34.5	#-418
	EPZ	20	28	49.2	#-419
	EPZ	23	55	37.2	#-420
09	-IPZ	04	00	33.4	#-421
10	EPZ	02	09	08.4	#-422
	EPZ	10	52	23.8	#-423
	EPZ	11	59	41.3	#-424
11	EPZ	21	09	53.7	#-425
12	+IPZ	00	53	04.9	#-426
	EPZ	17	00	08.2	#-427
	EPZ	17	29	55.9	#-428
	EPZ	20	59	26.4	#-429
13	EXZ	09	46	13.7	#-430
	EPZ	20	59	26.6	#-431
14	EPZ	18	03	49.3	#-432
15	EPZ	00	59	01.5	#-433
	EPZ	08	06	36.2	#-434
	EXZ	09	22	39.4	
	EPZ	10	15	20.8	#-435
	+IPZ	14	42	47.7	#-436
	EPZ	21	36	47.6	#-437
17	EXZ	05	22	20.8	#-438
	EPZ	11	15	50.8	#-439

Date	Phase	Arrival time			Remarks
		h	m	s	
Aug. 18	EPZ	00	27	25.3	#-440
	EPZ	03	52	52.8	#-441
19	EPZ	06	49	45.2	#-442
	EPZ	11	45	08.9	#-443
	+IPZ	12	36	34.4	#-444
	+IPZ	13	31	34.2	#-445
	-IPZ	17	40	55.2	#-446
	EPZ	23	49	20.9	#-447
20	EXZ	06	33	30.0	#-448
	EPZ	11	29	10.7	#-449
	EPZ	11	58	44.5	#-450
	EPZ	12	08	34.5	#-451
	EPZ	13	37	43.5	#-452
	EPZ	13	38	35.3	#-453
	EPZ	18	52	04.3	#-454
	EPZ	19	38	12.5	#-455
	-IPZ	20	15	08.5	#-456
21	-IPZ	01	21	21.0	#-457
	EPZ	05	15	23.5	#-458
	-IPZ	18	38	10.0	#-459
	EPZ	21	01	44.3	#-460
22	EXZ	12	44	41.6	
25	EPZ	15	50	32.2	#-461
26	EPZ	04	25	16.9	#-462
	EPZ	12	06	11.8	#-463
	+IPZ	20	22	11.5	#-464
27	+IPZ	06	59	06.2	#-465
28	EPZ	01	08	08.1	#-466

Date	Phase	Arrival time			Remarks
		h	m	s	
Aug. 28	EPZ	08	26	26.3	#-467
	+IPZ	15	08	45.7	#-468
	EPZ	10	18	22.7	#-469
	EPZ	18	13	29.6	#-470
30	-IKZ	03	26	44.7	#-471
	EXZ	05	21	37.7	
	EKZ	06	24	41.6	#-472
	EXZ	07	11	25.0	
	EPZ	08	13	49.2	#-473
	EPZ	11	28	59.3	#-474
	+IPZ	11	30	53.4	#-475
	+IXZ	11	57	57.0	#-476
	EPZ	16	38	40.5	#-477
31	EPZ	02	22	12.3	#-478
	-IPZ	08	27	02.5	#-479
	EXZ	08	34	53.5	
	EPZ	14	00	43.9	#-480
Sept. 01	EPZ	05	26	01.6	#-481
	EPZ	11	00	16.8	#-482
	-IPZ	12	08	47.9	#-483
	-IPZ	14	53	29.4	#-484
	EPZ	19	14	13.8	#-485
02	EPZ	01	03	32.7	#-486
	-IXZ	04	35	54.2	
	EPZ	06	58	38.6	#-487
	+IPZ	14	32	51.7	#-488
	EXZ	16	51	20.1	
	EPZ	17	06	42.1	#-489

Date	Phase	Arrival time			Remarks
		h	m	s	
Sept. 03	EPZ	08	49	31.8	#-490
	+IPZ	19	13	15.0	#-491
	+IXZ	19	37	32.4	
	+IPZ	21	03	17.1	#-492
04	-IPZ	00	04	13.5	#-493
	EPZ	05	33	49.9	#-494
	EPZ	07	30	09.7	#-495
	EPZ	08	43	03.4	#-496
	EXZ	09	38	31.5	
	EXZ	12	44	53.5	
	EKZ	13	35	01.0	#-497
	-IPZ	15	09	04.4	#-498
05	EPZ	06	05	06.7	#-499
	EPZ	19	57	23.2	#-500
06	EPZ	09	22	04.2	#-501
	EPZ	11	36	12.5	#-502
	EPZ	14	58	46.5	#-503
07	EPZ	10	38	17.8	#-504
	EPZ	13	33	06.6	#-505
	EPZ	13	43	50.8	#-506
08	-IPZ	20	13	38.6	#-507
	-IPZ	03	18	34.8	#-508
	EPZ	06	19	53.0	#-509
	+IPZ	08	37	29.2	#-510
09	EPZ	13	58	25.9	#-511
	EXZ	01	58	43.4	#-512
	EKZ	10	58	11.5	#-513
	EPZ	22	59	00.2	#-514

Date	Phase	Arrival time			Remarks
		h	m	s	
Sept. 12	EPZ	09	07	34.6	#-515
	-IPZ	15	40	51.2	#-516
13	-IPZ	03	44	16.5	#-517
	EPZ	06	33	30.6	#-518
	EPZ	11	49	06.0	#-519
14	EPZ	20	54	28.0	#-520
	EPZ	22	15	16.8	#-521
	EPZ	04	54	05.6	#-522
	+IPZ	04	59	55.4	#-523
	-IPZ	09	35	29.3	#-524
	EPZ	16	40	18.0	#-525
	+IPZ	19	23	18.3	#-526
	-IPZ	01	28	18.6	#-527
15	EPZ	09	02	30.6	#-528
	EPZ	09	43	32.8	#-529
	+IKZ	18	53	53.6	#-530
16	EXZ	18	54	09.3	
	EXZ	02	23	33.2	
	+IPZ	04	11	38.9	#-531
	EPZ	05	59	24.6	#-532
17	EXZ	01	11	04.5	
	EPZ	02	05	03.9	#-533
	EPZ	05	55	53.2	#-534
18	EPZ	05	54	19.4	#-535
	EPZ	07	56	04.3	#-536
19	EXZ	10	08	40.9	
	+IPZ	04	21	21.5	#-537
	EPZ	05	54	08.2	#-538

Date	Phase	Arrival time			Remarks
		h	m	s	
Sept. 19	EPZ	06	59	40.7	#-539
	EPZ	08	43	13.2	#-540
	+IPZ	09	58	07.8	#-541
	EPZ	17	00	44.3	#-542
	20	EPZ	10	43	18.6
	EKZ	13	39	19.8	#-544
	22	-IPZ	15	55	34.5
	EPZ	21	36	05.8	#-546
	24	EXZ	01	42	23.6
	EPZ	11	07	42.4	#-548
	EXZ	11	09	16.7	#-549
	EPZ	22	21	06.9	#-550
25	EPZ	14	30	13.1	#-551
	EPZ	18	58	21.8	#-552
26	+IPZ	02	35	57.0	#-553
	EPZ	04	51	45.7	#-554
	EPZ	06	04	41.5	#-555
	EPZ	21	32	25.5	#-556
27	EPZ	12	45	17.5	#-557
	EXZ	13	31	11.9	
	+IPZ	23	57	21.4	#-558
28	EPZ	05	27	28.9	#-559
29	EPZ	14	52	31.7	#-560
	-IPZ	19	35	19.7	#-561
30	EPZ	04	29	45.5	#-562
Oct. 02	EPZ	08	09	19.7	#-563
03	EXZ	02	26	19.8	#-564
	EPZ	05	26	29.5	#-565

Date	Phase	Arrival time			Remarks	
		h	m	s		
Oct. 03	EPZ	15	34	29.2	#-566	
	-IPZ	21	44	49.9	#-567	
	04	+IPZ	06	57	44.0	#-568
	EPZ	07	44	03.8	#-569	
	05	EPZ	13	13	48.1	#-570
	EXZ	18	19	16.3		
	06	EPZ	10	21	22.7	#-571
	07	EKZ	01	44	56.6	#-572
		+IPZ	07	08	07.8	#-573
	EKZ	16	08	19.0	#-574	
	EKZ	17	02	18.8	#-575	
	EKZ	18	02	33.2	#-576	
	EKZ	18	12	43.6	#-577	
	EKZ	19	10	37.2	#-578	
08	EPZ	03	07	08.5	#-579	
	EPZ	20	09	28.6	#-580	
	EPZ	22	34	18.3	#-581	
09	EPZ	08	21	54.3	#-582	
	EXZ	10	12	53.7		
	-IKZ	18	20	59.3	#-583	
	EPZ	20	52	31.3	#-584	
10	+IPZ	06	12	20.2	#-585	
	-IPZ	06	57	19.7	#-586	
	EXZ	08	34	20.4		
	11	EXZ	04	12	09.2	
12	EPZ	06	41	35.8	#-587	
13	EPZ	10	10	31.5	#-588	
	EPZ	17	01	09.3	#-589	

Date	Phase	Arrival time			Remarks
		h	m	s	
Oct. 13	EKZ	19	53	13.7	#-590
	EPZ	20	24	25.4	#-591
	EPZ	21	53	17.0	#-592
14	EPZ	02	08	23.6	#-593
	EPZ	02	43	31.5	#-594
	EXZ	21	03	18.5	
15	EPZ	10	12	55.7	#-595
16	EPZ	08	26	20.7	#-596
	+IPZ	12	14	13.4	#-597
	EPZ	14	57	50.8	#-598
	EPZ	18	25	47.5	#-599
17	EPZ	16	41	11.8	#-600
18	EKZ	00	23	55.1	#-601
	+IPZ	11	53	50.8	#-602
	EPZ	12	48	15.2	#-603
	+IXZ	16	31	30.9	
	EPZ	18	54	23.8	#-604
	EPZ	22	44	19.9	#-605
	+IPZ	23	52	48.3	#-606
19	EPZ	06	14	19.2	#-607
	+IXZ	10	08	53.8	
	EPZ	18	46	22.9	#-608
20	+IPZ	03	55	49.6	#-609
	+IPZ	07	56	05.6	#-610
21	-IPZ	03	40	25.2	#-611
	EPZ	09	35	33.2	#-612
	+IPZ	12	57	35.5	#-613
	EPZ	21	28	13.9	#-614

Date	Phase	Arrival time			Remarks	
		h	m	s		
Oct. 22	EPZ	13	37	25.5	#-615	
	+IPZ	20	47	49.5	#-616	
	EPZ	21	40	46.6	#-617	
23	EXZ	01	44	20.0	#-618	
	-IPZ	03	41	15.0	#-619	
	-IPZ	13	19	54.4	#-620	
	-IXZ	13	38	58.8		
	-IPZ	23	52	20.6	#-621	
25	EPZ	06	58	36.4	#-622	
	-IPZ	17	42	19.7	#-623	
26	EPZ	14	46	49.7	#-624	
	EPZ	15	27	55.4	#-625	
	EPZ	21	52	31.8	#-626	
	27	EPZ	01	59	44.9	#-627
		EPZ	04	52	15.7	#-628
	EPZ	07	48	13.6	#-629	
	EPZ	21	17	54.3	#-630	
28	EPZ	05	47	45.1	#-631	
	EPZ	15	53	14.1	#-632	
29	EXZ	05	44	52.0		
30	IPZ	23	58	11.1	#-633	
31	+IKZ	15	49	39.5	#-634	
	EPZ	18	55	59.6	#-635	
	-IPZ	19	46	40.0	#-636	
Nov. 01	-IPZ	06	52	05.9	#-637	
	ISE	07	01	41.3		
	EPZ	10	02	32.1	#-638	
	EPZ	11	42	59.6	#-639	
	EPZ	11	59	58.4	#-640	

Date	Phase	Arrival time			Remarks
		h	m	s	
Nov. 01	EPZ	14	10	39.0	#-641
	EXZ	18	44	39.8	
02	-IPZ	10	23	55.7	#-642
03	EPZ	14	22	01.6	#-643
	-IPZ	17	52	36.3	#-644
04	EPZ	04	36	35.3	#-645
	EPZ	06	48	15.8	#-646
	-IPZ	08	24	28.3	#-647
	EKZ	18	36	44.5	#-648
05	-IXZ	15	10	06.0	#-649
	EPZ	16	59	48.8	#-650
	EPZ	22	39	57.8	#-651
06	EPZ	21	05	22.2	#-652
07	EXZ	19	45	50.2	#-653
08	EXZ	06	28	47.9	#-654
	-IPZ	11	34	26.7	
09	EPZ	02	39	24.8	#-655
	-IPZ	03	31	06.8	#-656
	EPZ	04	28	08.6	#-657
	+IPZ	09	18	30.6	#-658
	+IXZ	10	46	28.7	#-659
	EPZ	19	59	09.6	
10	EPZ	22	13	24.7	#-660
	-IPZ	13	54	01.8	#-661
	EPZ	15	36	54.3	#-662
	+IXZ	23	11	50.4	#-663
	+IKZ	23	17	23.3	
	EKZ	23	34	40.5	#-664
	EXZ	23	40	52.6	#-665

Date	Phase	Arrival time			Remarks
		h	m	s	
Nov. 11	-IXZ	05	47	08.8	#-666
	IPZ	21	04	06.5	
12	IXZ	00	20	33.0	#-667
	-IPZ	10	32	16.4	
	EPZ	11	26	39.6	
	EPZ	19	30	11.7	
13	EXZ	22	39	36.6	#-670
	-IPZ	12	20	35.8	
14	+IPZ	16	06	59.9	#-671
	+IXZ	06	23	11.5	#-672
	EPZ	14	44	11.0	
	EPZ	19	38	22.1	
15	-IPZ	19	29	02.2	#-674
	+IXZ	21	38	24.1	#-675
16	+IPZ	08	51	40.9	
		09	01	17.8	
17	+IPZ	05	33	29.9	#-676
	EXZ	16	58	00.3	#-677
	EXZ	22	52	01.6	
	+IXZ	16	16	04.9	#-678
	EPZ	20	22	25.5	
18	EPZ	20	27	59.8	#-679
	-IPZ	04	08	56.5	
	EPZ	12	56	03.5	
	+IPZ	17	16	51.5	
19	+IXZ	16	16	04.9	#-681
	EPZ	20	22	25.5	
	EPZ	20	27	59.8	
	-IPZ	04	08	56.5	
20	EPZ	12	56	03.5	#-682
	+IPZ	17	16	51.5	
	-IXZ	00	09	50.3	
	EXZ	04	32	51.9	
	+IPZ	12	05	39.4	

Date	Phase	Arrival time			Remarks
		h	m	s	
Nov. 20	EPZ	18	53	28.4	#-683
	-IPZ	21	39	07.5	#-684
21	EXZ	14	46	57.7	
	EXZ	20	48	29.4	
22	EPZ	04	37	13.5	#-685
	+IPZ	23	39	21.1	#-686
23	EPZ	01	36	03.4	#-687
24	+IPZ	00	48	04.9	#-688
	EPZ	05	13	46.5	#-689
	EPZ	06	48	01.0	#-690
	+IXZ	07	22	41.7	
	-IKZ	13	09	15.2	#-691
	EPZ	18	33	39.0	#-692
	+IPZ	23	15	12.6	#-693
25	EPZ	08	02	47.4	#-694
26	EXZ	16	12	20.3	
	-IPZ	23	07	16.9	#-695
28	EPZ	00	07	24.9	#-696
	+IPZ	02	48	28.8	#-697
	EPZ	21	44	49.0	#-698
29	EPZ	01	12	34.0	#-699
	-IPZ	03	15	02.7	#-700
	+IPZ	06	00	25.4	#-701
30	EPZ	09	09	36.9	#-702
	EPZ	09	49	43.3	#-703
	-IPZ	19	57	32.9	#-704
	EPZ	23	01	26.6	#-705
Dec. 01	IXZ	02	02	24.5	

Date	Phase	Arrival time			Remarks
		h	m	s	
Dec. 01	EPZ	04	59	23.0	#-706
	IPZ	05	07	57.8	#-707
	EKZ	05	26	03.5	#-708
	+IPZ	19	11	43.3	#-709
02	EPZ	04	36	57.9	#-710
	+IPZ	08	04	52.1	#-711
	EPZ	16	21	08.5	#-712
03	-IPZ	11	23	33.7	#-713
	-IPZ	14	29	37.4	#-714
	EXZ	14	47	28.3	
	EXZ	14	47	58.9	
	+IPZ	20	07	20.0	#-715
	EPZ	21	40	23.2	#-716
04	+IPZ	03	18	06.8	#-717
	EPZ	05	26	08.9	#-718
	EPZ	06	55	36.3	#-719
	EXZ	23	34	05.3	
05	-IPZ	04	11	27.6	#-720
	EPZ	04	53	45.8	#-721
	+IPZ	11	07	13.8	#-722
	EPZ	18	25	33.7	#-723
	IPZ	21	32	52.6	#-724
06	+IPZ	05	32	09.6	#-725
	IXN	05	42	18.2	
	EXZ	13	43	43.5	
07	+IPZ	13	51	33.2	#-726
	IXE	14	01	52.3	
	IPZ	16	03	28.9	#-727

Date	Phase	Arrival time h m s	Remarks
Dec. 08	+IPZ	00 17 57.7	#-728
	EPZ	10 36 46.1	#-729
	EXZ	12 31 50.0	
	+IKZ	15 19 39.4	#-730
	+IPZ	20 50 42.0	#-731
09	EPZ	21 27 36.2	#-732
	-IPZ	07 57 03.1	#-733
10	+IPZ	09 03 21.4	#-734
	-IPZ	16 12 26.6	#-735
12	+IPZ	08 46 30.0	#-736
	IXZ	08 56 47.2	
13	+IPZ	04 14 45.6	#-737
	EPZ	19 30 13.3	#-738
	EPZ	20 00 49.1	#-739
14	EPZ	19 26 54.0	#-740
	EXZ	02 49 04.7	
15	EXZ	12 44 04.5	#-741
	EPZ	13 51 05.3	#-742
	EPZ	18 57 13.5	#-743
	+IPZ	02 53 34.0	#-744
16	EPZ	10 53 46.1	#-745
	EPZ	00 52 48.8	#-746
17	-IPZ	02 24 59.0	#-747
	EPZ	03 23 24.3	#-748
	EXZ	05 49 23.7	
	EXZ	10 49 35.5	
18	EPZ	07 25 31.5	#-749
	+IPZ	17 22 10.9	#-750

Date	Phase	Arrival time h m s	Remarks
Dec. 19	+IPZ	01 43 23.9	#-751
20	+IPZ	01 39 58.9	#-752
	EPZ	04 35 07.9	#-753
	EPZ	08 48 47.3	#-754
	EPZ	11 56 12.5	#-755
	EXZ	23 52 00.6	#-756
	21	EPZ	00 40 28.5
	EPZ	08 20 23.2	#-758
	EPZ	16 52 28.5	#-759
	EXZ	17 08 22.4	
	22	EPZ	09 00 27.3
	EPZ	11 24 51.9	#-761
	+IPZ	21 21 00.4	#-762
23	-IPZ	01 44 40.8	#-763
	EXZ	18 51 45.4	
	EPZ	23 47 32.5	#-764
	24	EPZ	14 05 51.5
	EPZ	17 37 57.8	#-766
	EXZ	17 49 11.2	#-767
25	EKZ	14 44 17.8	#-768
	EPZ	14 56 49.7	#-769
	+IPZ	20 03 12.3	#-770
	-IPZ	21 36 34.7	#-771
	EPZ	23 26 27.8	#-772
	26	+IPZ	01 40 35.9
	+IPZ	17 54 04.3	#-774
	27	EPZ	04 32 38.0
	EXZ	19 33 06.2	

Date	Phase	Arrival time			Remarks	
		h	m	s		
Dec. 27	EPZ	20	12	49.6	#-776	
	+IPZ	23	37	50.6	#-777	
28	-IPZ	13	53	10.2	#-778	
	EPZ	17	24	41.8	#-779	
29	EPZ	11	23	21.7	#-780	
30	-IPZ	00	34	16.8	#-781	
	+IPZ	04	55	18.6	#-782	
	+IPZ	11	02	28.6	#-783	
	EPZ	12	49	36.7	#-784	
	+IXZ	19	22	18.3		
	EPZ	20	28	34.2	#-785	
	EPZ	23	28	45.9	#-786	
	EPZ	23	32	01.7	#-787	
	31	-IPZ	15	57	06.0	#-788

#-No. --- corresponds to that in Table 2.

Table 1d. Observed phases and arrival time (1990).

Date	Phase	Arrival time h m s	Remarks	Date	Phase	Arrival time h m s	Remarks
Jan. 01	+IPZ ISN	08 01 11.2 08 10 49.0	#-1	Jan. 15	IXZ	06 25 56.0	#-27
04	-IPZ ISE	05 45 25.5 04 56 26.5	#-2	16	EPZ ESN	07 48 15.6 07 57 56.3	#-28
	-IPZ	19 01 35.2	#-3		EPZ	08 08 16.3	#-29
05	-IPZ	10 21 53.0	#-4		EPZ	08 54 34.6	#-30
	EPZ	13 15 37.0	#-5		+IPZ	11 03 51.5	#-31
06	+IPZ	21 55 52.1	#-6		EKZ	20 28 10.6	#-32
07	EPZ	09 19 06.5	#-7	17	EPZ	02 16 26.0	#-33
	+IPZ	21 00 50.3	#-8		EPZ	03 45 19.5	#-34
08	-IPZ ISH	11 17 14.6 11 26 44.1	#-9		EPZ	06 47 48.3	#-35
	-IPZ	12 38 17.1	#-10		EKZ	12 25 34.0	#-36
	EKZ	20 04 50.3	#-11	18	-IPZ	01 16 06.2	#-38
09	EKZ +IPZ	05 19 05.3 14 54 32.3	#-12		EPZ EXE	05 54 30.1 06 04 18.0	#-39
	IXE	15 04 10.3	#-13		-EKZ	12 05 13.6	#-40
	-IPZ	15 48 43.5	#-14		+IPZ ISE	12 57 19.9 13 07 08.3	#-41
	EPZ	19 05 09.4	#-15		-IPZ	20 12 18.3	#-42
10	EPZ	10 10 43.8	#-16		+IPZ	21 09 30.8	#-43
	+IPZ	12 06 16.9	#-17		ISE	21 19 15.3	
	+IPZ	16 23 44.5	#-18	20	EPZ	07 33 32.0	#-44
11	IPZ	16 15 40.0	#-19		-IPZ	09 24 52.3	#-45
12	EPZ	15 41 26.4	#-20	21	-IPZ	08 00 53.2	#-46
	EPZ	19 02 40.6	#-21		EPZ	16 56 24.6	#-47
13	+IPZ	20 15 28.9	#-22	22	+IPZ	08 37 16.3	#-48
14	EXZ	03 21 56.9	#-23		-IPZ	17 38 30.0	#-49
	EPZ	09 43 24.4	#-24	23	-IPZ	07 59 44.4	#-50
	EPZ	21 15 54.1	#-25	24	-IXZ	10 25 41.7	#-51
	EXZ	21 22 22.6	#-26		EXZ	23 37 00.3	#-52

Date	Phase	Arrival time			Remarks
		h	m	s	
Jan. 25	EPZ	02	37	06.9	#-53
	EPZ	06	41	08.9	#-54
27	EPZ	00	47	15.3	#-55
28	EPZ	04	10	25.7	#-56
30	IPZ	18	25	42.3	#-57
Feb. 01	EPZ	18	47	18.5	#-58
02	EPZ	15	01	58.3	#-59
	EXZ	16	08	37.2	#-60
	EPZ	18	46	41.1	#-61
	EPZ	19	06	50.3	#-62
04	-IPZ	08	09	43.0	#-63
	+IPZ	17	07	16.9	#-64
	IPZ	20	37	48.6	#-65
05	-IPZ	02	20	18.5	#-66
	-IXZ	05	35	02.5	#-67
08	EPZ	07	29	07.0	#-68
10	EPZ	03	38	13.5	#-69
	EPZ	04	05	19.2	#-70
	EPZ	04	08	03.5	#-71
	EXZ	21	05	31.3	#-72
11	EXZ	15	59	14.3	#-73
	EPZ	22	10	31.5	#-74
12	EPZ	01	25	07.6	#-75
	EPZ	03	44	02.2	#-76
	IPZ	05	59	31.7	#-77
	EPZ	12	38	46.0	#-78
13	+IPZ	00	06	45.2	#-79
	+IPZ	13	42	11.2	#-80

Date	Phase	Arrival time			Remarks
		h	m	s	
Feb. 14	+IPZ	10	25	11.5	#-81
15	EPZ	22	21	13.7	#-82
16	+IPZ	21	15	53.0	#-83
17	EXZ	02	46	40.5	#-84
18	-IPZ	12	34	50.5	#-85
	ESN	12	45	37.3	
19	-IPZ	05	45	23.5	#-86
	EPZ	07	01	00.0	#-87
	-IPZ	16	52	02.7	#-88
	EPZ	16	59	37.8	#-89
20	EXZ	07	12	41.6	#-90
	EPZ	18	30	03.3	#-91
	EPZ	19	00	36.3	#-92
21	EXZ	18	39	05.4	#-93
22	-IPZ	13	23	32.5	#-94
	-IPZ	16	55	54.7	#-95
	EPZ	17	01	58.5	#-96
23	-IPZ	11	01	03.5	#-97
24	EPZ	18	56	29.5	#-98
	EXZ	19	21	53.3	#-99
25	+IXZ	13	49	44.7	#-100
	-IPZ	15	09	27.3	#-101
	-IPZ	23	03	01.6	#-102
26	IPZ	19	19	02.1	#-103
27	EPZ	09	39	56.3	#-104
Mar. 01	-IKZ	02	43	07.5	#-105
	EPZ	16	18	05.3	#-106
03	+IPZ	12	28	52.2	#-107

Date	Phase	Arrival time			Remarks
		h	m	s	
Mar. 03	EPZ	12	47	28.4	#-108
	+IPZ	12	56	44.6	#-109
	EXZ	18	45	18.9	#-110
	-IXZ	19	41	49.3	#-111
	EPZ	19	56	48.8	#-112
04	IPZ	17	34	34.7	#-113
05	EPZ	16	50	49.4	#-114
06	-IPZ	13	42	40.6	#-115
	EPZ	23	41	17.5	#-116
07	EXZ	18	31	39.2	#-117
08	+IPZ	10	01	02.6	#-118
09	EXZ	12	55	10.1	#-119
10	+IPZ	03	43	40.5	#-120
	+IKZ	10	34	37.3	#-121
	+IKZ	16	19	38.9	#-122
11	-IPZ	03	26	24.2	#-123
	EPZ	22	33	15.4	#-124
12	EPZ	13	09	34.8	#-125
	-IPZ	13	45	38.7	#-126
	EXZ	15	01	13.5	#-127
	+IPZ	23	30	56.8	#-128
13	EXZ	00	52	58.1	#-129
	EPZ	13	40	25.6	#-130
	+IPZ	23	16	11.9	#-131
15	EPZ	05	09	12.4	#-132
	EPZ	06	24	52.9	#-133
17	IPZ	12	27	09.4	#-134
18	EPZ	22	37	24.0	#-135

Date	Phase	Arrival time			Remarks
		h	m	s	
Mar. 18	EXZ	23	29	35.3	#-136
19	EPZ	05	11	02.7	#-137
	EPZ	07	35	11.0	#-138
	EXZ	16	54	08.5	#-139
20	EPZ	13	15	31.0	#-140
	EXZ	17	24	24.6	#-141
	+IPZ	19	02	31.2	#-142
21	+IPZ	16	57	37.3	#-143
22	IPZ	00	11	04.2	#-144
	IPZ	02	24	47.6	#-145
23	EPZ	13	43	33.1	#-146
	IPZ	14	46	12.4	#-147
24	-IPZ	07	15	38.4	#-148
25	-IXZ	01	22	24.3	#-149
	EXZ	13	42	02.7	#-150
	IPZ	17	37	38.5	#-151
26	+IPZ	05	35	53.9	#-152
	+IPZ	06	09	44.9	#-153
27	-IPZ	20	17	12.0	#-154
28	EXZ	03	41	33.6	#-155
30	IPZ	05	31	59.4	#-156
Apr. 02	+IXZ	06	07	59.8	#-157
	-IPZ	14	07	25.6	#-158
03	EPZ	07	46	21.5	#-159
	IXN	07	56	42.0	#-159
	EXZ	23	12	44.3	#-160
04	IXZ	09	20	12.5	#-161
	IPZ	13	54	34.6	#-162

Date	Phase	Arrival time			Remarks
		h	m	s	
Apr. 05	IXZ	21	31	11.0	#-163
	EXZ	21	42	11.1	#-164
06	EXZ	02	49	34.4	#-165
	IPZ	07	57	46.4	#-166
	EPZ	14	44	29.0	#-167
	EXZ	16	43	54.4	#-168
	EPZ	23	55	16.3	#-169
	07	EXZ	02	56	52.0
EXZ		13	06	56.0	#-171
IPZ		18	38	32.9	#-172
08	-IPZ	05	55	01.5	#-173
09	EPZ	09	43	30.0	#-174
	+IPZ	09	57	07.7	#-175
10	IPZ	21	54	27.3	#-176
	-IPZ	22	56	11.3	#-177
11	+IXZ	13	22	09.1	#-178
	-IXZ	21	09	29.3	#-179
13	-IPZ	06	17	45.0	#-180
	-IPZ	08	27	56.3	#-181
16	IPZ	22	49	51.7	#-182
17	EXZ	11	47	23.8	#-183
	IPZ	19	28	06.1	#-184
18	IPZ	10	39	04.9	#-185
	IPZ	13	52	10.3	#-186
	IPZ	14	07	07.3	#-187
	EXZ	14	32	01.8	#-188
	EXZ	14	36	52.5	#-189
	EXZ	14	41	56.6	#-190

Date	Phase	Arrival time			Remarks	
		h	m	s		
Apr. 18	EPZ	14	48	07.5	#-191	
	EPZ	15	03	13.4	#-192	
	EPZ	15	06	06.8	#-193	
	EPZ	15	19	12.6	#-194	
	EPZ	15	28	14.6	#-195	
	EPZ	15	40	02.3	#-196	
	EPZ	16	03	39.5	#-197	
	EPZ	16	34	28.7	#-198	
	EXZ	16	35	49.3	#-199	
	EXZ	17	07	47.9	#-200	
	+IPZ	17	19	10.3	#-201	
	EPZ	17	30	47.5	#-202	
	EPZ	17	39	00.8	#-203	
	IXZ	18	26	44.0	#-204	
	19	IPZ	01	18	00.8	#-205
IPZ		04	10	13.3	#-206	
EPZ		04	12	15.2	#-207	
EPZ		08	41	27.0	#-208	
-IPZ		12	53	31.8	#-209	
IXZ		13	04	15.6	#-209	
-IPZ		15	13	46.8	#-210	
EPZ		22	16	01.5	#-211	
20		-IPZ	09	03	09.2	#-212
		EPZ	18	35	42.6	#-213
	EPZ	23	33	34.3	#-214	
21	EPZ	05	26	56.6	#-215	
	IPZ	19	05	22.0	#-216	
	EPZ	23	32	05.3	#-217	

Date	Phase	Arrival time			Remarks
		h	m	s	
Apr. 22	IPZ	20	35	47.0	#-218
23	EPZ	00	04	38.6	#-219
	+IPZ	16	46	38.8	#-220
	EPZ	10	13	33.5	#-221
26	EXZ	09	55	49.6	#-222
	EPZ	15	52	28.5	#-223
	+IPZ	15	53	26.2	#-224
	-IPZ	23	41	30.9	#-225
	IPZ	05	21	53.2	#-226
	-IPZ	09	55	24.1	#-227
28	EPZ	11	54	36.5	#-228
30	-IPZ	05	59	45.5	#-229
	EPZ	14	39	45.6	#-230
	IPZ	18	12	53.9	#-231
	EPZ	18	21	01.4	#-232
May 01	EKZ	16	32	47.2	#-233
02	IXZ	01	20	47.4	#-234
	IPZ	04	32	21.5	#-235
	EPZ	12	06	05.8	#-236
	-IPZ	23	03	30.6	#-237
	IXN	23	13	53.5	
03	EXZ	05	44	45.4	#-238
	EPZ	19	27	29.4	#-239
04	-IPZ	23	56	26.3	#-240
05	IPZ	14	24	12.0	#-241
06	EPZ	16	57	38.3	#-242
07	EPZ	13	14	54.0	#-243
08	+IPZ	01	52	24.0	#-244

Date	Phase	Arrival time			Remarks
		h	m	s	
May 09	EPZ	04	27	28.6	#-245
	ISN	04	32	27.0	
	EPZ	04	55	46.4	#-246
	IPZ	16	57	33.8	#-247
	EPZ	22	46	19.3	#-248
10	EPZ	01	07	07.8	#-249
	EPZ	08	27	26.1	#-250
11	EKZ	05	23	10.3	#-251
	IXZ	13	28	22.5	#-252
	IPZ	19	55	18.3	#-253
12	-IXZ	05	08	18.0	#-254
	IPZ	14	43	09.7	#-255
	EPZ	21	28	27.5	#-256
13	IPZ	04	33	57.9	#-257
14	EPZ	06	58	42.3	#-258
	+IPZ	12	05	59.0	#-259
	ISE	12	15	32.5	
	EPZ	12	50	26.5	#-260
	IPZ	21	44	29.7	#-261
	IXZ	21	53	07.9	
15	EXZ	14	44	03.5	#-262
	EXZ	15	32	18.1	#-263
	+IPZ	16	35	09.9	#-264
	IPZ	18	44	32.5	#-265
	ISN	18	55	17.3	
	IPZ	21	45	11.6	#-266
16	IPZ	05	37	19.5	#-267
17	-IXZ	11	15	22.8	#-268
	IXN	11	25	17.4	

Date	Phase	Arrival time			Remarks
		h	m	s	
May 17	-IPZ	12	03	50.6	#-269
	+IPZ	16	11	09.1	#-270
	ISN	16	20	25.5	
19	EPZ	09	40	55.5	#-271
20	+IPZ	02	33	39.5	#-272
	-IPZ	07	45	09.2	#-273
	ISN	07	55	36.0	
	+IPZ	10	04	48.6	#-274
	EXZ	13	53	53.0	#-275
21	-IPZ	13	36	17.0	#-276
	EPZ	21	11	04.0	#-277
22	EPZ	13	36	56.9	#-278
23	EPZ	19	47	27.3	#-279
24	EPZ	12	54	14.3	#-280
	-IPZ	19	46	23.6	#-281
	-IPZ	20	11	47.1	#-282
	-IPZ	20	20	32.0	#-283
	EXZ	20	47	03.3	#-284
25	+IPZ	02	16	16.0	#-285
26	EPZ	03	10	27.5	#-286
	EPZ	05	23	33.7	#-287
	EPZ	08	12	34.3	#-288
27	EXZ	22	09	07.1	#-289
28	IPZ	00	07	43.5	#-290
	-IPZ	11	40	37.5	#-291
	ISE	11	50	30.0	
	EXZ	15	25	05.0	#-292
29	EXZ	18	52	16.3	#-293
30	IPZ	02	47	21.3	#-294
	+IPZ	04	13	46.2	#-295

Date	Phase	Arrival time			Remarks
		h	m	s	
May 30	+IXZ	10	58	35.5	#-296
	EPZ	17	02	42.0	#-297
31	+IXZ	00	36	17.7	#-298
	EPZ	02	57	38.0	#-299
	IPZ	23	14	30.3	#-300
June 01	EXZ	01	41	08.1	#-301
	+IPZ	11	20	49.4	#-302
	EPZ	17	01	27.5	#-303
	+IPZ	18	27	44.0	#-304
02	+IPZ	05	10	46.7	#-305
04	EPZ	00	36	06.0	#-306
06	+IPZ	02	14	23.5	#-307
	+IXZ	04	21	53.5	#-308
07	EPZ	07	23	53.3	#-309
	EPZ	09	38	26.9	#-310
08	-IPZ	03	52	54.8	#-311
	EPZ	14	01	35.9	#-312
	IPZ	15	17	07.5	#-313
	ISN	15	27	08.0	
	EPZ	21	49	38.0	#-314
	-IPZ	21	51	13.6	#-315
10	-IPZ	03	29	00.5	#-316
	IXE	03	38	22.4	
12	EPZ	08	12	58.3	#-317
	+IPZ	10	09	57.1	#-318
	EPZ	15	16	48.5	#-319
	EPZ	15	55	05.7	#-320
13	+IKZ	16	19	39.4	#-321
	EPZ	16	55	07.3	#-322

Date	Phase	Arrival time			Remarks
		h	m	s	
June 14	EPZ	07	54	33.5	#-323
	-IXZ	13	06	15.4	#-324
	EPZ	20	35	29.4	#-325
15	EPZ	08	25	34.8	#-326
16	+IPZ	01	46	31.0	#-327
	EPZ	02	13	33.5	#-328
	IPZ	08	58	36.1	#-329
17	EPZ	05	05	20.3	#-330
	EPZ	16	54	01.1	#-331
18	EPZ	01	56	50.4	#-332
	-IPZ	04	38	16.7	#-333
	-IPZ	19	14	34.5	#-334
19	EPZ	10	42	41.0	#-335
	IPZ IXN	19 19 19 29	26.8 07.8		#-336
	EPZ	21	46	11.3	#-337
20	IPZ	15	30	17.5	#-338
	EXZ	16	32	26.4	#-339
	EXZ	21	18	08.6	#-340
21	EXZ	19	50	40.3	#-341
22	-IPZ	07	56	28.2	#-342
	-IPZ	12	00	36.1	#-343
	+IPZ	21	33	37.3	#-344
23	+IPZ	22	02	02.2	#-345
	EXZ	04	36	24.4	#-346
	EPZ	05	15	08.0	#-347
	EPZ	05	43	49.1	#-348
	+IPZ	13	30	44.3	#-349

Date	Phase	Arrival time			Remarks
		h	m	s	
June 23	+IPZ	21	50	40.0	#-350
24	-IPZ	08	47	45.3	#-351
	EXE	08	58	01.4	
25	EKZ	07	39	07.0	#-352
	+IPZ	20	06	25.4	#-353
26	EPZ	02	49	12.9	#-354
	+IPZ ISE	12 20 12 29	04.3 41.1		#-355
	EXZ	22	13	29.8	#-356
27	EPZ	05	22	33.6	#-357
	EPZ	12	20	05.5	#-358
	EPZ	22	31	30.9	#-359
29	+IPZ	04	05	03.6	#-360
	EPZ	06	42	23.7	#-361
July 01	EPZ	00	02	20.8	#-362
02	+IPZ	04	17	36.5	#-363
	EPZ	10	16	45.8	#-364
	EPZ	18	37	38.7	#-365
03	-IPZ	23	05	20.0	#-366
	IPZ	15	49	52.7	#-367
	+IPZ	23	13	12.2	#-368
04	EPZ	02	08	55.5	#-369
	EPZ	05	24	04.5	#-370
05	+IPZ	22	54	04.6	#-371
	EPZ	00	28	08.9	#-372
06	EXZ	05	20	43.5	#-373
	-IPZ	11	55	09.2	#-374
	EPZ	13	52	19.3	#-375
07	EPZ	16	40	58.5	#-376

Date	Phase	Arrival time			Remarks
		h	m	s	
July 07	+IPZ	20	48	45.0	#-377
08	IPZ	16	41	58.9	#-378
09	-IPZ	15	23	00.4	#-379
10	IPZ	03	30	56.9	#-380
	IXN	03	41	21.3	
	EPZ	06	44	02.8	#-381
	EPZ	18	36	02.2	#-382
11	EPZ	13	13	28.5	#-383
	-IPZ	19	59	24.0	#-384
	ISE	20	08	47.7	
	IPZ	20	00	30.2	#-385
	ISE	20	09	49.7	
	EXZ	14	43	57.3	#-386
13	EPZ	08	24	44.7	#-387
	EXZ	14	38	47.1	#-388
14	IPZ	06	06	29.2	#-389
	EPZ	07	36	44.0	#-390
	+IPZ	19	02	16.9	#-391
15	EPZ	10	13	38.7	#-392
	EPZ	20	25	17.0	#-393
16	EPZ	07	40	28.3	#-394
	-IPZ	15	02	15.4	#-395
17	+IPZ	04	17	59.3	#-396
	EXZ	18	04	15.5	#-397
	EXZ	21	32	55.4	#-398
18	EPZ	06	43	35.8	#-399
	EXZ	16	51	05.3	#-400
	IPZ	17	34	08.1	#-401
	ISN	17	44	21.5	
20	+IPZ	15	15	10.8	#-402

Date	Phase	Arrival time			Remarks
		h	m	s	
July 21	+IPZ	00	51	30.7	#-403
22	EPZ	01	38	38.9	#-404
	EXZ	07	49	21.8	#-405
	+IPZ	09	37	46.5	#-406
	ISE	09	47	20.0	
	EPZ	16	39	45.4	#-407
23	-IPZ	19	45	52.9	#-408
	EPZ	23	20	09.7	#-409
24	-IXZ	05	46	25.5	#-410
25	-IPZ	13	49	55.1	#-411
	EXZ	15	03	25.7	#-412
	+IKZ	15	19	39.5	#-413
	+IPZ	20	02	31.8	#-414
26	IPZ	04	30	38.0	#-415
	EPZ	05	26	32.5	#-416
	EPZ	09	17	47.8	#-417
	-IXZ	23	47	51.7	#-418
27	+IPZ	12	50	36.8	#-419
28	+IPZ	08	55	29.5	#-420
	EPZ	16	57	43.0	#-421
	+IPZ	19	20	36.5	#-422
29	IPZ	13	45	54.4	#-423
	+IPZ	21	16	55.5	#-424
30	EPZ	16	35	27.5	#-425
31	EKZ	03	39	35.5	#-426
Aug. 01	EPZ	02	58	02.3	#-427
02	+IPZ	00	20	41.9	#-428
	+IPZ	05	35	04.3	#-429
	-IPZ	15	15	06.5	#-430

Date	Phase	Arrival time h m s	Remarks
Aug. 03	EPZ	08 01 54.3	#-431
	-IXZ	09 33 55.5	#-432
	EPZ	12 11 19.5	#-433
04	IPZ	21 06 49.5	#-434
	EPZ	09 32 21.4	#-435
	05	EXZ	01 55 36.0
05	EXZ	03 55 25.3	#-437
	IXZ	15 08 09.0	#-438
	EXZ	17 54 27.6	#-439
	06	-IPZ	08 51 15.8
06	IXE	09 00 35.3	#-441
	EPZ	16 36 20.0	#-442
	+IPZ	20 36 58.8	#-443
07	ISN	20 41 57.7	#-444
	-IPZ	04 07 07.5	#-445
09	EPZ	07 46 06.9	#-446
10	+IPZ	02 03 49.3	#-447
	IXN	02 14 18.3	#-448
10	-IPZ	05 50 16.6	#-449
	+IPZ	11 53 34.1	#-450
	+IPZ	15 57 22.1	#-451
	EPZ	17 01 55.2	#-452
	-IPZ	17 59 43.9	#-453
	EPZ	21 23 44.0	#-454
	11	+IPZ	02 57 39.9
11	-IPZ	07 31 51.5	#-456
	EPZ	08 12 23.4	#-457
	12	+IPZ	00 21 51.3
12	EPZ	00 47 33.3	#-459

Date	Phase	Arrival time h m s	Remarks
	IPZ	21 37 40.4	#-457
	ISE	21 47 51.8	#-458
Aug. 13	EPZ	16 25 26.6	#-459
	EXZ	20 49 17.3	#-460
	+IXZ	22 47 37.3	#-461
	14	EPZ	06 23 21.5
	EPZ	21 09 15.5	#-463
	15	EPZ	06 32 17.3
	-IPZ	13 35 29.5	#-465
	-IPZ	16 05 29.0	#-466
	16	-IPZ	04 54 25.5
	+IXZ	05 18 42.8	#-468
	IPZ	19 34 11.6	#-469
17	EPZ	13 20 17.5	#-470
	EXN	13 30 49.5	#-471
	IPZ	21 59 11.0	#-472
	18	EPZ	10 54 17.5
	IPZ	13 01 46.1	#-474
	EPZ	14 02 04.2	#-475
	EPZ	14 36 13.6	#-476
	EPZ	19 05 12.3	#-477
	EPZ	08 15 29.4	#-478
	EPZ	17 56 33.5	#-479
	EPZ	19 36 11.2	#-480
	20	EXZ	00 22 32.5
	IPZ	14 24 41.0	#-482
	21	-IPZ	01 09 03.8
	IXE	01 18 57.1	#-484
	-IPZ	14 25 15.2	#-485
	EPZ	17 56 41.3	#-486

Date	Phase	Arrival time			Remarks
		h	m	s	
Aug. 21	EPZ	20	22	33.6	#-484
22	-IPZ	02	10	11.1	#-485
	EPZ	03	38	18.5	#-486
	-IPZ	17	31	20.5	#-487
	-IPZ	22	24	41.0	#-488
23	+IPZ	12	23	42.0	#-489
24	EPZ	15	51	36.2	#-490
	+IPZ	16	37	20.9	#-491
	ISN	16	47	57.2	
	IPZ	19	15	14.1	#-492
25	-IPZ	03	38	18.2	#-493
	EPZ	14	25	22.5	#-494
	+IPZ	16	00	51.3	#-495
	EPZ	18	45	32.0	#-496
26	EPZ	13	56	35.0	#-497
	EXZ	15	19	37.4	#-498
	EXZ	15	24	53.5	#-499
	EXZ	21	40	31.5	#-500
	IPZ	23	25	11.4	#-501
27	-IPZ	02	54	47.0	#-502
	EPZ	04	24	11.7	#-503
	EXZ	15	30	33.4	#-504
	IXN	15	38	08.2	
	EPZ	23	22	18.5	#-505
28	-IPZ	03	29	17.5	#-506
	IXN	03	34	19.6	
	EPZ	05	41	10.3	#-507
	-IPZ	09	10	00.8	#-508
29	+IPZ	06	15	28.5	#-509
	IXZ	20	57	29.0	#-510

Date	Phase	Arrival time			Remarks
		h	m	s	
Aug. 30	+IPZ	07	30	27.8	#-511
	IPZ	12	47	42.4	#-512
	EXZ	17	50	08.6	#-513
31	EPZ	03	36	13.7	#-514
Sept. 02	-IPZ	10	08	09.0	#-515
	-IPZ	10	17	25.9	#-516
	EPZ	13	04	31.9	#-517
	EPZ	13	18	25.2	#-518
	EPZ	14	01	59.4	#-519
03	EXZ	06	14	02.8	#-520
04	EPZ	01	59	07.0	#-521
	-IKZ	16	08	02.1	#-522
	+IPZ	20	09	50.2	#-523
	-IPZ	23	25	55.8	#-524
05	IPZ	07	24	27.4	#-525
07	EXZ	00	24	07.4	#-526
	IPN	11	46	25.5	#-527
	IPN	16	20	34.6	#-528
	ISE	16	29	54.1	
	EPE	18	18	07.4	#-529
08	EPE	19	03	57.8	#-530
	IXE	19	14	08.6	
	EXE	20	44	43.8	#-531
	IXE	20	55	22.7	
09	EPE	02	54	03.8	#-532
	EPE	04	51	21.7	#-533
	EPE	05	48	51.8	#-534
	EXE	05	59	52.0	
	EPE	22	42	18.3	#-535
12	-IXZ	02	46	28.5	#-536

Date	Phase	Arrival time			Remarks	
		h	m	s		
Sept. 12	+IPZ	10	35	01.9	#-537	
	EXZ	15	41	25.8	#-538	
	+IPZ	20	23	56.3	#-539	
	EXZ	03	17	41.8	#-540	
14	-IPZ	17	20	01.1	#-541	
	EXZ	07	19	55.5	#-542	
	-IPZ	09	25	54.5	#-543	
	IPZ	16	20	05.4	#-544	
	IPZ	18	11	03.9	#-545	
	EPZ	20	52	44.5	#-546	
	15	EPZ	11	11	17.6	#-547
		EPZ	19	35	36.7	#-548
EPZ		03	55	09.3	#-549	
16	+IPZ	05	25	44.2	#-550	
17	-IPZ	12	09	02.0	#-551	
	-IPZ	13	56	24.0	#-552	
	EPZ	18	55	07.0	#-553	
18	EXZ	03	38	25.5	#-554	
19	EPZ	01	10	15.5	#-555	
	+IPZ	04	23	40.6	#-556	
20	+IKZ	23	33	34.3	#-557	
21	EPZ	03	31	58.3	#-558	
22	EPZ	07	25	20.9	#-559	
23	EPZ	07	03	43.4	#-560	
	EPZ	11	13	46.5	#-561	
	+IPZ	17	52	04.8	#-562	
	ISE	17	57	06.6		
	EPZ	18	06	45.7	#-563	
	ESN	18	17	19.5		

Date	Phase	Arrival time			Remarks
		h	m	s	
Sept. 23	EPZ	20	46	17.6	#-564
	EXZ	21	32	05.8	#-565
	EXZ	22	28	02.4	#-566
	EPZ	23	05	16.0	#-567
24	EPZ	01	13	17.4	#-568
	EPZ	01	57	01.5	#-569
	EPZ	02	10	41.5	#-570
	EPZ	21	49	16.8	#-571
25	+IPZ	06	02	39.5	#-572
26	EPZ	13	36	07.0	#-573
	EPZ	15	52	03.4	#-574
	EPZ	23	16	14.9	#-575
27	IKZ	21	27	32.5	#-576
28	EXZ	06	09	07.7	#-577
	EPZ	16	58	10.8	#-578
29	IPZ	19	57	26.0	#-579
	ISE	20	08	01.3	
	EPZ	01	06	21.4	#-580
Oct. 01	-IPZ	12	09	44.6	#-581
	EPZ	12	45	29.0	#-582
	EPZ	14	56	04.7	#-583
02	EPZ	21	58	13.5	#-584
	IPZ	08	01	07.8	#-585
03	EPZ	08	21	06.8	#-586
	-IPZ	15	19	16.5	#-587
	-IPZ	17	23	34.9	#-588
04	EPZ	03	59	27.6	#-589
	EPZ	23	59	06.8	#-590
05	EPZ	15	28	23.4	#-591

Date	Phase	Arrival time			Remarks
		h	m	s	
Oct. 05	-IPZ	23	55	15.7	#-592
06	+IPZ	02	51	51.8	#-593
	EPZ	09	19	16.7	#-594
	+IPZ	20	00	40.8	#-595
07	EPZ	04	57	50.1	#-596
	EPZ	05	41	31.9	#-597
	+IPZ	11	38	25.8	#-598
	ISN	11	43	26.3	
	-IPZ	22	47	43.4	#-599
08	EPZ	17	11	38.7	#-600
	EPZ	23	16	16.4	#-601
	-IXZ	23	46	37.9	#-602
09	EXZ	18	17	07.1	#-603
10	-IPZ	01	11	33.4	#-604
	ISN	01	21	04.2	
	-IPZ	06	06	23.0	#-605
	IXN	06	15	48.9	
	EXZ	07	57	10.5	#-606
11	+IPZ	04	36	09.5	#-607
12	+IKZ	17	49	39.5	#-608
	+EPZ	19	29	47.0	#-609
	IXN	19	34	47.8	
13	-IPZ	23	05	00.7	#-610
	ISE	23	14	32.0	
14	+IPZ	02	10	41.1	#-611
	+IPZ	19	53	19.9	#-612
15	+IPZ	01	47	25.5	#-613
	IXN	01	57	19.3	
	EPZ	20	02	00.3	#-614
16	-IPZ	22	06	45.3	#-615
	-IPZ	23	25	05.7	#-616

Date	Phase	Arrival time			Remarks
		h	m	s	
Oct. 16	+IPZ	23	50	44.7	#-617
17	+IPZ	12	28	45.0	#-618
	-IPZ	14	41	55.3	#-619
	-IPZ	23	36	55.5	#-620
18	-IPZ	03	19	15.0	#-621
	-IPZ	07	25	30.0	#-622
	+IPZ	22	34	20.5	#-623
19	EPZ	02	51	23.3	#-624
	EPZ	03	38	52.8	#-625
	EXZ	08	24	14.5	#-626
	EPZ	13	33	21.3	#-627
	EXZ	19	09	34.5	#-628
20	EXZ	15	25	35.0	#-629
21	EPZ	02	10	21.5	#-630
	-IPZ	15	23	56.9	#-631
	EPZ	19	17	37.3	#-632
	EPZ	23	05	30.5	#-633
22	EPZ	14	48	29.9	#-634
23	EPZ	04	19	35.5	#-635
	EPZ	15	27	38.5	#-636
	-IPZ	19	20	12.7	#-637
	+IPZ	20	26	48.0	#-638
24	EKZ	06	35	07.3	#-639
	+IPZ	12	31	23.8	#-640
	-IKZ	15	17	28.5	#-641
	+IPZ	21	59	44.8	#-642
25	EPZ	11	15	04.9	#-643
	EPZ	16	46	30.8	#-644

Date	Phase	Arrival time			Remarks
		h	m	s	
Oct. 26	IPZ	05	57	58.1	#-645
	IPZ	06	12	35.7	#-646
28	+IPZ	20	13	13.9	#-647
	+IXZ	07	12	30.3	#-648
	+IPZ	16	09	32.4	#-649
29	+IPZ	00	34	05.8	#-650
	EPZ	05	55	31.3	#-651
	EPZ	06	27	14.4	#-652
30	EPZ	06	52	14.9	#-653
	EPZ	04	41	22.0	#-654
	-IPZ	14	50	46.6	#-655
31	EKZ	15	35	06.7	#-656
	IPZ	02	06	17.3	#-657
Nov. 01	EPZ	03	52	42.5	#-658
	IPZ	04	14	47.4	#-659
	EPZ	18	04	18.8	#-660
	EXZ	21	11	35.1	#-661
02	ISN	21	18	04.9	
	EPZ	00	40	07.5	#-662
03	-IPZ	19	59	05.5	#-663
	+IPZ	20	12	30.0	#-664
	-IPZ	13	10	34.6	#-665
04	+IPZ	18	25	55.9	#-666
	EKZ	22	24	42.0	#-667
	EPZ	13	35	33.5	#-668
05	EPZ	15	41	30.6	#-669
	EPZ	00	52	14.3	#-670
06	+IPZ	15	01	22.0	#-671
	EPZ	17	41	04.5	#-672

Date	Phase	Arrival time			Remarks
		h	m	s	
Nov. 06	EPZ	18	59	29.3	#-673
	IXN	19	10	08.0	
	IKZ	20	34	22.5	#-674
07	EKZ	22	46	51.8	#-675
	EPZ	14	49	36.6	#-676
	-IPZ	17	00	24.9	#-677
	ISN	17	10	12.9	
	+IPZ	19	11	49.0	#-678
08	IXN	19	22	09.7	
	EXZ	10	27	50.0	#-679
09	EXZ	14	22	21.2	#-680
	EPZ	22	57	23.0	#-681
10	EPZ	11	43	24.3	#-682
	-IPZ	15	52	57.6	#-683
11	+IPZ	19	40	35.0	#-684
	EXZ	07	26	04.6	#-685
	EXZ	12	47	32.2	#-686
12	EPZ	21	10	21.1	#-687
	EXZ	02	54	19.5	#-688
13	EPZ	19	11	15.5	#-689
	EXZ	21	30	26.0	#-690
14	+IKZ	19	36	39.3	#-691
	EPZ	02	46	53.7	#-692
15	EXW	02	57	15.2	
	EPZ	05	00	35.6	#-693
	+IPZ	05	31	06.6	#-694
16	EPZ	05	59	42.9	#-695
	+IPZ	07	26	02.3	#-696
17	+IPZ	14	55	30.7	#-697
	IPZ	02	21	33.5	#-698

Date	Phase	Arrival time			Remarks
		h	m	s	
Nov. 18	EPZ	16	19	13.8	#-699
	IPZ	16	35	25.9	#-700
20	+IPZ	09	16	21.2	#-701
	-IPZ	16	40	08.3	#-702
	+IPZ	22	44	32.0	#-703
21	EKZ	02	08	26.5	#-704
	EPZ	12	03	28.4	#-705
	-IPZ	23	34	56.6	#-706
22	EPZ	23	51	31.1	#-707
	IXN	00	01	08.7	
	EPZ	01	28	37.0	#-708
	-IPZ	13	23	02.5	#-709
	+IPZ	14	38	09.3	#-710
	+IPZ	21	02	14.9	#-711
23	EXE	21	13	09.5	
	+EPZ	01	09	07.5	#-712
	+IPZ	07	55	02.3	#-713
	EPZ	10	20	01.9	#-714
24	EXZ	22	53	19.5	#-715
	-IPZ	07	58	30.7	#-716
	-IPZ	01	13	22.8	#-717
25	EPZ	03	48	40.1	#-718
	+IPZ	04	15	13.3	#-719
	-IPZ	04	31	40.7	#-720
	+IPZ	20	20	53.8	#-721
26	EXZ	00	41	04.5	#-722
27	EPZ	00	52	08.8	#-723
	IXE	01	01	50.0	
	EPZ	01	29	31.8	#-724
29	EPZ	21	09	32.3	#-725

Date	Phase	Arrival time			Remarks
		h	m	s	
Nov. 29	EPZ	21	33	32.7	#-726
	EPZ	21	42	14.3	#-727
30	EPZ	13	32	21.2	#-728
	+IPZ	14	29	55.8	#-729
Dec. 02	EPZ	08	56	25.5	#-730
	EPZ	14	49	04.1	#-731
03	-IPZ	06	00	31.4	#-732
04	EPZ	09	30	27.1	#-733
05	-IPZ	16	21	24.2	#-734
06	EPZ	22	51	07.5	#-735
	-IPZ	02	35	25.4	#-736
07	-IPZ	08	37	19.7	#-737
	ISE	08	47	34.6	
	IPZ	12	29	05.6	#-738
	EPZ	17	39	59.1	#-739
	IPZ	20	43	36.0	#-740
	EPZ	23	19	53.5	#-741
	IXN	23	29	35.2	
08	EPZ	00	51	05.7	#-742
	EPZ	04	56	54.9	#-743
	-IXZ	06	12	20.4	#-744
	EPZ	06	39	30.0	#-745
	EPZ	13	46	06.4	#-746
09	-IPZ	05	38	31.5	#-747
	IPZ	07	44	57.5	#-748
	+IPZ	11	12	18.6	#-749
	+IKZ	15	56	16.9	#-750
10	EPZ	01	27	59.9	#-751
	+IPZ	09	47	25.8	#-752

Date	Phase	Arrival time			Remarks
		h	m	s	
Dec. 10	EPZ	09	55	06.3	#-753
	EPZ	16	31	52.3	#-754
11	EXZ	01	23	44.6	#-755
	+IPZ	14	54	55.1	#-756
	EPZ	16	22	40.6	#-757
12	EPZ	21	54	40.5	#-758
	EPZ	07	33	59.0	#-759
	IPZ	17	26	13.3	#-760
	EPZ	18	37	01.2	#-761
13	IPZ	12	39	32.7	#-762
	IXE	12	50	30.5	
	EPZ	16	39	20.3	#-763
14	+IPZ	11	35	39.7	#-764
16	-IPZ	10	18	49.0	#-765
	+IPZ	20	32	40.8	#-766
	EPZ	20	41	41.5	#-767
17	EPZ	01	34	00.3	#-768
	IPZ	01	56	40.7	#-769
	-IXZ	04	26	39.1	#-770
	EPZ	07	27	50.8	#-771
18	+IPZ	02	40	37.0	#-772
	EPZ	02	56	46.5	#-773
	IPZ	15	12	04.7	#-774
	-IPZ	21	49	07.0	#-775
19	-IPZ	06	27	48.3	#-776
	EPZ	07	46	36.8	#-777
	+IKZ	14	08	07.9	#-778
	-IPZ	22	12	15.7	#-779

Date	Phase	Arrival time			Remarks
		h	m	s	
Dec. 21	EPZ	03	39	45.5	#-780
	EPZ IXE	05	42	16.7 56.0	#-781
	+IPZ ISN	11	50	00.2 11 59 44.0	#-782
	+IPZ IXN	13	07	48.0 13 17 30.0	#-783
	+IPZ	18	42	20.5	#-784
	22	EPZ	19	14	33.4
23	+IPZ	16	43	53.8	#-786
	+IPZ	18	01	16.7	#-787
24	EPZ	21	15	54.5	#-788
	+IXZ	04	27	41.8	#-789
	EPZ	08	35	37.5	#-790
	+IPZ	10	25	20.0	#-791
	EPZ	16	03	48.6	#-792
	-IPZ	16	36	15.0	#-793
	-IPZ	16	50	00.4	#-794
	+IPZ	19	28	44.0	#-795
25	-IPZ	22	28	59.0	#-796
	EPZ	22	32	18.5	#-797
	EPZ	23	25	44.0	#-798
	EPZ	01	19	50.4	#-799
	EPZ	08	01	39.5	#-800
	-IPZ	19	53	17.0	#-801
	+IPZ IXE	20	32	53.5 20 42 22.4	#-802
	26	EPZ	02	12	25.4
	EXZ	15	10	39.4	#-804
	EKZ	15	22	07.0	#-805

Date	Phase	Arrival time			Remarks
		h	m	s	
Dec. 26	EXZ	15	51	42.4	#-806
27	+IPZ	13	47	19.4	#-807
	IXN	13	57	19.4	
	IPZ	16	20	14.4	#-808
	+IXZ	16	30	10.6	#-809
	EPZ	18	14	08.9	#-810
28	EXZ	02	02	17.5	#-811
	EKZ	07	59	55.3	#-812
	EPZ	22	42	01.2	#-813
29	+IPZ	21	18	33.9	#-814
30	+IPZ	00	52	21.0	#-815
	IPZ	06	34	46.4	#-816
	EPZ	19	27	12.3	#-817
	EPZ	22	39	46.1	#-818
31	EPZ	12	35	40.3	#-819
	-IPZ	22	23	58.0	#-820

#-No. --- corresponds to that in Table 2.

Table 2a. List of 393 earthquakes (1987).

Data No.	Origin time			Geographic Coordinates		Region	Depth (km)	Magnitude		Epicentral distance (degree)	
	Date	h	m	s	Latitude (degree)			Longitude (degree)	(Mb)		(Ms)
1	01/02	07	42	43.7	42.437 S	18.428 W	South Atlantic Ridge	10	5.1	5.1	39.711
2	01/03	22	04	04.8	14.998 S	167.929 E	Vanuatu Islands	15	6.0	6.5	88.638
3	01/05	12	11	55.7	52.448 N	169.381 W	Fox Islands, Aleutian Islands	33	6.1	6.7	158.612
4	01/09	06	14	44.8	39.895 N	141.677 E	Honshu, Japan	68	6.4		130.928
5	01/09	08	01	35.9	19.469 S	176.538 W	Fiji Islands Region	33	5.9	6.6	88.010
6	01/11	07	30	11.1	18.815 S	174.069 W	Tonga Islands	104	5.1		89.125
7	01/13	10	55	17.9	29.292 S	177.524 W	Kermadec Islands	60	5.3		78.263
8	01/14	11	03	48.7	42.565 N	142.850 W	Hokkaido, Japan Region	102	6.5		133.699
9	01/14	12	44	50.8	32.624 S	67.252 W	Mendoza Province, Argentina	158	5.5		65.553

10	01/16	15 14 59.3	52.904 S	27.444 E	South of Africa	10	5.5		17.083
11	01/16	16 29 59.3	30.000 S	68.626 W	San Juan Province, Argentina	114	4.4		68.421
12	01/21	04 47 03.1	6.664 S	129.815 E	Banda Sea	159	5.4		83.962
13	01/21	20 37 03.5	6.008 S	128.836 E	Banda Sea	268	5.3		84.218
14	01/23	17 51 09.2	1.646 N	126.531 E	Molucca Passage	72	5.6		90.487
15	01/28	20 14 37.5	61.090 S	153.856 E	Balleny Islands Region	10	5.5	5.5	41.952
16	01/29	02 43 47.6	1.265 N	126.232 E	Molucca Passage	48	5.8	5.9	90.026
17	01/29	17 22 39.4	29.765 S	71.208 W	Near Coast of Central Chile	65	5.4		69.454
18	01/30	22 29 42.0	60.063 S	26.916 W	South Sandwich Islands Region	48	6.2	7.0	28.352
19	02/03	00 22 14.0	12.949 N	88.415 W	Off Coast of Central America	64	5.3		115.016
20	02/03	16 42 41.3	37.750 S	72.893 W	Central Chile	32	5.8	5.5	62.553
21	02/07	19 21 59.8	8.712 S	118.880 E	Sumbawa Island Region	91	4.9		78.140
22	02/08	18 33 58.3	6.088 S	147.689 E	East Papua New Guinea Region	55		7.4	90.785
23	02/10	00 59 28.5	19.489 S	177.456 W	Fiji Islands Region	395	6.2		87.806
24	02/10	05 55 20.0	42.344 N	147.922 E	Off Coast Hokkaido, Japan	42	5.2	4.5	135.324
25	02/11	07 56 12.9	15.834 S	167.355 E	Vanuatu Islands	24	5.9	6.4	87.684
26	02/11	17 42 50.9	43.169 N	132.286 E	Near East Coast of Eastern USSR	499	5.5		130.508

27	02/13	07 18 29.0	0.670 N	126.167 E	Molucca Passage	32	6.2	6.5	89.451
28	02/14	16 42 18.1	54.720 N	161.741 E	Near East Coast of Kamchatka	33	5.7	5.0	150.684
29	02/17	06 16 12.1	32.793 S	179.304 W	South of Kermadec Islands	10	5.9	6.6	74.516
30	02/23	15 49 54.6	15.854 S	167.891 E	Vanuatu Islands	234	5.9		87.811
31	02/25	10 42 45.0	27.927 S	66.835 W	Catamarca Province, Argentina	172	5.2		69.765
32	02/25	14 37 05.9	7.679 S	116.980 E	Bali Sea	305	5.4		78.422
33	02/27	08 31 54.4	53.470 N	167.291 W	Fox Islands, Aleutian Islands	10	6.2	6.7	160.118
34	03/05	09 17 05.2	24.388 S	70.161 W	Near Coast of Northern Chile	62	6.5	7.3	74.131
35	03/05	09 51 53.4	24.432 S	70.216 W	Near Coast of Northern Chile	43	5.6		74.107
36	03/05	10 55 12.3	24.495 S	70.701 W	Near Coast of Northern Chile	35	5.7		74.204
37	03/06	07 06 44.0	24.089 S	70.104 W	Near Coast of Northern Chile	41	5.9	5.5	74.391
38	03/06	09 39 54.7	24.149 S	70.118 W	Near Coast of Northern Chile	46	5.7	5.7	74.340
39	03/11	02 50 55.1	34.219 S	178.951 E	South of Kermadec Islands	233	5.3		72.786
40	03/19	22 51 39.2	20.397 S	176.134 W	Fiji Islands Region	214	5.9		87.187
41	03/21	10 41 35.9	52.056 N	177.547 W	Andreanf Islands, Aleutian Islands	93	6.0		155.746
42	03/22	03 23 57.6	24.058 S	70.142 W	Near Coast of Northern Chile	40	5.8	5.8	74.432
43	03/26	16 17 38.1	13.731 S	167.197 E	Vanuatu Islands	191	5.5		89.646

44	04/01 01 48 08.5	22.767 S	66.205 W	Jujuy Province, Argentina	249	6.1		74.347
45	04/03 01 17 08.0	49.928 N	78.829 E	Eastern Kazakh SSR	0	6.2	4.7	122.200
46	04/03 17 54 23.6	4.731 S	144.216 E	Near North Coast of Papua New Guinea	91	5.7		90.859
47	04/07 00 51 36.6	22.782 S	66.074 W	Jujuy Province, Argentina	205	5.5		74.290
48	04/16 01 10 20.6	54.957 N	157.985 E	Kamchatka	310	5.0		149.520
49	04/17 01 03 04.8	49.886 N	78.691 E	Eastern Kazakh SSR	0	6.0	4.3	122.136
50	04/18 13 40 00.6	37.248 N	116.509 W	Southern Nevada	0	5.5	4.0	145.550
51	04/25 19 22 07.2	2.244 N	98.866 E	Northern Sumatra	11	5.9	6.6	81.585
52	04/29 14 27 35.7	19.013 S	177.736 W	Fiji Islands Region	385	5.9		88.211
53	04/30 13 30 00.0	37.233 N	116.423 W	Southern Nevada	0	5.5	4.4	145.517
54	05/06 04 06 14.1	51.272 N	179.898 W	Andreanof Islands, Aleutian Island	20	6.3	6.4	154.306
55	05/07 03 05 49.1	46.736 N	139.232 E	Near East Coast of Eastern USSR	430	6.0		136.039
56	05/10 15 16 22.3	30.911 S	65.503 W	Cordoba Province, Argentina	178	5.4		66.571
57	05/11 02 37 43.8	20.500 S	178.362 W	Fiji Islands Region	567	5.3		86.638
58	05/11 09 59 34.1	4.470 N	127.709 E	Talau Islands	94	5.9		93.528
59	05/12 01 30 25.0	7.090 N	126.701 E	Mindanao, Philippine Islands	25	6.2	6.4	95.596

60	05/12	13	56	26.2	5.271 S	151.342 E	New Britain Region	85	5.8		92.777
61	05/12	16	12	37.5	21.694 S	68.222 W	Chile-Bolivia Border Region	78	5.5		76.012
62	05/15	13	49	13.9	50.056 S	115.082 W	Easter Island Cordillera	10	5.5	4.8	59.696
63	05/16	03	34	52.1	7.451 S	128.113 E	Banda Sea	118	5.4		82.622
64	05/17	05	12	11.9	13.568 S	167.154 E	Vanuatu Islands	177	5.6		89.790
65	05/19	12	56	25.2	30.284 S	71.484 W	Near Coast of Central Chile	36	5.6	6.0	69.057
66	05/31	01	00	53.1	7.930 S	122.273 E	Flores Sea	225	5.3		80.079
67	06/01	01	50	16.1	22.258 S	68.541 W	Northern Chile	104	5.4		75.591
68	06/15	21	05	11.3	19.074 S	63.910 W	Southern Bolivia	591	5.4		77.008
69	06/16	20	17	02.3	22.931 S	176.727 W	South of Fiji Islands	146	5.3		84.605
70	06/17	01	32	53.7	5.577 S	130.791 E	Banda Sea	67	6.6		85.320
71	06/18	14	03	15.1	10.707 S	162.326 E	Solomon Islands	73	6.0		91.124
72	06/19	19	00	05.1	21.213 S	68.362 W	Chile-Bolivia Border Region	86	5.6		76.506
73	06/19	21	00	20.7	17.911 S	69.366 W	Peru-Bolivia Border Region	134	4.9		79.916
74	06/20	00	46	25.1	28.220 S	63.159 W	Santiago Del Estero Province, Argentina	610	5.0		68.283
75	06/20	00	53	04.8	49.913 N	78.735 E	Eastern Kazakh SSR	0	6.1	4.2	122.169
76	06/20	05	39	32.8	7.053 S	129.637 E	Banda Sea	87	5.6		83.538

77	06/20	21 45 29.1	21.377 S	170.301 E	Loyalty Islands Region	181	5.4		83.165
78	06/22	05 16 33.7	27.573 S	178.543 W	Kermadec Islands Region	292	5.3		79.733
79	06/26	23 05 48.2	21.276 S	169.180 E	Loyalty Islands Region	24	5.1	5.8	82.973
80	06/27	00 17 04.6	2.164 S	138.170 E	West Irian	21	5.7	6.5	91.124
81	06/27	08 41 26.2	56.023 S	27.565 W	South Snadwich Islands Region	68	5.4		31.627
82	06/27	09 09 05.8	14.097 S	75.979 W	Near Coast of Peru	61	5.9		85.624
83	07/03	22 58 29.5	40.991 S	178.507 E	Off East Coast of Northern Island, New Zealand	32	5.3		66.149
84	07/06	00 23 25.6	51.508 N	174.721 W	Andreanof Islands, Aleutian Island	33	5.8	5.5	152.688
85	07/06	01 06 07.6	26.999 S	108.285 W	Easter Island Region	10	6.2	6.3	81.352
86	07/06	02 49 42.7	14.074 S	167.828 E	Vanuatu Islands	48	5.9	6.6	89.492
87	07/06	03 05 00.3	13.994 S	167.781 E	Vanuatu Islands	46	5.7		89.828
88	07/06	23 22 06.1	53.434 N	158.318 E	Near East Coast of Kamchatka	149	5.3		148.429
89	07/07	10 36 03.7	4.403 N	125.028 E	Talaud Islands	70	5.6		92.505
90	07/07	18 12 53.4	25.826 S	178.169 E	South of Fiji Islands	649	5.3		80.742
91	07/08	11 50 14.7	26.969 S	108.156 W	Easter Island Region	10	6.1	5.9	81.358
92	07/08	14 34 38.3	3.045 S	136.613 E	West Irian	42	5.3	4.8	89.752

93	07/09	04 07 34.7	20.462 S	68.796 W	Chile-Bolivia Border Region	68	5.3		77.348
94	07/09	04 31 23.0	3.834 N	126.542 E	Talaud Islands	33	5.6	4.9	92.520
95	07/09	07 27 34.2	56.375 S	25.642 W	South Sandwich Islands Region	33	5.6	5.7	30.671
96	07/10	01 25 28.1	26.888 S	176.532 W	South of Fiji Islands	42	4.9		80.792
97	07/10	10 45 25.7	18.265 S	178.294 W	Fiji Islands Region	643	4.9		88.822
98	07/10	18 49 53.9	55.137 N	165.525 E	Komandorsky Islands Region	33	6.1	6.3	152.374
99	07/11	00 19 30.4	22.248 S	69.846 W	Northern Chile	52	5.1		76.025
100	07/11	05 13 15.1	50.201 N	156.278 E	Kuril Islands	75	5.4		145.051
101	07/11	06 15 51.0	82.229 N	17.556 W	Near North Coast of Greenland	10	5.5	5.0	151.583
102	07/12	19 06 56.1	25.063 S	70.253 W	Near Coast of Northern Chile	48	5.1		73.531
103	07/13	01 45 54.1	26.020 S	177.338 W	South of Fiji Islands	107	5.3		81.481
104	07/13	19 14 57.9	15.332 S	70.061 W	Southern Peru	241	5.1		82.554
105	07/14	23 46 03.5	49.631 N	147.828 E	Sea of Okhotsk	576	5.7		141.544
106	07/15	07 16 13.5	17.522 N	97.153 W	Oaxaca, Mexico	67	5.9		121.905
107	07/17	01 03 37.7	55.948 S	27.683 W	South Sandwich Islands Region	102	5.8		31.728
108	07/17	01 17 07.0	49.799 N	78.110 E	Eastern Kazakh SSR	0	5.8	4.6	121.951
109	07/20	07 53 46.7	4.079 N	126.480 E	Talaud Islands	81	5.3		92.725

110	07/21	13 27	12.9	36.295 S	97.252 W	West Chile Rise	10	5.4		70.190
111	07/22	08 03	55.1	21.176 S	169.827 E	Loyalty Islands Region	66	5.4		83.236
112	07/23	00 58	56.6	7.154 S	120.751 E	Flores Sea	485	5.1		80.253
113	07/23	03 57	58.6	23.391 S	179.785 W	South of Fiji Islands	563	5.1		83.536
114	07/25	16 15	19.2	31.256 S	72.686 W	Off Coast of Central Chile	24	5.6		68.523
115	07/25	18 12	05.9	18.442 S	168.640 E	Vanuatu Islands	112	4.9		85.540
116	07/26	21 59	41.9	30.210 S	165.781 E	Northwest of New Zealand	33	5.5	5.4	73.568
117	07/29	10 01	11.2	30.205 S	177.025 W	Kermadec Islands	10	5.0	5.6	77.470
118	07/29	15 22	33.1	28.869 S	67.150 W	La Rioja Province, Argentina	142	5.4		68.995
119	07/29	20 37	13.4	18.240 S	178.208 W	Fiji Islands Region	625	5.1		88.864
120	07/29	21 32	31.8	18.309 S	178.134 W	Fiji Islands Region	637	5.2		88.812
121	07/31	00 27	32.0	0.175 N	123.605 E	Minahassa Peninsula	167	5.2		88.073
122	07/31	16 29	52.5	40.542 S	72.546 W	Central Chile	33	5.2		59.870
123	07/31	23 56	58.0	40.415 N	124.407 W	Near Coast of Northern California	16	5.6	6.0	150.061
124	08/02	00 58	06.8	49.880 N	78.917 E	Eastern Kazakh SSR	0	5.9	3.8	122.169
125	08/02	01 59	59.8	73.339 N	54.626 E	Novaya Zemlya	0	5.8	3.4	142.525
126	08/03	02 22	46.2	12.528 S	166.837 E	Santa Cruz Islands	116	5.1		90.693

127	08/03	14 08 38.8	37.557 S	179.743 E	Off East Coast of Northern Island, New Zealand	33	4.9	4.5	69.711
128	08/03	23 20 30.3	53.010 S	22.490 E	South of Africa	10	4.6	4.6	17.877
129	08/04	10 18 31.2	20.660 S	178.000 W	Fiji Islands Region	247	4.6		86.557
130	08/04	15 04 40.0	40.469 S	73.189 W	Near Coast of Central Chile	38	5.9	4.9	60.126
131	08/04	19 06 05.2	24.663 S	70.446 W	Near Coast of Northern Chile	47	4.9		73.966
132	08/04	19 52 00.3	15.277 S	167.540 E	Vanuatu Islands	135	5.0		88.266
133	08/04	22 15 40.5	29.292 S	176.202 W	Kermadec Islands Region	33	5.5	5.2	78.514
134	08/06	13 09 37.0	7.707 S	127.560 E	Banda Sea	158	5.1		82.186
135	08/07	12 15 56.6	20.620 S	169.238 E	Vanuatu Islands	33	5.3		49.989
136	08/08	07 48 02.3	37.004 S	178.938 E	Off East Coast of Northern Island, New Zealand	33	5.3	5.6	70.088
137	08/08	15 48 56.7	19.022 S	69.991 W	Northern Chile	70	6.4	6.9	79.083
138	08/09	08 17 50.8	0.508 N	126.079 E	Molucca Passage	50	5.3	4.7	89.269
139	08/09	08 24 19.6	35.140 S	104.060 W	Southern Pacific Ocean	10	5.1	5.0	72.656
140	08/10	09 58 02.9	5.888 N	125.660 E	Mindanao, Philippine Islands	202	5.6		94.109
141	08/10	14 53 20.2	24.140 S	179.240 E	South of Fiji Islands	568	4.7		82.604
142	08/11	02 14 06.8	52.706 S	20.196 E	South of Africa	10	4.8		18.658

143	08/11	04 34 58.9	18.067 S	178.477 W	Fiji Islands Region	601	5.4		88.975
144	08/11	17 44 53.6	6.350 S	154.712 E	Solomon Islands	78	5.3		92.871
145	08/12	00 06 29.2	12.262 S	166.649 E	Santa Cruz Islands	114	5.4		90.894
146	08/12	04 34 31.1	54.898 N	162.893 E	Near East Coast of Kamchatka	44	5.1	4.7	151.239
147	08/12	06 18 40.7	31.658 S	58.453 E	Atlantic-Indian Rise	10	5.6		38.973
148	08/13	08 44 07.8	30.871 S	177.987 W	Kermadec Islands	56	5.3		76.639
149	08/13	14 00 00.0	37.061 N	116.045 W	Southern Nevada	0	5.9	4.4	145.273
150	08/13	15 23 06.9	17.897 S	70.931 W	Near Coast of Peru	37	6.1	6.4	80.441
151	08/13	20 32 47.9	11.333 S	165.444 E	Santa Cruz Islands	23	5.4		91.438
152	08/13	21 46 53.2	14.815 S	167.985 E	Vanuatu Islands	33	5.6	5.2	88.828
153	08/14	05 59 04.2	12.580 S	166.589 E	Santa Cruz Islands	29	5.6	5.8	90.574
154	08/14	17 39 32.2	53.416 N	169.113 W	Fox Islands, Aleutian Islands	118	5.7		159.544
155	08/14	22 20 42.0	19.107 S	63.932 W	Southern Bolivia	598	5.3		76.984
156	08/15	09 34 47.4	23.136 S	68.574 W	Northern Chile	101	5.1		74.784
157	08/15	13 49 11.2	20.019 S	175.406 W	Tonga Islands	195	4.9		87.697
158	08/15	18 04 23.1	28.135 S	70.884 W	Central Chile	37	6.0	6.1	70.870
159	08/16	21 38 48.1	34.963 S	179.654 E	South of Kermadec Islands	74	5.5		72.206

160	08/19	00 25 26.0	34.830 S	179.250 W	South of Kermadec Islands	33	4.8		72.550
161	08/19	07 52 44.2	24.088 S	66.932 W	Salta Province, Argentina	153	5.4		73.360
162	08/20	05 40 52.6	24.213 S	179.158 E	South of Fiji Islands	527	5.2		82.516
163	08/21	18 20 10.0	5.528 S	151.885 E	New Britain Region	46	5.1		92.717
164	08/21	19 44 19.0	6.526 S	154.877 E	Solomon Islands	62	5.6		92.759
165	08/21	21 38 56.6	47.649 S	99.860 E	Southeast Indian Rise	10	5.3	5.5	36.119
166	08/22	05 09 14.4	52.164 N	174.066 E	Near Islands, Aleutian Islands	33	5.5	4.8	153.009
167	08/24	06 09 43.6	20.096 S	70.632 W	Near Coast of Northern Chile	33	5.2	4.5	78.289
168	08/26	06 56 46.2	20.749 S	178.464 W	Fiji Islands Region	569	5.7		86.375
169	08/26	13 01 23.0	37.262 S	95.296 W	Southern Pacific Ocean	10	5.1		68.839
170	08/26	16 56 10.4	29.881 S	177.376 W	Kermadec Islands	33	5.0		77.718
171	08/28	13 17 58.6	23.144 S	179.638 W	South of Fiji Islands	549	4.9		83.807
172	08/29	00 31 49.5	4.144 S	152.334 E	New Britain Region	162	5.0		94.163
173	08/29	12 51 10.3	6.272 N	125.981 E	Mindanao, Philippine Islnds	33	5.0		94.580
174	08/29	14 15 18.3	56.536 S	25.621 W	South Sandwich Islands Region	33	6.0	4.8	30.539
175	08/29	15 14 07.8	56.504 S	25.505 W	South Sandwich Islands Region	33	5.0	4.9	30.523
176	08/30	12 15 35.4	30.330 S	177.997 W	Kermadec Islands	56	5.4		77.162

177	08/31	06 52	52.0	27.080 S	178.447 W	Kermadec Islands Region	309	5.0		80.231
178	09/01	04 26	07.4	23.052 S	66.529 W	Jujuy Province, Argentina	199	6.0		74.190
179	09/01	22 46	50.7	21.870 S	179.455 W	Fiji Islands Region	593	5.5		85.081
180	09/02	05 23	14.5	39.272 S	174.703 E	North Island, New Zealand	196	4.9		67.029
181	09/03	01 15	33.7	2.836 S	129.510 E	Ceram	20	5.7	4.8	87.401
182	09/03	06 40	13.9	58.893 S	158.513 E	Macquarie Islands Region	33	5.9	7.3	44.996
183	09/03	08 01	36.2	59.538 S	159.005 E	Macquarie Islands Region	33	6.1	6.8	44.528
184	09/03	08 36	15.5	59.553 S	159.062 E	Macquarie Islands Region	33	5.4		44.528
185	09/03	09 42	29.2	59.434 S	159.147 E	Macquarie Islands Region	33	5.0		44.654
186	09/03	11 08	22.5	59.588 S	159.270 E	Macquarie Islands Region	33	5.5	5.9	44.543
187	09/04	04 27	08.8	49.293 N	156.410 E	Kuril Islands	33	5.9	6.2	144.341
188	09/04	11 23	46.1	23.957 S	66.777 W	Jujuy Province, Argentina	202	4.8		73.431
189	09/06	15 27	22.4	49.262 N	156.266 E	Kuril Islands	43	5.7		144.263
190	09/06	19 59	35.0	49.132 N	156.186 E	Kuril Islands	51	5.2		144.125
191	09/06	21 54	00.9	49.213 N	156.221 E	Kuril Islands	33	5.3	5.6	144.206
192	09/07	11 57	09.4	31.089 S	177.968 W	Kermadec Islands Region	33	5.8	6.7	76.430
193	09/07	17 43	39.6	31.218 S	177.804 W	Kermadec Islands Region	40	5.5	5.5	76.336

194	09/07	20 33 37.7	31.193 S	177.844 W	Kermadec Islands Region	33	5.1		76.353
195	09/08	13 35 16.1	49.612 N	156.360 E	Kuril Islands	83	5.6		144.590
196	09/08	16 31 46.9	31.602 S	177.737 W	Kermadec Islands Region	33	4.9	4.7	75.976
197	09/08	21 37 00.0	31.419 S	177.801 W	Kermadec Islands Region	33	5.2	5.1	76.142
198	09/10	02 26 23.4	7.123 S	123.290 E	Banda Sea	604	5.4		81.192
199	09/10	20 31 42.5	24.037 S	175.435 W	South of Tonga Islands	33	4.8		83.777
200	09/11	00 34 52.1	22.329 S	68.384 W	Northern Chile	130	5.4		75.473
201	09/11	04 02 02.7	31.431 S	70.756 W	Chile-Argentina Border Region	90	5.2		67.764
202	09/13	20 08 51.6	34.333 S	69.971 W	Chile-Argentina Border Region	10	5.8	5.6	64.829
203	09/14	10 22 59.2	23.637 S	177.260 W	South of Fiji Islands	199	5.0		83.813
204	09/15	17 14 31.8	56.670 S	26.190 W	South Sandwich Islands Region	85	5.6		30.638
205	09/16	00 08 02.9	32.690 S	178.900 W	South of Kermadec Islands	33	4.8	4.5	74.695
206	09/17	04 47 13.3	4.118 S	145.706 E	Near North Coast of Papua New Guinea	15	5.4	6.1	91.946
207	09/17	09 28 15.4	53.387 S	159.587 E	Macquarie Islands Region	10	4.5		50.255
208	09/18	08 43 29.3	24.269 S	69.148 W	Northern Chile	97	5.5		73.915
209	09/19	09 21 40.8	15.001 S	75.667 W	Near Coast of Peru	28	5.1	5.1	84.676
210	09/19	21 18 25.7	9.186 S	79.059 W	Off Coast of Northern Peru	68	5.7		91.217

211	09/19	21 58 00.8	49.647 N	156.318 E	Kuril Islands	85	5.4		144.604
212	09/20	04 22 36.3	6.329 S	130.051 E	Banda Sea	124	5.1		84.357
213	09/20	05 57 11.2	9.209 S	79.058 W	Off Coast of Northern Peru	64	5.0		91.195
214	09/22	04 27 33.0	27.369 S	68.148 W	Chile-Argentina Border Region	132	4.9		70.684
215	09/22	07 17 23.8	0.791 S	84.399 E	South Indian Ocean	10	5.5	5.0	74.507
216	09/22	12 52 48.5	15.027 S	167.296 E	Vanuatu Islands	142	4.9		88.438
217	09/22	13 43 37.6	0.978 S	78.050 W	Ecuador	10	6.1	6.2	98.628
218	09/23	15 14 56.2	50.716 S	139.279 E	South of Australia	10	5.8	6.1	47.035
219	09/23	15 22 46.2	50.468 S	139.528 E	South of Australia	10	5.5	5.9	47.330
220	09/24	01 46 34.2	0.481 N	126.140 E	Molucca Passage	53	5.2	4.5	89.266
221	09/24	15 00 00.0	37.228 N	116.375 W	Southern Nevada	0	5.7	4.3	145.503
222	09/26	00 24 18.6	21.529 S	70.819 W	Near Coast of Northern Chile	45	5.1	5.3	77.010
223	09/26	05 30 36.4	55.463 N	164.537 E	Komandorsky Islands Region	35	5.1	5.1	152.273
224	09/27	04 06 52.8	6.533 S	81.094 W	Near Coast of Northern Peru	33	5.2	4.6	94.352
225	09/28	13 46 13.9	18.546 S	168.161 E	Vanuatu Islands	25	5.8	6.5	85.314
226	09/28	23 09 37.1	18.340 S	168.122 E	Vanuatu Islands	32	5.2	4.9	85.500
227	09/29	15 06 02.6	18.351 S	168.107 E	Vanuatu Islands	33	4.3	4.0	85.485

228	09/30	01 39	28.0	18.162 S	167.865 E	Vanuatu Islands	51	5.4	6.3	85.601
229	09/30	22 14	39.2	9.029 S	123.544 E	Timor	127	4.9		79.518
230	10/01	07 29	24.9	11.389 S	166.147 E	Santa Cruzu Islands	76	5.5		91.584
231	10/01	13 18	45.5	65.144 S	177.537 E	Balleny Islands Region	10	5.0	5.0	42.891
232	10/01	14 42	20.0	34.060 N	118.080 W	Southern California	10	5.8	5.7	142.770
233	10/03	03 35	10.6	17.950 S	69.247 W	Peru-Bolivia Border Region	149	5.8		79.840
234	10/03	10 16	26.2	5.447 S	131.012 E	Banda Sea	74	6.4		85.520
235	10/03	11 39	56.0	55.823 S	147.305 E	West of Macquarie Island	10	5.0		44.893
236	10/04	18 34	22.6	55.585 N	161.623 E	Near East Coast of Kamchatka	54	6.0	5.4	151.319
237	10/04	23 12	56.8	61.702 S	161.157 E	Balleny Islands Region	10	5.2	4.5	43.057
238	10/05	13 32	09.7	30.630 S	179.970 W	Kermadec Islands Region	463	4.5		76.480
239	10/06	04 19	06.0	17.940 S	172.225 W	Tonga Islands Region	16	6.7	7.3	90.319
240	10/06	14 29	18.4	5.756 N	125.773 E	Mindanao, Philippine Islands	136	5.0		94.027
241	10/06	14 39	53.0	36.092 S	101.166 W	Southern Pacific Ocean	10	5.2		71.183
242	10/06	15 52	24.6	41.168 S	74.781 W	Off Coast of Southern Chile	33	5.1	4.5	59.940
243	10/06	16 08	38.3	22.092 S	179.524 W	South of Fiji Islands	568	5.2		84.851
244	10/06	20 11	35.1	52.956 N	159.972 E	Off East Coast of Kamchatka	34	6.1	6.3	148.639

245	10/07	00 51 36.6	22.845 S	68.030 W	Northern Chile	106	5.6		74.877
246	10/08	03 20 45.7	19.599 S	173.111 W	Tonga Islands	40	6.2	6.1	88.538
247	10/09	03 12 21.7	24.296 S	179.611 E	South of Fiji Islands	566	4.6		82.532
248	10/09	10 17 38.9	7.871 S	105.256 E	Java	30	5.5	5.3	74.167
249	10/09	18 04 04.4	22.951 S	66.678 W	Jujuy Province, Argentina	211	4.8		74.333
250	10/10	14 26 36.9	6.066 S	113.153 E	Java	574	5.9		78.570
251	10/11	08 05 45.2	24.638 S	70.520 W	Near Coast of Northern Chile	60	4.9		74.013
252	10/11	09 40 16.7	34.909 S	107.674 W	Easter Island Cordillera	10	4.9	4.9	73.516
253	10/11	18 02 50.7	35.004 S	179.685 E	Off East Coast of Northern Island, New Zealand	33	5.5	5.4	72.173
254	10/11	18 49 13.9	36.367 S	73.034 W	Near Coast of Central Chile	23	5.3	4.4	63.877
255	10/12	13 57 04.7	7.288 S	154.371 E	Solomon Islands	25	6.3	6.8	91.879
256	10/13	02 43 27.7	21.082 S	179.223 W	Fiji Islands Region	628	4.5		85.894
257	10/13	17 43 24.3	34.032 S	56.119 E	South Indian Ocean	10	5.0		36.287
258	10/14	02 11 17.2	34.393 S	179.820 E	South of Kermadec Islands	72	5.6		72.791
259	10/14	20 58 01.9	47.397 S	12.335 W	South Atlantic Ridge	10	4.9		33.254
260	10/14	23 30 25.3	4.026 N	95.382 E	Northern Sumatera	58	5.1		82.203
261	10/15	01 06 01.3	6.306 S	129.317 E	Banda Sea	33	5.4	5.5	84.115

262	10/15	06 07	34.1	15.169 S	175.463 W	Tonga Islands	323	5.1		92.408
263	10/15	14 08	18.5	1.238 N	122.864 E	Minahassa Peninsula	32	5.1	4.1	88.795
264	10/16	06 53	13.6	21.663 S	69.290 W	Northern Chile	102	4.9		76.390
265	10/16	20 48	01.6	6.266 S	149.060 E	New Britain Region	48	5.9	7.4	91.082
266	10/17	06 37	29.8	56.058 S	27.209 W	South Sandwich Islands Region	95	5.6		31.474
267	10/17	10 54	31.0	62.874 S	165.135 W	South Pacific Cordillera	10	4.4		47.168
268	10/20	09 23	36.2	52.577 N	172.320 E	Near Islands, Aleutian Islands	33	5.5	5.6	152.740
269	10/21	06 11	33.9	23.010 S	114.418 W	Easter Island Region	10	5.4	4.9	86.244
270	10/21	07 25	18.1	7.262 S	128.699 E	Banda Sea	128	5.5		83.007
271	10/21	18 59	44.0	55.979 S	27.873 W	South Sandwich Islands Region	33	5.2		31.771
272	10/21	23 25	51.8	21.049 S	69.871 W	Northern Chile	74	5.3		77.152
273	10/22	00 04	33.3	26.021 S	71.245 E	Mid-Indian Rise	10	4.9	5.4	46.983
274	10/22	12 12	13.5	26.350 S	175.417 W	South of Tonga Islands	35	5.4	5.0	81.526
275	10/23	00 59	44.3	52.903 N	159.848 E	Off East Coast of Kamchatka	33	5.5	4.8	148.552
276	10/23	04 53	29.0	5.924 N	126.271 E	Mindanao, Philippine Islands	75	5.2		94.361
277	10/23	13 35	45.2	20.381 S	68.871 W	Chile-Bolivia Border Region	114	5.1		77.448
278	10/23	16 00	00.0	37.142 N	116.079 W	Southern Nevada	0	5.2		145.358

279	10/23	18 13 04.5	23.089 S	66.499 W	Jujuy Province, Argentina	229	5.0		74.146
280	10/24	14 37 16.4	10.913 S	166.154 E	Santa Cruz Islands	171	5.5		92.039
281	10/25	16 46 13.3	5.409 N	36.751 E	Ethiopia	12	5.6	6.2	74.327
282	10/25	16 54 05.6	2.323 S	138.364 E	West Irian	33	6.2	7.0	91.045
283	10/25	22 52 48.2	7.061 S	129.865 E	Banda Sea	94	5.3		83.612
284	10/27	12 57 59.4	21.360 S	178.805 W	Fiji Islands Region	534	5.5		85.711
285	10/27	21 58 17.0	28.676 S	62.929 W	Santiago Del Estero Province, Argentina	605	6.0		67.786
286	10/28	08 58 29.1	5.740 N	36.730 E	Ethiopia	10	5.4	5.6	74.656
287	10/28	18 21 29.3	28.294 S	176.749 W	Kermadec Islands Region	34	5.4	5.4	79.382
288	10/29	20 23 41.0	4.817 N	127.688 E	Talau Islands	153	6.1		93.843
289	10/30	20 46 56.6	19.449 S	177.607 W	Fiji Islands Region	581	5.0		87.814
290	10/31	02 33 49.0	18.510 S	178.140 W	Fiji Islands Region	650	5.1		88.616
291	10/31	05 11 17.9	25.789 S	69.787 W	Northern Chile	70	5.1		72.705
292	10/31	08 52 30.9	6.949 S	80.548 W	Near Coast of Northern Peru	33	5.4	5.3	93.791
293	11/01	08 42 06.5	28.674 S	177.553 W	Kermadec Islands Region	60	6.1		78.858
294	11/01	19 03 05.3	55.504 S	27.846 W	South Sandwich Islands Region	30	5.3	5.1	32.133
295	11/01	23 06 40.2	16.400 S	177.527 W	Fiji Islands Region	33	5.5	5.7	90.792

296	11/02	21 43 34.9	22.636 S	68.829 W	Northern Chile	112	5.0		75.333
297	11/03	08 15 00.3	17.204 S	173.757 W	Tonga Islands	88	6.1		90.755
298	11/05	03 19 52.0	56.018 S	27.468 W	South Sandwich Islands Region	135	5.1		31.597
299	11/05	09 12 31.7	14.881 S	167.271 E	Vanuatu Islands	150	5.3		88.570
300	11/05	19 48 19.6	38.363 S	175.865 E	North Island, New Zealand	169	4.9		68.149
301	11/06	18 34 23.0	22.828 S	63.641 W	Salta Province, Argentina	535	5.2		73.433
302	11/06	18 47 35.0	22.801 S	63.583 W	Salta Province, Argentina	538	5.8		73.438
303	11/06	20 18 51.9	22.875 S	63.668 W	Salta Province, Argentina	541	4.5		73.398
304	11/07	16 23 55.9	5.634 N	126.614 E	Mindanao, Philippine Islands	80	6.2		94.215
305	11/08	04 38 57.9	28.750 S	177.393 W	Kermadec Islands Region	72	5.0		78.815
306	11/08	06 06 04.7	18.353 S	167.873 E	Vanuatu Islands	23	5.3		85.421
307	11/09	01 43 07.1	63.778 S	172.467 E	Balleny Islands Region	10	5.4	5.1	43.331
308	11/09	17 46 18.8	22.123 S	69.573 W	Northern Chile	44	5.4	4.8	76.053
309	11/10	20 17 54.4	5.642 S	113.354 E	Java Sea	34	5.1	4.5	79.035
310	11/11	00 57 24.3	23.976 S	179.904 W	South of Fiji Islands	511	5.0		82.944
311	11/11	10 41 33.7	5.385 S	153.367 E	New Ireland Region	52	5.3	4.4	93.339
312	11/12	00 24 40.0	17.209 S	177.306 W	Fiji Islands Region	393	5.5		90.052

313	11/14	21 20	43.0	0.188 S	125.140 E	Molucca Sea	60	5.5	88.286
314	11/15	03 31	06.7	49.871 N	78.791 E	Eastern Kazakh SSR	0	6.0	122.138
315	11/16	03 17	02.4	21.860 S	68.430 W	Chile-Bolivia Border Region	174	4.7	75.925
316	11/16	05 59	50.1	6.832 N	126.225 E	Mindanao, Philippine Islands	67	5.5	95.186
317	11/16	11 44	23.2	49.320 S	30.433 E	South of Africa	10	5.5 4.3	20.224
318	11/17	03 40	08.9	12.534 N	87.030 W	Near Coast of Nicaragua	76	5.8	114.199
319	11/17	08 46	53.3	58.586 N	143.270 W	Gulf of Alaska	10	6.6 6.9	169.549
320	11/18	01 34	00.1	8.094 S	108.793 E	Java	66	5.5	75.166
321	11/18	12 46	44.8	26.285 S	70.506 W	Near Coast of Northern Chile	41	5.7 6.4	72.473
322	11/19	11 27	38.0	18.794 S	69.480 W	Northern Chile	133	4.8	79.129
323	11/20	21 19	47.7	55.489 S	28.018 W	South Sandwich Islands Region	30	5.5	32.206
324	11/20	21 38	55.5	55.469 S	27.986 W	South Sandwich Islands Region	33	5.5	32.210
325	11/23	11 55	54.9	1.952 N	120.778 E	Minahassa Peninsula	35	5.0	88.715
326	11/24	07 39	58.2	56.076 S	27.481 W	South Sandwich Islands Region	90	5.6	31.556
327	11/24	12 39	03.5	23.936 S	179.776 W	South of Fiji Islands	501	5.1	83.010
328	11/24	13 15	56.4	33.010 N	115.840 W	South California	2	6.0 6.6	141.313
329	11/24	15 06	09.1	16.976 S	174.026 W	Tonga Islands	143	5.6	90.927

330	11/25 16 08 35.6	5.601 S	149.390 E	New Britain Region	141	5.7		91.815
331	11/25 17 28 01.0	73.658 N	118.711 E	Near Coast of Central Siberia	10	5.1		151.222
332	11/25 19 58 53.5	53.482 S	24.583 E	South of Africa	10	4.8		17.015
333	11/26 01 43 14.0	8.247 S	124.155 E	Timor	33	5.8	6.5	80.462
334	11/26 17 28 54.7	16.351 S	168.119 E	Vanuatu Islands	18	5.6	6.3	87.398
335	11/27 00 02 08.0	0.234 S	125.064 E	Molucca Sea	33	5.8	5.7	88.217
336	11/27 13 05 52.6	16.263 S	168.132 E	Vanuatu Islands	33	5.5	5.5	87.486
337	11/27 13 33 18.0	16.373 S	168.117 E	Vanuatu Islands	29	5.4	6.4	87.377
338	11/27 14 33 09.8	17.730 S	69.349 W	Peru-Bolivia Border Region	155	4.8		80.079
339	11/28 04 03 45.2	0.338 S	124.864 E	Molucca Sea	34	5.9	5.8	88.048
340	11/29 07 57 21.6	45.715 S	76.512 W	Off Coast of Southern Chile	22	5.6	5.0	56.223
341	11/30 04 41 41.3	0.097 S	124.993 E	Molucca Sea	58	5.4		88.318
342	11/30 19 23 19.5	58.679 N	142.786 W	Gulf of Alaska	10	6.7	7.6	169.665
343	12/01 04 04 12.6	17.768 S	172.904 W	Tonga Islands Region	29	5.4	5.5	90.363
344	12/01 18 23 32.7	22.094 S	178.080 W	South of Fiji Islands	388	5.4		85.148
345	12/02 14 22 43.7	28.748 S	177.036 W	Kermadec Islands Region	66	4.9		78.886
346	12/03 11 04 38.6	21.380 S	68.215 W	Chile-Bolivia Border Region	117	5.5		76.302

347	12/04	19 51 35.7	5.777 S	154.555 E	Solomon Islands	145	5.9		93.358
348	12/05	11 47 13.3	6.830 S	129.941 E	Banda Sea	119	5.1		83.854
349	12/06	18 16 34.4	54.567 N	161.438 E	Near East Coast of Kamchatka	35	5.4	4.2	150.454
350	12/07	00 00 15.0	16.613 S	172.613 W	Samoa Islands Region	33	5.3	5.3	91.544
351	12/07	12 26 11.7	13.632 S	167.393 E	Vanuatu Islands	48	5.7	6.2	89.795
352	12/07	13 14 34.9	13.559 S	167.454 E	Vanuatu Islands	33	5.8	6.3	89.881
353	12/07	19 20 24.9	13.453 S	167.358 E	Vanuatu Islands	33	5.3	5.1	89.956
354	12/08	14 33 34.7	33.384 S	178.527 W	South of Kermadec Islands	33	4.8		74.093
355	12/08	14 47 59.1	32.636 S	112.034 W	Easter Island Cordillera	10	5.5	4.7	76.433
356	12/08	17 27 35.9	33.793 S	178.992 W	South of Kermadec Islands	33	4.6	4.4	73.606
357	12/08	19 56 54.3	40.585 S	44.574 E	Atlantic-Indian Rise	10	5.4	5.3	28.631
358	12/10	05 52 16.2	60.409 S	27.810 W	South Sandwich Islands Region	33	5.1	5.8	28.411
359	12/10	22 24 18.6	30.210 S	177.290 W	Kermadec Islands	33	5.2		77.415
360	12/11	02 03 09.6	22.156 S	174.797 W	Tonga Islands Region	37	5.6	5.8	85.731
361	12/11	16 41 25.3	6.489 S	130.387 E	Banda sea	134	5.2		84.330
362	12/12	04 51 50.5	29.692 N	140.025 E	South of Honshu Japan	164	6.3		121.174
363	12/12	19 23 37.2	19.456 S	177.711 W	Fiji Islands Region	587	4.7		87.786

364	12/13	03 21	04.8	49.989 N	78.844 E	Eastern Kazakh SSR	0	6.1	4.5	122.262
365	12/13	06 31	54.6	59.922 S	18.668 W	Southwestern Atlantic Ocean	10	4.9		25.546
366	12/13	10 42	26.6	60.003 S	18.499 W	Southwestern Atlantic Ocean	10	5.4	5.0	25.428
367	12/13	10 53	55.1	59.864 S	18.540 W	Southwestern Atlantic Ocean	10	5.3		25.541
368	12/13	12 15	26.4	51.830 N	158.872 E	Near East Coast of Kamchatka	33	5.3	4.5	147.328
369	12/13	12 43	40.7	17.878 S	178.702 W	Fiji Islands Region	569	5.3		89.111
370	12/13	20 46	34.0	49.042 S	123.505 E	South of Australia	10	5.4	5.4	43.331
371	12/14	08 28	25.8	9.498 S	108.229 E	South of Java	33	5.4		73.664
372	12/15	14 57	40.1	23.430 N	142.908 E	Volcano Islands Region	39	5.8	5.7	116.494
373	12/16	03 17	54.3	23.736 S	67.350 W	Chile-Argentina Border Region	158	4.6		73.825
374	12/16	05 07	18.8	60.671 S	25.995 W	South Sandwich Islands Region	39	5.1		27.594
375	12/17	02 08	19.9	35.362 N	140.214 E	Near East Coast of Honshu, Japan	63	6.0		126.363
376	12/17	11 45	11.7	24.838 N	142.724 E	Volcano Islands Region	33	5.1		117.718
377	12/17	20 22	58.3	9.169 S	114.610 E	South of Bali Island	46	5.7	5.5	76.199
378	12/18	23 38	25.5	4.899 S	151.822 E	New Britain Region	116	5.2		93.285
379	12/19	10 14	45.2	0.184 S	122.900 E	Minahassa Peninsula	156	5.1		87.488
380	12/23	10 10	20.5	0.159 S	124.884 E	Molucca Sea	61	5.7		88.222

381	12/23	17 31	52.9	29.090 S	177.740 W	Kermadec Islands	33	4.8		78.417
382	12/25	01 34	00.7	22.211 S	68.473 W	Northern Chile	126	4.8		75.612
383	12/25	22 56	48.9	19.830 S	175.682 W	Tonga Islands	196	5.7		87.828
384	12/26	10 54	43.5	13.974 S	167.184 E	Vanuatu Islands	234	4.9		89.411
385	12/27	03 05	04.7	49.864 N	78.758 E	Eastern Kazakh SSR	0	6.1	4.5	122.126
386	12/28	08 16	21.3	28.055 S	70.615 W	Central Chile	52	6.1		70.859
387	12/28	13 24	39.3	14.355 S	167.197 E	Vanuatu Islands	231	4.9		89.051
388	12/30	06 39	04.6	7.200 S	129.433 E	Banda Sea	149	5.1		83.328
389	12/30	11 56	19.2	35.053 S	70.797 W	Chile-Argentina Border Region	90	5.7		64.418
390	12/30	20 19	25.6	26.837 S	177.307 W	South of Fiji Islands	104	5.1		80.692
391	12/30	21 16	29.5	6.498 S	148.960 E	New Britain Region	22	5.4	5.7	90.832
392	12/30	22 34	28.5	27.498 S	67.432 W	Catamarca Province, Argentina	139	4.8		70.357
393	12/31	06 29	33.5	60.069 S	26.522 W	South Sandwich Islands Region	15	5.3	5.5	28.210

Table 2b. List of 489 earthquakes (1988).

Data No.	Origin time			Geographic Coordinates		Region	Depth (km)	Magnitude		Epicentral distance (degree)	
	Date	h	m	s	Latitude (degree)			Longitude (degree)	(Mb)		(Ms)
1	01/01	21	02	51.4	34.625 S	178.238 W	South of Kermadec Islands	33	5.4	72.943	
2	01/02	06	36	09.8	20.478 S	169.764 E	Vanuatu Islands	136	5.6	83.888	
3	01/02	12	42	02.5	43.295 N	142.419 E	Hokkaido, Japan Region	177	6.0	134.183	
4	01/04	17	20	02.5	7.448 S	128.222 E	Banda Sea	142	5.1	82.664	
5	01/06	14	49	20.8	6.191 N	126.209 E	Mindanao, Philippine Islands	86	5.2	94.586	
6	01/07	09	24	19.3	59.036 S	23.607 W	South Sandwich Island Region	31	5.3	5.2	27.941
7	01/09	23	07	35.1	23.317 S	179.962 W	South of Fiji Islands	486	4.6	83.571	
8	01/10	06	19	55.0	62.863 S	164.360 W	South Pacific Cordillera	10	5.0	47.250	
9	01/11	21	07	29.7	54.779 N	161.656 E	Near East Coast of Kamchatka	43	5.8	4.9	150.700
10	01/12	07	29	27.9	28.827 S	177.423 W	Kermadec Islands Region	15	6.1	6.4	78.734

11	01/13 15 38 15.7	23.275 S	177.033 W	South of Fiji Islands	109	5.7		84.210
12	01/13 22 16 49.0	32.388 S	179.580 W	South of Kermadec Islands	59	5.6	4.9	74.854
13	01/14 19 03 32.7	25.871 S	178.787 W	South of Fiji Islands	368	5.0		81.337
14	01/15 08 40 23.9	20.789 S	175.993 W	Tonga Islands	214	6.2		86.833
15	01/15 21 07 11.4	27.179 S	11.334 W	South Atlantic Ridge	10	5.4	5.4	51.188
16	01/16 05 46 51.4	60.365 S	154.209 E	West of Macquarie Island	10	5.7	5.5	42.673
17	01/17 13 51 36.7	32.367 S	179.590 W	South of Kermadec Islands	51	5.3	5.1	74.872
18	01/17 17 14 14.3	6.258 N	125.740 E	Mindanao, Philippine Islands	136	5.1		94.480
19	01/18 09 53 34.2	32.532 S	179.515 W	South of Kermadec Islands	71	5.2		74.727
20	01/19 03 25 21.1	4.241 N	124.640 E	Celebes Sea	335	5.7		92.216
21	01/19 07 30 31.8	24.710 S	70.568 W	Near Coast of Northern Chile	33	6.3	6.7	73.961
22	01/20 15 01 29.6	24.690 S	70.521 W	Near Coast of Northern Chile	33	5.3	5.1	73.965
23	01/21 07 17 22.5	26.490 S	177.590 W	South of Fiji Islands	162	4.7		80.974
24	01/21 08 22 22.9	18.179 S	168.139 E	Vanuatu Islands	44	5.7	5.9	85.658
25	01/22 00 35 58.0	19.847 S	133.803 E	Northern Territory, Australia	5	6.1	6.3	73.188

26	01/22 03 57 25.2	19.798 S	133.910 E	Northern Territory, Australia	5	6.1 6.4	73.271
27	01/22 05 28 01.9	15.241 S	70.457 W	Southern Peru	202	5.1	82.770
28	01/22 12 04 57.8	19.829 S	133.882 E	Northern Territory, Australia	5	6.5 6.7	73.233
29	01/22 12 39 33.8	20.187 S	133.611 E	Northern Territory, Australia	5	4.9	72.807
30	01/23 08 58 00.3	1.785 N	127.236 E	Halmahera	104	5.6	90.869
31	01/23 22 48 30.1	23.595 S	177.365 W	South of Fiji Islands	202	5.3	83.833
32	01/24 16 00 04.5	17.763 S	178.737 W	Fiji Islands Region	566	5.7	89.216
33	01/25 07 15 53.4	10.584 S	78.083 W	Near Coast of Peru	53	5.6	89.593
34	01/26 16 56 46.1	55.930 S	27.472 W	South Sandwich Islands Region	112	5.3	31.667
35	01/28 11 20 08.1	5.327 N	126.369 E	Mindanao, Philippine Islands	44	5.5 5.5	93.842
36	01/29 10 19 30.8	20.033 S	133.745 E	Northern Territory, Australia	5	5.6	73.024
37	01/29 16 48 01.3	15.349 S	174.125 W	Tonga Islands	106	5.6	92.494
38	02/01 13 32 51.9	24.675 S	70.405 W	Near Coast of Northern Chile	30	5.2	73.941
39	02/05 14 01 02.7	24.753 S	70.433 W	Near Coast of Northern Chile	37	6.2 6.7	73.878

40	02/05	18 49 31.8	24.893 S	70.554 W	Near Coast of Northern Chile	31	6.0	6.1	73.786
41	02/06	11 29 16.6	23.933 S	178.869 E	South of Fiji Islands	569	5.1		82.725
42	02/06	15 15 40.9	6.543 S	131.907 E	Tanimbar Islands Region	39	5.9	5.6	84.825
43	02/06	18 03 54.7	17.756 S	66.958 W	Bolivia	285	6.0		79.261
44	02/06	21 30 04.3	16.195 S	173.820 W	Tonga Isladns	126	5.8		91.728
45	02/08	15 57 00.2	24.801 S	70.393 W	Near Coast of Northern Chile	32	5.6	5.2	73.820
46	02/09	04 32 30.6	24.916 S	70.783 W	Near Coast of Norhtern Chile	33	5.1		73.838
47	02/18	13 52 36.0	23.513 S	67.706 W	Chile-Argentina Border Region	142	5.7		74.149
48	02/22	19 13 17.7	20.833 S	69.785 W	Northern Chile	70	5.9		77.325
49	02/26	06 17 31.5	37.319 S	47.989 E	Atlantic-Indian Rise	10	6.1	6.7	32.112
50	03/04	03 08 15.4	17.993 S	178.521 W	Fiji Islands Region	590	5.5		89.038
51	03/06	22 35 38.1	56.953 N	143.032 W	Gulf of Alaska	10	6.8	7.6	167.908
52	03/08	16 27 18.8	51.340 N	176.862 E	Rat Islands, Aleutian Islands	33	5.5	5.5	153.279
53	03/09	04 42 52.6	4.662 S	131.137 E	Banda Sea	33	5.5	4.7	86.293

54	03/09 05 00 34.9	31.232 S	68.642 W	San Juan Province, Argentina	111	5.4		67.284
55	03/09 21 33 53.7	17.327 S	74.154 W	Off Coast of Peru	32	6.0	5.9	82.012
56	03/10 10 25 05.3	20.917 S	178.645 W	Fiji Isladns Region	623	6.1		86.174
57	03/10 20 54 43.4	29.652 S	177.230 W	Kermadec Islands	33	4.8		77.969
58	03/11 02 36 59.1	37.412 S	47.991 E	Atlantic-Indian Rise	10	5.5	5.6	32.019
59	03/11 09 09 39.3	7.339 S	122.238 E	Flores Sea	632	5.4		80.615
60	03/12 00 44 14.8	32.714 S	178.975 W	South of Kermadec Islands	67	5.3		74.657
61	03/12 08 38 49.2	54.711 N	161.607 E	Near East Coast of Kamchatka	20	5.7	4.5	150.629
62	03/13 11 31 32.8	33.673 S	72.216 W	Off Coast of Central Chile	41	5.3	6.0	66.131
63	03/13 12 59 15.8	37.283 S	51.848 E	South Indian Ocean	10	5.7	5.9	32.524
64	03/14 10 59 49.5	30.011 S	178.288 W	Kermadec Islands	268	4.7		77.416
65	03/14 12 29 49.4	7.380 S	74.783 W	Peru-Brazil Bordr Region	141	5.4		91.553
66	03/15 12 05 43.1	32.450 S	178.740 W	South of Kermadec Islands	33	5.0	5.1	74.959
67	03/16 06 08 38.0	21.117 S	70.214 W	Near Coast of Northern Chile	64	5.0		77.150
68	03/24 15 30 09.3	21.905 S	68.357 W	Chile-Bolivia Border Region	125	5.1		75.859

69	03/25	05 21 44.5	19.323 S	177.493 W	Fiji Islands Region	559	5.5		87.960
70	03/25	17 20 53.1	31.336 S	67.822 W	San Juan Province, Argentina	26	5.3		66.926
71	03/25	19 36 46.4	62.154 N	124.182 W	Northwest Territories, Canada	10	6.1	6.0	170.487
72	03/27	07 46 19.9	15.442 S	174.868 W	Tonga Islands	284	5.2		92.260
73	03/27	23 18 18.0	3.481 S	130.929 E	Ceram	69	5.1		87.313
74	03/28	18 36 26.4	36.039 S	102.843 W	Southern Pacific Ocean	10	5.7	5.2	71.556
75	03/31	23 50 56.9	24.926 S	70.461 W	Near Coast of Northern Chile	41	5.8	5.7	73.725
76	03/31	08 39 05.8	24.696 S	176.286 W	South of Fiji Islands	51	5.3	5.2	82.973
77	03/31	22 58 16.4	33.890 S	178.670 W	South of Kermadec Islands	33	4.8		73.574
78	04/01	14 26 40.6	18.782 S	177.853 W	Fiji Islands Region	573	5.7		88.411
79	04/02	05 14 17.8	31.037 S	179.767 W	Kermadec Islands Region	333	5.0		76.127
80	04/02	07 17 12.4	38.749 S	175.634 E	North Islands, New Zealand	145	5.1		67.729
81	04/02	14 26 29.0	15.447 S	173.081 W	Tonga Islands	33	5.7	6.1	92.596
82	04/03	14 27 09.0	4.687 N	94.419 E	Off West Coast of Northern Sumatera	30	5.9	5.7	82.542
83	04/06	16 30 01.8	6.587 S	131.405 E	Taninbar Islands Region	41	5.4	4.5	84.604

84	04/06	19 52 32.5	7.301 S	128.562 E	Banda Sea	146	5.3		82.922
85	04/06	21 06 11.0	23.185 S	175.571 W	Tonga Islands Region	33	5.2	4.7	84.581
86	04/08	11 20 51.4	8.823 S	117.498 E	Sumbawa Island Region	107	5.8		77.544
87	04/11	20 05 13.8	27.539 S	67.354 W	Catamarca Province, Argentina	136	5.0		70.294
88	04/11	22 36 25.0	21.460 S	179.336 W	Fiji Islands Region	619	5.6		85.503
89	04/12	05 03 45.0	39.200 S	178.424 E	Off East Coast of Northern Islands, New Zealand	21	5.6	4.7	67.863
90	04/12	23 19 55.5	17.192 S	72.305 W	Near Coast of Peru	33	6.1	7.0	81.546
91	04/12	23 55 23.4	17.478 S	72.503 W	Near Coast of Peru	33	5.4		81.342
92	04/13	00 39 31.1	17.256 S	72.518 W	Near Coast of Peru	16	5.9	6.2	81.555
93	04/13	07 57 17.4	1.029 N	127.108 E	Halmahera	152	5.5		90.122
94	04/14	02 20 02.0	1.742 N	126.676 E	Molucca Pasage	78	5.5		90.628
95	04/16	02 32 29.2	46.477 S	166.449 E	Off West Coast of Southern Island, New Zealand	33	5.1	4.3	58.321
96	04/17	02 50 37.7	17.420 S	72.387 W	Near Coast of Peru	33	5.4	5.3	81.359
97	04/17	05 11 34.6	58.428 S	25.066 W	South Sandwich Isladns Region	33	5.5	6.1	28.907
98	04/19	20 48 51.7	1.886 N	127.279 E	Halmahera	75	5.7		90.978

99	04/19 23 10 24.0	9.556 S	120.699 E	Sumba Island Region	47	5.3	4.4	78.009
100	04/20 04 25 36.6	0.960 N	30.267 W	Central Mid-Atlantic Ridge	10	5.8	5.3	83.729
101	04/23 04 13 37.9	30.851 S	177.999 W	Kermadec Islands	60	5.2		76.656
102	04/25 01 19 29.5	23.851 S	176.940 W	South of Fiji Isladns	85	5.5		83.668
103	04/25 10 10 33.8	7.791 S	158.255 E	Solomon Islands	44	6.1	6.0	92.641
104	04/27 21 21 47.7	25.197 S	179.639 E	South of Fiji Isladns	495	5.0		81.665
105	04/28 22 41 08.8	18.029 S	178.457 W	Fiji Islands Region	629	5.3		89.017
106	04/29 05 16 29.3	40.440 S	173.842 E	Cook Strait, New Zealand	134	4.9		65.723
107	04/29 07 36 27.7	33.560 S	178.930 W	South of Kermadec Isladns	81	5.2		73.419
108	05/01 10 06 47.5	49.229 N	157.609 E	Kuril Islands Region	51	5.1		144.719
109	05/01 15 22 07.0	11.666 S	166.445 E	Santa Cruz Islands	122	5.6		91.404
110	05/01 23 06 33.5	55.897 S	22.672 W	South Sandwich Islands Region	138	5.9		31.763
111	05/03 23 22 07.6	22.774 S	170.278 E	Loyalty Islands Region	11	5.9	5.8	81.822
112	05/04 00 01 32.0	17.328 S	66.629 E	Mascarene Islands Region	10	5.2		54.424
113	05/04 00 57 06.8	49.928 N	78.769 E	Eastern Kazakh SSR	0	6.1		122.190
114	05/05 07 57 50.0	18.204 S	168.169 E	Vanuatu Islands	36	5.2	5.3	85.642

115	05/05	17 39	20.2	29.418 S	71.656 W	Near Coast of Central Chile	54	5.4	5.2	69.917
116	05/05	22 32	48.9	26.649 S	113.664 W	Easter Island Region	10	5.5	5.9	59.743
117	05/05	23 35	33.6	49.856 S	115.378 E	South of Australia	10	5.6	5.5	39.812
118	05/06	16 34	05.5	13.390 S	76.226 W	Near Coast of Peru	51	5.9		86.367
119	05/06	19 14	57.1	32.986 S	178.750 W	South of Kermadec Islands	45	5.6	5.8	74.436
120	05/07	14 20	30.6	33.280 S	178.390 W	South of Kermadec Islands	33	4.9		74.220
121	05/07	17 04	36.3	33.174 S	178.367 W	South of Kermadec Islands	33	4.8		73.778
122	05/07	22 49	58.1	73.364 N	54.445 E	Novaya Zemlya	0	5.6	3.8	142.561
123	05/09	12 22	03.7	29.907 S	177.860 E	Kermadec Islands	54	5.6		77.600
124	05/10	10 04	12.4	7.202 S	123.871 E	Banda Sea	578	5.4		81.328
125	05/11	19 56	14.9	22.712 S	176.598 W	South of Fiji Islands	146	5.1		84.843
126	05/13	01 55	26.0	12.578 S	165.690 E	Santa Cruz Islands	33	5.3		90.323
127	05/13	03 22	58.5	22.823 S	174.868 W	Tonga Islands Region	33	5.1	5.2	85.067
128	05/13	15 35	00.1	37.124 N	116.072 W	Southern Nevada	0	4.8		145.339
129	05/16	23 07	36.6	13.941 S	166.335 E	Vanuatu Islands	16	6.0	5.7	89.207
130	05/17	09 06	41.6	25.968 S	179.987 E	South of Fiji Islands	476	5.0		80.991

131	05/17 20 39 37.9	6.014 N	125.835 E	Mindanao, Philippine Islands	170	4.8		94.288
132	05/18 03 57 11.3	20.977 S	178.851 W	Fiji Islands Region	619	4.7		86.073
133	05/18 06 13 46.4	52.114 N	174.176 E	Near Islands, Aleutian Islands	33	5.2	4.9	153.005
134	05/18 21 50 15.2	28.793 S	178.314 W	Kermadec Islands Region	240	5.1		78.594
135	05/18 23 32 40.8	8.807 S	128.546 E	Timor Sea	33	4.5		81.521
136	05/20 03 19 54.1	17.473 S	69.470 W	Peru-Bolivia Border Region	125	5.5		80.359
137	05/20 03 35 20.5	39.978 S	176.833 E	North Island, New Zealand	22	4.8	5.1	66.793
138	05/20 09 17 27.1	15.241 S	173.892 W	Tonga Islands	101	5.5		92.644
139	05/20 14 58 43.5	8.116 N	38.413 W	Central Mid-Atlantic Ridge	10	5.8	5.9	93.206
140	05/21 14 28 39.7	32.833 S	71.704 W	Near Coast of Central Chile	42	5.5	5.7	66.755
141	05/22 12 47 25.8	17.376 S	69.381 W	Peru-Bolivia Border Region	170	5.3		80.420
142	05/22 19 18 47.6	62.198 N	124.189 W	Northwest Territories, Canada	10	5.2	4.2	170.524
143	05/23 23 55 31.4	30.830 S	178.970 W	Kermadec Islands	412	4.6		76.486
144	05/23 00 28 04.8	28.439 S	68.634 W	La Rioja Province, Argentina	117	5.6		69.872

145	05/23 07 46 00.7	22.341 S	179.860 W	South of Fiji Islands	571	4.9		84.538
146	05/23 18 51 03.9	52.487 N	158.886 E	Near East Coast of Kamchatka	33	5.0	5.1	147.869
147	05/23 22 54 27.8	10.487 S	152.292 E	Dentrecasteaux Islands Region	29	5.4	5.8	88.201
148	05/24 04 59 39.2	34.072 S	179.618 E	South of Kermadec Islands	50	5.2	4.2	73.062
149	05/24 05 52 45.9	21.130 S	177.860 W	Fiji Islands Region	392	4.6		86.129
150	05/25 00 38 06.9	49.430 S	123.211 E	South of Australia	10	4.8	5.1	42.899
151	05/25 14 05 17.6	50.549 N	174.571 W	Andreanof Islands, Aleutian Islands	40	5.7	4.9	155.382
152	05/27 02 44 21.6	25.058 S	176.979 W	South of Fiji Islands	94	5.2		82.486
153	05/28 10 24 38.4	31.890 S	111.369 W	Easter Island Region	10	5.2		77.065
154	05/28 16 27 24.1	17.852 S	178.662 W	Fiji Islands Region	559	5.7		89.145
155	05/29 11 52 48.5	6.676 N	125.473 E	Mindanao, Philippine Islands	250	4.8		94.773
156	05/30 21 11 11.3	7.501 S	128.325 E	Banda Sea	86	6.5		82.651
157	06/02 11 58 55.1	36.750 S	179.154 E	Off East Coast of Northern Island, New Zealand	88	5.6		70.377
158	06/02 13 00 00.0	37.260 N	116.441 W	Southern Nevada	0	5.4	4.2	145.547
159	06/03 01 13 46.5	19.940 S	177.723 W	Fiji Islands Region	382	4.8		87.313

160	06/03	11 45	50.4	29.380 S	178.520 W	Kermadec Islands	199	4.8		77.983
161	06/03	23 27	35.2	45.003 S	167.599 E	South Island, New Zealand	83	6.0		59.980
162	06/05	01 41	33.0	21.525 S	178.221 W	Fiji Islands Region	439	5.0		85.672
163	06/05	17 29	35.9	28.760 S	177.550 W	Kermadec Islands Region	70	5.0		78.775
164	06/05	18 22	48.3	15.397 S	167.578 E	Vanuatu Islands	110	6.0		88.162
165	06/07	05 26	02.1	30.239 S	68.804 W	San Juan Province, Argentina	107	4.8		68.256
166	06/10	03 10	22.1	12.724 S	166.744 E	Santa Cruz Islands	113	5.7		90.480
167	06/10	11 31	53.0	6.890 S	72.241 E	Chagos Archipelago Region	22	5.5	5.3	65.717
168	06/10	23 06	43.0	34.940 N	118.740 W	Southern California	7	5.2	4.9	143.750
169	06/11	12 17	27.0	14.994 S	173.469 W	Samoa Islands Region	36	5.9	6.1	92.965
170	06/12	13 39	37.4	10.747 S	165.171 E	Santa Cruz Islands	14	5.7	6.4	91.917
171	06/14	04 36	45.7	21.366 S	67.937 W	Chile-Bolivia Border Region	176	4.7		76.223
172	06/16	15 42	30.9	31.965 S	67.181 W	San Juan Province, Argentina	134	4.8		66.140
173	06/16	23 39	09.5	21.746 S	69.875 W	Northern Chile	88	5.2		76.503
174	06/17	12 52	03.8	10.690 S	165.221 E	Santa Cruz Islands	48	5.6	5.5	91.985
175	06/19	04 38	50.9	7.403 S	128.134 E	Banda Sea	150	5.4		82.674

176	06/19 05 57 07.5	4.019 S	131.403 E	Banda Sea	33	5.1	4.7	86.984
177	06/19 13 05 04.7	18.303 S	177.814 W	Fiji Islands Region	408	5.2		88.884
178	06/22 21 53 07.5	15.208 S	168.202 E	Vanuatu Islands	26	5.3		88.512
179	06/23 04 11 11.6	2.231 N	126.594 E	Molucca Passage	69	5.6		91.052
180	06/24 05 57 50.6	5.695 S	145.342 E	East Papua New Guinea Region	117	5.4		90.350
181	06/25 06 24 23.7	33.346 S	179.430 W	South of Kermadec Islands	53	5.4	5.1	73.954
182	06/26 03 24 25.8	36.270 S	52.730 S	South Atlantic Ocean	31	5.1		57.387
183	06/27 06 07 50.8	20.237 S	169.373 E	Vanuatu Islands	66	5.8		84.017
184	06/27 16 15 46.1	21.861 S	179.145 W	Fiji Islands Region	539	5.4		85.154
185	06/28 14 37 48.4	55.860 S	27.303 W	South Sandwich Islands Region	115	5.1		31.662
186	06/28 16 40 19.0	56.432 S	147.147 E	West of Macquarie Islands	10	5.7	5.9	44.316
187	06/29 09 06 01.9	42.970 S	15.770 W	Tristan Da Chnha Region	10	4.9	4.6	38.308
188	06/29 10 30 16.8	42.818 S	16.036 W	South Atralntic Ridge	10	5.2	5.5	38.535
189	06/29 14 57 51.9	23.338 S	179.930 W	South of Fiji Islands	540	5.1		83.557
190	06/30 14 58 57.2	23.766 S	67.457 W	Chile-Argentina Border Region	125	5.2		73.832
191	07/01 02 55 32.7	16.247 S	177.629 W	Fiji Islands Region	32	5.5	5.5	90.920

192	07/02	10 01	28.8	14.278 S	167.180 E	Vanuatu Islands	143	5.9		89.120
193	07/02	17 32	39.0	18.731 S	174.535 W	Tonga Islands	116	5.5		89.119
194	07/03	05 09	42.9	24.822 S	179.380 E	South of Fiji Islands	537	5.5		81.973
195	07/03	11 43	12.6	8.819 N	137.896 E	West Caroline Islands	15	5.9	6.3	101.310
196	07/04	08 28	17.6	21.741 S	179.395 W	Fiji Islands Region	597	5.3		85.218
197	07/04	13 54	14.2	17.636 S	71.718 W	Near Coast of Peru	20	5.8	5.4	80.941
198	07/05	08 06	43.2	6.521 N	125.703 E	Mindanao, Philippine Islands	184	5.4		94.711
199	07/05	20 32	07.2	5.964 S	148.780 E	New Britain Region	53	6.0	6.8	91.270
200	07/06	01 10	52.7	17.741 S	178.844 W	Fiji Islands Region	547	5.6		89.214
201	07/06	23 05	15.9	35.276 S	15.654 W	Tristan Da Cunha Region	10	5.3	4.5	45.159
202	07/07	02 09	03.5	6.043 S	146.637 E	East Papua New Guinea Region	46	5.1	4.9	90.469
203	07/07	15 05	30.0	37.252 N	116 377 W	Southern Nevada	0	5.6	4.3	145.526
204	07/08	14 01	19.4	4.274 S	131.008 E	Banda Sea	37	4.9	4.9	86.606
205	07/08	16 35	35.7	6.290 S	154.677 E	Solomon Islands	74	5.8		92.916
206	07/09	15 10	57.9	29.843 S	178.961 W	Kermadec Islands	262	5.5		77.446
207	07/09	18 25	54.6	32.372 S	69.361 W	Mendoza Province, Argentina	121	4.9		66.455

208	07/10 19 51 03.8	56.325 S	26.418 W	South Sandwich Islands Region	28	5.4		30.986
209	07/11 00 12 35.3	5.368 N	126.612 E	Mindanao, Philippine Islands	67	5.9		93.967
210	07/12 09 55 26.6	31.314 S	179.757 E	Kermadec Islands Region	423	5.2		75.762
211	07/13 17 29 34.9	41.875 S	16.249 W	South Atonatic Ridge	10	5.1	5.1	39.442
212	07/14 05 28 18.8	4.731 S	130.595 E	Banda Sea	98	5.1		86.034
213	07/16 08 34 17.7	7.342 S	120.190 E	Flores Sea	424	5.5		79.878
214	07/16 16 55 00.5	27.285 S	176.758 W	Kermadec Islands Region	30	5.4	5.3	80.362
215	07/17 23 22 00.2	16.481 S	168.020 E	Vanuatu Islands	194	4.8		87.247
216	07/18 02 30 29.3	22.068 S	69.961 W	Northern Chile	19	5.3	4.8	76.230
217	07/19 01 00 19.6	19.576 S	175.038 W	Tonga Islands	137	6.1		88.200
218	07/19 16 30 56.1	60.484 S	26.890 W	South Sandwich Islands Region	19	5.4		28.039
219	07/19 23 43 21.9	31.187 S	68.858 W	San Juan Province, Argentina	109	5.0		67.394
220	07/22 18 11 31.6	22.341 S	179.547 W	South of Fiji Islands	586	5.2		84.605
221	07/22 19 42 06.8	20.418 S	178.475 W	Fiji Islands Region	573	5.1		86.694
222	07/23 14 25 36.7	22.127 S	174.900 E	Loyalty Islands Region	19	5.9	6.4	83.573

223	07/23 15 17 08.1	6.526 S	152.779 E	New Britain Region	17	6.7	6.7	92.076
224	07/23 17 11 37.2	6.466 S	153.007 E	New Britain Region	28	5.6	5.5	92.207
225	07/24 06 21 36.7	21.843 S	179.346 W	Fiji Islands Region	604	5.0		85.130
226	07/24 08 58 27.6	22.025 S	174.908 E	Loyalty Islands Region	26	5.4	5.0	83.674
227	07/25 06 46 06.6	6.081 S	133.667 E	Aroe Islands Region	28	6.5	6.7	85.883
228	07/26 00 31 33.9	55.502 N	166.612 E	Komandorsky Islands Region	33	4.9	4.8	153.050
229	07/26 16 35 35.9	24.047 S	179.779 E	South of Fiji Islands	539	5.1		82.809
230	07/26 19 12 07.0	6.509 S	152.660 E	New Britain Region	31	5.4	5.3	92.052
231	07/27 21 26 07.5	40.870 S	16.790 W	South Atlantic Ridge	10	5.0		40.522
232	07/27 21 55 09.6	13.112 S	167.051 E	Vanuatu Islands	172	5.9		90.196
233	07/27 22 44 34.9	13.150 S	166.967 E	Vanuatu Islands	177	5.8		90.136
234	07/28 03 58 17.9	51.005 N	156.847 E	Kamchatka	117	5.0		145.922
235	07/28 17 12 33.3	22.062 S	65.716 W	Jujuy Province, Argentina	279	5.8		74.840
236	07/30 02 45 13.6	24.373 S	115.876 W	Easter Island Cordillera	10	5.2	5.1	85.110
237	07/30 11 19 39.0	21.306 S	174.205 W	Tonga Islands	79	4.9		86.670
238	07/30 16 26 23.9	33.119 S	83.820 E	Amsterdam-Naturaliste Rige	10	5.3	5.1	43.675
239	07/31 12 50 07.7	22.212 S	171.082 E	Loyalty Islands Region	56	5.8	6.3	82.563

240	07/31	15 22	48.7	31.891 S	57.448 E	Atlantic-Indian Rise	10	5.8	5.9	38.588
241	08/03	11 52	50.5	28.787 S	62.314 E	Atlantic-Indian Rise	10	5.1		42.440
242	08/04	06 18	42.7	42.877 S	85.834 W	West Chile Rise	6	5.9	4.9	61.290
243	08/04	17 16	45.3	33.720 S	179.791 W	South of Kermadec Islands	10	5.5	5.0	73.521
244	08/04	21 27	51.4	24.032 S	179.836 E	South of Fiji Islands	524	4.9		83.835
245	08/04	23 34	46.6	0.055 N	123.774 E	Minahassa Peninsula	131	4.7		88.022
246	08/05	04 27	44.5	30.102 S	177.795 W	Kermadec Islands	45	4.9		77.423
247	08/05	10 07	45.0	39.000 S	16.024 W	South Atlantic Ridge	10	5.4	4.9	41.925
248	08/05	21 46	15.2	41.921 S	16.455 W	South Atlantic Ridge	10	5.3	5.0	39.473
249	08/06	00 36	24.6	25.149 N	95.127 E	Burma-India Border Region	91	6.8	7.2	102.178
250	08/06	06 26	55.6	7.136 S	151.057 E	New Britain Region	25	5.9	5.7	90.935
251	08/06	07 36	09.1	38.830 S	15.900 W	Tristan Da Cunha Region	10	4.8		42.034
252	08/06	13 55	31.3	34.166 S	179.098 E	South of Kermadec Islands	268	4.7		72.867
253	08/07	11 30	09.4	6.368 S	130.847 E	Banda Sea	113	4.8		84.607
254	08/07	15 34	07.1	7.144 S	129.327 E	Banda Sea	170	5.4		83.342
255	08/08	17 15	05.1	7.941 S	128.375 E	Banda Sea	81	5.3		82.262
256	08/09	14 34	45.0	1.336 S	100.746 E	Southern Sumatera	104	5.0		78.807

257	08/10 04 36 26.1	10.366 S	160.819 E	Solomon Islands	34	6.1		90.996
258	08/10 04 56 40.2	10.041 S	160.714 E	Solomon Islands	33	5.9		91.272
259	08/10 06 38 42.8	10.199 S	160.855 E	Solomon Islands	40	5.8	6.6	91.165
260	08/10 09 30 59.1	24.417 S	179.824 E	South of Fiji Islands	511	4.2		82.460
261	08/10 11 46 46.6	28.194 S	112.648 W	Easter Island Region	10	5.9	5.9	80.887
262	08/10 13 11 19.4	14.880 S	167.293 E	Vanuatu Islands	125	6.2		88.577
263	08/10 15 52 25.9	42.988 S	85.811 W	West Chile Rise	10	5.4	5.2	61.179
264	08/11 03 28 38.3	15.329 S	167.506 E	Vanuatu Islands	170	5.2		88.207
265	08/11 13 29 20.6	18.062 S	65.418 E	Mascarene Islands Region	10	5.5	5.6	53.479
266	08/13 05 46 15.1	4.777 N	125.740 E	Talau Islands	143	5.6		93.107
267	08/13 12 36 21.6	16.518 S	167.251 E	Vanuatu Islands	33	5.3		87.003
268	08/13 14 16 20.8	18.512 S	175.641 W	Tonga Islands	33	4.9	5.3	89.119
269	08/14 13 11 43.4	21.845 S	69.997 W	Northern Chile	72	5.1		76.450
270	08/14 17 53 09.7	27.260 S	71.092 W	Near Coast of Northern Chile	33	5.7	6.5	71.750
271	08/15 09 59 24.0	8.757 N	126.341 E	Mindanao, Philippine Islands	52	5.6		97.012
272	08/16 08 46 18.9	36.774 S	78.824 E	Mid-Indian Rise	10	5.3	5.6	38.780

273	08/16 09 41 38.1	27.407 S	67.354 W	Catamarca Province, Argentina	125	4.5		70.416
274	08/16 13 59 34.4	27.096 S	71.158 W	Near Coast of Northern Chile	10	5.4		71.924
275	08/17 01 59 07.7	7.698 S	107.150 E	Java	27	6.1	5.8	74.972
276	08/17 08 16 22.9	27.040 S	70.974 W	Near Coast of Northern Chile	30	5.4		71.918
277	08/17 11 34 52.2	27.001 S	70.948 W	Near Coast of Northern Chile	39	5.5	5.7	71.946
278	08/17 12 38 15.5	26.924 S	70.985 W	Near Coast of Northern Chile	37	5.4	5.5	72.030
279	08/17 14 26 03.5	27.062 S	71.060 W	Near Coast of Northern Chile	31	5.2	4.7	71.925
280	08/17 17 00 00.0	37.297 N	116.307 W	Southern Nevada	0	5.5	4.2	145.555
281	08/17 23 09 40.8	1.555 N	124.785 E	Minahassa Peninsula	33	5.3	4.5	89.776
282	08/18 06 32 18.6	4.128 S	153.585 E	New Ireland Region	260	5.4		94.590
283	08/19 18 28 18.9	60.893 S	23.382 W	South Sandwich Islands Region	15	5.6	5.4	26.525
284	08/20 08 19 37.6	16.484 S	167.171 E	Vanuatu Islands	22	5.3	5.8	87.014
285	08/20 16 02 22.6	22.687 S	66.145 W	Jujuy Province, Argentina	242	4.7		74.402
286	08/20 23 09 09.5	26.755 N	86.616 E	Nepal-India Border Region	57	6.4	6.6	101.511

287	08/21	13 51 42.8	42.903 S	85.773 W	West Chile Rise	10	5.9	5.4	61.251
288	08/22	11 12 43.9	24.016 S	176.804 W	South of Fiji Islands	102	5.6		83.534
289	08/23	19 53 40.2	2.505 S	138.929 E	West Irian	54	5.4		91.078
290	08/24	09 23 21.5	21.956 S	68.306 W	Chile-Bolivia Border Region	130	5.0		75.795
291	08/24	10 07 33.8	18.833 W	177.643 W	Fiji Islands Region	639	4.6		88.405
292	08/26	09 26 30.9	7.438 S	128.480 E	Banda Sea	121	5.3		82.766
293	08/27	05 24 54.3	36.100 S	178.350 E	Off East Coast of Northern Islands, New Zealand	126	5.0		70.844
294	08/27	10 01 58.3	20.676 S	169.576 E	Vanuatu Islands	63	5.2		83.650
295	08/27	16 30 16.9	15.864 S	172.067 W	Samoa Islands Region	28	6.0	5.4	92.375
296	08/30	12 46 24.7	7.610 N	126.777 E	Mindanao, Philippine Islands	84	5.1		96.105
297	08/30	18 00 00.0	37.086 N	116.069 W	Southern Nevada	0	5.0		145.302
298	09/01	05 36 11.8	16.743 S	69.460 W	Peru-Bolivia Border Region	187	4.8		81.038
299	09/02	04 42 38.1	42.860 S	85.836 W	West Chile Rise	10	5.0		61.307
300	09/02	10 27 48.5	53.963 S	161.541 E	Off East Coast of Kamchatka	49	5.1		150.012

301	09/02	16 13 17.6	56.261 S	27.033 W	South Sandwich Islands Region	33	5.0		31.253
302	09/02	22 32 44.5	3.429 S	138.470 E	West Irian	76	5.3		90.055
303	09/03	00 29 42.5	23.459 S	179.955 W	South of Fiji Islands	526	5.1		83.435
304	09/03	09 09 37.1	18.269 S	178.132 W	Fiji Islands Region	591	5.2		88.852
305	09/04	07 33 33.7	7.425 S	128.159 E	Banda Sea	126	5.3		82.662
306	09/04	20 27 03.2	32.851 S	178.630 W	South of Kermdec Islands	33	5.2	4.6	74.591
307	09/05	09 14 49.8	22.165 S	176.101 W	South of Fiji Islands	146	5.3		85.473
308	09/06	12 24 27.5	19.293 S	66.987 W	Southern Bolivia	250	4.9		77.839
309	09/06	15 47 34.7	42.862 S	85.856 W	West Chile Rise	10	5.2		61.310
310	09/07	07 14 49.4	6.810 S	130.180 E	Banda Sea	108	5.2		83.958
311	09/08	12 48 35.2	26.256 S	175.855 W	South of Tonga Islands	33	5.4		81.536
312	09/08	22 27 53.5	35.617 S	179.656 E	Off East Coast of Northern Island, New Zealand	86	5.5		71.573
313	09/09	16 59 19.3	52.583 S	26.441 E	South of Africa	10	5.1	4.9	17.555
314	09/09	23 07 47.7	7.157 S	81.547 W	Off Coast of Northern Peru	36	5.6	4.8	93.902
315	09/10	05 32 56.5	34.906 S	179.432 W	South of Kermadec Islands	33	5.3		72.441
316	09/10	21 38 09.4	54.180 S	134.156 W	South Pacific Cordillera	10	5.3	5.5	56.959

317	09/11 06 17 42.2	25.493 S	179.608 E	South of Fiji Islands	510	5.1		81.372
318	09/12 11 44 50.8	1.120 S	127.046 E	Halmahera	43	5.4	4.8	88.106
319	09/14 10 03 42.3	22.054 S	170.164 E	Loyalty Islands Region	67	5.0		82.482
320	09/14 21 22 59.8	21.553 S	68.784 E	Chile-Bolivia Border Region	172	4.8		76.327
321	09/14 22 14 07.5	23.424 S	67.997 W	Chile-Argentina Border Region	123	5.7		74.327
322	09/16 00 06 52.6	23.221 S	175.220 W	Tonga Islands Region	33	4.8	4.9	84.613
323	09/16 02 16 18.7	20.515 S	178.355 W	Fiji Islands Region	551	5.1		86.625
324	09/16 06 27 29.7	17.928 S	169.061 E	Vanuatu Islands	33	5.2	5.4	86.143
325	09/18 01 43 01.5	22.112 S	179.522 W	South of Fiji Islands	583	4.9		84.832
326	09/19 18 58 38.4	23.392 S	175.314 W	Tonga Islands Region	42	5.3	5.4	84.429
327	09/19 19 50 19.7	6.929 S	129.486 E	Banda Sea	152	5.2		83.599
328	09/20 14 44 22.0	31.542 S	179.600 W	Kermadec Islands Region	188	5.4		75.670
329	09/20 19 16 10.0	6.213 S	129.076 E	Banda Sea	253	5.1		84.115
330	09/22 23 59 29.9	16.477 S	172.113 W	Samoa Islands Region	33	5.4	5.3	91.768
331	09/24 11 29 00.4	6.622 S	147.396 E	East Papua New Guinea Region	31	5.3	4.9	90.187
332	09/25 01 04 22.3	42.890 S	85.837 W	West Chile Rise	10	5.4		61.279

333	09/25 07 01 14.1	7.455 S	109.418 E	Java	151	5.3		75.977
334	09/25 08 56 45.0	27.955 S	66.539 W	Catamarca Province, Argentina	161	4.6		69.643
335	09/25 20 02 20.3	42.890 S	85.800 W	West Chile Rise	10	5.3		61.270
336	09/26 02 23 31.8	23.176 S	179.562 W	South of Fiji Islands	509	4.8		83.792
337	09/26 13 31 08.2	0.300 S	125.118 E	Molucca Sea	57	5.5		88.175
338	09/26 21 07 09.7	26.526 S	177.479 W	South of Fiji Islands	33	5.4	5.4	80.961
339	09/30 03 23 47.2	19.560 S	68.921 W	Chile-Bolivia Border Region	112	5.3		78.230
340	09/30 05 45 56.6	4.863 S	144.692 E	Near North Coast of Papua New Guinea	95	5.5		90.901
341	09/30 08 27 53.5	7.406 S	128.371 E	Banda Sea	146	5.5		82.756
342	09/30 09 30 14.2	42.859 S	85.910 W	West Chile Rise	10	5.1		61.326
343	09/30 20 42 58.1	20.048 S	133.865 E	Northern Territory, Australia	5	5.3		73.025
344	09/30 21 45 01.2	19.374 S	177.492 W	Fiji Islands Region	552	5.8		87.910
345	10/01 09 43 24.5	35.315 S	106.048 W	Easter Island Cordillera	10	5.6	5.7	72.842
346	10/01 19 53 10.8	4.559 S	129.746 E	Banda Sea	112	4.9		85.889
347	10/02 06 18 08.1	22.774 S	66.261 W	Jujuy Province, Argentina	238	4.9		74.359

348	10/02 11 52 46.5	7.270 S	128.607 E	Banda Sea	146	5.1		82.967
349	10/03 00 45 53.4	10.272 S	161.365 E	Solomon Islands	90	5.5		91.250
350	10/03 19 24 39.6	36.357 S	53.004 E	South Indian Ocean	10	5.1		33.577
351	10/04 15 13 04.2	55.699 S	27.647 W	South Sandwich Islands Region	33	5.4	5.0	31.910
352	10/05 01 00 06.9	14.776 S	167.335 E	Vanuatu Islands	149	5.4		88.688
353	10/05 04 04 58.5	8.629 S	108.594 E	Java	69	4.7		74.599
354	10/05 09 44 41.4	2.009 S	128.040 E	Ceram Sea	50	5.1	4.8	87.639
355	10/07 15 17 00.4	61.378 S	37.758 W	Scotia Sea	10	5.1		31.057
356	10/08 04 46 24.5	18.771 S	172.415 W	Tonga Islands Region	35	6.6	6.8	89.473
357	10/08 07 34 17.6	19.012 S	172.346 W	Tonga Islands Region	31	5.4		89.249
358	10/08 21 32 02.8	4.189 N	126.544 E	Talaud Islands	31	5.6	5.4	92.850
359	10/09 04 16 55.2	4.157 N	126.579 E	Talaud Islands	48	5.4	4.6	92.833
360	10/09 17 03 53.0	35.942 S	103.212 W	Southern Pacific Ocean	10	5.3	4.7	71.719
361	10/09 22 41 07.7	9.671 S	108.753 E	South of Java	26	5.1	5.2	73.684
362	10/10 06 31 28.0	13.704 S	166.364 E	Vanuatu Islands	37	5.3	5.2	89.441
363	10/10 07 19 22.2	22.778 S	171.846 E	Loyalty Islands Region	37	5.7	5.4	82.211
364	10/10 18 20 25.0	28.644 S	177.553 W	Kermadec Islands Region	28	6.5	6.0	78.887

365	10/10	19 26 41.5	5.824 S	103.142 E	Southern Sumatera	36	5.5	5.2	73.375
366	10/11	01 53 15.8	25.614 S	179.656 E	South of Fiji Islands	537	5.3		81.265
367	10/12	18 04 39.5	53.815 N	160.885 E	Near East Coast of Kamchatka	30	5.2	4.3	149.658
368	10/13	14 00 00.0	37.089 N	116.049 W	Southern Nevada	0	5.9	4.4	145.300
369	10/14	03 26 16.9	7.168 S	129.545 E	Banda Sea	118	5.0		83.398
370	10/14	19 11 40.9	23.208 S	68.178 W	Northern Chile	97	5.3		74.587
371	10/15	18 03 54.5	5.912 S	130.406 E	Banda Sea	75	5.0		84.871
372	10/17	05 56 54.1	51.254 N	159.458 E	Off East Coast of Kamchatka	37	5.5	5.1	147.067
373	10/17	06 07 12.4	51.186 N	159.394 E	Off East Coast of Kamchatka	35	5.2	5.1	146.988
374	10/17	20 33 25.2	24.023 S	69.405 W	Northern Chile	75	5.3		74.227
375	10/17	21 39 30.8	25.503 S	70.169 W	Near coast of Northern Chile	48	5.2		73.094
376	10/18	13 05 07.3	18.523 S	178.159 W	Fiji Islands Region	438	4.9		88.599
377	10/18	16 35 34.8	23.951 S	69.568 E	Mid-Indian Rise	10	5.3		48.600
378	10/20	01 08 45.7	22.151 S	179.615 W	South of Fiji Islands	566	5.1		84.774
379	10/21	08 51 41.0	15.310 S	168.246 E	Vanuatu Islands	27	5.3		88.426

380	10/22 16 04 13.3	49.044 N	156.096 E	Kuril Islands	50	5.6	5.3	144.019
381	10/23 00 23 27.2	20.100 S	175.941 W	Tonga Islands	212	5.6		87.514
382	10/25 03 42 35.6	20.679 S	169.382 E	Vanuatu Islands	43	5.2		83.597
383	10/27 09 50 55.5	7.422 S	128.994 E	Banda Sea	128	5.0		82.965
384	10/27 10 56 11.8	46.971 S	10.870 W	South Atlantic Ridge	10	5.2	4.9	33.111
385	10/27 15 07 17.5	7.381 S	120.295 E	Flores Sea	596	5.5		79.880
386	10/27 19 40 50.2	24.380 S	179.730 E	South of Fiji Islands	543	4.9		82.476
387	10/28 10 37 52.7	0.346 S	122.189 E	Minahassa Peninsula	15	5.7	4.9	87.083
388	10/28 14 49 30.3	16.343 S	174.233 W	Tonga Islands	139	5.5		91.505
389	10/31 02 08 15.3	23.565 S	66.618 W	Jujuy Province, Argentina	243	5.2		73.743
390	10/31 17 49 27.1	21.695 S	179.026 W	Fiji Islands Region	536	5.0		85.340
391	11/01 01 05 49.9	22.879 S	66.543 W	Jujuy Province, Argentina	246	4.7		74.355
392	11/01 22 31 09.3	57.293 S	25.135 W	South Sandwich Islands Region	33	5.9	6.1	29.787
393	11/02 00 19 17.8	56.810 S	147.429 E	West of Macquarie Island	10	5.5	5.7	44.062
394	11/02 23 39 44.3	62.060 S	164.480 E	Balleny Islands Region	10	4.8	4.2	43.424
395	11/03 05 41 46.2	62.010 S	164.872 E	Balleny Islands Region	10	5.2	5.1	43.548

396	11/04 02 55 09.7	55.307 S	29.311 W	South Sandwich Islands Region	33	5.8	5.4	32.807
397	11/05 03 04 41.4	21.568 S	174.233 W	Tonga Islands	33	5.1	5.9	86.410
398	11/05 09 12 04.8	42.803 S	85.750 W	West Chile Rise	10	5.6	4.6	61.339
399	11/05 12 15 51.4	21.990 S	170.139 E	Loyalty Islands Region	42	5.5	5.8	82.537
400	11/07 03 47 40.2	31.259 S	177.794 W	Kermadec Islands Region	33	5.2		76.298
401	11/07 03 50 00.8	22.239 S	175.018 E	South of Fiji Islands	22	5.7	6.7	83.493
402	11/07 17 24 57.2	29.050 S	177.950 W	Kermadec Islands	56	5.0		78.415
403	11/07 23 15 41.7	1.533 N	126.357 E	Molucca Passage	66	6.2		90.319
404	11/08 16 13 08.4	6.346 S	107.278 E	Java	216	4.9		76.278
405	11/11 23 11 45.4	54.615 N	161.781 E	Near East Coast of Kamchatka	33	4.9		150.616
406	11/12 19 03 28.3	28.433 S	70.441 W	Central Chile	96	4.9		70.452
407	11/13 02 37 15.2	0.239 S	122.949 E	Minahassa Peninsula	104	5.5		87.454
408	11/14 02 15 39.1	3.527 S	150.120 E	New Ireland Region	33	5.9	6.6	94.001
409	11/14 04 29 08.5	7.468 S	125.765 E	Banda Sea	10	5.5	4.9	81.762
410	11/14 11 31 21.1	5.745 S	129.732 E	Banda Sea	186	5.0		84.784
411	11/14 16 55 34.8	32.529 S	71.587 W	Near Coast of Central Chile	53	5.3	4.8	67.001

412	11/15 05 24 29.2	36.364 S	178.258 E	Off East Coast of Northern Island, New Zealand	143	5.1		70.571
413	11/15 08 41 42.3	52.109 N	171.103 W	Fox Islands, Aleutian Islands	23	5.9	5.4	157.806
414	11/16 05 10 34.2	31.519 S	179.745 W	Kermadec Islands Region	205	5.3		75.664
415	11/16 05 53 20.2	21.768 S	179.426 W	Fiji Islands Region	582	5.8		85.186
416	11/16 07 20 23.5	41.584 S	178.186 E	Off East Coast of Northern Islands, New Zealand	33	5.2	4.7	65.514
417	11/17 00 59 50.1	55.572 N	161.766 E	Near East Coast of Kamchatka	33	5.6	4.5	151.360
418	11/17 06 55 46.0	12.399 N	124.537 E	Samar, Philippine Islands	19	6.0	6.6	99.744
419	11/18 19 38 54.6	6.125 S	149.785 E	New Britain Region	61	5.8	6.4	91.458
420	11/19 23 29 52.6	30.515 S	71.559 W	Near Coast of Central Chile	33	5.2		68.865
421	11/20 04 23 29.9	24.278 S	178.619 E	South of Fiji Islands	633	4.8		82.337
422	11/20 08 03 25.2	32.789 S	179.171 W	South of Kermadec Islands	153	5.2		74.546
423	11/20 09 11 09.7	47.766 S	99.723 E	Southeast Indian Rise	10	5.6	5.9	35.971
424	11/20 10 54 41.0	51.494 S	161.595 E	North of Macquarie Island	10	4.8		52.483
425	11/20 15 19 19.9	5.171 S	153.826 E	New Ireland Region	91	5.6		93.690

426	11/20 22 36 20.6	55.336 N	161.573 E	Near East Coast of Kamchatka	33	4.7		151.107
427	11/21 15 32 38.7	1.977 N	126.897 E	Molucca Passage	53	5.5	5.2	90.925
428	11/21 17 50 33.2	24.767 S	175.790 W	South of Tonga Islands	33	5.1		82.999
429	11/22 10 05 07.6	22.736 S	174.985 W	Tonga Islands Region	33	5.0	4.5	85.130
430	11/23 05 22 26.1	8.228 S	116.020 E	Sumbawa Island Region	33	5.1	4.0	77.571
431	11/23 09 27 07.4	19.766 S	177.973 W	Fiji Islands Region	595	5.6		87.431
432	11/25 08 35 41.7	47.897 S	99.455 E	Southeast Indian Rise	10	5.5	6.2	35.764
433	11/25 11 05 39.2	45.985 S	95.724 E	Southeast Indian Rise	10	4.5		36.069
434	11/26 20 47 17.0	5.198 S	131.739 E	Banda Sea	48	5.4	4.7	86.012
435	11/27 01 59 17.3	0.086 S	124.308 E	Molucca Sea	89	5.1		88.083
436	11/27 16 22 07.5	20.769 S	69.002 W	Northern Chile	125			77.129
437	11/28 00 00 02.6	34.181 S	178.316 W	South of Kermadec Islands	63	4.7		73.359
438	11/28 00 31 22.9	21.316 S	68.408 W	Chile-Bolivia Border Region	122	5.2		76.425
439	11/29 07 51 14.4	56.423 S	27.187 W	South Sandwich Islands Region	10	5.6		31.182
440	11/29 20 17 43.9	29.191 S	67.958 W	La Rioja Province, Argentina	121	5.1		68.957

441	12/03	06 37 30.0	24.504 S	67.054 W	Chile-Argentina Border Region	187	4.4		73.014
442	12/03	13 26 06.5	3.093 N	123.240 E	Celebes Sea	487	4.8		90.651
443	12/04	05 19 53.0	73.387 N	54.998 E	Novaya Zemlya	0	5.9	4.6	142.609
444	12/04	11 26 42.0	14.433 S	13.651 W	South Atlantic Ridge	10	5.0	4.4	63.865
445	12/05	11 22 06.8	6.993 S	123.400 E	Banda Sea	626	5.2		81.352
446	12/05	11 22 20.2	7.101 S	123.386 E	Banda Sea	626	5.3		81.247
447	12/05	14 37 51.5	24.269 S	67.076 W	Chile-Argentina Border Region	183	4.6		73.239
448	12/05	16 05 32.7	15.259 S	173.525 W	Tonga Islands	40	6.0	6.7	92.696
449	12/07	06 21 28.6	24.352 S	66.841 W	Salta Province, Argentina	198	4.4		73.085
450	12/07	13 53 28.1	52.358 N	160.556 E	Off East Coast of Kamchatka	36	5.0	4.6	148.365
451	12/07	18 38 38.7	18.290 S	167.862 E	Vanuatu Islands	10	4.9	4.4	85.478
452	12/09	07 49 25.7	59.873 S	25.983 W	South Sandwich Islands Region	33	5.5	5.6	28.165
453	12/10	07 30 59.3	58.076 S	10.401 W	Southwestern Atlantic Ocean	10	5.4	5.2	23.915
454	12/10	15 40 05.4	50.201 S	130.694 E	South of Australia	10	5.1	5.2	44.751
455	12/10	17 05 43.8	24.020 S	69.887 W	Northern Chile	50	4.9		74.386

456	12/10	20 30	00.0	37.199 N	116.209 W	Southern Nevada	0	5.0		145.440
457	12/11	03 26	04.5	1.600 N	125.354 E	Molucca Passage	115	5.4		90.022
458	12/12	10 08	31.0	5.647 S	154.409 E	Solomon Islands	149	5.0		93.433
459	12/13	04 01	38.9	71.134 N	7.634 W	Jan Mayen Island Region	10	5.7	5.6	143.432
460	12/15	09 21	18.3	51.136 N	158.023 E	Near East Coast of Kamchatka	39	5.3	4.5	146.453
461	12/16	09 57	16.5	29.790 S	177.915 W	Kermadec Islands	31	6.1	6.2	77.703
462	12/17	00 58	15.3	26.902 S	167.475 E	New Caledonia Region	33	5.6	5.3	77.159
463	12/17	20 21	37.6	36.035 S	177.813 E	Off East Coast of Northern Island, New Zealand	235	5.1		70.798
464	12/18	14 55	58.1	17.956 S	178.020 W	Fiji Islands Region	533	5.4		89.179
465	12/19	06 35	41.3	10.830 S	164.507 E	Santa Cruz Islands Region	60	5.3	5.2	91.647
466	12/19	10 17	25.7	29.860 S	177.040 W	Kermadec Islands	33	4.7		77.803
467	12/20	02 45	21.4	24.558 S	179.986 E	South of Fiji Islands	525	5.1		82.357
468	12/20	03 35	17.8	1.868 N	97.129 E	Northern Sumatera	37	5.5	5.0	80.691
469	12/20	08 48	16.4	20.235 S	177.944 W	Fiji Islands Region	354	4.9		86.981
470	12/20	14 17	08.8	19.648 S	68.917 W	Chile-Bolivia Border Region	111	5.0		78.147

471	12/20	14 27	59.9	27.914 S	176.613 W	Kermadec Islands Region	36	5.3	5.2	79.778
472	12/20	20 24	24.0	10.787 S	164.673 E	Santa Cruz Islands Region	36	5.4	4.8	91.736
473	12/21	02 37	12.4	51.778 N	175.445 E	Rat Islands Aleutian Islands	33	5.0	4.6	153.163
474	12/21	05 18	37.4	24.369 S	65.450 W	Salta Province, Argentina	309			72.609
475	12/22	08 15	56.0	59.504 S	26.004 W	South Sandwich Islands Region	33	4.9	4.9	28.441
476	12/23	04 30	07.0	10.782 S	164.769 E	Santa Cruz Islands Region	43	5.2	5.3	91.768
477	12/23	18 00	46.6	20.504 S	178.328 W	Fiji Islands Region	530	4.8		86.641
478	12/23	21 49	08.9	0.769 N	29.410 W	Central Mid-Atlantic Ridge	10	5.8	5.5	83.260
479	12/24	04 26	54.5	23.522 S	66.666 W	Jujuy Province, Argentina	194	5.7		73.798
480	12/24	09 38	43.8	21.622 S	179.412 W	Fiji Islands Region	633	4.9		85.330
481	12/24	10 39	40.3	27.434 S	63.156 W	Santiago Del Estero Province, Argentina	581	5.5		69.008
482	12/24	13 09	40.5	5.090 S	149.758 E	New Britain Region	369	5.6		92.417
483	12/27	10 06	36.7	29.112 S	68.340 W	San Juan Province, Argentina	117	5.2		69.153
484	12/29	05 08	25.3	18.688 S	169.207 E	Vanuatu Islands	252	5.0		85.455
485	12/30	22 31	37.6	22.833 S	66.408 W	Jujuy Province, Argentina	243	5.0		74.351

486	12/31	11 17 20.7	7.362 S	128.511 E	Banda Sea	136	5.1		82.847
487	12/31	15 12 20.4	21.324 S	68.675 W	Chile-Bolivia Border Region	125	5.0		76.505
488	12/31	20 26 06.9	32.475 S	71.726 W	Near Coast of Central Chile	41	5.1	4.9	67.094
489	12/31	21 46 44.4	32.536 S	71.915 W	Near Coast of Central Chile	31	5.3		67.096

Table 2c. List of 788 earthquakes (1989).

Data No.	Origin time			Geographic Coordinates		Region	Depth (km)	Magnitude		Epicentral distance (degree)	
	Date	h	m	s	Latitude (degree)			Longitude (degree)	(Mb)		(Ms)
1	01/01	10	16	16.3	11.728 S	77.438 W	Near Coast of Peru	46	5.2	88.313	
2	01/02	00	00	39.1	18.173 S	178.412 W	Fiji Islands Region	635	5.2	88.886	
3	01/02	01	52	08.0	18.589 S	174.559 W	Tonga Islands	108	6.1	89.253	
4	01/02	07	27	10.0	18.146 S	178.414 W	Fiji Islands Region	621	4.7	88.912	
5	01/04	10	14	22.7	5.738 S	146.086 E	East Papua New Guinea Region	113	5.3	90.565	
6	01/04	19	01	32.1	21.001 S	68.919 W	Chile-Bolivia Border Region	122	4.8	76.886	
7	01/05	14	02	02.4	7.395 S	128.881 E	Banda Sea	143	5.1	82.946	
8	01/07	05	02	21.9	9.122 S	122.531 E	Savu Sea	137	4.7	79.068	
9	01/07	07	26	11.4	23.258 S	68.410 W	Northern Chile	122	5.5	74.617	
10	01/08	14	54	47.2	3.253 S	130.588 E	Ceram	33	4.8	4.7	87.402
11	01/08	19	57	06.0	51.435 N	174.880 E	Andreanof Islands, Aleutian Island	33	5.7	5.5	156.061

12	01/10	05 55	01.4	3.162 S	130.556 E	Ceram	47	5.9	6.5	87.475
13	01/12	06 28	34.8	59.459 S	25.847 W	South Sandwich Islands Region	33	5.2		28.419
14	01/13	15 59	53.4	15.368 S	167.455 E	Vanuatu Islands	138	5.3		88.156
15	01/14	00 50	33.1	15.244 S	173.608 W	Tonga Islands	33	5.6	5.1	92.695
16	01/15	01 27	46.3	31.733 S	71.813 W	Near Coast of Central Chile	50	5.2	4.4	67.811
17	01/15	03 19	50.6	31.750 S	71.847 W	Near Coast of Central Chile	50	5.0	5.6	67.806
18	01/15	18 52	51.4	58.878 S	26.061 W	South Sandwich Islands Region	118	5.2		28.922
19	01/17	00 35	23.1	6.151 S	148.947 E	New Britain Region Region	32	5.9	6.4	91.152
20	01/18	17 32	11.6	7.025 S	74.598 W	Peru-Brazil Border Region	147	5.4		91.826
21	01/19	20 35	41.1	18.848 S	67.210 W	Bolivia	236	4.6		78.328
22	01/20	01 55	18.0	10.297 S	74.885 W	Peru	129	5.1		88.846
23	01/20	02 03	54.6	41.906 S	79.930 E	Mid-Indian Rise	10	5.3	6.1	34.382
24	01/20	02 15	58.2	41.670 S	80.159 E	Mid-Indian Rise	10	5.4	5.9	34.668
25	01/24	04 00	29.6	54.763 S	26.660 W	South Sandwich Islands Region	33	5.4	5.1	32.296
26	01/25	10 14	33.4	27.985 S	26.734 E	Republic of South Africa	5	5.5	4.4	41.758
27	01/25	14 39	28.4	27.330 S	176.320 W	Kermadec Islands Region	64	4.6		80.402

28	01/26	03 50	19.9	18.204 S	178.731 W	Fiji Islnds Region Island	620	5.4		88.789
29	01/27	23 58	06.9	34.690 S	179.410 W	South of Kermadec Islands	143	4.7		72.655
30	01/27	08 34	51.1	56.202 N	164.375 E	Komandorsky Islands Region	28	5.4	6.2	152.787
31	01/30	06 20	35.5	14.636 S	167.200 E	Vanuatu Islands	227	4.9		88.784
32	01/30	21 01	18.8	60.463 S	152.893 E	West of Macquarie Islands	10	4.5		42.270
33	01/31	00 46	18.6	6.142 S	149.005 E	New Britain Region	60	5.4		91.180
34	01/31	07 08	29.7	14.645 S	66.461 E	Mid-Indian Rise	10	5.4	5.2	57.008
35	01/31	12 29	55.8	20.830 S	169.754 E	Vanuatu Islands	113	4.8		83.549
36	01/31	16 40	28.2	7.961 S	115.355 E	Bali Sea	229	4.7		77.584
37	02/03	18 44	32.6	20.215 S	178.617 W	Fiji Islands Region	575	5.2		86.862
38	02/04	14 23	39.4	19.416 S	179.587 W	Fiji Islands Region	451	5.3		87.432
39	02/04	22 10	38.9	4.625 S	153.066 E	New Ireland Region	52	6.1		93.953
40	02/06	23 36	22.6	52.991 S	10.040 E	Southwest of Africa	10	4.3		21.079
41	02/07	04 03	00.2	22.087 S	67.223 W	Chile-Bolivia Border Region	180	5.4		75.317
42	02/07	12 41	44.2	27.313 S	177.146 W	Kermadec Islands Region	167	4.9		80.260
43	02/07	13 35	27.5	23.728 S	179.885 E	South of Fiji Islands	563	5.2		83.140
44	02/08	23 46	41.4	55.623 S	26.795 W	South Sandwich Islands Region	24	5.5	5.6	31.667

45	02/09 02 06 39.4	55.748 S	26.818 W	South Sandwich Islands Region	26	5.3	5.0	31.577
46	02/09 02 15 53.1	55.795 S	26.527 W	South Sandwich Islands Region	20	5.3	5.7	31.437
47	02/09 18 58 26.7	41.997 S	88.081 E	Southeast Indian Rise	22	5.2	5.3	36.930
48	02/09 22 49 02.1	22.611 S	66.086 W	Jujuy Province, Argentina	247	5.2		74.453
49	02/10 11 15 24.6	2.305 N	126.760 E	Molucca Passage	44	6.2		91.180
50	02/10 11 26 07.0	2.247 N	126.776 E	Molucca Passage	33	5.3		91.132
51	02/10 11 37 15.3	2.443 N	126.566 E	Molucca Passage	33	5.4		91.238
52	02/10 11 38 05.0	2.244 N	126.580 E	Molucca Passage	33	5.4		91.059
53	02/10 12 07 43.8	2.398 N	126.628 E	Molucca Passage	42	5.3		91.219
54	02/10 12 12 05.2	2.254 N	126.598 E	Molucca Passage	47	5.6		91.075
55	02/10 12 16 48.0	2.455 N	126.637 E	Molucca Passage	33	5.5		91.275
56	02/10 12 27 44.3	2.376 N	126.648 E	Molucca Passage	33	5.2		91.206
57	02/10 12 59 30.5	2.429 N	126.700 E	Molucca Passage	33	5.6		91.273
58	02/10 13 41 52.2	2.206 N	126.590 E	Molucca Passage	33	4.9		91.027
59	02/10 14 06 29.7	2.367 N	126.563 E	Molucca Passage	40	5.3		91.167
60	02/10 14 21 38.9	2.405 N	126.663 E	Molucca Passage	33	5.2		91.238
61	02/10 15 23 55.9	2.464 N	126.689 E	Molucca Passage	38	5.5	4.7	91.302

62	02/10	16 30 40.5	2.465 N	126.663 E	Molucca Passage	33	5.1		91.294
63	02/10	16 59 20.5	6.317 N	92.269 E	Nicobar Islands Region	42	5.3	5.3	83.465
64	02/10	19 56 54.0	2.445 N	126.612 N	Molucca Passage	33	5.5		91.257
65	02/10	20 06 00.0	37.077 N	116.001 W	Southern Nevada	0	5.2		
66	02/10	20 29 43.1	2.396 N	126.653 E	Molucca Passage	33	5.3	4.4	91.226
67	02/11	01 35 30.4	2.372 N	126.608 E	Molucca Passage	60	5.3		91.188
68	02/11	01 57 06.8	2.384 N	126.603 E	Molucca Passage	66	5.2		91.197
69	02/13	12 15 20.0	4.987 N	126.915 E	Talau Islands	88	5.7		93.723
70	02/14	06 20 21.3	10.447 S	161.372 E	Solomon Islands	32	6.0	6.4	91.086
71	02/16	09 57 58.7	5.857 N	125.800 E	Mindanao, Philippine Islands	123	5.3		94.130
72	02/17	01 14 27.8	0.455 N	126.345 E	Molucca Passage	39	5.3	5.1	89.315
73	02/18	02 42 40.3	31.872 S	178.470 W	Kermadec Islands Region	33			75.572
74	02/19	11 23 21.2	21.845 S	68.546 W	Chile-Bolivia Border Region	145	4.4		75.977
75	02/19	12 49 09.9	14.894 S	167.171 E	Vanuatu Islands	101	5.6		88.530
76	02/21	13 16 28.3	31.308 S	67.183 W	San Juan Province, Argentina	49	4.9		66.748
77	02/21	22 08 54.7	44.462 S	78.766 W	Off Coast of Southern Chile	26	5.6	5.3	57.991
78	02/23	01 48 32.2	30.258 S	177.724 W	Kermadec Islands	33	4.7		77.285

79	02/23	05 51 11.4	14.771 S	167.300 E	Vanuatu Islands	155	5.4		88.683
80	02/24	01 59 54.5	24.057 S	66.558 W	Salta Province, Argentina	204	4.8		73.266
81	02/25	11 26 35.4	29.915 S	177.885 W	Kermadec Islands	31	6.1	6.7	77.587
82	02/25	12 03 14.3	29.681 S	177.862 W	Kermadec Islands	51	5.4		77.819
83	02/26	20 59 25.4	23.838 S	177.340 W	South of Fiji Islands	26	5.3		83.602
84	02/28	13 01 57.6	23.113 S	61.465 W	Paraguay	569	5.6		72.431
85	03/08	02 34 25.8	0.206 S	124.885 E	Molucca Sea	35	5.8	5.2	88.178
86	03/08	11 44 32.3	1.031 N	126.189 E	Molucca Sea	32	5.9	5.6	89.794
87	03/09	05 12 16.0	55.891 S	27.113 W	South Sandwich Islands Region	33	4.9		31.570
88	03/09	14 05 00.0	37.143 N	116.067 W	Southern Nevada	0	5.0		145.356
89	03/10	14 14 10.2	4.346 S	152.797 E	New Britain Region	53	5.6	5.4	94.126
90	03/10	21 49 45.8	13.702 S	34.420 E	Malawi	30	6.2	6.1	55.401
91	03/11	05 05 00.6	17.766 S	174.761 W	Tonga Islands	230	6.4		90.016
92	03/11	18 46 47.2	6.730 S	129.729 E	Banda Sea	148	5.1		83.870
93	03/13	03 37 47.1	25.791 S	176.912 W	South of Fiji Islands	71	5.1		81.786
94	03/13	22 05 17.3	0.617 N	127.408 E	Halmahera	139	5.0		89.847
95	03/14	11 42 56.9	32.110 S	71.631 W	Near Coast of Central Chile	33	4.9		67.404

96	03/15	04 13 13.2	35.308 S	179.946 E	Off East Coast of Northern Island, New Zealand	89	4.9		71.930
97	03/15	04 17 33.4	30.539 S	178.008 W	Kermadec Islands	57	5.2	4.9	76.957
98	03/16	07 23 56.2	63.328 S	62.446 W	South Shetland Islands	33	5.3	4.8	36.894
99	03/16	09 33 57.2	30.270 S	177.986 W	Kermadec Islands	37	5.7	5.5	77.223
100	03/17	01 53 49.5	17.846 S	178.773 W	Fiji Islands Region	570	5.0		89.127
101	03/17	13 38 39.7	5.851 S	146.596 E	East Papua New Guinea Region	43	5.7	5.5	90.634
102	03/17	19 33 08.6	34.479 S	178.394 W	South of Kermadec Islands	59	5.7		73.055
103	03/22	18 10 53.6	20.748 S	178.689 W	Fiji Islands Region	571	5.1		86.329
104	03/23	21 22 38.2	28.858 S	67.326 W	La Rioja Province, Argentina	134	4.9		69.062
105	03/24	00 23 28.3	23.520 S	178.780 E	South of Fiji Islands	602	4.5		83.105
106	03/24	09 49 31.3	58.887 S	148.783 E	West of Macquarie Island	10	5.3	5.6	42.610
107	03/25	08 10 54.8	24.891 S	177.099 W	South of Fiji Islands	113	4.8		82.625
108	03/25	16 57 03.2	29.744 S	177.796 W	Kermadec Islands	54	5.0		77.771
109	03/26	06 39 49.1	14.765 S	73.963 W	Peru	108	5.4		84.355
110	03/29	04 06 12.3	18.350 S	72.279 W	Off Coast of Northern Chile	42	5.3		80.454
111	03/30	20 39 29.3	19.589 S	175.848 W	Tonga Islands	230	5.8		88.030
112	03/31	09 31 56.0	24.115 S	66.672 W	Salta Province, Argentina	198	4.6		73.249

113	04/01	21 58	14.1	32.797 S	69.947 W	Mendoza Province, Argentina	110	5.5		66.244
114	04/02	10 43	32.7	5.428 S	146.785 E	East Papua New Guinea Region	251	5.6		91.093
115	04/02	20 52	02.6	30.941 S	179.998 E	Kermadec Islands Region	400	5.1		76.172
116	04/05	11 27	48.0	20.790 S	69.923 W	Northern Chile	37	4.8		77.410
117	04/05	23 47	49.3	20.857 S	69.028 W	Northern Chile	112	5.7		77.056
118	04/06	08 05	57.1	19.306 S	169.002 S	Vanuatu Islands	166	6.1		84.810
119	04/06	17 33	24.3	29.740 S	177.860 W	Kermadec Islands	56	5.0		77.762
120	04/06	18 50	44.4	40.321 S	75.036 W	Off Coast of Southern Chile	33	5.2		60.797
121	04/06	22 33	41.0	19.652 S	64.083 W	Southern Bolivia	24	5.0		76.529
122	04/08	00 24	32.5	32.012 S	71.545 W	Near Coast of Central Chile	72	5.5		67.469
123	04/08	01 32	48.5	37.731 S	50.071 E	Atlantic-Indian Rise	10	5.0	4.9	31.890
124	04/08	03 06	01.5	15.737 S	173.001 W	Tonga Islands	33	5.4	5.7	92.328
125	04/09	05 07	50.6	51.510 N	178.836 W	Andreanof Islands, Aleutian Island	33	5.2	4.7	155.006
126	04/09	09 22	34.8	20.791 S	178.703 W	Fiji Islands Region	593	5.1		86.285
127	04/11	03 56	36.9	49.488 N	159.185 E	Kuril Islands Region	16	6.3	6.6	145.502
128	04/11	07 14	21.3	32.736 S	178.846 W	South of Kermadec Islands	33	5.2	4.8	74.661
129	04/11	11 26	53.2	18.211 S	167.316 E	Vanuatu Islands	33	4.9	4.4	85.406

130	04/11 13 53 22.4	1.040 S	126.558 E	Molucca Sea	33	5.0	4.6	88.005
131	04/11 15 30 24.1	38.486 S	14.718 W	Tristan Da Cunha Region	10	4.8		41.937
132	04/13 00 43 11.2	39.533 S	75.002 W	Off Coast of Central Chile	33	5.8	5.5	61.518
133	04/13 09 03 39.5	27.972 S	66.491 W	Catamarca Province, Argentina	173	4.3		69.612
134	04/13 12 00 57.0	22.045 S	68.314 W	Norhtern Chile	116	4.1		75.715
135	04/14 01 15 44.5	14.879 S	167.211 E	Vanuatu Islands	158	5.2		88.555
136	04/14 13 02 52.6	18.172 S	178.393 W	Fiji Islands Region	636	5.4		88.891
137	04/14 13 04 42.2	18.180 S	178.475 W	Fiji Islands Region	635	5.0		88.866
138	04/16 06 50 24.4	1.012 N	120.061 E	Minahassa Peninsula	27	5.3	4.9	87.587
139	04/16 08 35 03.2	4.462 N	32.573 W	Central Mid-Atlantic Ridge	10	5.4		87.785
140	04/16 08 43 04.1	22.000 S	169.914 E	Loyalty Islands Region	33	5.2	5.1	82.470
141	04/16 10 51 16.5	4.630 N	32.664 W	Central Mid-Atlantic Ridge	10	5.4	5.4	87.973
142	04/16 11 05 29.3	31.582 S	177.735 W	Kermadec Islands	33	4.8	4.8	75.996
143	04/16 19 48 14.6	21.039 S	178.942 W	Fiji Islands Region	610	5.7		85.994
144	04/17 04 55 26.7	30.644 S	71.683 W	Near Coast of Central Chile	44	4.9	4.8	68.784
145	04/17 11 15 52.4	6.932 S	129.426 E	Banda Sea	78	5.0		83.574
146	04/17 13 05 14.9	37.995 S	175.742 E	North Island, New Zealand	293	5.0		68.477

147	04/17 14 20 31.1	8.179 S	112.924 E	Java	113	5.1		76.525
148	04/17 14 24 03.6	31.900 S	178.000 W	Kermadec Islands Region	33			75.636
149	04/18 02 01 27.1	21.538 S	178.955 W	Fiji Islands Region	580	5.2		85.507
150	04/18 04 21 58.4	21.848 S	70.492 W	Near Coast of Northern Chile	52	4.4		76.607
151	04/18 09 54 51.9	30.648 S	71.990 W	Near Coast of Central Chile	41	4.6		68.875
152	04/18 12 33 52.1	23.834 S	179.944 E	South of Fiji Islands	524	5.8		83.050
153	04/18 19 10 14.3	29.520 S	178.810 W	Kermadec Islands	227	4.7		77.790
154	04/19 00 08 19.6	31.310 S	177.815 W	Kermadec Islnads Region	11	5.6	5.9	76.255
155	04/19 07 03 59.3	31.521 S	177.763 W	Kermadec Islands Region	61	5.2		76.050
156	04/19 13 09 25.2	27.920 S	178.540 W	Kermadec Islands Region	268	4.1		79.397
157	04/20 08 08 51.0	9.259 S	79.033 W	Off Coast of Norhtern Peru	63	5.8		91.140
158	04/20 15 02 16.5	45.712 S	75.560 W	Off Coast of Southern Chile	10	5.5	5.3	55.965
159	04/22 04 48 30.8	35.576 S	102.935 W	Southern Pacific Ocean	10	5.0	4.8	72.023
160	04/22 06 19 37.1	8.966 S	115.512 E	Bali Island Region	33	4.7		76.706
161	04/22 11 50 39.2	21.293 S	179.193 W	Fiji Islnads Region	614	4.9		85.695
162	04/23 19 21 06.4	66.960 N	156.289 W	Alaska	6	5.7	5.1	173.977
163	04/24 20 41 11.5	17.398 S	167.826 E	Vanuatu Islands	34	5.3	5.5	86.320

164	04/25	00 31 38.6	25.499 S	179.653 E	South of Fiji Islands	497	5.0		81.375
165	04/26	13 44 29.0	0.200 N	122.119 E	Minahassa Peninsula	211	5.0		87.565
166	04/26	19 35 19.8	27.942 S	66.846 W	Catamarca Province, Argenina	192	4.6		69.755
167	04/27	08 38 44.7	24.008 S	67.182 W	Chile-Argentina Border Region	178	4.8		73.517
168	04/27	09 34 58.6	23.950 S	179.764 W	South of Fiji Islands	524	5.1		82.999
169	04/27	12 37 32.8	30.288 S	178.139 W	Kermadec Islands	72	5.0		77.176
170	04/28	09 23 07.3	16.606 S	173.645 W	Tonga Islands	93	5.4		91.360
171	04/28	17 38 26.4	4.354 S	101.413 E	Southern Sumatera	27	5.4	5.8	76.186
172	04/28	20 26 17.9	59.515 S	29.397 W	South Sandwich Islands Region	22	5.5	5.7	29.614
173	04/28	21 09 57.6	4.210 S	101.370 E	Southern Sumatera	32	5.4	5.7	76.307
174	04/30	15 33 52.7	17.912 S	178.665 W	Fiji Islands Region	570	5.4		89.086
175	05/01	08 45 21.6	4.200 S	101.366 E	Southern Sumatera	31	5.6	5.6	76.315
176	05/02	02 33 30.6	41.737 S	73.589 W	Near Coast of Southern Chile	29	5.1	4.5	59.071
177	05/02	06 58 41.3	26.521 S	67.466 W	Catamarca Province, Argentina	139	5.1		71.275
178	05/03	06 10 43.4	32.994 S	178.821 W	South of Kermadec Islands	10	4.8		74.415
179	05/04	10 30 06.9	6.609 S	75.760 W	Northern Peru	33	5.5	5.1	92.594

180	05/04	13 15	08.0	21.963 S	179.305 W	Fiji Islands Region	591	5.4		85.022
181	05/04	18 32	55.6	13.039 S	76.195 W	Near Coast of Peru	72	5.3		86.688
182	05/05	13 30	40.1	31.984 S	178.658 W	Kermadec Islands Region	10	5.3	4.9	75.427
183	05/05	18 28	39.4	8.281 S	71.381 W	Western Brazil	593	6.4		89.588
184	05/07	16 53	45.3	21.815 S	175.474 W	Tonga Islands	33	5.0	4.5	85.935
185	05/08	03 36	38.4	18.891 S	178.845 W	Fiji Islnads Region	531	5.4		88.098
186	05/08	14 28	30.9	23.427 S	179.953 W	South of Fiji Islands	548	5.6		83.466
187	05/09	15 34	09.6	52.991 S	159.386 E	Macquari Islands Region	10	5.3	4.8	50.569
188	05/09	21 13	46.8	5.591 N	125.388 E	Mindanao, Philippine Islands	80	5.0		93.736
189	05/10	01 06	49.6	22.146 S	69.303 E	Mid-Indian Rise	10	5.2		50.289
190	05/10	22 18	46.1	23.282 S	69.190 W	Northern Chile	96	5.3		74.848
191	05/12	00 02	05.3	21.316 S	179.530 W	Fiji Islands Region	641	5.0		85.602
192	05/14	00 59	50.4	30.523 S	178.414 W	Kermadec Islands	44	5.9	6.6	76.894
193	05/14	01 34	54.6	30.720 S	177.960 W	Kermadec Islands	33			76.790
194	05/14	08 03	31.0	25.231 S	179.971 E	South of Fiji Islands	512	5.1		81.702
195	05/14	09 10	25.3	2.922 S	127.669 E	Cerm Sea	33	5.4	4.7	86.659
196	05/14	09 40	46.5	13.733 S	66.248 E	Mid-Indian Rise	10	5.2	5.6	57.859

197	05/14	17 05 05.1	7.439 S	128.048 E	Banda Sea	112	5.3		82.609
198	05/15	06 13 31.3	18.365 S	67.937 W	Bolivia	203	4.8		79.020
199	05/15	13 10 00.0	37.108 N	116.121 W	Southern Nevada	0	4.4		145.334
200	05/15	18 16 16.8	1.550 N	127.268 E	Halmahera	106	5.5		90.662
201	05/15	19 43 43.1	4.612 S	154.946 E	Solomon Islands	495	5.1		94.580
202	05/15	23 34 33.6	9.803 S	159.531 E	Solomon Islands	24	5.9	5.9	91.137
203	05/16	12 21 10.7	43.555 N	127.632 W	Off Coast of Oregon	10	5.3	5.3	153.607
204	05/16	17 22 52.9	56.329 S	139.125 W	South Pacific Cordillera	10	5.8	5.8	54.889
205	05/17	05 46 50.0	7.158 S	129.432 E	Banda Sea	111	5.0		83.367
206	05/17	08 24 24.1	22.872 S	66.306 W	Jujuy Province, Argentina	257	4.5		74.283
207	05/17	16 12 54.5	62.104 S	154.634 E	Balleny Islands Region	10	5.0	5.3	41.247
208	05/19	02 07 04.4	43.426 S	92.120 E	Southeast Indian Rise	10	5.0		37.038
209	05/19	11 50 54.3	24.839 S	70.019 W	Near Coast of Northern Chile	52	5.5		73.665
210	05/19	19 37 45.5	8.489 S	114.634 E	Bali Island Region	141	4.9		76.839
211	05/20	05 59 37.3	20.009 S	169.268 E	Vanuatu Islands	33	5.5	4.5	84.208
212	05/20	16 01 43.6	30.508 S	178.270 W	Kermadec Islands	29	5.7	5.9	76.936
213	05/21	04 03 42.2	31.111 S	177.801 W	Kermadec Islands	50	5.3		76.441

214	05/21	06 21	18.7	31.277 S	177.635 W	Kermadec Islands	40	5.0	4.6	76.311
215	05/21	19 23	41.1	2.586 N	126.702 E	Molucca Passage	58	5.3		91.420
216	05/21	21 56	48.6	17.952 S	178.593 W	Fiji Islands Region	584	5.7		89.063
217	05/22	11 08	06.0	53.597 N	161.657 E	Off East Coast of Kamchatka	41	5.0	5.2	149.761
218	05/22	13 26	32.3	54.119 N	160.543 E	Near East Coast of kamchatka	33	4.8		149.777
219	05/22	15 43	16.3	13.105 S	167.054 E	Vanuatu Islands	223	5.1		90.203
220	05/23	10 54	46.3	52.341 S	160.568 E	Macquarie Islands Region	10	6.4	8.2	51.454
221	05/23	14 09	35.3	52.087 S	161.100 E	Macquarie Islands Region	10	5.5		51.816
222	05/23	16 07	55.1	52.117 S	160.741 E	Macquarie Islands Region	10	5.4		51.702
223	05/23	17 11	42.8	51.886 S	160.563 E	North of Macquarie Islands	10	5.9	6.0	51.872
224	05/24	02 15	04.9	52.187 S	159.888 E	Macquarie Islands Region	10	5.0		51.431
225	05/24	02 16	57.5	52.503 S	160.584 E	Macquarie Islands Region	10	5.7	5.2	51.308
226	05/24	07 44	18.1	52.217 S	159.564 E	Macquarie Islands Region	10	5.2	5.1	51.324
227	05/24	08 05	47.6	3.748 S	123.256 E	Sulawesi	22	5.6	5.0	84.309
228	05/24	13 31	14.4	56.177 N	164.264 E	Komandorsky Islands Region	19	5.9	6.1	152.728
229	05/24	15 21	04.5	51.783 S	161.425 E	Nothr of Macquarie Island	10	5.6	4.8	52.175
230	05/24	15 43	34.3	56.173 N	164.185 E	Komandorsky Islands Region	36	5.5	5.4	152.696

231	05/24 17 30 19.8	52.571 S	160.083 E	Macquarie Islands Region	10	4.8		51.125
232	05/25 00 54 52.1	52.272 S	159.833 E	Macquarie Islands Region	10	5.7	5.6	51.339
233	05/25 04 43 10.7	52.334 S	160.748 E	Macquarie Islands Region	10	5.5	4.8	51.504
234	05/25 06 46 26.9	31.029 S	177.764 W	Kermadec Islands Region	33	4.8		76.528
235	05/25 08 06 32.6	5.850 S	148.300 E	New Britain Region	112	5.9		91.215
236	05/25 09 39 25.4	52.071 S	159.931 E	Macquarie Islands Region	10	5.5	5.5	51.548
237	05/25 11 37 33.7	52.143 S	160.868 E	Macquarie Islands Region	10	5.4		51.709
238	05/25 11 56 21.6	7.332 S	128.539 E	Banda Sea	171	5.5		82.885
239	05/25 13 01 34.2	36.961 S	177.434 E	Off East Coast of Northern Island, New Zealand	287	4.9		69.826
240	05/25 19 49 15.9	15.259 S	172.811 W	Samowa Islands Region	73	5.0		92.830
241	05/25 20 13 33.4	51.677 N	172.128 E	Near Islands, Aleutian Islands	33	5.3		151.929
242	05/26 01 54 16.2	53.230 S	159.282 E	Macquarie Islands Region	10	5.2	4.5	50.325
243	05/26 07 00 01.7	52.583 S	160.106 E	Macquarie Islands Region	10	5.6	5.3	51.119
244	05/27 03 01 24.9	55.279 S	133.192 W	South Pacific Cordillera	10	5.5	5.7	55.829
245	05/27 08 31 18.7	3.451 S	138.855 E	West Irian	49	5.4	4.4	90.171
246	05/27 14 27 46.4	50.236 S	158.073 E	North of Macquarie Island	10	5.5	4.9	52.774

247	05/27	20 08	37.3	30.167 N	50.921 E	Iran	31	5.6	5.8	99.303
248	05/28	02 55	19.6	25.053 S	130.781 E	Northern Territory, Australia	10	5.8	5.1	67.330
249	05/28	09 46	28.2	16.714 S	173.278 W	Tonga Islands	35	5.7	5.5	91.323
250	05/28	10 20	00.3	16.723 S	173.247 W	Tonga Islands	50	5.2		91.300
251	05/28	15 19	07.1	6.515 S	147.799 E	East Papua New Guinea Region	33	5.5	5.5	90.423
252	05/28	15 52	54.2	51.053 S	159.682 E	North of Macquarie Island	10	5.3		52.425
253	05/28	21 03	06.7	18.635 S	177.913 W	Fiji Islands Region	570	4.9		88.542
254	05/29	02 12	27.8	48.914 S	121.346 E	South of Australia	10	5.2	5.2	42.697
255	05/29	03 42	34.3	6.499 S	147.730 E	East Papua New Guinea Region	40	5.4	4.8	90.415
256	05/29	22 07	11.8	10.204 S	161.395 E	Solomon Islands	86	5.6		91.323
257	05/29	22 22	30.7	23.897 S	70.337 W	Near Coast of Northern Chile	32	5.5	4.9	74.645
258	05/30	13 39	17.1	17.851 S	173.043 W	Tonga Islands	38	5.0	4.7	90.257
259	05/30	13 52	50.1	21.272 S	174.091 W	Tonga Islands	33	5.1	5.1	86.725
260	05/31	05 54	20.5	45.383 S	167.086 E	South Island, New Zealand	23	5.8	6.3	59.501
261	05/31	16 51	05.0	27.998 S	66.601 W	Catamarca Province, Argentina	168	4.5		69.623
262	06/01	06 20	19.0	0.500 N	100.112 E	Northern Sumatera	177	5.0		80.333

263	06/01	07 25	06.4	52.004 S	159.679 E	Macquarise Islands Region	10	5.2	4.8	51.548
264	06/01	12 18	50.3	36.790 S	95.830 W	West Chile Rise	10	4.9		69.409
265	06/01	13 24	58.7	2.201 S	123.046 E	Sulawesi	30	5.1	4.3	85.669
266	06/01	20 56	00.2	23.887 S	70.267 E	Near Coast of Northern Chile	44	5.2		74.632
267	06/02	11 02	19.8	19.068 S	168.833 E	Vanuatu Islands	100	5.3		84.993
268	06/05	16 23	40.4	12.002 S	14.563 E	Angola	10	5.1	4.2	59.199
269	06/06	13 17	55.2	30.585 S	178.337 W	Kermadec Islands	242	5.0		76.848
270	06/07	21 47	35.0	5.632 S	125.732 E	Mindanao, Philippine Islands	170	5.1		93.897
271	06/08	01 24	56.7	14.678 S	167.215 E	Vanuatu Islands	132	5.1		88.748
272	06/08	06 24	09.6	6.837 N	37.878 E	Etiopia	19	5.0	4.8	75.731
273	06/08	09 51	56.8	19.531 S	173.736 W	Tonga Islands	23	5.5	5.4	88.489
274	06/09	15 34	11.6	7.865 S	117.517 E	Bali Sea	245	5.8		78.440
275	06/11	12 21	49.7	51.750 S	158.850 E	North of Macquarie Islands	10	5.2	5.1	51.577
276	06/12	00 04	09.7	21.861 N	89.763 E	Bangladesh	6	6.1	5.1	97.610
277	06/12	05 47	35.7	15.283 S	167.572 E	Vanuatu Islands	247	5.4		88.269
278	06/12	13 11	51.5	30.169 S	178.918 W	Kermadec Islands	82	5.6		77.138
279	06/12	18 21	03.3	22.554 S	175.826 W	Tonga Islands Region	71	5.5		85.147

280	06/13	17 49 40.5	3.670 S	140.139 E	West Irian	71	5.4		90.421
281	06/13	22 59 33.4	43.342 S	38.969 E	Prince Edward Islands Region	10	5.0	5.0	25.738
282	06/15	12 10 17.7	23.840 S	179.790 W	South of Fiji Islands	558	4.7		83.100
283	06/16	02 12 53.4	10.379 S	119.530 E	Sumba Island Region	33	5.1		76.828
284	06/16	10 51 21.5	57.755 N	153.992 W	Kodiak Island Region	58	5.8		167.316
285	06/16	22 16 11.5	47.458 S	100.032 E	Southeast Indian Rise	10	4.8		36.344
286	06/16	22 39 20.4	47.448 S	100.080 E	Southeast Indian Rise	10	5.3		36.369
287	06/17	14 57 48.4	31.419 S	67.550 W	San Juan Province, Argentina	28	5.3	4.5	66.762
288	06/17	15 30 02.4	31.505 S	179.951 W	Kermadec Islands Region	284	4.2		75.636
289	06/17	18 28 08.6	40.494 S	74.674 W	Off Coast of Southern Chile	33	5.6	5.0	60.533
290	06/17	20 47 14.6	1.437 S	24.169 W	Central Mid-Atlantic Ridge	10	5.1		79.449
291	06/18	04 54 42.8	18.211 S	177.911 W	Fiji Islands Region	424	4.6		88.954
292	06/19	13 00 40.6	13.157 S	167.128 E	Vanuatu Islands	239	5.0		90.174
293	06/19	16 00 47.9	22.113 S	67.559 W	Chile-Bolivia Border Region	189	5.5		75.403
294	06/19	20 16 10.5	55.672 S	28.247 W	South Sandwich Islands Region	33	5.6	5.1	32.143

295	06/20	05 41 43.5	52.334 N	174.784 E	Near Islands, Aleutian Islands	48	5.2	4.3	153.191
296	06/20	06 19 46.3	3.564 N	124.424 E	Celebes Sea	310	5.0		91.511
297	06/20	18 07 43.6	52.527 N	172.508 E	Near Islands, Aleutian Islands	33	5.2	4.6	152.765
298	06/20	23 40 38.8	3.867 S	86.993 E	South Indian Ocean	10	5.2	4.6	72.268
299	06/21	00 07 07.6	1.458 N	126.408 E	Molucca Passage	46	5.0	5.0	90.268
300	06/21	23 51 01.9	21.785 S	176.493 W	Fiji Islands Region	182	5.6		85.766
301	06/22	12 25 25.6	20.303 S	71.028 W	Off Coast of Northern Chile	33	4.5		78.223
302	06/22	19 51 48.5	27.171 S	71.369 W	Near Coast of Northern Chile	36	5.1		71.921
303	06/22	21 15 00.8	37.283 N	116.412 W	Southern Nevada	0	5.3	4.8	145.563
304	06/23	00 35 42.6	17.098 S	172.656 W	Tonga Islands Region	33	4.9	5.0	91.063
305	06/24	12 58 39.0	28.336 S	66.312 W	Catamarca Province, Argentina	22	5.4	5.2	69.216
306	06/25	06 35 53.1	18.633 S	178.167 W	Fiji Islands Region	487	4.8		88.512
307	06/25	12 30 05.9	6.113 S	149.062 E	New Britain Region	72	5.2		91.226
308	06/27	08 10 17.0	15.940 S	75.086 W	Near Coast of Peru	34	4.8	4.2	83.610
309	06/27	11 26 46.2	22.594 S	175.448 W	Tonga Islands Region	117	4.9		85.181
310	06/27	15 30 00.0	37.275 N	116.354 W	Southern Nevada	0	4.9		145.544

311	06/28	21 24 12.4	57.788 S	147.449 W	South Pacific Cordillera	10	5.5	5.7	53.331
312	06/28	22 11 58.9	6.223 S	148.814 E	New Britain Region	50	5.4		91.040
313	06/28	23 44 51.3	7.604 S	127.342 E	Banda Sea	173	5.3		82.203
314	06/29	00 18 39.8	22.960 S	175.319 W	Tonga Islands Region	35	5.2		84.848
315	06/29	03 57 33.1	6.289 S	154.817 E	Solomon Islands	82	5.3		92.962
316	06/30	01 16 07.7	18.910 S	175.801 W	Tonga Islands	273	5.0		88.700
317	06/30	01 34 31.9	6.759 S	130.517 E	Banda Sea	107	5.1		84.126
318	07/01	03 59 14.4	6.447 S	147.861 E	East Papua New Guinea Region	44	5.3	5.0	90.508
319	07/01	20 52 35.4	26.164 S	70.600 W	Near Coast of Northern Chile	46	5.0		72.616
320	07/03	08 36 58.3	18.075 S	178.621 W	Fiji Islands Region	637	4.6		88.937
321	07/03	17 02 32.7	53.187 S	160.168 E	Macquarie Islands Region	33	4.9	6.4	50.579
322	07/03	17 09 55.8	51.617 N	175.208 W	Andreanof Islands, Aleutian	33	5.7	5.7	156.117
323	07/04	16 57 46.3	30.260 S	177.119 W	Kermadec Islands	33	4.7		77.399
324	07/06	04 28 50.8	52.130 S	159.340 E	Macquarie Islands Region	10	4.7	4.2	51.349
325	07/06	17 25 29.4	16.632 S	177.365 W	Fiji Islands Region	23	5.3	5.5	90.600
326	07/06	20 22 53.2	8.014 N	126.786 E	Mindanao, Philippine Isladns	60	5.3	4.5	96.483
327	07/07	12 27 51.0	36.265 S	99.250 W	Southern Pacific Ocean	10	5.2	5.0	70.634

328	07/07	19 14 58.6	8.019 S	127.749 E	Timor	33	4.7		81.965
329	07/07	19 41 18.8	4.823 S	128.973 E	Banda Sea	34	5.5	4.8	85.366
330	07/07	23 29 37.2	13.592 S	166.586 E	Vanuatu Islands	95	5.1		89.609
331	07/08	00 48 09.7	17.720 S	172.945 W	Tonga Islands Region	41	5.1	5.0	90.403
332	07/08	09 31 57.1	52.841 N	159.859 E	Off East Coast of kamchatka	31	5.5	4.2	148.506
333	07/08	10 33 07.8	1.162 N	121.476 E	Minahassa Peninsula	41	5.5	5.1	88.229
334	07/09	09 46 39.6	1.577 S	15.548 W	North pf Ascension Island	10	5.4	5.4	76.597
335	07/09	10 51 07.9	52.437 S	159.270 E	Macquarie Islands	33	4.9	4.8	51.050
336	07/09	17 46 27.1	57.078 S	23.956 W	South Sandwich Islands Region	33	5.2	4.7	29.535
337	07/10	01 07 45.0	20.840 S	178.610 W	Fiji Islands Region	633	4.6		86.256
338	07/10	14 55 25.4	7.383 S	129.370 E	Banda Sea	140	4.5		83.136
339	07/11	01 52 01.9	22.984 S	175.244 W	Tonga Islands Region	38	4.9	4.7	84.839
340	07/12	17 36 49.6	7.786 S	122.902 E	Flores Sea	259	5.2		80.439
341	07/12	18 43 14.9	19.215 S	177.705 W	Fiji Islands Region	564	5.0		88.021
342	07/13	02 02 22.9	13.259 S	167.110 E	Vanuatu Islands	202	5.3		90.072
343	07/13	18 06 28.4	3.669 N	127.992 E	Talau Islands	106	4.9		92.887
344	07/13	22 32 48.0	24.380 S	179.720 E	South of Fiji Islands	539	4.6		82.474

345	07/14	15 43 18.1	1.472 S	15.546 W	Nouth of Ascension Island	10	5.4	5.3	76.696
346	07/14	20 42 40.0	8.081 S	125.129 E	Timor	10	6.4	6.2	80.965
347	07/15	07 28 36.7	8.143 S	125.155 E	Timor	33	4.3		80.917
348	07/15	11 06 08.8	3.401 S	34.444 E	Cake Victoria Region	10	4.8		65.634
349	07/15	18 48 57.8	35.320 S	78.600 E	Mid-Indian Rise	10	4.9		40.071
350	07/16	22 10 54.5	30.389 S	178.616 W	Kermadec Islands	115	5.2		76.984
351	07/17	15 09 27.9	55.695 S	26.535 W	South Sandwich Islands Region	33	5.1	5.2	31.518
352	07/18	07 24 28.3	7.311 S	128.427 E	Banda Sea	143	4.5		82.864
353	07/18	09 27 37.4	76.850 N	12.972 E	Svalbard Region	10	4.7		146.628
354	07/18	10 41 14.5	53.384 N	160.376 E	Near East Coast of Kamchatk	33	5.4	4.8	149.129
355	07/19	23 52 39.4	17.569 S	168.683 E	Vanuatu Islands	41	5.2		86.386
356	07/19	00 27 51.7	40.920 S	74.960 W	Off Coast of Southern Chile	33			60.220
357	07/20	04 41 59.2	4.433 N	126.671 E	Talud Islands	64	5.4		93.122
358	07/20	06 27 25.1	5.048 N	95.635 E	Norhtern Sumatera	82	5.9		83.247
359	07/20	12 09 53.3	18.870 S	175.528 W	Tonga Islands	241	5.4		88.792
360	07/20	12 25 42.7	37.110 S	52.350 E	South Indian Ocean	10	4.6		32.754
361	07/20	17 22 21.2	17.410 S	167.829 E	Vanuatu Islands	33	5.1	4.9	86.309

362	07/21	03 19 50.4	26.610 S	178.215 E	South of Fiji Islands	633	4.9		79.994
363	07/22	05 02 11.5	2.299 N	128.142 E	Halmahera	142	6.4		91.671
364	07/22	12 52 50.4	54.412 S	132.680 W	South Pacific Cordillera	10	5.3	5.6	56.680
365	07/22	21 35 53.6	66.10 S	79.99 W	Southern Pacific Ocean	10	5.1	4.3	38.678
366	07/23	03 23 04.8	33.164 S	70.284 W	Chile-Argentina Border Region	102	4.7		66.009
367	07/23	11 26 39.0	7.444 S	126.204 E	Banda Sea	33	4.8		81.942
368	07/23	11 50 37.3	23.737 S	179.927 W	South of Fiji Isladns	573	4.8		83.171
369	07/24	01 36 40.6	7.524 S	76.320 W	Norhtern Peru	140	4.8		91.914
370	07/24	10 03 45.8	18.874 S	176.789 E	Fiji Islands Region	31	5.6	5.4	87.150
371	07/24	10 11 24.2	18.823 S	176.674 E	Fiji Islands Region	33	5.3	5.5	87.173
372	07/24	10 53 10.5	18.880 S	176.811 E	Fiji Islands Region	20	5.5	5.4	87.149
373	07/24	11 58 35.9	45.222 S	166.936 E	Off West Coast of Southern Islands, New Zealand	33	4.8	4.2	59.619
374	07/25	20 43 32.8	6.252 S	145.537 E	Papua New Guinea	127	4.4		89.897
375	07/25	21 39 36.3	4.507 N	126.028 E	Talaud Islands	186	5.1		92.960
376	07/25	21 54 23.1	7.191 S	122.715 E	Flores Sea	620	5.6		80.923
377	07/25	22 16 12.8	32.099 S	178.134 W	South of Kermadec Islands	33	5.3	4.9	75.417

378	07/26	13 59 49.0	20.715 S	169.219 E	Vanuatu Islands	30	4.9	4.9	83.520
379	07/27	21 44 35.6	32.300 S	177.930 W	South of Kermadec Islands	33	4.6		75.261
380	07/29	14 55 48.9	22.550 S	66.020 W	Jujuy Province, Argentina	250	4.6		74.488
381	07/29	16 57 05.3	4.441 S	144.027 E	Near North Coast of Papua New Guinea	106	5.4		91.064
382	07/30	09 29 16.0	52.602 S	12.927 E	Southwest of Africa	10	5.6	5.7	20.594
383	07/30	10 55 37.0	7.322 S	107.081 E	Java	33	4.9		75.299
384	07/30	14 04 48.9	8.624 S	121.377 E	Flores Island Region	141	4.3		79.115
385	07/30	19 14 37.3	4.695 N	95.907 E	Norhtern Sumatera	23	5.2	4.8	82.994
386	07/30	19 36 18.1	5.006 S	130.943 E	Banda Sea	57	5.3	4.9	85.904
387	07/30	20 29 05.3	7.663 S	130.711 E	Tanimbar Islands Region	33	5.0	4.6	83.358
388	07/30	21 09 45.8	7.661 S	130.652 E	Tanimbar Islands Region	33	4.8		83.339
389	07/31	13 40 35.1	20.819 S	174.195 W	Tonga Islands	33	5.0		87.147
390	07/31	17 07 27.8	8.048 S	121.384 E	Flores Island Region	14	6.3	6.2	79.651
391	07/31	21 29 12.4	15.797 S	167.618 E	Vanuatu Islands	138	5.1		87.791
392	08/01	00 18 04.8	4.511 S	139.022 E	West Irian	14	6.0	5.8	89.245
393	08/01	05 24 51.7	11.618 S	164.686 E	Santa Cruz Islands Region	33	5.6	5.3	90.950
394	08/01	15 03 53.4	21.952 S	170.568 E	Loyalty Islands Region	61	5.3		82.683

395	08/01	22 24	08.3	33.490 S	179.540 W	South of Kermadec Islands	66	4.8		73.793
396	08/02	03 37	28.0	2.686 S	127.312 E	Ceram Sea	29	5.6	5.0	86.750
397	08/02	11 11	47.7	33.630 S	179.440 W	South of Kermadec Islands	79	4.8		73.677
398	08/02	12 24	42.9	33.550 S	179.120 W	South of Kermadec Islands	62	4.8		73.817
399	08/03	02 24	20.4	1.009 N	126.100 E	Molucca Passage	66	5.3		89.741
400	08/03	05 04	55.3	18.899 S	168.590 E	Vanuatu Islands	51	4.9		85.090
401	08/03	11 07	17.9	59.994 S	26.680 W	South Sandwich Islands Region	33	5.7	5.7	28.320
402	08/03	14 38	05.4	28.366 S	178.334 W	Kermadec Islands Region	33	4.8		79.005
403	08/03	14 56	27.2	25.087 S	87.755 E	South Indian Ocean	10	5.1		52.383
404	08/03	16 38	28.0	2.225 N	126.779 E	Molucca Passage	88	5.0		91.113
405	08/03	22 25	55.4	22.531 S	179.129 E	South of Fiji Islands	592	5.5		84.138
406	08/04	05 38	06.8	6.839 S	106.128 E	Java	33	5.0	5.2	75.426
407	08/04	18 15	25.3	7.493 S	127.878 E	Banda Sea	145	4.8		82.498
408	08/05	04 48	52.7	35.040 S	16.150 W	South Atlantic Ridge	10	4.6	4.7	45.542
409	08/05	09 54	13.1	29.949 S	177.680 W	Kermadec Islands	49	5.1		77.594
410	08/06	06 36	29.1	1.883 N	128.251 E	Halmahera	114	5.7		91.324
411	08/06	07 43	39.1	1.093 N	126.307 E	Molucca Passage	50	5.3	5.0	89.893

412	08/06	08 19 56.1	23.157 S	68.321 W	Northern Chile	115	5.3		74.682
413	08/06	19 43 18.2	31.684 S	70.891 W	Chile-Argentina Border Region	101	5.0		67.571
414	08/07	07 50 34.5	20.909 S	178.919 W	Fiji Islands Region	586	4.9		86.125
415	08/07	08 36 59.8	24.442 S	66.978 W	Salta Province, Argentina	174	4.8		73.046
416	08/07	23 07 39.1	29.430 S	178.570 W	Kermadec Islands	205	4.9		77.925
417	08/08	07 59 06.1	40.121 S	174.330 E	Cook Strait, New Zealand	122	5.5		66.134
418	08/08	19 35 28.7	48.640 S	123.960 E	South of Australia	10	5.0		43.832
419	08/08	20 17 57.5	11.592 S	14.214 W	Ascension Island Region	10	5.0	5.0	66.718
420	08/08	23 44 04.4	22.723 S	68.478 W	Northern Chile	102	5.3		75.137
421	08/09	03 48 30.8	25.337 S	177.398 W	South of Fiji Islands	214	4.6		82.133
422	08/10	01 55 57.2	5.898 N	124.424 E	Mindanao, Philippine Islands	56	5.4	5.7	93.676
423	08/10	10 44 36.8	61.895 S	154.623 E	Balleny Islands Region	10	5.2	5.6	41.427
424	08/10	11 46 28.7	5.977 N	124.379 E	Mindanao, Philippine Islands	44	5.4	5.2	93.733
425	08/11	20 58 42.4	7.237 S	122.689 E	Flores Sea	632	5.4		80.871
426	08/12	00 40 10.7	0.800 N	126.817 E	Molucca Passage	51	5.7		89.805
427	08/12	16 46 43.3	8.682 N	125.718 E	Mindanao, Philippine Island	55	5.9		96.720
428	08/12	17 18 36.9	7.259 S	12.700 W	Ascension Island Region	10	4.9		70.356

429	08/12	20 46	40.6	20.502 S	173.929 W	Tonga Islands	38	5.3	5.3	87.506
430	08/13	09 34	08.1	18.471 S	70.306 W	Near Coast of Northern Chile	97	4.4		79.701
431	08/13	20 47	52.0	25.073 S	71.323 W	Off Coast of Northern Chile	33	4.6		73.863
432	08/14	17 51	08.7	19.016 S	176.652 E	South of Fiji Islands	33	5.8	5.9	86.981
433	08/15	00 46	22.4	21.880 S	175.150 W	Tonga Islands	39	5.0	5.1	85.933
434	08/15	07 53	57.9	21.974 S	175.042 W	Tonga Islands	33	5.1		85.862
435	08/15	10 04	22.3	38.307 S	93.822 W	West Chile Rise	10	5.4	5.3	67.511
436	08/15	14 30	31.6	7.284 S	128.665 E	Banda Sea	86	4.8		82.975
437	08/15	21 23	53.8	5.109 N	125.331 E	Mindanao, Philippine Islands	193	5.1		93.269
438	08/17	05 10	28.0	5.314 S	102.779 E	Southern Sumatera	42	4.9	4.7	75.733
439	08/17	11 03	10.6	17.701 S	167.187 E	Vanuatu Islands	10	5.2	4.8	85.858
440	08/18	00 14	32.5	0.709 N	126.221 E	Molucca Passage	59	5.0		89.506
441	08/18	03 46	26.0	55.053 S	27.846 W	South Sandwich Islands Region	33	5.6	5.5	32.489
442	08/19	06 37	57.4	31.195 S	177.520 W	Kermadec Islands Region	33	5.0		76.413
443	08/19	11 33	35.7	33.138 S	179.579 W	South of Kermadec Islands	33	4.6		74.127
444	08/19	12 27	55.6	62.692 S	158.732 W	South Pacific Cordillera	10	5.1		47.870
445	08/19	13 19	20.2	6.507 S	130.028 E	Banda Sea	165	5.7		84.184

446	08/19	17 29 55.9	27.641 S	67.486 W	Catamarca Province, Argentina	161	4.8		70.242
447	08/19	23 38 06.1	23.152 S	66.570 W	Jujuy Province, Argentina	225	4.0		74.111
448	08/20	06 21 45.8	23.372 S	70.967 W	Near Coast of Northern Chile	60	4.7		75.337
449	08/20	11 16 56.5	11.766 N	41.942 E	Ethiopia	12	5.8	6.3	80.642
450	08/20	11 46 28.0	11.884 N	41.812 E	Ethiopia	10	6.1	5.6	80.758
451	08/20	11 56 17.8	11.764 N	41.964 E	Ethiopia	10	5.3		80.641
452	08/20	13 25 26.0	11.898 N	41.884 E	Ethiopia	10	5.2		80.773
453	08/20	13 26 19.4	11.880 N	41.880 E	Ethiopia	10	5.3	6.1	80.755
454	08/20	18 39 48.8	11.985 N	41.870 E	Ethiopia	10	5.4		80.859
455	08/20	19 25 56.5	11.904 N	41.824 E	Ethiopia	12	6.2	5.7	80.778
456	08/20	20 03 38.6	23.520 S	179.710 W	South of Fiji Islands	572	4.6		83.427
457	08/21	01 09 06.6	11.874 N	41.870 E	Ethiopia	16	6.3	6.2	80.749
458	08/21	05 03 05.6	11.942 N	41.769 E	Ethiopia	10	5.8	5.7	80.815
459	08/21	18 25 41.0	4.104 S	154.459 E	Solomon Islands	494	5.8		94.899
460	08/21	20 53 08.0	32.399 S	14.081 W	South Atlantic Ridge	10	4.6	4.4	47.257
461	08/25	15 37 53.8	0.501 S	123.593 E	Minahassa Peninsula	95	4.5		87.442
462	08/26	04 18 54.7	55.880 S	27.400 W	South Sandwich Islands Region	33	4.9		31.680

463	08/26	11 54 02.1	27.290 S	176.430 W	Kermadec Islands Region	33	4.6		80.420
464	08/26	20 10 36.1	21.960 S	68.423 W	Chile-Bolivia Border	114	5.1		75.830
465	08/27	06 47 32.7	21.853 S	179.369 W	Fiji Islands Region	616	4.6		85.115
466	08/28	00 55 22.4	3.197 S	130.446 E	Ceram	35	4.8		87.403
467	08/28	08 14 30.0	17.854 S	69.823 W	Peru-Bolivia Boader Region	140	4.2		80.119
468	08/28	14 57 17.6	24.049 S	179.697 W	South of Fiji Islands	561	4.7		82.917
469	08/29	10 06 59.5	21.918 S	67.502 W	Chile-Bolivia Border	182			75.566
470	08/29	18 01 45.2	29.219 S	177.374 W	Kermadec Islands	157	4.6		78.363
471	08/30	03 06 55.1	54.597 N	162.793 E	Near East Coast of Kamchatka	31	5.5	5.2	150.966
472	08/30	06 05 06.8	51.355 N	157.960 E	Near East coast of Kamchatka	52	5.0		146.611
473	08/30	08 02 03.8	31.030 S	177.530 W	Kermadec Islands Region	83	4.9		76.572
474	08/30	11 16 20.4	15.160 S	167.526 E	Vanuatu Islands	125	4.4		88.374
475	08/30	11 19 03.4	18.580 S	178.010 W	Fiji Isladns Region	609	4.6		88.575
476	08/30	11 38 12.7	55.609 N	161.358 E	Near East Coast of Kamcahtka	73	5.8		151.242
477	08/30	16 25 29.7	5.625 N	127.186 E	Philippine Islands Region	93	5.1		94.412
478	08/31	02 10 58.9	24.127 S	66.981 W	Salta Province, Argentina	190	4.6		73.340
479	08/31	08 17 22.5	41.850 S	71.678 W	South Chile-Argentina Border Region	154	5.4		58.410

480	08/31	13 48 36.2	7.495 S	128.193 E	Banda Sea	144	4.5		82.610
481	09/01	05 14 18.2	30.871 S	177.949 W	Kermadec Isladns	119	4.9		76.646
482	09/01	10 48 32.3	20.550 S	69.108 W	Northern Chile	106	4.9		77.368
483	09/01	11 57 22.5	6.699 S	108.426 E	Java	222	5.3		76.341
484	09/01	14 42 22.2	28.012 S	70.134 W	Central Chile	95	5.0		70.747
485	09/01	19 02 07.5	19.053 S	169.478 E	Vanuatu Islands	264	4.9		85.177
486	09/02	00 50 32.6	10.637 S	161.391 E	Solomon Islands	31	4.6		90.912
487	09/02	06 48 37.0	12.950 S	65.900 E	Mid-Indian Rise	10	4.7		58.559
488	09/02	14 20 59.0	17.819 S	178.549 W	Fiji Isladns Region	613	5.3		89.201
489	09/02	16 53 26.7	4.242 S	152.942 E	New Britain Region	44	5.4	5.3	94.272
490	09/03	08 36 32.3	4.527 S	139.084 E	West Irian	10	5.1	4.6	89.252
491	09/03	19 01 25.9	9.013 S	116.045 E	Sumbawa Island Region	33	4.9		76.852
492	09/03	20 52 15.5	37.953 S	177.820 E	Off East Coast of Northern Island, New Zealand	60	5.2		68.947
493	09/03	23 53 01.0	24.138 S	66.906 W	Salta Province, Argentina	227			73.305
494	09/04	05 20 55.9	4.219 S	136.667 E	West Irian Region	9	5.8	6.0	88.681
495	09/04	07 18 32.8	33.329 S	178.805 W	South of Kermadec Islands	33	5.3		74.093
496	09/04	08 31 29.7	33.172 S	179.272 W	South of Kermadec Islands	33			74.154

497	09/04	13 14	58.2	55.543 N	156.835 W	South of Alaska	11	6.5	6.9	164.649
498	09/04	14 57	28.1	33.262 S	178.689 W	South of Kermadec Islands	42	5.4		74.180
499	09/05	05 51	55.2	4.260 N	127.408 E	Talau Islands	42	5.6	5.0	93.226
500	09/05	19 49	03.8	52.810 S	140.316 E	West of Macquarie Island	10	5.3	5.4	45.520
501	09/06	09 10	39.2	36.087 S	103.171 W	Southern Pacific Ocean	10	5.0	5.4	71.571
502	09/06	11 23	37.8	3.913 S	125.119 E	Ceram Sea	10	4.9		84.824
503	09/06	14 45	51.0	0.976 N	126.106 E	Molucca Passage	37	5.8	5.0	89.713
504	09/07	10 25	45.7	23.168 S	175.861 W	Tonga Islands Region	33	5.1	4.6	84.542.
505	09/07	13 20	35.8	18.836 S	168.421 E	Vanuatu Islands	49	4.8		85.104
506	09/07	13 32	00.0	30.197 S	177.960 W	Kermadec Islands	33	5.7	5.4	77.299
507	09/07	20 02	05.0	24.001 S	179.799 W	South of Fiji Islands	491	5.1		82.942
508	09/08	03 05	34.6	5.933 N	125.793 E	Mindanao, Philippine Isladns	175	5.1		94.198
509	09/08	06 15	05.6	52.766 S	9.851 E	Southwest of Africa	10	5.3	5.6	21.333
510	09/08	08 25	39.8	30.178 S	177.844 W	Kermadec Islands	47	5.3	5.2	77.340
511	09/08	13 46	18.7	19.915 S	177.575 W	Fiji Islands Region	359	5.0		87.368
512	09/09	01 40	35.7	2.435 N	79.761 W	South of Panama	7	6.0	5.0	102.390
513	09/09	10 38	06.9	51.310 N	175.805 W	Andreanof Islands, Aleutian	33	5.3	5.2	155.662

514	09/09	22 47 49.5	23.023 S	66.019 W	Jujuy Province, Argentina	255	4.6		74.048
515	09/12	08 55 57.9	9.017 S	110.503 E	South of Java	33	5.1	5.3	74.899
516	09/12	15 29 15.4	9.011 S	110.521 E	South of Java	48	5.1	5.1	74.911
517	09/13	03 31 35.9	19.009 S	174.921 W	Tonga Islands	122	5.6		88.775
518	09/13	06 21 43.1	30.230 S	178.390 W	Kermadec Islands	33	4.9		77.183
519	09/13	11 40 46.0	35.577 S	17.063 W	South of Atlantic Ridge	12	5.6	6.2	45.368
520	09/13	20 46 05.3	35.460 S	17.130 W	South of Atlantic Ridge	10	4.9		45.497
521	09/13	22 08 07.1	44.900 S	15.450 W	South of Atlantic Ridge	10	4.5	4.5	36.506
522	09/14	04 42 39.8	26.141 S	70.746 W	Near Coast of Northern Chile	33	5.3	5.2	72.684
523	09/14	04 48 20.0	28.879 S	178.452 W	Kermadec Islands Region	272	4.9		78.483
524	09/14	09 23 56.1	22.741 S	179.287 E	South of Fiji Islands	541	4.8		83.969
525	09/14	16 29 12.1	29.460 S	71.119 W	Near Coast Central Chile	33			69.710
526	09/14	19 10 25.7	1.644 N	127.322 E	Halmahera	103	6.0		90.769
527	09/15	01 15 43.6	15.190 S	167.220 E	Vanuatu Islands	148	4.6		88.261
528	09/15	08 49 55.4	19.329 S	175.800 W	Tonga Islands	145	5.5		88.292
529	09/15	09 30 25.7	7.439 S	156.216 E	Solomon Islands	33	4.8		92.329
530	09/15	18 34 12.9	53.232 N	159.719 E	Near East Coast of Kamchatka	51	5.6		98.110

531	09/16	04	03	03.1	32.561 S	14.251 W	South Atlantic Ridge	10	5.7	5.8	47.165
532	09/16	05	49	25.7	12.708 S	66.386 E	Mid-Indian Rise	10	5.0		58.885
533	09/17	01	52	35.0	23.600 S	175.820 W	Tonga Islands Region	33	4.8		84.130
534	09/17	05	48	01.8	61.435 S	153.988 E	Balleny Islands Region	10	5.5	5.9	41.681
535	09/18	05	42	37.1	30.947 S	177.678 W	Kermadec Islands	103	4.7		76.624
536	09/18	07	43	06.8	0.968 N	126.144 E	Molucca Passage	25	4.9	4.7	89.719
537	09/19	04	08	57.1	4.164 S	128.986 E	Banda Sea	146	5.0		85.982
538	09/19	05	45	02.9	52.289 S	160.022 E	Macquarie Islands Region	10	4.4	4.7	51.370
539	09/19	06	47	16.0	20.700 S	169.362 E	Vanuatu Islands	34	4.8		83.571
540	09/19	08	32	25.4	31.467 S	67.488 W	San Juan Province, Argentina	44	4.8		66.698
541	09/19	09	46	30.3	21.250 S	179.020 W	Fiji Islands Region	597	4.8		85.773
542	09/19	16	47	34.7	5.527 S	153.620 E	New Ireland Region	54	5.4		93.288
543	09/20	10	32	01.9	23.360 S	66.530 W	Jujuy Province Argentina	180	4.4		73.904
544	09/20	13	19	31.9	51.184 N	178.821 E	Rat Island, Aleutian Islands	33	5.5	5.8	153.806
545	09/22	15	43	39.2	16.618 S	69.487 W	Peru-Bolivia Border Region	210	4.6		80.883
546	09/22	21	23	54.7	5.345 S	129.833 E	Banda Sea	234	4.9		85.191
547	09/24	01	30	41.6	29.560 S	178.020 W	Kermadec Islands	197	4.4		77.906

548	09/24	10 53 54.2	9.977 N	59.851 W	North Atlantic Ocean	47	5.1	4.5	102.578
549	09/24	10 55 20.9	20.697 N	94.968 E	Burma	134	5.3		97.906
550	09/24	22 09 49.2	25.370 S	178.380 E	South of Fiji Islands	571	5.0		81.229
551	09/25	14 17 47.0	20.355 S	169.277 E	Vanuatu Islands	34	6.1	6.3	83.870
552	09/25	18 47 17.9	35.063 S	178.861 E	Off East Coast of Northern Islands, New Zealand	191	5.3		71.951
553	09/26	02 24 12.4	31.394 S	178.521 W	Kermadec Islands Region	33	5.4		76.027
554	09/26	04 40 50.4	30.232 S	68.436 W	San Juan Province, Argentina	57	4.4		68.145
555	09/26	05 53 11.6	24.058 S	179.847 W	South of Fiji Islands	536	4.8		82.877
556	09/26	21 24 56.8	50.057 S	114.151 E	South of Australia	10	5.2	5.2	39.210
557	09/27	12 34 09.1	34.880 S	179.130 E	South of Kernadec Islands	194	4.6		72.182
558	09/27	23 46 06.7	23.194 S	66.631 W	Jujuy Province, Argentina	221	4.6		74.092
559	09/28	05 16 03.1	24.631 S	179.789 E	South of Fiji Isladns	550	4.9		82.245
560	09/29	14 41 25.1	23.052 S	65.666 W	Jujuy Province, Argentina	290	4.5		73.903
561	09/29	19 24 44.0	15.860 S	98.038 E	South Indian Ocean	10	5.4	4.8	64.294
562	09/30	04 16 45.5	6.173 S	149.815 E	New Britain Region	51	5.1	4.9	91.423
563	10/02	07 55 40.6	10.531 N	126.918 E	Philippine Islands Region	25	5.4	4.5	98.862
564	10/03	02 15 32.5	41.210 S	174.562 E	Cook Strait, New Zealand	45	4.7	4.1	65.137

565	10/03	05 13	53.7	7.084 S	146.049 E	East Papua New Guinea Region	185	5.2		89.296
566	10/03	15 21	44.0	5.548 S	147.455 E	East Papua New Guinea Region	181	5.3		91.210
567	10/03	21 33	34.7	24.103 S	66.891 W	Salta Province, Argentina	155	5.4		73.333
568	10/04	06 46	13.7	23.807 S	179.949 E	South of Fiji Islands	525	5.0		83.077
569	10/04	07 31	37.6	6.756 S	131.088 E	Tanimbar Islands Region	33	4.6		84.334
570	10/05	13 13	48.1	22.362 S	70.237 W	Near Coast of Northern Chile	53	4.8		76.045
571	10/06	10 10	33.6	37.645 S	177.212 E	Off East Coast of Northern Island, New Zealand	195			69.120
572	10/07	01 25	03.6	78.841 N	4.402 N	Greenland Sea	10	5.0	4.1	149.135
573	10/07	06 55	41.2	20.095 S	169.023 E	Vanuatu Islands	39	5.5	5.7	84.061
574	10/07	15 48	29.0	51.314 N	179.028 W	Andreanof Islands, Aleutian	20	6.1	6.7	154.628
575	10/07	16 42	30.7	51.188 N	179.234 W	Andreanof Islands, Aleutian	33	5.7	5.9	154.452
576	10/07	17 42	36.4	51.137 N	179.221 W	Andreanof Islands, Aleutian Aleutian Islands	33	5.6	5.7	154.413
577	10/07	17 52	47.3	51.115 N	179.241 W	Andreanof Islands, Aleutian	33	5.5	5.6	154.388
578	10/07	18 50	40.8	51.076 N	179.306 W	Andreanof Islands, Aleutian	33	5.5	5.3	154.333
579	10/08	02 54	09.6	13.144 N	167.611 E	Vanuatu Islands	33	4.8		90.320
580	10/08	19 56	29.7	2.380 N	126.601 E	Molucca Passage	87	4.8		91.193

581	10/08 22 24 35.6	47.462 S	165.597 E	Off West Coast of Southern Island, New Zealand	45	5.0		57.195
582	10/09 08 10 20.4	20.818 S	179.445 W	Fiji Islands Region	649	4.9		86.103
583	10/09 18 01 07.8	51.780 N	171.869 E	Near Islands, Aleutian Islands	26	6.0	5.3	151.924
584	10/09 20 39 40.1	4.230 S	136.720 E	West Irian Region	33	5.2	4.5	88.690
585	10/10 06 04 45.0	70.333 S	114.992 W	Southern Pacific Ocean	10	5.3		39.764
586	10/10 06 45 38.1	9.112 S	113.201 E	Southern Java	49	5.2	4.2	75.755
587	10/12 06 29 41.3	6.908 S	127.755 E	Banda Sea	277	4.8		82.996
588	10/13 09 59 11.9	17.609 S	122.404 E	Western Australia	10	5.4	4.5	71.180
589	10/13 16 49 36.8	32.766 S	179.009 W	South of Kermadec Islands	101	5.5		74.600
590	10/13 19 33 19.4	51.925 N	176.003 E	Rat Islands, Aleutian Islands	33	4.9	4.5	153.478
591	10/13 20 12 36.2	30.433 S	177.919 W	Kermadec Isladns	58	5.4		77.077
592	10/13 21 53 17.0	16.010 S	173.330 W	Tonga Islands	127	5.4		92.000
593	10/14 01 55 45.3	3.359 S	152.085 E	New Ireland Region	400	5.3		94.816
594	10/14 02 32 01.2	24.256 S	179.906 W	South of Fiji Islands	511	5.4		82.660
595	10/15 10 05 04.7	60.320 S	150.091 E	West of Macquarie Island	10	5.2	5.8	41.701
596	10/16 08 14 56.6	34.856 S	179.786 W	South of Kermadec Islands	57	5.1		72.420

597	10/16 12 02 40.3	21.270 S	179.400 W	Fiji Islands Region	631	4.6		85.674
598	10/16 14 45 37.5	22.297 S	171.432 E	Loyalty Islands Region	89	5.1		82.569
599	10/16 18 13 46.2	7.974 S	118.969 E	Flores Sea	33	5.0		78.856
600	10/17 16 27 52.9	4.035 S	152.407 E	New Britain Region	26	5.6	5.8	94.289
601	10/18 00 04 15.2	37.036 N	121.883 W	Central California	19	6.5	7.1	146.349
602	10/18 11 40 50.2	10.155 S	161.063 E	Solomon Islands	45	6.1	5.7	91.269
603	10/18 12 35 16.9	10.183 S	161.113 E	Solomon Islands	69	5.4		91.258
604	10/18 18 41 24.3	2.086 N	126.579 E	Molucca Passage	53	5.2	4.8	90.912
605	10/18 22 36 18.3	28.460 S	62.840 E	Atlantic-Indian Rise	10	4.8		42.855
606	10/18 23 43 01.2	21.089 S	11.529 W	South Atlantic Ridge	10	4.8	4.6	56.945
607	10/19 06 06 10.0	49.350 S	126.176 E	South of Australia	10	5.1	4.9	43.977
608	10/19 18 36 41.3	54.700 S	129.440 W	South Pacific Cordillera	10	5.0	5.3	56.257
609	10/20 03 43 13.1	0.573 N	121.435 E	Minahassa Peninsula	103	5.4		87.668
610	10/20 07 43 34.5	0.024 S	123.156 E	Minahassa Peninsula	153	5.4		87.728
611	10/21 03 29 34.0	5.272 S	68.542 E	Chagos Archipelago Region	10	5.1	5.2	66.547
612	10/21 09 23 53.7	21.729 S	178.861 W	Fiji Islands Region	555	4.7		85.342
613	10/21 12 44 59.7	5.443 S	131.055 E	Banda Sea	33	5.3		85.539

614	10/21	21 17 23.7	14.817 S	101.756 E	South Indian Ocean	10	4.9	4.4	66.502
615	10/22	13 24 15.0	4.675 S	153.240 E	New Ireland Region	67	5.4		93.964
616	10/22	20 35 40.8	7.358 S	128.598 E	Banda Sea	156	5.4		82.882
617	10/22	21 28 49.3	20.466 S	70.748 W	Near Coast of Northern Chile	52	4.6		77.981
618	10/23	01 32 41.8	21.740 S	69.327 W	Northern Chile	171			76.330
619	10/23	03 30 41.9	30.875 S	65.441 W	Cordoba Province, Argentina	170	5.2		66.584
620	10/23	13 08 25.6	25.645 S	179.809 E	South of Fiji Islands	441	5.7		81.267
621	10/23	23 41 26.3	27.916 S	66.856 W	Catamarca Province, Argentina	168	5.4		69.782
622	10/25	06 46 42.7	7.151 S	113.247 E	Java	41	5.0	4.4	77.594
623	10/25	17 30 51.6	20.936 S	67.307 W	Southern Bolivia	209	4.6		76.416
624	10/26	14 34 33.5	22.552 S	176.895 W	South of Fiji Islands	185	5.1		84.941
625	10/26	15 17 12.2	31.289 S	68.603 W	San Juan Province, Argentina	118	4.8		67.218
626	10/26	21 39 22.8	4.651 S	152.828 E	New Britain Region	74	5.4		93.850
627	10/27	01 47 46.7	26.233 S	177.877 W	South of Fiji Islands	174	5.1		81.167
628	10/27	04 39 30.6	20.893 S	173.968 W	Tonga Islands	33	5.1	5.3	87.117
629	10/27	07 42 21.7	59.652 S	26.033 W	South Sandwich Islands Region	33	5.0	4.2	28.343
630	10/27	21 04 51.8	11.022 S	162.350 E	Solomon Islands	25	6.1	7.0	90.833

631	10/28	05 36 10.3	21.798 S	68.916 W	Chile-Bolivia Border Region	150			76.142
632	10/28	15 41 38.2	21.831 S	69.130 W	Norhtern Chile	150			76.181
633	10/30	23 46 30.6	21.104 S	178.684 W	Fiji Islands Region	582	5.6		85.985
634	10/31	15 30 00.0	37.263 N	116.491 W	Southern Nevada	0	5.7		145.560
635	10/31	18 44 20.6	9.219 S	111.962 E	South of Java	33	5.3	5.2	75.221
636	10/31	19 35 00.4	9.306 S	112.050 E	South of Java	33	5.4	5.2	75.171
637	11/01	06 40 30.3	20.995 S	67.954 W	Southern Bolivia	140	5.9		76.574
638	11/01	09 49 26.6	2.492 N	128.140 E	Halmahera	37	5.5	5.1	91.849
639	11/01	11 29 59.0	11.009 S	162.208 E	Solomon Islands	33	5.8	5.3	90.803
640	11/01	11 46 59.7	10.949 S	162.130 E	Solomon Islands	50	5.0	5.5	90.837
641	11/01	13 59 04.9	21.090 S	179.290 W	Fiji Islands Region	627	4.5		85.315
642	11/02	10 12 20.8	22.210 S	68.426 W	Northern Chile	114	5.4		75.598
643	11/03	14 08 47.3	5.689 N	126.570 E	Mindanao, Philippine Islands	59	5.2		94.250
644	11/03	17 39 10.8	1.285 S	148.713 E	Admiralty Islands Region	17	5.7	5.7	95.620
645	11/04	04 24 56.6	29.150 S	178.640 W	Kermadec Islands	190	4.3		78.183
646	11/04	06 35 09.8	16.240 S	173.244 W	Tonga Isladns	33	5.3		91.792
647	11/04	08 13 16.0	24.045 S	66.670 W	Salta Province, Argentina	198	4.3		73.314

648	11/04	18	17	13.8	72.281 N	0.594 E	Norwegian Sea	10	5.3	5.3	143.417
649	11/05	14	54	58.5	21.300 S	69.100 W	Northern Chile	201			76.666
650	11/05	16	46	21.7	9.050 N	126.469 E	Mindanao, Philippine Islands	60	5.0		97.329
651	11/05	22	29	50.3	49.684 S	115.159 W	Easter Island Cordillera	10	5.2	5.7	60.072
652	11/06	20	52	21.2	11.315 S	162.435 E	Solomon Islands	39	5.5	6.0	90.580
653	11/07	19	29	23.4	24.260 S	178.360 E	South of Fiji Islands	663	5.0		82.981
654	11/08	11	23	02.2	23.711 S	67.755 W	Chile-Argentina Border Region	136	5.0		73.981
655	11/09	02	26	51.5	6.670 S	132.272 E	Tanimbar Islands Region	33	4.9		84.838
656	11/09	03	19	26.1	11.419 S	118.098 E	South of Sumbawa Island	37	5.3	4.5	75.353
657	11/09	04	15	50.9	15.282 S	72.548 W	Southern Peru	124	5.0		83.414
658	11/09	09	07	56.7	33.909 S	70.553 W	Chile-Argentina Border Region	96	5.0		65.402
659	11/09	19	49	59.7	52.173 S	161.091 E	Macquarie Islands Region	10	5.0	4.7	51.735
660	11/09	22	05	33.3	61.447 S	154.310 E	Balleny Islands Region	10	5.1	5.1	41.747
661	11/10	13	42	51.1	22.772 S	65.936 W	Jujuy Province, Argentina	266	5.3		74.302
662	11/10	15	23	49.1	3.430 N	126.752 E	Talau Islands	72	5.1		92.221
663	11/10	22	57	51.9	48.992 N	156.265 E	Kuril Islands Region	21	5.4	5.2	144.036
664	11/10	23	15	09.6	48.983 N	156.318 E	Kuril Islands Region	23	4.8		144.048

665	11/10	23 21	40.6	46.088 N	151.699 E	Kuril Islands Region	56	5.6	5.0	139.928
666	11/11	20 52	27.9	19.444 S	67.835 W	Southern Bolivia	216	4.2		77.980
667	11/12	10 20	45.7	21.866 S	68.576 W	Chile-Bolivia Border Region	148	4.7		75.967
668	11/12	11 17	56.0	31.114 S	13.455 W	South Atlantic Ridge	10	4.9	4.1	48.231
669	11/12	19 18	29.4	3.947 S	99.302 E	Southwest of Sumatera	33	5.0	4.4	75.887
670	11/13	12 08	30.9	21.581 S	170.462 E	Coyalty Islands Region	16	5.1		83.011
671	11/13	15 54	40.7	4.697 N	94.500 E	Off West Coast of Northern Sumatera	56	5.2	4.4	82.576
672	11/14	14 32	04.1	9.124 S	124.743 E	Timor	33	5.6	5.4	79.861
673	11/14	19 26	47.8	30.300 S	178.250 W	Kermadec Islands	175	5.2		77.142
674	11/15	19 19	57.6	52.204 S	160.031 E	Macquarie Islands Region	10	5.7	5.3	51.450
675	11/16	08 39	42.7	17.760 S	178.990 W	Fiji Islands Region	538	5.7		89.165
676	11/17	05 21	18.3	18.793 S	169.141 E	Vanuau Islands	221	4.9		85.337
677	11/18	20 09	39.3	0.138 S	125.238 E	Molucca Sea	67	5.1		88.368
678	11/18	20 14	28.6	9.288 N	126.388 E	Mindanao, Philippine Islands	33	5.1		97.521
679	11/19	03 57	13.0	11.343 S	118.021 E	South of Sumbawa	25	5.3	4.3	75.396
680	11/19	12 42	55.3	6.575 S	154.107 E	Solomon Islands	48	5.3	5.6	92.463
681	11/19	17 04	19.7	0.018 S	123.205 E	Minahassa Peninsula	145	4.8		87.751

682	11/20	11 54 08.0	23.716 S	179.994 E	South of Fiji Islands	521	5.0		83.175
683	11/20	18 42 14.2	24.220 S	67.099 W	Chile-Argentina Border Region	190	4.6		73.292
684	11/20	21 26 38.6	6.221 S	131.481 E	Tanimbar Islands Region	72	5.2		84.971
685	11/22	04 25 19.9	1.153 S	15.950 W	North of Ascension Island	10	4.8	4.7	77.120
686	11/22	23 27 09.2	7.294 S	128.726 E	Banda Sea	128	5.3		82.987
687	11/23	01 23 27.6	22.314 S	174.826 W	Tonga Islands Region	33	5.4	5.3	85.571
688	11/24	00 35 07.6	0.989 N	126.007 E	Molucca Passage	26	5.7	5.1	89.689
689	11/24	05 05 43.9	63.342 S	170.701 E	Balleny Islands Region	10	5.4	5.4	43.428
690	11/24	06 39 55.6	63.211 S	170.551 E	Balleny Islands Region	10	5.5	5.2	43.522
691	11/24	12 49 05.9	51.291 N	178.941 W	Andreanof Islands, Aleutian	52	5.1	4.6	154.637
692	11/24	18 22 12.7	25.184 S	179.893 E	South of Fiji Islands	505	5.1		81.731
693	11/24	23 02 23.4	19.082 S	173.498 W	Tonga Islands	67	5.4		88.971
694	11/25	07 49 44.2	2.179 S	138.862 E	West Irian	26	5.9	5.7	91.355
695	11/26	22 55 49.1	34.312 S	179.431 W	South of Kermadec Islands	46	5.0		73.017
696	11/28	23 54 18.6	16.314 S	173.257 W	Tonga Islands	33	5.0		91.717
697	11/28	02 35 46.0	18.465 S	174.608 W	Tonga Islands	132	5.0		89.365
698	11/28	21 31 43.9	11.163 S	165.305 E	Santa Cruz Islands	34	5.0	4.8	91.560

699	11/29 01 00 14.8	15.808 S	73.242 W	Southern Peru	71	6.1	83.145
700	11/29 03 02 44.9	15.936 S	73.463 W	Southern Peru	93	4.7	83.096
701	11/29 05 48 59.8	25.374 S	179.629 E	South of Fiji Islands	487	5.7	81.491
702	11/30 08 58 34.2	38.881 S	178.231 E	Off East Coast of Northern Island, New Zealand	35	5.6 5.0	68.133
703	11/30 09 37 41.7	22.812 S	177.641 W	South of Fiji Islands	297	5.3	84.539
704	11/30 19 46 02.9	23.490 S	179.792 W	South of Fiji Islands	557	5.3	83.439
705	11/30 22 48 32.9	2.749 N	128.398 E	Halmahera	146	4.9	92.180
706	12/01 04 46 32.0	1.249 N	122.974 E	Minahassa Peninsula	37	4.7 4.7	88.844
707	12/01 04 55 09.5	1.366 N	123.198 E	Minahassa Peninsula	67	4.5	89.033
708	12/01 05 06 12.1	51.631 N	178.102 W	Andreanof Islands, Aleutian Islands	43	5.6 5.0	155.202
709	12/01 18 59 12.3	14.457 S	167.271 E	Vanuatu Islands	216	5.1	88.974
710	12/02 04 24 54.5	9.501 S	125.046 E	Timor	57	4.6 4.6	79.621
711	12/02 07 52 18.1	0.406 N	121.642 E	Minahassa Peninsula	124	5.3	87.586
712	12/02 16 09 47.3	25.853 S	179.572 E	South of Fiji Islands	531	4.8	81.015
713	12/03 11 11 56.3	8.828 S	113.418 E	Java	95	5.6	76.095
714	12/03 14 16 48.7	7.631 S	74.459 W	Peru-Brazil Border Region	153	5.9	91.211

715	12/03	19 55	06.1	7.412 S	128.627 E	Banda Sea	102	4.9		82.842
716	12/03	21 32	20.7	57.655 S	148.211 E	West of Macquarie Island	10	5.2	5.9	43.533
717	12/04	03 05	57.7	7.465 S	128.213 E	Banda Sea	137	5.0		82.645
718	12/04	05 14	13.1	17.993 S	178.433 W	Fiji Islands Region	570	4.5		89.057
719	12/04	06 42	31.2	15.471 S	173.156 W	Tonga Islands	76	5.4		92.559
720	12/05	03 58	48.3	5.790 S	133.707 E	Aroe Islands Region	33	5.1	4.4	86.167
721	12/05	04 40	35.1	15.453 S	172.976 W	Samoa Islands Region	10	4.9	4.5	92.610
722	12/05	10 54	10.9	5.724 S	150.959 E	New Britain Region	70	5.0		92.225
723	12/05	18 13	03.7	15.834 S	167.617 E	Vanuatu Islands	169	4.7		87.755
724	12/05	21 21	14.4	20.866 S	178.653 W	Fiji Islands Region	615	4.7		86.222
725	12/06	05 19	48.5	6.192 S	130.455 E	Banda Sea	120	5.7		84.629
726	12/07	13 38	44.8	6.436 S	146.383 E	East Papua New Guinea Region	104	6.0		90.015
727	12/07	15 50	57.5	17.781 S	168.397 E	Vanuatu Islands	89	4.7		86.107
728	12/08	00 04	25.4	21.184 N	93.746 E	Burma	47	5.6	4.5	98.030
729	12/08	10 23	12.5	10.094 N	126.495 E	Philippine Islands Region	44	5.7	5.9	98.306
730	12/08	15 00	00.0	37.231 N	116.409 W	Southern Nevada	0	5.5	4.2	145.513
731	12/09	20 38	08.5	0.141 N	123.340 E	Minahassa Peninsula	151	6.2		87.947

732	12/09	21 15 06.0	1.097 N	30.315 W	Central Mid-Atlantic Ridge	10	4.9		83.873
733	12/10	07 44 32.3	0.219 N	123.782 E	Minahassa Peninsula	183	4.7		88.177
734	12910	08 51 57.2	25.192 S	179.634 E	South of Fiji Islands	534	4.8		81.766
735	12/11	16 00 11.6	18.690 S	168.989 E	Vanuatu Islands	200	5.5		85.396
736	12/12	08 33 56.2	4.684 S	130.827 E	Banda Sea	74	5.8		86.161
737	12/13	04 03 56.0	32.654 S	71.839 W	Near Coast of Central Chile	47	4.9		66.963
738	12/13	19 18 21.6	17.966 S	178.678 W	Fiji Islands Region	617	4.5		89.031
739	12/13	19 48 51.8	17.743 S	178.680 W	Fiji Islands Region	542	4.4		89.247
740	12/14	19 13 53.8	10.445 S	161.275 E	Solomon Islands	38	5.6	5.8	91.059
741	12/15	12 30 56.5	11.329 S	162.313 E	Solomon Islands	33	5.2	5.0	90.531
742	12/15	12 39 28.4	6.323 S	104.434 E	Sunda Strait	62	5.1		75.338
743	12/15	18 43 45.0	8.337 N	126.729 E	Mindanao, Philippine Islands	24	6.2	7.3	96.762
744	12/16	02 40 47.4	3.610 S	131.180 E	West Irian Region	25	5.5	5.1	87.284
745	12/16	10 40 20.2	7.777 N	126.806 E	Mindanao, Philippine Islands	34	5.5	5.3	96.270
746	12/17	00 39 38.1	6.487 S	154.219 E	Solomon Islands	22	5.1		92.582
747	12/17	02 12 21.9	3.808 S	127.531 E	Ceram	24	5.2		85.788
748	12/17	03 12 18.0	8.486 S	92.233 E	South Indian Ocean	25	5.4	5.3	69.400

749	12/18	07	13	01.0	0.939 N	28.976 W	Central Mid-Atlantic Ridge	10	5.7	5.3	83.273
750	12/18	17	09	35.3	15.369 S	167.419 E	Vanuatu Islands	142	5.3		88.145
751	12/19	01	31	51.7	33.836 S	178.524 W	South of Kermadec Islands	33	5.3	4.7	73.655
752	12/20	01	28	23.8	21.641 S	179.177 W	Fiji Islands Region	619	4.5		85.361
753	12/20	04	23	45.2	35.067 S	179.620 W	East of North Island, New Zealand	29	5.5	5.6	72.244
754	12/20	08	35	20.3	8.192 N	26.852 E	Mindanao, Philippine Islands	39	5.8	5.3	96.671
755	12/20	11	44	48.8	34.828 S	179.526 W	South of Kermadec Islands	32	5.2		72.498
756	12/20	23	45	58.2	58.775 S	25.485 W	South Sandwich Islands Region	33	5.5		28.796
757	12/21	00	33	59.3	55.300 S	28.131 W	South Sandwich Islands Region	33	5.2		32.395
758	12/21	08	08	04.6	3.251 N	96.404 E	Northern Sumatera	22	5.6	4.7	81.777
759	12/21	16	40	19.9	3.097 N	96.238 E	Northern Sumatera	22	5.3		81.581
760	12/22	08	47	27.7	12.430 S	166.551 E	Santa Cruz Islands	33	5.1		90.706
761	12/22	11	13	01.6	22.420 S	178.480 W	South of Fiji Islands	417	4.9		84.750
762	12/22	21	09	38.0	6.990 S	124.807 E	Banda Sea	552	5.2		81.860
763	12/23	01	32	46.3	29.945 S	178.338 W	Kermadec Islands	37	5.3		77.470
764	12/23	23	39	10.9	52.522 S	140.309 E	West of Macquarie Island	10	4.7		45.769
765	12/24	13	53	47.7	19.970 S	177.477 W	Fiji Islands Region	396	4.7		87.334

766	12/24	17	27	35.5	16.980 S	14.448 W	South Atlantic Ridge	10	4.8	4.2	61.718
767	12/24	17	36	36.0	20.451 S	168.725 E	Coyalty Islands	35	4.7		83.643
768	12/25	14	24	32.6	60.080 N	73.445 W	Northern Quebec	5	6.2	6.3	151.386
769	12/25	14	50	57.4	59.572 S	25.898 W	South Region Islands Region	33	5.1		28.354
770	12/25	19	50	18.9	1.679 N	127.200 E	Halmahera	102	5.6		90.757
771	12/25	21	25	07.5	21.328 S	67.340 W	Chile-Bolivia Border Region	235	4.6		76.062
772	12/25	23	14	47.9	21.295 S	68.189 W	Chile-Bolivia Border Region	95	5.3		76.372
773	12/26	01	30	13.8	41.714 S	83.954 W	West Chile Rise	10	5.9	5.8	61.913
774	12/26	17	41	04.1	2.247 N	126.724 E	Molucca Passage	56	5.3		91.113
775	12/27	04	19	43.8	0.963 N	126.131 E	Molucca Passage	62	5.1		89.710
776	12/27	20	01	05.2	4.436 S	102.965 E	Southern Sumatera	65	5.4		76.618
777	12/27	23	26	57.0	32.967 S	151.619 E	Near S.E. Coast of Australia	10	5.4		66.957
778	12/28	13	41	15.5	16.526 S	69.423 W	Peru-Bolivia Border Region	210	5.0		81.228
779	12/28	17	12	48.0	6.786 S	112.454 E	Java	33	4.9		77.655
780	12/29	11	10	58.7	7.046 S	130.096 E	Tanimbar Islands Region	82	4.8		83.709
781	12/30	00	22	48.1	24.132 S	68.958 W	Chile-Argentina Border Region	88	4.7		73.981
782	12/30	04	42	51.1	16.177 S	167.967 E	Vanuatu Islands	184	5.5		87.523

783	12/30	10 51 21.4	26.546 S	178.312 E	South of Fiji Islands	630	4.8		80.077
784	12/30	12 38 11.2	26.209 S	70.507 W	Near Coast of Northern Chile	32	5.3	5.0	72.544
785	12/30	20 16 01.9	0.993 N	30.180 W	Central Mid-Atlantic Ridge	10	4.9	5.3	83.730
786	12/30	23 15 36.0	3.404 S	146.287 E	Bismarck Sea	42	5.1		92.812
787	12/30	23 18 51.6	3.406 S	145.966 E	Near North Coast of Papua New Guinea	38	5.6	6.6	92.699
788	12/31	15 43 41.9	7.583 N	126.945 E	Mindanao, Philippine Islands	43	5.3	4.2	96.140

Table 2d. List of 820 earthquakes (1990).

Data No.	Origin time U T C			Geographic Coordinates		Region	Depth (km)	Magnitude		Epicentral distance (degree)	
	Date	h	m	s	Latitude (degree)			Longitude (degree)	(Mb)		(Ms)
1	01/01	07	49	35.5	21.772 S	179.361 W	Fiji Islands Region	660	5.2	85.195	
2	01/04	05	32	21.0	15.397 S	172.850 W	Samoa Islands Region	54	6.4	6.4	92.688
3	01/04	18	54	31.5	41.600 S	85.278 E	Southeast Indian Rise	10	5.0	5.1	36.360
4	01/05	10	10	21.8	8.800 S	106.442 E	South of Java	29	5.3	5.8	73.702
5	01/05	13	03	44.3	19.258 S	69.529 W	Northern Chile	109	5.0		78.712
6	01/06	21	44	56.2	10.681 S	92.987 E	South Indian Ocean	15	5.7	5.5	67.555
7	01/07	09	06	43.4	15.947 S	74.245 W	Near Coast of Peru	48	5.9	5.3	83.336
8	01/07	20	53	29.2	32.159 S	57.447 E	Atlantic-Indian Rise	10	5.3	4.8	38.325
9	01/08	11	05	47.1	24.368 S	179.105 E	South of Fiji Islands	518	5.0		82.354
10	01/08	12	26	49.9	24.060 S	179.372 E	South of Fiji Islands	573	5.0		82.710

11	01/08	19 44 34.6	52.038 N	169.446 W	Fox Islands, Aleutian Islands	33	5.6	5.7	158.230
12	01/09	04 58 39.1	51.963 N	169.383 W	Fox Islands, Aleutian Islands	33	5.4	5.3	158.181
13	01/09	14 42 58.2	21.738 S	179.396 W	Fiji Islands Region	604	5.4		85.221
14	01/09	15 35 49.0	11.591 N	95.017 E	Andaman Islands Region	33	5.2	5.3	89.272
15	01/09	18 51 29.2	24.753 N	95.241 E	Burma	119	6.1		101.833
16	01/10	10 06 01.5	52.192 S	13.514 E	Southwest of Africa	10	5.5	5.0	20.801
17	01/10	11 53 21.6	11.654 N	95.143 E	Andaman Islands Region	33	5.3	5.4	89.368
18	01/10	16 11 46.7	10.073 S	123.819 E	Timor	33	5.6	4.9	78.650
19	01/11	16 04 07.7	23.563 S	69.131 W	Northern Chile	88	4.7		74.567
20	01/12	15 28 14.7	4.979 N	126.508 E	Talau Islands	62	5.4		93.569
21	01/12	18 51 12.2	32.386 S	179.707 W	South of Kermadec Islands	83	5.0		74.831
22	01/13	20 03 41.9	10.171 S	117.826 E	South of Sumbawa Islands	36	5.2	4.8	76.412
23	01/14	03 03 19.2	37.819 N	91.971 E	Qinghai Province, China	12	6.1	6.1	113.384
24	01/14	09 31 29.8	29.906 S	177.205 W	Kermadec Islands	33	4.9	4.3	77.727
25	01/14	21 04 03.2	29.709 S	177.467 W	Kermadec Islands	58	5.5	6.0	77.868
26	01/14	21 10 30.2	29.080 S	177.628 W	Kermadec Islands	33	5.5	5.7	78.449
27	01/15	06 18 00.1	48.784 S	122.324 E	South of Australia	10	4.6	4.0	43.146

28	01/16	07	36	31.6	31.664 S	178.085 W	Kermadec Islands Region	23	5.4	5.5	75.849
29	01/16	07	56	33.4	31.725 S	177.996 W	Kermadec Islands Region	33	5.4	5.5	75.807
30	01/16	08	41	54.8	5.253 S	132.381 E	Aroe Islands Region	44	5.0	4.9	86.191
31	01/16	10	52	08.2	31.587 S	178.046 W	Kermadec Islands Region	33	5.5	5.4	75.931
32	01/16	20	08	22.0	40.232 N	124.138 W	Near Coast of Northern California	2	5.1	5.5	149.840
33	01/17	02	04	41.9	32.340 S	178.010 W	South of Kermadec Islands	33	4.7		75.206
34	01/17	03	33	39.8	32.650 S	178.680 W	South of Kermadec Islands	33	4.8	4.1	74.249
35	01/17	06	38	05.7	31.673 S	116.995 E	Western Australia	7	5.2		56.373
36	01/17	12	05	29.8	43.589 N	127.443 W	Off Coast of Oregon	10	5.4	5.2	153.615
37	01/17	17	28	26.8	32.040 S	177.670 W	South of Kermadec Islands	33	4.9		75.563
38	01/18	01	04	31.0	10.797 S	113.653 E	South of Java	46	5.1		74.350
39	01/18	05	42	35.9	30.108 S	177.665 W	Kermadec Islands	25	5.5	5.3	77.442
40	01/18	11	45	26.5	41.173 N	123.777 W	Northern California	33	4.9	4.7	150.704
41	01/18	12	45	23.6	30.141 S	177.688 W	Kermadec Islands	13	6.0	5.8	77.406
42	01/18	19	59	22.0	5.286 S	150.609 E	New Britain Region	136	5.6		92.519
43	01/18	20	57	49.2	20.760 S	178.487 W	Fiji Islands Region	586	5.7		86.360

44	01/20	07 20 21.8	15.262 S	173.376 W	Tonga Islands	34	5.5	5.5	92.772
45	01/20	09 13 13.9	6.649 S	105.911 E	Sunda Strait	64	5.3		75.531
46	01/21	07 49 41.9	24.090 S	66.830 W	Salta Province, Argentina	210	4.5		73.325
47	01/21	16 43 44.6	21.098 S	173.780 W	Tonga Islands	33	5.1	5.0	86.952
48	01/22	08 25 34.0	31.612 S	178.083 W	Kermadec Islands Region	33	5.2		75.900
49	01/22	17 26 11.4	3.885 N	96.100 E	Northern Sumatera	46	6.0	5.8	82.285
50	01/23	07 47 09.5	12.451 S	75.069 W	Peru	104	5.5		86.882
51	01/24	10 06 13.3	49.059 N	155.553 E	Kuril Islands	44	5.3		143.836
52	01/24	23 24 49.3	30.050 S	174.250 W	Kermadec Islands Region	30	4.3		78.129
53	01/25	02 25 57.8	30.770 S	179.310 W	Kermadec Islands Region	330	4.4		76.477
54	01/25	06 29 21.3	31.554 S	177.580 W	Kermadec Islands Region	33	5.2	5.1	76.053
55	01/27	00 34 55.0	6.913 S	130.257 E	Banda Sea	109	5.1		83.890
56	01/28	03 58 49.2	5.883 S	105.670 E	Sunda Strait	105	5.3		76.165
57	01/30	18 14 12.8	23.398 S	179.094 E	South of Fiji Islands	548	5.3		83.291
58	02/01	18 33 53.8	8.247 N	126.712 E	Mindanao, Philippine Islands	61	5.3		96.672
59	02/02	14 49 09.4	18.407 S	176.924 E	Fiji Islands Region	10	5.6	5.7	87.632
60	02/02	15 56 56.1	18.723 S	71.337 W	Off Coast of Northern Chile	47	4.7		79.800

61	02/02	18 34 46.2	18.073 S	178.307 W	Fiji Islands Region	576	5.3		89.005
62	02/02	18 53 40.3	5.294 S	151.099 E	New Britain Region	44	5.7	5.5	92.675
63	02/04	07 58 14.0	10.233 S	110.290 E	South of Java	46	5.7	5.4	73.694
64	02/04	16 55 03.9	7.452 S	128.617 E	Banda Sea	118	5.0		82.802
65	02/04	20 26 13.1	22.374 S	68.423 W	Northern Chile	101	5.3		75.444
66	02/05	02 09 04.9	24.062 S	66.989 W	Salta Province, Argentina	196	4.6		73.403
67	02/05	05 16 46.1	37.047 N	71.250 E	Afganistan-Ussr Border Region	110	6.1		108.399
68	02/08	07 15 32.2	9.755 N	124.694 E	Mindanao, Philippine Islands	26	6.2	6.6	97.349
69	02/10	03 27 41.2	42.343 S	172.798 E	South Island, New Zealand	10	6.0	6.0	63.675
70	02/10	03 54 47.7	42.347 S	172.595 E	South Island, New Zealand	10	5.0	5.7	63.627
71	02/10	03 57 29.2	42.163 S	172.483 E	South Island, New Zealand	10	5.1		63.779
72	02/10	20 45 39.1	51.623 N	178.043 E	Rat Islands, Aleutian Islands	61	5.3		153.917
73	02/11	15 48 18.3	42.815 S	75.838 W	Off Coast of Southern Chile	31	5.3		58.715
74	02/11	21 58 39.4	31.184 S	177.634 W	Kermadec Islands Region	29	5.3	5.0	76.402
75	02/12	01 13 11.7	18.042 S	178.507 W	Fiji Islands Region	563	5.0		88.993
76	02/12	03 30 52.8	5.186 S	151.777 E	New Britain Region	49	5.1	4.7	93.001
77	02/12	05 51 34.2	49.143 S	122.328 E	South of Australia	10	5.0		42.841

78	02/12	12 25 33.5	5.256 S	151.330 E	New Britain Region	15	5.5	5.2	92.787
79	02/12	23 56 38.0	31.193 S	48.919 W	South Atlantic Ocean	30	5.5	4.4	60.656
80	02/13	13 30 58.2	23.077 S	66.211 W	Jujuy Province, Argentina	239	4.5		74.061
81	02/14	10 15 40.3	49.260 S	163.817 E	Auckland Islands Region	33	5.0		55.091
82	02/15	22 08 01.5	5.225 S	151.355 E	New Britain Region	16	5.7	4.9	92.825
83	02/16	21 02 53.7	3.564 S	140.272 E	West Irian	47	5.3	4.8	90.567
84	02/17	02 28 01.8	29.533 N	130.732 E	Ryukyu Islands	66	5.9		117.709
85	02/18	12 21 58.0	5.516 S	149.432 E	New Britain Region	142	5.9		91.909
86	02/19	05 34 37.0	40.347 S	176.102 E	North Islands, New Zealand	24	5.9	6.3	66.288
87	02/19	06 48 10.1	15.465 S	166.385 E	Vanuatu Islands	12	6.4	6.7	87.769
88	02/19	16 39 56.5	6.652 S	129.322 E	Banda Sea	215	5.3		83.796
89	02/19	16 46 54.4	16.534 S	174.926 W	Tonga Islands	168	5.1		91.185
90	02/20	06 53 39.8	34.706 N	139.252 E	Near South Coast of Honshu, Japan	14	6.1	6.4	125.429
91	02/20	18 17 56.2	21.559 S	170.437 E	Loyalty Islands Region	161	5.3		83.026
92	02/20	18 48 04.0	25.413 S	116.169 W	Easter Islands Cordillera	10	5.3	5.5	84.126
93	02/21	18 29 52.9	19.940 S	177.510 W	Fiji Islands Region	637	4.8		87.357

94	02/22	13 11	57.8	21.872 S	179.365 W	Fiji Islands Region	600	5.2		85.098
95	02/22	16 44	32.1	24.764 S	68.860 W	Chile-Argentina Border Region	103	5.2		73.361
96	02/22	16 51	51.0	11.458 S	66.380 E	Mid-Indian Rise	12	5.7	5.6	60.104
97	02/23	10 50	59.3	28.303 S	62.988 W	Santiago Del Estero Province, Argentina	599	4.6		68.150
98	02/24	18 43	51.4	15.047 S	167.282 E	Vanuatu Islands	135	5.3		88.415
99	02/24	19 13	14.8	15.523 S	175.236 W	Tonga Islands	33	5.7	6.0	92.109
100	02/25	13 37	32.0	28.700 S	176.540 W	Kermadec Islands Region	60	4.7		77.610
101	02/25	14 57	39.6	20.011 S	177.843 W	Fiji Islands Region	572	4.8		87.220
102	02/25	22 51	09.1	18.042 S	69.135 W	Northern Chile	141	5.5		79.717
103	02/26	19 06	36.4	26.651 S	114.726 W	Easter Islands Region	14	5.6	6.1	82.708
104	02/27	09 28	54.1	17.159 S	64.141 W	Bolivia	601	5.4		78.866
105	03/01	02 23	23.1	53.340 N	160.030 E	Near East Coast of Kamchatka	27	5.4	5.6	148.969
106	03/01	16 06	00.8	7.892 S	121.112 E	Flores Sea	39	5.3	4.9	79.698
107	03/03	12 16	27.9	22.122 S	175.163 E	South of Fiji Islnads	33	6.3	7.4	83.640
108	03/03	12 34	59.2	21.557 S	175.753 E	South of Fiji Islands	33	5.6	6.2	84.322
109	03/03	12 44	22.4	22.405 S	174.164 E	Loyalty Islands Region	33	6.1	6.6	83.132

110	03/03	18 32 50.5	21.721 S	175.344 E	South of Fiji Islands	33	5.3	5.0	84.069
111	03/03	19 29 01.7	21.683 S	175.569 E	South of Fiji Islnds	33	5.1	4.8	84.158
112	03/03	19 44 26.7	22.501 S	174.205 E	Loyalty Islands Region	33	5.0	4.7	83.049
113	03/04	17 21 59.0	15.539 S	167.568 E	Vanuatu Islands	141	5.4		88.024
114	03/05	16 38 12.5	18.318 S	168.063 E	Vanuatu Islands	21	5.6	7.0	85.505
115	03/06	13 30 58.4	11.147 S	117.440 E	South of Sumba Island	22	5.6	4.8	75.370
116	03/06	23 28 51.6	21.435 S	175.819 E	South of Fiji Islands	50	5.1		84.455
117	03/07	18 22 03.1	17.295 S	66.675 E	Mascarene Islands Region	10	5.2	5.2	54.465
118	03/08	09 48 46.3	19.462 S	169.234 E	Vanuatu Islands	165	5.4		84.722
119	03/09	12 34 03.3	60.307 N	152.286 W	Southern Alaska	85	5.0		170.048
120	03/10	03 31 20.8	21.797 S	170.542 E	Loyalty Islands Region	51	5.1		82.825
121	03/10	10 15 03.9	50.907 N	157.244 E	Kuril Islands	51	5.7		145.984
122	03/10	16 00 00.0	37.113 N	116.055 W	Southern Nevada	0	5.0		145.325
123	03/11	03 15 30.1	27.971 S	66.483 W	Catamarca Province, Argentina	172	4.2		69.610
124	03/11	22 20 50.4	20.529 S	168.207 E	Loyalty Islands	38	5.3	5.3	83.432
125	03/12	12 59 50.6	47.895 S	165.318 E	Off W.Coast of S.Island, N.Z.	19	5.4	5.0	56.723
126	03/12	13 32 55.5	3.158 S	128.838 E	Ceram	26	5.2	5.0	86.861

127	03/12	14	41	19.4	51.484 N	175.032 W	Andreanof Islands, Aleutian Islnads	14	6.0	6.2	156.056
128	03/12	23	18	14.3	13.231 S	167.044 E	Vanuatu Islands	163	5.1		90.080
129	03/13	00	32	59.1	73.325 N	134.909 E	Laptev Sea	18	5.5	4.9	154.659
130	03/13	13	30	40.3	47.906 S	165.653 E	Off West Coast of Southern Island, New Zealand	33	5.1	5.1	56.791
131	03/13	23	05	29.4	3.994 S	39.925 E	Kenya	10	5.3	5.2	64.960
132	03/15	04	56	34.5	15.130 S	167.238 E	Vanuatu Islands	132	5.6		88.323
133	03/15	06	12	30.6	24.476 S	177.418 W	South of Fiji Islands	33	5.2	5.0	82.966
134	03/17	12	15	35.8	30.350 S	178.130 W	Kermadec Islands	191	4.8		77.117
135	03/18	22	30	07.6	48.688 S	106.802 E	Southeast Indian Rise	10	5.2	5.2	37.737
136	03/18	23	19	29.7	20.286 S	66.740 E	Mascarene Islands Region	20	5.8	5.4	51.565
137	03/19	04	59	43.5	25.027 S	68.730 W	Chile-Argentina Border Region	122	5.0		73.074
138	03/10	07	23	05.6	8.210 S	121.559 E	Flores Island Region	40	5.0	4.5	79.564
139	03/19	16	42	05.1	31.000 S	175.640 W	Kermadec Islands Region	33	4.8	4.3	75.193
140	03/20	13	03	47.0	22.333 S	69.865 W	Northern Chile	61	4.7		75.952
141	03/20	17	11	39.7	5.561 S	129.633 E	Banda Sea	34	5.1	4.3	84.919
142	03/20	18	55	22.3	45.846 S	96.229 E	Southeast Indian Rise	10	5.1	5.1	36.368

143	03/21	16 46 05.4	31.092 S	179.093 W	Kermadec Islands Region	145	6.2		76.208
144	03/22	00 00 16.4	36.919 S	177.197 E	Off East Coast of Northern Island, New Zealand	225	5.8		69.818
145	03/22	02 11 50.6	8.473 S	158.891 E	Solomon Islands	116	5.5		92.195
146	03/23	13 35 37.4	49.235 S	122.283 E	South of Australia	10	5.0	5.4	42.747
147	03/23	14 39 04.7	45.552 S	96.137 E	Southeast Indian Rise	10	5.1	4.7	36.589
148	03/24	07 05 52.1	47.624 S	165.261 E	Off West Coast of Southern Island, New Zealand	33	5.4	5.1	56.964
149	03/25	01 10 42.8	32.958 S	178.447 W	South of Kermadec Islndas	33	5.1	5.1	74.522
150	03/25	13 22 55.6	9.919 N	84.808 W	Costa Rica	22	6.2	7.0	111.041
151	03/25	17 25 46.6	19.625 S	177.544 W	Fiji Islands Region	543	4.8		87.656
152	03/26	05 24 30.7	26.737 S	70.781 W	Near Coast of Northern Chile	30	5.1	4.7	72.139
153	03/26	05 58 22.2	26.793 S	70.793 W	Near Coast of Northern Chile	33	5.1		72.091
154	03/27	20 04 16.2	5.298 S	145.865 E	East Papua New Guinea Region	82	5.3		90.900
155	03/28	03 30 11.3	38.361 S	176.244 E	North Island, New Zealand	171	4.2		68.230
156	03/30	05 20 30.2	23.641 S	179.194 E	South of Fiji Islands	530	4.7		83.077
157	04/02	05 56 09.7	30.805 S	177.729 W	Kermadec Islands	52	5.1		76.752
158	04/02	13 56 34.8	32.672 S	72.086 W	Off Coast of Centrac Chile	41	5.6	5.5	67.022

159	04/03 07 33 25.6	5.843 S	147.664 E	East Papua New Guinea Region	88	5.8		91.005
160	04/03 22 57 00.9	11.426 N	86.301 W	Near Coast of Nicaragua	53	5.5	6.4	112.928
161	04/04 09 07 27.2	0.788 S	122.323 E	Minahassa Peninsula	33	5.1	4.5	86.721
162	04/04 13 48 11.1	55.807 S	28.021 W	South Sandwich Islands Region	33	5.2	3.9	31.957
163	04/05 21 12 35.5	15.125 N	147.596 E	Mariana Islands Region	11	6.5	7.5	110.509
164	04/05 21 22 31.3	15.331 N	147.553 E	Mariana Islands Region	33	5.7		110.685
165	04/06 02 32 34.5	40.953 S	80.724 E	Mid-Indian Rise	10	5.7	5.3	35.497
166	04/06 07 52 02.0	60.527 S	25.482 W	South Sandwich Islands Region	33	5.6	5.6	27.518
167	04/06 14 31 46.1	21.618 S	174.213 W	Tonga Islands	29	5.5	6.4	86.364
168	04/06 16 31 34.4	25.988 S	175.955 W	South of Tonga Islands	32	5.5	5.9	81.778
169	04/06 23 42 58.6	25.759 S	176.189 W	South of Fiji Islands	33	5.1		81.957
170	04/07 02 44 30.9	26.163 S	175.994 W	South of Tonga Islands	26	5.3	5.3	81.600
171	04/07 12 54 19.8	5.059 S	130.971 E	Banda Sea	58	4.7		85.865
172	04/07 18 25 56.3	18.049 S	168.126 E	Vanuatu Islands	36	5.2	4.9	85.779
173	04/08 05 43 05.1	17.589 S	69.631 W	Pere-Bolivia Border Region	159	4.7		80.304
174	04/09 09 31 09.6	25.806 S	176.058 W	South of Fiji Islands	17	5.7	5.9	81.936

175	04/09	09 45 31.1	21.470 S	68.368 W	Chile-Bolivia Border Region	129	5.0		76.268
176	04/10	21 44 26.0	45.322 S	166.850 E	Off West Coast of Southern Island, New Zealand	33	4.5		59.504
177	04/10	22 44 44.1	10.524 S	109.592 E	South of Java	40	5.3	4.6	73.181
178	04/11	13 10 16.8	30.991 S	177.806 W	Kermadec Islands	33	5.4	5.4	76.557
179	04/11	20 51 12.1	35.474 N	135.451 E	Southern Honshu, Japan	362	5.6		124.763
180	04/13	06 05 45.6	20.163 S	178.095 W	Fiji Islands Region	417	4.9		87.020
181	04/13	08 15 57.2	17.564 S	178.712 W	Fiji Islands Region	554	5.1		89.414
182	04/16	22 37 11.2	14.858 S	167.278 E	Vanuatu Islands	119	5.5		88.594
183	04/17	11 34 09.0	7.368 N	35.286 W	Central Mid-Atlantic Ridge	10	5.5	5.7	91.426
184	04/17	19 17 46.5	17.203 S	14.280 W	South Atlantic Ridge	10	4.6	4.6	61.456
185	04/18	10 33 48.9	57.968 S	10.316 W	Southwestern Atlantic Ocean	10	5.2	5.2	23.964
186	04/18	13 39 19.0	1.186 N	122.857 E	Minahassa Peninsula	26	6.2	7.4	88.744
187	04/18	13 54 19.0	0.368 N	123.131 E	Minahassa Peninsula	33	5.6		88.083
188	04/18	14 19 02.0	1.212 N	122.999 E	Minahassa Peninsula	33	5.3		88.819
189	04/18	14 23 56.2	1.182 N	122.819 E	Minahassa Peninsula	33	5.4		88.727
190	04/18	14 29 01.3	1.321 N	123.039 E	Minahassa Peninsula	33	5.3		88.934

191	04/18 14 35 17.0	1.129 N	122.645 E	Minahassa Peninsula	33	5.6		88.615
192	04/18 14 50 22.7	1.085 N	122.746 E	Minahassa Peninsula	33	5.0		88.611
193	04/18 14 53 13.5	1.443 N	123.016 E	Minahassa Peninsula	33	4.9		89.039
194	04/18 15 06 19.7	1.449 N	123.128 E	Minahassa Peninsula	33	4.9		89.085
195	04/18 15 15 22.5	1.319 N	122.973 E	Minahassa Peninsula	33	5.3		88.909
196	04/18 15 27 08.2	1.290 N	123.113 E	Minahassa Peninsula	29	5.4		88.932
197	04/18 15 50 46.3	1.337 N	122.846 E	Minahassa Peninsula	33	5.1		88.880
198	04/18 16 19 00.7	1.226 N	123.168 E	Minahassa Peninsula	33	4.8		88.892
199	04/18 16 21 37.3	1.169 N	123.690 E	Minahassa Peninsula	33	4.8		89.026
200	04/18 16 54 46.3	1.221 N	123.039 E	Minahassa Peninsula	33	5.0		88.842
201	04/18 17 06 18.4	1.263 N	122.984 E	Minahassa Peninsula	35	5.7		88.861
202	04/18 17 17 53.2	1.393 N	123.506 E	Minahassa Peninsula	33	5.1		89.168
203	04/18 17 26 08.5	1.224 N	122.994 N	Minahassa Peninsula	33	5.0		88.828
204	04/18 18 12 24.6	0.680 N	123.557 E	Minahassa Peninsula	33	4.7		88.525
205	04/19 01 05 08.7	1.300 N	123.021 E	Minahassa Peninsula	33	5.7	5.7	88.908
206	04/19 03 57 20.4	1.317 N	123.692 E	Minahassa Peninsula	33	4.9		89.164
207	04/19 03 59 22.4	1.188 N	123.463 E	Minahassa Peninsula	28	5.3	4.2	88.962

208	04/19 08 28 33.2	1.429 N 123.576 E	Minahassa Peninsula	33	5.1		89.227
209	04/19 12 40 38.6	1.108 N 123.429 E	Minahassa Peninsula	24	5.8	6.2	88.876
210	04/19 15 00 55.1	1.272 N 123.033 E	Minahassa Peninsula	33	4.9	4.1	88.887
211	04/19 22 03 08.1	1.093 N 123.876 E	Minahassa Peninsula	26	5.1	4.1	89.022
212	04/20 08 51 35.0	24.182 S 179.655 W	South of Fiji Islands	474	5.2		82.797
213	04/20 18 23 29.9	14.859 S 71.374 W	Peru	144	5.1		83.428
214	04/20 23 20 31.8	6.270 S 151.178 E	New Britain Region	52	5.4	4.9	91.787
215	04/21 05 14 03.9	1.234 N 123.254 E	Minahassa Peninsula	33	5.1	4.7	88.930
216	04/21 18 54 52.4	36.985 S 73.303 W	Near Coast of Central Chile	12	6.0	5.7	63.384
217	04/21 23 20 20.9	22.524 S 70.269 W	Near Coast of Northern Chile	47	5.1		75.904
218	04/22 20 25 24.8	37.977 S 73.300 W	Near Coast of Central Chile	26	5.4	5.6	62.464
219	04/22 23 51 52.5	0.955 N 120.064 E	Minahassa Peninsula	33	5.2	4.3	87.535
220	04/23 16 35 26.1	24.057 S 66.791 W	Salta Province, Argentina	191	4.5		73.343
221	04/24 10 00 39.8	1.404 N 123.486 E	Minahassa Peninsula	32	5.1	4.2	89.171
222	04/26 09 37 15.0	35.986 N 100.245 E	Qinghai Province, China	8	6.5	6.9	113.827
223	04/26 15 39 22.9	6.277 S 154.755 E	Solomon Islands	74	5.6		92.953
224	04/26 15 40 34.4	1.059 N 122.825 E	Minahassa Peninsula	24	5.8	5.8	88.615

225	04/26	23 28	40.0	1.313 N	122.987 E	Minahassa Peninsula	33	4.8	3.7	88.908
226	04/27	05 09	02.8	1.245 N	122.881 E	Minahassa Peninsula	46	5.0	3.7	88.807
227	04/27	09 42	31.0	1.462 N	123.566 E	Minahassa Peninsula	37	5.3	4.8	89.254
228	04/28	11 42	23.8	26.113 S	178.021 W	South of Fiji Islands	17	5.6	5.4	81.255
229	04/30	05 54	41.4	54.279 S	1.271 E	Bouvet Island Region	10	5.9	5.4	22.777
230	04/30	14 26	27.0	8.802 N	126.054 E	Mindanao, Philippine Islands	117	5.4		96.951
231	04/30	18 00	16.9	7.329 N	94.308 E	Nicobar Islands Region	21	5.3	5.2	85.018
232	04/30	18 08	30.0	25.140 S	112.481 W	Easter Islands Region	10	5.1	5.5	83.861
233	05/01	16 12	21.4	58.840 N	156.858 W	Alaska Peninsula	211	6.1		167.667
234	05/02	01 01	24.9	49.268 N	155.624 E	Kuril Islands	95	5.2		144.037
235	05/02	04 19	40.7	0.019 N	124.252 E	Minahassa Peninsula	103	5.3		88.160
236	05/02	11 59	42.1	55.824 S	26.951 W	South Sandwich Islands Region	33	5.1		31.56
237	05/02	22 50	29.5	5.604 S	150.164 E	New Britain Region	82	6.2		92.072
238	05/03	05 31	42.7	1.328 N	123.157 E	Minahassa Peninsula	37	4.6	4.5	88.983
239	05/03	19 14	26.0	0.439 S	132.820 E	West Irian Region	23	5.2	4.3	90.813
240	05/04	23 44	52.6	23.016 S	68.798 W	Northern Chile	105	4.7		74.968
241	05/05	14 11	18.9	1.115 N	123.658 E	Minahassa Peninsula	28	4.9		88.965

242	05/06	16 46 13.2	35.253 S	104.142 W	Southern Pacific Ocean	10	4.9	5.2	72.561
243	05/07	13 03 04.3	31.035 S	177.858 W	Kermadec Islands Region	49	4.8		76.504
244	05/08	01 40 03.8	17.054 S	168.495 E	Vanuatu Islands	229	5.2		86.828
245	05/09	04 21 10.1	56.381 S	27.058 W	South Sandwich Islndads Region	33	6.0	5.4	31.169
246	05/09	04 42 49.6	5.989 S	147.586 E	East Papua New Guinea Region	69	5.5		90.843
247	05/09	16 44 54.6	13.158 S	167.219 E	Vanuatu Islands	195	4.9		90.199
248	05/09	22 38 19.0	61.979 S	161.434 E	Balleny Islands Region	10	5.0	5.7	42.867
249	05/10	00 58 48.6	54.824 S	146.247 E	West of Macquarie Island	10	5.5	5.5	45.478
250	05/10	08 14 35.3	6.176 S	146.807 E	East Papua New Guinea Region	101	5.4		90.403
251	05/11	05 03 27.2	51.476 N	159.387 E	Off East Coast of Kamchatka	10	5.0	4.8	147.223
252	05/11	13 10 20.2	41.820 N	130.858 E	North Korea	579	5.7		128.822
253	05/11	19 42 23.3	1.329 N	123.590 E	Minahassa Peninsula	22	5.3	4.8	89.139
254	05/12	04 50 08.7	49.037 N	141.847 E	Sakhalin Island	606	6.5		138.924
255	05/12	14 36 45.0	55.330 S	26.130 W	South Sandwich Islands Region	33	5.1		31.660
256	05/12	21 15 28.2	6.070 S	149.775 E	New Britain Region	74	5.6		91.506
257	05/13	04 23 09.6	40.296 S	176.064 E	North Island, New Zealand	21	6.0	6.3	66.329
258	05/14	06 52 11.8	37.283 S	47.736 E	Atlantic-Indian Rise	10	5.4	5.2	32.127

259	05/14	11 54	30.1	23.789 S	179.890 E	South of Fiji Islands	540	5.0		83.082
260	05/14	12 38	55.6	34.330 S	105.210 W	Easter Island Cordillera	10	4.7		73.654
261	05/14	21 34	04.2	35.925 S	71.415 W	Central Chile	76	5.8		63.799
262	05/15	14 25	20.6	36.043 N	70.428 E	Hindu Kush Region	113	5.9		107.285
263	05/15	15 21	26.2	3.225 S	35.744 E	Tanzania	5	5.3	4.8	65.770
264	05/15	16 24	19.5	3.075 S	35.891 E	Tanzania	5	5.5	5.2	65.916
265	05/15	18 31	39.6	1.158 N	123.869 E	Minahassa Peninsula	30	5.6	5.6	89.080
266	05/15	21 33	30.2	31.835 S	178.027 W	Kermadec Islnds Region	41	5.6	5.5	75.694
267	05/16	05 24	19.1	5.648 S	150.233 E	New Britain Region	81	5.6		92.054
268	05/17	11 03	24.7	18.080 S	69.626 W	Northern Chile	106	5.6		79.844
269	05/17	11 52	45.9	27.363 S	67.843 W	Catamarca Province, Argentina	107	4.4		70.616
270	05/17	15 59	56.5	25.398 S	178.101 E	South of Fiji Islands	614	5.8		81.141
271	05/19	09 28	02.8	1.356 N	124.137 E	Minahassa Peninsula	31	5.0	4.3	89.360
272	05/20	02 22	01.6	5.121 N	32.145 E	Sudan	15	6.7	7.1	74.189
273	05/20	07 32	37.2	18.102 S	175.130 W	Tonga Islands	232	5.9		89.618
274	05/20	09 53	47.4	32.500 S	179.624 E	South of Kermadec Islands	346	5.6		74.586
275	05/20	13 42	38.1	30.230 S	72.174 W	Off Coast of Central Chile	24	5.0	4.3	69.312

276	05/21	13 24	36.6	8.137 S	109.043 E	Java	28	5.5	5.2	75.213
277	05/21	20 59	27.5	32.820 S	178.430 W	South of Kermadec Islands	65	5.3	5.0	74.659
278	05/22	13 25	36.3	36.299 S	97.876 W	West Chile Rise	33	5.4	5.6	70.318
279	05/23	19 35	14.9	7.343 S	128.803 E	Banda sea	129	5.5		82.970
280	05/24	12 41	18.7	1.244 N	123.031 E	Minahassa Peninsula	8	4.7	4.4	88.860
281	05/24	19 34	44.2	5.277 N	31.829 E	Sudan	17	5.9	6.6	74.360
282	05/24	20 00	08.1	5.358 N	31.848 E	Sudan	16	6.5	7.0	74.439
283	05/24	20 09	23.2	7.363 S	120.363 E	Flores Sea	589	6.4		79.921
284	05/24	20 30	36.1	8.180 S	127.880 E	Timor	126	4.5		81.863
285	05/25	02 03	27.5	2.871 S	130.338 E	Ceram	15	5.8	5.4	87.666
286	05/26	02 57	34.8	1.342 N	123.371 E	Minahassa Peninsula	34	5.2	5.2	89.073
287	05/26	05 11	13.2	17.031 S	168.443 E	Vanuatu Islands	223	4.9		86.836
288	05/26	07 59	45.5	1.135 N	123.300 E	Minahassa Peninsula	65	4.7		88.855
289	05/27	21 49	35.4	74.225 N	8.828 E	Greenland Sea	29	5.5	5.7	144.423
290	05/27	23 55	31.0	7.739 S	127.893 E	Banda sea	97	4.9		82.276
291	05/28	11 28	47.6	20.874 S	177.987 W	Fiji Islands Region	486	5.9		86.352
292	05/28	15 12	00.1	7.139 S	127.309 E	Banda Sea	329	4.8		82.622

293	05/29	18 31 12.2	56.956 N	153.569 W	Kodiak Island Region	25	5.9	5.8	166.646
294	05/30	02 34 05.8	6.016 S	77.229 W	Northern Peru	24	6.1	6.5	93.624
295	05/30	04 02 31.0	24.149 S	66.745 W	Salta Province, Argentina	163	4.8		73.242
296	05/30	10 40 06.1	45.841 N	26.668 E	Romania	89	6.7		114.988
297	05/30	16 49 26.8	6.018 S	77.127 W	Northern Peru	22	5.4	5.1	93.590
298	05/31	00 17 47.8	45.811 N	26.769 E	Romania	88	6.1		114.952
299	05/31	02 46 12.7	33.812 S	179.401 W	South of Kermadec Islands	75	4.8		73.508
300	05/31	23 02 54.6	33.517 S	178.254 W	South of Kermadec Islands	33	5.0		74.016
301	06/01	01 22 11.5	35.522 N	140.339 E	Near East Coast of Honshu, Japan	67	5.7		126.551
302	06/01	11 08 35.8	26.048 S	176.567 W	South of Fiji Islands	75	5.4		81.603
303	06/01	16 49 35.7	29.455 S	178.867 W	Kermadec Islands	33	5.3		77.841
304	06/01	18 14 44.6	5.485 S	154.117 E	Solomon Islands	145	5.5		93.490
305	06/02	04 57 57.0	1.081 N	122.776 E	Minahassa Peninsula	34	5.1	4.9	88.618
306	06/04	00 24 32.3	22.217 S	179.466 W	South of Fiji Islands	590	5.0		84.742
307	06/06	02 01 08.2	6.131 S	77.213 W	Northern Peru	25	5.1	5.0	93.511
308	06/06	04 10 30.7	27.051 S	71.661 W	Near Coast of Northern Chile	97	4.6		72.124

309	06/07	07 14 42.4	20.117 S	66.555 E	Mascarene Islands Region	10	5.0	4.8	51.693
310	06/07	09 25 19.1	3.563 S	144.432 E	Near North Coast of Papua New Guinea	29	5.9	6.5	92.023
311	06/08	03 42 01.9	27.962 S	66.578 W	Catamarca Province, Argentina	179	4.6		69.649
312	06/08	13 49 22.9	17.573 S	71.824 W	Near Coast of Peru	27	5.6	5.4	81.034
313	06/08	15 05 09.5	18.874 S	178.789 W	Fiji Islands Region	499	5.6		88.127
314	06/08	21 37 38.4	9.103 S	120.264 E	Sumba Island Region	33	5.6	4.7	78.273
315	06/09	21 38 21.1	1.253 N	123.422 E	Minahassa Peninsula	34	5.1	4.7	89.008
316	06/10	03 17 44.5	24.191 S	66.912 W	Salta Province, Argentina	158	4.7		73.258
317	06/12	08 00 12.0	2.898 S	130.315 E	Cerm	33	5.0	4.4	87.633
318	06/12	09 58 25.9	33.236 S	178.513 W	South of Kermadec Islands	61	5.0		74.240
319	06/12	15 05 24.1	33.550 S	178.910 W	South of Kermadec Islands	101	4.9		73.858
320	06/12	15 43 43.0	33.580 S	179.130 W	South of kermadec Islands	112	4.9		73.786
321	06/13	16 00 00.0	37.262 N	116.420 W	Southern Nevada	0	5.7	4.5	145.545
322	06/13	16 41 53.6	6.371 N	126.396 E	Mindanao, Philippine Islands	77	5.6		94.820
323	06/14	07 40 56.2	11.760 N	121.899 E	Pany, Philippine Islands	18	6.0	7.1	98.218
324	06/14	12 47 28.8	47.869 N	85.076 E	Kazakh-Xinjiang Border Region	58	6.1	6.8	121.402

325	06/14	20 22 17.4	6.342 N	126.338 E	Mindanao, Philippine Islands	95	5.0		94.772
326	06/15	08 12 26.2	5.041 S	152.082 E	New Britain Region	60	5.5		93.238
327	06/16	01 34 11.2	22.607 S	176.720 W	South of Fiji Islands	139	5.3		84.922
328	06/16	02 05 37.7	38.365 S	16.587 W	South Atlantic Ridge	10	5.0		42.689
329	06/16	08 47 02.0	33.385 S	178.510 W	South of Kermadec Islands	33	4.9	4.9	74.095
330	06/17	04 51 45.5	27.398 N	65.719 E	Pakistan	15	5.9	6.3	98.090
331	06/17	16 46 04.2	38.477 S	16.454 W	South Atlantic Ridge	10	5.3	4.6	42.331
332	06/18	01 44 39.2	21.882 S	170.841 E	Loyalty Islands Region	116	5.0		82.819
333	06/18	04 25 25.7	4.479 N	125.760 E	Talau Islands	207	5.1		92.838
334	06/18	19 02 57.3	21.825 S	68.438 W	Chile-Bolivia Border Region	117	5.3		75.960
335	06/19	10 34 43.6	38.409 S	16.450 W	South Atlantic Ridge	10	5.0	4.3	42.602
336	06/19	19 07 48.4	21.038 S	178.855 W	Fiji Islands Region	612	5.3		86.013
337	06/19	21 33 03.3	5.892 N	125.429 E	Mindanao, Philippine Islands	88	5.1		94.030
338	06/20	15 17 27.9	1.120 S	126.816 E	Molucca Sea	24	5.6	5.3	88.024
339	06/20	16 24 30.9	37.967 S	16.897 W	South Atlantic Ridge	10	5.0		43.154
340	06/20	21 00 09.9	36.957 N	49.409 E	Western Iran	19	6.4	7.7	105.976
341	06/21	19 38 16.6	21.551 S	175.185 E	South of Fiji Islands	33	4.8		84.195

342	06/22	07 43 36.2	14.558 S	167.887 E	Vanuatu Islands	33	5.1		89.047
343	06/22	11 48 45.5	19.648 S	69.128 W	Northern Chile	103	5.3		78.216
344	06/22	21 20 43.5	14.640 S	167.934 E	Vanuatu Islands	19	5.6	5.3	88.981
345	06/22	21 49 08.6	14.607 S	167.939 E	Vanuatu Islands	22	5.7	5.4	89.014
346	06/23	04 27 42.4	62.870 S	157.840 W	South Pacific Cordillera	10	4.9		47.754
347	06/23	05 01 44.5	0.611 S	146.473 E	Admiralty Islands Region	24	5.9	6.0	95.481
348	06/23	05 31 21.3	21.037 S	173.902 E	Vanuatu Islands Region	33	5.1	5.3	84.385
349	06/23	13 17 55.3	0.810 N	123.115 E	Minahassa Peninsula	39	5.1	3.7	88.487
350	06/23	21 38 18.7	21.568 S	176.483 W	Fiji Islands Region	181	6.4		85.979
351	06/24	08 35 24.9	21.610 S	176.502 W	Fiji Islands Region	193	5.6		85.935
352	06/25	07 19 05.1	56.115 N	164.572 E	Komandorsky Islands Region	31	5.0	4.9	152.791
353	06/25	19 53 39.5	3.458 S	131.000 E	Ceram	34	5.3	4.9	87.360
354	06/26	02 36 21.7	1.158 N	122.980 E	Minahassa Peninsula	31	5.1	4.4	88.762
355	06/26	12 08 29.3	22.015 S	179.473 W	South of Fiji Islands	587	6.0		84.936
356	06/26	21 54 45.7	34.858 N	138.990 E	Near South Coast of Honshu, Japan	150	5.2		125.471
357	06/27	05 10 13.4	21.734 S	176.451 W	Fiji Islands Region	189	5.1		85.824

358	06/27	12 07	56.8	25.146 S	177.373 W	South of Fiji Islands	143	4.9		82.324
359	06/27	22 18	52.8	14.905 S	167.358 E	Vanuatu Islands	136	5.0		88.571
360	06/29	03 53	28.7	21.552 S	179.332 W	Fiji Islands Region	616	5.7		85.415
361	06/29	06 31	25.8	28.578 S	68.746 W	La Rioja Province, Argentina	123	5.2		69.778
362	06/30	23 49	29.2	1.320 N	122.924 E	Minahassa Peninsula	33	5.0	4.7	88.892
363	07/01	04 05	26.7	7.374 S	128.489 E	Banda Sea	147	5.0		82.828
364	07/02	10 03	52.0	1.210 N	123.126 E	Minahassa Peninsula	34	4.9	5.0	88.862
365	07/02	18 27	33.7	11.838 S	65.657 E	Mid-Indian Rise	10	5.3	4.9	59.601
366	07/02	22 54	17.6	28.326 S	68.798 W	La Rioja Province, Argentina	101	4.8		70.029
367	07/03	15 38	18.1	22.259 S	179.729 W	South of Fiji Islnads	573	5.1		84.646
368	07/03	23 01	54.3	22.985 S	66.760 W	Jujuy Province, Argentina	208	4.5		74.329
369	07/04	02 01	48.9	44.751 S	15.605 W	South Atlantic Ridge	10	4.8	4.4	36.691
370	07/04	05 12	32.4	23.623 S	179.986 E	South of Fiji Islands	518	4.7		83.263
371	07/05	22 41	20.5	0.091 S	124.178 E	Molucca Sea	72	5.3		88.032
372	07/06	00 16	20.4	6.904 S	108.120 E	Java	14	5.8	4.8	76.045
373	07/06	05 02	27.9	45.371 N	150.170 E	Kuril Islands	42	5.7	5.2	138.762
374	07/06	11 42	38.1	3.599 S	150.996 E	New Ireland Region	438	5.3		94.228

375	07/06	13 39 32.1	1.056 N	121.500 E	Minahassa Peninsula	30	5.4	5.0	88.139
376	07/07	16 27 51.4	5.981 S	154.318 E	Solomon Islands	66	5.4		93.090
377	07/07	20 35 57.2	15.516 S	168.091 E	Vanuatu Islands	33	5.2	4.9	88.188
378	07/08	16 30 02.1	17.827 S	178.903 W	Fiji Islands Region	560	5.3		89.118
379	07/09	15 11 20.3	5.395 N	31.654 E	Sudan	13	5.9	6.4	74.485
380	07/10	03 17 59.2	10.353 S	161.119 E	Solomon Islands	66	6.0		91.099
381	07/10	06 33 46.8	43.884 S	169.211 E	South Island, New Zealand	10	5.2		61.410
382	07/10	18 24 11.3	30.903 S	177.777 W	Kermadec Islands	33	5.3	4.9	76.648
383	07/11	13 07 25.0	57.200 S	25.490 W	South Sandwich Islands Region	62	5.5		29.983
384	07/11	19 48 08.1	25.355 S	178.342 E	South of Fiji Islands	585	5.6		81.235
385	07/11	19 49 13.9	25.366 S	178.234 E	South of Fiji Islands	590	5.4		81.201
386	07/12	14 38 24.9	60.390 S	19.146 W	Southwestern Atlantic Ocean	10	4.9		25.384
387	07/13	08 11 37.3	6.245 S	154.787 E	Solomon Islands	59	5.6		92.994
388	07/13	14 20 43.4	36.415 N	70.789 E	Hindu Kush Region	217	5.6		107.707
389	07/14	05 54 25.4	0.003 N	17.376 W	North of Ascension Island	11	6.2	6.4	78.649
390	07 14	07 24 39.6	0.074 S	17.523 W	North of Ascension Islands	12	5.8	5.5	78.621
391	07/14	18 49 31.9	17.411 S	174.283 W	Tonga Islands	161	5.5		90.454

392	07/15	10 01 06.6	23.124 S	175.210 W	Tonga Islands Region	38	5.6	5.2	84.709
393	07/15	20 13 29.9	9.126 S	118.223 E	Sumbawa Island Region	87	5.3		77.522
394	07/16	07 26 34.6	15.679 N	121.172 E	Luzon, Philippine Islands	25	6.5	7.8	101.596
395	07/16	14 51 35.7	32.460 S	69.958 W	Mendoza Province, Argentina	102	5.7		66.560
396	07/17	04 05 22.1	0.294 S	122.761 E	Minahassa Peninsula	95	5.3		87.336
397	07/17	17 53 37.0	36.970 S	176.430 E	Off East Coast of Northern Island, New Zealand	239	4.6		69.609
398	07/17	21 14 43.8	16.495 N	120.981 E	Luzon, Philippine Islands	23	6.1	6.6	102.286
399	07/18	06 30 44.8	1.403 N	123.336 E	Minahassa Peninsula	45	4.8		89.117
400	07/18	16 38 06.1	0.872 N	127.033 E	Balmahera	52	5.2	4.5	89.949
401	07/18	17 21 47.0	6.820 S	130.601 E	Banda Sea	97	5.7		84.100
402	07/20	15 02 38.9	14.556 S	167.311 E	Vanuatu Islands	201	4.9		88.891
403	07/21	00 39 51.2	28.750 S	178.560 W	Kermadec Islands Region	201	4.7		78.587
404	07/22	01 26 09.4	19.133 S	168.758 E	Vanuatu Islands	46	5.0	4.7	84.911
405	07/22	07 37 24.0	29.240 S	176.840 W	Kermadec Islands Region	135	4.1		78.444
406	07/22	09 26 14.6	23.622 S	179.893 W	South of Fiji Islands	531	5.9		83.290
407	07/22	16 32 18.1	36.918 S	78.381 E	Mid-Indian Rise	10	4.9	5.1	38.516

408	07/23	19 33 12.6	14.152 S	167.022 E	Vanuatu Islands	144	5.2		89.196
409	07/23	23 08 32.3	22.735 S	69.305 W	Northern Chile	86	4.8		75.395
410	07/24	05 34 50.8	22.911 S	68.726 W	Northern Chile	93	5.0		68.535
411	07/25	13 37 14.8	15.433 S	174.723 W	Tonga Islnads	280	5.0		92.297
412	07/25	14 42 42.0	53.702 N	156.713 W	South of Alaska	48	5.7	4.4	162.941
413	07/25	15 00 00.0	37.207 N	116.214 W	Southern Nevada	0	4.7		145.449
414	07/25	19 55 12.6	45.036 S	98.594 E	Southeast Indian Rise	10	5.1	4.7	37.909
415	07/26	04 18 28.9	7.504 S	127.760 E	Banda Sea	131	5.2		82.446
416	07/26	05 15 43.9	2.948 S	35.854 E	Tanzania	10	4.9	4.1	66.043
417	07/26	09 06 33.3	24.408 S	67.002 W	Chile-Argentina Border Region	170	4.4		73.086
418	07/26	23 34 49.0	20.230 S	174.050 W	Tonga Islands	70	5.0		87.749
419	07/27	12 37 59.5	15.355 S	167.464 E	Vanuatu Islands	126	6.4		88.171
420	07/28	08 42 51.2	15.429 S	167.402 E	Vanuatu Islands	113	5.5		88.083
421	07/28	16 46 02.7	5.225 N	32.604 E	Sudan	10	5.3	5.0	74.272
422	07/28	19 08 02.6	13.834 S	167.115 E	Vanuatu Islands	217	5.2		89.525
423	07/29	13 34 13.2	20.832 S	178.407 W	Fiji Islands Region	589	4.6		86.306
424	07/29	21 04 35.1	19.839 S	175.996 W	Tonga Islands	265	4.8		87.757

425	07/30	16 24	53.8	41.333 S	88.411 W	West Chile Rise	10	4.9	5.1	63.375
426	07/31	03 19	46.8	42.416 N	126.682 W	Off Coast of Oregon	10	5.7	5.4	152.357
427	08/01	02 44	57.0	11.780 S	166.547 E	Santa Cruz Islands	31	5.6	5.1	91.324
428	08/02	00 09	48.2	31.817 S	71.736 W	Near Coast of Central Chile	66	4.9		67.709
429	08/02	05 24	08.5	31.620 S	71.695 W	Near Coast of Central Chile	36	5.5	5.9	67.880
430	08/02	15 03	27.6	6.460 S	105.396 E	Sunda Strait	48	5.4	5.2	75.533
431	08/03	07 50	57.9	31.758 S	72.099 W	Off Coast of Central Chile	32	4.5		67.876
432	08/03	09 15	06.1	47.963 N	84.961 E	Kazakh-Xinjiang Border Region	33	6.0	6.1	121.469
433	08/03	11 59	07.7	7.348 S	129.236 E	Banda Sea	146	4.9		83.121
434	08/03	20 55	52.4	31.815 S	72.276 W	Off Coast of Central Chile	56	4.3		67.877
435	08/04	09 19	29.2	1.289 N	123.155 E	Minahassa Peninsula	36	5.1	4.6	88.946
436	08/05	01 34	55.8	29.551 N	137.630 E	South of Honshu, Japan	496	6.0		120.186
437	08/05	03 36	22.2	36.310 N	141.072 E	Near East Coast of Honshu, Japan	27	5.8	6.0	127.520
438	08/05	14 47	54.4	51.759 N	175.276 W	Andreanof Islands, Aleutian Islands	59	5.0		156.218
439	08/05	17 42	32.1	1.080 S	13.887 W	Noruth of Ascension Island	10	5.6	6.3	76.570
440	08/06	08 40	01.5	24.121 S	66.831 W	Salta Province, Argentina	181	4.6		73.296

441	08/06	16 23 17.8	15.962 S	173.572 W	Tonga Islands	81	5.3		92.002
442	08/06	20 30 44.9	56.104 S	27.700 W	South Sandwich Islands Region	112	5.6		31.617
443	08/07	03 55 21.8	11.332 S	118.843 E	South of Sumbawa Island	33	5.0		75.700
444	08/09	07 33 52.3	7.199 S	129.187 E	Banda Sea	113	5.1		83.241
445	08/10	01 51 19.4	0.076 S	122.954 E	Minahassa Peninsula	172	5.4		87.607
446	08/10	05 37 52.1	20.199 S	168.328 E	Loyalty Islands	47	5.8	5.6	83.779
447	08/10	11 41 29.4	18.239 S	177.906 W	Fiji Islands Region	469	4.8		88.928
448	08/10	15 44 31.3	0.333 N	126.175 E	Molucca Passage	53	5.8		89.141
449	08/10	16 49 07.0	0.304 N	126.191 E	Molucca Passage	91	4.9		89.120
450	08/10	17 47 36.7	19.805 S	177.385 W	Fiji Islands Region	373	6.0		87.513
451	08/10	21 11 49.0	6.572 N	60.240 E	Carlsberg Ridge	10	5.5	5.0	76.836
452	08/11	02 45 18.1	6.106 S	130.479 E	Banda Sea	120	5.1		84.718
453	08/11	07 20 08.4	31.927 S	178.256 W	Kermadec Islands Region	33	5.2		75.560
454	08/11	08 00 14.8	22.182 S	171.138 E	Loyalty Islands Region	131	5.3		82.606
455	08/12	00 09 30.1	6.050 S	130.479 E	Banda Sea	129	5.2		84.770
456	08/12	00 35 03.2	0.964 N	28.808 W	Central Mid-Atlantic Ridge	10	5.2	5.2	83.240

457	08/12	21	25	21.9	19.435 S	169.132 E	Vanuatu Islands	140	6.3		84.721
458	08/13	16	12	33.3	1.371 N	123.377 E	Minahassa Peninsula	37	4.9	4.2	89.102
459	09/13	20	37	12.5	29.490 S	176.290 W	Kermadec Islands Region	33	4.5		78.304
460	09/13	22	36	30.9	28.985 S	66.071 W	Catamarca Province, Argentina	22	4.9		68.537
461	09/14	06	10	55.5	20.143 S	168.282 E	Loyalty Islands	40	5.1		83.821
462	09/14	20	58	31.6	38.823 S	175.688 E	Nouth Islands, New Zealand	139	4.5		67.669
463	09/15	06	21	13.6	31.621 S	179.737 E	Kermadec Islands Region	400	4.3		75.461
464	09/15	13	23	36.3	18.834 S	69.096 W	Northern Chile	120	5.2		78.965
465	08/15	15	54	41.9	40.382 S	176.394 E	North Island, New Zealand	31	5.4	5.0	66.314
466	08/16	04	41	53.3	5.167 S	130.423 E	Banda Sea	64	5.2		85.568
467	08/16	04	59	57.6	41.564 N	88.770 E	Southern Xinjiang, China	0	6.2		116.185
468	08/16	19	22	50.5	26.948 S	71.036 W	Off Coast of Northern Chile	30	4.9		72.023
469	08/17	13	07	17.4	11.164 S	161.997 E	Solomon Islands	29	5.9	6.8	90.594
470	08/17	21	46	08.8	11.199 S	162.107 E	Solomon Islands	15	5.6	5.1	90.593
471	08/18	10	47	21.5	40.186 S	77.773 E	Mid-Indian Rise	10	4.7	5.2	35.308
472	08/18	12	54	48.6	40.276 S	78.301 E	Mid-Indian Rise	10	5.0		35.382
473	08/18	13	55	07.5	40.229 S	78.308 E	Mid-Indian Rise	10	5.6	6.0	35.427

474	08/18 14 29 16.4	40.112 S	78.134 E	Mid-Indian Rise	10	5.4		35.483
475	08/18 18 52 36.8	7.507 N	93.975 E	Nicobar Islands Region	21	5.5	6.0	85.090
476	08/19 08 03 44.0	20.619 S	178.038 W	Fiji Islands Region	556	5.1		86.589
477	08 19 17 44 58.7	34.597 S	107.776 W	Easter Island Cordillera	10	5.2	4.8	73.838
478	08/19 19 23 46.6	20.020 S	168.123 E	Loyalty Islands	43	4.5		83.896
479	08/20 00 03 52.7	46.189 E	142.289 E	Sakhalin Island	309	5.9		136.647
480	08/20 14 11 43.0	11.246 E	161.919 E	Solomon Islands	44	5.2	5.4	90.493
481	08/21 00 57 28.5	33.373 S	178.046 W	South of Kermadec Islands	33	5.7	5.5	74.196
482	08/21 14 13 04.8	27.487 S	104.266 W	Easter Island Region	11	6.0	5.3	80.141
483	08/21 17 45 32.0	35.363 S	179.187 E	Off East Coast of North Island, New Zealand	118	5.0		71.726
484	08/21 20 11 09.5	34.593 S	179.613 W	South of Kermadec Islands	33	4.8		72.709
485	08/22 01 58 00.2	27.497 S	104.312 W	Easter Island Region	10	5.1		80.140
486	08/22 03 25 26.6	1.059 N	123.434 E	Minahassa Peninsula	33	5.1	4.3	88.832
487	08/22 17 18 49.8	3.585 N	124.562 E	Celebes Sea	334	5.0		91.580
488	08/22 22 14 12.2	41.710 S	173.600 E	South Island, New Zealand	76	4.6		64.454
489	08/23 12 12 06.8	8.273 S	108.345 E	Java	69	4.5		74.845

490	08/24	15 41 20.0	17.699 S	13.253 W	South Atlantic Ridge	10	5.1	4.8	60.667
491	08/24	16 24 38.6	4.455 S	144.508 E	Near North Coast of Papua New Guinea	214	5.4		91.218
492	08/24	19 02 07.2	4.805 S	152.217 E	New Britain Region	85	5.3		93.504
493	08/25	03 25 28.3	6.522 S	155.601 E	Solomon Islands	213	5.2		92.995
494	08/25	14 12 33.8	19.993 S	172.963 W	Tonga Islands Region	51	5.1		88.180
495	08/25	15 47 53.8	0.525 N	126.084 E	Molucca Passage	11	6.0	6.1	89.287
496	08/25	18 39 34.9	57.930 S	23.477 W	South Sandwich Islands Region	33	5.1		28.716
497	08/26	13 45 02.2	34.067 S	178.930 W	South of Kermadec Islnds	13	5.4	4.9	73.352
498	08/26	15 07 40.2	33.650 S	176.690 W	South of Kermadec Islands	33	5.2		74.180
499	08/26	15 13 13.8	34.210 S	177.570 W	South of Kermadec Islands	33	5.0		73.472
500	08/26	21 28 49.8	34.320 S	177.210 W	South of Kermadec Islands	33	4.8		72.329
501	08/26	23 13 33.6	9.196 S	110.764 E	South of Java	33	5.3	4.4	74.824
502	08/27	02 44 16.5	34.701 S	70.555 W	Chile-Argentina Border Region	94	4.7		64.669
503	08/27	04 11 59.8	26.109 S	177.553 W	South of Fiji Islands	33	5.2	5.4	81.352
504	08/27	15 17 12.0	6.870 S	125.452 E	Banda Sea	506	5.8		82.203
505	08/27	23 11 22.4	31.728 S	72.088 W	Off Coast of Central Chile	42	5.0		67.900

506	08/28 03 16 52.7	19.447 S	175.735 W	Tonga Islands	244	5.6		88.190
507	08/28 05 28 10.3	16.430 S	178.056 E	Fiji Islands	10	4.9		89.801
508	08/28 08 58 05.8	19.645 S	69.876 W	Northern Chile	64	5.2		78.464
509	08/29 06 02 19.1	4.843 S	153.276 E	New Ireland Region	82	5.2		93.818
510	08/29 20 44 23.0	11.791 N	95.034 E	Andaman Islands Region	25	5.2	4.1	89.467
511	08/30 07 19 27.6	34.007 S	179.103 E	South of Kermadec Islands	291	4.2		73.021
512	08/30 12 36 06.7	21.710 S	68.390 W	Chile-Bolivia Border Region	152	4.9		76.052
513	08/30 17 36 47.4	8.587 S	74.387 W	Peru-Brazil Border Region	157	4.7		90.291
514	08/31 03 24 31.5	6.980 S	106.370 E	Java	33	4.9		75.377
515	09/02 09 56 31.9	23.852 S	70.484 W	Near Coast of Northern Chile	43	4.7		74.734
516	09/02 10 06 52.0	41.210 S	90.129 W	Southern Pacific Ocean	10	5.0	5.0	63.898
517	09/02 12 51 17.6	3.134 S	148.134 E	Bismarck Sea	41	5.3	5.4	93.696
518	09/02 13 05 07.3	3.197 S	148.225 E	Bismarck Sea	23	5.4	5.8	93.668
519	09/02 13 49 48.7	27.672 S	104.448 W	Easter Island Region	10	4.8		79.996
520	09/03 06 01 55.4	19.850 S	70.520 W	Near Coast of Northern Chile	33	4.8	4.4	78.482
521	09/04 01 48 00.7	0.479 S	29.085 E	Zaire Republic	10	5.0	5.0	68.812
522	09/04 15 48 14.2	55.117 N	161.719 E	Near East Coast of Kamchatka	40	5.0	4.2	150.988

523	09/04	19 57 12.2	7.177 S	146.036 E	East Papua New Guinea Region	161	5.1		89.205
524	09/04	23 15 11.3	31.262 S	69.063 W	San Juan Province, Argentina	112	5.5		67.389
525	09/05	07 11 05.0	8.461 N	126.506 E	Mindanao, Philippine Islands	84	5.5		96.797
526	09/07	00 12 26.2	5.443 N	31.686 E	Sudan	10	5.2	5.2	74.531
527	09/07	11 34 35.5	31.071 S	178.397 W	Kermadec Islands Region	10	5.5	5.3	76.365
528	09/07	16 09 19.6	24.260 S	66.957 W	Salta Province, Argentina	161	5.5		73.209
529	09/07	18 05 26.0	1.078 S	124.582 E	Molucca Sea	59	5.5		87.261
530	09/08	18 51 45.2	24.449 S	177.227 W	South of Fiji Islnads	132	5.4		83.030
531	09/08	20 31 57.7	20.548 S	174.173 W	Tonga Islnads	33	5.6	5.7	87.416
532	09/09	02 42 30.8	33.573 S	178.799 W	South of Kermadec Islands	33	5.1		73.857
533	09/09	04 39 42.5	21.519 S	68.661 W	Chile-Bolivia Border Region	119	4.9		76.319
534	09/09	05 35 45.9	5.178 S	151.729 E	New Britain Region	74	5.8		92.993
535	09/09	22 29 27.4	1.126 N	123.006 E	Minahassa Peninsula	34	5.5	5.1	88.742
536	09/12	02 35 36.1	36.701 S	177.164 E	Off East Coast of North Island, New Zealand	162	5.1		70.021
537	09/12	10 21 49.3	6.355 N	126.379 E	Mindanao, Philippine Islands	90	5.6		94.799
538	09/12	15 28 35.5	15.120 N	59.267 E	Arabian Sea	10	5.5	4.7	85.144

539	09/12	20 16 18.9	60.447 S	65.029 W	Drake Passage	10	5.5	5.2	39.975
540	09/13	02 58 46.5	33.495 N	140.992 E	South of Honshu, Japan	51	5.4		124.963
541	09/13	17 08 47.2	36.540 S	97.690 W	West Chile Rise	10	5.0		70.046
542	09/14	07 00 02.6	51.457 N	164.118 W	South of Alaska	33	5.7	5.0	159.151
543	09/14	09 20 18.9	60.689 S	22.794 W	South Sandwich Islands Region	33	5.9	5.5	26.463
544	09/14	16 08 54.1	31.100 S	179.020 W	Kermadec Islands Region	370	4.4		76.214
545	09/14	17 59 26.5	22.123 S	68.644 W	Northern Chile	109	4.6		75.750
546	09/14	20 40 18.3	13.382 N	51.456 E	Eastern Gulf of Aden	10	5.4	4.8	82.674
547	09/15	10 59 52.0	25.672 S	179.749 E	South of Fiji Islands	477	4.6		81.228
548	09/15	19 22 52.8	5.205 S	133.816 E	Aroe Islands Region	30	5.3		86.749
549	09/16	03 42 16.7	6.161 S	146.782 E	East Papua New Guinea Region	104	5.6		90.408
550	09/16	05 14 31.9	22.924 S	66.157 W	Jujuy Province, Argerntina	257	4.6		74.186
551	09/17	11 57 24.1	5.917 S	103.796 E	Southern Sumatera	59	5.7		75.505
552	09/17	13 47 26.6	53.155 S	159.632 E	Macquarie Islands Region	10	6.0	6.0	50.479
553	09/17	18 41 54.7	5.648 N	124.729 E	Mindanao, Philippin Islands	42	5.2		93.553
554	09/18	03 18 39.7	51.453 N	177.899 E	Rat Islands, Aleutian Islands	41	5.6	5.4	153.725

555	09/19	00 57 18.7	5.675 S	146.157 E	East Papua New Guinea Region	55	5.1		90.648
556	09/19	04 12 11.0	23.656 S	179.988 E	South of Fiji Islands	550	4.8		83.232
557	09/20	23 13 40.6	41.690 N	126.946 W	Off Coast of Northern California	10	5.2	4.9	151.678
558	09/21	03 19 00.3	12.995 S	165.984 E	Santa Cruz Islands	33	5.2	5.3	90.009
559	09/22	07 13 01.4	6.223 S	124.287 E	Banda Sea	36	5.2	4.1	82.384
560	09/23	06 50 33.0	14.989 S	173.632 W	Samoa Islands Region	33	5.6	5.8	92.939
561	09/23	11 01 32.6	15.911 S	72.791 W	Southern Peru	117	4.7		82.903
562	09/23	17 45 43.5	55.945 S	27.068 W	South Sandwich Islands Region	33	5.4		31.512
563	09/23	17 54 02.9	17.732 S	167.612 E	Vanuatu Islands	10	5.4	6.2	85.943
564	09/23	20 33 49.7	6.726 S	130.373 E	Banda Sea	33	4.9	6.5	84.105
565	09/23	21 13 07.4	33.267 N	138.643 E	South of Honshu, Japan	10	6.0	6.5	123.914
566	09/23	22 09 04.2	33.189 N	138.685 E	South of Honshu, Japan	10	5.6	6.2	123.859
567	09/23	22 52 37.6	17.834 S	167.678 E	Vanuatu Islands	28	4.9		85.864
568	09/24	01 00 38.7	17.732 S	167.598 E	Vanuatu Islands	33	4.8	4.4	85.939
569	09/24	01 44 20.2	17.609 S	167.696 E	Vanuatu Islands	21	5.1	4.8	86.083
570	09/24	01 58 01.9	17.590 S	167.833 E	Vanuatu Islands	26	5.2	5.5	86.138

571	09/24	21 37 59.2	36.290 S	97.530 W	West Chile Rise	10	4.8	5.0	70.254
572	09/25	05 51 10.3	27.593 S	178.888 W	Kermadec Islands Region	371	4.9		79.645
573	09/26	13 24 18.9	3.989 S	102.385 E	Southern Sumatera	59	5.6		76.846
574	09/26	15 40 42.4	36.190 S	100.795 W	Southern Pacific Ocean	10	5.2	4.9	71.016
575	09/26	23 08 23.9	28.014 S	26.727 E	Republic of South Africa	5	5.4	4.2	41.730
576	09/27	21 07 38.4	51.689 N	176.307 E	Rat Islands, Aleutian Islands	34	5.1	4.7	153.384
577	09/28	05 56 58.4	28.920 S	176.291 W	Kermadec Islands Region	16	4.9	4.6	78.859
578	09/28	16 50 59.2	41.243 S	85.491 E	Southeast Indian Rise	10	5.3	4.9	36.751
579	09/28	19 44 47.1	13.559 S	167.079 E	Vanuatu Islands	176	6.0		89.778
580	09/29	00 55 54.7	33.012 S	68.146 W	Mendoza Province, Argentina	172	4.4		65.479
581	09/29	12 01 55.4	33.394 S	77.580 E	Mid-Indian Rise	10	5.1	4.8	41.587
582	09/29	12 32 33.3	5.579 S	141.876 E	Papua New Guinea	22	5.0	4.5	89.255
583	10/01	14 44 13.5	30.831 S	177.600 W	Kermadec Islands	33	5.1	4.8	76.752
584	10/01	21 45 31.0	17.778 S	167.603 E	Vanuatu Islands	5	4.9	4.9	85.897
585	10/02	07 48 27.9	17.634 S	167.831 E	Vanuatu Islands	26	5.3	5.3	86.096
586	10/02	08 08 26.3	17.617 S	167.799 E	Vanuatu Islands	20	5.3	5.5	86.103
587	10/02	15 06 44.6	24.036 S	174.646 W	South of Tonga Islands	9	5.8	5.5	83.926

588	10/03	17 11	06.9	23.943 S	174.727 W	Tonga Islands Region	33	4.9		84.003
589	10/04	03 47	28.9	17.765 S	178.766 W	Fiji Islands Region	547	5.3		89.207
590	10/04	23 48	31.3	41.480 S	174.955 E	Cook Strait, New Zealand	37	5.5	5.1	64.961
591	10/05	15 16	26.0	28.970 S	177.070 W	Kermadec Islands Region	68	4.6		78.663
592	10/05	23 43	34.7	10.955 S	70.830 W	Peru-Brazil Border Region	616	4.8		86.902
593	10/06	02 41	15.4	41.589 S	175.344 E	North Island, New Zealand	39	5.7	5.1	64.937
594	10/06	09 08	09.1	2.711 S	67.908 E	Carlsberg Ridge	10	5.6	5.2	68.929
595	10/06	19 49	13.6	24.854 S	179.676 E	South of Fiji Islands	506	4.8		82.005
596	10/07	04 45	54.6	28.848 S	177.000 W	Kermadec Islands Region	60	5.2		78.795
597	10/07	05 29	33.5	29.217 S	176.713 W	Kermadec Islands Region	53	5.0	5.0	78.491
598	10/07	11 32	13.7	56.167 S	27.008 W	South Sandwich Islnads Region	100	5.4		31.318
599	10/07	22 36	30.9	23.620 S	66.578 W	Jujuy Province, Argentina	229	4.7		73.678
600	10/08	17 00	06.9	9.231 S	110.783 E	South of Java	92	5.0		74.798
601	10/08	23 03	35.3	13.267 S	167.214 E	Vanuatu Islands	168	5.2		90.093
602	10/08	23 35	00.7	21.377 S	67.936 W	Chile-Bolivia Border Region	145	4.8		76.213
603	10/09	18 05	10.1	3.551 S	100.830 E	Southern Sumatera	25	5.6	5.1	76.751

604	10/10	01 00	05.5	19.503 S	66.618 W	Southern Bolivia	266	5.8		77.521
605	10/10	05 54	53.5	23.497 S	179.029 E	South of Fiji Islands	549	6.0		83.181
606	10/10	07 45	07.9	1.602 S	99.479 E	Southern Sumatera	57	5.2		78.152
607	10/11	04 25	25.2	33.656 S	72.087 W	Off Coast of Central Chile	33	5.2	4.9	66.108
608	10/12	17 30	00.0	37.248 N	116.494 W	Southern Nevada	0	5.6	4.2	145.547
609	10/12	19 23	22 7	55.926 S	27.739 W	South Sandwich Islands Region	33	5.3		31.765
610	10/13	22 53	32.8	23.493 S	179.135 E	South of Fiji Islands	572	5.3		83.208
611	10/14	01 58	42.8	17.650 S	178.906 W	Fiji Islands Region	556	5.1		89.289
612	10/14	19 48	12.6	46.121 S	33.554 E	Prince Edward Island Region	10	4.9		23.143
613	10/15	01 35	44.5	2.211 S	92.249 E	Southwest of Sumatera	32	5.9	6.5	75.353
614	10/15	19 50	24.0	10.047 S	114.607 E	South of Bali Island	70	5.8		75.383
615	10/16	21 55	31.8	24.092 S	66.705 W	Salta Province, Argentina	193	4.9		73.282
616	10/16	23 14	09.4	28.132 S	67.402 W	La Rioja Province, Argentina	151	4.9		69.759
617	10/16	23 38	44.1	29.131 S	177.391 W	Kermadec Islands	33	5.3		78.445
618	10/17	12 16	29.1	25.557 S	176.311 W	South of Fiji Islands	44	5.6	5.5	82.130
619	10/17	14 30	13.1	10.970 S	70.776 W	Peru-Brazil Border Region	599	6.7		86.870
620	10/17	23 24	38.5	16.633 S	71.351 W	Southern Peru	40	5.0		81.760

621	10/18 03 06 52.3	7.348 S	129.279 E	Banda Sea	48	5.3	83.136
622	10/18 07 14 18.2	24.120 S	66.669 W	Salta Province, Argentina	203	4.7	73.244
623	10/18 22 21 16.1	3.431 S	143.544 E	Near North Coast of Papua New Guinea	46	5.4 4.5	91.837
624	10/19 02 39 05.7	7.139 S	129.318 E	Banda Sea	98	5.1	83.344
625	10/19 03 28 07.5	38.391 S	176.154 E	North Island, New Zealand	177	4.8	68.182
626	10/19 08 12 38.5	21.777 S	178.768 W	Fiji Islands Region	649	4.6	85.314
627	10/19 13 21 28.8	30.220 S	177.699 W	Kermadec Islands	41	4.9 4.5	77.327
628	10/19 18 57 32.4	28.800 S	176.690 W	Kermadec Islands Region	144	4.1	78.901
629	10/20 15 13 30.2	28.701 S	176.517 W	Kermadec Islands Region	50	5.0	79.030
630	10/21 01 57 33.9	14.949 S	166.738 E	Vanuatu Islands	47	5.0 4.4	88.358
631	10/21 15 10 43.7	3.989 S	77.274 W	Peru-Ecuador Border Region	116	5.7	95.546
632	10/21 19 05 47.7	20.894 S	177.939 W	Fiji Islands Region	498	5.3	86.342
633	10/21 22 53 33.6	8.911 S	123.843 E	Flores Island Region	122	5.0	79.734
634	10/22 14 35 22.2	16.244 S	173.153 W	Tonga Islands	31	5.4 5.2	91.805
635	10/23 04 08 00.5	21.940 S	179.390 W	Fiji Islands Region	592	5.3	85.026
636	10/23 15 14 29.4	5.604 S	153.925 E	New Ireland Region	59	5.4	93.317

637	10/23	19 08 25.5	19.160 S	177.564 W	Fiji Islands Region	624	4.9		88.103
638	10/23	20 14 56.8	30.833 S	178.065 W	Kermadec Islands	16	5.4	4.0	76.660
639	10/24	06 15 20.7	38.047 N	119.157 W	California-Nevada Border Region	12	5.4	5.2	146.848
640	10/24	12 18 16.4	15.794 S	172.112 W	Samoa Islands Region	32	5.3	4.9	92.436
641	10/24	14 57 58.1	73.361 N	54.707 E	Novaya Zemlya	0	5.7	4.0	142.570
642	10/24	21 47 15.3	6.958 S	130.999 E	Banda Sea	33	4.9		84.115
643	10/25	11 01 38.7	8.307 N	126.462 E	Mindanao, Philippine Islands	44	5.9	6.1	96.637
644	10/25	16 33 33.4	6.189 S	154.960 E	Solomon Islands	142	5.8		93.102
645	10/26	05 49 37.9	35.143 S	16.426 W	South Atlantic Ridge	10	5.1	5.6	45.543
646	10/26	06 04 15.7	35.368 S	16.108 W	South Atlantic Ridge	10	5.1	5.5	45.203
647	10/26	20 06 59.6	56.136 S	27.737 W	South Sandwich Islands Region	110	4.9		31.600
648	10/28	06 53 01.2	49.682 N	155.885 E	Kuril Islands	48	5.5	4.8	144.477
649	10/28	15 57 24.6	7.440 S	128.379 E	Banda Sea	156	5.4		82.727
650	10/29	00 26 00.7	63.497 S	172.276 E	Balleny Islands Region	10	5.0	4.5	43.559
651	10/29	05 47 27.9	63.653 S	172.650 E	Balleny Islands Region	10	5.2	4.9	43.478
652	10/29	06 19 11.2	63.490 S	172.361 E	Balleny Islnads Region	10	5.2	5.4	43.580

653	10/29	06 42 41.7	55.981 S	143.243 W	South Pacific Cordiller	10	5.3	5.2	55.228
654	10/30	04 29 02.4	21.829 S	170.036 E	Loyalty Islands Region	33	5.0	4.0	82.665
655	10/31	14 39 27.2	26.634 S	70.481 W	Near Coast of Northern Chile	60	5.5		72.140
656	10/31	15 15 11.3	51.984 N	158.683 E	Near East Coast of Kamchatka	33	5.1	4.2	147.386
657	11/01	01 56 44.6	55.997 S	143.195 W	South Pacific Cordillera	10	5.3	4.8	55.212
658	11/01	03 39 43.9	3.533 S	139.367 E	West Irian	35	5.8	5.2	90.276
659	11/01	04 03 19.0	6.704 S	125.636 E	Banda Sea	515	5.1		82.423
660	11/01	17 52 26.4	18.094 S	178.427 W	Fiji Islands Region	601	5.0		88.960
661	11/02	20 59 26.8	26.951 S	63.317 W	Santiago Del Estero Province, Argentina	558	5.1		69.508
662	11/03	00 31 28.8	21.358 S	33.282 E	Mozambique	10	4.9	5.1	47.838
663	11/03	19 47 09.2	17.605 S	69.487 W	Peru-Bolivia Border Region	141	4.8		80.241
664	11/03	20 00 20.8	7.475 S	128.273 E	Banda Sea	140	5.4		82.657
665	11/04	12 59 40.6	27.924 S	66.680 W	Catamarca Province, Argentina	174	4.5		69.718
666	11/04	18 13 43.0	15.721 S	72.619 W	Southern Peru	121	5.4		83.026
667	11/04	22 04 45.4	51.186 N	178.948 E	Rat Islands, Aleutian Islands	33	5.1	5.0	153.850
668	11/05	13 22 54.5	17.495 S	167.984 E	Vanuatu Islands	33	5.3	4.9	86.270

669	11/05	15 34 13.2	43.651 S	16.157 W	South Atlantic Ridge	10	5.3	5.2	37.846
670	11/06	00 40 34.2	20.501 S	178.673 W	Fiji Islands Region	607	5.3		86.572
671	11/06	14 50 29.4	37.937 S	177.250 E	Off East Coast of Northern Island, New Zealand	157	4.8		68.846
672	11/06	17 27 54.7	7.623 S	159.163 E	Solomon Islands	39	5.5	4.9	93.082
673	11/06	18 45 52.2	28.251 N	55.462 E	Southern Iran	11	6.2	6.7	97.744
674	11/06	20 14 29.7	53.452 N	169.871 E	Komandorsky Islands Region	25	6.3	7.0	152.588
675	11/06	22 27 00.2	53.628 N	169.426 E	Komandorsky Islands Region	40	5.0		152.572
676	11/07	14 36 27.7	5.643 N	125.247 E	Mindanao, Philippine Islands	78	5.5		93.734
677	11/07	16 48 38.7	20.701 S	178.293 W	Fiji Islands Region	542	5.3		86.457
678	11/07	19 05 27.9	55.974 S	27.538 W	South Sandwich Islands Region	48	5.9	5.3	31.656
679	11/08	10 15 46.1	28.881 S	176.187 W	Kermadec Islands Region	51	5.5		78.917
680	11/08	14 10 42.2	8.549 S	108.939 E	Java	74	5.4		74.793
681	11/09	22 46 08.5	24.157 S	66.861 W	Salta Province, Argentina	175	4.9		73.273
682	11/10	11 30 29.0	12.212 N	93.749 E	Andaman Islands Region	33	5.3	4.9	89.497
683	11/10	15 41 22.0	21.116 S	178.979 W	Fiji Islands Region	633	5.2		85.912
684	11/10	19 28 24.9	7.354 S	128.430 E	Banda Sea	137	4.9		82.825

685	11/11 07 06 28.9	74.683 N	8.182 E	Greenland Sea	10	4.9	4.8	144.916
686	11/12 12 28 51.5	42.959 N	78.071 E	Alma-Ata Region	19	5.9	6.3	115.326
687	11/12 20 58 57.3	25.863 S	179.415 E	South of Fiji Islands	491	5.1		80.973
688	11/13 02 35 07.8	46.104 N	138.637 E	Near East Coast of Eastern USSR.	14	6.2	5.7	135.285
689	11/13 18 58 43.0	6.785 S	131.683 E	Tanimbar Islands Region	33	5.0		84.520
690	11/13 21 18 55.3	31.054 S	178.722 W	Kermadec Islands Region	208	5.2		76.318
691	11/14 19 17 00.7	37.227 N	116.371 W	Southern Nevada	0	5.4		145.501
692	11/15 02 34 32.4	3.908 N	97.457 E	Northern Sumatera	48	6.0	6.8	82.720
693	11/15 04 48 12.2	3.982 N	97.324 E	Northern Sumatera	30	5.8	5.6	82.750
694	11/15 05 18 45.8	3.909 N	97.291 E	Northern Sumatera	54	5.6		82.670
695	11/15 05 47 22.0	3.923 N	97.349 E	Northern Sumatera	49	5.4	4.9	82.701
696	11/16 07 20 10.1	59.707 S	26.244 W	South Sandwich Islands Region	33	5.5	5.3	28.377
697	11/16 14 43 52.3	31.688 S	178.605 W	Kermadec Islands Region	83	5.6		75.725
698	11/17 02 09 24.6	5.830 S	129.231 E	Banda Sea	222	5.1		84.525
699	11/18 16 06 54.1	3.878 N	97.357 E	Northern Sumatera	62	5.2		82.661
700	11/18 16 23 06.9	3.942 N	97.343 E	Northern Sumatera	67	5.7		82.718

701	11/20	09 03 37.1	0.171 N	127.010 E	Halmahera	114	5.6		89.291
702	11/20	16 28 26.9	22.691 S	69.884 W	Northern Chile	58	5.1		75.624
703	11/20	22 33 08.5	26.385 S	70.816 W	Near Coast of Northern Chile	56	4.7		72.478
704	11/21	01 48 26.4	51.650 N	171.331 W	Fox Islands, Aleutian Islands	33	5.8	5.9	157.333
705	11/21	11 52 12.7	23.096 S	66.566 W	Jujuy Province, Argentina	222	4.0		74.161
706	11/21	23 23 21.7	22.900 S	68.709 W	Northern Chile	81	4.6		75.048
707	11/21	23 39 56.4	21.325 S	179.029 W	Fiji Islands Region	638	5.1		85.699
708	11/22	01 17 55.0	32.189 S	69.993 W	Mendoza Province, Argentina	120	4.6		66.822
709	11/22	13 18 13.3	52.700 S	10.417 E	Southwest of Africa	10	4.8		21.224
710	11/22	14 25 12.7	10.130 S	78.617 W	Near Coast of Peru	48	5.2	4.5	90.188
711	11/22	20 49 06.7	5.575 S	150.993 E	New Britain Region	29	6.0	6.0	92.376
712	11/23	00 56 08.9	5.005 S	145.791 E	East Papua New Guinea Region	62	5.4		91.147
713	11/23	07 41 57.9	5.538 N	125.851 E	Mindanao, Philippine Islands	125	5.7		93.853
714	11/23	10 08 03.0	17.742 S	178.472 W	Fiji Islands Region	552	5.3		89.292
715	11/23	22 35 34.7	4.707 N	75.574 W	Colombia	145	5.7		102.870
716	11/24	07 46 06.9	15.512 S	177.302 W	Fiji Islands Region	415	5.0		91.701

717	11/25 01 00 53.1	23.575 S	175.824 W	Tonga Islands Region	29	5.3	5.3	84.153
718	11/25 03 36 12.9	23.780 S	175.771 W	Tonga Islands Region	59	5.5	5.4	83.964
719	11/25 04 02 43.8	23.890 S	175.779 W	Tonga Islands Region	33	5.4	5.6	83.855
720	11/25 04 19 55.2	31.010 S	178.992 W	Kermadec Islands Region	33	5.6		76.307
721	11/26 20 09 19.8	21.720 S	179.300 W	Fiji Islands Region	614	5.2		85.259
722	11/27 00 28 28.0	3.322 N	98.401 E	Northern Sumatera	145	5.1		82.458
723	11/29 00 40 31.8	21.088 S	178.867 W	Fiji Islands Region	620	5.2		85.962
724	11/29 01 18 03.9	22.581 S	179.773 W	South of Fiji Islands	664	4.4		84.324
725	11/29 20 58 11.0	28.041 S	179.707 W	Kermadec Islands Region	415	5.1		79.044
726	11/29 21 26 19.9	41.853 S	88.417 E	Southeast Indian Rise	10	4.9		37.172
727	11/29 21 35 00.6	41.978 S	88.263 E	Southeast Indian Rise	10	4.8	5.3	37.008
728	11/30 13 19 27.6	1.030 N	123.970 E	Minahassa Peninsula	28	5.6	5.2	88.997
729	11/30 14 17 06.1	1.021 N	124.003 E	Minahassa Peninsula	55	5.5	4.6	89.001
730	12/02 08 44 02.0	26.722 S	114.127 W	Easter Island Region	10	5.3	5.5	82.552
731	12/02 14 37 26.9	21.823 S	68.333 W	Chile-Bolivia Border Region	121	5.3		75.928
732	12/03 05 48 17.9	22.727 S	166.700 E	New Caledonia	12	5.7	5.4	80.934
733	12/04 09 17 41.2	0.141 S	125.097 E	Molucca Sea	64	5.3		88.315

734	12/05	16 08	51.4	5.264 S	131.370 E	Banda Sea	75	5.9		85.818
735	12/06	22 39	31.0	33.040 S	177.720 W	South of Kermadec Islands	33	4.9		74.581
736	12/07	02 24	30.8	27.804 S	66.543 W	Catamarca Province, Argentina	162	4.9		69.784
737	12/07	08 25	03.3	16.993 S	177.268 W	Fiji Islands Region	414	5.6		90.270
738	12/07	12 17	40.6	7.022 S	108.768 E	Java	221	4.9		76.157
739	12/07	17 28	32.1	23.730 S	179.590 E	South of Fiji Islands	550	4.4		83.076
740	12/07	20 31	03.2	6.787 S	132.260 E	Tanimbar Islands Region	33	5.2		84.725
741	12/07	23 08	13.3	21.041 S	178.861 W	Fiji Islands Region	570	5.3		86.009
742	12/08	00 38	13.1	6.670 S	147.415 E	East Papua New Guinea Region	79	5.4		90.148
743	12/08	04 45	25.4	23.573 S	179.333 E	South of Fiji Islands	543	5.1		83.173
744	12/08	06 03	13.4	57.877 S	25.152 W	South Sandwich Islands Region	33	5.4	4.8	29.350
745	12/08	06 27	38.5	18.230 S	177.962 W	Fiji Islands Region	601	5.1		88.925
746	12/08	13 34	13.4	17.975 S	178.563 W	Fiji Islands Region	591	4.5		89.047
747	12/09	05 26	49.6	8.676 S	110.587 E	Java	33	5.0	4.6	75.246
748	12/09	07 33	15.7	8.165 S	110.811 E	Java	33	4.8	4.3	75.799
749	12/09	11 07	34.1	48.300 S	31.392 E	South of Africa	10	5.3	4.0	21.141
750	12/09	15 36	26.9	54.881 N	162.109 E	Near East Coast of Kamchatka	26	5.7	5.0	150.943

751	12/10	01 15	54.9	20.143 S	177.473 W	Fiji Islands Region	376	5.0		87.167
752	12/10	09 34	33.0	5.940 S	142.282 E	Papua New Guinea	32	5.8	5.7	89.061
753	12/10	09 42	16.1	5.869 S	142.260 E	Papua New Guinea	33	5.5		89.120
754	12/10	16 20	15.4	34.836 S	111.258 W	Easter Islands Cordillera	10	4.9		74.157
755	12/11	01 11	03.8	22.164 S	174.306 W	Tonga Islands Region	38	5.1	5.2	85.815
756	12/11	14 41	42.5	15.461 S	173.117 W	Tonga Islands	13	5.8	6.1	92.576
757	12/11	16 09	31.0	15.372 S	173.052 W	Tonga Islands	33	5.0	5.4	92.674
758	12/11	21 41	46.7	5.914 S	142.503 E	Papua New Guinea	33	5.4		89.162
759	12/12	07 21	05.7	5.864 S	142.262 E	Papua New Guinea	33	5.5		89.125
760	12/12	17 13	58.3	17.438 S	177.350 W	Fiji Islands Region	392	4.5		89.820
761	12/12	18 24	09.7	1.096 N	123.714 E	Minahassa Peninsula	33	5.3		88.967
762	12/13	12 26	40.7	1.116 N	124.034 E	Minahassa Peninsula	33	6.0	5.7	89.100
763	12/13	16 27	01.0	21.990 S	175.980 W	Tonga Islands	210	4.7		85.754
764	12/14	11 22	39.3	9.691 S	78.982 W	Near Coast of Nouthern Peru	38	5.3	5.1	90.716
765	12/16	10 06	55.7	7.021 S	127.231 E	Banda Sea	279	5.0		82.703
766	12/16	20 19	48.1	6.002 S	142.167 E	Papua New Guinea	33	5.4		88.963
767	12/16	20 28	50.6	19.467 S	173.278 W	Tonga Islands	33	5.2	5.6	88.636

768	12/17	01 21	07.8	1.412 N	123.230 E	Minahassa Peninsula	33	5.2		89.087
769	12/17	01 43	48.6	1.298 N	123.188 E	Minahassa Peninsula	33	5.4	4.7	88.966
770	12/17	04 15	14.4	24.130 S	179.820 W	South of Fiji Islands	628	5.2		82.813
771	12/17	07 14	57.9	1.232 N	123.013 E	Minahassa Peninsula	33	5.0	4.4	88.842
772	12/18	02 33	12.3	42.553 S	16.140 W	South Atlantic Ridge	10	5.4	5.4	38.805
773	12/18	02 49	22.8	42.667 S	15.948 W	Tristan Da Cunha Region	12	5.6	5.4	38.638
774	12/18	15 01	23.7	40.421 S	91.738 W	West Chile Rise	18	5.2	4.9	65.020
775	12/18	21 38	13.1	29.434 S	68.242 W	San Juan Province, Argentina	106	4.6		68.823
776	12/19	06 16	33.0	24.053 S	66.985 W	Salta Province, Argentina	181	4.5		73.410
777	12/19	07 34	22.1	27.369 S	175.497 W	Kermadec Islands Region	41	5.3	5.3	80.518
778	12/19	13 48	22.6	52.618 N	160.716 E	Off East Coast of Kamchatka	22	5.9	5.6	148.634
779	12/19	22 01	22.1	29.132 S	67.626 W	La Rioja Province, Argentina	125	4.8		68.905
780	12/21	03 26	43.0	16.626 S	177.556 W	Fiji Islands Region	10	5.2	5.5	90.567
781	12/21	05 29	28.7	20.467 S	174.161 W	Tonga Islands	13	6.1	6.2	87.497
782	12/21	11 38	18.0	20.597 S	178.574 W	Fiji Islands Region	599	5.2		86.500
783	12/21	12 55	45.5	18.891 S	177.971 W	Fiji Islands Region	457	5.3		88.281
784	12/21	18 31	43.8	32.696 S	69.647 W	Mendoza Province, Argentina	116	5.3		66.243

785	12/22	19 01 41.8	14.948 S	168.036 E	Vanuatu Islands	27	5.8	5.4	88.715
786	12/23	16 39 16.5	49.231 S	30.493 E	South of Africa	10	5.1	4.4	20.305
787	12/23	17 48 40.4	15.182 S	167.386 E	Vanuatu Islands	143	5.6		88.314
788	12/23	21 03 03.7	0.656 S	127.387 E	Halmahera	32	5.6	4.9	88.659
789	12/24	04 21 22.7	55.790 S	22.160 W	South Sandwich Islands Region	33	5.0		29.881
790	12/24	08 22 46.3	19.253 S	173.499 W	Tonga Islands	31	5.3	5.1	88.804
791	12/24	10 12 13.0	5.376 S	151.490 E	New Britain Region	53	5.7		92.728
792	12/24	15 59 40.9	53.070 S	22.240 E	South of Africa	10	4.9		17.872
793	12/24	16 26 27.2	21.026 S	11.485 W	South Atlantic Ridge	10	4.9	4.5	56.990
794	12/24	16 40 12.6	21.013 S	11.595 W	South Atlantic Ridge	10	5.2	4.8	57.036
795	12/24	19 15 46.8	5.643 S	146.381 E	East Papua New Guinea Region	57	5.3		90.755
796	12/24	22 17 22.9	33.268 S	178.279 W	South of Kermadec Islands	33	5.1		74.253
797	12/24	22 20 46.7	33.327 S	179.022 W	South of Kermadec Islands	33	4.6		74.053
798	12/24	23 21 36.8	52.918 S	22.424 E	South of Africa	10	4.6		17.978
799	12/25	01 06 54.8	12.156 N	93.644 E	Andaman Islands Region	33	5.1		89.413
800	12/25	07 51 10.3	40.730 S	85.760 W	West Chile Rise	10	4.7	4.8	63.297
801	12/25	19 42 21.1	27.828 S	66.963 W	Catamarca Province, Argentina	160	4.6		69.899

802	12/25	20 21	25.6	24.871 S	179.783 E	South of Fiji Islands	497	5.3		82.011
803	12/26	01 59	36.3	0.668 S	127.337 E	Halmahera	39	5.3	5.0	88.630
804	12/26	14 50	57.7	52.736 N	160.903 E	Off East Coast of Kamchatka	44	5.1	4.5	148.797
805	12/26	15 02	19.2	52.663 N	161.066 E	Off East Coast of Kamchatka	33	5.1		148.796
806	12/26	15 31	59.3	52.663 N	160.951 E	Off East Coast of Kamchatka	34	5.3	4.8	148.755
807	12/27	13 35	10.0	6.873 S	129.542 E	Banda Sea	181	5.6		83.671
808	12/27	16 08	34.6	22.725 S	70.006 W	Near Coast of Northern Chile	64	5.1		75.632
809	12/27	16 10	34.1	54.207 N	160.092 E	Near East Coast of Kamchatka	106	5.1		149.684
810	12/27	18 01	41.7	19.530 S	168.814 E	Vanuatu Islands	59	5.2		84.547
811	12/28	01 42	35.9	52.609 N	160.987 E	Off East Coast of Kamchatka	33	5.1	4.6	148.724
812	12/28	07 40	09.8	52.541 N	161.022 E	Off East Coast of Kamchatka	24	5.1	5.0	148.681
813	12/28	22 32	17.2	14.875 S	66.777 E	Mid-Indian Rise	17	6.0	5.8	56.844
814	12/29	21 05	27.8	5.707 N	125.912 E	Mindanao, Philippine Islands	114	5.3		94.031
815	12/30	00 39	38.5	5.546 S	147.145 E	East Papua New Guinea Region	200	5.2		91.106
816	12/30	06 22	17.0	0.072 S	123.110 E	Minahassa Peninsula	181	5.5		87.667
817	12/30	19 14	18.9	5.097 S	150.967 E	New Britain Region	179	6.6		92.815
818	12/30	22 28	02.2	7.591 S	122.949 E	Flores Sea	270	4.6		80.636

819	12/31	12	23	08.8	14.280	S	167.366	E	Vanuatu Islands	219	5.0	89.169
820	12/31	22	11	30.3	21.953	S	174.818	E	Vanuatu Islands Region	10	5.5 5.1	83.722
