

SEISMOLOGICAL BULLETIN OF SYOWA STATION, ANTARCTICA, 2004

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1. Introduction

Seismic observations at Syowa Station (69.0°S, 39.6°E), East Antarctica were started using a short-period seismometer with 1.0 s natural period in 1959 (Eto, 1962). A long-period seismograph was installed and phase readings of teleseismic events (i.e., detection of arrival times and amplitudes for significant phases) have been reported in real time to the United States Geological Survey (USGS), and to the International Seismological Centre (ISC) since 1967 (Kaminuma *et al.*, 1968). A three-component broadband seismometer (STS-1; Wielandt and Steim, 1986) was installed in 1989, in order to make a contribution to the Federation of Digital broadband Seismograph Networks (FDSN; <http://www.fdsn.org>) as an important key station of the PACIFIC21 global network (<http://pacific21.eri.u-tokyo.ac.jp>). A distribution map of the FDSN stations on the Antarctic continent, together with the map of the PACIFIC21 stations in 2004, are shown in Figs. 1 and 2, respectively.

All of the observation systems at Syowa Station were maintained in 2004 by one of the authors (K. Doi) throughout the wintering season of the 45th Japanese Antarctic Research Expedition (JARE-45). In this report, we introduce the seismic observations

in 2004, scaled read-out travel-time data and detected teleseismic earthquake list, followed by the procedures for public use via Internet service.

2. Observations

The original seismic observation systems at Syowa Station were replaced by the current operating ones by one of the authors (M. Kanao) in 1997 (Kanao, 1999). The block diagram of the current recording system is illustrated in Fig. 3.

2.1. Seismographic hut and seismographs

Seismic observations at Syowa Station had been carried out mainly by two types of seismometers, one called a short-period (HES) with 1.0 s natural period of the pendulum which has been operated since 1967 (Kaminuma *et al.*, 1968). The overall frequency responses and the magnifications of the HES are shown in Fig. 4. A three-component broadband seismometer (Streckeisen STS-1) with digital recording system has been operating since 1990 (Nagasaka *et al.*, 1992). The amplitude and phase responses for the velocity output (Broadband; BRB) are shown in Fig. 5 (after Streckeisen and Messegeraete, 1987).

The seismographic hut was re-constructed in 1996 and all of the sensors were moved inside it in 1997. The new hut is located about 200 m north from the old vault, with geodetic coordinates of 69°00'24.0"S, 39°35'06.0"E and elevation 20 m above mean sea level. Since the long period output signals of the broadband seismographs can be affected by variations in temperature and atmospheric conditions, the seismometers were installed in the thermally insulated small room of the hut. In addition, the whole surface of the hut was covered by titanium in order to maintain constant temperature.

Seismic signals of the HES and STS-1 seismometers are transmitted to the Earth Science Laboratory (ESL) via analog cables 600 m in length through the main buildings of Syowa Station.

2.2. Acquisition system at Earth Science Laboratory

Three-component analogue outputs by HES have been digitized at 200 Hz by sampling by a 24-bit analog-to-digital (A/D) converter, generating triggered signals of 80 and 1 Hz re-sampling data and 20 Hz continuous output. Signals of a three-component broadband of STS-1 have also been digitized to create triggered output of 80 Hz re-sampling data and continuous outputs of 20, 1, 0.1 and 0.01 Hz data, respectively. All the waveform data were created as a Mini_SEED volume, which is a standard format for data exchange in global seismology. The digitized data are automatically transmitted from the A/D converter to a workstation via TCP/IP protocol (DP/UX software). All data are stored in the 40 GB hard-disk of the workstation, then copied into DAT or 8 mm tape at three month intervals. The acquisition workstation was newly replaced in March 2004 by JARE-45. The recording status of the A/D converter has been continuously monitored by a personal computer via an RS-232C serial port (by use of 'Kermit' software).

A remote-centering operation of the mass position for the STS-1 sensors can also be carried out by keyboard commands from the computer using 'Kermit'. The reference clock for the new system has been calibrated to the Coordinated Universal Time (UTC) by detecting time codes by Global Positioning System (GPS). Thermal pen-recorders for the HES and BRB output of the STS-1, however, have now been operated for monitoring at ESL. Boom-POSITION output (POS) of STS-1 seismograph has been monitored by RD2212 type analogue-recorder. Temperature in the sensor room is also recorded by an RD2212 recorder.

2.3. Data transmission via INTELSAT

Digital waveforms of both the broadband and short-period seismographs have been transmitted via INMARSAT telecommunication link from Syowa Station to the National Institute of Polar Research (NIPR) since 1993. The waveform data transmission was greatly improved by using an INTELSAT communication Link which was established in February 2004. During the 2004 winter season, continuous data of both the HES and STS-1 with 20 Hz sampling were automatically transmitted to NIPR once a day by 'cron' operation in the acquisition workstation. The UUCP protocol has been used for the data file transfer.

In addition to the remote monitoring operations for data acquisition system from NIPR, Internet access to Syowa has significantly advanced since 2004 via the INTELSAT system. Moreover, a Web-camera using the Station LAN was installed inside ESL, followed by the improvement of monitoring utilization for the analogue seismic recorders when nobody can approach ESL during bad weather around Syowa Station.

3. Data

By using the waveform data transmitted via INTELSAT, the arrival-time information for the major seismic phases (here we say 'read-out data') was regularly reported from NIPR to USGS/NEIC via email, for contributions to the Preliminary Determination for Epicenters (PDE) weekly & monthly bulletins. The Quick Earthquake Determination (QED) services offered from NEIC were used to identify the seismograms of the teleseismic events. The arrival-time data and corresponding hypocentral data of the teleseismic events are listed in this report.

3.1. Phase read-out data

The phase arrival-times of teleseismic events were detected on the short-period digital monitoring seismograms. Most phases were scaled on the vertical component; only clear phases of shear waves were scaled on the horizontal components. These phases were identified by comparing the observed travel-time with the calculated time within time difference of 3 s. The phases identified as *P*- and *S*-waves are listed in Table 1. The phase *K* denotes the *PKP* phase, which can be identified within 3 s of time difference by comparing the observed travel-time with the calculated time. *X* denotes the clear phase whose wave type can be identified but the observed travel time was within 3-10 s of the calculated time. 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 motion. Arrival time is given in UTC and the accuracy of the read-out data is 0.2 s. The teleseismic events identified in the PDE are labeled by the serial numbers (#-xxx) in the table. These serial numbers correspond to those in Table 2. The events without serial numbers are teleseisms whose locations have not been determined by NEIC.

3.2. Teleseismic events

The list of hypocentral parameters for individual teleseismic events is presented in Table 2, identified by the same serial numbers as given in the remarks on Table 1. Figure 6 shows the hypocenters of the teleseismic events whose initial phases were detected at Syowa.

A very large earthquake ($M_w=9.0$, $M_s=8.8$, 3.30N, 95.96E, depth=30km) occurred off the west coast of Northern Sumatra, on December 26, 2004. This is the fourth largest earthquake in the world since 1900 and the largest since the 1964 Alaska earthquake. The seismic waves were recorded clearly both by the STS-1 and HES at Syowa Station. Figure 7 shows the three component waveforms of STS-1, about two

hours after the arrival of first phases. This event corresponds to the earthquake list for No. 1536 in Table 2.

Figure 8 indicates the relationship between the annual mean number of detected teleseismic events and body-wave magnitude (M_b) in 0.1 magnitude intervals. The events were divided into three groups: (1) all events (solid circles), (2) shallow events with depths less than 50 km (open squares), (3) intermediate and deep events at larger than 50 km depth (crosses). The peak number of all events exists around magnitude 5.1, where the number of earthquakes per year is about 150. Detection capability of teleseismic events has been evaluated by ISC from global seismic networks for the ten years (Ringdal, 1986). It is found that the magnitude threshold of earthquake detection gradually increases with increasing southern latitude. The bias problem of network magnitude determination is significant at low and middle magnitudes, particularly at southern high latitude.

4. Publication

The seismic waveform data are continuously transmitted to NIPR and stored in the data library server, and can be obtained upon request by Internet service and/or UNIX formatted media (*i.e.*, CD-R, DAT, 8 mm-tape, *etc.*) with permission of the present authors. All kinds of archived seismic data (arrival times, hypocenter, waveform data by analog & digital, related document reports) of Syowa Station have been accumulated and are available from the data library server (POLARIS, URL; <http://polaris.isc.nipr.ac.jp/~pseis/syowa>). These can be accessed by use of the 'ftp' command with a special password. If you are interested in using these data for scientific purposes, please contact kanao@nipr.ac.jp concerning availability.

Archived data that have passed two years since the JARE observation period are stored and freely available from both the NIPR ftp site and the PACIFIC21 center of the Japan Marine Science and Technology Research Agency. Any questions concerning data availability from PACIFIC21 shall be directed to y-ishihara@jamstec.go.jp.

5. Data Processing Staff

The seismic observation system at Syowa Station was designed by the authors and K. Shibuya of NIPR. Ms. A. Ibaraki kindly assisted in preparing this data report. Readers can refer to the URL site below for the data directory and access: <http://polaris.isc.nipr.ac.jp/~pseis/syowa>.

References

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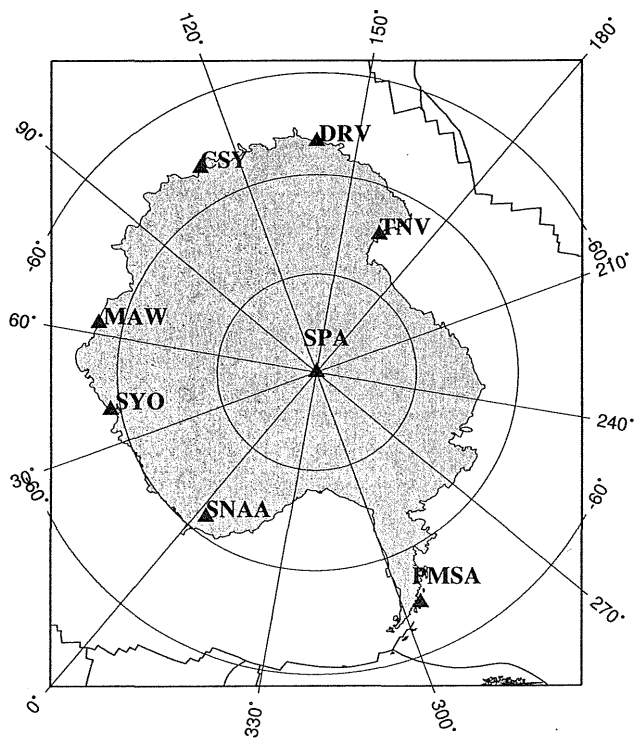


Fig. 1. A distribution of FDSN stations on the Antarctic continent. Syowa (SYO), Mawson (MAW), Casey (CSY), Dumont d'Urville (DRV), Terra Nova Bay (TNV), South Pole (SPA), Palmer (PMSA), Sanae (SNAA).

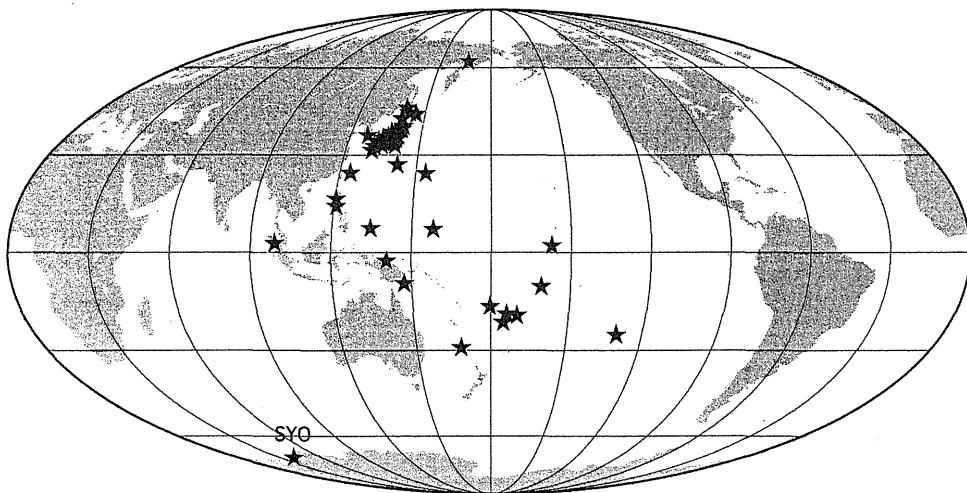


Fig. 2. PACIFIC21 station map in 2004 (<http://pacific21.eri.u-tokyo.ac.jp>).

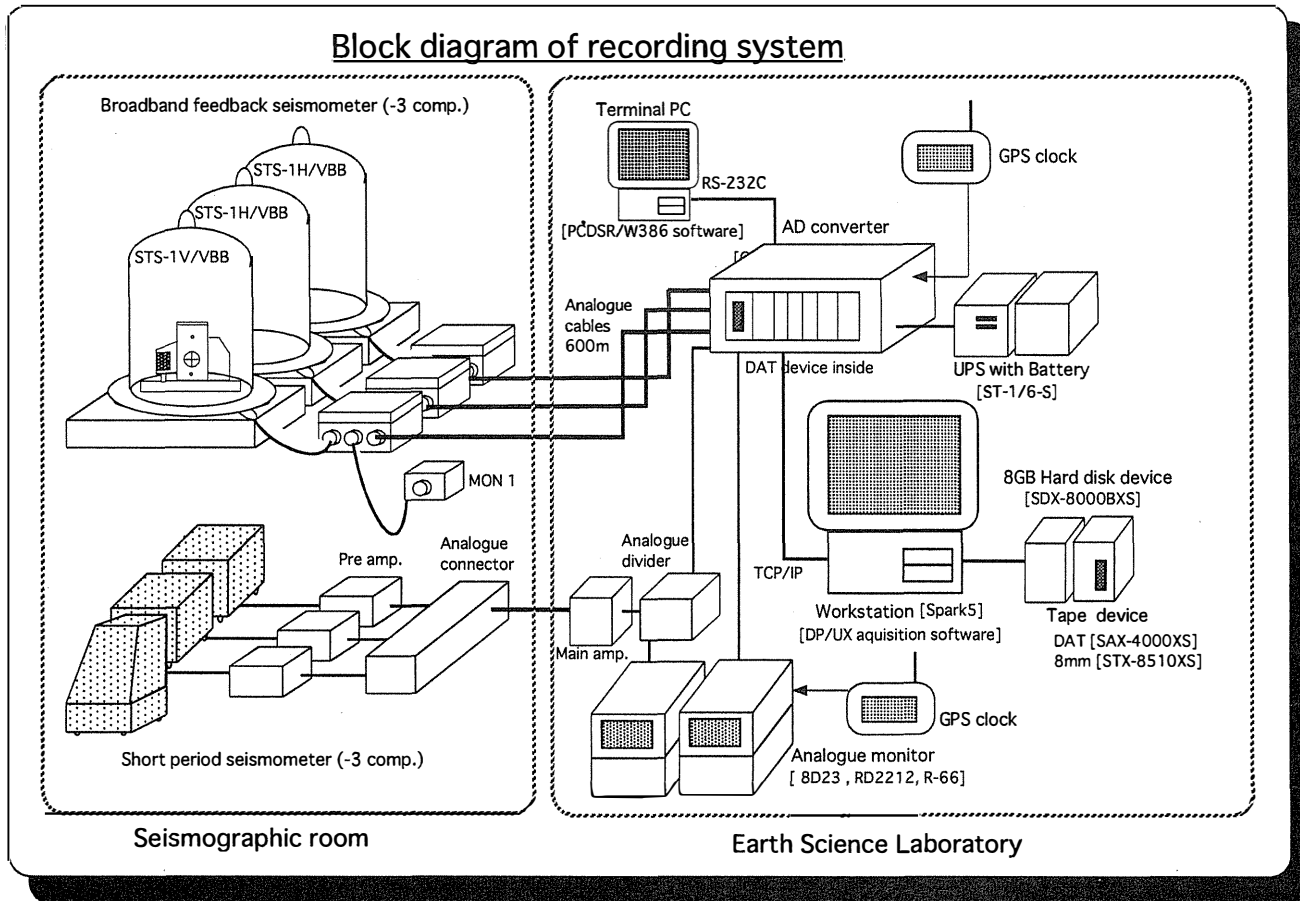


Fig. 3. Block diagram of new recording system for the STS and HES seismographs at Syowa Station. Left figure: Seismographic room; Right figure: Earth Science Laboratory.

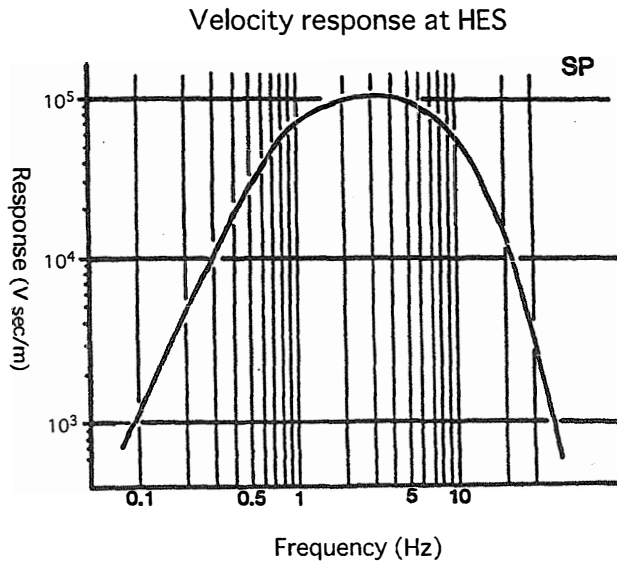


Fig. 4. Over-all frequency responses of the HES seismographs.

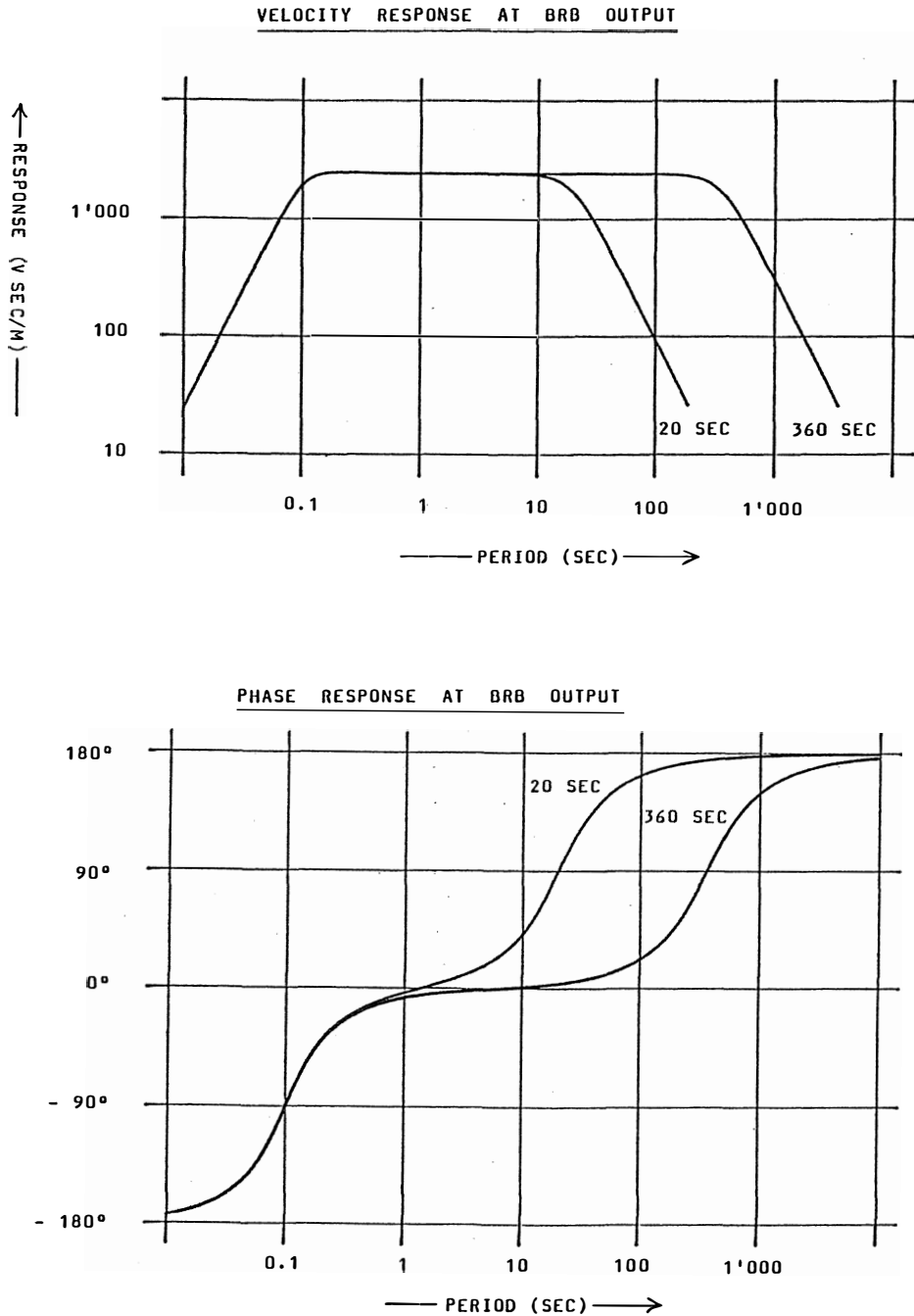


Fig. 5. Amplitude responses (upper figure) and phase responses (lower figure) for the velocity (BRB) output of the broadband seismograph (STS) in the two distinct signal modes of 20-s and 360-s (after Streckeisen and Messergeraete, 1987).

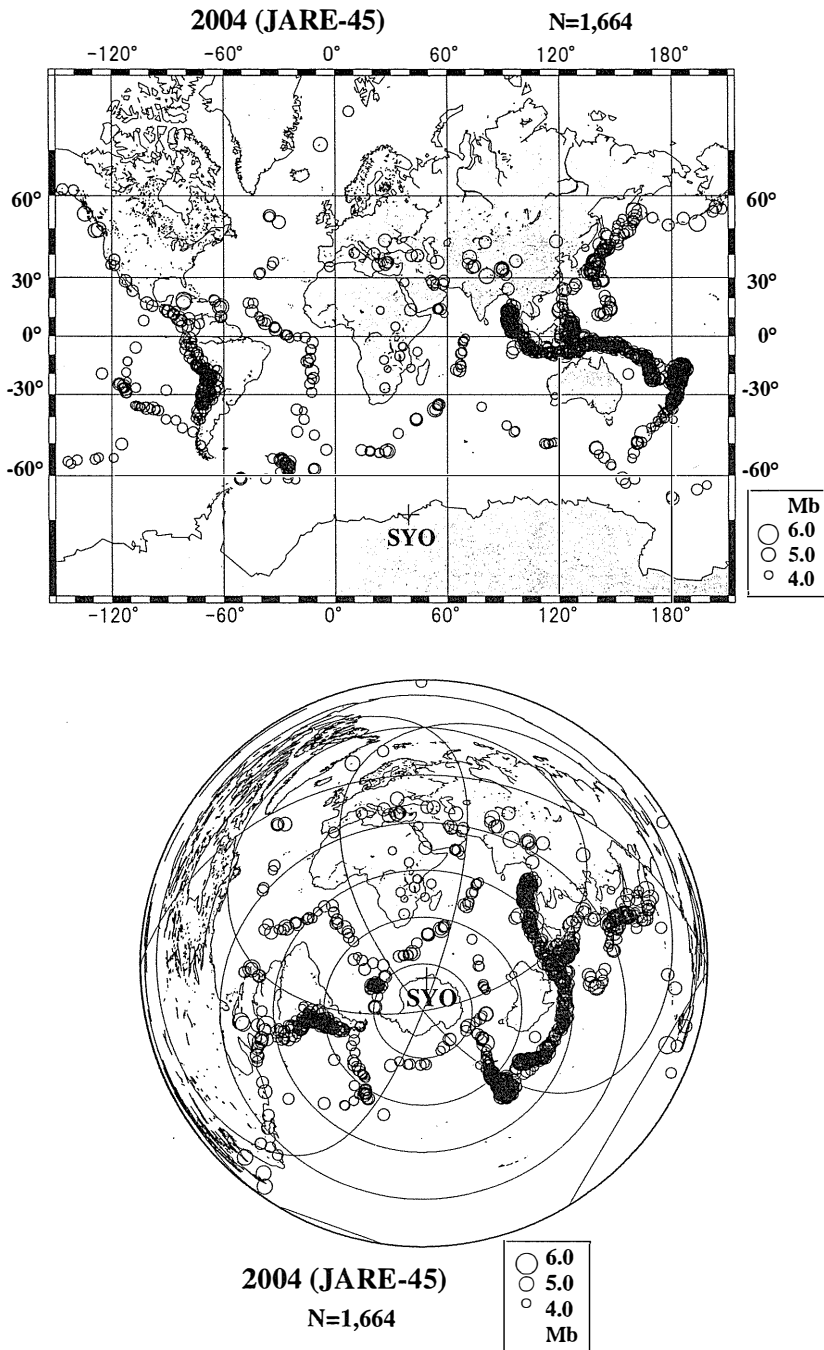


Fig. 6. Epicenters of the 1664 earthquakes recorded at Syowa Station. The sizes of earthquake circles are proportional to the body-wave magnitude (Mb) determined by the National Earthquake Information Center (NEIC) (upper: Mercator Projection, lower: Azimuthal Equidistant Projection).

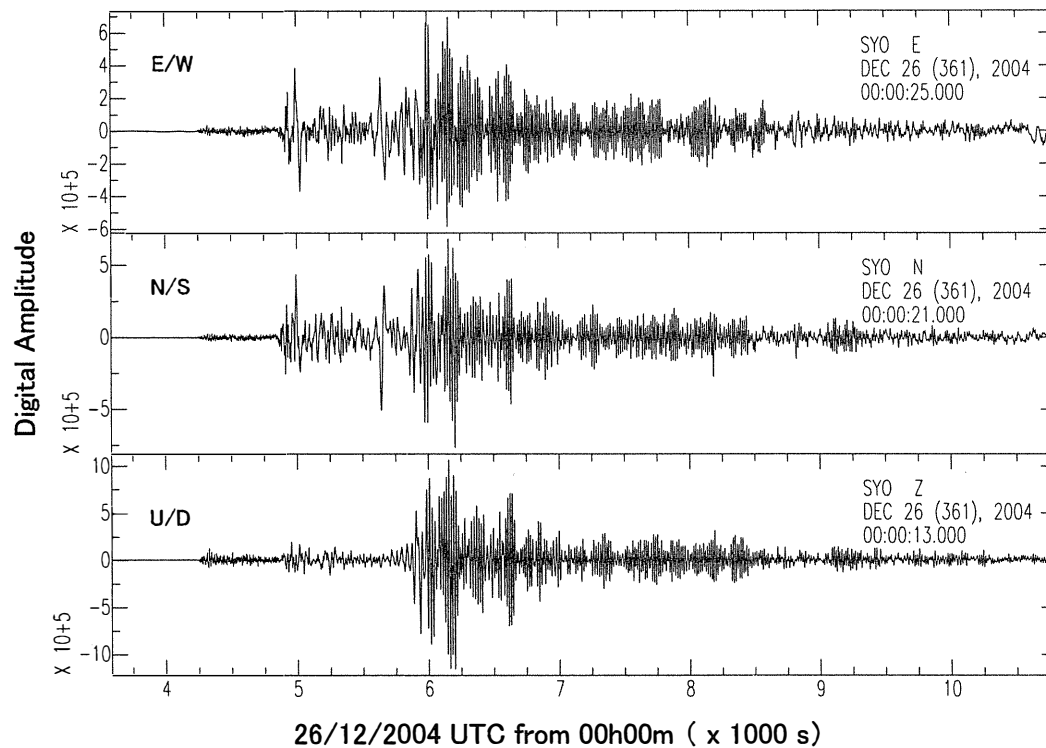


Fig. 7. Three component broadband waveforms (STS-1) of the Sumatra-Andaman Earthquake (26/12/2004, Mw=9.0, Ms=8.8) recorded at Syowa Station. The horizontal axis represents the time from 00h00m of the day.

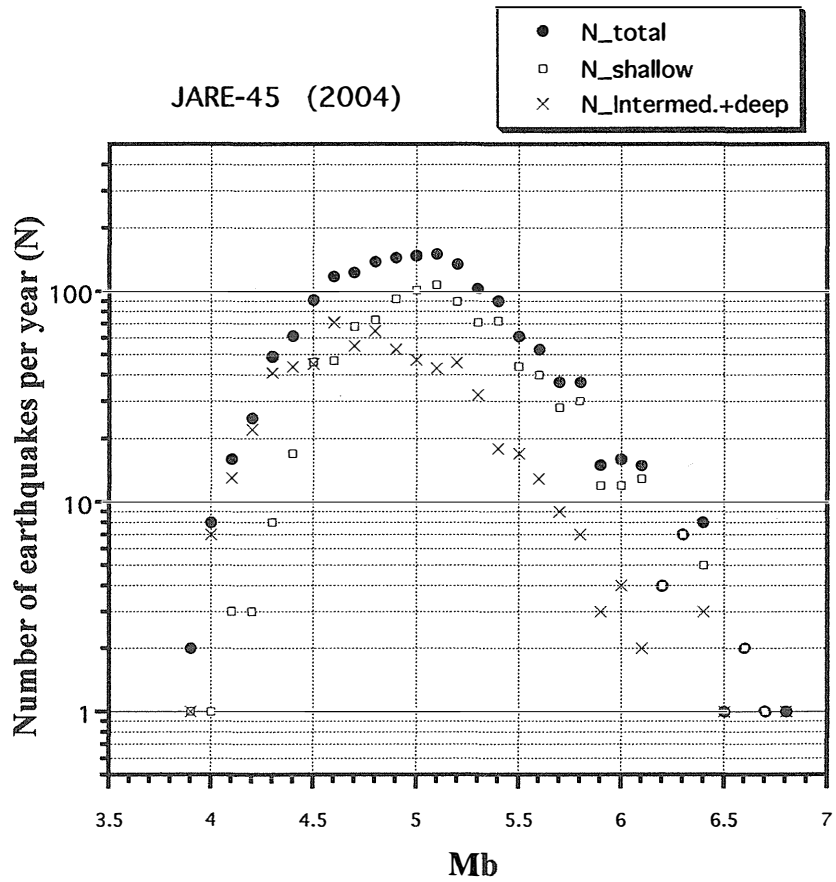


Fig. 8. Annual mean number of total detected earthquakes in 2004 against body-wave magnitude (Mb). The numbers of events for each group are marked with an increment of 0.1 Mb (solid circles (N-total), 1664 total events; open squares (N-shallow), shallow events of focal depth less than 50 km; crosses (N-Intermed.+deep), intermediate depth and deep events of focal depth larger than 50 km).

Table 1. List of phase arrival-time data in 2004.

Date	Phase	UTC Time		Remarks	Date	Phase	UTC Time		Remarks
		h	m	s			h	m	s
Jan.					6	None			
1	+EPZ	0451	36.6	#-1	7	+EPPZ	1101	29.8	#-25
1	-EPZ	0828	18.5	#-2	8	+EPZ	0857	32.3	#-26
1	-EPZ	1409	15.9	#-3	8	+EPPZ	0900	51.2	#-26
1	+EPcPZ	1818	49.5	#-4	8	+EPZ	1245	5.8	#-27
1	+EPZ	2111	23.4	#-5	9	+EPZ	2027	49.1	#-28
1	+EPPZ	2114	19.0	#-5	10	-EPZ	0242	49.2	#-29
1	+EPdiffZ	2347	16.6	#-6	10	-EPZ	0542	50.7	#-30
2	-EPZ	1036	14.5	#-7	10	+EPZ	0706	46.9	#-31
2	-EPZ	1255	9.4	#-8	10	+EPZ	0736	40.8	#-32
2	-EPZ	1710	40.0	#-9	10	+EPZ	1151	16.2	#-33
3	-EPZ	0819	53.9	#-10	11	-EPZ	0439	25.2	#-34
3	-EpPZ	0819	59.1	#-10	11	+EPZ	0819	28.9	#-35
3	+EPZ	0821	27.6	#-11	11	+EPZ	0940	44.6	#-36
3	+EPPZ	0824	27.0	#-11	11	+EpPZ	0943	6.8	#-36
3	+EPZ	0825	31.8	#-12	12	-EPZ	0723	32.4	#-37
3	+EPZ	0834	6.7	#-13	12	-EPZ	1225	58.5	#-38
3	+EpPZ	0834	12.7	#-13	12	-EPZ	1301	37.9	#-39
3	+EPPZ	0837	15.1	#-13	12	+EPdiffZ	1428	36.0	#-40
3	+EPkikPZ	0839	32.5	#-13	12	-EPZ	1729	21.9	#-41
3	+EPZ	0957	38.6	#-14	12	-EpPZ	1729	28.6	#-41
3	+EPPZ	1000	44.3	#-14	12	+EPdiffZ	2028	27.0	#-42
3	+EPZ	1635	37.4	#-15	13	-EPZ	0750	42.3	#-43
3	+IpPZ	1635	43.0	#-15	13	-EPZ	2015	59.0	#-44
3	+EPZ	1646	45.8	#-16	13	+IPZ	2205	1.9	#-45
3	-EPcPZ	1646	53.4	#-16	13	-EpPZ	2206	54.1	#-45
3	+EPZ	1650	47.7	#-17	14	+EPZ	0202	37.9	#-46
3	+EpPZ	1650	52.7	#-17	14	+EPcPZ	0202	48.2	#-46
3	+EPZ	1710	49.1	#-18	14	+EPZ	1132	55.6	#-47
3	+EpPZ	1710	52.3	#-18	14	+EpPZ	1133	0.9	#-47
3	+EPPZ	1710	58.2	#-18	14	+EPPZ	1134	12.4	#-47
3	-EpPZ	1812	8.0	#-19	14	+EpPZ	1158	42.1	#-48
3	+EPZ	1909	17.0	#-20	14	-EPZ	1712	18.1	#-49
3	+EPcPZ	1909	7.9	#-20	14	-EPZ	1851	50.4	#-50
4	+IPZ	0634	59.8	#-21	15	None			
4	+EpPZ	1627	30.3	#-22	16	-EPZ	0441	54.1	#-51
5	-EPZ	0026	1.0	#-23	16	-EPZ	1211	22.5	#-52
5	-EPZ	0707	0.1	#-24	16	-EPZ	1555	22.4	#-53

Date	Phase	UTC Time		Remarks
		h m	s	
16	-EpPZ	1555	35.5	#-53
16	-EPZ	1634	39.8	#-54
16	+EPZ	1821	8.8	#-55
17	-EPZ	1407	12.1	#-56
18	-EPZ	1413	42.9	#-57
18	+EPZ	2048	13.1	#-58
19	+EPZ	0558	19.5	#-59
19	+EpPZ	0558	28.2	#-59
19	-EPZ	1445	6.4	#-60
20	-EPZ	0705	8.5	#-61
20	+EPZ	1134	39.1	#-62
21	-EPZ	0511	15.2	#-63
21	+EPZ	1237	9.5	#-64
21	-EPPZ	1240	44.0	#-64
21	-EpPKiKPZ	1242	26.1	#-64
22	-EPZ	1147	21.4	#-65
22	+EPZ	1649	12.8	#-66
22	+EPcPZ	1649	24.5	#-66
22	+EPZ	2015	40.5	#-67
23	+EPZ	0101	48.2	#-68
23	+EsPZ	0102	6.5	#-68
23	+EPdiffZ	0353	48.8	#-69
23	+EPZ	0512	6.1	#-70
23	+EsPZ	0512	35.3	#-70
23	-EPdiffZ	0917	11.0	#-71
24	+EPdiffZ	1317	51.1	#-72
25	-EPZ	1156	0.9	#-73
25	-IPcPZ	1156	1.6	#-73
25	-EpPZ	1354	57.9	#-74
25	+EPZ	2226	39.1	#-75
26	+EPZ	0823	25.6	#-76
26	+EpPZ	0823	37.6	#-76
26	+EPKpdfZ	1046	59.5	#-77
27	-EpdiffZ	0435	28.0	#-78
27	-EsPdiffZ	0435	57.0	#-78
27	+EPKpdfZ	1010	44.6	#-79
27	-EPKpdfZ	1011	5.5	#-79
27	-EPKpbZ	1011	50.3	#-79

Date	Phase	UTC Time		Remarks
		h m	s	
27	+EPZ	1509	26.3	#-80
27	-EpPZ	1509	36.9	#-80
27	+EPZ	1612	43.7	#-81
28	+EPZ	0129	36.7	#-82
28	-EPZ	0303	25.3	#-83
28	+EPZ	0920	16.4	#-84
28	-EPZ	1023	35.1	#-85
28	+EPZ	2228	8.3	#-86
28	+EPcPZ	2228	14.0	#-86
29	+EPZ	0111	31.4	#-87
29	+EPZ	0136	42.8	#-88
29	-EpPZ	0402	58.8	#-89
29	+EsPZ	0928	20.0	#-90
29	+IPZ	1001	41.0	#-91
29	+EPZ	2023	24.0	#-92
29	-EpPZ	2023	39.3	#-92
29	-EPZ	2056	18.7	#-93
29	+EPZ	2358	16.3	#-94
29	-EsPZ	2358	37.3	#-94
30	+EPcPZ	0150	47.7	#-95
30	+EPZ	1155	11.0	#-96
30	+EPZ	1205	44.5	#-97
30	+EPZ	1930	2.3	#-98
31	+EPZ	0746	22.1	#-99
Feb.				
1	-EpPZ	0937	59.7	#-100
1	-EPZ	1152	19.1	#-101
1	+EPcPZ	1152	33.0	#-101
1	+EPZ	1403	20.2	#-102
1	-EpPZ	1405	30.7	#-102
1	+EpPZ	2204	42.3	#-103
2	None			
3	-EPZ	0433	18.9	#-104
3	+EPZ	2322	29.6	#-105
3	-EsPZ	2322	46.7	#-105
4	-IPZ	0529	2.4	#-106
4	+EPcPZ	0529	18.0	#-106
4	+EpPZ	0530	57.2	#-106

Date	Phase	UTC Time		Remarks
		h m	s	
4	+EPPZ	0531	45.7	#-106
4	+EPdiffZ	0624	23.8	#-107
4	+EpPdiffZ	1214	18.8	#-108
5	-EPZ	0324	25.8	#-109
5	-EPZ	2117	55.5	#-110
5	+EPZ	2137	14.0	#-111
6	-EPZ	1846	38.0	#-112
6	+EpPZ	1847	14.3	#-112
6	+EPZ	2119	5.1	#-113
6	+EpPZ	2119	17.5	#-113
7	+IPZ	0255	26.0	#-114
7	+EPZ	0437	54.0	#-115
7	+EPdiffZ	2131	28.9	#-116
7	+EPZ	2140	28.0	#-117
7	+EPPZ	2236	24.5	#-118
7	-EPZ	2241	36.7	#-119
7	-EPdiffZ	2354	45.5	#-120
8	-EPZ	0128	41.3	#-121
8	+EPZ	0911	44.5	#-122
8	+EPZ	1148	41.1	#-123
8	-EPZ	1350	4.5	#-124
8	-EPZ	2226	40.6	#-125
9	+EPdiffZ	0017	47.6	#-126
9	+EPZ	1126	4.8	#-127
9	-EPPZ	1129	28.6	#-127
10	+EPZ	1333	10.1	#-128
11	None			
12	+EPZ	1156	36.0	#-129
12	-EPcPZ	1156	39.5	#-129
12	-IPZ	1156	43.3	#-129
12	+EPZ	1400	23.9	#-130
12	-EPZ	1546	36.5	#-131
12	+EpPZ	1546	42.9	#-131
12	-EpPZ	1729	23.4	#-132
13	-EPZ	0324	53.7	#-133
13	+EsPZ	0325	13.1	#-133
13	-EPZ	0546	21.5	#-134
13	-EpPZ	0547	12.7	#-134

Date	Phase	UTC Time		Remarks
		h m	s	
13	+EPcPZ	1029	51.2	#-135
13	-EsPZ	1030	9.3	#-135
13	-EPPZ	1032	39.8	#-135
14	-EpPdiffZ	1211	17.8	#-136
14	-IPZ	1947	19.2	#-137
14	+EPcPZ	1947	30.2	#-137
15	-IPZ	0013	55.5	#-138
15	-EpPZ	0014	11.1	#-138
16	-EPZ	1456	45.2	#-139
16	-EPcPZ	1456	51.6	#-139
16	-EsPZ	1456	57.4	#-139
16	+EPZ	1504	54.7	#-140
16	+EPZ	1806	54.5	#-141
16	+EPcPZ	1807	6.5	#-141
16	+EsPZ	1807	13.2	#-141
17	None			
18	None			
19	+EpPZ	0152	19.7	#-142
19	+EPZ	0324	23.7	#-143
19	+EPZ	0508	41.6	#-144
19	-EPZ	0558	33.7	#-145
19	-IPZ	1815	34.9	#-146
19	-EPcPZ	1815	46.7	#-146
19	-EsPZ	1816	41.8	#-146
20	-EPZ	0611	40.1	#-147
20	-EPZ	1226	59.2	#-148
20	+EPcPZ	1227	7.6	#-148
20	+EPZ	1514	55.7	#-149
21	None			
22	+IPZ	0658	24.2	#-150
22	-IPcPZ	0658	33.8	#-150
22	-IPZ	0658	38.7	#-150
22	+EPZ	1309	20.9	#-151
22	-EpPZ	1311	42.7	#-151
23	+EPZ	0731	6.3	#-152
23	-EsPZ	0731	31.8	#-152
23	+EPPZ	0734	23.3	#-152
23	+EPZ	1617	57.7	#-153

Date	Phase	UTC Time h m	s	Remarks
23	+EsPZ	1618	10.7	#-153
24	+IPZ	0823	51.0	#-154
24	+EPZ	1931	54.5	#-155
25	-IPZ	1705	11.2	#-156
25	-IpPZ	1705	28.1	
25	+EPZ	2039	29.5	#-157
25	+EpPZ	2039	46.4	#-157
25	+EsPZ	2039	51.4	#-157
26	-EPZ	0406	38.3	#-158
26	+EpPZ	0407	25.8	#-158
26	+EPdiffZ	0447	36.6	#-159
26	-EPZ	0823	15.1	#-160
26	-EPZ	1009	26.1	#-161
26	+EPcPZ	1009	37.5	#-161
26	+EPZ	1248	24.4	
26	-EPZ	1347	24.4	#-162
26	-EPcPZ	1347	34.7	#-162
26	-EPZ	1739	23.0	#-163
26	+IPZ	1957	57.1	
26	+EPZ	1958	37.9	
26	-EPZ	2041	42.4	#-164
26	-EpPZ	2041	46.5	#-164
26	-EPZ	2053	46.9	
26	-EPZ	2233	23.7	#-165
26	-EsPZ	2233	52.3	#-165
26	-EPZ	2303	55.7	#-166
26	-EsPZ	2304	20.9	#-166
26	-EPZ	2307	36.5	#-167
26	-EpPZ	2307	40.3	#-167
26	+EPZ	2336	37.1	
27	None			
28	-EPZ	0245	12.3	#-168
28	-EPZ	0533	59.4	#-169
28	+EPZ	1408	46.0	
29	+EPZ	1147	49.7	
29	+EPZ	2053	22.2	#-170
29	-EPZ	2141	21.7	

Date	Phase	UTC Time h m	s	Remarks
Mar.				
1	None			
2	-EPdiffZ	0805	20.3	#-171
2	-EPdiffZ	0946	12.0	#-172
2	+EPZ	1222	16.7	
2	+EPZ	1236	23.8	
2	-EPZ	1757	13.8	
2	-EPZ	1759	9.3	
3	+EPZ	0102	7.5	
3	+EPZ	0204	58.3	
3	+EPZ	0206	54.5	
3	+EPZ	0429	14.2	
3	+EPcPZ	1327	43.0	#-173
3	+EPcPZ	2036	53.4	#-174
4	-EPZ	0816	22.1	
4	+EPcPZ	1231	32.2	#-175
4	+EPZ	1245	28.5	#-176
4	-EpPZ	1248	59.1	#-177
4	+EPZ	1423	15.2	#-178
4	+EPcPZ	1423	20.1	#-178
4	-EpPZ	1433	50.4	#-179
4	+EPZ	1800	24.6	#-180
4	+EPZ	1953	14.3	#-181
4	-EPcPZ	1953	23.5	#-181
4	+EPZ	2054	38.2	#-182
4	-EPZ	2149	9.7	#-183
4	+EPcPZ	2149	25.5	#-183
4	+EPZ	2155	34.6	#-184
5	-EPZ	0102	46.2	#-185
5	-EpPZ	0102	50.6	#-185
5	+EPZ	0123	39.3	
5	+EPZ	0611	59.2	#-186
5	-EpPZ	0719	33.6	#-187
5	-EPcPZ	1453	25.3	#-188
5	+EsPZ	1453	53.0	#-188
5	-EPZ	2158	10.0	
5	-EPZ	2158	34.5	
6	+EXZ	0003	22.8	#-189

Date	Phase	UTC Time		Remarks
		h m	s	
6	+EPZ	0018	52.8	
6	+EPZ	0110	17.2	#-190
6	+EPZ	0556	16.3	
6	-EPZ	0734	52.8	
6	+EPZ	1034	28.6	#-191
6	+EPcPZ	1034	30.7	#-191
6	+EPZ	1224	54.7	
7	+EPZ	0111	22.5	
7	+EPZ	0322	41.3	
7	+EPZ	0657	55.6	
7	+EPZ	0658	2.9	
7	+IPZ	0658	34.8	
7	-EPZ	1119	43.1	#-192
7	+EPcPZ	1119	52.4	#-192
7	-EPZ	1131	34.8	#-193
7	+EPcPZ	1131	44.4	#-193
7	-EPKiKPZ	1137	26.8	#-193
7	+EPdiffZ	1344	3.0	#-194
7	+EPZ	1516	31.9	#-195
7	+EpPZ	1516	38.7	#-195
8	None			
9	+EPZ	1316	10.3	#-196
9	+EPZ	1316	13.0	#-196
9	+EPKpdfZ	1855	45.6	#-197
9	+EXZ	1856	6.9	
9	+EPZ	2216	27.8	
9	+EPZ	2218	50.4	#-198
9	+EpPZ	2219	1.1	#-198
9	+EPcPZ	2219	7.5	#-198
9	+EPZ	2308	24.3	#-199
9	-IpPZ	2308	29.3	#-199
9	-IPcPZ	2308	39.6	#-199
10	-EPZ	1656	20.0	
11	-EPZ	0227	45.5	#-200
11	-EpPZ	0227	46.7	#-200
11	+IPZ	1352	7.2	#-201
12	+EPZ	0248	23.1	#-202
12	+EPnZ	0248	24.8	#-202

Date	Phase	UTC Time		Remarks
		h m	s	
12	+EpPZ	0306	38.2	#-203
12	-EPZ	0348	54.6	
12	-EPZ	0349	12.8	
12	-EPZ	0931	56.0	#-204
12	-EPZ	0938	24.9	#-205
12	+EPcPZ	2225	55.2	#-206
13	-EPZ	0544	27.0	#-207
13	-EXZ	0544	27.6	#-207
13	+EPZ	0949	24.8	
13	-EPZ	1418	6.7	
14	+EPZ	0032	35.3	#-208
14	+EPcPZ	0706	10.8	#-209
14	+EPZ	0932	43.9	
14	+EPZ	0932	46.8	
14	-IPZ	1602	16.7	#-210
14	-EPcPZ	1602	29.0	#-210
14	-IPZ	1643	44.8	#-211
14	-EpPZ	1643	51.9	#-211
14	-EPZ	1758	28.9	
14	-EPcPZ	2110	54.8	#-212
15	-EPZ	0814	44.1	
15	-EPZ	1326	10.6	#-213
16	-EPZ	0623	14.0	#-214
16	-EPZ	0657	42.1	
16	+EPZ	0757	20.0	
16	+EPZ	0806	33.4	#-215
16	+EpPZ	0806	48.0	#-215
16	-EPZ	1406	50.7	#-216
16	+EXZ	1406	53.4	#-216
16	-EpPZ	1639	31.3	#-217
16	-EsPZ	1639	33.8	#-217
16	-EPdiffZ	2138	12.9	#-218
17	+EPZ	0214	47.6	#-219
17	-EPZ	0332	21.8	#-220
17	-EpPZ	0333	30.4	#-220
17	-ESZ	0341	40.0	#-220
17	+EPdiffZ	0511	49.1	#-221
17	+EPZ	0652	10.6	#-222

Date	Phase	UTC Time		Remarks
		h m	s	
17	+EPcPZ	0652	30.5	#-222
17	+EPZ	1327	33.2	#-223
17	+EpPZ	1327	45.3	#-223
17	+EPZ	1349	28.3	#-224
17	-EpPZ	1349	44.0	#-224
17	-EPZ	1700	28.2	#-225
17	-EpPZ	1700	38.6	#-225
17	+EPZ	2305	8.3	
17	-EPZ	2344	10.4	
17	-EPZ	2345	9.7	
18	-EPZ	0229	34.7	
18	+EPZ	0231	14.9	
18	+EsPdiffZ	0721	1.9	#-226
18	-EPZ	0802	54.3	
18	-EPZ	0825	4.0	
18	-EPZ	1042	18.9	#-227
18	-EPZ	1614	3.4	#-228
18	+EpPZ	1614	48.9	#-228
18	+EPZ	1811	17.2	#-229
18	-EpPZ	1811	25.0	#-229
18	+EPZ	1912	23.8	
18	+EPZ	1928	9.7	#-230
18	+EpPZ	1928	15.6	#-230
18	+EPdiffZ	1941	55.9	#-231
18	+EPZ	2010	0.7	#-232
18	-EpPZ	2010	19.7	#-232
18	+EPPZ	2013	27.0	#-232
18	-IPZ	2016	53.3	#-233
18	-EpPZ	2017	2.4	#-233
18	+EXZ	2017	15.4	#-233
18	+EPKiKPZ	2022	12.4	#-233
18	ESH	2027	18.7	#-233
18	-EPZ	2201	51.2	#-234
18	-EPZ	2201	55.1	
18	+EPZ	2224	43.7	#-235
18	-EXZ	2227	39.7	#-235
18	+EPZ	2255	58.7	
18	-EPdiffZ	2324	41.7	#-236

Date	Phase	UTC Time		Remarks
		h m	s	
18	-EPZ	2327	25.2	#-237
18	+EPcPZ	2327	29.4	#-237
18	+EpPZ	2327	38.1	#-237
19	+EPZ	0216	29.6	
19	-EPZ	0216	35.2	
19	+EPZ	0222	54.9	#-238
19	+EPZ	0505	59.7	#-239
19	+EpPZ	0506	41.4	#-239
19	-EPZ	0613	53.7	#-240
19	+EsPZ	0614	10.0	#-240
19	-EPZ	0652	15.9	#-241
19	+EPZ	0714	54.6	
19	-EPZ	1001	10.2	
19	+EPZ	1056	8.0	
19	-EPcPZ	1058	45.9	#-242
19	-EXZ	1059	16.8	#-242
19	+EPZ	1245	25.0	
19	+EPcPZ	1332	15.1	#-243
19	+EpPKiKPZ	1337	15.2	#-243
19	-EpPZ	1518	37.8	#-244
19	+EPnPrZ	1519	55.9	#-244
19	+EPZ	1613	25.9	#-245
19	-EpPKiKPZ	1618	34.2	#-245
19	-EPZ	1616	13.7	#-246
19	+EPcPZ	1618	43.4	#-246
19	ESH	1621	43.3	#-246
19	-EPZ	1646	49.2	
19	-EPZ	1832	20.3	#-247
19	-EPZ	1842	7.8	#-248
19	-EpPZ	1842	26.1	#-248
19	-EPZ	1841	57.4	#-249
19	+EPPZ	1843	20.1	#-249
19	+EPZ	1926	53.1	
19	-EXZ	1946	4.8	#-250
19	+EXZ	1946	25.1	#-250
19	+EPZ	1946	55.3	
19	-EXZ	2048	50.6	#-251
19	-EsPZ	2049	3.9	#-251

Date	Phase	UTC Time h m	s	Remarks
19	-EPZ	2110	12.2	#-252
19	-EpPZ	2110	27.5	#-252
19	-EPKiKPZ	2115	37.3	#-252
19	+EPZ	2115	17.0	#-253
19	+EpPZ	2115	23.1	#-253
19	+EPZ	2132	47.0	
20	+EPZ	0023	11.2	#-254
20	-EPZ	0108	12.0	
20	-EPZ	0245	6.2	
20	-EPZ	0845	1.4	#-255
20	+EPcPZ	0845	6.0	#-255
20	+EpPZ	0845	52.3	#-255
20	+EsPZ	0846	16.1	#-255
20	-EPPZ	0848	5.8	#-255
20	-EpPKiKPZ	0851	26.3	#-255
20	-IPKPdfZ	0912	56.3	#-256
20	-IpPKPdfZ	0913	10.4	#-256
20	+EPZ	0913	55.2	
20	+EPZ	0914	23.8	
20	-EPZ	1401	46.5	
20	-EPZ	1647	12.6	
21	+EPZ	0420	50.4	#-257
21	-EPZ	0926	24.6	
21	-EPdiffZ	1049	15.4	#-258
22	-EPZ	0434	29.8	#-259
22	-EpPZ	0434	35.4	#-259
22	+EPZ	0810	12.4	#-260
22	-EPcPZ	0810	15.1	#-260
22	+EPZ	1035	29.7	#-261
23	-EPZ	0350	55.7	
23	+EPZ	0426	42.6	
23	-IPZ	0433	14.7	#-262
23	-EPZ	0441	31.2	#-263
23	-EPcPZ	0441	42.7	#-263
23	-EPZ	0626	13.6	#-264
23	-EPZ	0637	6.7	
23	-EPZ	0914	8.7	
23	+IPZ	1818	9.8	#-265

Date	Phase	UTC Time h m	s	Remarks
23	-EpPZ	1818	34.5	#-265
23	+IPZ	1916	26.5	
23	-IPZ	1916	55.1	#-266
23	+EpPZ	1917	8.1	#-266
23	+EPZ	1922	7.0	
23	+EPZ	1922	20.7	
23	-EPdiffZ	2135	20.9	#-267
23	-EsPdiffZ	2135	32.4	#-267
23	-EPZ	2200	32.9	
23	-EPZ	2215	24.3	#-268
23	-EPcPZ	2215	26.1	#-268
23	-EpPZ	2217	18.9	#-268
23	-EsPZ	2218	11.0	#-268
23	-EPZ	2218	31.5	
24	-EPZ	0010	28.4	
24	-EPdiffZ	0209	41.6	#-269
24	+EPZ	0818	49.6	#-270
24	-EpPZ	0819	14.2	#-270
24	-EPZ	0946	5.0	
24	-EPZ	1010	3.6	
24	-IPZ	2134	39.4	#-271
24	-EPZ	2135	14.8	
24	-EPZ	2135	28.2	
24	-EPZ	2339	51.6	
24	+EPZ	2339	55.1	
25	-EPZ	0032	49.4	#-272
25	-EPZ	0056	29.8	
25	-EPZ	0332	5.6	#-273
25	-EXZ	0332	22.8	#-273
25	-EPZ	0712	35.7	#-274
25	-EPZ	0808	35.8	
25	-EPZ	1008	57.1	#-275
25	-EPZ	1009	22.1	
25	-EPZ	1011	30.3	
25	-EPZ	1103	27.5	#-276
25	-EpPZ	1103	37.1	#-276
25	-EPZ	1111	53.9	#-277
25	-EpPZ	1112	7.6	#-277

Date	Phase	UTC Time		Remarks
		h m	s	
25	-EPZ	1236	27.1	
25	-EPZ	1236	53.8	
25	+EPZ	1237	22.6	
25	-IPZ	1347	15.3	#-278
25	+EPZ	1507	11.4	
25	-EPZ	1507	21.2	#-279
25	-EPZ	1507	24.2	#-279
25	-EPZ	1605	44.7	#-280
25	+EPdiffZ	1945	13.0	
25	-EPZ	2220	4.3	#-281
25	-EXZ	2227	17.8	#-282
25	-EpPZ	2227	27.3	#-282
26	+EPZ	0303	39.3	#-283
26	-EPcPZ	0303	43.3	#-283
26	-EPZ	0314	47.0	
26	-IPZ	0834	51.7	#-284
26	+EpPZ	0835	10.1	#-284
26	+EPKiKPZ	0840	17.3	#-284
26	+EPZ	1140	45.0	#-285
26	-EpPZ	1141	13.1	#-285
26	-EPZ	1210	16.8	#-286
26	-EpPZ	1210	41.0	#-286
26	-EPZ	1222	36.0	#-287
26	-EpPZ	1222	46.0	#-287
26	-EPZ	1239	22.3	
26	-EPZ	1242	44.9	
26	-EPZ	1432	24.7	
26	-EPdiffZ	1536	19.2	#-288
26	+EPdiffZ	1642	54.7	#-289
26	+EPZ	2023	25.4	#-290
26	+EPZ	2023	48.7	
27	+IPZ	0632	44.6	#-291
27	+EPZ	0632	48.8	#-291
27	-EPdiffZ	1859	50.5	#-292
27	-EpPdiffZ	1859	55.6	#-292
27	-EPdiffZ	1901	39.8	#-293
27	-EXZ	1901	50.6	#-294
27	+EPPZ	1906	31.9	#-294

Date	Phase	UTC Time		Remarks
		h m	s	
27	-EPZ	1904	21.3	
27	+EPZ	1914	46.9	
27	+EPZ	1915	12.9	
27	+EPZ	1938	43.4	
27	+EPdiffZ	2334	46.0	#-295
27	-EPdiffZ	2334	48.5	#-295
27	-EPKiKPZ	2339	15.0	#-295
28	+EPZ	0136	21.6	#-296
28	+EPZ	0136	39.2	
28	-EPdiffZ	0405	32.7	#-297
28	-EpPdiffZ	0405	37.0	#-297
28	-EpPdiffZ	0854	57.9	#-298
28	-EPPZ	0858	52.4	#-298
28	+EPZ	1824	45.3	#-299
28	+EPZ	2217	45.2	
28	+EPdiffZ	2220	9.6	#-300
28	-EPdiffZ	2241	57.3	#-301
29	-EPZ	0305	47.5	
29	+EPZ	1500	44.7	#-302
29	+EpPZ	1501	6.7	#-302
29	-EPZ	1757	1.3	#-303
30	-EPdiffZ	0319	50.5	#-304
30	-EPZ	0435	1.2	
30	-EPZ	1139	10.6	#-305
30	-EsPZ	1139	21.0	#-305
30	-EPPZ	1140	59.3	#-305
30	-EPZ	2013	25.9	#-306
30	-EPPZ	2016	43.7	#-306
31	-IPZ	0334	36.0	#-307
31	-EPcPZ	0334	52.9	#-307
31	+EsPZ	0335	21.3	#-307
31	-EPZ	0356	41.0	
31	+EPZ	0433	39.6	
31	-EPZ	0819	16.7	
31	+EPZ	1831	40.2	#-308
31	-EpPZ	1831	50.6	#-308
31	+EPZ	2027	8.7	

Date	Phase	UTC Time h m s	Remarks
Apr.			
1	-EPZ	0621 32.8	#-309
1	-EpPZ	0621 45.5	#-309
1	+EPZ	0632 52.8	
1	-EPZ	0713 34.6	
1	+EPZ	1126 31.2	
1	+EPZ	1242 42.6	
1	-EPZ	1246 30.0	#-310
1	+EPZ	1324 8.9	#-311
1	+EpPZ	1324 29.9	#-311
1	-EPZ	1324 52.4	
1	-EPKiKPZ	1329 26.9	#-311
1	-EPZ	1421 14.3	
1	+EPZ	1423 33.1	#-312
1	+EpPZ	1423 46.5	#-312
1	-EPZ	1608 20.0	
1	-EPZ	1609 37.1	
1	-EPZ	1934 40.7	
2	+EPZ	0120 1.6	
2	+EPZ	0444 25.4	
2	-EPZ	0531 18.1	#-313
2	-IPZ	1554 19.0	#-314
2	-EPcPZ	1554 21.9	#-314
2	-EpPZ	1554 26.2	#-314
2	+EPZ	1556 8.2	
2	-EPZ	1600 16.8	
2	-EPZ	1707 25.1	#-315
2	+EPcPZ	1707 28.7	#-315
2	+EPZ	2029 31.3	#-316
2	-EpPZ	2029 42.5	#-316
2	+EPZ	2116 37.7	
2	+EPZ	2155 26.2	#-317
2	-EpPZ	2155 39.4	#-317
3	+EPdiffZ	0328 51.2	#-318
3	+EPPZ	0333 5.7	#-318
3	-EPZ	0433 13.6	
3	+EPZ	0913 21.0	#-319
3	-EpPZ	0914 31.2	#-319

Date	Phase	UTC Time h m s	Remarks
3	+EsPZ	0914 59.4	#-319
3	+EPPZ	0917 4.6	#-319
3	-IPZ	1008 17.5	#-320
3	-EpPZ	1008 24.1	#-320
3	+EPcPZ	1008 41.2	#-320
3	+EPZ	1012 38.2	
3	-EPZ	1130 7.2	
3	+EPZ	1331 57.8	
3	-EPZ	1342 21.6	#-321
3	+EsPZ	1342 31.9	
3	+EPZ	2318 19.3	
3	- EPZ	2320 0.8	
3	-+EPKpdfZ	2321 1.6	#-322
3	-EPZ	2345 57.5	
4	+EPZ	0241 9.3	
4	-EPZ	0745 5.7	#-323
4	-EsPZ	0746 6.0	#-323
4	+EPZ	0754 26.1	
4	+EPZ	0803 43.5	
4	-EPZ	0817 59.1	#-324
4	+EPZ	0929 14.5	
4	+EPZ	1010 24.5	#-325
4	+EpPZ	1010 30.2	#-325
4	+EPZ	1423 39.3	
4	-EPZ	1718 24.6	#-326
4	-EpPZ	1718 29.1	#-326
4	-EPZ	1722 28.9	
4	-EPZ	1812 5.6	
4	-EPZ	1812 43.2	
4	+EPZ	1816 7.6	#-327
4	+EpPZ	1816 11.6	#-327
4	-EPZ	1840 55.2	
5	+EPZ	0234 37.6	#-328
5	-EPcPZ	0235 2.4	#-328
5	-EpPZ	0235 11.0	#-328
5	+EPZ	0308 30.5	
5	-EPZ	0909 28.2	#-329
5	-EPcPZ	0909 36.4	#-329

Date	Phase	UTC Time		Remarks
		h m	s	
5	-EPZ	0923	39.5	
5	+EPZ	1706	3.5	#-330
5	+EPPZ	1709	46.9	#-330
5	-EPZ	1710	32.4	
5	-EPZ	1918	45.3	#-331
5	+EPZ	1922	9.2	
5	-EPZ	2034	6.1	#-332
5	+EPcPZ	2034	10.9	#-332
5	-EpPZ	2034	36.2	#-332
5	-EPZ	2038	10.5	
5	-EPZ	2047	8.6	#-333
5	-EPcPZ	2047	12.3	#-333
6	-EPZ	1325	18.5	
6	-EPZ	2307	38.4	#-334
7	-EPZ	0639	55.0	
7	+EPZ	1500	14.4	#-335
7	+EpPZ	1500	17.0	#-335
7	+EPcPZ	1500	56.3	#-335
7	-EXZ	2037	43.9	#-336
7	-EPZ	2204	5.4	
8	-EPZ	0016	7.7	
8	-EPZ	0039	23.8	
8	+EPZ	0252	14.2	
8	-EPZ	0254	18.1	#-337
8	-EpPZ	0254	21.0	#-337
8	-EPZ	0358	9.1	
8	+EPZ	0358	31.8	
8	+EPZ	0509	3.1	#-338
8	-EPZ	0526	33.0	
8	-EPZ	0824	56.6	
8	-EPZ	1029	21.2	#-339
8	-EpPZ	1029	32.0	#-339
8	-EsPZ	1029	40.7	#-339
8	+EPZ	1301	25.4	
8	-EPZ	1343	55.6	#-340
8	-EPcPZ	1409	10.1	#-341
8	-EpPZ	1409	31.6	#-341
8	-EPZ	1448	18.0	#-342

Date	Phase	UTC Time		Remarks
		h m	s	
9	+EPZ	0207	46.8	#-343
9	+EPcPZ	0207	54.9	#-343
9	+EpPZ	0208	1.4	#-343
9	-EPZ	1536	14.3	#-344
9	+EPcPZ	1536	9.0	#-344
9	-EpPZ	1537	8.6	#-344
9	-EPZ	1536	44.3	#-345
9	+EpPZ	1536	50.6	#-345
10	-EPZ	0112	37.8	#-346
10	-EpPZ	0113	4.2	#-346
10	+EPPZ	0113	47.8	#-346
10	-EPZ	0506	29.7	#-347
10	+EpPZ	0506	39.3	#-347
10	+EPdiffZ	0749	6.2	#-348
10	+EPZ	0752	34.9	
10	-EPZ	1104	32.6	
10	-EPZ	1609	58.9	#-349
10	-EPcPZ	1610	1.8	#-349
10	-EpPZ	1610	8.8	#-349
10	+EPZ	1619	12.1	#-350
10	-EPcPZ	1619	14.7	#-350
10	-EPKikPZ	1624	30.0	#-350
10	-EPZ	2059	22.6	
10	+EPZ	2059	52.3	
11	+EPZ	0121	58.2	#-351
11	-EpPZ	0122	50.7	#-351
11	-EPZ	0239	24.5	#-352
11	-EpPZ	0239	32.4	#-352
11	-EPZ	0750	32.4	#-353
11	-EpPZ	0750	38.2	#-353
11	-EPZ	1904	0.9	#-354
11	-EPcPZ	1904	6.6	#-354
11	-EpPZ	1904	13.2	#-354
11	-EPZ	1952	14.3	
11	+EPZ	1952	53.4	
11	-EPZ	1958	27.3	#-355
11	-EPZ	2053	56.6	
11	-EPZ	2236	15.3	

Date	Phase	UTC Time h m	s	Remarks
12	-EPZ	0156	21.2	
12	-EPZ	0156	46.6	
12	-EPZ	0535	30.7	
12	-EPZ	0643	44.3	#-356
12	-EXZ	0643	53.5	#-356
12	-EsPZ	0644	5.3	#-356
12	-EPZ	1113	17.6	
13	-EPZ	0404	17.6	#-357
13	-EpPZ	0404	22.3	#-357
13	-EPZ	1034	21.4	#-358
13	-EPZ	1137	32.4	#-359
13	+EPcPZ	1137	37.6	#-359
13	+EpPZ	1137	58.2	#-359
13	-EPZ	1506	13.7	
13	-EPZ	2159	38.5	
13	-EPZ	2159	51.2	
13	+EPZ	2200	17.6	
14	-EPZ	0145	47.2	#-360
14	+EPcPZ	0145	48.1	#-360
14	+EPKpdfZ	0213	49.0	#-361
14	-EPKpbcZ	0213	54.7	#-361
14	+EPZ	0817	19.4	
14	-EPZ	0818	19.5	
14	-EPPZ	0819	38.7	#-362
14	+EPZ	1413	45.6	#-363
14	+EpPZ	1413	46.2	#-363
14	+EsPZ	1413	49.1	#-363
14	-EPcPZ	1413	58.8	#-363
14	-EPZ	1749	41.9	
14	+EPZ	1750	9.1	
14	+EPZ	2243	25.7	#-364
14	+EpPZ	2243	47.2	#-364
14	+EXZ	2244	12.6	#-364
14	-EPdiffZ	2324	37.3	#-365
14	+EPZ	2325	56.4	
14	-EPZ	2326	38.0	
14	-EPKpdfZ	2327	16.8	#-365
15	-EPZ	0701	43.6	#-366

Date	Phase	UTC Time h m	s	Remarks
15	-EPZ	0825	57.5	#-367
15	-EpPZ	0826	16.4	#-367
15	-EPZ	0827	16.4	
15	-IPZ	1001	2.6	#-368
15	-EPcPZ	1001	3.7	#-368
15	-EPZ	1002	57.6	
15	-EXZ	1257	24.4	#-369
15	+EpPZ	1258	11.7	#-369
15	-EsPZ	1258	33.6	#-369
15	+EPPZ	1301	18.4	#-369
15	+EPZ	2019	29.2	#-370
15	+EPcPZ	2019	35.4	#-370
15	+EpPZ	2019	37.6	#-370
15	+EPZ	2022	50.2	
15	-EPZ	2032	48.7	#-371
15	+EPcPZ	2032	50.0	#-371
15	+EpPZ	2032	51.9	#-371
15	+EsPZ	2032	55.3	#-371
15	-EPZ	2133	21.5	#-372
15	+EpPZ	2133	32.7	#-372
15	-EPZ	2133	53.7	
15	-EPZ	2135	28.0	#-373
15	+EPcPZ	2135	30.9	#-373
15	+EPZ	2150	13.5	#-374
15	-IpPZ	2150	23.0	#-374
15	-EsPZ	2150	26.8	#-374
15	-EPcPZ	2150	41.9	#-374
15	+EPZ	2151	16.1	#-375
15	-EpPZ	2151	34.5	#-375
15	+EsPZ	2151	42.4	#-375
15	-EXZ	2223	29.5	#-376
15	+EpPZ	2223	40.9	#-376
15	+EXZ	2314	46.5	#-377
15	-EpPZ	2315	8.4	#-377
15	+EPZ	2344	57.2	#-378
15	-EpPZ	2345	9.9	#-378
15	-EPZ	2345	21.8	
16	+EPZ	0218	52.7	#-379

Date	Phase	UTC Time h m	s	Remarks
16	+EPcPZ	0218	56.3	#-379
16	-EPZ	0323	35.8	#-380
16	-EPZ	0840	39.5	#-381
16	-EsPZ	0840	46.0	#-381
16	+EPZ	1037	4.3	#-382
16	+EPZ	1142	19.8	
16	-EPZ	1142	33.5	#-383
16	-EPcPZ	1142	36.9	#-383
16	+EPZ	1407	24.3	
16	+EPZ	1408	13.1	
16	+EPZ	1444	32.6	#-384
16	+EPZ	1711	3.3	#-385
16	+EpPZ	1711	6.3	#-385
16	-EPZ	1844	3.6	#-386
16	+EPcPZ	1844	19.6	#-386
16	-EpPZ	1844	26.5	#-386
16	+EPZ	2208	45.6	#-387
16	+EPcPZ	2208	57.5	#-387
16	-EpPZ	2209	1.2	#-387
16	+EPZ	2343	4.3	#-388
16	-EPcPZ	2343	13.8	#-388
17	+EPZ	0141	33.2	
17	+EPZ	0312	37.4	#-389
17	-EPZ	0314	19.7	
17	+EPZ	0437	15.1	#-390
17	+EPcPZ	0437	19.6	#-390
17	+EpPZ	0437	24.8	#-390
17	+EPZ	0447	32.3	#-391
17	+EPcPZ	0551	39.9	#-392
17	-EPZ	0801	10.8	#-393
17	-EpPZ	0801	24.2	#-393
17	+EPPZ	0804	51.4	#-393
17	+IPZ	1251	44.8	#-394
17	+EPcPZ	1251	47.4	#-394
17	ESH	1301	17.1	#-394
17	+EPdiffZ	1318	19.4	#-395
17	-IPZ	1610	34.5	#-396
17	+EPcPZ	1610	37.4	#-396

Date	Phase	UTC Time h m	s	Remarks
17	-EpPZ	1611	10.4	#-396
17	+EPPZ	1613	45.6	#-396
17	-EPcPZ	1713	2.8	#-397
17	+EPZ	1731	19.5	
17	-EPZ	1913	9.0	#-398
17	+EPcPZ	1913	11.1	#-398
17	-EpPZ	1913	55.4	#-398
17	ESH	1923	18.8	#-398
18	-EXZ	0154	19.7	#-399
18	-EPcPZ	0154	37.5	#-399
18	+EPZ	0351	59.8	
18	+EPZ	0353	21.6	#-400
18	-EpPZ	0353	26.4	#-400
18	+EPcPZ	0353	30.4	#-400
18	-EPZ	1244	56.5	
18	-EPZ	1731	44.3	#-401
18	+EPZ	1732	51.0	
18	-EPKiKPZ	1736	53.9	#-401
18	+EPZ	1738	5.5	
18	-EPZ	2236	7.0	#-402
18	-EPcPZ	2236	9.7	#-402
18	-EPZ	2300	3.2	
18	-EPZ	2346	15.7	
18	+EPZ	2346	46.4	
18	-EPZ	2358	32.7	
19	+EPdiffZ	0524	34.0	#-403
19	+EpPdiffZ	0524	44.2	#-403
19	-EPZ	0826	52.9	#-404
19	-EPcPZ	0826	56.1	#-404
19	+EPZ	1117	12.4	
19	-EPZ	1117	26.1	
20	-EPZ	0431	24.6	
20	+EPZ	1302	48.0	
20	-EPZ	1346	33.6	
20	+EPZ	1353	29.7	#-405
20	-EPcPZ	1353	48.7	#-405
20	-EPZ	2156	10.2	
20	+EPZ	2156	52.6	

Date	Phase	UTC Time		Remarks
		h m	s	
21	-EPZ	0339	17.6	
21	+EPZ	0556	55.2	#-406
21	-EPZ	0618	17.3	
21	+EPZ	1112	55.8	#-407
21	-EpPZ	1113	38.2	#-407
21	-EPZ	1759	3.3	
21	+EPZ	1802	49.6	#-408
21	-EPcPZ	1803	5.2	#-408
21	-EPZ	2147	53.0	
22	+EPZ	0224	54.0	#-409
22	-EpPZ	0225	7.0	#-409
22	-EsPZ	0225	12.9	#-409
22	+EPZ	0318	16.5	#-410
22	-EPcPZ	0318	19.4	#-410
22	-EpPZ	0318	25.3	#-410
22	-EPZ	0324	16.5	#-411
22	-EPcPZ	0324	19.6	#-411
22	+EPZ	0343	37.0	#-412
22	-EPcPZ	0343	40.4	#-412
22	-EPZ	0344	51.5	
22	+EPZ	0506	22.3	
22	+EPZ	0506	33.0	
22	+IPZ	0913	32.5	#-413
22	-EPZ	0913	34.1	#-413
22	-EPnZ	0913	34.5	#-413
22	+EPZ	0914	30.6	
22	-EPZ	0915	18.0	
22	-EPZ	1002	4.6	#-414
22	-EpPZ	1002	10.3	#-414
22	-EPdiffZ	1016	39.3	#-415
22	+IPZ	1023	53.7	#-416
22	-IpPZ	1023	59.1	#-416
22	-IPZ	1024	21.6	
22	-EPZ	1027	48.3	#-417
22	-IPcPZ	1027	50.7	#-417
22	-EpPZ	1027	55.4	#-417
22	-EsPZ	1027	59.5	#-417
22	-EPZ	1118	53.8	#-418

Date	Phase	UTC Time		Remarks
		h m	s	
22	+EpPZ	1120	0.0	#-418
22	+EPZ	1121	38.6	
22	-EPZ	1241	0.1	#-419
22	-EPZ	1242	17.0	
22	-EPZ	1301	43.0	#-420
22	-EPcPZ	1301	50.1	#-420
22	-EPZ	1415	41.8	#-421
22	+EPZ	1415	52.2	
22	-EPZ	1429	19.2	#-422
22	-EPZ	1429	30.3	
22	+EPZ	1507	43.2	#-423
22	-EPcPZ	1507	47.9	#-423
22	-EPZ	1649	55.8	#-424
22	-EPcPZ	1649	59.2	#-424
22	-EPZ	1806	39.9	
22	-EPZ	2234	54.9	
23	-EXZ	0034	40.5	#-425
23	-EPZ	0202	24.6	#-426
23	+EPcPZ	0202	34.6	#-426
23	+EpPZ	0202	46.1	#-426
23	+EsPZ	0202	52.3	#-426
23	+EPPZ	0205	25.2	#-426
23	-EPZ	0341	48.3	
24	-EPZ	0756	51.1	#-427
24	+EPcPZ	0756	54.0	#-427
24	-EpPZ	0756	57.3	#-427
24	-EpPZ	0815	33.0	#-428
24	-EPZ	0833	26.7	
24	+EPZ	1022	23.7	
24	-EPZ	1155	19.1	#-429
24	-EpPZ	1155	22.0	#-429
24	-EPcPZ	1156	13.0	#-429
24	+EPZ	1201	39.7	
24	-EPZ	1208	31.9	#-430
24	-EpPZ	1208	33.3	#-430
24	+EPcPZ	1208	35.5	#-430
24	-EPZ	1909	36.6	
24	-EPZ	2041	57.4	

Date	Phase	UTC Time		Remarks
		h m	s	
24	-EPZ	2119	2.8	
24	-EPZ	2312	32.2	#-431
24	+EpPZ	2312	34.4	#-431
24	+EPZ	2312	44.0	
24	+EPPZ	2315	34.2	#-431
24	-EPKiKPZ	2318	2.8	#-431
24	-EPZ	2331	19.7	#-432
24	-EPcPZ	2331	28.4	#-432
24	-EPZ	2348	34.0	
25	+EPZ	0209	1.6	#-433
25	+EPZ	0231	44.5	#-434
25	-EpPZ	0231	49.2	#-434
25	+EPcPZ	0231	52.9	#-434
25	+EPZ	0233	8.0	
25	-EXZ	0523	43.9	#-435
25	-EPZ	0741	54.5	#-436
25	+EpPZ	0741	57.7	#-436
25	-EPZ	0931	57.3	
25	+EPdiffZ	1229	48.0	#-437
25	-EPZ	1233	11.3	
25	-EPZ	1705	38.0	
25	-EPZ	1725	11.6	#-438
25	+EPcPZ	1725	8.2	#-438
25	+EPZ	1738	9.0	#-439
25	-EPZ	1738	12.3	#-439
25	+IPZ	2033	13.8	#-440
26	-EPZ	0209	8.5	#-441
26	+EPcPZ	0209	9.4	#-441
26	+EpPZ	0211	15.6	#-441
26	-EPZ	0314	59.2	#-442
26	-EPcPZ	0315	10.3	#-442
26	-EPZ	0710	38.3	#-443
26	-EpPZ	0710	46.5	#-443
26	-EPZ	0957	10.5	#-444
26	+EPZ	0957	33.3	#-444
26	-IPZ	1617	23.6	#-445
26	+EPcPZ	1617	35.6	#-445
26	+EpPZ	1617	53.0	#-445

Date	Phase	UTC Time		Remarks
		h m	s	
26	+EPZ	1624	58.0	
26	+EPZ	1815	58.8	
26	-EPZ	2357	11.4	
27	+EPZ	0021	7.0	#-446
27	+EPZ	0021	15.4	
27	+EpPZ	0021	33.0	#-446
27	-EPZ	0518	28.3	#-447
27	+EpPZ	0518	41.3	#-447
27	+EsPZ	0518	51.5	#-447
27	+EPZ	2341	2.2	#-448
27	+EPcZP	2341	5.2	#-448
28	+EPdiffZ	0307	24.0	#-449
28	-EPKPbc	0309	54.7	#-449
28	-EPZ	0318	17.0	#-450
28	+EPcPZ	0318	28.4	#-450
28	-EPdiffZ	0423	43.8	#-451
28	+EPdiffZ	0525	31.9	#-452
28	-EPZ	0935	7.2	#-453
28	-EpPZ	0935	10.4	#-453
28	+EPZ	1005	18.6	
28	+EpPZ	1005	27.6	#-454
28	+EPZ	1158	16.3	#-455
28	-EpPZ	1158	32.8	#-455
28	-EPZ	1535	14.9	
28	+EPZ	1536	50.7	
28	-EPZ	1645	18.4	#-456
28	-EPcPZ	1645	23.2	#-456
28	-EPZ	1654	8.2	#-457
28	-EPZ	1654	58.2	
28	+EPcPZ	1839	48.9	#-458
28	-EPZ	2242	58.3	
29	-EPZ	0057	6.8	#-459
29	+EPPZ	0100	20.5	#-459
29	+EPZ	0111	20.7	
29	+EPZ	0245	1.6	
29	+EPZ	0257	31.2	
29	+EPZ	0301	34.6	
29	+EXZ	0348	4.6	#-460

Date	Phase	UTC Time		Remarks
		h m	s	
29	+EXZ	2009	25.9	#-461
29	+EsPZ	2010	1.4	#-461
29	+EPZ	2236	49.1	
29	+EPKpdfZ	2236	55.4	#-462
29	-EPZ	2253	36.1	#-463
29	-EPZ	2253	48.0	
29	+EPPZ	2256	41.6	#-463
30	+EPZ	0039	47.3	
30	-EPZ	1014	19.6	#-464
30	-EPZ	1014	28.5	#-464
30	+EsPZ	1014	54.7	#-464
30	-EPZ	1422	42.4	
30	-EPZ	1424	14.1	
May				
1	-EPZ	0711	49.6	#-465
1	-EpPZ	0711	51.8	#-465
1	-EsPZ	0711	57.6	#-465
1	-EPPZ	0713	17.7	#-465
2	-EPZ	0504	28.0	#-466
2	-EPcPZ	0504	30.0	#-466
2	-EPZ	0524	4.1	#-467
2	+EPcPZ	0524	8.2	#-467
2	-EPZ	1420	4.5	
2	-EPZ	1420	8.7	#-468
2	-EPZ	1420	11.1	
2	+EPZ	1607	53.4	
2	-EPZ	1618	56.8	#-469
2	+EpPZ	1619	3.0	#-469
2	-EPZ	1635	42.8	
2	-EPZ	1820	26.2	
3	+EPZ	0246	42.7	
3	-EsPZ	0248	1.2	#-470
3	+IPZ	0447	14.2	#-471
3	-EpPZ	0447	21.0	#-471
3	-EPcPZ	0447	50.8	#-471
3	+EPZ	0516	18.7	
3	+EPZ	0516	28.5	
3	-EPZ	0516	55.6	

Date	Phase	UTC Time		Remarks
		h m	s	
3	+EPZ	0519	15.1	
3	-EPZ	0648	15.5	#-472
3	+EpPZ	0648	21.4	#-472
3	+EsPZ	0648	23.5	#-472
3	-EPPZ	0650	32.6	#-472
3	-EPZ	0700	27.0	
3	-EPZ	0706	4.0	
3	-EPZ	1754	26.4	#-473
3	-EpPZ	1754	38.3	#-473
3	+EPZ	1946	8.4	#-474
3	+EPcPZ	1946	10.4	#-474
3	+EpPZ	1946	26.1	#-474
4	-EPdffZ	0345	20.0	#-475
4	-EPZ	0346	13.4	
4	-EPkiKPZ	0348	8.0	#-475
4	-EPZ	0349	56.2	
4	-EPdffZ	0519	46.0	#-476
4	-EPZ	2136	7.7	
4	+EPZ	2148	16.4	#-477
4	-EsPZ	2148	58.0	#-477
4	+EPPZ	2151	38.1	#-477
4	+EPZ	2249	23.9	
4	-EpPZ	2249	34.1	#-478
5	+EPZ	0225	31.5	#-479
5	+EPPZ	0228	47.2	#-479
5	+EPZ	0232	26.9	#-480
5	-EPcPZ	0232	42.8	#-480
5	-EPZ	0503	9.5	#-481
5	+IPZ	0503	11.1	#-481
5	+EpPZ	0503	12.7	#-481
5	+EPnPrZ	0503	32.8	#-481
5	+EPZ	0535	33.8	#-482
5	-EPcPZ	0535	51.4	#-482
5	+EPZ	0557	41.0	#-483
5	+EPZ	0859	20.6	
5	+EPZ	1103	42.6	#-484
5	+EPcPZ	1103	46.3	#-484
5	-EpPZ	1105	28.3	#-484

Date	Phase	UTC Time h m	s	Remarks
5	+EPZ	1407	0.3	
5	+EsPZ	1629	49.8	#-485
5	+EPcPZ	2003	21.1	#-486
5	-EPZ	2105	13.8	
5	+EpPZ	2105	47.7	#-487
5	-EPZ	2235	24.9	
6	-EPZ	0410	38.5	
6	+EPcPZ	0410	47.8	#-488
6	+EpPZ	0411	13.2	#-488
6	+EPZ	0448	25.6	
6	-EPZ	0533	3.1	#-489
6	+EpPZ	0533	27.4	#-489
6	-EPPZ	0536	11.2	#-489
6	+IPZ	0628	22.3	#-490
6	+EPZ	0628	27.8	
6	+EPcPZ	0628	39.0	#-490
6	-EpPZ	0629	2.8	#-490
6	+EPZ	0743	21.4	
6	+EpPZ	0743	52.8	#-491
6	-EPPZ	0747	7.5	#-491
6	-EPZ	1027	29.1	#-492
6	+EPcPZ	1027	45.8	#-492
6	-EPZ	1158	38.0	
6	-EPZ	1158	47.2	
6	+EpPZ	1200	38.3	#-493
6	-EPZ	1201	24.7	
6	-EPZ	1213	47.8	#-494
6	+EPZ	1215	13.1	
6	+EPdiffZ	1356	37.2	#-495
6	+EPZ	1359	12.0	
6	-EPZ	1528	59.0	#-496
6	+EpPZ	1530	6.3	#-496
6	+EsPZ	1530	30.9	#-496
6	-EPZ	1539	47.0	#-497
6	+EsPZ	1540	16.2	#-497
6	+EpPZ	1749	34.9	#-498
6	-EPZ	1750	26.4	
7	+EPZ	0139	3.5	#-499

Date	Phase	UTC Time h m	s	Remarks
7	-EpPZ	0139	9.0	#-499
7	-EPZ	0142	8.3	
7	-EPZ	0215	57.7	#-500
7	+EPcPZ	0216	19.9	#-500
7	+EpPZ	0216	32.2	#-500
7	-EPZ	0956	27.9	#-501
7	+EsPZ	0956	43.6	#-501
7	-EPmPnZ	0957	21.1	#-501
7	-EPZ	2234	54.2	
8	-EPZ	2316	23.6	#-502
8	-EpPZ	2316	34.1	#-502
8	-EPZ	2319	40.8	
8	-EPZ	2335	4.7	
9	+EPZ	0800	31.0	
9	-EPZ	1737	52.9	#-503
9	-EPcPZ	1738	0.0	#-503
9	+EpPZ	1738	45.1	#-503
9	-EPZ	1904	56.6	#-504
9	+EPcPZ	1905	2.1	#-504
9	+EPZ	2237	9.1	#-505
9	-EPcPZ	2237	16.2	#-505
9	-EpPZ	2237	28.9	#-505
10	-EPcPZ	1356	44.6	#-506
10	-EpPdiffZ	2342	19.5	#-507
11	+EPZ	0840	53.1	#-508
11	+EpPZ	0841	0.9	#-508
11	+EsPZ	0841	5.9	#-508
12	+EPZ	0011	34.8	
12	-EPZ	0011	36.5	
12	+EPZ	0013	24.3	
12	-EPcPZ	0956	24.7	#-509
12	-EXZ	0958	47.7	#-510
12	+EPPZ	1002	29.7	#-510
12	+EPZ	1003	39.6	#-511
12	-EPcPZ	1004	13.6	#-511
12	-EPZ	1031	44.6	#-512
12	-EPcPZ	1032	42.1	#-512
12	-EPPZ	1033	53.8	#-512

Date	Phase	UTC Time		Remarks
		h m	s	
12	-EPZ	1257	17.2	#-513
12	+EpPZ	1257	48.5	#-513
12	+EPPZ	1300	55.2	#-513
12	-EPZ	1306	39.8	
12	-EPZ	1533	19.8	#-514
12	-EPcPZ	1533	25.8	#-514
12	-EPZ	1536	43.0	
12	-EPZ	1821	32.9	#-515
12	-EPcPZ	1821	35.6	#-515
12	-EpPZ	1821	40.8	#-515
12	-EPZ	2048	15.9	#-516
12	-EPcPZ	2048	31.7	#-516
12	+EPZ	2052	2.4	
13	+EPZ	0134	38.9	
13	-EPcPZ	0150	37.5	#-517
13	-EsPz	0150	49.1	#-517
13	+EPZ	0649	46.5	#-518
13	+EPPZ	0653	23.4	#-518
13	+EPZ	0724	58.9	#-519
13	-EPcPZ	0725	0.7	#-519
13	-EPZ	0721	3.7	#-520
13	+EpPZ	0721	9.0	#-520
13	+EsPZ	0721	14.5	#-520
13	-EPnPz	0722	6.8	#-520
13	-EXZ	0952	13.0	#-521
13	+EsPZ	0952	24.7	#-521
13	+EPPZ	0953	13.9	#-521
13	-EPZ	1012	5.0	#-522
13	-EpPZ	1012	7.4	#-522
13	+EsPZ	1012	10.5	#-522
13	+EPPZ	1015	46.5	#-522
13	-EPZ	1730	50.3	#-523
13	+EPcPZ	1731	2.1	#-523
13	-EpPZ	1731	12.6	#-523
13	+EsPZ	1731	25.9	#-523
13	-EPZ	1748	7.1	
13	-EPdiffZ	1748	49.2	#-524
13	+EPPZ	1753	10.1	#-524

Date	Phase	UTC Time		Remarks
		h m	s	
13	-EPZ	1822	22.7	#-525
13	-EpPZ	1822	25.4	#-525
13	+EPcPZ	1822	33.9	#-525
13	-EPPZ	1825	12.0	#-525
13	-EPZ	2026	8.7	#-526
13	+EpPZ	2026	11.0	#-526
14	+EPZ	0002	29.7	#-527
14	+EPcPZ	0155	11.2	#-528
14	-EPZ	0658	23.8	#-529
14	-EpPZ	0658	32.5	#-529
14	+EPZ	0705	1.8	#-530
14	+EPcPZ	0705	3.5	#-530
14	-EpPZ	0705	15.7	#-530
15	-EPZ	1113	21.0	#-531
15	+EPcPZ	1113	31.7	#-531
15	-EPPZ	1116	16.7	#-531
15	+EPZ	1244	9.4	
15	-EPZ	1247	39.9	#-532
15	+EPcPZ	1247	52.2	#-532
15	+EPZ	1902	57.0	
16	-EPZ	0006	37.1	
16	-EPZ	0012	22.3	
16	+EPZ	0743	28.7	#-533
16	+EpPZ	0743	33.4	#-533
16	+EsPZ	0743	37.9	#-533
16	-EPZ	0803	37.8	#-534
16	-EpPZ	0803	53.4	#-534
16	+EPZ	1045	13.5	#-535
16	+EPcPZ	1045	18.4	#-535
16	+EPZ	1050	9.3	#-536
16	-EPZ	1055	3.3	#-537
16	-EPZ	1108	53.3	#-538
16	+EpPZ	1109	1.1	#-538
16	-EPZ	1111	41.2	#-538
16	-EpPZ	1111	48.4	#-538
16	-EPZ	1114	39.7	#-539
16	+EPcPZ	1114	40.6	#-539
16	-EpPZ	1114	48.8	#-539

Date	Phase	UTC Time h m	s	Remarks
16	+EPZ	1143	54.5	#-540
16	+EpPZ	1726	26.7	#-541
16	+EPZ	1727	23.7	
16	-EPZ	2059	4.3	#-542
16	-EPZ	2059	52.3	
16	-EPZ	2101	27.1	
16	+EPZ	2218	32.6	#-543
16	+EPcPZ	2218	38.3	#-543
17	-EPZ	0543	49.9	
17	-EPZ	0658	40.3	#-544
17	-EpPZ	0700	56.8	#-544
17	+EPZ	0825	12.0	#-545
17	+EpPZ	0825	19.3	#-545
17	-EPZ	1322	2.1	#-546
17	-EPcPZ	1322	2.8	#-546
17	+EPPZ	1325	45.7	#-546
17	-EPZ	1521	11.9	#-547
17	-EpPZ	1521	15.4	#-547
17	+EPcPZ	1521	46.7	#-547
17	+EPZ	1751	35.4	
18	-EPZ	0012	24.2	
18	-EPZ	0106	58.7	
18	-EPZ	0107	27.0	
18	+EPZ	0310	45.4	#-548
18	-EPcPZ	0310	46.9	#-548
18	-EsPZ	0311	9.9	#-548
18	-EPZ	0628	14.2	
18	-EPZ	0628	57.0	
18	-EPdiffZ	1437	13.3	#-549
18	-EPZ	1546	53.8	#-550
18	-EpPZ	1548	53.4	#-550
18	-EPZ	1825	29.4	#-551
18	-EpPZ	1825	54.6	#-551
18	-EsPZ	1826	4.4	#-551
18	+EPcPZ	2316	46.8	#-552
18	+EPZ	2317	7.7	
19	+EPZ	0455	31.0	
19	-EPcPZ	0534	9.4	#-553

Date	Phase	UTC Time h m	s	Remarks
19	-EPPZ	0536	59.9	#-553
19	+EPZ	0632	0.4	#-554
19	-EPcPZ	0632	5.4	#-554
19	+EPZ	0826	56.6	#-555
19	+EPcPZ	0827	0.9	#-555
19	+EpPZ	0827	25.2	#-555
19	-EPZ	1014	35.9	#-556
19	-EPcPZ	1015	2.8	#-556
19	-EPZ	1617	32.3	#-557
19	-EpPZ	1617	33.2	#-557
19	-EsPZ	1617	37.0	#-557
19	+EPdiffZ	2118	59.9	#-558
19	-EPZ	2201	52.0	#-559
19	-EpPZ	2202	17.1	#-559
19	+EPZ	2358	37.9	
20	-EpPZ	0551	49.2	#-560
20	-EPZ	0803	3.2	#-561
20	-IpPZ	0803	7.1	#-561
20	-EpPZ	0803	11.1	#-561
20	-EPnPnZ	0803	17.2	#-561
20	-EPZ	0803	29.7	
20	+EPZ	0803	42.0	
20	-EPZ	0838	12.6	#-562
20	+EPdiffZ	1458	46.5	#-563
20	-EPZ	2244	50.9	#-564
20	-EPcPZ	2244	55.5	#-564
20	-EpPZ	2244	58.3	#-564
21	+EPZ	0436	43.7	
21	-IPZ	1555	16.4	#-565
21	-EpPZ	1555	19.3	#-565
21	+EsPZ	1555	22.6	#-565
21	+EPcPZ	1555	29.0	#-565
21	-EPZ	1611	32.5	#-566
21	-EpPZ	1611	35.1	#-566
21	-EsPZ	1611	39.0	#-566
21	+EPPZ	1614	22.1	#-566
21	+EPZ	2008	51.4	#-567
21	+EPZ	2057	13.2	#-568

Date	Phase	UTC Time		Remarks
		h m	s	
21	-EPcPZ	2057	16.2	#-568
21	-EpPZ	2058	20.9	#-568
22	+EpPZ	0606	40.3	#-569
22	-EPcPZ	0606	54.0	#-569
22	-EPPZ	0609	18.2	#-569
22	-EPZ	0640	53.7	#-570
22	-EPcPZ	0640	54.8	#-570
22	-EpPZ	0641	0.2	#-570
22	-EPZ	0749	40.6	#-571
22	+EPcPZ	0749	46.0	#-571
22	-EpPZ	0749	48.1	#-571
22	-EPZ	1101	30.4	#-572
22	+EsPZ	1101	45.7	#-572
22	-EPZ	1753	55.7	#-573
22	-EPZ	2025	21.9	#-573
22	-EpPZ	2025	23.8	#-573
23	-EPZ	0031	0.9	#-574
23	-EPcPZ	0638	39.0	#-575
23	+EPdlffz	0752	34.8	#-576
23	-EPZ	1441	32.1	#-577
23	-EpPZ	1441	47.1	#-577
23	+EpPZ	1924	19.3	#-578
24	+EPZ	1629	30.5	#-579
24	-EPZ	1921	51.8	#-579
24	-EpPZ	1921	55.0	#-579
24	+EPPZ	1924	36.8	#-579
24	+EPZ	2011	52.3	#-580
24	-EPcPZ	2012	40.0	#-580
25	-EPZ	0216	39.4	#-581
25	+EPZ	0501	32.8	#-582
25	+EPcPZ	0501	35.7	#-582
25	+EPZ	0724	23.8	#-583
25	-EPZ	1017	39.5	#-584
25	+EPcPZ	1017	40.3	#-584
25	-EpPZ	1017	57.9	#-584
25	-EsPZ	1018	1.8	#-584
25	-EPZ	1134	6.5	#-585
25	+EPZ	2238	47.9	#-586

Date	Phase	UTC Time		Remarks
		h m	s	
26	+EPZ	0112	51.9	#-587
26	-EPZ	0217	58.1	#-588
26	+EPZ	0405	42.2	#-588
26	+EPcPZ	0405	44.1	#-588
26	-EPZ	0406	12.0	#-589
26	+EPZ	0703	2.3	#-589
26	+EPcPZ	0703	8.1	#-589
26	-EpPZ	0703	30.6	#-589
26	-EPZ	1125	23.9	#-590
26	+EPZ	1125	28.8	#-590
26	-EpPZ	1125	31.7	#-590
26	-EPZ	1957	0.8	#-591
26	+EpPZ	1957	3.0	#-591
26	-EpPZ	1957	10.1	#-591
26	+EsPZ	1957	13.8	#-591
26	-EPZ	2042	17.3	#-592
26	-EpPZ	2042	41.8	#-592
26	+EPZ	2123	0.5	#-593
26	+EPZ	2236	30.0	#-593
26	+EpPZ	2236	39.8	#-593
26	-EsPZ	2236	47.1	#-593
27	+EPZ	0126	17.9	#-594
27	+EsPZ	0227	12.0	#-595
27	-EPZ	0404	38.0	#-596
27	+EpPZ	0404	41.1	#-596
27	-EPcPZ	0404	44.5	#-596
27	-EPZ	0455	9.3	#-597
27	-EPcPZ	0455	13.8	#-597
27	-EPZ	0627	52.0	#-598
27	+EPZ	0632	37.8	#-599
27	+EPcPZ	0632	40.9	#-599
27	+EPZ	0706	36.5	#-600
27	-EPZ	1023	50.9	#-600
27	+EPcPZ	1023	55.8	#-600
27	+EsPZ	1024	15.6	#-600
27	+EPZ	1338	23.7	#-601
27	+EpPZ	1338	27.1	#-601
27	+EpPZ	1338	34.6	#-601

Date	Phase	UTC Time		Remarks
		h m	s	
27	+EPZ	1522	13.4	#-602
27	+EpPZ	1522	16.0	#-602
27	+EPZ	2053	45.9	#-603
27	-EpPZ	2053	52.6	#-603
27	+EPZ	2053	57.0	#-603
27	+EPnPnZ	2054	0.0	#-603
27	-EPZ	2054	11.0	
27	+EPZ	2054	25.6	
27	+EPZ	2248	52.1	#-604
27	+EPcPZ	2248	58.9	#-604
27	-EPZ	2252	54.9	
28	+EPZ	0126	16.1	
28	+EPZ	0129	10.2	
28	+EPZ	1252	49.9	
28	+EPZ	1919	6.1	
28	-EPdiffZ	1920	20.2	#-605
29	-EPZ	1342	41.5	#-606
29	+EPcPZ	1342	49.0	#-606
29	+EpPZ	1343	4.8	#-606
29	-EsPZ	1343	14.3	#-606
29	-EPPZ	1345	36.3	#-606
30	+EPZ	0030	56.9	#-607
30	-EPZ	0031	5.3	#-607
30	+EPZ	0209	12.1	#-608
30	-EpPZ	0209	23.1	#-608
30	-EPZ	1055	43.3	
30	+EPdiffZ	1056	14.8	#-609
30	+IPZ	1656	0.1	#-610
30	+EPcPZ	1656	5.8	#-610
30	-IpPZ	1656	27.2	#-610
30	+EsPZ	1656	35.3	#-610
30	-EPZ	1727	44.9	#-611
30	-EPcPZ	1727	47.8	#-611
30	-EpPZ	1727	50.9	#-611
30	-EPPZ	1731	21.9	#-611
30	+EPZ	2123	10.6	
30	-EPZ	2123	18.7	#-612
30	-EPcPZ	2123	25.1	#-612

Date	Phase	UTC Time		Remarks
		h m	s	
31	-EPZ	0204	49.6	#-613
31	+EPZ	0256	5.8	#-614
31	-EpPZ	0256	33.3	#-614
31	-EPZ	0312	57.3	
31	-EPdiffZ	0313	12.5	#-615
31	+EPZ	0432	31.5	#-616
31	-EPcPZ	0432	45.4	#-616
31	+EsPZ	0432	57.2	#-616
31	+EPZ	0712	17.7	#-617
31	-EPcPZ	0712	22.2	#-617
Jun.				
1	+EPZ	1606	20.9	
1	-IPZ	1715	39.4	#-618
1	+IpPZ	1715	46.2	#-618
1	-EsPZ	1715	53.2	#-618
1	-EPZ	2057	54.3	#-619
1	-EsPZ	2058	2.1	#-619
1	-EPcPZ	2058	32.3	#-619
2	+EPZ	0450	29.2	#-620
2	-EpPZ	0450	38.3	#-620
2	+EsPZ	0450	45.3	#-620
2	-EPZ	0526	0.7	#-621
2	+EPZ	0902	10.6	#-622
2	-EpPZ	0902	19.5	#-622
2	-EPcPZ	0902	24.8	#-622
2	+EPZ	1518	51.9	#-623
2	+EPcPZ	1518	59.2	#-623
2	+EPZ	1716	36.2	#-624
2	-EpPZ	1718	37.0	#-624
2	-EPZ	2045	50.8	
2	+EPZ	2100	48.4	#-625
2	+EsPZ	2100	54.3	#-625
2	-EPZ	2223	16.5	
2	+EPZ	2223	21.9	#-626
2	+EpPZ	2223	30.5	#-626
2	+EPPZ	2223	35.0	#-626
2	+EPZ	2228	29.2	
2	-EPZ	2251	19.9	#-627

Date	Phase	UTC Time h m s	Remarks
2	-EpPZ	2251 28.4	#-627
2	+EPZ	2251 36.0	
3	-EPZ	0838 42.8	#-628
3	-EpPZ	0838 43.9	#-628
3	-EsPZ	0838 46.9	#-628
3	+EXZ	1004 50.4	#-629
3	-EPZ	1004 55.4	
3	+EPcPZ	1605 1.5	#-629
3	-EpPZ	1605 48.7	#-629
3	-EPZ	1647 52.4	#-630
3	-EPcPZ	1647 57.9	#-630
3	-EpPZ	1648 50.9	#-630
4	-EPZ	0207 50.0	
4	+IPZ	0208 38.3	
4	-IPZ	0251 25.6	#-631
4	-IPcPZ	0251 26.7	#-631
4	-EpPZ	0251 51.2	#-631
4	+IsPZ	0251 56.1	#-631
5	+EPZ	1846 20.2	
6	+EPZ	0949 8.7	#-632
6	-EPcPZ	0949 13.2	#-632
6	+EPZ	0958 15.9	
7	+EPZ	1046 43.5	#-633
7	+EPcPZ	1046 55.9	#-633
7	-EPZ	1120 8.9	#-634
7	+EPZ	1129 12.2	
8	-EPZ	1107 7.3	#-635
8	-IPcPZ	1107 9.0	#-635
9	+EPZ	0037 16.8	
9	-EPZ	2258 9.3	#-636
9	-EpPZ	2258 12.5	#-636
9	+EsPZ	2258 16.9	#-636
9	-EPPZ	2300 2.2	#-636
9	-EPZ	2300 32.4	#-637
9	-EpPZ	2300 39.5	#-637
9	-EsPZ	2300 41.9	#-637
9	-ESH	2307 20.9	#-637
10	+EPZ	0948 1.8	#-638

Date	Phase	UTC Time h m s	Remarks
10	-EPcPZ	0948 3.5	#-638
10	-EpPZ	0948 17.5	#-638
10	-EPZ	1003 49.3	#-639
10	-EPZ	1126 15.2	#-640
10	-EPcPZ	1126 17.6	#-640
10	-EpPZ	1126 35.3	#-640
10	+EsPZ	1126 42.4	#-640
10	+EPKpdfZ	1539 22.9	#-641
10	+EPKpbcZ	1539 25.5	#-641
10	+IPKiKPZ	1539 30.4	#-641
10	+IPKpabZ	1539 38.8	#-641
10	-EPZ	2044 43.8	#-642
10	+EPcPZ	2044 50.1	#-642
11	+EPZ	0721 12.3	#-643
11	-EPcPZ	0721 23.2	#-643
11	+EPZ	1236 32.7	#-644
11	+EpPZ	1236 35.6	#-644
11	+EPcPZ	1236 48.6	#-644
11	-EpPdi ffZ	1650 11.2	#-645
12	-EPZ	1605 23.3	
13	+EPZ	1940 6.9	#-646
14	+EPZ	0441 58.9	
14	+EPZ	0901 6.5	
14	-EPZ	0901 55.5	
14	-EPZ	2018 52.7	#-647
14	-EPcPZ	2018 56.2	#-647
15	-IPZ	1126 44.8	#-648
15	-EpPZ	1126 51.9	#-648
15	-EsPZ	1127 0.8	#-648
15	-EPZ	1856 46.4	#-649
15	+EPcPZ	1856 48.5	#-649
15	-EpPZ	1857 14.1	#-649
16	-EPZ	0719 58.3	#-650
16	-EPZ	1113 7.6	#-651
16	+EPZ	2147 35.3	#-652
16	-EPcPZ	2147 36.4	#-652
16	-EpPZ	2148 8.5	#-652
16	-EPZ	2253 50.2	#-653

Date	Phase	UTC Time h m s	Remarks
16	-IPcPZ	2253 51.2	#-653
17	-EPZ	0035 19.6	#-654
17	-EpPZ	0035 33.0	#-654
17	+IPZ	0127 39.2	#-655
17	+EPcPZ	0127 49.8	#-655
17	-EpPZ	0128 6.0	#-655
17	-EPZ	0326 31.9	#-656
17	+EPcPZ	0326 59.4	#-656
17	-EPZ	0702 47.8	#-657
17	+EPZ	0748 13.4	#-658
17	-EPcPZ	0755 3.8	#-659
17	+EPZ	1037 50.8	#-660
17	+EpPZ	1037 59.3	#-660
17	-EPZ	1411 10.7	#-661
17	+IPcPZ	1411 11.2	#-661
17	+EpPZ	1412 54.8	#-661
17	+EPZ	1547 44.9	#-662
17	-EPcPZ	1547 48.1	#-662
17	+EpPZ	1547 56.8	#-662
17	-EsPZ	1548 3.6	#-662
17	+EPZ	2211 46.0	#-663
17	+EpPZ	2211 48.3	#-663
17	-EsPZ	2211 52.3	#-663
17	-EPPZ	2213 15.5	#-663
17	+EPcPZ	2213 47.9	#-663
17	+EPZ	2256 48.7	
18	-EPZ	0705 8.0	
18	+EPZ	1335 44.8	#-664
18	+EpPZ	1335 58.4	#-664
18	-EPZ	1513 16.3	
18	-EPdiffZ	1513 36.7	#-665
18	-EPZ	2235 40.6	
19	-EPZ	0805 22.5	
19	+EPZ	1223 23.8	#-666
19	+EPcPZ	1223 31.1	#-666
19	-EPZ	2152 14.8	
19	+EPZ	2158 3.4	#-667
19	-EPZ	2210 45.7	

Date	Phase	UTC Time h m s	Remarks
20	-IPZ	0059 4.6	#-668
20	-IPcPZ	0059 5.3	#-668
20	+EpPZ	0101 16.3	#-668
20	-EPdiffZ	0151 44.2	#-669
20	-EPZ	0903 58.7	#-670
20	+EPcPZ	0904 1.4	#-670
20	-EPZ	1207 3.6	#-671
20	-IpPZ	1207 11.1	#-671
20	+EPZ	1846 26.3	
20	-EPZ	1847 54.0	
21	NONE		
22	-EPZ	0917 33.7	#-672
22	+IPZ	0917 35.5	#-672
22	+EPZ	0918 10.1	#-672
22	-EPZ	0918 28.3	#-672
22	-EPZ	0921 16.3	#-672
22	-EPZ	1452 28.4	#-673
22	-EpPZ	1452 32.6	#-673
22	-EPZ	2152 2.5	#-674
22	-EPcPZ	2152 3.9	#-674
22	-EpPZ	2152 57.9	#-674
23	-EPZ	0137 23.3	#-675
23	-EPcPZ	0137 27.9	#-675
23	+EpPZ	0139 22.8	#-675
23	-EPZ	0438 55.4	
23	+EPZ	0900 17.0	#-676
23	-EPcPZ	0900 19.1	#-676
23	+EPZ	1025 45.9	#-677
23	-EPZ	1025 59.8	
23	+EsPZ	1026 17.9	#-677
23	-EPZ	2124 31.8	
24	+EPZ	0104 12.3	#-678
24	-EPZ	0134 19.3	#-679
24	-EPcPZ	0134 20.7	#-679
24	-EPZ	0500 1.0	
24	-EPZ	0704 53.2	#-680
24	-EPZ	0822 41.5	#-681
24	-EPcPZ	0822 45.6	#-681

Date	Phase	UTC Time		Remarks
		h m	s	
24	-EPZ	1034	50.4	#-682
24	+EsPZ	1035	7.7	#-682
24	-EPZ	1213	54.2	
24	+EPZ	1316	41.2	#-683
24	+EpPZ	1317	7.7	#-683
24	-EPZ	1325	19.8	#-684
24	-EpPZ	1325	40.5	#-684
24	+EPZ	1529	19.3	#-685
24	+EPcPZ	2332	8.4	#-686
25	-IPZ	0247	31.0	#-687
25	-IPcPZ	0247	32.2	#-687
25	+EPPZ	0250	48.8	#-687
25	-EPZ	0914	36.0	#-688
25	-EpPZ	0914	44.0	#-688
25	-EPZ	0915	55.0	
25	+EPPZ	0916	15.7	#-688
25	+EPZ	1613	6.8	#-689
25	+EPcPZ	1613	12.2	#-689
25	-EPZ	1816	16.4	#-690
25	+EPcPZ	1816	22.2	#-690
25	+EPZ	1816	51.1	
25	+EPZ	1931	38.8	
26	-EPZ	0808	31.7	
26	-EPZ	1336	28.0	
26	-EPZ	1537	50.7	
27	-EPZ	0127	36.8	#-691
27	-IPcPZ	0127	38.1	#-691
27	-EpPZ	0127	56.0	#-691
27	-EPZ	0140	46.4	
27	-EPZ	0407	11.4	#-692
27	-EPcPZ	0407	34.1	#-692
27	+EPZ	1257	44.9	#-693
27	-IpPZ	1257	45.6	#-693
27	-EsPZ	1257	48.4	#-693
27	+EPPZ	1258	46.6	#-693
27	+EPcPZ	1300	56.8	#-693
28	-EPZ	0220	11.2	
28	+EPKPdfZ	1009	48.3	#-694

Date	Phase	UTC Time		Remarks
		h m	s	
28	+EPKPdfZ	1009	55.3	#-694
28	-EPKPubZ	1010	46.5	#-694
28	-EPZ	1819	28.6	#-695
28	-EpPZ	1819	39.3	#-695
28	+EsPZ	1819	46.2	#-695
28	+EPZ	1922	30.0	#-696
28	+EpPZ	1922	32.8	#-696
28	-EPZ	2327	35.1	#-697
28	-EPcPZ	2327	51.0	#-697
29	-EPZ	0050	11.1	#-698
29	-EpPZ	0050	19.9	#-698
29	+EPZ	0321	41.7	#-699
29	+EPcPZ	0321	43.5	#-699
29	-EPZ	0550	32.4	
29	-EPZ	0628	3.0	#-700
29	-EpPZ	0628	38.8	#-700
29	-EPZ	0944	23.4	
29	-EPZ	1153	2.7	#-701
29	-EPcPZ	1153	4.9	#-701
29	+EpPZ	1153	6.7	#-701
29	-EPZ	2253	18.5	
30	+EPZ	0620	28.0	#-702
30	-EpPZ	0621	26.1	#-702
30	-EPcPZ	0913	28.7	#-703
30	-EPZ	1118	55.0	#-704
30	-EpPZ	1119	11.9	#-704
30	-EPZ	1413	31.2	#-705
30	+EPZ	1436	58.7	
30	+EPdiffZ	1438	55.4	#-706
30	+EPZ	2350	10.5	#-707
30	-IPcPZ	2350	15.5	#-707
30	-IpPZ	2350	33.4	#-707
Jul.				
1	-EPZ	0449	3.7	#-708
1	-EpPZ	0449	8.9	#-708
1	-EPZ	0557	2.2	#-709
1	+EPdiffZ	0937	1.8	#-710
1	+EPZ	0944	22.7	#-711

Date	Phase	UTC Time		Remarks
		h m	s	
1	-EpPZ	0944	25.2	#-711
1	-EPZ	1456	8.8	
1	+IPZ	1511	48.9	#-712
1	-IPcPZ	1511	54.7	#-712
1	-EPZ	1544	27.1	
1	+EPZ	1632	33.7	#-713
1	-EPZ	1632	44.2	
1	+EpPZ	1634	8.0	#-713
1	ESH	1642	9.2	#-713
1	-EPcPZ	1656	14.1	#-714
1	-EpPZ	1656	23.3	#-714
1	+EsPZ	1656	27.1	#-714
1	+EPZ	1737	15.1	#-715
1	-EpPZ	1737	27.1	#-715
1	-IPZ	1941	42.9	#-716
1	-IPcPZ	1941	45.9	#-716
1	-EpPZ	1941	59.3	#-716
1	+EPZ	1942	25.1	
1	-EPdiffZ	2228	45.4	#-717
1	-EpPdiffZ	2244	45.9	#-718
1	-EPZ	2350	16.3	
1	+EPZ	2350	51.3	#-719
2	-EPZ	0828	49.9	#-720
2	+EPZ	1207	32.9	#-721
2	-EpPZ	1207	37.8	#-721
2	-EPZ	1208	46.9	
2	-EPZ	1758	54.5	
2	-EPZ	1759	46.5	#-722
2	+EpPZ	1759	56.6	#-722
2	+EPZ	2303	26.6	
2	+EPZ	2320	34.0	#-723
3	-EPZ	1425	4.7	
3	-EPfiddZ	1425	12.1	#-724
4	-EPZ	0512	58.1	#-725
4	-EpPZ	0513	14.1	#-725
4	-EPZ	1247	15.1	
4	-EPZ	1721	34.4	
4	-EPZ	1909	13.3	#-726

Date	Phase	UTC Time		Remarks
		h m	s	
4	-EpPZ	1909	15.9	#-726
4	+EsPZ	1909	21.9	#-726
4	+EPdiffZ	2302	25.3	#-727
4	-EpPdiffZ	2302	34.4	#-727
5	-EPZ	0810	38.4	
5	-EPZ	0811	12.7	
5	-EPZ	2018	31.3	
6	-EPZ	0240	38.5	
6	-EPZ	0559	45.2	
6	+EPZ	1232	5.9	#-728
6	-IPcPZ	1232	6.3	#-728
6	-EPZ	1513	44.2	#-729
6	-EpPZ	1513	49.0	#-729
6	-EpPZ	1542	44.6	#-730
7	+EPZ	0431	6.3	#-731
7	+EPcPZ	0431	9.1	#-731
7	+EpPZ	0431	28.9	#-731
7	-EsPz	0431	35.8	#-731
7	-EPZ	1216	27.2	
7	-EPZ	1221	19.6	
7	+EPZ	1426	20.5	
7	-EPZ	1429	56.9	
7	+EPZ	1713	50.5	#-732
7	-EPcPZ	1713	54.0	#-732
7	-EpPZ	1714	8.1	#-732
7	+EPZ	1743	19.6	#-733
7	+EpPZ	1743	21.9	#-733
7	+EpPZ	1859	36.8	#-734
7	+EPZ	1911	3.3	
7	-IPZ	2142	4.5	#-735
7	-EPcPZ	2142	8.3	#-735
7	-IpPZ	2142	10.2	#-735
7	-EsPZ	2142	12.1	#-735
8	+EPZ	0729	47.4	#-736
8	+EPcPZ	0729	49.9	#-736
8	+EPZ	0805	10.3	#-737
8	-EPcPZ	0805	17.0	#-737
8	-EsPZ	0805	34.7	#-737

Date	Phase	UTC Time h m s	Remarks
8	-EPcPZ	1001 2.7	#-738
8	+EPdiffZ	1047 20.7	#-739
8	-EPZ	1222 5.6	#-740
8	-EPZ	1354 59.7	
8	-EPZ	1735 31.2	#-741
8	-EsPZ	1735 37.3	#-741
8	-EPZ	1746 13.2	#-742
8	-EpPZ	1746 16.0	#-742
8	-EPZ	1753 11.1	#-743
8	+EpPZ	1753 51.7	#-743
8	-EsPZ	1754 7.2	#-743
8	+EPZ	2007 6.2	#-744
8	+EpPZ	2007 10.2	#-744
8	+EPZ	2032 7.7	#-745
8	-EPcPZ	2032 28.2	#-745
8	+EsPZ	2032 38.7	#-745
8	-EPZ	2048 26.9	#-746
8	-EpPZ	2048 30.7	#-746
8	-EPZ	2114 40.9	#-747
8	-EPZ	2227 29.3	#-748
8	-EPZ	2246 59.5	
8	-EPZ	2247 38.6	
9	+EPZ	0351 53.2	#-749
9	-EpPZ	0351 55.9	#-749
9	+EPZ	0447 7.2	#-750
9	+EPZ	1441 47.0	#-751
9	+EPZ	1545 37.7	
9	-EPZ	1546 4.8	
9	-EPZ	1903 17.1	#-752
9	-EpPZ	1903 20.4	#-752
9	+EpPZ	2004 9.4	#-753
9	-EPcPZ	2004 12.2	#-753
9	+EPZ	2229 0.9	#-754
9	+EPZ	2358 18.4	
10	+EPZ	0032 6.4	#-755
10	-EPcPZ	0032 33.0	#-755
10	+EPZ	0908 42.2	#-756
10	+EPZ	1022 43.9	

Date	Phase	UTC Time h m s	Remarks
10	-EPZ	1102 53.0	
11	+EPZ	0127 22.0	#-757
11	-EPcPZ	0127 25.4	#-757
11	-EPZ	1630 12.6	#-758
11	+EPZ	1746 59.1	
12	-EPZ	0955 58.2	#-759
12	-EpPZ	1022 35.0	#-760
13	+EPZ	2003 27.5	#-761
13	-EPcPZ	2003 31.7	#-761
14	+EPZ	0734 44.3	
14	-EPcPZ	0735 47.8	#-762
15	+EPZ	0439 3.5	#-763
15	-IPZ	0439 7.0	#-763
15	-IPZ	0439 9.7	#-764
15	+IPZ	0439 11.0	#-764
15	-IPZ	0439 12.0	#-765
15	-IPZ	0439 12.8	#-765
15	-EpPZ	0441 13.6	#-764
15	-EpPZ	0441 16.7	#-765
15	-EsP	0442 12.8	#-765
15	ESH	0449 5.7	#-763
15	+EPZ	0542 28.1	#-766
15	-EpPZ	0544 30.5	#-766
15	-EPZ	0638 50.8	#-767
15	+EPcPZ	0638 55.9	#-767
15	-EPZ	0739 39.1	#-768
15	-EPcPZ	0739 47.5	#-768
15	+EPcPZ	1250 54.0	#-769
15	+EPZ	1631 57.7	#-770
15	+EpPZ	1632 22.0	#-770
15	+EPZ	2344 37.1	
16	-EPZ	1539 39.0	#-771
16	-EPcPZ	1539 43.8	#-771
17	+EPZ	0006 17.1	#-772
17	-EpPZ	0006 21.5	#-772
17	-IPPZ	0008 1.1	#-772
17	+IPZ	0132 27.1	#-773
17	-EPcPZ	0132 34.2	#-773

Date	Phase	UTC Time		Remarks
		h m	s	
17	-EpPZ	0132	39.2	#-773
17	-EsPZ	0132	45.9	#-773
17	+EPZ	0344	41.7	
17	-EPZ	0344	53.2	#-774
17	-EpPZ	0344	58.7	#-774
17	-EPZ	0552	7.5	
17	-EPKPdfZ	0629	14.1	#-775
17	-EPZ	1226	6.6	#-776
17	+EpPZ	1226	11.9	#-776
17	+EPZ	1226	19.1	
17	+EPZ	1350	3.2	#-777
17	-EPcPZ	1350	12.2	#-777
17	+EPZ	1711	41.4	#-778
17	-EPZ	1814	52.6	
18	+EPZ	0307	26.1	#-779
18	+EPcPZ	0307	29.2	#-779
18	+EPZ	0409	7.6	#-780
18	-IpPZ	0409	8.8	#-780
18	-EPZ	0433	23.4	#-781
18	-IpPZ	0433	29.3	#-781
18	-IsPZ	0433	31.2	#-781
18	-EPZ	1301	37.5	
18	+EPZ	1301	50.4	#-782
18	-EPZ	1336	46.1	
18	-EPZ	1934	36.8	
18	-EPcPZ	1934	55.7	#-783
18	-EPZ	2106	58.4	
18	-EPZ	2235	41.9	
19	+EPZ	0252	37.8	
19	-EPZ	0255	32.4	
19	-EPZ	0255	40.8	#-784
19	-EPcPZ	0255	59.4	#-784
19	-EpPZ	0256	6.3	#-784
19	-EsPZ	0256	16.0	#-784
19	+EPZ	0307	48.5	
19	-EPZ	0308	58.7	
19	+EPZ	0309	26.7	#-785
19	-EpPZ	0309	31.7	#-785

Date	Phase	UTC Time		Remarks
		h m	s	
19	-EPZ	0553	40.6	
19	+EPZ	0620	25.3	#-786
19	-EpPZ	0620	30.5	#-786
19	+EPKPdfZ	0821	42.4	#-787
19	+EpPKPdfZ	0821	51.1	#-787
19	+EPKpabZ	0822	23.3	#-787
19	+EPZ	2151	16.2	
20	-EPZ	0308	8.2	#-788
20	-EPZ	0352	48.5	#-789
20	+EpPZ	0353	0.3	#-789
20	+EPZ	1900	15.4	#-790
20	+EpPZ	1900	26.7	#-790
20	+EPZ	1911	47.5	
20	-EPZ	1917	52.6	
21	-EpPdiffZ	0027	50.9	#-791
21	-EPZ	0054	24.3	
21	-EPdiffZ	0054	29.1	#-792
21	+EPZ	0411	35.9	
21	+EPZ	0453	43.6	
21	+EPZ	0644	20.4	
21	+EPdiffZ	0644	38.8	#-793
21	-EpPdiffZ	0644	43.3	
21	-EPZ	0747	35.1	#-794
21	+EPcPZ	0747	43.7	#-794
21	-EpPZ	0748	4.2	#-794
21	-EPZ	2050	1.5	#-795
21	-EPcPZ	2050	3.1	#-795
21	-EpPZ	2050	19.5	#-795
21	-EsPZ	2050	28.2	#-795
21	-EPZ	2146	23.8	#-796
21	-EPcPZ	2146	29.0	#-796
21	-EpPZ	2146	31.7	#-796
22	+EPZ	0254	44.4	#-797
22	-EsPZ	0255	13.5	#-797
22	+EPZ	0319	51.9	#-798
22	-EPcPZ	0320	8.7	#-798
22	+EPZ	0500	50.7	
22	+EPZ	0713	4.7	

Date	Phase	UTC Time h m	s	Remarks
22	-EPZ	2148	5.5	#-799
22	-EPcPZ	2148	10.5	#-799
22	-EpPZ	2150	17.1	#-799
23	-EPZ	0216	47.4	#-800
23	-EPZ	1225	18.3	
23	-EPZ	1225	22.1	#-801
23	+EPcPZ	1225	27.3	#-801
23	-EPZ	1226	2.5	
23	-EPZ	1259	23.2	
23	-EPZ	2228	45.2	#-802
23	+EpPZ	2228	50.5	#-802
23	+EPcPZ	2228	58.0	#-802
23	-EPZ	2231	31.4	#-802
23	-EPZ	2231	40.6	
23	+EPZ	2356	5.1	
24	+EPdiffZ	1909	43.6	#-803
24	+EpPdiffZ	1909	55.9	#-803
25	+EPZ	1413	2.8	#-804
25	-EPcPZ	1413	10.0	#-804
25	+IPZ	1446	22.4	#-805
25	-IPcPZ	1446	27.4	#-805
25	-EpPZ	1448	23.7	#-805
25	+EPZ	1455	27.4	
25	+EPZ	1455	47.2	
25	+EPZ	1456	51.2	
25	+EPZ	1532	52.6	
25	-EPZ	1535	57.5	
25	+EPZ	1741	31.1	#-806
25	+EPZ	1805	57.3	#-807
25	+EPcPZ	1806	11.0	#-807
25	+EPZ	1815	2.6	
25	+EPZ	2001	54.1	#-808
25	-EPcPZ	2001	58.2	#-808
25	-EpPZ	2002	2.7	#-808
25	+EPZ	2117	14.0	
26	-EPZ	0123	0.0	
26	+EPZ	0347	20.6	
26	-IPZ	0453	45.4	#-809

Date	Phase	UTC Time h m	s	Remarks
26	+IPZ	0453	56.5	#-809
26	+EPZ	0454	15.1	#-809
26	+EPdiffZ	1631	3.1	#-810
27	+EPZ	0014	41.9	#-811
27	-EPcPZ	0014	44.3	#-811
27	+EPZ	0024	18.3	
27	+EpPZ	0120	16.9	#-812
27	+EPZ	1429	39.1	#-813
28	-EPZ	0409	31.7	#-814
28	-EpPZ	0409	39.2	#-814
28	-EPZ	0415	6.0	#-815
28	+EPZ	0706	55.8	
28	+EPZ	0710	19.4	
28	-EPZ	0819	49.0	
28	-EpPZ	0820	10.0	#-816
28	+EPZ	0854	59.0	
28	-EPZ	0910	37.0	
28	-EPZ	0911	0.3	
28	+EPZ	0939	46.2	#-817
28	+EPcPZ	0939	48.3	#-817
28	-EpPZ	0939	52.4	#-817
28	+EPZ	1029	32.4	
28	-EPZ	1036	22.6	
28	-EPZ	1036	26.0	#-818
28	-EsPZ	1036	49.2	#-818
28	+EPZ	1332	2.3	#-819
28	-EPZ	2324	46.1	
28	-EPcPZ	2325	2.0	#-820
28	+EPZ	2325	20.4	#-820
29	+EPZ	0157	4.9	#-821
29	+EPcPZ	0157	8.1	#-821
29	+EsPZ	0157	13.3	#-821
29	+EPZ	0214	47.4	#-822
29	+EsPZ	0214	54.5	#-822
29	-EPZ	0228	38.1	#-823
29	+EPZ	0229	36.8	
29	-EPZ	0231	36.7	#-824
29	+EpPZ	0231	44.0	#-824

Date	Phase	UTC Time h m s	Remarks
29	-EPZ	0233 5.2	
29	-EPZ	0417 56.4	#-825
29	+EpPZ	0419 4.0	#-825
29	+EPZ	0426 29.0	#-826
29	+EPZ	0426 37.6	
29	+EPZ	0457 45.7	
29	+EPZ	0458 7.1	
29	+EPZ	0638 54.9	
29	-EpdiffZ	0639 5.1	#-827
29	+EPZ	0641 8.3	#-827
29	+EPZ	0912 11.4	
29	-IPZ	1013 10.7	#-828
29	+IPcPZ	1013 13.1	#-828
29	-IpPZ	1013 24.8	#-828
29	+EsPZ	1013 31.7	#-828
29	-EPZ	1109 45.4	
29	+IPZ	1336 0.8	#-829
29	+EPZ	1627 45.0	
29	-EPZ	1628 12.6	
29	-EPZ	1628 30.1	#-830
29	-EPZ	1850 14.7	#-831
29	-EPcPZ	1850 15.5	#-831
29	+EPZ	1955 22.7	#-832
29	-EpPZ	1955 38.1	#-832
29	-EPZ	2105 25.1	#-833
29	-EPZ	2105 27.3	#-833
29	+EPZ	2217 21.5	
29	+EPZ	2234 39.8	#-834
29	+IPcPZ	2234 41.5	#-834
29	-EpPZ	2234 56.7	#-834
29	-EsPZ	2235 2.7	#-834
29	+EPPZ	2238 14.0	#-834
29	-EPZ	2238 25.2	
29	+EPZ	2347 33.9	
30	+EPZ	0057 49.4	
30	-EPZ	0058 32.6	
30	-IPZ	1220 35.4	#-835
30	-EpPZ	1220 43.0	#-835

Date	Phase	UTC Time h m s	Remarks
30	+EsPZ	1220 49.4	#-835
31	-EpPZ	0428 46.7	#-836
31	+EPKiKPZ	0433 38.0	#-836
31	+EPZ	0500 55.8	
31	-EPZ	0556 7.7	
31	+EPZ	0617 26.0	#-837
31	+IPZ	0644 5.8	#-838
31	-EPcPZ	0644 18.1	#-838
31	+EpPZ	0644 25.2	#-838
31	-EsPZ	0644 39.2	#-838
31	+EPZ	0903 12.1	#-839
31	+EpPZ	0903 26.7	#-839
31	-EPZ	0952 36.1	
31	-EPZ	1024 56.2	#-840
31	-EPcPZ	1025 1.1	#-840
31	+EPZ	1225 39.9	
31	-EPZ	1508 8.7	
31	+EPZ	1945 30.3	
Aug.			
1	-EPZ	1911 35.0	#-841
1	-EPPZ	1913 27.3	#-841
2	-EPZ	0118 37.6	#-842
2	-EpPZ	0118 40.7	#-842
2	+EPZ	0248 33.5	#-843
2	-EpPZ	0248 46.5	#-843
2	+EPZ	0859 12.4	
2	-EPZ	1412 23.0	
2	-EPZ	1412 32.9	
2	+EPZ	1414 31.4	
2	+EPZ	2128 27.2	#-844
2	-EsPZ	2129 1.4	#-844
2	+EPZ	2312 46.7	#-845
2	+EPcPZ	2312 48.0	#-845
3	-EPZ	0530 30.0	
3	+EPZ	1907 57.5	#-846
3	-EPcPZ	1908 1.6	#-846
3	-EsPZ	1908 21.7	#-846
4	+EPZ	0315 8.7	

Date	Phase	UTC Time h m	s	Remarks
4	-EPZ	0352	9.7	#-847
4	-IpPZ	0352	12.3	#-847
4	+EPPZ	0353	16.7	#-847
4	-EPZ	0406	50.1	
4	+EPdi ffZ	0434	2.4	#-848
4	-EPKpdfZ	1008	10.1	#-849
4	-EPKpbcZ	1008	14.3	#-849
4	+EPKpdfZ	1008	23.1	#-849
4	-EPKiKPZ	1008	32.6	#-849
4	-EPZ	1018	4.7	
4	-EPKpdfZ	1123	11.1	#-850
4	-EPKpabZ	1123	20.1	#-850
4	+EsPKpbcZ	1123	40.6	#-850
4	-EPZ	1128	0.4	
4	-EPKpdfZ	2134	53.9	#-851
4	-EPKpbcZ	2134	54.9	#-851
4	-EPKiKPZ	2134	58.0	#-851
4	-EPKpbcZ	2135	15.7	#-851
4	-EPZ	2135	29.3	
5	-EPZ	0710	14.8	#-852
5	-EpPZ	0710	19.0	#-852
5	+EPcPZ	0711	13.6	#-852
5	+EPPZ	0712	22.3	#-852
5	-EPZ	0928	16.6	#-853
5	-EPcPZ	0928	26.3	#-853
5	-EPZ	1419	49.3	#-854
5	+EPZ	1419	55.6	
5	-EPcPZ	1420	8.8	#-854
5	-EPKiKPZ	1426	5.5	#-854
5	-EPZ	2205	36.8	
5	-EPZ	2206	37.8	
6	-EPZ	0112	6.9	#-855
6	-EPcPZ	0112	9.5	#-855
6	-EpPZ	0112	50.5	#-855
6	-EPPZ	0115	30.9	#-855
6	+EPZ	1304	6.7	
6	+EPZ	1304	22.3	
6	+EPZ	1448	24.3	#-856

Date	Phase	UTC Time h m	s	Remarks
6	-EPcPZ	1448	25.8	#-856
6	+EpPZ	1448	34.2	#-856
6	+EPZ	1923	52.7	#-857
6	+EPcPZ	1924	6.3	#-857
6	-EpPZ	1924	9.6	#-857
7	-EPZ	0344	6.9	
7	-EPZ	0344	14.0	
7	+EPZ	0746	14.9	#-858
7	-EPZ	0746	28.3	#-858
7	+EpPZ	0747	19.0	#-858
7	+EPZ	0819	27.0	
7	+EPZ	0819	56.0	
7	-EPZ	0950	9.1	
7	-EPKpdfZ	0950	13.8	#-859
7	-EpKpdfZ	0950	18.0	#-859
7	-EPKpabZ	0950	50.0	#-859
7	-IPZ	1430	0.4	#-860
7	+EpPZ	1430	9.8	#-860
7	-EPcPZ	1430	16.9	#-860
7	+EPZ	1836	26.5	#-861
7	-EPcPZ	1836	28.4	#-861
8	-EPZ	0356	8.9	#-862
8	-EpPZ	0356	12.5	#-862
8	-EPdi ffZ	0755	59.4	#-863
8	-EPZ	0931	59.8	#-864
8	-IPcPZ	0932	0.6	#-864
8	-EpPZ	0934	14.4	#-864
8	-ESH	0941	43.2	#-864
8	+EPZ	1457	55.2	#-865
8	-EPcPZ	1457	57.7	#-865
8	+EpPZ	1458	30.5	#-865
8	-EPZ	1951	45.1	
8	+EPZ	1951	49.2	
9	+EPZ	1003	8.4	
9	-EPZ	1003	24.2	
9	+EPZ	2049	37.8	
9	+EPZ	2049	46.1	#-866
9	-EPcPZ	2049	48.2	#-866

Date	Phase	UTC Time		Remarks
		hm	s	
9	+EpPZ	2050	9.3	#-866
9	+EsPZ	2050	16.3	#-866
10	-EPZ	0604	59.9	
10	-EPZ	0632	34.7	
10	+EPZ	0637	19.6	
11	-EPZ	0033	33.5	#-867
11	+EPZ	0337	10.8	#-868
11	-EPZ	2315	54.4	#-869
11	+EpPZ	2316	9.3	#-869
12	+EPZ	0129	25.4	
12	+EPZ	0713	11.9	#-870
12	+EsPZ	0713	25.9	#-870
12	+EPZ	0714	7.9	
12	-EPZ	1236	30.5	
12	-EPZ	1236	35.5	#-871
12	-EPcPZ	1236	37.9	#-871
12	+EPKiKPZ	1241	36.1	#-871
12	-EPZ	1308	13.9	#-872
12	-EPZ	1351	5.8	#-873
12	+EPZ	1414	27.2	#-874
12	-EPZ	1423	23.4	#-875
12	-EpPZ	1423	33.9	#-875
12	-EPZ	1612	13.6	
12	-EPZ	1612	22.1	#-876
12	+EPZ	1648	18.6	
12	-EPZ	1648	59.2	
12	+EPZ	1649	43.8	
12	-EPZ	1726	37.1	
12	+EsPZ	1727	55.4	#-877
13	-EPZ	1351	2.5	
13	-EPZ	1351	10.9	
13	+EPZ	1702	58.4	
13	+EPZ	1703	15.0	
13	+EPZ	1847	55.7	#-878
13	-EPZ	1848	3.5	
13	-EPZ	1848	12.5	
14	+EPZ	0849	6.5	#-879
14	-EPZ	0849	9.4	#-879

Date	Phase	UTC Time		Remarks
		hm	s	
14	+EpPZ	0849	15.7	#-879
14	-EPcPZ	0852	27.0	#-879
14	-EPZ	1745	9.6	
14	+EPZ	1745	29.6	#-880
14	-EPcPZ	1745	32.5	#-880
15	-EPZ	0045	10.9	#-881
15	-EpPZ	0045	13.6	#-881
15	-EPcPZ	0222	13.2	#-882
15	-EpPZ	0224	7.0	#-882
15	-EPZ	0226	52.3	
15	+EPdiffZ	0355	11.6	#-883
15	+EPZ	1127	23.6	#-884
15	-EPcPZ	1127	31.0	#-884
15	-EPZ	1417	0.6	
15	+EpPZ	1418	22.5	#-885
15	-EPZ	1608	9.5	#-886
15	-EPZ	1721	16.6	
15	-EPZ	1834	31.6	#-887
15	+EpPZ	2156	43.7	#-888
16	+EPZ	0617	54.4	#-889
16	-EPcPZ	0618	7.9	#-889
16	+EpPZ	0618	30.6	#-889
16	-EPZ	0618	33.5	
16	-EPZ	0813	20.6	#-890
16	-EPcPZ	0813	21.7	#-890
17	-EPZ	0500	53.6	#-891
17	+EPcPZ	0501	2.8	#-891
17	+EpPZ	0501	35.7	#-891
17	-EPZ	0502	6.5	
18	-EPZ	0918	44.1	#-892
18	-EPcPZ	0918	46.7	#-892
18	-EPZ	1859	2.0	#-893
18	+EPcPZ	1859	11.5	#-893
19	-IPZ	0645	4.5	#-894
19	+EPcPZ	0645	17.3	#-894
19	+EpPZ	0645	26.9	#-894
19	+EPZ	1404	8.9	#-895
19	+EpPZ	1404	12.6	#-895

Date	Phase	UTC Time h m	s	Remarks
19	-EPcPZ	1404	17.0	#-895
19	-EPZ	1613	57.6	#-896
19	-EpPZ	1614	2.0	#-896
19	-EPZ	1825	28.7	
19	-EPZ	1825	43.7	#-897
19	+EPZ	2057	36.9	
20	+IPZ	0746	15.1	#-898
20	+IPcPZ	0746	19.2	#-898
20	-EPZ	1726	47.7	#-899
20	-EpPZ	1727	2.2	#-899
20	-EPZ	1946	28.7	#-900
20	-EPcPZ	1946	30.0	#-900
20	-EsPZ	1947	4.1	#-900
20	-EPZ	2047	43.0	
20	-EPdiffZ	2048	44.9	#-901
20	-EpdiffZ	2048	58.8	#-901
20	-EPKpdfZ	2052	4.1	#-901
20	-EPZ	2135	23.3	
20	+EPZ	2135	31.8	
20	-EPdiffZ	2135	38.3	#-902
21	+IPZ	0137	28.1	#-903
21	-IpPZ	0137	32.8	#-903
21	+EPZ	0137	53.9	
21	-EpPZ	0348	35.6	#-904
21	-EPZ	0609	41.0	#-905
21	-EsPZ	0609	51.1	#-905
21	-EPnPnZ	0610	50.6	#-905
21	-EPZ	0612	49.7	
21	-IPZ	1146	1.2	#-906
21	+IpPZ	1146	4.7	#-906
21	-EPcPZ	1146	8.6	#-906
21	+EPKikPZ	1151	24.4	#-906
21	-EPZ	1156	27.7	
21	-EPZ	1318	54.8	
21	+EPZ	2021	47.1	#-907
21	+EpPZ	2021	48.8	#-907
21	+EPZ	2021	55.9	
21	-EPZ	2329	53.2	

Date	Phase	UTC Time h m	s	Remarks
21	-EPZ	2329	54.7	
22	-EPZ	2338	56.0	#-908
23	-EPZ	0106	38.4	#-909
23	-EpPZ	0106	40.5	#-909
23	-EsPZ	0106	43.7	#-909
23	-EPZ	0122	44.8	#-910
23	-EPcPZ	0122	46.1	#-910
23	-EpPZ	0123	1.6	#-910
23	-EsPZ	0123	5.3	#-910
23	-EPZ	1250	8.1	#-911
23	+EPcPZ	1250	13.1	#-911
23	-EpPZ	1250	21.9	#-911
23	-EsPZ	1250	28.1	#-911
23	+EPZ	1448	36.1	#-912
23	+IPcPZ	1448	37.0	#-912
23	-EPZ	1448	46.4	
23	-EsPZ	1449	34.4	#-912
23	+EPZ	1540	0.2	
23	-EPZ	1540	5.1	
23	-EPZ	1541	18.2	
23	+EPZ	1541	34.2	
23	-EPZ	1850	29.0	
23	-EPZ	2301	10.8	#-913
24	+EPZ	1024	24.5	
24	-EPZ	1025	20.2	
24	-EpPZ	1450	35.3	#-914
24	-EPZ	1542	45.8	#-915
24	-EsPZ	1543	28.2	#-915
24	-EPZ	2017	23.5	#-916
24	-EpPZ	2017	26.2	#-916
25	+EPKpdfZ	0242	23.9	#-917
25	-EPKpabZ	0243	49.0	#-917
25	+EPZ	0524	34.7	#-918
25	-EPcPZ	0524	45.3	#-918
25	-IsPZ	0524	55.5	#-918
25	+EsPZ	0525	3.5	#-918
25	-EPZ	0757	17.0	#-919
25	+EPZ	0906	36.3	

Date	Phase	UTC Time h m	s	Remarks
25	-EPZ	0907	12.5	#-920
25	-EPcPZ	0907	15.1	#-920
25	-EpPZ	0908	2.1	#-920
26	+EPZ	0815	49.2	
26	+EPZ	1152	0.8	
26	+EPZ	1205	5.6	#-921
26	+EPKiKPZ	1209	57.1	#-921
26	+EPZ	1405	50.7	#-922
26	-EPcPZ	1406	1.2	#-922
26	-EpPZ	1406	13.8	#-922
26	+EsPZ	1406	17.9	#-922
26	-EPZ	1813	8.5	#-923
26	-EPZ	1830	54.2	#-924
26	+EpPZ	1831	4.8	#-924
26	-EsPZ	1831	7.4	#-924
26	-EPZ	2011	42.5	#-925
26	+EsPZ	2012	50.5	#-925
26	-EPZ	2336	49.2	
26	+EPZ	2337	5.6	
26	+EPZ	2339	33.2	
27	-IPZ	0055	12.0	#-926
27	-IpPZ	0055	21.5	#-926
27	-IPcPZ	0055	28.7	#-926
27	+IPPZ	0057	50.4	#-926
27	-EPZ	0101	58.1	#-927
27	-EpPZ	0102	8.2	#-927
27	-EPcPZ	0102	17.5	#-927
27	-EPZ	0844	53.3	#-928
27	-EPcPZ	0845	1.3	#-928
27	+EpPZ	0845	10.3	#-928
27	-EsPZ	0845	14.4	#-928
27	+EPZ	1218	28.5	
27	-EPZ	2032	52.5	#-929
27	-EpPZ	2033	7.7	#-929
27	-EsPZ	2033	14.6	#-929
27	+EPPZ	2033	58.7	#-929
27	-EPcPZ	2035	55.6	#-929
28	-EPcPZ	0526	32.8	#-930

Date	Phase	UTC Time h m	s	Remarks
28	-EpPZ	0526	38.9	#-930
28	-EPZ	0921	53.6	#-931
28	-EPZ	1123	33.8	#-932
28	+EPcPZ	1123	35.4	#-932
28	-EPZ	1352	4.4	#-933
28	-IpPZ	1352	8.2	#-933
28	-IPcPZ	1352	41.6	#-933
28	+IPPZ	1354	23.1	#-933
28	+EPZ	1414	2.3	#-934
28	-EpPZ	1414	6.8	#-934
28	-EPZ	1501	21.6	#-935
28	-EPZ	1622	42.1	#-936
28	+EPZ	1714	5.6	#-937
28	-EPcPZ	1714	8.0	#-937
28	+EpPZ	1714	11.4	#-937
28	+EPZ	1832	34.9	#-938
28	-EPZ	1832	45.4	
29	-EPZ	0125	31.9	
29	-EPZ	0126	18.5	
29	+EPZ	0411	46.5	#-939
29	+EPcPZ	0411	48.9	#-939
29	+EPZ	0859	46.9	
30	-EPZ	0627	4.6	#-940
30	-EpPZ	0627	6.7	#-940
30	+EsPZ	0627	11.5	#-940
30	-EPPZ	0628	31.1	#-940
30	-EPPZ	0628	44.5	#-940
30	-EPcPZ	0629	16.5	#-940
30	-EPZ	1108	37.4	#-941
30	+EPcPZ	1108	40.3	#-941
30	+EPZ	1209	16.3	
30	+EPZ	1209	46.0	
30	-IPKPbcZ	1242	55.1	#-942
30	-IPKPabZ	1242	56.3	#-942
30	-IPKpdfZ	1242	57.8	#-942
30	+EPKiKPZ	1243	5.1	#-942
30	-EsPKPbcZ	1243	12.5	#-942
30	-EPZ	2215	26.7	#-943

Date	Phase	UTC Time		Remarks
		h m	s	
30	-EpPZ	2215	37.7	#-943
30	-EsPZ	2215	49.0	#-943
30	+EPcPZ	2218	21.2	#-943
30	+EPZ	2347	29.9	
30	+EPZ	2347	57.5	
31	-EpPZ	0054	39.8	#-944
31	+EPZ	0149	3.7	#-945
31	-EpPZ	0149	5.4	#-945
31	-EsPZ	0149	6.6	#-945
31	+EPcPZ	0150	20.4	#-945
31	+EPZ	0812	27.7	#-946
31	-EPcPZ	0813	1.3	#-946
31	-EPZ	1202	2.2	#-947
31	+EPcPZ	1202	4.4	#-947
31	-EpPZ	1202	58.5	#-947
31	+EsPZ	1203	23.4	#-947
31	-EPZ	1330	47.8	
31	+EPZ	1331	5.6	
31	+EPZ	1638	36.6	#-948
31	-EPcPZ	1638	39.8	#-948
31	-EpPZ	1638	50.1	#-948
31	-EsPZ	1638	57.4	#-948
31	-EPZ	1829	43.5	
31	-EPZ	1829	49.8	
31	-EPZ	1830	4.4	
31	+EPZ	2047	49.1	#-949
31	+EpPZ	2048	23.0	#-949
31	+EPZ	2103	17.1	
31	-EPZ	2126	59.9	
31	+EPZ	2127	27.7	
31	-EPZ	2128	6.8	
Sep.				
1	-EPZ	0343	38.2	
1	-EPZ	0503	39.3	#-950
1	+EpPZ	0503	41.3	#-950
1	-EPKiKPZ	1126	2.1	#-951
1	-EPPZ	1126	50.1	#-951
1	-EPZ	1150	24.2	

Date	Phase	UTC Time		Remarks
		h m	s	
1	-EPZ	1331	24.8	#-952
1	+EPZ	1335	5.5	
1	-EPZ	1500	58.5	
1	+EPZ	1501	60.0	
1	-EPZ	1521	40.8	#-953
1	+EpPZ	1521	43.9	#-953
1	-EPPZ	1523	29.6	#-953
1	+EPZ	2015	6.3	
1	-EPZ	2104	47.0	#-954
1	+EpPZ	2105	7.3	#-954
1	-EsPZ	2105	17.1	#-954
1	-EPnPnZ	2105	48.4	#-954
1	+EPZ	2111	14.5	
2	+EPZ	0137	19.0	
2	-EPZ	0137	40.2	#-955
2	+IPcPZ	0137	41.0	#-955
2	-EpPZ	0138	12.9	#-955
2	-EPZ	0434	42.2	#-956
2	-EPcPZ	0434	51.6	#-956
3	-EPZ	0937	1.9	#-957
3	-IPcPZ	0937	2.8	#-957
3	+EPZ	1229	59.8	#-958
3	+EPcPZ	1230	2.0	#-958
3	-EpPZ	1230	6.4	#-958
3	-EPZ	1428	56.8	
3	+EPZ	1429	7.0	
3	-EPZ	1506	30.1	#-959
3	-EPcPZ	1506	33.1	#-959
3	-EsPZ	1506	41.1	#-959
3	+EPZ	1918	0.0	#-960
3	+EPcPZ	2036	18.1	
3	-EPZ	2036	24.7	#-961
3	-EPcPZ	2036	29.5	#-961
3	-EPZ	2331	31.9	#-962
3	-EPcPZ	2331	34.5	#-962
4	+EPZ	0707	8.8	
4	-EPZ	0728	42.5	
4	+EPZ	1819	4.7	#-963

Date	Phase	UTC Time		Remarks
		h m	s	
4	-EpPZ	1819	5.5	#-963
4	+EPZ	2037	21.4	#-964
4	+EpPZ	2037	26.6	#-964
5	+EPZ	0008	57.3	#-965
5	+EpPZ	0009	1.9	#-965
5	+EpPdiffZ	1022	42.4	#-966
5	-EPZ	1022	47.8	
5	-IPKpdfZ	1026	2.3	#-966
5	+IPKiKPZ	1026	7.3	#-966
5	+IpPKiKP	1026	12.6	#-966
5	-EPPZ	1027	41.9	#-966
5	-EPZ	1028	5.1	
5	-EPZ	1028	35.1	
5	+EPZ	1029	8.3	
5	+EPZ	1039	19.9	
5	-EPZ	1039	33.0	
5	+EPZ	1135	29.7	#-967
5	+EpPZ	1135	45.9	#-967
5	-EsPZ	1135	50.4	#-967
5	-EPcPZ	1135	54.5	#-967
5	-EpPdiffZ	1512	55.8	#-968
5	+EPKpdfZ	1516	14.8	#-968
5	-EpKiKPZ	1516	21.9	#-968
5	-EPZ	1516	27.7	
5	-EPZ	1516	56.6	
5	+EPZ	1517	20.8	
5	-EPZ	1518	19.2	
5	-EPZ	1656	24.6	#-969
5	-EpPZ	1656	31.7	#-969
5	+EPZ	1754	35.2	#-970
5	-EpPZ	1754	38.9	#-970
5	+EPZ	1809	6.3	#-971
5	-EPcPZ	1809	12.2	#-971
5	+EsPZ	1809	43.0	#-971
5	+EPdiffZ	2046	29.0	#-972
5	-EPKpdfZ	2049	57.4	#-972
5	-EpKpdfZ	2050	3.9	#-972
6	-EpPZ	0616	34.0	#-973

Date	Phase	UTC Time		Remarks
		h m	s	
6	-EPZ	1040	51.1	#-974
6	+EpPZ	1040	57.8	#-974
6	+EPZ	1052	35.9	#-975
6	+EsPZ	1052	44.6	#-975
6	-EPPZ	1054	20.7	#-975
6	+EPZ	1249	30.2	#-976
6	-EpPZ	1249	32.8	#-976
6	+IsPZ	1249	33.7	#-976
6	+ESH	1254	44.3	#-976
6	-EPZ	1259	56.3	
6	+EPZ	1613	0.2	#-977
6	-EPcPZ	1613	12.1	#-977
6	-EpPZ	1613	16.2	#-977
6	-EPZ	2013	54.9	#-978
6	-EPPZ	2015	7.0	#-978
6	+EPcPZ	2016	40.3	#-978
6	+EpPdiffZ	2057	49.5	#-979
6	+EPKiKPZ	2101	41.7	#-979
6	+EPPZ	2102	31.5	#-979
6	+EPZ	2124	8.8	#-980
6	+EpPZ	2124	11.2	#-980
6	+EPnPnZ	2125	10.6	#-980
6	-EPZ	2130	13.6	
6	-EPKpdfZ	2348	30.4	#-981
6	-EpKiKPZ	2348	39.2	#-981
6	+EPPZ	2350	13.6	#-981
7	-EpPZ	0302	3.3	#-982
7	+EsPZ	0302	5.0	#-982
7	+EPnPnZ	0303	5.7	#-982
7	-EPPZ	0303	12.0	#-982
7	-EPcPZ	0304	47.4	#-982
7	-EpPdiffZ	0625	38.0	#-983
7	+EPZ	0717	22.2	#-984
7	+EpPZ	0717	40.7	#-984
7	-EPZ	1108	24.2	#-985
7	+IpPZ	1108	32.6	#-985
7	-EPcPZ	1108	51.1	#-985
7	-EPcPZ	1124	35.6	#-986

Date	Phase	UTC Time		Remarks
		h m	s	
7	+EPZ	1124	59.5	
7	+IPZ	1204	9.0	#-987
7	-IpPZ	1204	14.9	#-987
7	+IPcPZ	1204	34.0	#-987
7	+IPPZ	1206	39.1	#-987
7	ESH	1213	9.4	#-987
7	-EPZ	1232	18.1	
7	-EPZ	1232	44.5	
7	+EPZ	1244	40.2	#-988
7	-EpPZ	1244	47.1	#-988
7	+EPZ	1247	19.0	
7	-EPZ	1259	18.3	
7	+EPZ	1627	44.8	#-989
7	-EpPZ	1628	0.8	#-989
7	-EsPZ	1628	4.2	#-989
7	+EPZ	2219	31.7	#-990
7	-EPcPZ	2219	32.9	#-990
7	-EpPZ	2220	15.1	#-990
7	+EPZ	2220	21.7	
7	-EPZ	2358	42.4	
8	-EPZ	0608	47.8	#-991
8	+EPcPZ	0608	49.3	#-991
8	-EpPZ	0609	16.2	#-991
8	-EsPZ	0609	27.7	#-991
8	+EPPZ	0612	17.5	#-991
8	-IPZ	0826	45.4	#-992
8	-IpPZ	0826	54.1	#-992
8	-EPcPZ	0827	13.4	#-992
8	-EPZ	1113	29.6	#-993
8	-IPcPZ	1113	31.6	#-993
8	+EpPZ	1113	32.9	#-993
8	+EPZ	1438	51.1	#-994
8	-EPcPZ	1438	52.3	#-994
8	-EsPZ	1438	59.6	#-994
8	+EPdiffZ	1455	38.8	#-995
8	-EPKpdfZ	1459	3.0	#-995
8	+IPKpdfZ	1517	20.2	#-996
8	-IsPKpdfZ	1517	29.6	#-996

Date	Phase	UTC Time		Remarks
		h m	s	
8	-EPPZ	1519	0.3	#-996
8	-IPZ	1519	10.3	
8	+EPZ	1527	9.9	
8	+EPZ	1545	1.5	
8	+IPZ	1546	1.8	#-997
8	+IpPZ	1546	8.7	#-997
8	-EPcPZ	1549	25.1	#-997
9	+EsPZ	0102	49.5	#-998
9	-EPZ	0858	35.3	#-999
9	+EpPZ	0858	48.4	#-999
9	-EsPZ	0858	52.6	#-999
9	+EPcPZ	0859	3.7	#-999
9	-EPZ	0930	41.6	#-1000
9	-EPcPZ	0930	43.4	#-1000
9	-EPZ	1247	55.5	
9	-EPZ	1248	14.5	
9	-EPZ	1256	25.3	#-1001
9	+EsPZ	1256	41.2	#-1001
9	-EPZ	1323	31.9	#-1002
9	-EpPZ	1323	42.9	#-1002
9	-EsPZ	1323	51.8	#-1002
9	-EPZ	1346	35.2	#-1003
9	-EPcPZ	1346	40.0	#-1003
9	-EPZ	1603	11.0	
9	+EPZ	1603	31.7	
9	+EpPdiffZ	1648	28.8	#-1004
9	+EPZ	1648	37.0	
9	+EPZ	1806	30.7	
9	+EPZ	1806	42.1	
9	-EPZ	1807	3.7	
10	+EPZ	0037	34.1	#-1005
10	-EPdiffZ	0221	30.6	#-1006
10	-EPdiffZ	0438	18.2	#-1007
10	-EPZ	0442	7.8	
10	-EPZ	1054	34.9	#-1008
10	+IpPZ	1054	44.4	#-1008
10	-EsPZ	1054	53.2	#-1008
10	+EPPZ	1056	52.2	#-1008

Date	Phase	UTC Time h m s	Remarks
10	-EPZ	2200 39.9	
10	+EPZ	2200 43.1	
10	-EPZ	2203 1.9	
11	-EPZ	0935 22.9	
11	-EPZ	0935 47.4	
11	+EPZ	0938 33.0	
11	-EPZ	2158 33.9	#-1009
11	+IpPZ	2158 43.5	#-1009
11	-IsPZ	2158 51.9	#-1009
11	-EPnPZ	2159 31.1	#-1009
11	+EPcPZ	2201 40.0	#-1009
11	ESH	2203 24.0	#-1009
11	-EPZ	2209 10.9	
11	-EPZ	2355 24.9	#-1010
11	-EpPZ	2355 27.8	#-1010
11	-EsPZ	2355 28.7	#-1010
11	-EPcPZ	2355 30.5	#-1010
12	-EPZ	0013 56.8	
12	-EPZ	0014 12.9	
12	-EPZ	0141 24.5	#-1011
12	-EPcPZ	0141 27.8	#-1011
12	-EPZ	1435 16.7	#-1012
12	+IpPZ	1435 21.0	#-1012
12	-IsPZ	1435 25.9	#-1012
13	+EPZ	0248 37.9	#-1013
13	+EpPZ	0248 41.1	#-1013
13	-EPcPZ	0249 35.1	#-1013
13	-EPPZ	0250 40.1	#-1013
13	-EPZ	0317 10.1	
13	-EpPZ	0453 59.6	#-1014
13	+EPZ	1317 8.2	
13	+EPZ	1317 13.9	
13	-EPZ	1317 29.5	
13	-EPdiffZ	1729 17.6	#-1015
13	-EPKIPZ	1733 26.1	#-1015
13	-EPPZ	1733 33.9	#-1015
13	-EPZ	2013 10.5	#-1016
13	+EPZ	2013 21.9	

Date	Phase	UTC Time h m s	Remarks
13	-EpPZ	2013 30.6	#-1016
13	-EsPZ	2013 42.7	#-1016
13	-IPZ	2242 5.9	#-1017
13	-IPcPZ	2242 7.6	#-1017
13	-IpPZ	2242 9.3	#-1017
13	-EsPZ	2242 12.9	#-1017
13	+EPPZ	2245 20.1	#-1017
13	ESH	2252 35.4	#-1017
13	+EPZ	2310 23.0	
13	+EPZ	2310 53.3	
14	-EPZ	0436 10.2	
14	-EPZ	0436 27.2	
14	-EPZ	0518 34.6	
14	-EPZ	0827 50.0	#-1018
14	+IPcPZ	0827 52.7	#-1018
14	+EPZ	1940 27.0	#-1019
14	+EPcPZ	1940 34.4	#-1019
14	-EpPZ	1940 50.3	#-1019
14	-IPZ	2028 45.9	#-1020
14	-IPcPZ	2028 47.4	#-1020
14	-EpPZ	2028 49.9	#-1020
14	+EPZ	2032 6.7	
15	-EPZ	0304 28.8	#-1021
15	+EPZ	0311 10.6	
15	-EPZ	0509 1.6	#-1022
15	-IPcPZ	0509 2.8	#-1022
15	-EpPZ	0509 11.3	#-1022
15	+EPPZ	0509 16.2	#-1022
15	-EPZ	0846 51.1	#-1023
15	-EPZ	0846 53.9	
15	-EPcPZ	0847 0.6	#-1023
15	-EpPZ	0847 4.7	#-1023
15	+EPdiffZ	1924 23.1	#-1024
15	-EPdiffZ	1924 51.7	#-1024
15	-EPZ	1958 49.5	#-1025
15	-EpPZ	1959 13.7	#-1025
15	+EPdiffZ	2016 32.8	#-1026
15	-EPPZ	2022 14.7	#-1026

Date	Phase	UTC Time		Remarks
		h m	s	
16	+EsPZ	0938	9.3	#-1027
16	-EPZ	1036	51.5	#-1028
16	-EPcPZ	1037	2.2	#-1028
16	-IPZ	1501	6.5	#-1029
16	-EpPZ	1501	12.9	#-1029
16	-EPZ	2008	23.6	#-1030
16	-EPcPZ	2008	37.0	#-1030
16	-EsPZ	2008	47.7	#-1030
16	-EPZ	2155	8.5	#-1031
16	-EpPZ	2155	33.8	#-1031
16	+EsPZ	2155	44.3	#-1031
16	-EPPZ	2158	10.8	#-1031
16	-EPZ	2356	38.3	
17	-EPZ	1139	2.9	#-1032
17	+EPcPZ	1139	6.5	#-1032
17	+EPZ	1542	27.5	#-1033
17	+EPcPZ	1542	28.8	#-1033
17	+EpPZ	1542	30.5	#-1033
17	+EPZ	1832	7.5	#-1034
17	+EPZ	1833	22.7	#-1035
17	+EPcPZ	1833	34.3	#-1035
18	-IPZ	1931	16.0	#-1036
18	+EPcPZ	1931	29.5	#-1036
18	+EpPZ	1932	2.3	#-1036
18	-EPcPZ	2128	45.9	#-1037
18	-EpPZ	2130	21.1	#-1037
18	+EPPZ	2131	57.7	#-1037
18	-EPdiffZ	2226	30.7	#-1038
18	-EpPdiffZ	2226	39.5	#-1038
18	-EPKiKPZ	2229	12.4	#-1038
18	-EpPKPdfZ	2229	15.6	#-1038
18	-EpPKiKPZ	2229	18.4	#-1038
18	+EPKPbcZ	2322	0.7	#-1039
18	+EPKPabZ	2322	3.7	#-1039
18	-EPZ	2322	10.2	
19	-EPKPdfZ	0003	24.5	#-1040
19	-EPKPabZ	0003	26.9	#-1040
19	-EPZ	0003	41.1	

Date	Phase	UTC Time		Remarks
		h m	s	
19	+IPZ	0421	1.3	#-1041
19	-EPcPZ	0421	11.0	#-1041
19	-IpPZ	0421	36.7	#-1041
19	ESH	0430	20.1	#-1041
19	+EPZ	1144	3.7	#-1042
19	-EPcPZ	1144	17.7	#-1042
19	-EpPZ	1144	19.0	#-1042
19	+EPZ	1625	19.8	#-1043
19	+EPZ	2122	13.4	
19	+EPZ	2122	23.5	
19	-EPZ	2312	41.1	
19	-EPZ	2312	46.0	
19	+EPZ	2312	58.0	
19	-EPZ	2333	41.3	#-1044
19	-IpPZ	2333	44.1	#-1044
19	+EPPZ	2335	51.0	#-1044
20	+EPZ	2151	10.8	
20	+EPZ	2204	5.4	
21	+EPnZ	0251	46.5	#-1045
21	-IPZ	0251	50.2	#-1045
21	-EpPZ	0251	52.0	#-1045
21	-EPZ	0252	6.8	
21	+EPZ	0252	18.4	
21	-EPZ	0252	38.0	
21	+EPZ	1022	38.5	
21	-EPZ	1022	41.8	
21	+EPZ	1117	46.5	#-1046
21	-EpPZ	1117	49.6	#-1046
21	+EPcPZ	1118	9.6	#-1046
21	-EPZ	1755	50.3	#-1047
21	-EPcPZ	1755	55.9	#-1047
21	-EpPZ	1756	1.9	#-1047
21	-EsPZ	1756	12.5	#-1047
21	-EPZ	1807	9.8	#-1048
21	-IpPZ	1807	11.0	#-1048
21	-EsPZ	1807	13.2	#-1048
21	-EPcPZ	1807	25.3	#-1048
22	+EPZ	0021	5.1	#-1049

Date	Phase	UTC Time h m s	Remarks
22	+EPcPZ	0021 8.2	#-1049
22	-EpPZ	0023 5.6	#-1049
22	+EPZ	0448 43.8	#-1050
22	-EPcPZ	0448 49.6	#-1050
22	+EPZ	0656 18.1	#-1051
22	-EPcPZ	0656 20.2	#-1051
22	-EpPZ	0656 23.4	#-1051
22	-EPZ	0834 25.3	#-1052
22	-EPcPZ	0834 31.1	#-1052
22	-EpPZ	0834 36.1	#-1052
22	+EPPZ	0837 27.1	#-1052
22	-EPdiffZ	1119 50.0	#-1053
22	+EPPZ	1125 13.9	#-1053
22	-EPZ	2056 26.6	#-1054
22	-EpPZ	2056 30.9	#-1054
22	-EsPZ	2056 33.3	#-1054
22	-EPPZ	2057 39.3	#-1054
22	-EPPZ	2057 42.9	#-1054
22	ESH	2101 44.3	#-1054
23	-EPdiffZ	0210 2.6	#-1055
23	-EpdiffZ	0210 11.8	#-1055
23	-EPZ	0321 53.8	
23	-EPZ	0322 17.1	
23	-EPZ	1021 33.6	#-1056
23	-EPcPZ	1021 35.3	#-1056
23	-IpPZ	1021 39.3	#-1056
23	+EPZ	1029 26.9	#-1057
23	-EPcPZ	1029 28.0	#-1057
23	-EpPZ	1029 30.2	#-1057
23	+EsPZ	1029 32.3	#-1057
23	+EPKiKPZ	1034 16.5	#-1057
23	-EPZ	1206 6.4	#-1058
23	-EPcPZ	1206 7.7	#-1058
23	+EPZ	1414 3.6	#-1059
23	-EpPZ	1414 20.0	#-1059
23	+EPPZ	1416 30.3	#-1059
23	+IPZ	1903 33.8	#-1060
23	+IpPZ	1904 1.7	#-1060

Date	Phase	UTC Time h m s	Remarks
23	-EsPZ	1904 10.9	#-1060
23	+EPZ	1915 21.0	
23	+EPZ	2234 55.6	#-1061
23	-EPZ	2235 4.6	
23	-EPZ	2235 24.9	
23	-EPZ	2308 13.7	
24	+EPZ	0013 38.9	
24	-EPZ	0014 38.4	
24	+EPZ	0835 7.7	#-1062
24	+EPcPZ	0835 9.3	#-1062
24	+EpPZ	0837 29.0	#-1062
24	-EPZ	0901 6.0	
24	+EPZ	0901 20.6	
24	+EpPZ	1047 14.2	#-1063
24	+EPPZ	1047 21.9	#-1063
24	+EPZ	1047 33.1	
24	-EPZ	1459 2.8	
24	-EPdiffZ	1459 35.0	#-1064
25	+EPZ	0148 30.4	
25	-EpPZ	0148 44.1	#-1065
25	-EPZ	0226 48.6	#-1066
25	+EPcPZ	0226 50.1	#-1066
25	-EpPZ	0227 18.4	#-1066
25	+EsPZ	0227 28.1	#-1066
25	+EPZ	1615 49.3	#-1067
25	-EpPZ	1615 56.6	#-1067
25	-IPcPZ	1616 2.5	#-1067
25	+EPPZ	1618 36.4	#-1067
25	+EPZ	1909 33.8	
25	+EPZ	1909 39.7	#-1068
25	+EpPZ	1911 7.5	#-1068
25	+EPZ	1928 45.9	
25	-EPZ	1932 26.7	
25	-EPZ	1941 14.0	#-1069
25	+EPcPZ	1941 19.1	#-1069
25	+EpPZ	1941 42.0	#-1069
25	-EPZ	2006 54.7	
25	-EPZ	2312 10.1	

Date	Phase	UTC Time		Remarks
		h m	s	
25	-EPZ	2312	40.7	
25	-EPZ	2329	40.1	
26	+EPZ	0225	9.9	
26	+EPZ	0225	22.1	
26	+EPZ	0341	8.4	
26	+EPZ	0900	23.2	#-1070
26	-EsPZ	0900	29.6	#-1070
26	-EPcPZ	0901	31.5	#-1070
26	+EPZ	1536	49.5	
26	-EPZ	1536	52.6	#-1071
26	+EPcPZ	1536	55.9	#-1071
26	-EpPZ	1537	1.2	#-1071
26	+EPZ	1927	22.1	#-1072
26	-EPcPZ	1927	27.8	#-1072
26	-EPPZ	1930	31.0	#-1072
26	+EPZ	1930	51.9	
26	-EPZ	1931	41.4	
26	+EPZ	2229	55.6	
27	-EPZ	1755	26.1	
27	+EPZ	1755	43.3	
27	+EPZ	1839	52.5	
27	-EPcPZ	1846	36.5	#-1073
27	-EPKiKPZ	1852	42.6	#-1073
27	-EPZ	1959	44.8	#-1074
27	-EpPZ	1959	51.7	#-1074
27	-EPZ	2017	29.8	#-1075
27	-EpPZ	2017	34.0	#-1075
27	-EPcPZ	2017	43.0	#-1075
27	-EPZ	2215	55.8	
27	-EPZ	2309	13.9	#-1076
27	-EPZ	2309	22.9	#-1076
27	+IPZ	2319	37.8	#-1077
27	-IPcPZ	2319	39.4	#-1077
27	-EPPZ	2323	22.5	#-1077
28	-EPZ	0144	54.5	#-1078
28	+EPcPZ	0145	8.3	#-1078
28	-EPZ	0430	29.9	#-1079
28	+EpPZ	0430	35.2	#-1079

Date	Phase	UTC Time		Remarks
		h m	s	
28	-EsPZ	0430	41.0	#-1079
28	+EPcPZ	0430	50.0	#-1079
28	+EPZ	0939	7.8	
28	-EPdiffZ	0939	25.6	#-1080
28	+EPZ	1020	26.4	#-1081
28	-EPZ	1350	34.1	#-1082
28	+EpPZ	1350	35.7	#-1082
28	+EsPZ	1350	36.6	#-1082
28	-EPZ	1354	6.1	#-1083
28	-EpPZ	1354	11.8	#-1083
28	-EPnZ	1533	56.1	#-1084
28	-IPZ	1533	58.1	#-1084
28	-IPnZ	1533	59.8	#-1084
28	-IpPZ	1534	0.5	#-1084
28	-EPnZ	1929	7.2	#-1085
28	-EPZ	1929	8.9	#-1085
28	-EPnZ	1929	10.5	#-1085
28	-EPZ	2144	44.7	#-1086
28	-EPcPZ	2144	46.5	#-1086
28	-EPZ	2145	8.6	#-1087
28	-EPcPZ	2145	10.2	#-1087
29	+EPZ	0206	51.5	#-1088
29	-EpPZ	0207	1.1	#-1088
29	-EsPZ	0207	7.0	#-1088
29	-EPcPZ	0209	59.8	#-1088
29	+EPZ	0351	50.4	#-1089
29	+EpPZ	0351	58.8	#-1089
29	-EpPZ	0355	29.9	#-1090
29	+IPZ	1135	50.3	#-1091
29	-EsPZ	1136	4.5	#-1091
29	-EPKpbcZ	1729	40.4	#-1092
29	-EPKpdfZ	1729	41.4	#-1092
29	-EPKiKPbcZ	1729	43.0	#-1092
29	-EPKiKPZ	1729	44.7	#-1092
29	-EPZ	1729	58.4	
29	-EPZ	1730	18.8	
29	+EPZ	1851	24.0	#-1093
29	+IPcPZ	1851	26.9	#-1093

Date	Phase	UTC Time h m	s	Remarks
29	-IpPZ	1851	36.0	#-1093
29	-EPPZ	1855	7.7	#-1093
29	-EPdiffZ	2311	53.0	#-1094
29	-EpPdiffZ	2311	58.0	#-1094
30	+EPZ	1537	25.8	#-1095
30	-EPcPZ	1537	30.2	#-1095
30	-EpPZ	1537	51.1	#-1095
30	+EPZ	1700	12.8	#-1096
30	+IPcPZ	1700	20.4	#-1096
30	+EpPZ	1700	24.0	#-1096
30	+IsPZ	1700	28.1	#-1096
30	-EPZ	1700	55.4	
30	ESH	1710	13.5	#-1096
30	-IPZ	1900	3.2	#-1097
30	-IPcPZ	1900	9.7	#-1097
30	+EpPZ	1900	24.9	#-1097
30	+IPZ	1902	13.6	#-1098
30	-EpPZ	1902	19.8	#-1098
30	-IsPZ	1902	20.5	#-1098
30	-EPPZ	1904	28.0	#-1098
30	+EPPZ	1902	54.6	#-1097
30	-EPcPZ	1910	27.8	#-1099
30	-EPPZ	1914	5.7	#-1099
30	+EPZ	1914	11.2	
Oct.				
1	-EPZ	0815	26.9	
1	-EPdiffZ	0815	32.5	#-1100
1	-EPPZ	0820	16.2	#-1100
1	+EPZ	0953	39.5	#-1101
1	-IPcPZ	0953	41.1	#-1101
1	-IpPZ	0953	45.5	#-1101
1	+IsPZ	0953	48.1	#-1101
1	-EPZ	1047	48.9	
1	+IPZ	1057	4.2	#-1102
1	+EPcPZ	1057	12.5	#-1102
1	-EPZ	1213	41.4	
1	-EPZ	1537	0.3	#-1103
1	-EpPZ	1537	16.6	#-1103

Date	Phase	UTC Time h m	s	Remarks
1	-EsPZ	1537	21.2	#-1103
1	-EPcPZ	1537	24.9	#-1103
1	+EPZ	1653	52.9	#-1104
1	+EPcPZ	1654	5.0	#-1104
1	-EpPZ	1654	11.8	#-1104
1	-EPZ	1700	52.4	
1	ESH	1703	27.1	#-1104
1	-EPZ	1757	4.6	
1	+EPZ	1757	59.8	
1	+EPZ	1958	26.5	#-1105
1	+IpPZ	1958	31.5	#-1105
1	+EsPZ	1958	32.8	#-1105
1	-EPPZ	2001	38.9	#-1105
1	ESH	2008	46.7	#-1105
1	-EPZ	2130	9.7	
2	-EPZ	0115	51.2	
2	+EPZ	0116	15.0	
2	+EPZ	0313	5.4	#-1106
2	+IPcPZ	0313	12.9	#-1106
2	-EpPZ	0313	43.8	#-1106
2	-EsPZ	0313	59.1	#-1106
2	+EPZ	0411	54.9	
2	+EPZ	0514	32.4	
2	+IPZ	0621	24.5	
2	-EPZ	0621	34.7	
2	+EPZ	1518	19.4	#-1107
2	-EPcPZ	1518	21.6	#-1107
2	+EpPZ	1520	22.1	#-1107
2	-EPZ	1541	55.7	#-1108
2	-EpPZ	1541	56.7	#-1108
2	+EsPZ	1542	1.1	#-1108
2	-EPcPZ	1544	10.4	#-1108
3	+IPZ	0341	43.5	#-1109
3	+EpPZ	0342	11.2	#-1109
3	+EPZ	0441	33.0	#-1110
3	-EpPZ	0441	45.9	#-1110
3	+EPPZ	0445	1.5	#-1110
3	+EPZ	1236	6.8	

Date	Phase	UTC Time		Remarks
		hm	s	
3	-EPZ	1843	44.5	#-1111
3	+IpPZ	1843	45.9	#-1111
3	+EsPZ	1843	51.4	#-1111
3	+EPcPZ	1844	46.6	#-1111
3	-EPPZ	1845	47.3	#-1111
3	-EPPZ	1845	54.8	#-1111
4	+EPZ	0023	20.8	#-1112
4	-EpPZ	0023	36.8	#-1112
4	+EPZ	0151	49.5	#-1113
4	+EpPZ	0152	6.0	#-1113
4	+EPZ	0233	32.2	
4	-EPZ	0256	53.3	
4	+EPZ	0305	38.6	
4	-EPZ	0345	38.0	
4	+IPZ	0700	36.5	#-1114
4	-EPcPZ	0700	37.7	#-1114
4	-IpPZ	0700	42.5	#-1114
4	ESH	0711	40.8	#-1114
4	-EPZ	0712	49.5	
4	+EPZ	0712	54.1	
4	-EPZ	0916	27.1	#-1115
4	-EPcPZ	0916	31.5	#-1115
4	+EPPZ	0919	51.1	#-1115
4	+EPZ	1928	31.5	#-1116
4	+EpPZ	1928	44.9	#-1116
4	-EpPdiffZ	1935	9.5	#-1117
4	+EPZ	1950	11.2	
4	-EPZ	1950	23.0	
5	-EPZ	0003	1.7	#-1118
5	-EPcPZ	0003	3.7	#-1118
5	+IpPZ	0003	12.9	#-1118
5	-EPdiffZ	0039	3.0	#-1119
5	-EPZ	0447	48.5	#-1120
5	+EPcPZ	0447	50.6	#-1120
5	-EPPZ	0451	17.6	#-1120
5	-EPZ	0504	53.0	#-1121
5	-IPcPZ	0504	55.5	#-1121
5	+EPZ	0809	35.2	

Date	Phase	UTC Time		Remarks
		hm	s	
5	-EPZ	0826	24.5	
5	-EPZ	0914	53.9	
5	+IPZ	0921	14.3	
5	-EPZ	1234	40.3	#-1122
5	+EpPZ	1234	53.8	#-1122
5	-IPZ	2126	7.9	#-1123
5	+IPcPZ	2126	21.5	#-1123
5	+EsPZ	2126	28.6	#-1123
5	+EPPZ	2128	55.9	#-1123
5	-EPZ	2357	27.1	#-1124
6	-EPZ	0019	21.0	#-1125
6	-EPcPZ	0019	23.9	#-1125
6	+EPZ	0538	17.9	#-1126
6	-EPdiffZ	0538	24.3	#-1126
6	+EPZ	0757	18.4	
6	+EPZ	1128	5.1	
6	+EpPdiffZ	1128	9.4	#-1127
6	+EPPZ	1132	6.1	#-1127
6	-EpPKiKPZ	1132	40.8	#-1127
6	+EPZ	1455	27.3	
6	-EPZ	1455	59.9	
6	-IPKPdfZ	1459	34.5	#-1128
6	-IPKiKPZ	1459	36.5	#-1128
6	-EPPZ	1501	32.2	#-1128
6	+EPKpbcZ	2118	27.4	#-1129
6	+EPKiKPZ	2118	29.1	#-1129
6	-EPKpabZ	2118	37.6	#-1129
6	-EPZ	2119	24.0	
6	+IPZ	2206	19.1	
6	+IPZ	2206	37.3	
7	-EPZ	0020	13.3	
7	-EpPdiffZ	0119	43.6	#-1130
7	+EPPZ	0123	32.2	#-1130
7	-EPZ	1244	49.8	
7	+EPZ	1941	51.1	
7	-EPKPdfZ	1945	51.2	#-1131
7	+EPKiKPZ	1945	53.4	#-1131
7	+EPdiffZ	2200	30.2	#-1132

Date	Phase	UTC Time h m s	Remarks
7	-EpPdiffZ	2200 38.1	#-1132
8	+EPZ	0401 40.6	#-1133
8	+EpPZ	0401 47.0	#-1133
8	+EpPZ	0406 44.3	#-1134
8	-EsPZ	0406 48.3	#-1134
8	-EPZ	0840 52.2	#-1135
8	-IPZ	0840 53.0	#-1135
8	-IpPZ	0841 4.1	#-1135
8	+EPPZ	0844 25.3	#-1135
8	ESH	0851 41.6	#-1135
8	-IPdiffZ	1449 39.0	#-1136
8	+EpPdiffZ	1450 3.5	#-1136
8	-EsPdiffZ	1450 16.2	#-1136
8	+EPPZ	1453 43.1	#-1136
8	-EPKiPZ	1454 3.7	#-1136
8	-EPZ	1455 24.0	
8	+EPZ	1505 24.6	
8	-EPZ	1534 46.4	#-1137
8	-EpPZ	1535 4.7	#-1137
8	+EPnPrZ	1535 45.1	#-1137
8	+EPcPZ	1537 39.7	#-1137
8	ESH	1539 42.0	#-1137
8	-EPZ	1541 12.8	
8	+EPZ	1542 31.0	
9	-EPcPZ	1522 39.7	#-1138
9	+EpPZ	1522 44.0	#-1138
9	-EPZ	1557 36.1	#-1139
9	-EPcPZ	1557 37.7	#-1139
9	+EsPZ	1557 40.3	#-1139
9	+EPZ	1932 3.1	
9	+EPZ	1952 1.5	
9	+EPZ	2024 23.8	#-1140
9	+EpPZ	2025 51.6	#-1140
9	+EPZ	2141 2.8	
9	-EPZ	2211 29.7	#-1141
9	+EPcPZ	2211 33.7	#-1141
9	+EsPZ	2212 12.4	#-1141
9	-EPZ	2212 26.7	

Date	Phase	UTC Time h m s	Remarks
9	-EPPZ	2226 46.5	#-1142
9	-EPZ	2345 22.3	#-1143
9	-IsPZ	2345 23.0	#-1143
9	-EPnPrZ	2346 33.2	#-1143
9	+EPPZ	2346 37.4	#-1143
10	+EPZ	0020 31.0	#-1144
10	+EpPZ	0020 35.1	#-1144
10	-EPZ	0702 48.7	
10	-EPZ	0705 2.0	#-1145
10	-EPcPZ	0705 4.1	#-1145
10	-EPZ	1405 57.8	
10	-EPZ	1406 34.5	
10	+EPZ	2358 18.0	#-1146
10	+EPcPZ	2358 24.7	#-1146
10	+EpPZ	2358 50.3	#-1146
11	-EPZ	0650 28.4	#-1147
11	+EPZ	0650 29.3	#-1147
11	-EpPZ	0650 34.5	#-1147
11	+EPZ	0912 5.3	
11	-EpPdiffZ	0912 44.4	#-1148
11	-EPZ	1644 28.2	
11	-EPZ	1826 59.3	#-1149
11	+EPcPZ	1827 2.8	#-1149
11	-EsPZ	1827 11.2	#-1149
11	+EPZ	2216 58.6	#-1150
11	+EpPZ	2217 0.1	#-1150
12	-EPZ	0158 27.5	#-1151
12	+EpPZ	0158 38.5	#-1151
12	-EPZ	1325 52.5	#-1152
12	+EPcPZ	1326 2.2	#-1152
12	+EpPZ	1326 47.3	#-1152
12	-EPPZ	1328 43.9	#-1152
12	-EPZ	1508 0.0	#-1153
12	+EpPZ	1508 6.1	#-1153
12	-EPcPZ	1509 19.6	#-1153
12	+EPZ	1541 48.6	#-1154
12	-IPcPZ	1541 51.2	#-1154
12	-IpPZ	1542 1.6	#-1154

Date	Phase	UTC Time h m s	Remarks
12	+EPPZ	1545 21.3	#-1154
12	-EPZ	2003 29.6	#-1155
12	-EpPZ	2003 41.0	#-1155
12	-EsPZ	2003 44.5	#-1155
12	+EPcPZ	2003 56.7	#-1155
12	+EPZ	2036 18.6	#-1156
12	-EPcPZ	2036 20.6	#-1156
13	-EPZ	1316 2.4	
13	+EPZ	1541 5.6	
13	+EPZ	2042 1.0	#-1157
13	+EPcPZ	2042 3.9	#-1157
13	-IPZ	2048 5.2	#-1158
13	+IPcPZ	2048 7.9	#-1158
13	-IpPZ	2048 34.8	#-1158
13	+IPPZ	2051 21.4	#-1158
13	ESH	2058 24.0	#-1158
14	-EPKpdfZ	0119 7.1	#-1159
14	-EPKpbcZ	0119 9.4	#-1159
14	+EPKiKPZ	0119 13.7	#-1159
14	+IPZ	0420 42.3	#-1160
14	-EPcPZ	0420 57.1	#-1160
14	+IpPZ	0421 3.3	#-1160
14	-IsPZ	0421 8.9	#-1160
14	-IPZ	1714 22.5	#-1161
14	-IPcPZ	1714 25.4	#-1161
14	+EpPZ	1714 40.8	#-1161
14	+EPZ	2215 9.2	
14	+EPZ	2215 24.2	
15	+EpPZ	0508 11.8	#-1162
15	+EPZ	0741 39.8	
15	+EPZ	0741 54.0	
15	-EPZ	0855 40.9	
15	+EPZ	0855 45.0	
15	-EPZ	1237 17.6	#-1163
15	-EPZ	1516 39.9	#-1164
15	-EPcPZ	1517 0.0	#-1164
15	+EPZ	1622 24.1	
15	-IPZ	1857 31.9	

Date	Phase	UTC Time h m s	Remarks
15	+IPZ	1857 55.0	
15	-EPZ	1901 35.6	
15	+EPZ	2024 51.1	#-1165
15	-EPZ	2212 3.5	
15	-EPZ	2212 36.0	
16	-EPZ	0134 17.1	#-1166
16	+EpPZ	0134 19.2	#-1166
16	+EpPZ	0134 21.3	#-1166
16	+EPcPZ	0138 8.8	#-1166
16	ESH	0138 24.4	#-1166
16	+EPZ	1219 20.8	#-1167
16	-EPcPZ	1219 31.1	#-1167
16	+EPZ	1403 34.0	
16	+EPKpdfZ	1738 20.3	#-1168
16	+EPZ	1935 3.5	#-1169
16	-IpPZ	1935 5.1	#-1169
16	-EPZ	1949 47.7	#-1170
16	-EPcPZ	1949 49.6	#-1170
16	-EpPZ	1949 53.4	#-1170
16	+EPZ	2000 14.2	
16	-EPZ	2018 19.0	#-1171
16	-EPcPZ	2018 41.1	#-1171
16	-EPdiffZ	2354 3.1	#-1172
17	-EPZ	0720 2.9	#-1173
17	-EpPZ	0720 29.7	#-1173
17	-IPZ	1221 24.2	#-1174
17	+EPZ	1323 24.2	
17	-EPZ	1436 26.9	#-1175
17	+EPZ	1848 51.3	#-1176
17	-EpPZ	1848 59.0	#-1176
18	-EPZ	0014 4.1	
18	-EPZ	2341 40.0	#-1177
18	-EPcPZ	2341 42.3	#-1177
19	+EPZ	0134 32.3	#-1178
19	-EPZ	0527 26.8	#-1179
19	-EpPZ	0527 32.7	#-1179
19	-EPZ	1424 27.7	#-1180
19	-EPZ	1600 46.7	

Date	Phase	UTC Time h m	s	Remarks
19	+EPZ	1601	17.7	
19	-EPZ	1650	2.7	#-1181
19	-EPZ	2042	29.6	#-1182
19	+IPZ	2042	30.7	#-1182
19	+EpPZ	2043	3.4	#-1182
19	-EPZ	2142	38.2	#-1183
19	+EPKiKPZ	2147	35.0	#-1183
19	-EPZ	2303	17.0	
19	+EPZ	2306	7.6	
20	+EPZ	0240	16.7	#-1184
20	-EPZ	0240	21.1	#-1184
20	+EPZ	1104	35.2	#-1185
20	+EPcPZ	1104	47.1	#-1185
20	+EPZ	1719	44.2	#-1186
20	-EPcPZ	1719	57.7	#-1186
20	-IPZ	1845	12.7	#-1187
20	-IPcPZ	1845	17.4	#-1187
20	+EpPZ	1845	36.0	#-1187
20	+EsPZ	1845	45.6	#-1187
20	+IPZ	1908	10.0	#-1188
20	-EPcPZ	1908	12.5	#-1188
20	-EpPZ	1908	28.6	#-1188
20	+EPPZ	1911	20.8	#-1188
20	-EPKiKPZ	1913	22.7	#-1188
20	+EPZ	2128	49.4	
20	-EPZ	2129	59.2	
20	-IPZ	2156	39.0	
20	+EPZ	2156	47.7	
20	+EPZ	2156	55.6	
21	+EPZ	0537	41.4	#-1189
21	-EPcPZ	0537	54.9	#-1189
21	-EpPZ	0538	20.5	#-1189
21	+EPZ	0819	10.2	#-1190
21	+EPcPZ	0819	18.6	#-1190
21	+EPZ	1129	12.0	#-1191
21	-IPcPZ	1129	13.0	#-1191
21	+EpPZ	1131	17.8	#-1191
21	ESH	1138	57.1	#-1191

Date	Phase	UTC Time h m	s	Remarks
21	+EPZ	1358	26.4	
21	-EPZ	1358	47.5	
22	-EPZ	0327	49.3	#-1192
22	-EPcPZ	0328	1.1	#-1192
22	+EpPZ	0328	3.6	#-1192
22	-EPZ	0814	35.6	#-1193
22	-EpPZ	0814	51.3	#-1193
22	-EPZ	0938	42.6	#-1194
22	+EPcPZ	0938	47.6	#-1194
22	+EPZ	1212	38.2	#-1195
22	-EpPZ	1212	42.0	#-1195
22	-EPKiKPZ	1310	19.7	#-1196
22	-EPZ	1418	49.2	
22	+EPZ	1419	16.3	
22	-EPZ	1658	15.2	#-1197
22	-EpPZ	1658	29.5	#-1197
22	+EsPZ	1658	34.9	#-1197
22	-EPZ	1713	7.0	
22	+EPZ	1906	59.6	
23	-EPZ	0416	32.7	#-1198
23	-EPPZ	0420	24.6	#-1198
23	-IPZ	0523	58.6	#-1199
23	+EPcPZ	0524	4.8	#-1199
23	+EpPZ	0524	7.9	#-1199
23	-IPZ	0701	54.4	#-1200
23	-EPcPZ	0702	0.9	#-1200
23	-EPZ	0715	0.4	#-1201
23	+EPcPZ	0715	2.6	#-1201
23	-EPPZ	0718	34.8	#-1201
23	-EPdiffZ	0911	48.3	#-1202
23	-EPdiffZ	0915	25.7	#-1203
23	-EPPZ	0917	9.1	#-1202
23	-EPdiffZ	0919	0.8	#-1204
23	-EPKpdfZ	0922	16.0	#-1204
23	-EPKiKPZ	0926	41.2	#-1205
23	-EPdiffZ	0927	44.9	#-1206
23	+EPPZ	0928	41.2	#-1205
23	+EPZ	0930	59.3	

Date	Phase	UTC Time h m s	Remarks
23	-EpPPKpdfZ0931	7.2	#-1206
23	-EPKpdfZ 0953	8.2	#-1207
23	+EPKiKPZ 0953	9.8	#-1207
23	-EPPZ 0955	9.2	#-1207
23	+EpPdiffZ 1052	35.9	#-1208
23	+EPKpdfZ 1055	49.2	#-1208
23	-EPKiKPZ 1055	52.5	#-1208
23	-EPPZ 1057	51.6	#-1208
23	+EPKpdfZ 1105	0.8	#-1209
23	-EpPKpdfZ 1105	7.5	#-1209
23	+EPZ 1215	7.0	
23	+EpPdiffZ 1300	22.3	#-1210
23	+EPKiKPZ 1308	40.8	#-1210
23	-EpPdiffZ 1450	39.3	#-1211
23	-EPKpdfZ 1453	48.5	#-1211
23	-EpPKpdfZ 1453	55.4	#-1211
23	+EPZ 1731	15.2	
23	-EPZ 1812	45.5	
23	+EPZ 1901	50.5	#-1212
23	-EPZ 1937	53.0	
23	-EPZ 2037	3.0	
23	-EPZ 2233	31.6	
23	-EPZ 2233	41.7	
23	+IPZ 2327	3.6	#-1213
23	-EPcPZ 2327	27.2	#-1213
23	+EpPZ 2327	33.5	#-1213
23	-EsPZ 2327	49.0	#-1213
23	-EPZ 2356	31.9	#-1214
23	+EPcPZ 2356	35.5	#-1214
24	-EPZ 0359	59.3	#-1215
24	+EpPZ 0400	6.3	#-1215
24	-EsPZ 0400	12.4	#-1215
24	-EPZ 0545	2.9	#-1216
24	-EpPZ 0545	5.3	#-1216
24	+EPPZ 0546	35.7	#-1216
24	-IPZ 1343	36.9	#-1217
24	-EPcPZ 1343	43.5	#-1217
24	ESH 1353	46.6	#-1217

Date	Phase	UTC Time h m s	Remarks
24	+EPZ 1508	39.2	#-1218
24	-EpPZ 1508	44.3	#-1218
24	+EPdiffZ 1543	57.7	#-1219
24	+EPKpdfZ 2124	1.5	#-1220
25	-IPZ 0202	59.5	#-1221
25	+IPcPZ 0203	5.6	#-1221
25	-EpPZ 0203	16.1	#-1221
25	+EPZ 1301	30.4	
25	-EPZ 1406	19.5	#-1222
25	-EpPZ 1406	21.5	#-1222
25	+EPZ 1414	28.0	#-1223
25	+EPZ 1500	20.7	
25	-EPZ 1500	40.1	
25	+EPdiffZ 1655	38.1	#-1224
26	-EPdiffZ 0225	36.0	#-1225
26	-EPKiKPZ 0229	51.1	#-1225
26	-EPZ 0737	12.5	#-1226
26	+EPZ 1546	30.6	#-1227
26	+EpPZ 1547	23.9	#-1227
26	+EPZ 1806	48.0	#-1228
26	+EPcPZ 1806	53.0	#-1228
26	+EpPZ 1806	57.7	#-1228
26	-EPZ 2054	15.7	#-1229
26	+EpPZ 2054	17.1	#-1229
26	-EsPZ 2054	19.1	#-1229
26	-EPnPrZ 2055	7.5	#-1229
26	+EPZ 2259	14.0	#-1230
26	+EpPZ 2259	16.2	#-1230
26	-EPnPrZ 2300	8.3	#-1230
26	ESH 2304	10.4	#-1230
26	-EPZ 2331	25.2	#-1231
26	+EpPZ 2331	28.1	#-1231
26	-EPnPrZ 2332	19.0	#-1231
26	+EPPZ 2332	33.3	#-1231
27	+EPKpdfZ 0159	52.4	#-1232
27	-EpPKpdfZ 0200	0.8	#-1232
27	-EPZ 0312	32.4	
27	-EPZ 0658	2.9	#-1233

Date	Phase	UTC Time h m	s	Remarks
27	-EPZ	0702	29.5	
27	+EPZ	0938	30.4	
27	-EpPdi ffZ	0938	45.2	#-1234
27	+EPKPdfZ	0942	21.9	#-1234
27	-EpPKPpdfZ	0942	27.1	#-1234
27	-EPZ	1100	13.9	#-1235
27	-EPcPZ	1100	15.5	#-1235
27	ESH	1111	7.6	#-1235
27	-EPZ	1431	47.3	
27	+EPKPbcZ	1502	3.2	#-1236
27	-EPZ	1613	20.9	
27	+EPZ	1613	37.1	
27	-EpPKPpdfZ	1623	17.3	#-1237
27	-EPZ	1741	13.4	#-1238
27	+EpPZ	1741	15.5	#-1238
27	+EPZ	1928	46.7	
27	+EPZ	1928	57.7	
27	-EPKPdfZ	2053	4.2	#-1239
27	+IPKiKPZ	2053	5.7	#-1239
27	-EpPKPpdfZ	2053	30.5	#-1239
28	+EPcPZ	0435	57.7	#-1240
28	-EpPZ	0437	18.8	#-1240
28	-EsPZ	0438	0.2	#-1240
28	-EPPZ	0439	38.4	#-1240
28	-EPZ	0504	43.6	
28	-EPZ	0659	55.2	#-1241
28	-EPZ	0833	40.6	#-1242
28	-EsPZ	0833	51.7	#-1242
28	-EPZ	0843	50.9	#-1243
28	-EPcPZ	0844	4.6	#-1243
28	-EpPZ	0844	6.9	#-1243
28	-EPZ	1212	14.9	
28	+EPZ	1215	3.2	
28	+EPZ	1818	23.9	
28	+EPZ	1900	22.0	#-1244
28	-EpPZ	1900	25.8	#-1244
28	-EPPZ	1902	40.9	#-1244
28	-EPZ	2043	33.5	

Date	Phase	UTC Time h m	s	Remarks
28	-EPZ	2058	30.0	#-1245
28	+EPPZ	2102	13.3	#-1245
28	ESH	2109	29.9	#-1245
29	+EPZ	0011	22.0	#-1246
29	-EpPZ	0011	26.4	#-1246
29	-EPcPZ	0011	50.4	#-1246
29	-EPZ	0014	38.3	
29	-EPZ	0207	4.8	#-1247
29	+EpPZ	0207	29.8	#-1247
29	-EPZ	0315	10.9	#-1248
29	-EpPZ	0315	44.1	#-1248
29	-EPdi ffZ	0319	37.6	#-1249
29	-EPZ	0353	21.2	
29	+IPZ	0826	25.1	#-1250
29	-EPcPZ	0826	27.5	#-1250
29	-EpPZ	0828	26.2	#-1250
29	-IPZ	0906	32.5	#-1251
29	-IpPZ	0906	37.6	#-1251
29	-IPcPZ	0906	44.2	#-1251
29	+IPcPZ	0906	56.5	#-1251
29	-EPZ	1528	18.2	
29	-EPZ	1528	53.8	
29	+EPZ	1946	48.8	
30	+EPZ	0956	8.0	
30	+EPZ	0956	11.8	#-1252
30	-EPcPZ	0956	13.7	#-1252
30	-EPZ	1007	10.1	#-1253
30	+EpPZ	1007	17.0	#-1253
30	+EPcPZ	1007	24.8	#-1253
30	-EPPZ	1010	2.2	#-1253
30	-IPZ	1339	39.4	#-1254
30	-IPcPZ	1339	42.0	#-1254
30	-IpPZ	1339	56.6	#-1254
30	ESH	1340	3.4	#-1254
31	-EPZ	0526	48.9	#-1255
31	-EpPZ	0526	54.9	#-1255
31	ESH	0537	30.1	#-1255
31	+EPPZ	0621	40.5	#-1256

Date	Phase	UTC Time h m	s	Remarks
31	+EPKiKPZ	0629	4.8	#-1257
31	-EPZ	0713	2.0	#-1258
31	-EPZ	1758	44.5	#-1259
31	+EPcPZ	1758	50.6	#-1259
31	+EPZ	1943	59.0	
31	-EPZ	1944	2.6	
31	-EPZ	1950	52.4	
31	+EPdiffZ	1951	35.3	#-1260
31	-EPPZ	1956	53.5	
Nov.				
1	+EPZ	0315	39.9	#-1261
1	-EpPZ	0316	38.4	#-1261
1	+EPZ	1047	44.0	#-1262
1	-EPcPZ	1047	58.3	#-1262
1	-EPPZ	1050	27.6	#-1262
1	-EPKiKPZ	1053	32.4	#-1262
1	-EPZ	1149	38.2	#-1263
1	-EpPZ	1149	41.8	#-1263
1	+EPcPZ	1149	48.0	#-1263
1	ESH	1159	10.7	#-1263
1	+EPZ	1317	42.0	
1	+EPZ	1321	15.3	
1	+EPZ	1414	18.5	#-1264
1	-EpPZ	1414	22.8	#-1264
1	-EPcPZ	1414	32.0	#-1264
1	-EPcPZ	2102	28.7	#-1265
1	-EsPZ	2102	40.8	#-1265
2	+EPZ	0402	18.0	#-1266
2	-EPcPZ	0402	24.0	#-1266
2	-EpPZ	0402	28.9	#-1266
2	-EPPZ	0405	17.0	#-1266
2	+EPZ	0901	37.1	#-1267
2	-EPcPZ	0901	43.3	#-1267
2	-EsPZ	0902	17.7	#-1267
2	+EPKpdfZ	0904	46.7	#-1268
2	-EPKiKPZ	0904	50.8	#-1268
2	+EPPZ	0904	56.1	#-1267
2	-ESKSacZ	0911	55.5	#-1267

Date	Phase	UTC Time h m	s	Remarks
2	+EPKpdfZ	1022	8.0	#-1269
2	-EpPKPabZ	1022	52.1	#-1269
2	+EPZ	1044	35.9	#-1270
2	-IpPZ	1044	41.4	#-1270
2	+IsPZ	1044	46.6	#-1270
2	-IPcPZ	1044	48.4	#-1270
2	+EPZ	1106	5.1	
2	-EPZ	1106	24.4	
2	+EPZ	2200	49.4	#-1271
2	+EPcPZ	2200	52.3	#-1271
2	+EsPZ	2201	10.0	#-1271
2	+EPPZ	2204	8.5	#-1271
2	-EPZ	2236	14.2	#-1272
2	+EPcPZ	2236	26.3	#-1272
3	None			
4	+EPZ	0403	20.0	
4	+EPZ	0403	34.3	
4	+IPZ	0542	19.1	#-1273
4	-EpPZ	0542	46.2	#-1273
4	-EsPZ	0542	56.5	#-1273
4	-EPPZ	0544	41.9	#-1273
4	+EpPKiKPZ	0641	15.7	#-1274
4	-EPZ	0819	51.8	#-1275
4	-EpPZ	0820	0.4	#-1275
4	-EPZ	0838	50.8	#-1276
4	+EpPZ	0839	0.7	#-1276
4	-EsPZ	0839	6.3	#-1276
4	+IPZ	0949	32.4	#-1277
4	+EPcPZ	0949	42.7	#-1277
4	-EpPZ	0949	50.4	#-1277
4	+EsPZ	0950	1.5	#-1277
4	-EPZ	1424	13.3	#-1278
4	-EPZ	1913	11.5	#-1279
4	+EsPZ	1913	39.4	#-1279
4	-EPPZ	1914	25.0	#-1279
4	-EPZ	2142	59.9	#-1280
4	-EPZ	2348	34.0	#-1281
4	+EpPZ	2348	39.7	#-1281

Date	Phase	UTC Time h m	s	Remarks
4	+EPcPZ	2348	48.1	#-1281
5	+EpPZ	0004	19.2	#-1282
5	-EPZ	0531	25.1	#-1283
5	+EPcPZ	0531	26.5	#-1283
5	-EpPZ	0531	57.1	#-1283
5	-EPZ	0548	34.6	#-1284
5	+EPcPZ	0548	37.9	#-1284
5	+EpPZ	0548	56.1	#-1284
5	+EPPZ	0552	19.2	#-1284
5	-EPZ	1107	58.2	
5	-EPZ	1143	4.1	
5	+IPZ	1743	48.0	#-1285
5	-IPcPZ	1743	52.3	#-1285
5	-EpPZ	1744	38.3	#-1285
5	+EPZ	2347	3.0	
6	+EPZ	0431	45.3	#-1286
6	-EPcPZ	0431	58.1	#-1286
6	+EpPZ	0432	24.5	#-1286
6	-EPZ	0443	43.6	
6	-EPZ	0558	18.7	
6	+EPZ	0558	25.9	
6	+EPZ	0716	8.5	#-1287
6	-EPcPZ	0716	11.6	#-1287
6	-EpPZ	0717	55.6	#-1287
6	ESH	0725	40.9	#-1287
6	-EPZ	0749	48.3	
6	+EPZ	0750	3.6	
6	+EPZ	1143	5.4	
6	-EPZ	1143	8.4	
6	-EPZ	1143	16.4	
6	-EPZ	1441	16.8	
6	+EPcPZ	1441	26.6	#-1288
6	+EPZ	1539	9.7	#-1289
6	-EpPZ	1539	13.7	#-1289
6	-EPZ	2233	44.2	#-1290
6	+EpPZ	2234	2.3	#-1290
6	-EsPZ	2234	13.3	#-1290
6	+EPKiKPZ	2238	34.4	#-1290

Date	Phase	UTC Time h m	s	Remarks
6	-EPKiKPZ	2238	52.9	#-1290
7	-EsPdiffZ	0220	46.0	#-1291
7	+EsPKiKPZ	0223	42.4	#-1291
7	+EPZ	0248	7.9	#-1292
7	+EpPZ	0248	19.8	#-1292
7	+EPPZ	0249	18.7	#-1292
7	ESH	0253	18.9	#-1292
7	+EPZ	1254	34.7	#-1293
7	-EpPZ	1254	46.0	#-1293
7	+EPZ	1413	45.1	
7	+EPZ	1733	10.9	
7	+EPZ	1733	55.1	
8	None			
9	-EPZ	0131	10.5	#-1294
9	+EpPZ	0131	40.8	#-1294
9	-EPcPZ	0134	49.7	#-1295
9	-EPKiKPZ	0140	59.6	#-1295
9	-EPZ	0149	26.8	
9	+IPZ	0221	16.4	#-1296
9	+EPcPZ	0221	42.8	#-1296
9	-EPZ	0254	45.5	
9	+EPZ	0254	51.5	
9	-EPZ	0900	18.6	
9	+EPZ	1012	21.0	
9	-EPZ	1025	8.8	#-1297
9	+EpPZ	1025	10.9	#-1297
9	-EPcPZ	1025	19.6	#-1297
9	-EPZ	1702	58.6	
9	+EPZ	1812	56.4	#-1298
9	-EpPZ	1813	15.2	#-1298
9	-EPKpdfZ	1902	11.9	#-1299
9	-EPZ	1904	15.1	#-1300
9	-EPZ	2052	37.6	
9	-EPZ	2053	42.8	
9	-EPdiffZ	2228	39.2	#-1301
10	+EPZ	0011	26.9	#-1302
10	+IPZ	0011	32.6	#-1302
10	-IsPZ	0011	36.6	#-1302

Date	Phase	UTC Time		Remarks
		h m	s	
10	+EPZ	0231	41.7	#-1303
10	-EpPZ	0231	49.1	#-1303
10	-EsPZ	0231	54.1	#-1303
10	+IPZ	0247	0.9	#-1304
10	+EPZ	0247	4.8	#-1304
10	-EpPZ	0247	6.4	#-1304
10	+EPZ	0420	43.0	
10	-EPZ	0802	41.4	#-1305
10	-EpPZ	0802	42.8	#-1305
10	+EPcPZ	0802	55.5	#-1305
10	-EPZ	0820	15.0	
10	-EPZ	1048	14.5	#-1306
11	+EpPZ	0216	29.2	#-1307
11	+EPKiKPZ	0235	10.1	#-1308
11	-EPZ	0335	34.6	#-1309
11	-EPcPZ	0335	42.2	#-1309
11	+EsPZ	0335	55.1	#-1309
11	+IPZ	0923	41.9	#-1310
11	-IPcPZ	0923	44.6	#-1310
11	+IpPZ	0924	2.7	#-1310
11	+IPZ	1017	11.9	#-1311
11	-IPcPZ	1017	18.3	#-1311
11	+IpPZ	1017	29.2	#-1311
11	-EPPZ	1020	33.1	#-1311
11	+EPKpdfZ	1022	0.2	#-1312
11	-EPKpdfZ	1022	12.8	#-1312
11	+EPZ	1119	4.3	
11	+EPZ	1120	45.9	
11	+EPZ	1405	51.0	#-1313
11	-EPcPZ	1405	53.3	#-1313
11	-EpPZ	1406	4.4	#-1313
11	+EsPZ	1406	14.1	#-1313
11	-EPZ	1746	8.0	#-1314
11	-EPcPZ	1746	11.5	#-1314
11	+EPZ	1747	54.4	#-1315
11	+EPcPZ	1747	58.1	#-1315
11	-IpPZ	1748	3.3	#-1315
11	+EPPZ	1749	43.9	#-1314

Date	Phase	UTC Time		Remarks
		h m	s	
11	-EPPZ	1751	31.8	#-1315
11	-EPZ	1752	6.2	#-1316
11	+EPZ	1807	11.2	#-1317
11	-EpPZ	1807	18.9	#-1317
11	+IPZ	2302	0.5	#-1318
11	-IpPZ	2302	5.6	#-1318
11	+IsPZ	2302	8.5	#-1318
12	+EPZ	0515	37.2	#-1319
12	-EPcPZ	0515	46.9	#-1319
12	+EPZ	0646	30.1	#-1320
12	-EPcPZ	0646	43.6	#-1320
12	-EpPZ	0648	25.8	#-1320
12	+EPPZ	0649	11.0	#-1320
12	+EpPZ	0655	2.6	#-1321
12	+EPZ	1012	0.4	#-1322
12	-EpPZ	1012	2.9	#-1322
12	-EPcPZ	1012	8.5	#-1322
12	-EPZ	1144	53.1	#-1323
12	+EPcPZ	1144	56.8	#-1323
12	+EPZ	1220	59.6	#-1324
12	-EpPZ	1221	3.5	#-1324
12	+EPcPZ	1221	7.8	#-1324
12	+EPZ	1813	7.0	
12	-EPZ	1813	17.9	
12	-EPZ	1814	2.8	
12	-EPZ	1941	2.6	#-1325
12	-EpPZ	1941	11.0	#-1325
12	-EPKpdfZ	2031	52.1	#-1326
13	+EPZ	0045	56.5	#-1327
13	-EpPZ	0046	3.9	#-1327
13	-EPZ	0050	28.5	#-1328
13	-EsPZ	0050	37.6	#-1328
13	+EpPZ	0057	12.0	#-1329
13	-EPZ	0119	4.4	#-1330
13	-EPdiffZ	0309	33.5	#-1331
13	-EPZ	0427	48.7	#-1332
13	-EpPZ	0427	52.6	#-1332
13	-EPcPZ	0427	54.2	#-1332

Date	Phase	UTC Time hm s	Remarks
13	+EPZ	0441 31.0	
13	+EPZ	0442 4.9	
13	-EPZ	0548 42.3	
13	-EPZ	0549 15.5	#-1333
13	+EPZ	0920 38.9	#-1334
13	+EPcPZ	0920 45.2	#-1334
13	+EpPZ	0920 46.5	#-1334
13	-EPZ	1259 23.2	#-1335
13	+EPcPZ	1259 33.9	#-1335
13	-EPdi ffZ	1357 51.7	#-1336
13	+EPZ	1841 2.7	
13	-EPZ	1924 26.3	
13	+EpPZ	1940 42.4	#-1337
13	+IPZ	2017 24.6	#-1338
13	+EPcPZ	2017 34.7	#-1338
13	+EpPZ	2018 6.3	#-1338
13	-EPZ	2246 19.8	#-1339
13	-EpPZ	2246 24.9	#-1339
14	+EpPZ	0309 2.0	#-1340
14	-EPZ	0455 52.2	
14	+EPZ	0456 1.8	
14	-EPZ	0518 59.8	
14	+EPZ	0519 10.6	
14	+EPZ	0959 42.8	#-1341
14	+EPZ	1406 1.4	
14	+EPZ	1630 23.5	
14	-EPdi ffZ	1753 55.9	#-1342
14	-EPKpdfZ	1756 55.9	#-1342
14	+EPZ	1849 5.8	#-1343
14	+EpPZ	1849 21.3	#-1343
14	+EPdi ffZ	1900 27.0	#-1344
14	-EPZ	2345 32.3	
14	-EPZ	2354 3.0	
15	-EPKpdfZ	0257 32.2	#-1345
15	+EPZ	0905 50.2	
15	+EPZ	0906 6.3	
15	-EPdi ffZ	0920 57.5	#-1346
15	+EPPZ	0925 12.6	#-1346

Date	Phase	UTC Time hm s	Remarks
15	-EPZ	1227 46.2	#-1347
15	-EPKiKPZ	1233 30.8	#-1347
15	-EPZ	1318 56.9	
15	+EPZ	2317 17.5	#-1348
15	+EPcPZ	2317 22.9	#-1348
15	-EPZ	2320 39.1	
15	-EpPZ	2348 43.8	#-1349
16	+EsPZ	0352 51.1	#-1350
16	+EPZ	0533 33.0	
16	+EPZ	0723 23.3	#-1351
16	-EsPZ	0723 28.0	#-1351
16	-IPnZ	0931 20.4	#-1352
16	-IPnZ	0931 23.2	#-1352
16	+EPZ	1019 59.8	#-1353
16	-EPcPZ	1020 1.1	#-1353
16	-EPZ	1020 8.1	
16	+EsPZ	1020 25.9	#-1353
16	-EPKpdfZ	1217 7.5	#-1354
16	+EPKiKPZ	1217 12.1	#-1354
17	+EPZ	0940 2.1	
17	-EPZ	1055 41.8	#-1355
17	+EPcPZ	1055 54.8	#-1355
17	-IPZ	1338 59.0	#-1356
17	-EpPZ	1339 24.3	#-1356
17	-EPPZ	1339 34.6	#-1356
17	-EPZ	2116 3.8	#-1357
17	-EPKiKPZ	2116 55.8	#-1358
17	-EpPZ	2118 15.7	#-1357
17	-EPZ	2120 52.1	#-1359
17	-IPcPZ	2120 53.4	#-1359
17	+EpPZ	2123 5.1	#-1359
17	+EPZ	2124 16.3	
17	ESH	2130 38.7	#-1359
17	-EPZ	2146 29.6	
17	+EpPZ	2147 25.0	#-1360
17	-EPZ	2157 21.3	
18	-EPZ	0224 48.2	#-1361
18	-EpPZ	0224 49.8	#-1361

Date	Phase	UTC Time		Remarks
		hm	s	
18	-EsPZ	0224	54.2	#-1361
18	-EPPZ	0227	36.3	#-1361
18	-EPZ	0329	23.8	#-1362
18	-EpPZ	0329	30.2	#-1362
18	+EsPZ	0329	32.8	#-1362
18	-EPZ	0353	16.1	
18	+EPZ	0631	32.5	
18	+EPZ	1238	42.1	#-1363
18	-IPcPZ	1238	42.9	#-1363
18	+EpPZ	1240	54.1	#-1363
18	+EPZ	1354	16.2	#-1364
18	-EPcPZ	1354	23.1	#-1364
18	+EpPZ	1354	27.3	#-1364
18	+EPZ	1536	24.8	
18	-EPZ	2119	33.4	
19	-EPZ	0525	31.0	
19	+EPZ	0525	35.7	
19	-EPZ	0708	50.9	#-1365
19	+EpPZ	0709	5.5	#-1365
19	-EPPZ	0712	22.8	#-1365
19	-EPZ	0717	25.5	
19	-EPZ	0904	57.6	#-1366
19	+EpPZ	0905	12.2	#-1366
19	+EPZ	0912	44.4	
20	-EPZ	0245	18.4	#-1367
20	+EpPZ	0245	26.0	#-1367
20	+EPZ	0513	19.9	
20	+EPZ	0602	12.9	
20	-EpPdiFFZ	0752	37.4	#-1368
20	-EPPZ	0826	28.7	#-1369
20	+EPZ	1019	27.5	#-1370
20	+EPcPZ	1019	30.3	#-1370
20	-EPcPZ	1407	16.1	#-1371
20	-EsPZ	1407	39.2	#-1371
20	+EPZ	1415	24.7	
20	-EPZ	1549	18.3	
20	+EPZ	2216	26.3	
20	-EPPZ	2221	27.8	#-1372

Date	Phase	UTC Time		Remarks
		hm	s	
20	+EPZ	2328	5.4	
20	-EpPZ	2352	31.0	#-1373
21	-EPKiKPZ	0733	22.1	#-1374
21	-EPZ	0757	16.9	
21	-EPZ	1102	46.1	
21	+IPZ	1119	54.0	#-1375
21	+IPcPZ	1119	55.0	#-1375
21	-EpPZ	1120	54.5	#-1375
21	+EPPZ	1123	36.8	#-1375
21	-EPdiFFZ	1155	26.2	#-1376
21	-EPKiKPZ	1159	34.3	#-1376
21	-EPZ	1200	10.2	
21	+EPKiKPZ	1911	28.4	#-1377
21	+EPPZ	1911	52.7	#-1377
21	+EPZ	2114	23.7	
21	-EPZ	2115	2.8	
22	+EPZ	1448	47.3	
22	-EPdiFFZ	1513	54.0	#-1378
22	+IPZ	1729	1.6	#-1379
22	+EPcPZ	1729	16.2	#-1379
22	-EPZ	1736	29.7	
22	-IPZ	2036	16.5	#-1380
22	-IpPZ	2036	20.3	#-1380
22	-EPcPZ	2037	7.8	#-1380
22	-EPZ	2105	36.7	
22	+EPZ	2105	49.7	
22	+EPZ	2106	9.4	
22	-EPZ	2106	56.6	
22	-EPZ	2153	50.9	
23	+EPPZ	0245	19.0	#-1381
23	+EPZ	0527	1.6	#-1382
23	-EpPZ	0527	8.6	#-1382
23	-EPZ	0714	5.9	
23	+EPZ	1132	16.0	#-1383
23	+EpPZ	1133	17.8	#-1383
23	+EPZ	1423	3.2	
23	+EPZ	1701	4.8	#-1384
23	-EPZ	1701	17.8	#-1384

Date	Phase	UTC Time		Remarks
		h m	s	
23	+EpPZ	1701	38.8	#-1384
23	-EsPZ	1701	47.9	#-1384
23	-EPZ	1905	38.6	
23	-EPZ	2037	13.6	
23	+EPZ	2043	14.1	
23	-IPZ	2116	21.2	#-1385
23	-IPcPZ	2116	23.0	#-1385
23	+EPZ	2122	12.4	
23	ESH	2125	49.6	#-1385
23	-EPZ	2257	23.9	#-1386
23	-EPcPZ	2257	28.8	#-1386
24	+EPZ	0252	48.4	#-1387
24	+EPcPZ	0253	40.1	#-1387
24	-EPZ	0952	47.2	
24	+EPZ	1028	52.9	#-1388
24	+EPcPZ	1029	10.2	#-1388
24	+EPdiffZ	1633	33.6	#-1389
24	+EPPZ	1637	36.7	#-1389
24	+EPZ	1640	59.4	
25	+EPZ	0134	18.3	
25	+EPZ	0227	41.9	
25	-EPZ	0345	40.4	
25	+EPZ	1905	48.6	#-1390
25	+EPcPZ	1905	53.5	#-1390
25	-EsPZ	2243	13.3	#-1391
25	+EPKpdfZ	2330	24.6	#-1392
25	-EsPKpdfZ	2330	43.9	#-1392
25	+EPZ	2332	8.9	
25	+EPZ	2357	46.6	#-1393
25	+EPcPZ	2357	50.7	#-1393
25	-EPZ	2359	2.5	
26	+EPZ	0458	48.6	#-1394
26	-EPZ	0517	18.1	
26	-EPZ	0518	46.8	
26	-EPdiffZ	0519	37.3	#-1395
26	+EPPZ	0524	7.5	#-1395
26	-EPZ	0814	7.7	#-1396
26	-EPcPZ	0814	8.3	#-1396

Date	Phase	UTC Time		Remarks
		h m	s	
26	-EpPZ	0814	12.5	#-1396
26	+EPPZ	0817	32.3	#-1396
26	+EPZ	0902	56.5	
26	-EPZ	0903	32.7	
26	+EPZ	1541	54.0	#-1397
26	+EpPZ	1541	58.4	#-1397
26	-EPPZ	1545	24.1	#-1397
26	-EPZ	1849	13.8	
26	+EPKpdfZ	2301	45.9	#-1398
26	-EpPKpdfZ	2302	2.0	#-1398
26	+EPPZ	2304	14.9	#-1398
27	-EPZ	0430	21.4	#-1399
27	+EpPZ	0430	32.6	#-1399
27	-EsPZ	0430	42.8	#-1399
27	+EPZ	0657	39.2	
27	+EPKpdfZ	0658	7.8	#-1400
27	-EPKiKPZ	0658	17.0	#-1400
27	-EPZ	0856	15.7	#-1401
27	+EPPZ	0857	40.0	#-1401
27	-EPdiffZ	0954	53.2	#-1402
27	-EPKiKPZ	0959	6.2	#-1402
27	-EPPZ	0959	15.6	#-1402
27	+EPZ	1001	52.3	#-1403
27	+IpPZ	1001	57.9	#-1403
27	+EPZ	1103	3.8	#-1404
27	-EPZ	1435	22.9	
27	+EPZ	1517	20.1	
27	-EPZ	1909	50.4	#-1405
27	-EPZ	1923	23.8	
27	+EPZ	2208	25.2	#-1406
27	-EpPZ	2208	32.5	#-1406
27	-EPcPZ	2209	4.1	#-1406
27	-EPZ	2254	46.5	#-1407
27	+EPcPZ	2254	54.0	#-1407
27	+EpPZ	2254	59.2	#-1407
27	+EPPZ	2257	51.1	#-1407
28	+EPZ	0134	30.4	#-1408
28	-EPcPZ	0134	34.7	#-1408

Date	Phase	UTC Time h m s	Remarks
28	-EpPZ	0134 40.0	#-1408
28	+EPZ	0247 32.7	
28	-EPZ	0247 36.3	#-1409
28	-IpPZ	0247 43.9	#-1409
28	-EPZ	0749 36.1	#-1410
28	-IPcPZ	0749 38.2	#-1410
28	-EpPZ	0749 43.1	#-1410
28	ESH	0800 20.5	#-1410
28	-EPZ	1323 35.2	#-1411
28	-EpPZ	1323 42.6	#-1411
28	+EPZ	1328 55.2	
28	+EPdiffZ	1848 31.4	#-1412
28	+EPZ	1849 42.7	
28	-IPKpdfZ	1851 27.3	#-1412
28	-IPKiKPZ	1851 31.9	#-1412
28	-IpPKpdfZ	1851 41.7	#-1412
28	+IPPZ	1854 3.9	#-1412
28	-IPZ	1855 0.7	
28	+EPZ	1858 56.0	
28	-EPZ	2349 20.9	
28	+EPZ	2349 48.2	
29	+EPZ	0645 11.0	#-1413
29	-EpPZ	0645 16.9	#-1413
29	-EPcPZ	0645 20.5	#-1413
29	ESH	0655 29.1	#-1413
29	-EPZ	0655 44.3	
29	-EPPZ	0822 13.4	#-1414
29	+EPZ	1406 43.8	
29	-EPZ	1407 9.9	
30	+IPZ	0136 36.3	#-1415
30	+EPcPZ	0136 55.6	#-1415
30	-EpPZ	0137 35.5	#-1415
30	-EPPZ	0139 24.0	#-1415
30	+EPZ	0522 18.6	#-1416
30	+EPcPZ	0522 21.6	#-1416
30	+EPcPZ	0926 13.4	#-1417
30	-EPZ	1327 27.9	#-1418
30	-EpPZ	1327 34.8	#-1418

Date	Phase	UTC Time h m s	Remarks
30	-EPZ	1831 43.3	#-1419
30	-EpPZ	1831 45.9	#-1419
30	-EPnPnZ	1832 41.9	#-1419
30	-EPcPZ	1834 41.8	#-1419
30	+EPZ	2019 51.8	#-1420
30	-EPcPZ	2019 57.3	#-1420
30	ESH	2029 40.5	#-1420
30	-EPZ	2045 30.1	
30	+EPZ	2104 11.5	
30	-EPZ	2142 9.1	#-1421
30	-EPPZ	2145 41.2	#-1421
30	+EPZ	2207 56.0	
Dec.			
1	-EsPZ	0221 51.5	#-1422
1	+EPZ	0929 10.7	
1	-EPZ	0950 22.8	
1	+EPZ	1128 56.2	
1	+EPcPZ	1131 58.3	#-1423
1	-EPZ	1153 30.9	
1	+EPZ	1246 23.6	
1	-EPZ	1418 44.2	
1	+EPZ	1420 19.0	
1	+EPZ	1801 54.6	#-1424
1	-EpPZ	1801 58.3	#-1424
1	-EPZ	2303 26.5	
1	-EPZ	2330 12.8	
2	-EPZ	0340 26.3	#-1425
2	+EpPZ	0340 28.9	#-1425
2	+EpPdiffZ	0345 13.7	#-1426
2	-EpPZ	0345 24.6	#-1427
2	-EPKpdfZ	0348 50.0	#-1426
2	-EPZ	0358 26.9	#-1428
2	+EPcPZ	0358 31.7	#-1428
2	-EPZ	0533 2.5	
2	-EPZ	0533 27.4	
2	-EPcPZ	0817 6.1	#-1429
2	+EPPZ	0820 28.5	#-1429
2	-EPdiffZ	1044 36.5	#-1430

Date	Phase	UTC Time h m	s	Remarks
2	-EPZ	1242	38.7	
2	-EPZ	1245	37.2	
2	-EPZ	1840	28.6	
2	-EPZ	1930	12.6	
2	-EPZ	1933	37.9	
2	-EPPZ	1934	43.2	#-1431
2	-EPZ	1936	18.9	
3	-EpPdiFFZ	0400	53.0	#-1432
3	-EPZ	1428	9.3	#-1433
3	+EPcPZ	1428	32.9	#-1433
3	-EPZ	1510	24.8	#-1434
3	+EpPZ	1511	2.1	#-1434
3	+EPPZ	1513	7.3	#-1434
3	ESH	1519	34.2	#-1434
3	-EPZ	1616	39.3	
3	+EPZ	1617	9.5	
3	-EPZ	2140	15.4	#-1435
3	+EPZ	2203	5.7	
3	-EPZ	2203	22.5	
4	+EPZ	0527	2.7	#-1436
4	+EPcPZ	0527	15.3	#-1436
4	+EpPZ	0527	43.8	#-1436
4	-EPZ	0605	58.9	
4	+EPZ	0606	20.1	
4	-EPZ	0908	14.9	
4	+EPZ	0913	5.4	#-1437
4	-EPcPZ	0913	10.5	#-1437
4	+EPZ	1043	34.8	
4	+EPKiKPZ	1048	30.9	#-1438
4	+EPZ	1117	54.8	#-1439
4	-EPcPZ	1118	0.4	#-1439
4	+EPZ	1154	52.3	
4	+EPZ	1352	41.8	#-1440
4	+IpPZ	1352	46.4	#-1440
4	-EPcPZ	1352	56.4	#-1440
4	-EPZ	1618	26.3	#-1441
4	+EPZ	2206	16.7	#-1442
5	+EPZ	0153	41.7	#-1443

Date	Phase	UTC Time h m	s	Remarks
5	-EPcPZ	0153	42.7	#-1443
5	+EpPZ	0153	45.0	#-1443
5	-EPZ	0252	0.1	
5	-IPZ	0252	1.2	
5	+EPZ	0425	12.0	
5	-EPZ	1158	43.7	
5	-EPKiKPZ	2004	42.7	#-1444
6	+EPZ	0720	59.0	#-1445
6	+EPZ	0929	44.8	#-1446
6	+EPKiKPZ	0935	13.0	#-1446
6	-EPZ	1159	34.6	#-1447
6	+EPZ	1159	36.9	#-1447
6	-IPKPdfZ	1434	25.5	#-1448
6	ESH	1437	55.4	#-1448
6	+EPZ	1632	6.2	
6	-EPZ	1638	33.4	#-1449
6	-IPZ	1638	33.7	#-1449
6	ESH	1648	39.9	#-1449
7	-EPZ	0039	18.0	#-1450
7	+EpPZ	0059	59.4	#-1451
7	-EsPZ	0100	5.1	#-1451
7	-EPZ	0154	18.0	#-1452
7	-EPcPZ	0154	27.4	#-1452
7	-EsPZ	0154	43.1	#-1452
7	-EPPZ	0157	3.4	#-1452
7	+EPZ	0450	1.2	#-1453
7	-EPcPZ	0450	5.2	#-1453
7	-IpPZ	0450	10.8	#-1453
7	-EsPZ	0450	18.4	#-1453
7	-EPZ	0456	10.6	
7	-EPcPZ	0531	54.1	#-1454
7	-EPZ	0737	46.6	
7	-EPZ	1114	11.3	
7	+EpPZ	1613	11.4	#-1455
7	+EsPZ	1613	27.6	#-1455
7	+EPKiKPZ	2231	18.0	#-1456
7	+EPZ	2255	22.0	#-1457
7	-EPcPZ	2255	23.5	

Date	Phase	UTC Time		Remarks
		h m	s	
7	-EpPZ	2255	25.8	#-1457
7	-EPZ	2259	9.2	
8	-EPZ	0614	51.8	#-1458
8	+IpPZ	0615	3.2	#-1458
8	-IPcPZ	0615	14.3	#-1458
8	-EPPZ	0617	19.3	#-1458
8	ESH	0623	48.5	#-1458
8	-EPZ	0643	7.2	
8	+EPdiffZ	0953	20.5	#-1459
8	+EPZ	1826	22.0	#-1460
8	+EPZ	1843	45.1	
9	+EPZ	0005	18.0	#-1461
9	-EpPZ	0005	38.6	#-1461
9	+EPZ	0235	25.0	
9	-EPZ	0842	54.5	#-1462
9	-EpPZ	0843	6.2	#-1462
9	ESH	0852	38.7	#-1462
9	-EPPZ	0906	53.8	#-1463
9	+EPKiKPZ	0907	12.6	#-1463
9	-EPZ	1324	21.1	#-1464
9	+EPcPZ	1324	26.0	#-1464
9	-EpPZ	1324	47.4	#-1464
9	+EPZ	1656	35.7	
9	+EPZ	1753	59.0	
9	-EPZ	1918	7.1	#-1465
9	-EpPZ	1918	47.6	#-1465
9	-EPPZ	1921	34.9	#-1465
9	-EPZ	2054	52.4	
10	-EPZ	0106	14.6	#-1466
10	+EPcPZ	0106	16.1	#-1466
10	+EpPZ	0106	53.8	#-1466
10	+EsPZ	0107	7.0	#-1466
10	-EPPZ	0109	33.6	#-1466
10	+EPKiKPZ	0149	32.0	#-1467
10	-EPZ	0220	38.7	
10	+EPZ	0245	41.5	#-1468
10	-EPcPZ	0245	45.2	#-1468
10	+EpPZ	0247	33.8	#-1468

Date	Phase	UTC Time		Remarks
		h m	s	
10	-EPZ	0252	25.1	
10	ESH	0255	32.1	#-1468
10	+EPZ	0559	2.6	
10	+EPZ	0955	57.6	
10	+EPZ	1011	11.3	
11	+EPZ	0208	3.6	#-1469
11	-EPcPZ	0208	4.3	#-1469
11	-EPZ	0210	55.5	
11	+ESKSacZ	0217	45.3	#-1469
11	+EPZ	0341	0.7	
11	+EPZ	0348	26.0	
11	-EpPZ	0945	45.9	#-1470
11	+EPPZ	0947	51.1	#-1470
11	-EPZ	1003	20.8	
11	-EPKiKPZ	2004	13.7	#-1471
11	+EPKiKPZ	2004	33.6	#-1471
12	+EPcPZ	0113	14.9	#-1472
12	+EPZ	0322	1.6	
12	-EPZ	0944	29.3	#-1473
12	-EPcPZ	0944	32.3	#-1473
12	+EpPZ	0945	5.8	#-1473
12	-EPZ	1319	18.2	
12	+EPZ	1325	7.2	
12	+EPZ	1325	46.0	
12	-EPZ	1517	2.2	#-1474
12	+EPcPZ	1517	14.8	#-1474
12	-EPZ	1616	44.4	#-1475
12	-EpPZ	1616	50.8	#-1475
12	+EpPZ	1946	56.9	#-1476
12	+EPZ	2005	52.0	
12	-EPZ	2005	56.1	
12	+EPZ	2114	7.9	#-1477
12	-EPcPZ	2114	14.4	#-1477
12	-EPZ	2126	2.7	
12	-EPZ	2132	18.3	#-1478
12	-EPcPZ	2132	19.8	#-1478
13	+EPZ	0057	26.2	
13	-EPZ	0526	42.8	

Date	Phase	UTC Time		Remarks
		h m	s	
13	-EPZ	0718	22.8	
13	-EPZ	0720	17.0	
13	-IPZ	1212	27.2	#-1479
13	-IpPZ	1212	29.2	#-1479
13	-IPcPZ	1212	35.7	#-1479
13	-EPPZ	1215	29.1	#-1479
13	-EPKiKPZ	1217	51.1	#-1479
13	-EPZ	1232	22.8	
13	-EPKPdfZ	1542	13.9	#-1480
13	-EPZ	1546	5.4	
14	-EPZ	0359	20.8	#-1481
14	+EpPZ	0359	48.1	#-1481
14	-EPnPnZ	0400	28.2	#-1481
14	ESH	0404	19.3	#-1481
14	+EPZ	0513	1.3	#-1482
14	-EPKPdfZ	0615	25.0	#-1483
14	-EPKiKPZ	0615	30.6	#-1483
14	-EPZ	0724	37.2	
14	+EPZ	0820	15.7	#-1484
14	-EpPZ	0820	22.5	#-1484
14	+EPZ	0844	49.1	#-1485
14	-EPZ	0926	28.4	#-1486
14	-EPPZ	1438	0.5	#-1487
14	+EPZ	1631	14.8	
14	-EPZ	2049	32.2	#-1488
14	-EpPZ	2049	34.9	#-1488
14	-EPKPdfZ	2339	1.6	#-1489
14	+EPPZ	2340	18.5	#-1489
14	-EPZ	2341	13.7	
15	-EPZ	0033	2.3	
15	+EPZ	0033	6.0	
16	-EPdiffZ	0024	30.7	#-1490
16	-EPdiffZ	0024	44.0	#-1490
16	-EPZ	0214	24.5	#-1491
16	+EPZ	0442	3.0	#-1492
16	+EPcPZ	0442	6.2	#-1492
16	+EpPZ	0502	2.6	#-1493
16	-EPZ	0554	38.3	

Date	Phase	UTC Time		Remarks
		h m	s	
16	-EPZ	0607	17.6	#-1494
16	-EPcPZ	0607	29.8	#-1494
16	+EpPZ	0913	45.9	#-1495
16	+EPZ	1356	22.4	
16	+EPZ	1357	6.6	
16	+EPZ	1530	27.6	
16	+EPZ	1632	30.5	
16	+EPZ	1632	38.9	#-1496
17	-EPZ	0302	52.9	#-1497
17	+EPZ	0302	55.4	#-1497
17	ESH	0313	21.2	#-1497
17	-EPZ	0502	51.5	
17	-IPZ	0724	44.7	#-1498
17	+IPcPZ	0724	46.4	#-1498
17	-EpPZ	0726	53.5	#-1498
17	ESH	0734	22.0	#-1498
17	+EPZ	0743	53.0	
17	-EPZ	0825	21.5	
17	+EPZ	0959	16.0	
17	+EPZ	1804	46.6	
17	+EPZ	1921	46.2	#-1499
17	-EpPZ	1921	52.0	#-1499
17	-EPPZ	1924	8.2	#-1499
17	-EPZ	2049	43.8	#-1500
17	-EpPZ	2050	10.2	#-1500
17	+EPnPnZ	2050	48.0	#-1500
17	-EPPZ	2050	53.6	#-1500
18	-EPZ	0204	53.5	
18	-EPKPdfZ	0705	50.3	#-1501
18	-IPKiKPZ	0705	57.7	#-1501
18	-EPKPdfZ	0909	36.4	#-1502
18	-IPKiKPZ	0909	46.7	#-1502
18	+EPdiffZ	0927	30.0	#-1503
18	-EPZ	0938	49.2	
18	-EPZ	0939	14.1	
18	-EPZ	1422	7.6	
18	-EPZ	1433	26.5	
18	-EPZ	1728	34.2	#-1504

Date	Phase	UTC Time		Remarks
		h m	s	
18	-EpPZ	1728	37.3	#-1504
18	-IPZ	1809	45.6	#-1505
18	-EpPZ	1809	54.6	#-1505
18	+EpKiKPZ	1815	12.1	#-1505
18	ESH	1820	3.6	#-1505
18	+EPZ	1848	14.0	
18	-EPZ	1849	10.0	
18	-EPZ	1930	39.3	#-1506
18	-EPPZ	1934	13.6	#-1506
19	+EPZ	0320	18.1	#-1507
19	-EpPZ	0320	30.1	#-1507
19	+EsPZ	0320	36.1	#-1507
19	-EPdiffZ	0838	5.2	#-1508
19	-EPZ	0844	10.1	
19	+EPZ	1527	10.3	#-1509
19	-EpPZ	1529	17.2	#-1509
19	-EPZ	1841	0.6	
19	+EPZ	1937	11.3	
19	-IPZ	2025	30.4	#-1510
19	-IPcPZ	2025	31.8	#-1510
19	-EPPZ	2029	9.0	#-1510
19	+EPZ	2142	18.7	
19	-EPPZ	2306	20.2	#-1511
20	-EPZ	0006	23.1	
20	-EPZ	0411	11.9	#-1512
20	-EPcPZ	0411	14.9	#-1512
20	+EPZ	0752	9.9	#-1513
20	+EPcPZ	0752	10.9	#-1513
20	-EsPZ	0753	31.5	#-1513
20	+EPcPZ	1005	7.3	#-1514
20	-EPZ	1005	23.9	
20	-EPKiKPZ	2320	41.6	#-1515
20	-EPPZ	2320	50.0	#-1515
21	-EPKpdfZ	1553	41.4	#-1516
21	-EpKiKPZ	1553	59.8	#-1516
21	+EPZ	1557	8.7	
21	+EPZ	1741	0.1	
21	+EPPZ	1746	22.5	#-1517

Date	Phase	UTC Time		Remarks
		h m	s	
21	-EPPZ	1747	48.6	#-1517
21	-EPZ	1754	35.6	
21	+EPZ	1959	29.3	#-1518
21	-IPZ	1959	31.4	#-1518
21	-EPPZ	2003	9.2	#-1518
21	-EPKiKPZ	2004	22.2	#-1518
21	-EPZ	2212	49.6	
22	-EPZ	0547	10.5	#-1519
22	+EPZ	2113	6.2	
22	-EPZ	2153	23.4	
22	+EPZ	2153	25.3	
22	-EPZ	2356	32.6	
22	-EPZ	2356	52.9	
22	-EPZ	2357	34.3	
23	+EPZ	0104	36.7	#-1520
23	+EPcPZ	0104	43.0	#-1520
23	-EPPZ	0107	29.8	#-1520
23	+EPZ	1118	7.3	#-1521
23	+EPcPZ	1118	9.9	#-1521
23	-EPZ	1617	0.3	#-1522
23	+EpPZ	1617	2.2	#-1522
23	-EPZ	1625	52.9	#-1523
23	-EpPZ	1625	57.8	#-1523
23	-EPZ	1914	57.2	#-1524
23	-EpPZ	1914	59.0	#-1524
23	+EPZ	1959	23.5	#-1525
23	-IpPZ	1959	24.9	#-1525
23	-EsPZ	1959	29.7	#-1525
23	ESH	2006	59.5	#-1525
24	-EPZ	0541	5.9	#-1526
24	-IpPZ	0541	7.8	#-1526
24	-EsPZ	0541	10.8	#-1526
24	+EPcPZ	0542	12.1	#-1526
24	+EPZ	0959	24.5	
24	-EPZ	1128	4.8	
24	-EPZ	1136	18.9	
24	+EPZ	1343	57.4	#-1527
24	-IPZ	1351	23.3	#-1528

Date	Phase	UTC Time h m	s	Remarks
24	-IPcPZ	1351	24.8	#-1528
24	-EpPZ	1353	34.8	#-1528
24	+EsPZ	1354	37.7	#-1528
24	-EPPZ	1354	58.1	#-1528
24	-IPZ	1401	35.8	#-1529
24	+EPcPZ	1401	38.5	#-1529
24	+EpPZ	1403	45.4	#-1529
24	ESH	1411	19.0	#-1529
24	+EPZ	1438	48.1	
24	-EPZ	1438	52.3	
24	+EPZ	1949	8.0	#-1530
24	-EPcPZ	1949	10.4	#-1530
24	+EpPZ	1949	18.7	#-1530
24	+EpPZ	1949	22.8	#-1530
24	+EPZ	2244	2.9	
25	+EPZ	0006	10.0	#-1531
25	+EPcPZ	0006	17.3	#-1531
25	+EPZ	0426	28.1	
25	-EPZ	0427	9.9	
25	-EpPZ	1830	50.3	#-1532
25	+EPZ	2232	36.1	#-1533
25	-EPZ	2238	8.4	#-1534
25	+EPcPZ	2238	11.3	#-1534
25	-EpPZ	2238	19.3	#-1534
25	+EPZ	2337	53.5	#-1535
26	-EPZ	0111	9.8	#-1536
26	+IPcPZ	0111	15.2	#-1536
26	+IpPZ	0111	18.0	#-1536
26	-IPZ	0133	48.5	#-1537
26	-EpPZ	0133	56.9	#-1537
26	+IPcPZ	0138	16.6	#-1538
26	-IPZ	0152	30.7	#-1539
26	-EPcPZ	0152	36.2	#-1539
26	-EpPZ	0152	43.0	#-1539
26	+EPZ	0200	10.5	
26	+IPZ	0201	13.9	#-1540
26	+IPcPZ	0201	16.8	#-1540
26	+IpPZ	0201	23.3	#-1540

Date	Phase	UTC Time h m	s	Remarks
26	+EPZ	0213	11.3	
26	+EPZ	0228	53.2	#-1541
26	-IPcPZ	0228	55.5	#-1541
26	-EpPZ	0228	58.3	#-1541
26	+IPZ	0234	41.7	#-1542
26	-IPcPZ	0234	46.1	#-1542
26	+IpPZ	0234	48.3	#-1542
26	+EsPZ	0234	54.1	#-1542
26	+IPZ	0247	8.8	#-1543
26	-EPcPZ	0247	10.6	#-1543
26	+IpPZ	0247	18.7	#-1543
26	+EPZ	0249	2.3	#-1544
26	+IPcPZ	0249	2.9	#-1544
26	-IpPZ	0249	13.9	#-1544
26	-EPZ	0255	45.0	
26	ESH	0259	48.5	#-1544
26	+EPZ	0304	55.8	#-1545
26	-IpPZ	0305	6.1	#-1545
26	+EPZ	0311	26.6	#-1546
26	-IPcPZ	0311	33.8	#-1546
26	-IsPZ	0311	40.6	#-1546
26	ESH	0315	45.7	#-1545
26	+EPZ	0318	47.5	
26	+EPZ	0319	7.9	
26	-IPZ	0321	44.9	#-1547
26	-IPZ	0321	54.3	#-1547
26	-EPZ	0326	46.8	#-1548
26	+EPcPZ	0326	51.2	#-1548
26	-EPZ	0330	23.8	#-1549
26	+IPcPZ	0330	27.1	#-1549
26	-IPZ	0331	29.9	#-1550
26	-IpPZ	0331	39.2	#-1550
26	+IPZ	0337	13.8	#-1551
26	+IpPZ	0337	24.1	#-1551
26	-EPPZ	0340	22.8	#-1551
26	-EPZ	0342	22.2	
26	+EPZ	0342	31.5	
26	+EPZ	0422	33.3	#-1552

Date	Phase	UTC Time		Remarks
		h m	s	
26	+IPcPZ	0422	35.4	#-1552
26	-IpPZ	0422	43.9	#-1552
26	-EPZ	0433	56.8	#-1553
26	-EPcPZ	0434	1.7	#-1553
26	-EpPZ	0434	10.4	#-1553
26	-EsPZ	0434	15.0	#-1553
26	ESH	0444	22.5	#-1553
26	-EPZ	0452	51.4	
26	-EPZ	0453	3.8	
26	+EPZ	0513	49.6	
26	+IPZ	0615	6.3	#-1554
26	-IPcPZ	0615	7.9	#-1554
26	-IpPZ	0615	13.1	#-1554
26	+IPZ	0634	46.0	#-1555
26	+IpPZ	0634	56.2	#-1555
26	-EPZ	0651	5.3	#-1556
26	-EPcPZ	0651	11.4	#-1556
26	-EpPZ	0651	18.8	#-1556
26	-IPZ	0712	38.7	
26	+EPZ	0712	42.5	
26	-EPZ	0719	56.7	#-1557
26	-EPcPZ	0719	58.5	#-1557
26	+IPZ	0751	24.9	#-1558
26	-IPcPZ	0751	28.2	#-1558
26	-IpPZ	0751	33.8	#-1558
26	+IsPZ	0751	40.1	#-1558
26	-EPZ	0805	6.8	#-1559
26	-IPcPZ	0805	10.4	#-1559
26	+EpPZ	0805	21.2	#-1559
26	-IPZ	0932	39.1	#-1560
26	-IpPZ	0932	43.2	#-1560
26	-IPcPZ	0932	44.7	#-1560
26	-IPZ	1030	56.7	#-1561
26	-IPcPZ	1030	58.9	#-1561
26	+IPZ	1032	31.2	#-1562
26	-IPcPZ	1032	33.9	#-1562
26	+EPZ	1103	50.1	#-1563
26	-EPcPZ	1103	53.7	#-1563

Date	Phase	UTC Time		Remarks
		h m	s	
26	-EPZ	1118	1.3	#-1564
26	-EPcPZ	1118	6.6	#-1564
26	+IpPZ	1118	3.0	#-1564
26	+EPZ	1222	37.2	#-1565
26	-EPcPZ	1222	39.5	#-1565
26	+EPZ	1224	46.6	#-1566
26	-EPcPZ	1224	48.5	#-1566
26	-EsPZ	1225	2.4	#-1566
26	-IPZ	1356	23.4	
26	-IPZ	1356	25.0	
26	+EPZ	1357	2.5	
26	-IPZ	1408	50.6	#-1567
26	-IPcPZ	1408	59.0	#-1567
26	-IpPZ	1409	2.7	#-1567
26	ESH	1419	0.9	#-1567
26	-EPZ	1500	6.4	
26	-IPZ	1501	43.1	
26	+IPZ	1502	2.6	
26	+EPZ	1518	49.0	
26	+IPZ	1519	1.0	
26	+EPZ	1519	25.6	
26	-EPZ	1524	52.2	#-1568
26	-IPcPZ	1524	55.1	#-1568
26	-EPZ	1633	47.8	
26	-IPZ	1634	6.4	
26	+EPZ	1636	25.2	
26	-EPZ	1855	44.3	#-1569
26	+EpPZ	1855	53.2	#-1569
26	-EPZ	1859	21.6	#-1569
26	ESH	1906	34.1	#-1569
26	+EPZ	1916	5.8	
26	+IPZ	1916	16.9	
26	-IPZ	1916	32.6	
26	-IPZ	2103	42.3	#-1570
26	-IpPZ	2104	8.1	#-1570
26	+EPZ	2107	30.4	#-1570
26	+IPZ	2119	12.4	#-1571
26	-IPcPZ	2119	16.6	#-1571

Date	Phase	UTC Time h m	s	Remarks
26	ESH	2129	27.5	#-1571
27	+EPZ	0036	51.5	#-1572
27	-EPcPZ	0036	57.7	#-1572
27	-EPZ	0044	40.7	#-1573
27	+IsPZ	0044	55.2	#-1573
27	ESH	0054	57.8	#-1573
27	+IPZ	0102	25.7	#-1574
27	-EpPZ	0102	34.7	#-1574
27	-EPZ	0317	49.9	#-1575
27	+EpPZ	0318	7.9	#-1575
27	-EPPZ	0321	36.8	#-1575
27	-EPZ	0523	17.6	#-1576
27	+EPPZ	0526	27.2	#-1576
27	+EPZ	0529	36.8	#-1577
27	+EpPZ	0529	43.6	#-1577
27	+IPZ	0711	28.2	#-1578
27	-EPcPZ	0711	33.4	#-1578
27	+IPZ	0759	47.1	#-1579
27	-IPcPZ	0759	54.2	#-1579
27	+EPPZ	0802	50.3	#-1579
27	+EPZ	0834	2.6	#-1580
27	-EpPZ	0834	18.2	#-1580
27	-EPZ	0850	4.9	#-1581
27	-EPcPZ	0850	9.2	#-1581
27	+EPZ	0951	29.6	#-1582
27	-EPcPZ	0951	35.5	#-1582
27	-IpPZ	0951	40.2	#-1582
27	-IsPZ	0951	45.5	#-1582
27	-EPPZ	0954	43.1	#-1582
27	ESH	1001	47.0	#-1582
27	-EPZ	1010	27.2	#-1583
27	-EPcPZ	1010	33.3	#-1583
27	-EPZ	1017	28.5	#-1584
27	-EPcPZ	1017	25.2	#-1584
27	+EPZ	1059	37.8	#-1585
27	-EPcPZ	1059	39.5	#-1585
27	-EsPZ	1059	52.9	#-1585
27	+EPPZ	1103	12.5	#-1585

Date	Phase	UTC Time h m	s	Remarks
27	-EPZ	1059	49.0	#-1586
27	-EpPZ	1059	57.5	#-1586
27	-EPPZ	1103	24.1	#-1586
27	-EPZ	1200	20.1	
27	-EPZ	1210	28.0	#-1587
27	-IPcPZ	1210	30.3	#-1587
27	-EPPZ	1213	48.0	#-1587
27	+EPZ	1309	33.7	
27	-EPcPZ	1310	51.6	#-1588
27	+EPZ	1346	38.8	#-1589
27	-EPcPZ	1346	43.2	#-1589
27	+EPcPZ	1433	34.1	#-1590
27	+EPZ	1443	9.5	#-1591
27	+EpPZ	1443	17.6	#-1591
27	-EPZ	1459	40.7	#-1592
27	-IPcPZ	1459	42.4	#-1592
27	-IpPZ	1459	45.1	#-1592
27	-EsPZ	1459	50.3	#-1592
27	+EPZ	1533	21.4	#-1593
27	+EPZ	1553	49.5	#-1594
27	+EPcPZ	1553	51.4	#-1594
27	-EPZ	1602	2.8	#-1595
27	+EpPZ	1602	9.8	#-1595
27	-EPZ	1620	41.1	#-1596
27	-EPZ	1630	32.0	#-1597
27	+EPcPZ	1630	36.1	#-1597
27	+EpPZ	1630	39.1	#-1597
27	-IPZ	1752	28.5	#-1598
27	-EpPZ	1752	31.9	#-1598
27	+EPZ	1803	39.3	
27	-EPZ	1803	46.0	
27	+EPcPZ	1821	48.2	#-1599
27	-EPPZ	1824	47.4	#-1599
27	-IPcPZ	1836	49.1	#-1600
27	-EsPZ	1836	59.5	#-1600
27	+EPZ	1850	5.8	
27	-EPZ	1850	14.5	
27	+EPZ	1926	8.9	#-1601

Date	Phase	UTC Time		Remarks
		h m	s	
27	+IpPZ	1926	18.0	#-1601
27	-EpPKiKPZ	1931	18.1	#-1601
27	+EPZ	1939	29.3	#-1602
27	+EpPZ	1939	38.3	#-1602
27	-IPZ	1941	30.7	#-1603
27	+IpPZ	1941	38.7	#-1603
27	-EPZ	2023	4.6	#-1604
27	+IPcPZ	2023	9.0	#-1604
27	-EPPZ	2026	7.5	#-1604
27	+EPZ	2048	58.4	#-1605
27	-EPcPZ	2048	59.7	#-1605
27	+EPZ	2207	52.2	
27	-IPZ	2207	53.4	
27	-EPZ	2208	4.1	
28	+EPZ	0050	24.7	#-1606
28	-EPcPZ	0050	30.3	#-1606
28	-EPZ	0218	14.8	#-1607
28	+EPZ	0304	55.7	#-1608
28	+EPcPZ	0305	1.4	#-1608
28	-EPZ	0332	49.8	#-1609
28	-EPcPZ	0449	33.0	#-1610
28	-EpPZ	0449	37.6	#-1610
28	+EPZ	0548	54.1	#-1611
28	-EPcPZ	0548	55.0	#-1611
28	-EpPZ	0549	5.9	#-1611
28	-EPZ	0640	34.5	#-1612
28	-EpPZ	0640	46.4	#-1612
28	-EPZ	0733	48.9	#-1613
28	+EPcPZ	0733	51.0	#-1613
28	+EsPZ	0734	1.7	#-1613
28	+EPZ	1130	4.8	#-1614
28	-EPPZ	1133	14.1	#-1614
28	ESH	1140	18.4	#-1614
28	+EPZ	1226	6.0	
28	+EpPZ	1319	17.3	#-1615
28	-EPZ	1358	25.1	#-1616
28	+EPcPZ	1358	31.6	#-1616
28	-EpPZ	1358	34.6	#-1616

Date	Phase	UTC Time		Remarks
		h m	s	
28	-EPZ	1421	28.7	#-1617
28	-EPcPZ	1421	31.4	#-1617
28	-EPcPZ	1443	6.1	#-1618
28	+EsPZ	1443	19.5	#-1618
28	-EPcPZ	1458	17.2	#-1619
28	-EpPZ	1458	29.9	#-1619
28	-EPZ	1500	42.7	#-1620
28	-EPcPZ	1500	49.1	#-1620
28	-EsPZ	1500	58.7	#-1620
28	+IPZ	1723	57.5	#-1621
28	-EpPZ	1724	11.4	#-1621
28	+EPZ	1950	23.7	
28	-IPZ	2007	54.1	#-1622
28	-EPcPZ	2007	57.9	#-1622
28	-IpPZ	2008	0.5	#-1622
28	-IPKpabZ	2127	34.7	#-1623
28	+EpPKpabZ	2128	37.3	#-1623
28	-IPPZ	2131	20.2	#-1623
28	ESH	2137	34.7	
28	-EPZ	2200	8.1	#-1624
28	-IPcPZ	2200	10.5	#-1624
28	+EpPZ	2200	15.5	#-1624
28	-IPPZ	2203	32.1	#-1624
28	+EPZ	2204	9.5	#-1625
28	-EpPZ	2204	18.4	#-1625
28	-EsPZ	2204	22.3	#-1625
28	-EPZ	2320	21.2	#-1626
28	-EPcPZ	2320	24.6	#-1626
28	-EpPZ	2320	32.0	#-1626
29	-EPZ	0101	26.1	#-1627
29	+EpPZ	0101	32.1	#-1627
29	+EsPZ	0101	37.9	#-1627
29	-EPZ	0101	51.6	
29	+EPZ	0152	16.8	#-1628
29	-EPcPZ	0152	19.7	#-1628
29	+EpPZ	0152	29.4	#-1628
29	+EPPZ	0155	35.2	#-1628
29	+IPZ	0203	36.2	#-1629

Date	Phase	UTC Time		Remarks
		h m	s	
29	-IPcPZ	0203	38.0	#-1629
29	-IsPZ	0203	40.0	#-1629
29	+EPPZ	0206	57.6	#-1629
29	ESH	0214	10.5	#-1629
29	-EPZ	0226	24.1	#-1630
29	-EPcPZ	0226	25.9	#-1630
29	+EPZ	0314	3.6	#-1631
29	+IPZ	0609	28.7	#-1632
29	+IPcPZ	0609	30.1	#-1632
29	-IpPZ	0609	32.2	#-1632
29	-EPPZ	0612	49.3	#-1632
29	+EPZ	0617	55.3	#-1633
29	+EPcPZ	0617	58.3	#-1633
29	-EPPZ	0621	15.1	#-1633
29	-EPZ	0631	47.4	#-1634
29	-EPcPZ	0631	51.0	#-1634
29	+EpPZ	0631	56.8	#-1634
29	-EPZ	0643	40.9	#-1635
29	-EPcPZ	0643	42.1	#-1635
29	-EsPZ	0643	48.0	#-1635
29	+EPZ	0648	21.7	#-1636
29	+EPcPZ	0648	24.5	#-1636
29	-EpPZ	0648	35.7	#-1636
29	+EPPZ	0651	46.7	#-1636
29	+EPZ	1105	6.3	
29	+EPZ	1105	15.2	
29	+IpPdi ffZ	1414	59.2	#-1637
29	-EPZ	1415	34.5	
29	+EPKiKPZ	1417	56.9	#-1637
29	+EPZ	1426	14.8	
29	+EPZ	1902	43.8	#-1638
29	+EPZ	1902	48.6	#-1638
29	-EpPZ	1902	54.2	#-1638
29	-EPZ	2125	22.1	#-1639
29	-IPcPZ	2125	24.0	#-1639
29	-EpPZ	2125	32.2	#-1639
29	-IPZ	2125	39.3	
29	-EPPZ	2128	32.6	#-1639

Date	Phase	UTC Time		Remarks
		h m	s	
30	+IPZ	0117	11.6	#-1640
30	+EPcPZ	0117	17.1	#-1640
30	-IPPZ	0117	21.4	#-1640
30	-EPZ	0325	27.4	#-1641
30	+EPZ	0354	45.5	#-1642
30	+EPcPZ	0440	2.3	#-1643
30	+EpPZ	0440	8.3	#-1643
30	-EsPZ	0440	14.6	#-1643
30	+EPZ	0530	1.5	#-1644
30	-EPcPZ	0530	4.6	#-1644
30	-EPZ	0628	34.4	#-1645
30	-EPZ	0650	56.2	#-1645
30	+EPZ	0735	22.4	#-1646
30	-EpPZ	0735	29.8	#-1646
30	+EsPZ	0735	33.6	#-1646
30	-EPZ	0825	9.4	#-1647
30	-EpPZ	0825	17.7	#-1647
30	+EpPZ	0831	50.5	#-1648
30	-EPZ	0906	35.9	#-1649
30	+EsPZ	0906	49.7	#-1649
30	-EPcPZ	1006	47.1	#-1650
30	+EPZ	1028	34.8	#-1651
30	-EPcPZ	1112	34.9	#-1652
30	+EpPZ	1112	40.7	#-1652
30	+EPcPZ	1139	7.7	#-1653
30	-EpPZ	1139	12.0	#-1653
30	+EPcPZ	1146	45.2	#-1654
30	-EpPZ	1146	49.3	#-1654
30	+EPZ	1345	8.7	
30	+EPZ	1510	2.2	#-1655
30	+EpPZ	1510	9.6	#-1655
30	+EPZ	1631	6.3	#-1656
30	-EPZ	1700	8.3	#-1657
30	-EpPZ	1701	57.6	#-1657
30	-EsPZ	1703	45.7	#-1657
30	-EPZ	1747	11.5	#-1658
30	-EpPZ	1747	13.8	#-1658
30	+EPcPZ	1747	17.4	#-1658

Date	Phase	UTC Time		Remarks
		h m	s	
30	-EPZ	1811	5.6	#-1659
30	-EPPZ	1814	33.6	#-1659
30	-EPZ	1840	28.8	#-1660
30	-EpPZ	1840	42.7	#-1660
30	-EPZ	1930	15.0	#-1661
30	+EpPZ	1930	16.9	#-1661
30	-EPcPZ	1930	20.1	#-1661
30	+EPZ	2113	10.9	#-1662
30	-EpPZ	2114	10.7	#-1662
30	-EPZ	2148	25.1	#-1663
30	+IPcPZ	2148	28.8	#-1663
30	+IpPZ	2148	35.5	#-1663
30	-IsPZ	2148	40.0	#-1663
30	-EPZ	2317	20.3	#-1664
30	-EpPZ	2317	30.9	#-1664
30	+EPZ	2320	9.1	
31	None			

Table 2. List of hypocenters of teleseismic events detected at Syowa Station.
The total number of events is 1664.

No.	Date	Origin time			Geographic		Coordinates	Depth	Epicentral		Magnitude		Region
		UTC			Latitude	Longitude			distance		mb	MS	
		h	m	s	(deg)	(deg)	(km)	(deg)					
1.	1/1	4	39	12.1	-21.476	169.859	10	82.82	5.2	5.0		SOUTHEAST OF THE LOYALTY ISLANDS	
2.	1/1	8	15	57.8	-22.013	169.289	10	82.09	5.0	4.5		SOUTHEAST OF THE LOYALTY ISLANDS	
3.	1/1	13	58	14.4	-6.156	113.730	589	78.79	4.9	-		JAVA, INDONESIA	
4.	1/1	18	7	14.8	-23.694	179.894	537	83.11	4.6	-		SOUTH OF THE FIJI ISLANDS	
5.	1/1	20	59	31.9	-8.310	115.788	45	77.58	5.5	5.4		BALI REGION, INDONESIA	
6.	1/1	23	31	50.0	17.488	-101.303	29	122.92	5.6	5.7		GUERRERO, MEXICO	
7.	1/2	10	23	53.9	-15.169	-178.926	397	91.64	5.0	-		FIJI REGION	
8.	1/2	12	42	45.1	-21.490	169.908	10	82.74	5.2	5.0		SOUTHEAST OF THE LOYALTY ISLANDS	
9.	1/2	16	58	28.3	-8.301	125.494	34	80.93	5.1	4.8		EAST TIMOR REGION	
10.	1/3	8	7	34.2	-22.376	169.728	10	81.95	5.6	5.9		SOUTHEAST OF THE LOYALTY ISLANDS	
11.	1/3	8	9	3.8	-22.163	169.550	10	82.05	5.7	-		SOUTHEAST OF THE LOYALTY ISLANDS	
12.	1/3	8	13	10.4	-22.323	169.641	10	81.86	5.5	-		SOUTHEAST OF THE LOYALTY ISLANDS	
13.	1/3	8	21	48.4	-22.324	169.616	10	81.93	6.0	6.2		SOUTHEAST OF THE LOYALTY ISLANDS	
14.	1/3	9	45	19.3	-22.300	169.535	10	81.95	5.4	5.5		SOUTHEAST OF THE LOYALTY ISLANDS	
15.	1/3	16	23	21.0	-22.253	169.683	22	82.11	6.4	7.1		SOUTHEAST OF THE LOYALTY ISLANDS	
16.	1/3	16	34	28.0	-22.438	169.919	10	81.92	6.1	-		SOUTHEAST OF THE LOYALTY ISLANDS	
17.	1/3	16	38	29.4	-22.154	169.869	10	82.20	5.6	-		SOUTHEAST OF THE LOYALTY ISLANDS	
18.	1/3	16	58	30.2	-22.476	170.056	10	82.00	5.2	-		SOUTHEAST OF THE LOYALTY ISLANDS	
19.	1/3	17	59	41.2	-22.458	169.987	10	81.85	5.1	-		SOUTHEAST OF THE LOYALTY ISLANDS	
20.	1/3	18	56	51.4	-22.285	169.662	10	81.76	5.1	5.4		SOUTHEAST OF THE LOYALTY ISLANDS	
21.	1/4	6	23	8.5	-29.820	-177.651	43	77.50	5.2	4.7		KERMADEC ISLANDS, NEW ZEALAND	
22.	1/4	16	13	55.6	-3.594	-77.477	1	95.71	5.0	-		PERU-ECUADOR BORDER REGION	
23.	1/5	0	13	40.5	-22.069	169.622	10	82.00	5.1	4.6		SOUTHEAST OF THE LOYALTY ISLANDS	
24.	1/5	6	53	48.4	-3.589	151.016	64	94.42	5.3	-		NEW IRELAND REGION, P.N.G.	
25.	1/7	10	42	38.6	8.389	-82.692	36	108.82	5.1	4.9		PANAMA-COSTA RICA BORDER REGION	
26.	1/8	8	45	1.0	14.440	56.378	10	84.38	5.2	4.9		OWEN FRACTURE ZONE REGION	
27.	1/8	12	32	47.6	-22.581	169.956	10	81.86	5.0	4.8		SOUTHEAST OF THE LOYALTY ISLANDS	
28.	1/9	20	14	50.3	-7.559	156.190	105	92.28	4.6	-		SOLOMON ISLANDS	
29.	1/10	2	31	3.7	-6.314	128.041	402	83.81	4.9	-		BANDA SEA	
30.	1/10	5	30	23.8	-21.992	169.430	10	82.19	5.0	-		SOUTHEAST OF THE LOYALTY ISLANDS	
31.	1/10	6	54	59.0	-18.145	-177.648	640	89.04	4.9	-		FIJI REGION	
32.	1/10	7	25	44.0	-30.883	-71.656	55	68.35	5.6	-		COQUIMBO, CHILE	
33.	1/10	11	38	28.7	-3.062	129.673	10	87.36	4.9	-		SERAM, INDONESIA	
34.	1/11	4	32	47.7	-36.696	53.352	5	33.30	6.1	6.1		SOUTH INDIAN OCEAN	
35.	1/11	8	7	4.9	-16.237	-176.175	366	91.18	5.3	-		FIJI REGION	
36.	1/11	9	29	45.3	-20.047	-179.079	673	86.86	5.3	-		FIJI REGION	
37.	1/12	7	11	36.1	-18.101	-178.229	541	88.76	4.6	-		FIJI REGION	
38.	1/12	12	14	22.7	-20.138	-179.088	656	86.68	4.8	-		FIJI REGION	
39.	1/12	12	49	18.5	-15.657	-73.941	83	83.27	5.1	-		SOUTHERN PERU	
40.	1/12	14	14	30.1	5.612	-79.088	22	105.00	5.2	-		SOUTH OF PANAMA	
41.	1/12	17	17	0.8	-21.997	170.246	10	82.47	5.2	5.5		SOUTHEAST OF THE LOYALTY ISLANDS	
42.	1/12	20	12	14.0	42.224	143.286	45	133.85	5.0	-		HOKKAIDO, JAPAN REGION	
43.	1/13	7	39	0.5	-5.207	102.449	39	75.80	4.7	-		SOUTHERN SUMATRA, INDONESIA	
44.	1/13	20	4	24.0	-8.571	105.866	26	73.84	5.1	4.7		SOUTH OF JAVA, INDONESIA	
45.	1/13	21	54	23.4	-22.875	-63.646	535	73.25	5.2	-		SALTA, ARGENTINA	
46.	1/14	1	50	45.3	-19.847	-70.284	47	78.11	4.5	-		OFFSHORE TARAPACA, CHILE	
47.	1/14	11	26	18.5	-36.629	53.413	10	33.34	5.2	-		SOUTH INDIAN OCEAN	
48.	1/14	11	45	49.3	-17.587	-174.181	167	90.55	4.3	-		TONGA	
49.	1/14	16	58	48.1	27.695	52.397	12	97.19	5.4	-		SOUTHERN IRAN	
50.	1/14	18	38	54.1	-19.841	-125.240	10	90.41	5.2	-		SOUTH PACIFIC OCEAN	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance (deg)	Magnitude		Region
		UTC h	UTC m	UTC s	Latitude (deg)	Longitude (deg)			mb	MS	
51.	1/16	4	29	2.4	-4.187	142.260	108	91.02	4.3	-	NEW GUINEA, P.N.G.
52.	1/16	11	59	27.5	-17.846	-178.777	573	89.06	4.5	-	FIJI REGION
53.	1/16	15	42	25.0	-0.398	132.091	36	90.72	5.3	5.3	NEAR THE NORTH COAST OF PAPUA, IND.
54.	1/16	16	22	54.5	-4.614	102.690	76	76.67	4.8	-	SOUTHERN SUMATRA, INDONESIA
55.	1/16	18	7	55.6	7.641	-37.704	10	92.47	5.9	6.0	CENTRAL MID-ATLANTIC RIDGE
56.	1/17	13	54	6.3	-5.502	151.370	61	92.77	4.9	-	NEW BRITAIN REGION, P.N.G.
57.	1/18	14	7	4.0	-47.038	-11.282	10	32.90	5.0	5.3	SOUTHERN MID-ATLANTIC RIDGE
58.	1/18	20	36	40.8	-32.013	-178.812	91	75.28	5.3	-	SOUTH OF THE KERMADEC ISLANDS
59.	1/19	5	47	24.0	-31.734	-71.723	31	67.49	5.3	5.0	OFFSHORE COQUIMBO, CHILE
60.	1/19	14	32	19.6	-1.081	126.986	33	88.24	5.3	-	KEPULAUAN SULA, INDONESIA
61.	1/20	6	56	30.1	-62.445	-161.450	10	47.51	4.7	5.1	PACIFIC-ANTARCTIC RIDGE
62.	1/20	11	22	23.6	-21.021	169.943	102	83.30	5.2	-	SOUTHEAST OF THE LOYALTY ISLANDS
63.	1/21	4	58	2.3	-15.300	-173.459	10	92.63	4.8	-	TONGA
64.	1/21	12	24	6.7	-9.701	159.721	44	91.26	5.4	-	SOLOMON ISLANDS
65.	1/22	11	34	0.6	7.867	126.380	66	96.42	5.2	-	MINDANAO, PHILIPPINES
66.	1/22	16	37	24.5	-8.731	119.609	113	78.59	5.2	-	FLORES REGION, INDONESIA
67.	1/22	20	2	41.3	3.141	128.260	118	92.63	4.8	-	NORTH OF HALMAHERA, INDONESIA
68.	1/23	0	49	14.9	-17.485	167.168	55	86.03	5.2	4.7	VANUATU
69.	1/23	3	39	13.2	18.775	146.879	67	113.91	4.9	5.0	PAGAN REGION, NORTHERN MARIANA ISLANDS
70.	1/23	5	0	30.6	-23.046	-69.891	72	75.05	5.5	-	ANTOFAGASTA, CHILE
71.	1/23	9	1	31.2	37.264	140.993	64	128.58	5.2	-	EASTERN HONSHU, JAPAN
72.	1/24	13	1	45.7	52.122	-30.179	10	131.18	5.6	5.4	NORTHERN MID-ATLANTIC RIDGE
73.	1/25	11	43	11.8	-16.830	-174.196	130	90.95	6.4	-	TONGA
74.	1/25	13	47	15.4	-49.699	115.982	10	40.07	4.5	-	WESTERN INDIAN-ANTARCTIC RIDGE
75.	1/25	22	14	1.5	-5.364	146.788	230	91.23	5.0	-	EASTERN NEW GUINEA REG, P.N.G.
76.	1/26	8	11	5.9	-22.117	169.533	10	82.07	5.1	-	SOUTHEAST OF THE LOYALTY ISLANDS
77.	1/26	10	27	7.6	51.135	178.078	37	153.79	5.3	4.9	RAT ISLANDS, ALEUTIAN ISLANDS, ALASKA
78.	1/27	4	20	1.0	32.571	140.332	79	124.18	5.3	-	IZU ISLANDS, JAPAN REGION
79.	1/27	9	50	52.1	56.806	-156.757	76	166.00	5.4	-	ALASKA PENINSULA
80.	1/27	14	58	24.5	-37.340	177.860	33	69.40	4.7	-	OFF E COAST OF THE NORTH ISLAND, N.Z.
81.	1/27	16	0	37.7	-17.840	-71.070	57	80.30	5.3	-	NEAR THE COAST OF SOUTHERN PERU
82.	1/28	1	16	17.6	17.363	94.333	34	94.82	4.9	4.4	MYANMAR
83.	1/28	2	50	0.3	9.816	125.914	91	98.12	5.2	-	MINDANAO, PHILIPPINES
84.	1/28	9	6	48.9	26.878	57.513	26	96.85	5.2	4.8	SOUTHERN IRAN
85.	1/28	10	10	26.8	-5.612	151.801	48	92.75	5.1	5.3	NEW BRITAIN REGION, P.N.G.
86.	1/28	22	15	30.7	-3.120	127.400	17	86.51	6.0	6.5	SERAM, INDONESIA
87.	1/29	0	59	0.0	-3.239	127.384	70	86.52	4.6	-	SERAM, INDONESIA
88.	1/29	1	25	15.6	-35.418	-104.670	10	72.11	4.5	4.8	SOUTHEAST OF EASTER ISLAND
89.	1/29	3	52	52.3	-50.206	-114.780	10	59.18	5.3	6.0	SOUTHERN EAST PACIFIC RISE
90.	1/29	9	14	35.9	-4.846	-80.650	29	95.83	4.6	-	PERU-ECUADOR BORDER REGION
91.	1/29	9	48	42.7	6.292	126.943	210	95.10	5.7	-	MINDANAO, PHILIPPINES
92.	1/29	20	10	41.3	-20.815	-174.163	12	87.01	5.1	5.5	TONGA
93.	1/29	20	45	5.2	-24.164	-66.908	172	73.02	4.3	-	SALTA, ARGENTINA
94.	1/29	23	45	39.4	-12.574	167.083	227	90.66	4.5	-	SANTA CRUZ ISLANDS
95.	1/30	1	37	50.4	-18.475	-175.464	41	89.20	4.8	-	TONGA
96.	1/30	11	42	51.3	-4.800	129.644	165	85.71	4.7	-	BANDA SEA
97.	1/30	11	54	57.1	-36.120	178.220	223	70.65	4.2	-	OFF E COAST OF THE NORTH ISLAND, N.Z.
98.	1/30	19	17	16.3	-9.515	159.221	106	91.45	5.1	-	SOLOMON ISLANDS
99.	1/31	7	32	59.0	-13.525	-111.396	10	94.80	4.6	5.2	CENTRAL EAST PACIFIC RISE
100.	2/1	9	30	13.3	-49.527	117.290	10	40.74	4.7	4.2	WESTERN INDIAN-ANTARCTIC RIDGE

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC			Latitude (deg)	Longitude (deg)		(deg)		mb	MS	
		h	m	s								
101.	2/1	11	41	14.4	-31.664	179.701	354	75.30	5.2	-		KERMADEC ISLANDS REGION
102.	2/1	13	51	39.1	-20.161	-178.569	600	86.84	4.6	-		FIJI REGION
103.	2/1	21	50	53.5	-2.285	-76.507	151	96.73	4.5	-		PERU-ECUADOR BORDER REGION
104.	2/3	4	21	12.5	-18.262	-70.894	25	79.84	4.9	-		OFFSHORE TARAPACA, CHILE
105.	2/3	23	9	31.6	-3.728	140.376	46	90.58	5.7	5.5		PAPUA, INDONESIA
106.	2/4	5	18	44.8	-26.134	-63.461	558	70.03	5.1	-		SANTIAGO DEL ESTERO, ARGENTINA
107.	2/4	6	8	26.1	40.155	141.687	62	131.45	5.4	-		NEAR THE EAST COAST OF HONSHU, JAPAN
108.	2/4	11	59	47.6	8.358	-82.877	29	108.89	5.6	5.9		PANAMA-COSTA RICA BORDER REGION
109.	2/5	3	12	14.5	-6.794	129.561	157	83.87	5.0	-		BANDA SEA
110.	2/5	21	5	2.8	-3.615	135.538	17	88.97	6.1	7.1		PAPUA, INDONESIA
111.	2/5	21	24	18.7	-3.658	135.364	37	88.95	5.5	-		PAPUA, INDONESIA
112.	2/6	18	34	24.4	-7.227	129.321	117	83.24	4.7	-		KEPULAUAN BABAR, INDONESIA
113.	2/6	21	7	36.5	-7.881	103.996	40	73.84	5.0	-		SOUTHWEST OF SUMATRA, INDONESIA
114.	2/7	2	42	35.2	-4.003	135.023	10	88.45	6.2	7.5		NEAR THE SOUTH COAST OF PAPUA, IND.
115.	2/7	4	25	3.5	-4.094	134.401	28	88.12	5.2	-		NEAR THE SOUTH COAST OF PAPUA, IND.
116.	2/7	21	17	24.2	36.040	26.910	25	105.25	5.2	5.1		DODECANESE ISLANDS, GREECE
117.	2/7	21	27	37.6	-4.071	133.958	10	87.99	5.6	5.1		NEAR THE SOUTH COAST OF PAPUA, IND.
118.	2/7	22	29	51.8	-3.411	136.069	10	89.17	4.7	-		PAPUA, INDONESIA
119.	2/7	22	28	43.0	-3.493	135.496	10	88.99	4.8	4.5		PAPUA, INDONESIA
120.	2/7	23	40	58.8	13.435	-44.827	10	100.36	5.5	4.8		NORTHERN MID-ATLANTIC RIDGE
121.	2/8	1	15	32.3	-5.062	151.841	45	93.19	5.0	4.9		NEW BRITAIN REGION, P.N.G.
122.	2/8	8	58	51.8	-3.665	135.339	26	88.82	5.7	6.9		PAPUA, INDONESIA
123.	2/8	11	37	38.2	-3.367	68.259	13	68.55	4.9	-		CHAGOS ARCHIPELAGO REGION
124.	2/8	13	37	9.1	5.935	125.750	206	94.40	4.9	-		MINDANAO, PHILIPPINES
125.	2/8	22	14	32.9	-23.639	-177.354	189	83.66	5.0	-		SOUTH OF THE FIJI ISLANDS
126.	2/9	0	1	46.0	23.753	-108.784	10	130.84	5.2	-		GULF OF CALIFORNIA
127.	2/9	11	13	22.7	0.715	119.798	40	87.20	4.6	-		MINAHASA, SULAWESI, INDONESIA
128.	2/10	13	20	15.5	-3.731	140.257	56	90.60	5.0	-		PAPUA, INDONESIA
129.	2/12	11	44	8.7	-21.604	175.473	21	84.11	5.3	4.8		SOUTH OF THE FIJI ISLANDS
130.	2/12	13	47	32.6	-19.226	-173.518	21	88.62	5.4	5.8		TONGA
131.	2/12	15	34	15.6	-22.003	170.123	10	82.47	5.0	4.6		SOUTHEAST OF THE LOYALTY ISLANDS
132.	2/12	17	18	0.1	-1.171	69.490	10	70.89	4.6	-		CARLSBERG RIDGE
133.	2/13	3	12	3.4	-3.865	135.408	10	88.66	4.8	-		PAPUA, INDONESIA
134.	2/13	5	33	40.1	-16.390	-174.596	196	91.32	4.7	-		TONGA
135.	2/13	10	17	49.5	-19.574	-69.963	81	78.27	4.4	-		TARAPACA, CHILE
136.	2/14	11	56	57.5	34.798	73.206	11	106.82	5.4	5.1		PAKISTAN
137.	2/14	19	36	5.7	-24.302	-67.008	162	72.93	4.5	-		SALTA, ARGENTINA
138.	2/15	0	1	30.7	-20.033	169.226	47	84.13	5.3	4.6		VANUATU
139.	2/16	14	44	39.9	-0.466	100.655	56	79.80	5.2	4.5		SOUTHERN SUMATRA, INDONESIA
140.	2/16	14	53	7.0	-4.765	102.957	42	76.44	4.9	4.2		SOUTHERN SUMATRA, INDONESIA
141.	2/16	17	55	1.1	-30.241	-176.681	35	77.70	5.1	4.4		KERMADEC ISLANDS REGION
142.	2/19	1	38	50.9	-4.929	152.640	53	93.60	5.0	-		NEW BRITAIN REGION, P.N.G.
143.	2/19	3	12	47.4	-21.014	-68.638	112	76.48	4.6	-		ANTOFAGASTA, CHILE
144.	2/19	4	59	9.1	-55.909	-143.490	10	55.40	4.9	4.5		PACIFIC-ANTARCTIC RIDGE
145.	2/19	5	47	52.2	-37.760	176.370	192	68.69	3.9	-		NORTH ISLAND OF NEW ZEALAND
146.	2/19	18	4	24.4	-23.989	-66.715	204	73.14	5.0	-		JUJUY, ARGENTINA
147.	2/20	5	58	45.1	-11.608	166.450	84	91.40	5.6	-		SANTA CRUZ ISLANDS
148.	2/20	12	15	24.2	-7.061	107.027	112	75.57	4.4	-		JAVA, INDONESIA
149.	2/20	15	2	58.6	-13.938	170.712	626	90.36	4.6	-		VANUATU REGION
150.	2/22	6	46	27.0	-1.559	100.488	42	78.70	6.3	5.7		SOUTHERN SUMATRA, INDONESIA

No.	Date	Origin time			Geographic		Coordinates	Depth	Epicentral		Magnitude		Region
		UTC			Latitude	Longitude			distance		mb	MS	
		h	m	s	(deg)	(deg)	(km)	(deg)					
151.	2/22	12	57	50.2	-21.671	-179.198	645	85.08	4.6	-		FIJI REGION	
152.	2/23	7	18	36.9	7.243	93.744	56	84.96	5.1	-		NICOBAR ISLANDS, INDIA REGION	
153.	2/23	16	4	49.4	-14.740	-175.630	31	92.79	5.7	6.3		SAMOA ISLANDS REGION	
154.	2/24	8	12	4.3	-20.578	-178.432	555	86.44	4.7	-		FIJI REGION	
155.	2/24	19	20	23.5	-7.569	116.741	316	78.31	4.0	-		BALI SEA	
156.	2/25	16	52	31.8	-20.667	-175.033	56	87.02	5.7	-		TONGA	
157.	2/25	20	27	14.2	-16.420	-73.225	80	82.22	4.8	-		NEAR THE COAST OF SOUTHERN PERU	
158.	2/26	3	53	36.1	5.760	126.500	166	94.46	4.6	-		MINDANAO, PHILIPPINES	
159.	2/26	4	33	9.6	24.120	123.093	58	110.36	5.4	-		SOUTHWESTERN RYUKYU ISLANDS, JAPAN	
160.	2/26	8	11	34.3	-20.400	-68.716	121	77.11	4.5	-		POTOSI, BOLIVIA	
161.	2/26	9	58	3.2	-23.137	-67.570	128	74.22	5.0	-		ANTOFAGASTA, CHILE	
162.	2/26	13	35	16.1	-27.781	-176.540	10	79.79	5.3	5.4		KERMADEC ISLANDS REGION	
163.	2/26	17	25	56.1	8.288	123.515	12	95.80	5.2	4.9		MINDANAO, PHILIPPINES	
164.	2/26	20	32	21.8	-18.171	66.419	10	54.19	5.4	5.8		MAURITIUS - REUNION REGION	
165.	2/26	22	27	31.8	-58.380	-25.699	65	28.88	4.3	-		SOUTH SANDWICH ISLANDS REGION	
166.	2/26	22	52	19.0	-6.163	102.326	29	74.96	5.2	-		SOUTHWEST OF SUMATRA, INDONESIA	
167.	2/26	22	58	41.3	-53.159	159.651	10	50.27	5.2	5.6		MACQUARIE ISLAND REGION	
168.	2/28	2	34	15.2	-30.747	-71.642	19	68.48	4.7	-		COQUIMBO, CHILE	
169.	2/28	5	23	54.4	-18.732	-12.562	11	59.30	5.7	5.0		SOUTHERN MID-ATLANTIC RIDGE	
170.	2/29	20	41	32.3	-6.129	102.223	41	74.93	4.8	4.7		SOUTHWEST OF SUMATRA, INDONESIA	
171.	3/2	7	51	43.0	28.912	51.197	10	98.37	4.9	-		SOUTHERN IRAN	
172.	3/2	9	31	33.0	11.416	-86.783	10	113.05	5.1	4.4		NEAR THE COAST OF NICARAGUA	
173.	3/3	13	15	18.6	-15.497	-75.076	85	83.75	4.7	-		NEAR THE COAST OF CENTRAL PERU	
174.	3/3	20	24	44.7	-0.733	-16.131	10	77.51	5.1	5.0		NORTH OF ASCENSION ISLAND	
175.	3/4	12	19	25.0	-21.420	-177.860	318	85.83	4.2	-		FIJI REGION	
176.	3/4	12	33	42.7	-32.141	-178.420	10	75.18	5.1	4.5		SOUTH OF THE KERMADEC ISLANDS	
177.	3/4	12	42	51.0	-59.716	-25.654	10	27.86	4.7	-		SOUTH SANDWICH ISLANDS REGION	
178.	3/4	14	10	45.7	-23.807	-175.351	13	83.91	4.7	-		TONGA REGION	
179.	3/4	14	21	50.5	-7.045	106.136	84	75.30	4.6	-		JAVA, INDONESIA	
180.	3/4	17	48	42.2	-32.405	-178.590	10	74.86	5.3	5.4		SOUTH OF THE KERMADEC ISLANDS	
181.	3/4	19	41	35.3	-21.285	-68.284	113	76.09	4.6	-		ANTOFAGASTA, CHILE	
182.	3/4	20	41	40.0	3.803	126.196	92	92.62	4.8	-		KEPULAUAN TALAUD, INDONESIA	
183.	3/4	21	37	59.4	-24.159	-66.966	163	72.99	4.5	-		SALTA, ARGENTINA	
184.	3/4	21	43	44.5	-19.627	-177.989	519	87.41	4.1	-		FIJI REGION	
185.	3/5	0	49	33.4	-3.414	145.350	17	92.55	5.2	5.2		NEAR NORTH COAST OF NEW GUINEA, P.N.G.	
186.	3/5	6	0	22.3	-20.615	-178.837	623	86.37	5.0	-		FIJI REGION	
187.	3/5	7	5	59.6	6.148	126.548	41	94.84	5.1	-		MINDANAO, PHILIPPINES	
188.	3/5	14	41	10.1	-21.668	170.687	146	82.94	4.4	-		SOUTHEAST OF THE LOYALTY ISLANDS	
189.	3/5	23	50	45.6	-5.821	142.441	69	89.28	4.6	-		NEW GUINEA, P.N.G.	
190.	3/6	0	58	37.8	-19.941	-178.554	678	87.11	4.6	-		FIJI REGION	
191.	3/6	10	21	32.0	12.959	93.135	38	90.25	5.2	5.2		ANDAMAN ISLANDS, INDIA REGION	
192.	3/7	11	8	1.3	-32.381	-178.191	7	74.92	5.5	5.9		SOUTH OF THE KERMADEC ISLANDS	
193.	3/7	11	19	52.5	-32.396	-178.098	10	74.97	5.3	-		SOUTH OF THE KERMADEC ISLANDS	
194.	3/7	13	29	45.6	31.639	91.236	11	107.62	5.3	5.3		EASTERN XIZANG	
195.	3/7	15	4	51.1	-32.527	-178.296	10	75.03	5.2	5.6		SOUTH OF THE KERMADEC ISLANDS	
196.	3/9	13	8	7.6	-65.198	179.710	10	43.04	5.1	5.7		BALLENY ISLANDS REGION	
197.	3/9	18	36	20.5	52.611	158.861	90	148.19	5.0	-		NR THE EAST COAST OF KAMCHATKA, RUSSIA	
198.	3/9	22	7	13.2	-32.559	-177.970	10	74.86	5.3	5.8		SOUTH OF THE KERMADEC ISLANDS	
199.	3/9	22	56	42.5	-32.265	-178.358	18	75.11	5.8	6.4		SOUTH OF THE KERMADEC ISLANDS	
200.	3/11	2	16	0.7	-32.314	-178.063	10	75.10	5.3	5.2		SOUTH OF THE KERMADEC ISLANDS	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude mb MS	Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)					
201.	3/11	13	38	58.2	-6.279	154.604	79	92.96	4.7	-	BOUGAINVILLE REGION, P.N.G.
202.	3/12	2	37	31.8	-5.253	152.450	39	17.72	4.1	-	NEW BRITAIN REGION, P.N.G.
203.	3/12	2	53	51.8	-7.010	129.502	146	83.57	4.4	-	KEPULAUAN BABAR, INDONESIA
204.	3/12	9	18	47.7	3.821	126.424	51	92.62	5.3	5.0	KEPULAUAN TALAUD, INDONESIA
205.	3/12	9	27	41.5	-30.610	-71.867	31	68.48	4.8	-	OFFSHORE COQUIMBO, CHILE
206.	3/12	22	13	13.8	-15.579	-175.096	272	92.01	5.4	-	TONGA
207.	3/13	5	33	2.8	-26.127	179.874	478	80.69	4.6	-	SOUTH OF THE FIJI ISLANDS
208.	3/14	0	20	24.6	-1.008	-24.513	10	79.83	4.6	-	CENTRAL MID-ATLANTIC RIDGE
209.	3/14	6	53	28.6	-12.843	-77.105	50	86.89	4.6	-	NEAR THE COAST OF CENTRAL PERU
210.	3/14	15	50	34.4	-32.285	-178.369	10	75.04	5.1	5.5	SOUTH OF THE KERMADEC ISLANDS
211.	3/14	16	30	42.3	-17.267	-172.316	12	90.88	5.8	5.8	TONGA REGION
212.	3/14	20	58	52.0	-17.889	-178.551	551	89.15	4.7	-	FIJI REGION
213.	3/15	13	13	50.5	-21.857	-176.767	177	85.62	4.5	-	FIJI REGION
214.	3/16	6	9	22.8	-32.218	-177.878	10	75.25	5.1	4.7	SOUTH OF THE KERMADEC ISLANDS
215.	3/16	7	53	26.8	-5.961	151.273	46	92.12	4.9	-	NEW BRITAIN REGION, P.N.G.
216.	3/16	13	53	54.0	1.174	128.419	80	90.94	4.7	-	HALMAHERA, INDONESIA
217.	3/16	16	26	59.0	-23.949	-175.788	23	83.70	4.7	4.4	TONGA REGION
218.	3/16	21	23	19.8	37.558	96.668	14	114.63	5.5	4.9	NORTHERN QINGHAI, CHINA
219.	3/17	2	2	47.4	-25.312	-177.662	185	81.99	4.8	-	SOUTH OF THE FIJI ISLANDS
220.	3/17	3	21	7.9	-21.118	-65.586	290	75.40	5.5	-	POTOSI, BOLIVIA
221.	3/17	4	55	25.8	43.871	146.423	72	136.39	5.2	-	KURIL ISLANDS
222.	3/17	6	40	57.1	-7.043	-13.012	10	70.48	5.0	4.8	ASCENSION ISLAND REGION
223.	3/17	13	15	48.9	-32.104	-178.137	10	75.49	5.2	4.9	SOUTH OF THE KERMADEC ISLANDS
224.	3/17	13	37	42.0	-30.318	-178.082	56	77.02	5.2	-	KERMADEC ISLANDS, NEW ZEALAND
225.	3/17	16	49	45.5	-32.010	-66.699	32	65.67	5.5	4.7	SAN LUIS, ARGENTINA
226.	3/18	7	4	35.4	42.298	144.531	38	134.37	5.1	5.0	HOKKAIDO, JAPAN REGION
227.	3/18	10	29	18.5	1.007	126.174	14	89.87	4.7	-	MOLUCCA SEA
228.	3/18	16	1	7.9	-6.041	154.834	161	93.25	4.6	-	BOUGAINVILLE REGION, P.N.G.
229.	3/18	17	58	51.3	-23.765	-176.076	35	83.80	5.0	4.6	SOUTH OF THE FIJI ISLANDS
230.	3/18	19	22	42.1	-61.042	-21.561	59	25.52	4.7	-	EAST OF THE SOUTH SANDWICH ISLANDS
231.	3/18	19	25	41.7	42.139	143.882	49	133.99	5.0	5.0	HOKKAIDO, JAPAN REGION
232.	3/18	19	57	19.7	-16.147	167.001	52	87.28	5.3	-	VANUATU
233.	3/18	20	4	24.8	-23.759	-176.002	10	83.86	5.8	6.1	SOUTH OF THE FIJI ISLANDS
234.	3/18	21	50	38.2	-22.443	-66.101	246	74.30	4.4	-	JUJUY, ARGENTINA
235.	3/18	22	13	7.9	5.354	32.046	10	74.52	4.6	-	SUDAN
236.	3/18	23	9	42.9	32.354	-40.166	10	116.35	5.0	4.7	NORTHERN MID-ATLANTIC RIDGE
237.	3/18	23	14	56.2	-23.668	-176.066	10	83.83	5.1	-	SOUTH OF THE FIJI ISLANDS
238.	3/19	2	10	13.6	-3.697	153.890	403	95.16	4.3	-	NEW IRELAND REGION, P.N.G.
239.	3/19	4	53	49.1	-23.604	-176.248	175	83.89	4.8	-	SOUTH OF THE FIJI ISLANDS
240.	3/19	6	1	59.5	-20.413	-70.201	33	77.62	5.2	4.9	OFFSHORE TARAPACA, CHILE
241.	3/19	6	40	14.3	-1.750	100.350	44	78.64	4.5	-	SOUTHERN SUMATRA, INDONESIA
242.	3/19	10	46	6.8	-17.827	168.457	54	85.93	4.9	4.8	VANUATU
243.	3/19	13	19	4.7	-5.949	150.738	27	91.96	4.8	-	NEW BRITAIN REGION, P.N.G.
244.	3/19	15	11	33.9	-34.491	55.262	10	35.67	4.7	-	SOUTHWEST INDIAN RIDGE
245.	3/19	16	0	34.9	-4.131	135.439	10	88.42	4.4	-	NEAR THE SOUTH COAST OF PAPUA, IND.
246.	3/19	16	9	18.3	-34.907	54.386	10	35.08	4.9	-	SOUTHWEST INDIAN RIDGE
247.	3/19	18	25	25.8	-34.725	55.166	10	35.45	4.6	4.8	SOUTHWEST INDIAN RIDGE
248.	3/19	18	29	4.4	4.658	126.821	103	93.54	4.7	-	KEPULAUAN TALAUD, INDONESIA
249.	3/19	18	35	0.9	-34.530	55.212	10	35.55	4.9	4.7	SOUTHWEST INDIAN RIDGE
250.	3/19	19	39	16.9	-34.643	54.928	10	35.32	4.9	-	SOUTHWEST INDIAN RIDGE

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s	Latitude (deg)	Longitude (deg)		(deg)	(deg)	mb	MS	
251.	3/19	20	42	0.3	-34.500	55.280	10	35.69	5.4	5.6	SOUTHWEST INDIAN RIDGE	
252.	3/19	20	57	56.2	-22.047	170.130	42	82.43	4.7	-	SOUTHEAST OF THE LOYALTY ISLANDS	
253.	3/19	21	8	20.6	-34.427	55.197	10	35.71	5.0	5.2	SOUTHWEST INDIAN RIDGE	
254.	3/20	0	10	42.1	-23.880	-175.962	10	83.68	5.2	4.7	TONGA REGION	
255.	3/20	8	33	18.5	-7.881	119.953	212	79.40	5.1	-	FLORES SEA	
256.	3/20	8	53	15.1	53.829	160.468	53	149.76	5.8	4.9	NR THE EAST COAST OF KAMCHATKA, RUSSIA	
257.	3/21	4	7	48.7	1.787	126.245	22	90.64	4.7	-	MOLUCCA SEA	
258.	3/21	10	34	11.7	-24.173	-175.872	39	110.62	5.0	4.6	SOUTH OF TONGA	
259.	3/22	4	22	58.4	-22.938	-64.359	16	73.19	5.7	5.4	SALTA, ARGENTINA	
260.	3/22	7	58	1.2	-7.183	129.036	132	83.27	4.8	-	KEPULAUAN BABAR, INDONESIA	
261.	3/22	10	22	58.8	-19.310	-175.716	197	88.23	4.8	-	TONGA	
262.	3/23	4	20	11.7	-17.859	-173.100	10	90.06	4.8	4.6	TONGA	
263.	3/23	4	29	49.6	-5.798	104.531	78	76.06	5.1	-	SOUTHERN SUMATRA, INDONESIA	
264.	3/23	6	20	0.0	-56.190	-26.998	78	31.01	4.9	-	SOUTH SANDWICH ISLANDS REGION	
265.	3/23	18	6	32.5	-21.201	-68.177	124	76.17	5.0	-	POTOSI, BOLIVIA	
266.	3/23	19	4	51.9	-29.579	-176.185	20	78.48	5.1	-	KERMADEC ISLANDS REGION	
267.	3/23	21	20	39.6	18.774	144.735	27	113.06	5.1	4.9	PAGAN REGION, NORTHERN MARIANA ISLANDS	
268.	3/23	22	3	59.5	-7.104	124.864	541	81.87	4.8	-	BANDA SEA	
269.	3/24	1	53	49.4	45.382	118.256	19	128.15	5.6	5.2	EASTERN NEI MONGOL, CHINA	
270.	3/24	8	6	3.4	-6.971	147.082	105	89.87	4.6	-	EASTERN NEW GUINEA REG, P.N.G.	
271.	3/24	21	23	2.1	-21.232	-68.243	124	76.14	4.7	-	ANTOFAGASTA, CHILE	
272.	3/25	0	22	51.7	-38.990	174.630	578	67.14	4.4	-	NORTH ISLAND OF NEW ZEALAND	
273.	3/25	3	21	29.7	-40.500	174.390	100	65.64	4.8	-	COOK STRAIT, NEW ZEALAND	
274.	3/25	7	0	54.1	-5.109	101.942	28	75.77	4.9	4.3	SOUTHWEST OF SUMATRA, INDONESIA	
275.	3/25	9	57	33.3	-35.569	-105.115	10	72.11	4.6	-	SOUTHERN EAST PACIFIC RISE	
276.	3/25	10	51	5.8	-23.963	-175.876	64	83.69	4.6	-	TONGA REGION	
277.	3/25	10	58	53.4	-16.592	-172.700	45	91.47	4.8	-	SAMOA ISLANDS REGION	
278.	3/25	13	35	10.3	-6.184	129.121	229	84.29	5.1	-	BANDA SEA	
279.	3/25	14	54	22.9	-18.557	-174.854	10	89.13	5.2	4.7	TONGA	
280.	3/25	15	52	29.1	8.849	-40.226	10	94.33	4.5	-	CENTRAL MID-ATLANTIC RIDGE	
281.	3/25	22	8	57.0	-2.527	68.488	10	69.35	4.5	-	CARLSBERG RIDGE	
282.	3/25	22	15	45.5	-6.650	105.436	75	75.49	5.0	-	SUNDA STRAIT, INDONESIA	
283.	3/26	2	51	44.1	-21.324	-177.890	398	85.80	5.0	-	FIJI REGION	
284.	3/26	8	22	43.1	-8.161	125.132	56	81.01	4.8	-	EAST TIMOR REGION	
285.	3/26	11	34	37.3	-55.922	-27.644	119	31.48	4.6	-	SOUTH SANDWICH ISLANDS REGION	
286.	3/26	11	57	50.8	-14.603	-72.329	54	83.74	4.7	-	CENTRAL PERU	
287.	3/26	12	11	29.4	-2.564	68.464	10	69.30	5.0	4.6	CARLSBERG RIDGE	
288.	3/26	15	20	6.6	41.863	144.209	22	133.86	5.7	5.6	HOKKAIDO, JAPAN REGION	
289.	3/26	16	26	38.0	41.810	144.303	13	133.90	5.2	4.5	HOKKAIDO, JAPAN REGION	
290.	3/26	20	10	14.6	-4.040	151.970	74	94.19	4.4	-	NEW BRITAIN REGION, P.N.G.	
291.	3/27	6	19	36.8	-6.256	154.760	48	92.99	5.7	5.5	BOUGAINVILLE REGION, P.N.G.	
292.	3/27	18	45	26.3	33.962	89.235	10	109.36	5.4	-	WESTERN XIZANG	
293.	3/27	18	47	11.9	34.006	89.235	10	109.36	5.0	-	XIZANG-QINGHAI BORDER REGION	
294.	3/27	18	47	29.2	33.954	89.179	8	109.33	6.0	5.8	WESTERN XIZANG	
295.	3/27	23	21	4.1	11.278	124.451	10	98.85	5.3	5.0	LEYTE, PHILIPPINES	
296.	3/28	1	23	32.8	-10.182	-73.527	36	88.29	5.0	4.4	CENTRAL PERU	
297.	3/28	3	51	10.0	39.847	40.874	5	108.86	5.3	5.3	EASTERN TURKEY	
298.	3/28	8	41	14.4	-1.042	-78.335	13	98.46	5.4	4.6	ECUADOR	
299.	3/28	18	14	3.6	-29.821	-68.877	150	68.36	4.5	-	SAN JUAN, ARGENTINA	
300.	3/28	22	5	41.8	34.132	89.275	10	109.57	5.3	4.4	XIZANG-QINGHAI BORDER REGION	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance (deg)	Magnitude		Region
		UTC			Latitude (deg)	Longitude (deg)			mb	MS	
		h	m	s							
301.	3/28	22	27	27.5	33.957	89.265	12	109.45	5.2	4.4	WESTERN XIZANG
302.	3/29	14	47	41.3	-15.390	-173.407	75	92.54	5.1	-	TONGA
303.	3/29	17	45	9.1	-19.895	-177.824	497	87.24	4.4	-	FIJI REGION
304.	3/30	3	4	49.6	35.462	135.559	362	125.16	4.1	-	WESTERN HONSHU, JAPAN
305.	3/30	11	31	42.9	-50.024	114.318	10	39.36	4.8	-	WESTERN INDIAN-ANTARCTIC RIDGE
306.	3/30	20	1	57.9	-24.589	179.983	504	82.28	5.1	-	SOUTH OF THE FIJI ISLANDS
307.	3/31	3	23	23.3	-25.184	-67.545	130	72.28	5.1	-	SALTA, ARGENTINA
308.	3/31	18	18	54.4	-1.686	128.300	74	88.20	4.8	-	KEPULAUAN OBI, INDONESIA
309.	4/1	6	8	31.5	-16.879	-172.849	45	91.20	4.7	-	SAMOA ISLANDS REGION
310.	4/1	12	34	32.0	-17.396	-69.944	126	80.31	4.4	-	SOUTHERN PERU
311.	4/1	13	11	55.8	1.971	99.526	75	81.81	4.5	-	NORTHERN SUMATRA, INDONESIA
312.	4/1	14	10	25.3	-6.774	155.134	28	92.63	4.4	-	BOUGAINVILLE REGION, P.N.G.
313.	4/2	5	19	12.0	-7.670	127.324	160	82.29	4.6	-	KEPULAUAN BARAT DAYA, INDONESIA
314.	4/2	15	41	30.4	-0.010	124.932	25	88.51	5.5	4.9	MOLUCCA SEA
315.	4/2	16	54	45.6	-12.798	-76.827	49	86.85	4.9	-	NEAR THE COAST OF CENTRAL PERU
316.	4/2	20	17	46.3	-5.690	104.129	44	75.96	5.1	4.9	SOUTHERN SUMATRA, INDONESIA
317.	4/2	21	43	49.5	-6.016	104.077	42	75.56	5.2	5.2	SUNDA STRAIT, INDONESIA
318.	4/3	3	14	48.4	17.633	-44.019	10	103.98	5.0	4.4	NORTHERN MID-ATLANTIC RIDGE
319.	4/3	9	0	46.6	-16.156	-174.847	288	91.48	5.0	-	TONGA
320.	4/3	9	57	13.1	-29.987	-71.985	35	69.19	5.5	5.1	OFFSHORE COQUIMBO, CHILE
321.	4/3	13	29	32.2	-20.535	-174.060	2	87.43	5.4	5.5	TONGA
322.	4/3	23	2	0.8	36.428	141.008	31	127.90	5.7	5.6	NEAR THE EAST COAST OF HONSHU, JAPAN
323.	4/4	7	33	0.6	-7.191	129.117	155	83.27	4.3	-	KEPULAUAN BABAR, INDONESIA
324.	4/4	8	6	5.8	-14.008	170.645	651	90.33	4.8	-	VANUATU REGION
325.	4/4	9	57	16.0	7.584	-37.060	10	91.78	4.5	-	CENTRAL MID-ATLANTIC RIDGE
326.	4/4	17	5	21.0	2.930	126.472	48	91.78	4.6	-	MOLUCCA SEA
327.	4/4	18	4	34.7	-3.425	-12.277	10	73.78	5.2	4.9	NORTH OF ASCENSION ISLAND
328.	4/5	2	23	57.7	-31.616	-69.621	146	66.92	4.1	-	SAN JUAN, ARGENTINA
329.	4/5	8	57	2.4	-23.525	-175.450	32	84.26	5.1	5.5	TONGA REGION
330.	4/5	16	52	58.8	-1.298	137.928	30	91.96	5.3	5.0	NEAR THE NORTH COAST OF PAPUA, IND.
331.	4/5	19	7	3.3	-5.563	101.194	35	75.11	4.9	4.4	SOUTHWEST OF SUMATRA, INDONESIA
332.	4/5	20	21	13.2	-10.128	161.093	88	91.30	5.3	-	SOLOMON ISLANDS
333.	4/5	20	34	21.9	-20.436	-173.936	8	87.54	5.3	6.0	TONGA
334.	4/6	22	55	50.0	-18.022	-178.185	640	88.92	4.4	-	FIJI REGION
335.	4/7	14	49	52.5	-9.307	67.087	10	62.20	5.1	4.4	MID-INDIAN RIDGE
336.	4/7	20	23	10.7	8.902	-84.126	13	109.89	5.3	5.0	OFF THE COAST OF COSTA RICA
337.	4/8	2	42	0.4	-26.810	-107.242	10	81.02	4.8	-	EASTER ISLAND REGION
338.	4/8	4	57	50.4	-36.256	-97.827	10	70.02	5.6	5.4	WEST CHILE RISE
339.	4/8	10	22	57.7	-55.677	-27.874	35	31.75	5.6	5.2	SOUTH SANDWICH ISLANDS REGION
340.	4/8	13	30	55.8	3.279	126.799	75	92.22	4.7	-	KEPULAUAN TALAUD, INDONESIA
341.	4/8	13	56	5.8	-7.857	154.712	44	91.45	4.9	-	BOUGAINVILLE REGION, P.N.G.
342.	4/8	14	35	29.0	-5.617	148.714	157	91.57	4.7	-	NEW BRITAIN REGION, P.N.G.
343.	4/9	1	55	50.7	-1.549	100.540	66	78.70	5.5	-	SOUTHERN SUMATRA, INDONESIA
344.	4/9	15	23	35.0	-13.174	167.198	228	90.18	5.8	-	VANUATU
345.	4/9	15	23	48.6	-17.523	-174.119	45	90.37	4.6	-	TONGA
346.	4/10	1	6	27.8	-56.172	-27.209	117	31.13	5.0	-	SOUTH SANDWICH ISLANDS REGION
347.	4/10	4	54	4.1	-24.469	-176.011	10	83.17	5.5	5.2	SOUTH OF THE FIJI ISLANDS
349.	4/10	15	57	1.5	13.107	93.218	34	90.47	5.0	5.4	ANDAMAN ISLANDS, INDIA REGION
350.	4/10	16	6	47.9	-24.672	-176.173	15	83.04	5.2	5.5	SOUTH OF THE FIJI ISLANDS

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)		mb	MS			
351.	4/11	1 9 29.4	-18.608	-175.854	244	88.87	4.5	-	TONGA			
352.	4/11	2 29 52.9	-54.762	-119.036	10	55.27	4.7	-	SOUTHERN EAST PACIFIC RISE			
353.	4/11	7 37 29.8	-3.729	140.081	20	90.46	5.4	6.0	PAPUA, INDONESIA			
354.	4/11	18 51 25.8	-21.852	-174.529	40	85.90	4.5	-	TONGA			
355.	4/11	19 45 58.3	-7.350	129.620	30	83.43	4.6	-	KEPULAUAN BABAR, INDONESIA			
356.	4/12	6 30 51.6	-18.044	-173.891	55	89.77	4.8	-	TONGA			
357.	4/13	3 51 58.8	-22.485	169.716	10	81.83	5.4	5.1	SOUTHEAST OF THE LOYALTY ISLANDS			
358.	4/13	10 22 13.0	-7.295	128.546	140	83.03	5.2	-	KEPULAUAN BARAT DAYA, INDONESIA			
359.	4/13	11 24 35.4	-15.716	-174.013	99	92.22	4.9	-	TONGA			
360.	4/14	1 33 5.3	-17.848	-174.559	144	89.89	5.7	-	TONGA			
361.	4/14	1 54 9.2	55.226	162.659	51	151.62	6.0	-	NR THE EAST COAST OF KAMCHATKA, RUSSIA			
362.	4/14	8 10 9.0	-60.712	153.578	10	42.24	5.6	5.1	WEST OF MACQUARIE ISLAND			
363.	4/14	14 2 5.9	-33.081	-179.093	10	74.17	4.9	-	SOUTH OF THE KERMADEC ISLANDS			
364.	4/14	22 37 19.3	-56.070	-27.446	160	31.28	4.7	-	SOUTH SANDWICH ISLANDS REGION			
365.	4/14	23 7 39.9	71.067	-7.747	12	143.46	5.8	5.6	JAN MAYEN ISLAND REGION			
366.	4/15	6 48 44.9	-10.474	161.272	37	90.95	5.1	4.4	SOLOMON ISLANDS			
367.	4/15	8 19 48.3	-57.701	-24.990	10	29.25	4.2	-	SOUTH SANDWICH ISLANDS REGION			
368.	4/15	9 49 37.7	-23.995	179.031	558	82.54	4.8	-	SOUTH OF THE FIJI ISLANDS			
369.	4/15	12 44 38.6	4.557	125.741	197	93.08	4.8	-	KEPULAUAN SANGIHE, INDONESIA			
370.	4/15	20 6 55.3	-19.374	169.631	10	84.78	5.8	6.2	VANUATU			
371.	4/15	20 20 14.8	-19.371	169.549	10	84.78	5.6	-	VANUATU			
372.	4/15	21 20 37.8	8.860	94.000	10	86.61	5.0	-	NICOBAR ISLANDS, INDIA REGION			
373.	4/15	21 22 49.0	9.014	93.938	10	86.71	4.8	-	NICOBAR ISLANDS, INDIA REGION			
374.	4/15	21 39 19.2	-30.138	-67.430	29	67.63	5.6	5.4	LA RIOJA, ARGENTINA			
375.	4/15	21 38 38.4	9.131	93.914	10	86.59	4.8	-	NICOBAR ISLANDS, INDIA REGION			
376.	4/15	22 10 31.8	8.919	94.002	10	87.27	4.7	-	NICOBAR ISLANDS, INDIA REGION			
377.	4/15	23 2 10.0	8.837	93.919	10	86.56	4.9	-	NICOBAR ISLANDS, INDIA REGION			
378.	4/15	23 32 19.0	8.850	93.976	10	86.49	4.8	-	NICOBAR ISLANDS, INDIA REGION			
379.	4/16	2 6 13.7	8.904	94.022	29	86.71	5.1	5.3	NICOBAR ISLANDS, INDIA REGION			
380.	4/16	3 12 32.5	-27.900	-71.245	32	70.58	4.6	-	OFFSHORE ATACAMA, CHILE			
381.	4/16	8 27 29.3	-10.764	164.183	11	91.67	5.4	5.1	SANTA CRUZ ISLANDS REGION			
382.	4/16	10 24 39.1	-21.933	170.264	10	82.45	5.2	5.0	SOUTHEAST OF THE LOYALTY ISLANDS			
383.	4/16	11 29 50.6	9.039	93.908	24	86.68	4.9	-	NICOBAR ISLANDS, INDIA REGION			
384.	4/16	14 31 25.0	-10.817	165.922	69	144.90	4.7	-	SANTA CRUZ ISLANDS			
385.	4/16	16 58 36.9	-24.522	-175.879	10	83.08	5.7	6.0	SOUTH OF TONGA			
386.	4/16	18 32 24.0	-8.669	114.650	96	76.88	5.5	-	BALI REGION, INDONESIA			
387.	4/16	21 57 5.4	-5.214	102.718	45	75.96	5.6	5.8	SOUTHERN SUMATRA, INDONESIA			
388.	4/16	23 31 22.4	-5.180	102.735	45	75.92	4.6	-	SOUTHERN SUMATRA, INDONESIA			
389.	4/17	3 1 23.8	-20.173	-65.148	333	76.21	4.1	-	CHUQUISACA, BOLIVIA			
390.	4/17	4 24 53.7	-24.686	-175.954	34	68.21	5.1	4.9	SOUTH OF TONGA			
391.	4/17	4 35 7.8	-24.660	-175.909	10	83.02	5.0	-	SOUTH OF TONGA			
392.	4/17	5 39 19.1	-26.817	-177.404	20	80.70	5.0	-	SOUTH OF THE FIJI ISLANDS			
393.	4/17	7 48 8.3	-10.893	165.919	62	91.98	5.2	-	SANTA CRUZ ISLANDS			
394.	4/17	12 40 15.6	-23.682	-179.983	543	83.10	5.3	-	SOUTH OF THE FIJI ISLANDS			
395.	4/17	13 2 26.3	47.292	145.598	409	139.07	5.2	-	SEA OF OKHOTSK			
396.	4/17	15 58 24.6	-7.352	128.373	129	82.88	6.1	-	KEPULAUAN BARAT DAYA, INDONESIA			
397.	4/17	17 0 25.5	-14.556	167.332	183	88.47	4.3	-	VANUATU			
398.	4/17	19 0 55.1	-6.390	129.977	157	84.40	5.7	-	BANDA SEA			
399.	4/18	1 43 25.9	-32.494	-71.313	41	66.63	4.6	-	VALPARAISO, CHILE			
400.	4/18	3 40 56.2	-24.633	-175.992	10	83.02	5.3	4.9	SOUTH OF TONGA			

No.	Date	Origin time			Geographic		Coordinates	Depth	Epicentral		Magnitude	Region
		UTC			Latitude	Longitude			distance			
		h	m	s	(deg)	(deg)	(km)	(deg)	mb	MS		
401.	4/18	17	20	7.2	-20.666	-178.570	581	86.37	4.6	-	FIJI REGION	
402.	4/18	22	24	3.3	-18.178	-178.197	459	88.88	4.7	-	FIJI REGION	
403.	4/19	5	9	39.4	14.314	-91.760	40	117.00	5.0	4.2	GUATEMALA	
404.	4/19	8	14	11.4	3.614	-32.234	10	86.78	5.5	5.3	CENTRAL MID-ATLANTIC RIDGE	
405.	4/20	13	42	15.9	-23.109	-66.594	204	73.85	4.6	-	JUJUY, ARGENTINA	
406.	4/21	5	45	5.6	-18.139	-178.477	616	89.06	4.6	-	FIJI REGION	
407.	4/21	11	0	5.3	-5.550	149.676	140	91.93	4.7	-	NEW BRITAIN REGION, P.N.G.	
408.	4/21	17	51	9.3	-4.216	98.725	17	75.60	4.8	-	SOUTHWEST OF SUMATRA, INDONESIA	
409.	4/22	2	13	20.7	-23.932	-69.919	49	74.36	5.1	-	ANTOFAGASTA, CHILE	
410.	4/22	3	5	40.3	-17.687	167.760	26	85.93	5.2	4.9	VANUATU	
411.	4/22	3	11	37.4	-17.626	167.915	10	86.03	5.0	5.0	VANUATU	
412.	4/22	3	30	56.3	-17.637	167.883	10	86.00	4.8	-	VANUATU	
413.	4/22	9	9	29.2	-53.188	23.453	10	17.40	4.6	4.5	SOUTH OF AFRICA	
414.	4/22	9	49	23.2	-17.594	167.886	10	86.02	5.0	-	VANUATU	
415.	4/22	10	2	16.3	33.998	89.218	13	109.29	5.2	4.6	WESTERN XIZANG	
416.	4/22	10	11	12.6	-17.587	167.888	10	86.09	5.4	5.7	VANUATU	
417.	4/22	10	15	12.0	-17.628	167.964	25	86.07	5.4	5.6	VANUATU	
418.	4/22	11	7	31.4	-28.458	-178.640	349	78.87	4.4	-	KERMADEC ISLANDS REGION	
419.	4/22	12	33	53.1	-45.388	96.403	10	36.87	4.6	4.8	SOUTHEAST INDIAN RIDGE	
420.	4/22	12	49	5.2	-17.755	167.965	10	85.95	4.9	4.6	VANUATU	
421.	4/22	14	2	59.8	-17.725	167.848	10	86.15	4.7	-	VANUATU	
422.	4/22	14	16	7.0	-3.355	146.853	35	83.12	5.6	6.0	BISMARCK SEA	
423.	4/22	14	55	17.5	-17.721	-175.301	292	89.89	4.8	-	TONGA	
424.	4/22	16	37	20.0	-17.804	168.074	10	85.92	4.8	-	VANUATU	
425.	4/23	0	22	4.7	-17.520	167.712	10	86.19	4.7	-	VANUATU	
426.	4/23	1	50	30.2	-9.362	122.839	66	79.12	6.5	-	SAVU SEA	
427.	4/24	7	44	11.3	-21.899	-174.822	8	85.93	5.8	5.9	TONGA	
428.	4/24	8	3	6.1	0.819	-27.113	10	82.40	4.9	4.8	CENTRAL MID-ATLANTIC RIDGE	
429.	4/24	11	45	42.4	-22.192	-11.898	26	55.84	5.3	4.5	SOUTHERN MID-ATLANTIC RIDGE	
430.	4/24	11	56	4.7	-24.596	-175.896	10	83.04	5.1	-	SOUTH OF TONGA	
431.	4/24	23	0	22.5	-28.985	-112.289	10	79.80	5.3	5.4	EASTER ISLAND REGION	
432.	4/24	23	19	10.9	-29.105	-112.355	10	79.69	5.0	5.2	EASTER ISLAND REGION	
433.	4/25	1	57	24.1	-5.685	103.846	57	75.82	4.6	-	SOUTHERN SUMATRA, INDONESIA	
434.	4/25	2	19	21.6	-21.779	169.576	10	82.53	5.4	5.7	SOUTHEAST OF THE LOYALTY ISLANDS	
435.	4/25	5	11	26.3	-21.679	169.604	10	82.48	4.9	4.5	SOUTHEAST OF THE LOYALTY ISLANDS	
436.	4/25	7	29	33.6	-21.757	169.675	10	82.56	5.2	5.1	SOUTHEAST OF THE LOYALTY ISLANDS	
437.	4/25	12	15	24.9	30.439	137.633	502	121.22	4.4	-	IZU ISLANDS, JAPAN REGION	
438.	4/25	17	14	6.4	-17.330	-64.183	596	78.45	4.2	-	SANTA CRUZ, BOLIVIA	
439.	4/25	17	26	13.1	-30.289	-177.711	10	77.30	5.1	-	KERMADEC ISLANDS, NEW ZEALAND	
440.	4/25	20	21	28.6	-20.068	-178.302	552	86.94	4.6	-	FIJI REGION	
441.	4/26	1	57	31.7	-21.174	-178.597	599	85.85	4.7	-	FIJI REGION	
442.	4/26	3	3	26.4	-22.477	-68.264	103	74.96	4.5	-	ANTOFAGASTA, CHILE	
443.	4/26	6	57	55.2	-21.032	-174.432	10	86.79	5.5	5.5	TONGA	
444.	4/26	9	45	56.0	-36.368	-99.054	10	70.11	4.6	-	SOUTHEAST OF EASTER ISLAND	
445.	4/26	16	5	45.5	-8.663	114.633	107	76.86	5.0	-	BALI REGION, INDONESIA	
446.	4/27	0	9	38.5	-23.552	-69.170	95	74.27	4.9	-	ANTOFAGASTA, CHILE	
447.	4/27	5	6	41.9	-4.281	102.204	61	76.69	4.9	-	SOUTHERN SUMATRA, INDONESIA	
448.	4/27	23	28	18.8	-17.757	167.756	10	85.95	5.3	5.7	VANUATU	
449.	4/28	2	51	22.3	51.340	150.635	526	144.21	4.3	-	SEA OF OKHOTSK	
450.	4/28	3	6	33.1	-30.684	-178.232	59	76.56	4.9	-	KERMADEC ISLANDS, NEW ZEALAND	

No.	Date	Origin time			Geographic		Depth	Epicentral		Magnitude		Region
		UTC	h	m	s	Latitude		Longitude	distance	(deg)	mb	
					(deg)	(deg)	(km)	(deg)				
451.	4/28	4	8	59.9	12.155	-87.426	62	113.91	5.2	-	-	NEAR THE COAST OF NICARAGUA
452.	4/28	5	11	12.6	27.727	140.036	479	119.64	4.5	-	-	BONIN ISLANDS, JAPAN REGION
453.	4/28	9	22	19.3	-20.756	-174.271	10	87.05	5.0	4.9	-	TONGA
454.	4/28	9	53	2.6	-22.402	170.843	10	82.09	5.0	4.8	-	SOUTHEAST OF THE LOYALTY ISLANDS
455.	4/28	11	45	17.1	-16.494	-173.041	54	91.51	5.2	-	-	TONGA
456.	4/28	16	33	34.1	-20.486	-178.200	529	86.70	4.6	-	-	FIJI REGION
457.	4/28	16	41	23.4	-6.279	145.774	125	90.15	5.1	-	-	NEW GUINEA, P.N.G.
458.	4/28	18	27	5.3	-20.859	-174.351	30	86.95	4.6	-	-	TONGA
459.	4/29	0	44	24.3	-17.913	167.839	10	85.77	5.0	5.0	-	VANUATU
460.	4/29	3	35	21.8	-3.755	138.296	97	89.81	4.8	-	-	PAPUA, INDONESIA
461.	4/29	19	57	0.4	-5.533	131.005	77	85.57	5.2	-	-	BANDA SEA
462.	4/29	22	16	47.0	61.440	-140.370	1	172.43	5.0	4.8	-	SOUTHERN YUKON TERRITORY, CANADA
463.	4/29	22	41	18.4	-27.556	-112.994	10	81.26	5.4	4.8	-	EASTER ISLAND REGION
464.	4/30	10	3	45.0	-33.548	-70.520	94	65.41	5.2	-	-	REGION METROPOLITANA, CHILE
465.	5/1	7	4	42.1	-43.348	91.657	10	37.03	4.8	4.9	-	SOUTHEAST INDIAN RIDGE
466.	5/2	4	51	43.6	-19.807	-174.760	48	87.90	4.9	5.3	-	TONGA
467.	5/2	5	11	21.3	-21.044	-174.481	10	86.77	5.5	5.3	-	TONGA
468.	5/2	14	8	13.2	-9.682	120.924	27	78.17	4.9	4.4	-	SUMBA REGION, INDONESIA
469.	5/2	16	7	49.6	-36.927	179.342	53	70.33	4.3	-	-	OFF E COAST OF THE NORTH ISLAND, N.Z.
470.	5/3	2	34	56.3	11.133	95.062	24	88.99	4.7	-	-	ANDAMAN ISLANDS, INDIA REGION
471.	5/3	4	36	50.0	-37.695	-73.406	21	62.48	5.9	6.5	-	BIO-BIO, CHILE
472.	5/3	6	37	52.2	-37.788	-73.634	19	62.45	4.6	-	-	OFFSHORE BIO-BIO, CHILE
473.	5/3	17	41	29.2	13.089	93.187	31	90.37	5.3	5.0	-	ANDAMAN ISLANDS, INDIA REGION
474.	5/3	19	33	16.3	-18.044	-172.550	50	90.10	5.8	5.3	-	TONGA REGION
475.	5/4	3	28	58.3	45.845	149.282	152	139.09	5.0	-	-	KURIL ISLANDS
476.	5/4	5	4	58.3	37.506	96.758	14	114.65	5.4	5.2	-	NORTHERN QINGHAI, CHINA
477.	5/4	21	35	40.7	-11.117	-73.631	109	87.40	4.8	-	-	CENTRAL PERU
478.	5/4	22	36	28.6	-18.844	168.888	256	85.24	4.8	-	-	VANUATU
479.	5/5	2	14	6.5	-24.808	179.891	510	82.07	4.6	-	-	SOUTH OF THE FIJI ISLANDS
480.	5/5	2	20	47.3	-9.033	114.448	81	76.43	5.0	-	-	SOUTH OF BALI, INDONESIA
481.	5/5	4	57	52.6	-58.182	-11.385	10	23.99	5.4	5.4	-	EAST OF THE SOUTH SANDWICH ISLANDS
482.	5/5	5	24	18.6	-7.408	-13.483	9	70.37	4.9	4.9	-	ASCENSION ISLAND REGION
483.	5/5	5	46	58.7	-37.760	176.520	182	68.72	4.4	-	-	NORTH ISLAND OF NEW ZEALAND
484.	5/5	10	52	13.1	-24.349	-179.830	492	82.56	4.6	-	-	SOUTH OF THE FIJI ISLANDS
485.	5/5	16	16	35.9	-16.003	167.934	201	87.79	4.6	-	-	VANUATU
486.	5/5	19	51	43.5	-7.607	117.324	288	78.72	4.2	-	-	BALI SEA
487.	5/5	20	59	40.7	-57.186	-25.410	54	29.82	5.1	5.1	-	SOUTH SANDWICH ISLANDS REGION
488.	5/6	3	57	53.0	-4.199	142.517	113	90.94	4.7	-	-	NEW GUINEA, P.N.G.
489.	5/6	5	20	45.0	-22.186	169.473	10	82.09	5.1	4.3	-	SOUTHEAST OF THE LOYALTY ISLANDS
490.	5/6	6	17	10.5	-24.044	-66.732	186	73.04	4.6	-	-	JUJUY, ARGENTINA
491.	5/6	7	30	22.7	-16.318	-173.373	15	91.69	4.6	-	-	TONGA
492.	5/6	10	15	54.9	-6.796	105.618	75	75.44	5.0	-	-	SUNDA STRAIT, INDONESIA
493.	5/6	11	46	20.5	-4.646	149.389	584	92.83	4.4	-	-	BISMARCK SEA
494.	5/6	12	1	39.2	-4.602	149.464	574	92.87	4.9	-	-	BISMARCK SEA
495.	5/6	13	40	18.1	42.491	145.021	28	134.72	5.3	4.9	-	HOKKAIDO, JAPAN REGION
496.	5/6	15	16	22.3	-15.759	-175.071	267	91.86	5.4	-	-	TONGA
497.	5/6	15	29	46.3	-39.725	-73.179	65	60.49	4.1	-	-	LOS LAGOS, CHILE
498.	5/6	17	36	33.9	-10.002	-74.711	19	88.84	4.8	-	-	CENTRAL PERU
499.	5/7	1	26	42.2	-21.988	170.276	14	82.50	5.7	6.2	-	SOUTHEAST OF THE LOYALTY ISLANDS
500.	5/7	2	5	7.6	-27.836	-66.600	152	69.46	4.4	-	-	CATAMARCA, ARGENTINA

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance (deg)	Magnitude		Region
		UTC			Latitude (deg)	Longitude (deg)			mb	MS	
		h	m	s							
501.	5/7	9	50	31.6	-57.907	-25.535	72	29.30	5.1	-	SOUTH SANDWICH ISLANDS REGION
502.	5/8	23	3	38.2	-20.267	-173.791	36	87.68	4.9	4.5	TONGA
503.	5/9	17	26	32.4	-21.430	-67.289	188	75.68	4.3	-	POTOSI, BOLIVIA
504.	5/9	18	52	15.0	-17.713	168.896	10	86.28	5.0	4.9	VANUATU
505.	5/9	22	25	31.1	-6.944	106.178	78	75.54	5.3	-	JAVA, INDONESIA
506.	5/10	13	45	28.2	-28.223	-70.246	138	70.28	4.3	-	ATACAMA, CHILE
507.	5/10	23	27	25.4	37.485	96.604	10	114.61	5.4	5.3	NORTHERN QINGHAI, CHINA
508.	5/11	8	28	48.2	0.415	97.825	21	79.73	5.6	6.2	NIAS REGION, INDONESIA
509.	5/12	9	45	45.6	-12.716	26.004	10	56.83	4.7	-	ZAMBIA
510.	5/12	9	46	3.2	-3.176	138.219	121	90.39	4.3	-	PAPUA, INDONESIA
511.	5/12	9	52	58.1	-40.620	175.730	26	65.80	4.8	-	NORTH ISLAND OF NEW ZEALAND
512.	5/12	10	22	0.3	-12.727	26.042	10	57.02	4.7	-	ZAMBIA
513.	5/12	12	44	24.8	1.598	127.204	115	90.85	4.5	-	HALMAHERA, INDONESIA
514.	5/12	15	20	40.4	-19.832	-174.828	85	87.96	4.7	-	TONGA
515.	5/12	18	8	48.1	-20.741	-174.397	10	87.11	4.9	4.5	TONGA
516.	5/12	20	36	41.3	-23.732	-70.043	55	74.38	4.7	-	ANTOFAGASTA, CHILE
517.	5/13	1	38	44.0	-8.639	111.442	65	75.75	4.8	-	JAVA, INDONESIA
518.	5/13	6	37	44.7	-17.988	-178.082	495	89.12	4.4	-	FIJI REGION
519.	5/13	7	11	53.7	-11.874	166.268	10	91.22	5.1	-	SANTA CRUZ ISLANDS
520.	5/13	7	14	39.1	-55.449	-27.704	25	31.91	5.2	4.7	SOUTH SANDWICH ISLANDS REGION
521.	5/13	9	46	2.0	-58.872	-30.153	35	30.11	4.3	-	SOUTH SANDWICH ISLANDS REGION
522.	5/13	9	58	43.4	-3.584	150.730	10	94.24	5.8	6.3	NEW IRELAND REGION, P.N.G.
523.	5/13	17	18	55.4	-30.124	-177.548	10	77.46	5.3	5.0	KERMADEC ISLANDS, NEW ZEALAND
524.	5/13	17	34	36.2	11.743	144.247	24	106.40	5.8	5.3	SOUTH OF THE MARIANA ISLANDS
525.	5/13	18	10	24.6	-29.966	-177.338	15	77.42	5.1	-	KERMADEC ISLANDS, NEW ZEALAND
526.	5/13	20	17	47.9	-36.791	-20.816	10	45.51	5.2	4.9	SOUTHERN MID-ATLANTIC RIDGE
527.	5/13	23	49	16.9	-11.854	166.211	10	91.09	5.0	4.5	SANTA CRUZ ISLANDS
528.	5/14	1	42	4.6	-3.216	142.261	44	91.76	5.1	-	NEAR NORTH COAST OF NEW GUINEA, P.N.G.
529.	5/14	6	48	50.3	-22.544	-12.581	10	55.68	4.7	4.6	SOUTHERN MID-ATLANTIC RIDGE
530.	5/14	6	51	59.8	-11.914	166.246	20	91.10	5.3	5.0	SANTA CRUZ ISLANDS
531.	5/15	11	1	22.8	-29.951	-177.290	10	77.50	4.8	-	KERMADEC ISLANDS, NEW ZEALAND
532.	5/15	12	35	43.9	-30.154	-177.390	10	77.43	4.8	-	KERMADEC ISLANDS, NEW ZEALAND
533.	5/16	7	30	25.3	-11.918	166.247	10	91.10	5.2	5.4	SANTA CRUZ ISLANDS
534.	5/16	7	50	33.4	-15.340	-173.423	55	92.50	5.6	-	TONGA
535.	5/16	10	32	10.6	-11.797	165.778	10	91.04	4.8	5.7	SANTA CRUZ ISLANDS
536.	5/16	10	37	8.0	-11.932	165.713	10	90.81	4.9	-	SANTA CRUZ ISLANDS
537.	5/16	10	41	59.6	-11.961	166.309	10	90.91	5.0	-	SANTA CRUZ ISLANDS
538.	5/16	10	55	49.7	-11.914	166.338	10	91.16	5.1	5.7	SANTA CRUZ ISLANDS
539.	5/16	11	1	14.5	7.630	126.166	12	96.15	5.7	5.7	MINDANAO, PHILIPPINES
540.	5/16	11	30	46.6	-11.977	166.219	10	90.95	4.8	-	SANTA CRUZ ISLANDS
541.	5/16	17	13	31.9	-3.012	129.777	10	87.52	4.7	-	SERAM, INDONESIA
542.	5/16	20	47	41.5	-24.713	179.722	544	82.00	4.6	-	SOUTH OF THE FIJI ISLANDS
543.	5/16	22	5	27.1	-10.867	165.446	21	91.91	5.2	4.9	SANTA CRUZ ISLANDS
544.	5/17	6	47	7.8	-21.390	-179.349	624	85.46	4.7	-	FIJI REGION
545.	5/17	8	11	45.5	7.687	126.303	10	96.23	5.1	4.3	MINDANAO, PHILIPPINES
546.	5/17	13	8	53.2	3.095	128.352	53	92.73	5.3	4.6	NORTH OF HALMAHERA, INDONESIA
547.	5/17	15	10	35.7	-8.170	68.159	10	64.12	4.5	-	CHAGOS ARCHIPELAGO REGION
548.	5/18	2	58	15.7	7.314	93.572	63	85.03	5.0	-	NICOBAR ISLANDS, INDIA REGION
549.	5/18	14	23	2.0	14.324	145.592	104	109.33	4.9	-	ROTA REGION, NORTHERN MARIANA ISLANDS
550.	5/18	15	35	6.4	-20.673	-178.108	556	86.42	4.6	-	FIJI REGION

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)		mb MS				
551.	5/18	18	12	30.6	-15.669	-173.748	96	92.22	5.0	-	TONGA	
552.	5/18	23	4	52.7	-19.867	-69.040	96	77.69	4.3	-	TARAPACA, CHILE	
553.	5/19	5	21	59.7	-7.864	118.223	42	78.90	4.6	-	FLORES SEA	
554.	5/19	6	19	5.2	-18.193	-172.456	20	89.96	4.7	-	TONGA REGION	
555.	5/19	8	13	56.4	-12.320	166.661	10	90.58	5.0	5.0	SANTA CRUZ ISLANDS	
556.	5/19	10	3	54.9	-31.994	-69.551	101	66.56	4.0	-	SAN JUAN, ARGENTINA	
557.	5/19	16	12	14.6	-58.064	-11.476	10	24.03	4.8	-	EAST OF THE SOUTH SANDWICH ISLANDS	
558.	5/19	21	4	14.7	27.338	128.321	60	115.18	5.1	-	RYUKYU ISLANDS, JAPAN	
559.	5/19	21	49	28.7	-19.329	168.983	102	84.78	4.9	-	VANUATU	
560.	5/20	5	38	32.8	-15.104	-173.722	10	92.68	4.5	-	TONGA	
561.	5/20	7	58	23.7	-52.266	13.991	10	20.46	5.2	5.2	SOUTHWEST OF AFRICA	
562.	5/20	8	26	0.0	-26.365	-176.916	30	81.09	4.6	-	SOUTH OF THE FIJI ISLANDS	
563.	5/20	8	45	14.1	35.557	-34.240	10	117.36	4.7	4.6	AZORES ISLANDS REGION	
564.	5/20	22	31	49.8	-12.309	166.712	10	90.76	5.2	4.5	SANTA CRUZ ISLANDS	
565.	5/21	15	43	51.5	-32.187	-178.450	160	75.46	4.8	-	SOUTH OF THE KERMADEC ISLANDS	
566.	5/21	15	59	49.2	-32.225	-178.096	10	75.30	5.2	5.4	SOUTH OF THE KERMADEC ISLANDS	
567.	5/21	19	55	52.9	-10.387	161.310	75	91.19	5.2	-	SOLOMON ISLANDS	
568.	5/21	20	45	31.4	-7.630	123.013	272	80.79	4.9	-	BANDA SEA	
569.	5/22	5	55	3.3	-34.890	-107.679	10	73.20	4.6	-	SOUTHERN EAST PACIFIC RISE	
570.	5/22	6	28	8.3	-20.901	-174.216	10	86.99	5.4	5.2	TONGA	
571.	5/22	7	36	57.0	-20.522	-174.254	33	87.38	5.2	5.0	TONGA	
572.	5/22	10	48	35.4	-18.578	-172.655	30	89.47	5.2	4.8	TONGA REGION	
573.	5/22	20	14	48.2	-35.739	-102.544	10	71.15	4.9	4.9	SOUTHEAST OF EASTER ISLAND	
574.	5/23	0	18	51.4	-7.320	128.364	129	83.04	4.9	-	KEPULAUAN BARAT DAYA, INDONESIA	
575.	5/23	6	25	41.5	-18.338	-172.970	50	89.70	4.5	-	TONGA REGION	
576.	5/23	7	38	7.6	34.079	89.285	10	109.47	5.2	4.9	XIZANG-QINGHAI BORDER REGION	
577.	5/23	14	28	27.7	-6.256	151.585	33	92.07	5.0	4.8	NEW BRITAIN REGION, P.N.G.	
578.	5/23	19	11	6.7	-15.277	-173.036	58	92.78	4.4	-	TONGA	
579.	5/24	19	10	10.5	-32.614	-178.254	10	74.72	5.4	5.6	SOUTH OF THE KERMADEC ISLANDS	
580.	5/24	20	2	7.1	-41.030	-72.139	126	59.03	4.5	-	LOS LAGOS, CHILE	
581.	5/25	2	4	20.7	-22.011	169.366	27	82.26	5.1	4.3	SOUTHEAST OF THE LOYALTY ISLANDS	
582.	5/25	4	49	40.3	-17.900	-178.513	577	89.09	4.6	-	FIJI REGION	
583.	5/25	7	11	31.6	-18.630	-172.819	58	89.44	4.3	-	TONGA REGION	
584.	5/25	10	4	20.1	-4.485	-80.084	61	95.79	5.1	-	PERU-ECUADOR BORDER REGION	
585.	5/25	11	22	10.4	1.803	121.802	542	89.09	4.5	-	MINAHASA, SULAWESI, INDONESIA	
586.	5/25	22	27	30.9	-33.982	179.697	105	73.05	4.8	-	SOUTH OF THE KERMADEC ISLANDS	
587.	5/26	1	1	27.7	-6.960	125.088	514	82.08	4.8	-	BANDA SEA	
588.	5/26	3	52	59.8	-8.294	-74.174	156	90.25	5.0	-	CENTRAL PERU	
589.	5/26	6	51	26.2	-21.083	-68.346	138	76.34	4.8	-	ANTOFAGASTA, CHILE	
590.	5/26	11	20	59.7	-52.543	18.769	10	18.87	4.8	4.8	SOUTHWEST OF AFRICA	
591.	5/26	19	52	37.9	-52.664	18.614	10	18.93	4.9	4.5	SOUTHWEST OF AFRICA	
592.	5/26	20	30	13.1	-16.289	-71.349	136	81.65	4.3	-	SOUTHERN PERU	
593.	5/26	22	24	53.2	-32.667	-178.162	32	74.79	5.1	4.9	SOUTH OF THE KERMADEC ISLANDS	
594.	5/27	1	13	26.5	-5.447	147.077	129	91.40	4.6	-	EASTERN NEW GUINEA REG, P.N.G.	
595.	5/27	2	18	56.8	-56.782	147.266	10	44.10	5.0	4.9	WEST OF MACQUARIE ISLAND	
596.	5/27	3	52	7.4	14.628	54.869	10	84.41	5.1	4.4	OWEN FRACTURE ZONE REGION	
597.	5/27	4	42	32.5	14.642	54.746	10	84.62	4.5	-	OWEN FRACTURE ZONE REGION	
598.	5/27	6	18	41.3	-17.365	27.856	10	52.11	4.1	-	ZIMBABWE	
599.	5/27	6	19	38.6	5.490	126.324	165	94.11	4.5	-	MINDANAO, PHILIPPINES	
600.	5/27	10	10	36.2	6.591	126.411	63	95.24	5.5	-	MINDANAO, PHILIPPINES	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC			Latitude (deg)	Longitude (deg)		(deg)	(deg)	mb	MS	
		h	m	s								
601.	5/27	13	34	1.0	-52.764	18.405	10	18.90	4.8	4.8	SOUTHWEST OF AFRICA	
602.	5/27	15	11	37.5	-14.199	-14.427	10	64.13	4.9	5.1	SOUTHERN MID-ATLANTIC RIDGE	
603.	5/27	20	49	27.1	-52.618	18.626	10	18.93	5.1	5.0	SOUTHWEST OF AFRICA	
604.	5/27	22	35	26.0	10.731	-41.006	10	96.45	4.7	4.4	NORTHERN MID-ATLANTIC RIDGE	
605.	5/28	19	6	2.6	12.507	141.659	30	106.14	5.0	4.4	MARIANA ISLANDS REGION	
606.	5/29	13	30	56.9	-20.453	-68.886	103	77.10	4.9	-	TARAPACA, CHILE	
607.	5/30	0	26	32.3	-52.536	18.224	10	19.22	4.7	-	SOUTHWEST OF AFRICA	
608.	5/30	1	56	1.3	4.403	128.213	62	93.82	5.2	-	NORTH OF HALMAHERA, INDONESIA	
609.	5/30	10	39	51.4	44.300	147.545	62	137.16	5.1	-	KURIL ISLANDS	
610.	5/30	16	43	57.6	-17.243	-70.546	109	80.66	5.3	-	SOUTHERN PERU	
611.	5/30	17	14	41.9	2.015	126.896	17	91.14	5.2	4.5	MOLUCCA SEA	
612.	5/30	21	11	25.3	-31.052	-177.117	10	76.50	5.6	5.9	KERMADEC ISLANDS REGION	
613.	5/31	1	51	45.5	14.385	93.849	30	91.85	4.7	4.4	ANDAMAN ISLANDS, INDIA REGION	
614.	5/31	2	45	10.9	-37.380	177.560	104	69.30	4.9	-	OFF E COAST OF THE NORTH ISLAND, N.Z.	
615.	5/31	2	56	54.5	46.448	149.524	172	139.74	4.9	-	KURIL ISLANDS	
616.	5/31	4	20	58.4	-7.967	107.689	56	75.02	4.5	-	JAVA, INDONESIA	
617.	5/31	6	59	4.9	8.072	-39.006	10	93.30	4.8	-	CENTRAL MID-ATLANTIC RIDGE	
618.	6/1	17	4	54.7	-32.072	-68.033	38	66.03	5.4	4.5	MENDOZA, ARGENTINA	
619.	6/1	20	47	30.4	-9.037	67.253	10	62.73	5.0	4.8	MID-INDIAN RIDGE	
620.	6/2	4	38	47.8	-6.157	103.908	42	75.43	5.4	5.1	SOUTHWEST OF SUMATRA, INDONESIA	
621.	6/2	5	14	46.4	-7.100	120.361	563	80.27	4.7	-	FLORES SEA	
622.	6/2	8	50	37.1	-32.875	-179.447	43	74.27	5.9	5.8	SOUTH OF THE KERMADEC ISLANDS	
623.	6/2	15	6	2.8	4.775	-32.566	10	88.20	4.7	4.5	CENTRAL MID-ATLANTIC RIDGE	
624.	6/2	17	5	7.9	-23.766	179.256	537	82.99	5.2	-	SOUTH OF THE FIJI ISLANDS	
625.	6/2	20	47	57.0	4.798	-32.654	10	88.06	5.2	5.0	CENTRAL MID-ATLANTIC RIDGE	
626.	6/2	22	10	36.1	10.188	93.625	27	87.80	4.7	-	ANDAMAN ISLANDS, INDIA REGION	
627.	6/2	22	39	29.5	-30.481	-177.875	28	76.90	5.6	5.4	KERMADEC ISLANDS, NEW ZEALAND	
628.	6/3	8	30	35.3	-37.227	-17.282	10	43.68	4.4	-	SOUTHERN MID-ATLANTIC RIDGE	
629.	6/3	15	53	37.1	-22.504	-66.172	248	74.29	4.3	-	JUJUY, ARGENTINA	
630.	6/3	16	36	23.3	-19.525	-66.733	251	77.32	4.2	-	POTOSI, BOLIVIA	
631.	6/4	2	38	28.0	-16.052	-173.854	85	91.87	4.9	-	TONGA	
632.	6/6	9	38	7.2	-6.040	113.109	579	78.73	5.6	-	JAVA, INDONESIA	
633.	6/7	10	35	43.4	-6.099	113.130	591	78.65	4.5	-	JAVA, INDONESIA	
634.	6/7	11	8	47.0	-21.394	-66.830	214	75.50	4.6	-	POTOSI, BOLIVIA	
635.	6/8	10	54	30.4	-15.237	167.519	116	88.21	5.4	-	VANUATU	
636.	6/9	22	49	44.4	-51.566	139.656	10	46.36	5.4	-	WESTERN INDIAN-ANTARCTIC RIDGE	
637.	6/9	22	52	8.8	-51.603	139.615	10	46.27	5.8	6.3	WESTERN INDIAN-ANTARCTIC RIDGE	
638.	6/10	9	35	10.7	1.245	126.904	92	90.39	5.0	-	MOLUCCA SEA	
639.	6/10	9	50	38.7	-15.230	-173.476	10	92.62	4.9	-	TONGA	
640.	6/10	11	13	42.6	-23.206	-175.359	10	84.50	5.0	4.6	TONGA REGION	
641.	6/10	15	19	57.7	55.682	160.003	189	151.09	6.1	-	KAMCHATKA PENINSULA, RUSSIA	
642.	6/10	20	33	6.1	-30.257	-178.702	143	76.96	5.2	-	KERMADEC ISLANDS, NEW ZEALAND	
643.	6/11	7	9	22.0	-27.968	-90.923	10	76.37	5.1	4.4	SOUTHEAST CENTRAL PACIFIC OCEAN	
644.	6/11	12	25	4.4	-35.245	-106.425	10	72.67	4.9	4.8	SOUTHERN EAST PACIFIC RISE	
645.	6/11	16	33	27.6	45.294	150.763	32	139.13	5.3	4.8	KURIL ISLANDS	
646.	6/13	19	28	13.2	-17.891	-178.570	580	89.12	5.4	-	FIJI REGION	
647.	6/14	20	6	13.2	-22.087	-174.937	10	85.61	5.4	5.3	TONGA REGION	
648.	6/15	11	16	31.5	-38.854	-73.155	38	61.28	5.7	5.4	ARAUCANIA, CHILE	
649.	6/15	18	43	48.9	-15.408	-173.768	101	92.48	4.9	-	TONGA	
650.	6/16	7	7	16.0	-14.713	167.259	94	88.72	4.7	-	VANUATU	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epi central distance		Magnitude		Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)		mb	MS			
651.	6/16	11	1	27.1	-21.335	-178.870	600	85.91	4.2	-	FIJI REGION	
652.	6/16	21	34	29.6	5.591	127.086	116	94.49	5.2	-	PHILIPPINE ISLANDS REGION	
653.	6/16	22	40	50.0	6.048	126.026	165	94.54	4.8	-	MINDANAO, PHILIPPINES	
654.	6/17	0	23	1.5	-21.219	169.580	57	83.07	4.9	-	SOUTHEAST OF THE LOYALTY ISLANDS	
655.	6/17	1	16	1.3	-21.246	-68.372	115	76.22	5.2	-	ANTOFAGASTA, CHILE	
656.	6/17	3	15	50.5	-31.772	-69.975	121	66.98	4.8	-	SAN JUAN, ARGENTINA	
657.	6/17	6	50	16.5	-23.568	-175.167	10	84.16	4.8	-	TONGA REGION	
658.	6/17	7	36	34.0	-20.719	-178.747	555	86.25	4.3	-	FIJI REGION	
659.	6/17	7	43	41.4	-23.925	-66.608	203	73.11	4.3	-	JUJUY, ARGENTINA	
660.	6/17	10	24	51.7	1.120	126.719	10	90.25	4.7	-	MOLUCCA SEA	
661.	6/17	13	59	12.3	-18.762	-177.913	485	88.52	4.8	-	FIJI REGION	
662.	6/17	15	34	55.9	-19.184	-172.849	42	88.84	5.0	-	TONGA REGION	
663.	6/17	22	4	8.9	-40.924	-16.780	10	40.22	4.9	-	SOUTHERN MID-ATLANTIC RIDGE	
664.	6/18	13	22	41.8	-1.845	138.801	35	91.73	5.1	4.7	NEAR THE NORTH COAST OF PAPUA, IND.	
665.	6/18	14	59	54.1	6.654	-72.992	151	103.96	5.0	-	NORTHERN COLOMBIA	
666.	6/19	12	12	0.7	-21.991	-67.335	190	75.22	4.8	-	POTOSI, BOLIVIA	
667.	6/19	21	46	27.4	-7.767	108.003	79	75.30	4.4	-	JAVA, INDONESIA	
668.	6/20	0	47	31.7	-21.863	-179.484	599	85.02	5.0	-	FIJI REGION	
669.	6/20	1	37	35.6	5.347	-82.551	10	105.89	5.3	5.2	SOUTH OF PANAMA	
670.	6/20	8	51	1.8	0.509	125.998	5	89.39	5.1	4.2	MOLUCCA SEA	
671.	6/20	11	54	3.1	-0.711	133.287	21	90.84	5.4	4.8	NEAR THE NORTH COAST OF PAPUA, IND.	
672.	6/22	9	4	43.8	-10.902	166.259	153	92.05	5.8	-	SANTA CRUZ ISLANDS	
673.	6/22	14	38	58.6	27.835	36.966	10	96.89	4.7	3.9	WESTERN SAUDI ARABIA	
674.	6/22	21	39	37.1	-19.108	-175.747	231	88.44	4.9	-	TONGA	
675.	6/23	1	26	1.9	-6.980	124.881	549	82.05	5.3	-	BANDA SEA	
676.	6/23	8	48	27.7	-19.473	-69.051	109	78.04	5.3	-	TARAPACA, CHILE	
677.	6/23	10	13	56.7	-19.524	-69.215	105	78.09	4.6	-	TARAPACA, CHILE	
678.	6/24	0	52	34.7	-21.174	-179.187	573	85.75	4.4	-	FIJI REGION	
679.	6/24	1	22	46.9	-23.486	-179.909	482	83.23	4.3	-	SOUTH OF THE FIJI ISLANDS	
680.	6/24	6	52	7.3	-15.441	168.352	30	88.27	4.9	4.4	VANUATU	
681.	6/24	8	10	7.0	-23.742	-111.755	10	84.71	4.3	-	EASTER ISLAND REGION	
682.	6/24	10	22	47.7	-18.250	-71.025	28	79.85	4.9	-	OFF THE COAST OF TARAPACA, CHILE	
683.	6/24	13	3	42.4	2.783	128.294	85	92.48	4.6	-	HALMAHERA, INDONESIA	
684.	6/24	13	13	38.8	-21.999	-70.324	47	76.13	4.5	-	OFFSHORE ANTOFAGASTA, CHILE	
685.	6/24	15	16	8.6	-6.491	155.072	33	92.91	4.9	-	BOUGAINVILLE REGION, P.N.G.	
686.	6/24	23	19	40.9	-21.114	169.535	55	83.06	4.8	-	SOUTHEAST OF THE LOYALTY ISLANDS	
687.	6/25	2	35	7.7	-6.711	130.375	71	84.22	6.0	-	BANDA SEA	
688.	6/25	9	7	35.0	-45.792	95.717	10	36.23	5.0	5.0	SOUTHEAST INDIAN RIDGE	
689.	6/25	16	0	50.1	-7.365	125.869	39	81.96	5.1	-	KEPULAUAN BARAT DAYA, INDONESIA	
690.	6/25	18	3	48.6	0.117	123.705	175	88.20	4.7	-	MINAHASA, SULAWESI, INDONESIA	
691.	6/27	1	14	53.8	-19.759	-174.457	53	88.07	4.7	-	TONGA	
692.	6/27	1	29	34.9	50.978	159.050	33	147.04	4.8	4.3	EAST OF THE KURIL ISLANDS	
693.	6/27	12	51	50.3	-40.921	43.306	10	28.18	5.6	5.0	SOUTHWEST INDIAN RIDGE	
694.	6/28	9	49	47.0	54.800	-134.250	20	165.68	5.9	6.8	QUEEN CHARLOTTE ISLANDS REGION	
695.	6/28	18	8	46.0	-33.996	-72.289	28	65.50	4.8	-	OFFSHORE LIBERTADOR O'HIGGINS, CHILE	
696.	6/28	19	14	57.6	-35.500	78.340	10	39.86	4.8	-	MID-INDIAN RIDGE	
697.	6/28	23	16	12.7	-34.241	-179.598	80	73.08	5.2	-	SOUTH OF THE KERMADEC ISLANDS	
698.	6/29	0	38	46.4	-34.132	-179.388	65	73.35	5.1	-	SOUTH OF THE KERMADEC ISLANDS	
699.	6/29	3	9	58.3	-19.712	-178.117	603	87.37	4.7	-	FIJI REGION	
700.	6/29	6	17	15.3	-29.230	-67.471	130	68.44	4.1	-	LA RIOJA, ARGENTINA	

No.	Date	Origin time			Geographic		Coordinates		Depth (km)	Epicentral		Magnitude		Region
		UTC			Latitude (deg)	Longitude (deg)	distance (deg)	mb		MS				
		h	m	s										
701.	6/29	11	40	17.0	-0.665	123.360	10	87.38	5.2	4.9	SULAWESI, INDONESIA			
702.	6/30	6	8	40.3	-15.600	-69.342	259	81.83	4.0	-	LA PAZ, BOLIVIA			
703.	6/30	9	1	17.5	-16.917	-179.118	483	89.94	4.5	-	FIJI REGION			
704.	6/30	11	5	31.1	9.560	122.398	53	96.63	4.7	-	NEGROS, PHILIPPINES			
705.	6/30	14	6	3.4	-50.124	114.012	10	39.09	4.8	4.7	WESTERN INDIAN-ANTARCTIC RIDGE			
706.	6/30	14	22	39.7	53.986	-35.179	10	134.24	4.8	5.0	REYKJANES RIDGE			
707.	6/30	23	37	25.4	0.797	124.726	91	89.20	6.0	-	MINAHASA, SULAWESI, INDONESIA			
708.	7/1	4	39	37.5	-49.581	163.669	10	54.02	5.1	5.6	AUCKLAND ISLANDS, NEW ZEALAND REGION			
709.	7/1	5	43	58.4	-15.346	-173.554	63	92.51	5.4	-	TONGA			
710.	7/1	9	20	44.1	54.131	-35.259	10	134.38	5.4	5.5	REYKJANES RIDGE			
711.	7/1	9	31	50.1	-23.073	-175.416	10	84.56	5.1	5.4	TONGA REGION			
712.	7/1	14	59	30.2	-22.959	-177.055	107	84.36	5.3	-	SOUTH OF THE FIJI ISLANDS			
713.	7/1	16	20	59.4	-25.541	-179.379	406	81.67	5.4	-	SOUTH OF THE FIJI ISLANDS			
714.	7/1	16	44	5.5	-18.406	-71.111	45	79.71	4.6	-	OFF THE COAST OF TARAPACA, CHILE			
715.	7/1	17	24	27.8	-14.940	168.073	37	88.71	5.0	4.5	VANUATU			
716.	7/1	19	28	45.2	-5.910	148.662	57	91.37	5.3	-	NEW BRITAIN REGION, P.N.G.			
717.	7/1	22	14	50.3	17.115	121.549	50	103.30	5.1	-	LUZON, PHILIPPINES			
718.	7/1	22	30	9.3	39.766	43.979	5	108.87	5.4	4.8	EASTERN TURKEY			
719.	7/1	23	37	53.7	-4.942	144.654	50	90.93	4.9	-	NEAR NORTH COAST OF NEW GUINEA, P.N.G.			
720.	7/2	8	22	42.7	-56.149	-27.297	142	31.20	4.6	-	SOUTH SANDWICH ISLANDS REGION			
721.	7/2	11	57	9.6	-8.975	67.614	10	62.75	5.1	4.8	MID-INDIAN RIDGE			
722.	7/2	17	46	51.3	1.534	126.455	42	90.45	4.7	-	MOLUCCA SEA			
723.	7/2	23	7	30.8	1.458	126.339	10	90.40	4.9	-	MOLUCCA SEA			
724.	7/3	14	10	45.2	34.093	89.349	10	109.45	5.3	4.7	XIZANG-QINGHAI BORDER REGION			
725.	7/4	5	3	5.5	-41.474	-73.704	44	59.03	4.7	-	LOS LAGOS, CHILE			
726.	7/4	18	58	26.6	-31.422	-67.622	36	66.49	3.9	-	SAN JUAN, ARGENTINA			
727.	7/4	22	48	21.8	26.691	140.199	580	118.75	4.6	-	BONIN ISLANDS, JAPAN REGION			
728.	7/6	12	20	0.1	-18.761	169.533	271	85.44	4.8	-	VANUATU			
729.	7/6	15	2	54.8	-11.776	-13.375	10	66.14	4.9	4.9	ASCENSION ISLAND REGION			
730.	7/6	15	31	52.9	-11.725	-13.523	10	66.17	5.1	4.9	ASCENSION ISLAND REGION			
731.	7/7	4	18	7.1	-6.514	150.348	45	91.32	4.6	-	NEW BRITAIN REGION, P.N.G.			
732.	7/7	17	1	22.0	-22.567	-175.009	55	85.20	5.2	-	TONGA REGION			
733.	7/7	17	30	51.7	-7.328	130.532	10	83.72	4.9	-	KEPULAUAN TANIMBAR REGION, INDONESIA			
734.	7/7	18	46	4.9	27.347	53.405	66	96.94	4.5	-	SOUTHERN IRAN			
735.	7/7	21	29	23.2	-17.431	168.210	10	86.36	5.6	5.6	VANUATU			
736.	7/8	7	17	4.7	-3.069	130.445	45	87.65	4.5	-	SERAM, INDONESIA			
737.	7/8	7	53	13.6	-28.853	-177.430	45	78.88	4.4	-	KERMADEC ISLANDS REGION			
738.	7/8	9	48	1.7	-19.182	-112.339	10	89.46	4.7	-	SOUTHERN EAST PACIFIC RISE			
739.	7/8	10	30	49.1	47.198	151.303	129	141.02	5.9	-	KURIL ISLANDS			
740.	7/8	12	9	41.1	0.286	123.281	240	88.21	4.3	-	MINAHASA, SULAWESI, INDONESIA			
741.	7/8	17	22	56.4	-24.812	-116.100	10	84.54	4.7	-	SOUTHERN EAST PACIFIC RISE			
742.	7/8	17	33	38.7	-25.077	-116.167	10	84.17	5.3	5.3	SOUTHERN EAST PACIFIC RISE			
743.	7/8	17	42	21.5	-28.035	-66.837	172	69.36	4.5	-	CATAMARCA, ARGENTINA			
744.	7/8	19	54	33.8	-25.055	-115.964	10	84.20	5.4	5.7	SOUTHERN EAST PACIFIC RISE			
745.	7/8	20	20	56.1	-27.263	-70.066	82	71.19	4.9	-	ATACAMA, CHILE			
746.	7/8	20	36	55.6	-32.938	-179.400	38	73.91	5.0	-	SOUTH OF THE KERMADEC ISLANDS			
747.	7/8	21	1	48.9	-4.889	144.207	91	90.88	4.6	-	NEAR NORTH COAST OF NEW GUINEA, P.N.G.			
748.	7/8	22	14	56.6	14.679	55.589	10	84.53	4.6	-	OWEN FRACTURE ZONE REGION			
749.	7/9	3	39	31.1	-26.847	-113.694	10	82.09	5.1	4.7	EASTER ISLAND REGION			
750.	7/9	4	34	44.7	-26.700	-113.735	10	82.26	4.7	4.2	EASTER ISLAND REGION			

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)		mb	MS			
751.	7/9	14	29	1.0	-17.291	-174.371	123	90.58	4.8	-	TONGA	
752.	7/9	18	50	56.8	-26.843	-113.695	10	82.10	5.0	4.3	EASTER ISLAND REGION	
753.	7/9	19	51	48.6	-26.950	-113.578	10	81.62	4.9	4.1	EASTER ISLAND REGION	
754.	7/9	22	16	41.6	-26.892	-113.694	10	82.06	5.2	4.5	EASTER ISLAND REGION	
755.	7/10	0	20	57.0	-8.784	94.812	10	70.02	5.3	5.2	SOUTH INDIAN OCEAN	
756.	7/10	8	56	20.5	-8.610	130.477	10	82.52	5.0	-	KEPULAUAN TANIMBAR REGION, INDONESIA	
757.	7/11	1	15	57.1	-25.314	179.809	480	81.48	4.9	-	SOUTH OF THE FIJI ISLANDS	
758.	7/11	16	17	14.0	-3.350	138.954	49	90.51	4.4	-	PAPUA, INDONESIA	
759.	7/12	9	43	39.0	-7.108	129.707	64	83.57	4.8	-	KEPULAUAN BABAR, INDONESIA	
760.	7/12	10	10	56.0	-9.556	108.189	23	73.72	4.6	4.4	SOUTH OF JAVA, INDONESIA	
761.	7/13	19	51	1.6	-24.259	-174.922	25	83.66	5.3	5.0	SOUTH OF TONGA	
762.	7/14	7	23	5.7	-15.425	-175.069	285	92.27	4.7	-	TONGA	
763.	7/15	4	27	8.6	-17.814	-178.696	560	89.09	5.1	-	FIJI REGION	
764.	7/15	4	27	12.5	-17.639	-178.619	560	89.29	5.5	-	FIJI REGION	
765.	7/15	4	27	14.7	-17.656	-178.760	566	89.22	6.4	-	FIJI REGION	
766.	7/15	5	30	35.4	-17.912	-178.744	560	88.99	4.7	-	FIJI REGION	
767.	7/15	6	26	57.0	-17.621	-178.903	560	89.23	4.2	-	FIJI REGION	
768.	7/15	7	28	3.7	-21.319	-68.491	111	76.13	4.5	-	ANTOFAGASTA, CHILE	
769.	7/15	12	39	10.0	-4.510	105.049	207	77.24	4.5	-	SOUTHERN SUMATRA, INDONESIA	
770.	7/15	16	19	9.3	-0.332	126.858	36	88.96	5.1	-	MOLUCCA SEA	
771.	7/16	15	26	43.3	2.410	126.746	70	91.47	4.8	-	MOLUCCA SEA	
772.	7/16	23	58	19.0	-65.651	-179.574	10	42.74	5.4	5.9	PACIFIC-ANTARCTIC RIDGE	
773.	7/17	1	20	33.3	-6.519	113.367	54	78.39	5.1	4.9	JAVA, INDONESIA	
774.	7/17	3	38	57.7	-40.700	43.229	10	28.38	5.0	4.5	SOUTHWEST INDIAN RIDGE	
775.	7/17	6	10	18.0	34.746	140.218	46	126.08	5.4	4.9	NEAR THE EAST COAST OF HONSHU, JAPAN	
776.	7/17	12	17	53.1	-54.720	143.787	10	44.94	5.2	5.4	WEST OF MACQUARIE ISLAND	
777.	7/17	13	38	0.2	1.286	97.384	53	70.26	5.0	4.9	NIAS REGION, INDONESIA	
778.	7/17	17	5	25.9	-56.288	-25.752	10	30.53	5.1	4.3	SOUTH SANDWICH ISLANDS REGION	
779.	7/18	2	56	5.2	-7.282	124.699	531	81.67	4.7	-	BANDA SEA	
780.	7/18	3	58	6.0	-38.010	176.490	5	68.48	4.9	-	NORTH ISLAND OF NEW ZEALAND	
781.	7/18	4	22	22.6	-38.000	176.510	5	68.49	5.1	5.1	NORTH ISLAND OF NEW ZEALAND	
782.	7/18	12	49	8.6	-3.475	131.921	47	87.80	4.6	-	CERAM SEA, INDONESIA	
783.	7/18	19	23	20.7	-24.184	179.932	496	82.67	4.5	-	SOUTH OF THE FIJI ISLANDS	
784.	7/19	2	44	37.7	-28.257	-69.552	105	70.03	-	-	ATACAMA, CHILE	
785.	7/19	2	57	29.7	-17.807	-63.303	17	77.74	4.7	-	SANTA CRUZ, BOLIVIA	
786.	7/19	6	9	52.4	-41.684	172.499	17	64.06	4.7	-	SOUTH ISLAND OF NEW ZEALAND	
787.	7/19	8	1	49.4	49.623	-126.967	24	159.50	5.9	6.2	VANCOUVER ISLAND, CANADA REGION	
788.	7/20	2	55	47.6	12.090	58.203	10	82.16	4.4	-	OWEN FRACTURE ZONE REGION	
789.	7/20	3	40	24.1	-20.317	169.372	37	83.87	5.5	5.3	VANUATU	
790.	7/20	18	48	38.4	-32.352	-179.611	25	74.85	5.2	4.6	SOUTH OF THE KERMADEC ISLANDS	
791.	7/21	0	11	29.7	40.972	143.083	30	132.73	5.2	5.5	OFF THE EAST COAST OF HONSHU, JAPAN	
792.	7/21	0	38	22.4	40.979	142.988	32	132.75	5.1	5.4	NEAR THE EAST COAST OF HONSHU, JAPAN	
793.	7/21	6	29	48.8	21.143	144.306	25	115.11	5.2	4.9	MARIANA ISLANDS REGION	
794.	7/21	7	35	33.3	-17.164	-70.597	101	80.74	4.6	-	SOUTHERN PERU	
795.	7/21	20	36	59.5	-5.975	151.686	67	92.32	4.9	-	NEW BRITAIN REGION, P.N.G.	
796.	7/21	21	34	2.6	-23.572	-177.342	57	83.74	4.9	-	SOUTH OF THE FIJI ISLANDS	
797.	7/22	2	42	42.0	-7.744	120.726	47	79.86	4.5	-	FLORES SEA	
798.	7/22	3	8	18.2	-32.358	-179.565	53	74.76	5.1	4.3	SOUTH OF THE KERMADEC ISLANDS	
799.	7/22	21	36	17.3	-18.098	-178.496	593	88.87	4.7	-	FIJI REGION	
800.	7/23	2	4	6.1	-16.656	-174.443	194	91.09	4.6	-	TONGA	

No.	Date	Origin time			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance (deg)		Magnitude		Region
		h	m	s				mb	MS			
801.	7/23	12	13	26.2	-18.284	-70.285	114	79.86	4.6	-	OFFSHORE TARAPACA, CHILE	
802.	7/23	22	17	6.8	-32.967	-178.457	10	74.44	5.1	4.9	SOUTH OF THE KERMADEC ISLANDS	
803.	7/24	18	54	58.2	26.488	128.754	31	114.54	5.5	5.2	RYUKYU ISLANDS, JAPAN	
804.	7/25	14	1	9.8	-17.628	-69.107	156	79.80	5.3	-	LA PAZ, BOLIVIA	
805.	7/25	14	35	19.0	-2.427	103.981	582	78.96	6.8	-	SOUTHERN SUMATRA, INDONESIA	
806.	7/25	17	28	37.3	5.208	125.298	174	93.48	5.0	-	MINDANAO, PHILIPPINES	
807.	7/25	17	54	6.5	-20.109	-70.519	51	77.83	4.3	-	OFFSHORE TARAPACA, CHILE	
808.	7/25	19	48	57.0	12.405	95.016	24	90.30	5.1	4.7	ANDAMAN ISLANDS, INDIA REGION	
809.	7/26	4	41	58.6	-8.481	119.836	137	78.82	5.0	-	FLORES REGION, INDONESIA	
810.	7/26	16	15	49.7	42.869	133.969	449	131.12	4.2	-	PRIMOR'YE, RUSSIA	
811.	7/27	0	3	10.5	-22.162	-179.578	596	84.62	4.8	-	SOUTH OF THE FIJI ISLANDS	
812.	7/27	1	6	52.8	-2.987	147.540	30	93.74	4.9	4.9	ADMIRALTY ISLANDS REG., P.N.G.	
813.	7/27	14	17	20.4	-18.115	-177.043	323	89.12	4.8	-	FIJI REGION	
814.	7/28	3	56	28.6	-0.443	133.091	13	91.08	6.0	6.3	NEAR THE NORTH COAST OF PAPUA, IND.	
815.	7/28	4	1	59.9	-0.328	133.061	10	91.09	5.5	-	NEAR THE NORTH COAST OF PAPUA, IND.	
816.	7/28	8	6	45.2	-13.450	-111.746	10	94.79	4.7	4.7	CENTRAL EAST PACIFIC RISE	
817.	7/28	9	26	45.7	-0.384	132.807	23	90.93	5.0	4.6	NEAR THE NORTH COAST OF PAPUA, IND.	
818.	7/28	10	23	28.9	-10.308	161.168	56	91.12	5.5	-	SOLOMON ISLANDS	
819.	7/28	13	18	58.8	-0.468	133.035	12	90.96	5.0	-	NEAR THE NORTH COAST OF PAPUA, IND.	
820.	7/28	23	13	24.1	-33.866	-179.720	85	73.24	5.1	-	SOUTH OF THE KERMADEC ISLANDS	
821.	7/29	1	44	6.9	12.455	94.997	22	90.29	5.7	5.5	ANDAMAN ISLANDS, INDIA REGION	
822.	7/29	2	1	49.0	12.385	94.948	21	90.14	5.1	5.1	ANDAMAN ISLANDS, INDIA REGION	
823.	7/29	2	15	40.9	12.223	94.809	18	89.74	4.9	-	ANDAMAN ISLANDS, INDIA REGION	
824.	7/29	2	18	37.6	12.388	94.973	20	90.31	4.9	-	ANDAMAN ISLANDS, INDIA REGION	
825.	7/29	4	5	26.3	2.906	124.546	293	91.18	4.9	-	CELEBES SEA	
826.	7/29	4	13	43.2	-14.973	166.948	55	88.43	4.7	-	VANUATU	
827.	7/29	6	24	17.9	32.526	137.766	350	123.42	4.7	-	IZU ISLANDS, JAPAN REGION	
828.	7/29	10	0	20.2	-11.097	-78.217	52	88.97	5.3	-	OFF THE COAST OF CENTRAL PERU	
829.	7/29	13	23	3.2	12.445	95.003	24	90.27	5.5	5.0	ANDAMAN ISLANDS, INDIA REGION	
830.	7/29	16	15	32.3	12.348	94.846	18	90.08	4.8	4.1	ANDAMAN ISLANDS, INDIA REGION	
831.	7/29	18	37	8.2	-4.515	153.642	94	94.42	4.8	-	NEW IRELAND REGION, P.N.G.	
832.	7/29	19	44	28.9	-30.796	-71.450	46	68.19	4.8	-	COQUIMBO, CHILE	
833.	7/29	20	52	57.1	0.022	123.518	193	88.07	4.7	-	MINAHASA, SULAWESI, INDONESIA	
834.	7/29	22	21	41.8	-4.093	143.036	56	91.13	5.7	-	NEW GUINEA, P.N.G.	
835.	7/30	12	14	33.1	-57.261	-25.802	62	29.82	5.4	-	SOUTH SANDWICH ISLANDS REGION	
836.	7/31	4	15	44.9	12.270	94.942	22	89.95	5.2	4.4	ANDAMAN ISLANDS, INDIA REGION	
837.	7/31	6	4	52.2	-16.131	-176.167	300	91.44	4.4	-	FIJI REGION	
838.	7/31	6	32	27.2	-21.374	-68.105	94	75.94	5.2	-	POTOSI, BOLIVIA	
839.	7/31	8	53	28.6	-15.133	66.933	10	57.03	5.1	4.5	MID-INDIAN RIDGE	
840.	7/31	10	12	23.7	-18.708	-175.119	179	88.82	4.5	-	TONGA	
841.	8/1	19	3	10.2	-63.563	-166.666	10	46.14	5.2	6.0	PACIFIC-ANTARCTIC RIDGE	
842.	8/2	1	5	51.5	-4.661	133.633	10	87.29	5.4	5.1	NEAR THE SOUTH COAST OF PAPUA, IND.	
843.	8/2	2	36	54.9	-5.471	102.623	41	75.74	5.5	5.0	SOUTHERN SUMATRA, INDONESIA	
844.	8/2	21	16	43.9	-5.866	104.841	18	76.11	4.8	-	SOUTHERN SUMATRA, INDONESIA	
845.	8/2	22	59	36.1	-7.938	159.588	21	93.01	4.9	4.2	SOLOMON ISLANDS	
846.	8/3	18	55	1.2	-4.724	144.299	54	91.01	4.9	-	NEAR NORTH COAST OF NEW GUINEA, P.N.G.	
847.	8/4	3	46	16.9	-40.779	43.201	10	28.31	5.3	5.0	SOUTHWEST INDIAN RIDGE	
848.	8/4	4	19	48.3	36.843	27.850	10	106.29	5.2	4.8	DODECANESE ISLANDS, GREECE	
849.	8/4	9	48	33.4	52.273	159.583	51	148.24	5.1	4.8	OFF THE EAST COAST OF KAMCHATKA, RUSSIA	
850.	8/4	11	3	34.3	52.231	159.650	48	148.25	5.3	5.1	OFF THE EAST COAST OF KAMCHATKA, RUSSIA	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude mb MS	Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)					
851.	8/4	21	15	15.5	52.315	159.563	36	148.23	5.3	5.2	OFF THE EAST COAST OF KAMCHATKA, RUSSIA
852.	8/5	7	0	45.6	-49.656	163.871	15	54.64	4.9	-	AUCKLAND ISLANDS, NEW ZEALAND REGION
853.	8/5	9	17	2.6	-24.311	-66.963	160	72.86	4.4	-	SALTA, ARGENTINA
854.	8/5	14	8	42.0	-37.063	-96.342	10	68.96	4.7	-	SOUTHEAST OF EASTER ISLAND
855.	8/6	0	59	28.7	-16.118	167.773	80	87.37	5.1	-	VANUATU
856.	8/6	14	35	27.0	12.430	94.998	24	90.31	5.7	5.2	ANDAMAN ISLANDS, INDIA REGION
857.	8/6	19	12	12.9	-4.337	102.850	91	76.83	5.1	-	SOUTHERN SUMATRA, INDONESIA
858.	8/7	7	33	32.9	-11.717	166.067	200	91.10	4.8	-	SANTA CRUZ ISLANDS
859.	8/7	9	30	16.9	51.753	-166.313	8	158.95	6.3	5.4	SOUTH OF THE ALEUTIAN ISLANDS
860.	8/7	14	18	35.2	-6.242	95.666	21	72.70	5.8	4.9	SOUTHWEST OF SUMATRA, INDONESIA
861.	8/7	18	23	58.5	-15.546	167.685	179	87.98	4.9	-	VANUATU
862.	8/8	3	44	32.0	-6.216	103.719	43	75.09	4.6	-	SOUTHWEST OF SUMATRA, INDONESIA
863.	8/8	7	41	12.3	33.176	136.947	372	123.46	4.5	-	NEAR S. COAST OF WESTERN HONSHU, JAPAN
864.	8/8	9	20	23.5	-20.226	-178.915	641	86.69	4.8	-	FIJI REGION
865.	8/8	14	45	36.3	-6.443	130.005	113	84.42	4.9	-	BANDA SEA
866.	8/9	20	36	14.3	9.827	125.498	10	97.93	5.0	-	MINDANAO, PHILIPPINES
867.	8/11	0	27	16.6	-55.695	-26.771	10	31.32	4.6	-	SOUTH SANDWICH ISLANDS REGION
868.	8/11	3	25	14.1	-18.023	-69.249	102	79.52	4.6	-	TARAPACA, CHILE
869.	8/11	23	2	24.6	-3.079	-80.801	42	97.34	5.2	4.6	PERU-ECUADOR BORDER REGION
870.	8/12	7	0	22.6	-0.230	125.194	25	88.39	4.8	-	MOLUCCA SEA
871.	8/12	12	24	9.4	0.346	122.394	190	88.02	4.5	-	MINAHASA, SULAWESI, INDONESIA
872.	8/12	12	55	14.9	-3.907	141.670	34	90.87	5.0	4.6	NEW GUINEA, P.N.G.
873.	8/12	13	38	50.5	-6.952	129.447	126	83.73	4.2	-	BANDA SEA
874.	8/12	14	1	40.0	-0.266	125.183	50	88.49	5.0	-	MOLUCCA SEA
875.	8/12	14	11	3.0	-16.126	-73.576	44	82.70	5.0	4.6	NEAR THE COAST OF SOUTHERN PERU
876.	8/12	15	59	41.8	-11.910	166.723	206	91.25	5.5	-	SANTA CRUZ ISLANDS
877.	8/12	17	15	11.9	-8.114	119.670	162	79.17	4.4	-	FLORES REGION, INDONESIA
878.	8/13	18	36	3.8	-17.825	-178.631	585	89.10	4.4	-	FIJI REGION
879.	8/14	8	43	26.8	-60.568	-25.549	35	27.63	4.9	-	SOUTH SANDWICH ISLANDS REGION
880.	8/14	17	32	40.1	4.950	125.313	216	93.05	4.5	-	KEPULAUAN SANGIHE, INDONESIA
881.	8/15	0	35	30.4	-15.268	67.300	10	56.50	4.5	-	MID-INDIAN RIDGE
882.	8/15	2	10	41.0	-24.150	179.440	546	82.64	4.3	-	SOUTH OF THE FIJI ISLANDS
883.	8/15	3	41	17.5	-6.238	-107.154	10	46.77	5.2	5.1	CENTRAL EAST PACIFIC RISE
884.	8/15	11	14	51.8	-0.722	119.937	51	85.87	4.7	4.2	MINAHASA, SULAWESI, INDONESIA
885.	8/15	14	6	46.8	-34.695	-179.456	30	72.66	4.2	-	SOUTH OF THE KERMADEC ISLANDS
886.	8/15	15	56	15.4	-17.744	-178.802	577	89.23	4.3	-	FIJI REGION
887.	8/15	18	21	39.9	-3.537	139.264	65	90.19	4.1	-	PAPUA, INDONESIA
888.	8/15	21	43	46.4	-0.625	127.463	20	88.65	4.5	-	HALMAHERA, INDONESIA
889.	8/16	6	6	17.4	-20.899	-68.241	139	76.84	4.8	-	POTOSI, BOLIVIA
890.	8/16	8	0	41.6	-17.323	167.915	30	86.41	4.5	-	VANUATU
891.	8/17	4	49	3.0	-26.368	-177.926	210	81.04	5.0	-	SOUTH OF THE FIJI ISLANDS
892.	8/18	9	5	54.1	-13.923	166.676	51	89.21	4.8	-	VANUATU
893.	8/18	18	47	49.0	-22.659	-66.134	236	74.14	4.1	-	JUJUY, ARGENTINA
894.	8/19	6	33	31.3	-8.291	109.794	80	75.52	5.3	-	JAVA, INDONESIA
895.	8/19	13	51	37.0	14.721	54.625	10	84.50	5.0	4.2	OWN FRACTURE ZONE REGION
896.	8/19	16	3	39.3	-43.804	170.870	5	61.74	4.7	4.0	SOUTH ISLAND OF NEW ZEALAND
897.	8/19	18	14	20.9	-21.397	-66.659	207	75.45	4.4	-	POTOSI, BOLIVIA
898.	8/20	7	34	45.6	-24.982	-179.975	468	81.89	4.7	-	SOUTH OF THE FIJI ISLANDS
899.	8/20	17	13	25.4	8.186	126.001	64	96.59	5.0	4.4	MINDANAO, PHILIPPINES
900.	8/20	19	34	16.6	-7.065	129.287	128	83.56	4.9	-	KEPULAUAN BABAR, INDONESIA

No.	Date	Origin time			Geographic Latitude (deg)	Coordinates		Depth (km)	Epicentral distance (deg)		Magnitude		Region
		UTC				Longitude (deg)	Epicentral distance (deg)		mb	MS			
		h	m	s									
901.	8/20	20	33	4.1	35.050	141.115	27	126.72	5.3	4.8		NEAR THE EAST COAST OF HONSHU, JAPAN	
902.	8/20	21	19	58.6	35.055	141.117	35	126.66	5.1	4.9		NEAR THE EAST COAST OF HONSHU, JAPAN	
903.	8/21	1	25	57.5	-33.550	-179.342	24	73.62	5.2	4.6		SOUTH OF THE KERMADEC ISLANDS	
904.	8/21	3	35	17.6	-5.850	152.489	50	92.80	4.8	-		NEW BRITAIN REGION, P.N.G.	
905.	8/21	6	2	51.9	-54.996	-33.593	10	34.27	5.0	-		SOUTH GEORGIA ISLAND REGION	
906.	8/21	11	33	40.5	-22.038	169.377	10	82.15	5.4	5.0		SOUTHEAST OF THE LOYALTY ISLANDS	
907.	8/21	20	11	48.9	-10.592	34.425	10	58.56	4.9	4.2		LAKE MALAWI REGION, MALAWI-TANZANIA	
908.	8/22	23	31	29.6	-50.322	112.632	10	38.38	4.6	4.0		SOUTHEAST INDIAN RIDGE	
909.	8/23	0	57	14.0	-25.015	-13.715	10	53.94	5.0	4.9		SOUTHERN MID-ATLANTIC RIDGE	
910.	8/23	1	9	52.6	-0.873	127.676	8	88.66	4.9	4.4		HALMAHERA, INDONESIA	
911.	8/23	12	37	47.1	-6.886	129.891	65	83.89	4.6	-		BANDA SEA	
912.	8/23	14	36	16.5	-21.960	-176.617	166	85.67	5.0	-		FIJI REGION	
913.	8/23	22	49	31.1	-20.495	-178.582	583	86.46	4.0	-		FIJI REGION	
914.	8/24	14	37	6.4	-5.617	149.802	154	92.01	4.7	-		NEW BRITAIN REGION, P.N.G.	
915.	8/24	15	30	29.8	-6.979	129.527	110	83.70	4.4	-		BANDA SEA	
916.	8/24	20	7	48.5	-55.181	-128.916	10	55.46	5.0	4.9		PACIFIC-ANTARCTIC RIDGE	
917.	8/25	2	22	18.0	61.588	-146.416	40	172.25	5.2	4.4		SOUTHERN ALASKA	
918.	8/25	5	12	49.7	-20.353	-68.930	93	77.21	5.0	-		TARAPACA, CHILE	
919.	8/25	7	44	24.0	2.821	125.774	107	91.51	4.7	-		KEPULAUAN SANGIHE, INDONESIA	
920.	8/25	8	54	59.0	-4.245	127.942	210	85.66	5.1	-		BANDA SEA	
921.	8/26	11	52	16.4	-4.067	142.813	118	91.14	4.2	-		NEW GUINEA, P.N.G.	
922.	8/26	13	54	3.2	-30.197	-177.790	48	77.16	5.1	-		KERMADEC ISLANDS, NEW ZEALAND	
923.	8/26	18	1	36.2	-9.091	111.682	81	75.32	4.3	-		SOUTH OF JAVA, INDONESIA	
924.	8/26	18	19	40.8	-27.896	-71.038	39	70.86	4.9	-		ATACAMA, CHILE	
925.	8/26	20	0	43.0	-35.886	178.943	228	70.89	4.6	-		OFF EAST COAST OF THE NORTH ISLAND, N.Z.	
926.	8/27	0	43	54.5	-27.420	-70.805	30	71.21	5.8	5.4		ATACAMA, CHILE	
927.	8/27	0	50	42.2	-26.824	-71.357	44	71.89	4.7	-		OFF THE COAST OF ATACAMA, CHILE	
928.	8/27	8	32	52.9	-8.322	121.317	51	79.53	5.1	-		FLORES REGION, INDONESIA	
929.	8/27	20	26	54.0	-57.625	-25.598	65	29.49	5.1	-		SOUTH SANDWICH ISLANDS REGION	
930.	8/28	5	13	52.5	-21.928	-174.873	50	85.86	4.6	4.4		TONGA	
931.	8/28	9	8	57.8	-5.134	151.248	149	92.93	5.3	-		NEW BRITAIN REGION, P.N.G.	
932.	8/28	11	10	57.7	-12.489	167.233	234	90.72	4.4	-		SANTA CRUZ ISLANDS	
933.	8/28	13	41	25.6	-35.173	-70.525	5	64.17	6.1	6.3		MAULE, CHILE	
934.	8/28	14	3	24.8	-35.023	-70.559	2	64.06	4.6	-		MAULE, CHILE	
935.	8/28	14	49	21.5	-17.853	-178.648	524	89.07	4.3	-		FIJI REGION	
936.	8/28	16	9	35.1	-8.820	157.354	14	91.47	5.2	5.3		SOLOMON ISLANDS	
937.	8/28	17	0	58.2	-8.689	157.253	10	91.60	5.5	5.3		SOLOMON ISLANDS	
938.	8/28	18	19	28.9	-8.759	157.398	10	91.59	5.0	-		SOLOMON ISLANDS	
939.	8/29	3	59	42.9	-22.780	-177.269	244	84.46	4.3	-		SOUTH OF THE FIJI ISLANDS	
940.	8/30	6	19	42.9	-49.903	111.936	10	38.51	5.0	4.8		SOUTHEAST INDIAN RIDGE	
941.	8/30	10	55	47.2	-6.777	147.396	74	90.14	5.0	-		EASTERN NEW GUINEA REG, P.N.G.	
942.	8/30	12	23	21.6	49.539	157.279	12	145.12	5.7	5.3		EAST OF THE KURIL ISLANDS	
943.	8/30	22	9	19.0	-56.509	-26.513	84	30.67	5.1	-		SOUTH SANDWICH ISLANDS REGION	
944.	8/31	0	48	18.5	-58.167	-25.737	99	28.94	4.6	-		SOUTH SANDWICH ISLANDS REGION	
945.	8/31	1	40	5.9	-50.630	-72.327	19	50.33	4.7	-		SANTA CRUZ, ARGENTINA	
946.	8/31	8	1	52.5	-35.010	-70.597	7	64.10	4.4	-		MAULE, CHILE	
947.	8/31	11	49	42.4	-16.925	168.660	214	86.99	5.0	-		VANUATU	
948.	8/31	16	25	10.3	7.291	126.957	10	96.01	5.5	5.4		MINDANAO, PHILIPPINES	
949.	8/31	20	35	6.4	-9.563	-74.629	125	89.22	5.2	-		CENTRAL PERU	
950.	9/1	4	55	28.3	-53.653	140.867	10	44.53	4.6	4.8		WEST OF MACQUARIE ISLAND	

No.	Date	Origin time			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance			Magnitude mb MS	Region
		UTC						(deg)				
		h	m	s				(deg)	(deg)	(deg)		
951.	9/1	4	55	28.3	-53.653	140.867	10	113.20	4.6	4.8	WEST OF MACQUARIE ISLAND	
952.	9/1	11	7	28.4	17.963	147.161	29	88.19	5.1	-	MARIANA ISLANDS REGION	
953.	9/1	15	13	38.0	-60.935	160.156	10	43.52	4.9	5.4	MACQUARIE ISLAND REGION	
954.	9/1	20	58	33.7	-55.837	-27.494	107	31.49	5.0	-	SOUTH SANDWICH ISLANDS REGION	
955.	9/2	1	24	39.8	-5.672	154.363	120	93.42	5.0	-	BOUGAINVILLE REGION, P.N.G.	
956.	9/2	4	23	29.1	-22.154	-65.857	255	74.50	4.0	-	JUJUY, ARGENTINA	
957.	9/3	9	25	2.0	-17.139	-179.210	537	89.75	4.9	-	FIIJI REGION	
958.	9/3	12	16	49.6	-15.192	-173.375	10	92.63	5.3	5.3	TONGA	
959.	9/3	14	53	20.2	-15.018	-173.535	24	92.97	5.0	4.8	TONGA	
960.	9/3	19	4	47.9	-15.254	-173.340	10	92.56	5.5	5.8	TONGA	
961.	9/3	20	23	35.0	-19.194	-172.829	35	88.10	4.7	-	TONGA REGION	
962.	9/3	23	18	16.9	-15.038	-173.479	10	92.90	5.2	5.4	TONGA	
963.	9/4	18	7	48.0	-36.631	-179.451	6	70.59	4.9	-	EAST OF THE NORTH ISLAND, NEW ZEALAND	
964.	9/4	20	24	7.7	-14.829	-173.243	10	93.07	5.3	5.3	SAMOA ISLANDS REGION	
965.	9/4	23	56	35.5	-21.015	169.278	10	82.86	5.3	5.6	SOUTHEAST OF THE LOYALTY ISLANDS	
966.	9/5	10	7	7.8	33.070	136.618	14	123.30	6.7	7.0	NEAR S. COAST OF WESTERN HONSHU, JAPAN	
967.	9/5	11	24	36.6	-31.274	-71.216	57	67.78	4.8	-	COQUIMBO, CHILE	
968.	9/5	14	57	18.6	33.184	137.071	10	123.60	6.2	7.1	NEAR THE SOUTH COAST OF HONSHU, JAPAN	
969.	9/5	16	43	15.0	-15.199	-173.532	10	92.54	4.9	-	TONGA	
970.	9/5	17	41	22.2	-15.077	-173.611	10	92.42	4.8	-	TONGA	
971.	9/5	17	56	59.0	-7.529	128.221	138	82.89	4.6	-	KEPULAUAN BARAT DAYA, INDONESIA	
972.	9/5	20	30	59.8	33.247	136.804	10	123.51	5.2	5.3	NEAR S. COAST OF WESTERN HONSHU, JAPAN	
973.	9/6	6	3	20.5	5.931	124.389	69	93.90	4.7	-	MINDANAO, PHILIPPINES	
974.	9/6	10	28	58.6	-9.990	118.832	10	77.30	4.8	-	SUMBAWA REGION, INDONESIA	
975.	9/6	10	44	38.2	-26.779	26.513	10	42.88	4.9	-	SOUTH AFRICA	
976.	9/6	12	42	59.3	-55.372	-28.976	10	32.37	6.0	6.5	SOUTH SANDWICH ISLANDS REGION	
977.	9/6	16	1	18.0	-4.039	102.242	82	76.94	5.2	-	SOUTHERN SUMATRA, INDONESIA	
978.	9/6	20	7	23.4	-55.289	-28.546	10	32.25	4.9	-	SOUTH SANDWICH ISLANDS REGION	
979.	9/6	20	43	2.9	19.411	-65.313	14	113.15	4.9	4.6	PUERTO RICO REGION	
980.	9/6	21	17	36.3	-55.220	-29.193	10	32.53	5.3	5.3	SOUTH SANDWICH ISLANDS REGION	
981.	9/6	23	29	35.0	33.205	137.227	10	123.62	6.4	6.3	NEAR THE SOUTH COAST OF HONSHU, JAPAN	
982.	9/7	2	55	29.6	-55.170	-28.572	10	32.36	5.0	-	SOUTH SANDWICH ISLANDS REGION	
983.	9/7	6	10	2.6	33.166	137.160	10	123.53	5.3	4.5	NEAR THE SOUTH COAST OF HONSHU, JAPAN	
984.	9/7	7	4	10.3	5.993	124.405	35	93.92	5.1	-	MINDANAO, PHILIPPINES	
985.	9/7	10	57	39.7	-33.969	-72.418	36	65.58	5.3	-	OFFSHORE LIBERTADOR O'HIGGINS, CHILE	
986.	9/7	11	12	34.3	0.572	100.217	183	80.67	4.7	-	NORTHERN SUMATRA, INDONESIA	
987.	9/7	11	53	6.1	-28.573	-65.840	22	68.53	6.1	6.1	CATAMARCA, ARGENTINA	
988.	9/7	12	33	56.2	-34.006	-72.186	17	65.47	5.7	5.3	OFFSHORE LIBERTADOR O'HIGGINS, CHILE	
989.	9/7	16	18	54.6	-50.686	-72.237	26	50.17	5.0	-	SANTA CRUZ, ARGENTINA	
990.	9/7	22	7	8.1	-17.876	168.477	138	85.90	4.7	-	VANUATU	
991.	9/8	5	56	12.5	-19.888	-175.442	111	87.72	4.6	-	TONGA	
992.	9/8	8	16	1.2	-33.988	-72.318	32	65.54	5.0	4.5	OFFSHORE LIBERTADOR O'HIGGINS, CHILE	
993.	9/8	11	0	18.4	-15.153	-173.429	13	92.69	5.6	5.6	TONGA	
994.	9/8	14	25	38.7	-15.110	-173.473	10	92.81	4.8	-	TONGA	
995.	9/8	14	40	10.4	32.947	137.253	24	123.44	5.3	-	IZU ISLANDS, JAPAN REGION	
996.	9/8	14	58	25.8	33.140	137.200	21	123.57	6.2	5.8	NEAR THE SOUTH COAST OF HONSHU, JAPAN	
997.	9/8	15	40	23.6	-52.157	-4.966	10	26.49	5.2	5.2	SOUTHERN MID-ATLANTIC RIDGE	
998.	9/9	0	50	27.9	-23.575	-66.393	211	73.35	4.2	-	SALTA, ARGENTINA	
999.	9/9	8	47	53.1	-33.906	-72.151	25	65.62	4.8	-	OFFSHORE LIBERTADOR O'HIGGINS, CHILE	
1000.	9/9	9	17	51.7	-20.178	-173.919	10	87.78	4.5	-	TONGA	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude mb MS	Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)					
1001.	9/9	12	50	9.5	-56.317	-25.734	10	30.49	5.0	-	SOUTH SANDWICH ISLANDS REGION
1002.	9/9	13	10	31.3	-16.452	-172.139	45	91.64	5.0	4.4	SAMOA ISLANDS REGION
1003.	9/9	13	34	19.6	4.866	95.286	79	83.21	4.5	-	NORTHERN SUMATRA, INDONESIA
1004.	9/9	16	33	21.7	17.759	-81.550	25	117.29	5.8	5.4	CAYMAN ISLANDS REGION
1005.	9/10	0	31	5.5	-55.130	-28.084	10	32.30	4.7	-	SOUTH SANDWICH ISLANDS REGION
1006.	9/10	2	5	57.8	33.059	136.497	10	123.28	5.3	5.1	NEAR S. COAST OF WESTERN HONSHU, JAPAN
1007.	9/10	4	22	10.1	42.392	142.954	52	133.87	5.2	-	HOKKAIDO, JAPAN REGION
1008.	9/10	10	44	17.1	-37.927	-72.960	45	62.14	5.4	4.9	ARAUCANIA, CHILE
1009.	9/11	21	52	38.3	-57.976	-25.342	64	29.13	5.8	5.8	SOUTH SANDWICH ISLANDS REGION
1010.	9/11	23	43	30.8	-30.642	-177.791	10	76.75	5.2	-	KERMADEC ISLANDS, NEW ZEALAND
1011.	9/12	1	29	57.1	-7.050	125.483	496	82.17	4.9	-	KEPULAUAN BARAT DAYA, INDONESIA
1012.	9/12	14	24	37.0	-34.136	-70.015	5	64.67	5.4	4.7	REGION METROPOLITANA, CHILE
1013.	9/13	2	39	3.5	-16.295	67.098	12	55.57	5.1	4.9	MID-INDIAN RIDGE
1014.	9/13	4	48	2.5	-57.905	-25.043	61	29.06	4.8	-	SOUTH SANDWICH ISLANDS REGION
1015.	9/13	17	15	5.2	17.650	-46.661	10	104.89	5.1	4.8	NORTHERN MID-ATLANTIC RIDGE
1016.	9/13	20	0	1.9	6.160	124.269	82	94.03	4.9	-	MINDANAO, PHILIPPINES
1017.	9/13	22	29	30.6	-22.665	-175.204	10	84.99	5.2	5.4	TONGA REGION
1018.	9/14	8	14	55.0	-8.720	-75.546	48	90.28	4.5	-	CENTRAL PERU
1019.	9/14	19	28	43.7	-20.389	-68.682	113	77.13	4.4	-	POTOSI, BOLIVIA
1020.	9/14	20	15	16.8	7.959	127.466	15	96.90	5.4	4.9	PHILIPPINE ISLANDS REGION
1021.	9/15	2	51	36.6	-18.230	-173.819	55	89.71	4.8	-	TONGA
1022.	9/15	4	56	32.2	-14.916	-75.373	34	84.38	4.9	-	NEAR THE COAST OF CENTRAL PERU
1023.	9/15	8	35	10.8	-8.773	115.357	98	76.92	5.2	4.7	BALI REGION, INDONESIA
1024.	9/15	19	10	50.6	14.220	120.411	115	100.25	6.0	-	LUZON, PHILIPPINES
1025.	9/15	19	45	42.0	5.885	125.277	82	94.10	5.2	-	MINDANAO, PHILIPPINES
1026.	9/15	20	0	3.4	43.985	151.547	43	138.26	5.0	4.6	EAST OF THE KURIL ISLANDS
1027.	9/16	9	27	12.7	-33.907	-71.285	49	65.31	4.4	-	REGION METROPOLITANA, CHILE
1028.	9/16	10	25	21.6	-33.490	-178.945	56	73.77	5.0	-	SOUTH OF THE KERMADEC ISLANDS
1029.	9/16	14	48	51.8	-17.279	-72.488	28	81.39	5.5	5.1	NEAR THE COAST OF SOUTHERN PERU
1030.	9/16	19	56	37.8	-3.247	101.900	84	77.59	5.1	-	SOUTHERN SUMATRA, INDONESIA
1031.	9/16	21	43	15.4	-8.522	122.598	134	79.77	4.5	-	FLORES REGION, INDONESIA
1032.	9/17	11	25	48.2	15.814	95.879	15	93.72	5.5	5.8	NEAR THE SOUTH COAST OF MYANMAR
1033.	9/17	15	29	25.7	-17.607	-173.235	10	90.35	4.8	-	TONGA
1034.	9/17	18	20	26.9	-4.689	125.272	468	84.33	4.3	-	BANDA SEA
1035.	9/17	18	22	21.2	-34.420	179.040	230	72.56	4.3	-	SOUTH OF THE KERMADEC ISLANDS
1036.	9/18	19	20	14.3	-35.250	178.880	208	71.63	4.8	-	OFF EAST COAST OF THE NORTH ISLAND, N.Z.
1037.	9/18	21	17	11.2	-24.410	-179.749	516	82.61	4.8	-	SOUTH OF THE FIJI ISLANDS
1038.	9/18	22	9	37.5	48.303	154.416	41	143.04	4.9	4.9	KURIL ISLANDS
1039.	9/18	23	2	17.9	38.004	-118.677	5	146.72	5.1	5.1	CENTRAL CALIFORNIA
1040.	9/18	23	43	41.8	38.017	-118.658	6	146.73	5.2	5.2	CENTRAL CALIFORNIA
1041.	9/19	4	9	38.2	-32.742	-179.719	139	74.29	5.6	-	SOUTH OF THE KERMADEC ISLANDS
1042.	9/19	11	32	15.5	-9.456	118.004	39	77.16	4.9	4.4	SUMBAWA REGION, INDONESIA
1043.	9/19	16	14	43.5	-34.962	-70.498	1	64.09	4.8	-	LIBERTADOR O'HIGGINS, CHILE
1044.	9/19	23	24	19.9	-17.714	64.732	10	53.78	5.3	5.1	MAURITIUS - REUNION REGION
1045.	9/21	2	47	43.2	-53.185	23.463	10	17.38	4.9	-	SOUTH OF AFRICA
1046.	9/21	11	6	41.6	-37.183	-95.167	10	68.58	5.1	-	SOUTHEAST OF EASTER ISLAND
1047.	9/21	17	43	44.9	-26.790	-176.126	49	80.88	5.1	-	SOUTH OF THE FIJI ISLANDS
1048.	9/21	17	55	50.2	-36.227	-101.481	10	70.87	5.4	4.9	SOUTHEAST OF EASTER ISLAND
1049.	9/22	0	9	30.8	-21.946	-179.072	537	84.92	4.6	-	FIJI REGION
1050.	9/22	4	35	59.7	-5.665	147.483	169	91.18	4.8	-	EASTERN NEW GUINEA REG, P.N.G.

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC			Latitude (deg)	Longitude (deg)		(deg)	(deg)	mb	MS	
		h	m	s								
1051.	9/22	6	43	30.8	-20.245	-174.054	12	87.71	4.6	-	TONGA	
1052.	9/22	8	22	14.6	-8.528	126.339	36	81.11	4.8	-	EAST TIMOR REGION	
1053.	9/22	11	3	53.9	41.340	141.367	132	132.45	4.9	-	HOKKAIDO, JAPAN REGION	
1054.	9/22	20	50	0.1	-55.102	-28.419	10	32.39	5.2	5.3	SOUTH SANDWICH ISLANDS REGION	
1055.	9/23	1	55	23.8	25.075	127.147	21	112.62	5.4	4.8	RYUKYU ISLANDS, JAPAN	
1056.	9/23	10	8	28.4	-15.599	-177.278	19	91.66	5.3	5.7	FIJI REGION	
1057.	9/23	10	16	19.5	-15.686	-177.250	15	91.51	4.7	-	FIJI REGION	
1058.	9/23	11	52	59.9	4.130	126.643	46	92.93	4.8	-	KEPULAUAN TALAUD, INDONESIA	
1059.	9/23	14	3	19.8	-31.315	-68.789	97	66.91	4.5	-	SAN JUAN, ARGENTINA	
1060.	9/23	18	52	14.6	-25.062	-68.862	107	72.97	4.9	-	ANTOFAGASTA, CHILE	
1061.	9/23	22	23	56.0	-30.392	-71.552	37	68.65	4.5	-	COQUIMBO, CHILE	
1062.	9/24	8	23	36.5	-20.843	-179.121	671	86.04	4.5	-	FIJI REGION	
1063.	9/24	10	34	53.5	0.456	-26.403	10	82.00	5.0	5.0	CENTRAL MID-ATLANTIC RIDGE	
1064.	9/24	14	43	11.3	28.565	-112.725	10	136.35	5.5	5.6	GULF OF CALIFORNIA	
1065.	9/25	1	37	49.5	-32.722	-71.650	15	66.52	4.4	-	OFFSHORE VALPARAISO, CHILE	
1066.	9/25	2	14	15.7	-0.117	122.971	131	87.81	5.2	-	SULAWESI, INDONESIA	
1067.	9/25	16	4	16.9	-7.753	107.963	87	75.39	4.9	-	JAVA, INDONESIA	
1068.	9/25	18	57	36.0	-20.966	-177.286	368	86.58	4.3	-	FIJI REGION	
1069.	9/25	19	29	36.3	-21.190	-68.490	121	76.26	4.4	-	ANTOFAGASTA, CHILE	
1070.	9/26	8	51	10.8	-17.014	40.340	10	52.12	4.5	-	MOZAMBIQUE CHANNEL	
1071.	9/26	15	24	6.4	1.044	120.314	28	87.88	5.3	4.4	MINAHASA, SULAWESI, INDONESIA	
1072.	9/26	19	16	17.3	-7.399	120.140	624	79.87	4.6	-	FLORES SEA	
1073.	9/27	18	35	16.9	-32.672	-71.722	30	66.54	4.3	-	OFFSHORE VALPARAISO, CHILE	
1074.	9/27	19	46	25.8	-3.751	151.279	10	94.30	5.2	4.8	NEW IRELAND REGION, P.N.G.	
1075.	9/27	20	6	2.4	-35.255	-105.743	10	72.42	4.6	-	SOUTHERN EAST PACIFIC RISE	
1076.	9/27	22	58	24.6	-32.688	-71.743	33	66.58	5.2	5.1	OFFSHORE VALPARAISO, CHILE	
1077.	9/27	23	6	50.4	-15.226	-174.763	201	92.50	4.8	-	TONGA	
1078.	9/28	1	33	41.7	-23.988	-66.743	181	73.08	4.5	-	JUJUY, ARGENTINA	
1079.	9/28	4	19	27.4	-28.500	-66.100	33	68.69	4.4	-	CATAMARCA, ARGENTINA	
1080.	9/28	9	24	30.4	33.283	137.844	319	123.92	4.9	-	NEAR THE SOUTH COAST OF HONSHU, JAPAN	
1081.	9/28	10	9	13.2	-27.516	-71.162	43	71.23	4.6	-	OFFSHORE ATACAMA, CHILE	
1082.	9/28	13	39	50.5	-12.833	-14.687	10	65.58	4.9	-	SOUTHERN MID-ATLANTIC RIDGE	
1083.	9/28	13	43	26.1	-13.236	-15.060	10	65.20	5.4	4.8	SOUTHERN MID-ATLANTIC RIDGE	
1084.	9/28	15	29	53.8	-52.515	28.016	10	17.36	5.9	6.0	SOUTH OF AFRICA	
1085.	9/28	19	25	2.5	-52.433	26.563	10	17.59	5.3	4.8	SOUTH OF AFRICA	
1086.	9/28	21	32	18.6	-15.690	-74.529	27	83.42	5.4	5.3	NEAR THE COAST OF SOUTHERN PERU	
1087.	9/28	21	33	35.9	-23.215	-179.576	533	83.68	4.7	-	SOUTH OF THE FIJI ISLANDS	
1088.	9/29	2	0	58.3	-58.719	-25.458	51	28.59	4.9	5.0	SOUTH SANDWICH ISLANDS REGION	
1089.	9/29	3	41	43.1	-8.371	43.850	32	60.72	4.7	-	EAST OF TANZANIA	
1090.	9/29	3	44	52.2	-41.440	172.390	12	64.31	4.7	-	SOUTH ISLAND OF NEW ZEALAND	
1091.	9/29	11	25	5.7	-33.390	-70.192	10	65.47	4.6	-	REGION METROPOLITANA, CHILE	
1092.	9/29	17	10	4.0	35.953	-120.502	12	145.06	5.0	4.9	CENTRAL CALIFORNIA	
1093.	9/29	18	38	11.1	-5.598	-77.089	27	93.80	5.2	4.6	NORTHERN PERU	
1094.	9/29	22	54	54.2	35.390	-118.623	4	144.17	5.0	4.7	CENTRAL CALIFORNIA	
1095.	9/30	15	25	20.7	3.119	96.234	107	81.87	4.5	-	NORTHERN SUMATRA, INDONESIA	
1096.	9/30	16	48	11.8	-28.321	-176.490	33	79.29	5.2	4.9	KERMADEC ISLANDS REGION	
1097.	9/30	18	48	21.0	-30.129	-177.860	117	77.31	5.0	-	KERMADEC ISLANDS, NEW ZEALAND	
1098.	9/30	18	52	36.4	-54.724	-127.171	10	55.90	4.8	-	PACIFIC-ANTARCTIC RIDGE	
1099.	9/30	18	58	33.8	-18.059	-178.187	582	88.91	4.2	-	FIJI REGION	
1100.	10/1	8	1	0.3	11.810	-86.577	87	113.27	5.2	-	NEAR THE COAST OF NICARAGUA	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC	h	m	s	Latitude (deg)		Longitude (deg)	(deg)	(deg)	mb	
1101.	10/1	9	40	28.6	3.674	128.268	20	93.16	5.5	5.1	NORTH OF HALMAHERA, INDONESIA	
1102.	10/1	10	45	43.9	-22.710	-66.479	180	74.20	4.7	-	JUJUY, ARGENTINA	
1103.	10/1	15	26	0.5	-37.310	177.770	48	69.41	4.8	-	OFF E CST N ISL, NZ	
1104.	10/1	16	42	18.4	-11.248	117.101	51	75.25	4.4	-	SOUTH OF SUMBAWA, INDONESIA	
1105.	10/1	19	46	5.1	-22.473	173.247	10	82.76	5.5	5.4	SOUTHEAST OF THE LOYALTY ISLANDS	
1106.	10/2	3	1	25.4	-19.986	-68.273	147	77.34	4.9	-	POTOSI, BOLIVIA	
1107.	10/2	15	6	23.3	-17.667	-178.898	548	89.20	4.4	-	FIJI REGION	
1108.	10/2	15	31	23.0	-42.340	173.190	12	63.62	4.5	-	SOUTH ISLAND OF NEW ZEALAND	
1109.	10/3	3	30	10.2	-22.272	-68.304	108	75.21	5.1	-	ANTOFAGASTA, CHILE	
1110.	10/3	4	28	46.3	-16.239	173.162	58	88.77	5.3	4.7	FIJI REGION	
1111.	10/3	18	34	16.7	-56.570	-141.930	10	54.42	4.8	4.9	PACIFIC-ANTARCTIC RIDGE	
1112.	10/4	0	10	10.2	5.505	126.507	63	94.24	4.9	-	MINDANAO, PHILIPPINES	
1113.	10/4	1	38	48.0	-5.848	150.951	58	92.18	4.6	-	NEW BRITAIN REG, P.N.G.	
1114.	10/4	6	47	23.8	3.544	128.553	15	93.15	5.0	4.3	N OF HALMAHERA, INDONESIA	
1115.	10/4	9	3	48.2	-20.422	-174.268	53	87.41	4.9	-	TONGA	
1116.	10/4	19	17	50.6	-40.330	175.950	35	66.13	4.8	-	NORTH ISLAND OF NEW ZEALAND	
1117.	10/4	19	20	35.0	14.597	146.932	7	110.00	6.0	5.8	ROTA REGION, NORTHERN MARIANA ISLANDS	
1118.	10/4	23	50	3.3	-10.924	162.296	34	90.92	5.3	4.9	SOLOMON ISLANDS	
1119.	10/5	0	24	32.0	29.756	138.747	411	121.06	4.1	-	IZU ISLANDS, JAPAN REGION	
1120.	10/5	4	35	23.6	-15.230	167.070	226	88.16	4.7	-	VANUATU	
1121.	10/5	4	53	4.3	-20.348	-178.254	501	86.71	4.4	-	FIJI REGION	
1122.	10/5	12	25	48.2	-50.551	-72.133	61	50.29	4.7	-	S CHILE-ARGENTINA BORDER REGION	
1123.	10/5	21	14	34.5	-7.411	106.192	50	75.04	5.2	-	JAVA, INDONESIA	
1124.	10/5	23	44	30.0	-16.269	-173.760	71	91.58	4.8	-	TONGA	
1125.	10/6	0	7	53.5	-23.670	179.923	535	83.10	4.3	-	SOUTH OF THE FIJI ISLANDS	
1126.	10/6	5	24	30.0	36.481	70.762	209	108.07	5.1	-	HINDU KUSH REGION, AFGHANISTAN	
1127.	10/6	11	14	26.5	28.744	58.061	10	98.75	5.2	-	SOUTHEASTERN IRAN	
1128.	10/6	14	40	39.9	35.920	139.916	65	127.06	5.5	-	NEAR THE SOUTH COAST OF HONSHU, JAPAN	
1129.	10/6	20	58	32.1	53.588	169.765	3	152.90	5.1	-	KOMANDORSKIYE OSTROVA, RUSSIA REGION	
1130.	10/7	1	5	13.2	36.457	26.770	128	105.86	5.7	-	DODECANESE ISLANDS, GREECE	
1131.	10/7	19	26	43.4	42.406	143.055	48	133.93	5.1	4.3	HOKKAIDO, JAPAN REGION	
1132.	10/7	21	46	18.2	37.053	54.500	22	106.68	5.7	5.4	NORTHERN IRAN	
1133.	10/8	3	50	37.4	-30.641	-71.997	12	68.57	4.5	-	OFFSHORE COQUIMBO, CHILE	
1134.	10/8	3	56	3.0	-35.077	-72.151	35	64.49	4.0	-	MAULE, CHILE	
1135.	10/8	8	27	53.3	-11.003	162.164	36	90.81	6.1	6.9	SOLOMON ISLANDS	
1136.	10/8	14	36	6.0	13.954	120.533	105	100.01	6.4	-	MINDORO, PHILIPPINES	
1137.	10/8	15	28	38.4	-56.495	-26.861	95	30.76	5.6	-	SOUTH SANDWICH ISLANDS REGION	
1138.	10/9	15	9	31.9	-15.400	-177.300	15	91.74	4.7	-	FIJI REGION	
1139.	10/9	15	44	23.4	-15.147	-173.323	5	92.76	5.5	5.7	TONGA	
1140.	10/9	20	13	10.4	-29.624	-179.538	376	77.41	4.3	-	KERMADEC ISLANDS REGION	
1141.	10/9	21	59	21.4	-7.330	128.520	115	82.98	4.4	-	KEPULAUAN BARAT DAYA, INDONESIA	
1142.	10/9	22	7	46.7	14.658	147.011	35	110.08	5.5	-	MARIANA ISLANDS REGION	
1143.	10/9	23	38	21.6	-60.698	-50.922	10	35.47	5.6	5.8	SCOTIA SEA	
1144.	10/10	0	13	34.6	-60.629	-50.977	10	35.54	5.0	-	SCOTIA SEA	
1145.	10/10	6	52	39.0	-6.671	130.426	62	84.28	5.7	-	BANDA SEA	
1146.	10/10	23	46	34.4	-8.600	118.255	141	78.13	4.5	-	SUMBAWA REGION, INDONESIA	
1147.	10/11	6	37	12.5	5.395	126.462	24	94.13	5.4	5.2	MINDANAO, PHILIPPINES	
1148.	10/11	8	58	50.1	15.582	119.552	17	101.19	5.1	4.5	LUZON, PHILIPPINES	
1149.	10/11	18	14	19.5	-17.186	167.783	25	86.47	5.2	5.5	VANUATU	
1150.	10/11	22	3	46.6	-14.838	-175.124	10	92.72	5.5	5.2	SAMOA ISLANDS REGION	

No.	Date	Origin time			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epi central distance (deg)	Magnitude		Region
		UTC h m s							mb	MS	
1151.	10/12	1	47	19.4	-37.140	-179.930	33	70.03	4.5	-	E N ISL, NEW ZEALAND
1152.	10/12	13	14	29.4	-30.743	-178.510	251	76.52	4.6	-	KERMADEC ISL, NEW ZEALAND
1153.	10/12	14	59	9.7	-28.910	-12.673	10	49.78	4.9	4.6	SOUTHERN MID-ATLANTIC RIDGE
1154.	10/12	15	29	3.4	-17.075	174.436	33	88.27	5.3	4.9	FIJI REGION
1155.	10/12	19	52	43.3	-32.372	-71.324	44	66.75	4.3	-	VALPARAISO, CHILE
1156.	10/12	20	24	15.8	-22.190	-176.150	293	85.33	4.5	-	SOUTH OF THE FIJI ISLANDS
1157.	10/13	20	30	6.3	-17.549	-178.965	566	89.30	4.8	-	FIJI REGION
1158.	10/13	20	35	44.4	-6.028	130.546	118	84.92	5.9	-	BANDA SEA
1159.	10/14	1	0	23.5	52.142	152.631	449	145.61	4.3	-	NORTHWEST OF KURIL ISLANDS
1160.	10/14	4	9	4.8	-9.436	114.272	63	75.94	5.1	-	S BALI, INDONESIA
1161.	10/14	17	2	7.8	-22.468	173.144	73	82.74	5.1	-	SOUTHEAST OF LOYALTY ISLANDS
1162.	10/15	4	57	34.6	-35.093	-70.511	1	63.97	4.5	-	MAULE, CHILE
1163.	10/15	12	26	31.0	-29.157	-67.759	127	68.62	4.1	-	LA RIOJA, ARGENTINA
1164.	10/15	15	5	43.5	-27.866	-67.151	134	69.62	4.2	-	CATAMARCA, ARGENTINA
1165.	10/15	20	12	12.0	-2.218	125.196	26	86.56	4.5	-	KEPULAUAN SULA, INDONESIA
1166.	10/16	1	29	14.9	-46.363	33.690	10	22.80	5.0	4.5	PRINCE EDWARD ISLANDS REGION
1167.	10/16	12	7	21.8	-23.969	-179.362	202	82.95	4.4	-	SOUTH OF THE FIJI ISLANDS
1168.	10/16	17	19	20.3	36.168	141.361	37	127.80	5.3	5.5	NEAR THE EAST COAST OF HONSHU, JAPAN
1169.	10/16	19	28	42.7	-60.822	-37.343	10	31.09	4.9	-	SCOTIA SEA
1170.	10/16	19	36	42.3	-2.951	142.156	24	91.91	4.9	-	NR N CST NEW GUINEA, P.N.G.
1171.	10/16	20	7	41.7	-37.600	176.560	250	68.89	4.1	-	N ISL OF NEW ZEALAND
1172.	10/16	23	38	46.3	28.639	143.095	23	121.60	5.1	-	BONIN ISLANDS, JAPAN REGION
1173.	10/17	7	7	11.9	-11.165	162.362	108	90.71	4.9	-	SOLOMON ISLANDS
1174.	10/17	12	8	28.5	-5.570	154.120	165	93.48	4.2	-	BOUGAINVILLE REG, P.N.G.
1175.	10/17	14	23	21.8	-16.710	-173.156	10	91.26	4.7	4.4	TONGA
1176.	10/17	18	35	40.6	-14.873	-173.898	10	92.93	4.6	-	SAMOA ISLANDS REGION
1177.	10/18	23	28	29.4	-15.180	-173.533	10	92.69	4.9	4.8	TONGA
1178.	10/19	1	23	47.3	-41.120	-179.230	33	66.29	4.4	-	E N ISL, NEW ZEALAND
1179.	10/19	5	15	5.7	-16.410	-72.230	21	81.99	4.4	-	NR CST S PERU
1180.	10/19	14	13	41.1	-32.756	-71.699	25	66.51	4.4	-	OFFSHORE VALPARAISO, CHILE
1181.	10/19	16	39	20.7	-33.572	-69.880	6	65.19	4.8	-	REGION METROPOLITANA, CHILE
1182.	10/19	20	29	49.1	-14.010	166.537	128	89.18	5.2	-	VANUATU
1183.	10/19	21	30	2.1	-14.020	166.340	159	89.12	5.1	-	VANUATU
1184.	10/20	2	28	28.8	-22.310	-178.150	416	84.82	4.3	-	SOUTH OF THE FIJI ISLANDS
1185.	10/20	10	52	58.0	-21.490	-68.670	107	76.07	4.2	-	ANTOFAGASTA, CHILE
1186.	10/20	17	7	55.9	-30.930	-177.650	10	76.50	4.9	-	KERMADEC ISL, NEW ZEALAND
1187.	10/20	18	32	27.0	-14.052	166.557	82	89.15	5.6	-	VANUATU
1188.	10/20	18	55	49.8	-15.626	-73.914	75	83.27	5.5	-	SOUTHERN PERU
1189.	10/21	5	26	14.6	-21.921	-67.110	164	75.15	4.1	-	POTOSI, BOLIVIA
1190.	10/21	8	6	56.5	-18.213	-73.103	14	80.58	4.3	-	OFF COAST OF TARAPACA, CHILE
1191.	10/21	11	17	32.2	-21.064	-178.750	569	85.91	4.7	-	FIJI REGION
1192.	10/22	3	15	54.5	-29.148	-176.487	40	78.46	4.9	-	KERMADEC ISLANDS REGION
1193.	10/22	8	8	11.6	-55.231	-28.822	64	32.43	4.6	-	SOUTH SANDWICH ISL REGION
1194.	10/22	9	26	13.2	-7.223	130.306	10	83.72	5.0	-	KEPULAUAN TANIMBAR REG, INDONESIA
1195.	10/22	12	0	12.2	40.340	40.340	8	83.22	5.5	5.1	ERITREA - ETHIOPIA REGION
1196.	10/22	12	50	36.3	28.864	139.426	405	120.49	4.4	-	BONIN ISLANDS, JAPAN REGION
1197.	10/22	16	45	50.2	-15.281	-74.542	54	83.80	4.8	-	NEAR COAST OF SOUTHERN PERU
1198.	10/23	4	4	0.4	-4.990	154.208	405	94.06	4.9	-	BOUGAINVILLE REG, P.N.G.
1199.	10/23	5	11	47.7	-8.139	124.654	27	80.84	5.3	4.8	KEPULAUAN ALOR, INDONESIA
1200.	10/23	6	49	38.3	-25.348	-176.948	28	82.09	4.8	-	SOUTH OF THE FIJI ISLANDS

No.	Date	Origin time			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude mb MS	Region
		UTC h	m	s				(deg)	(deg)		
1201.	10/23	7	2	3.8	-5.168	145.386	66	90.95	5.1	-	E NEW GUINEA REG, P.N.G.
1202.	10/23	8	56	0.8	37.231	138.753	16	127.82	6.4	6.3	NEAR THE WEST COAST OF HONSHU, JAPAN
1203.	10/23	8	59	37.2	37.196	138.944	10	127.85	5.8	-	NEAR W COAST HONSHU, JAPAN
1204.	10/23	9	3	12.4	37.311	138.835	11	127.92	6.1	-	NEAR THE WEST COAST OF HONSHU, JAPAN
1205.	10/23	9	7	30.9	37.269	138.807	10	127.87	5.4	-	NEAR W COAST HONSHU, JAPAN
1206.	10/23	9	11	57.2	37.204	138.682	17	127.77	5.9	-	NEAR THE WEST COAST OF HONSHU, JAPAN
1207.	10/23	9	34	4.7	37.263	138.818	10	127.87	6.1	6.0	NEAR THE WEST COAST OF HONSHU, JAPAN
1208.	10/23	10	36	45.2	37.206	138.686	10	127.77	5.4	-	NEAR W COAST HONSHU, JAPAN
1209.	10/23	10	45	56.9	37.301	138.659	10	127.85	5.8	-	NEAR THE WEST COAST OF HONSHU, JAPAN
1210.	10/23	12	44	27.5	37.175	138.942	10	127.83	5.0	-	NEAR W COAST HONSHU, JAPAN
1211.	10/23	14	34	45.6	37.286	138.713	14	127.85	5.5	-	NEAR THE WEST COAST OF HONSHU, JAPAN
1212.	10/23	18	48	30.6	-0.553	135.242	29	91.71	4.6	-	BIAK REGION, INDONESIA
1213.	10/23	23	16	14.5	-29.071	-67.057	133	68.47	5.0	-	LA RIOJA, ARGENTINA
1214.	10/23	23	43	58.1	-16.372	168.173	103	87.36	5.0	-	VANUATU
1215.	10/24	3	49	55.0	-40.255	-74.885	27	60.49	4.9	-	OFF COAST LOS LAGOS, CHILE
1216.	10/24	5	37	16.8	-62.068	155.289	10	41.36	5.0	4.8	BALLENY ISLANDS REGION
1217.	10/24	13	31	14.8	-6.560	130.231	84	84.31	5.5	-	BANDA SEA
1218.	10/24	14	56	52.0	-4.907	101.996	10	76.00	5.1	5.2	SOUTHERN SUMATRA, INDONESIA
1219.	10/24	15	28	8.5	37.187	138.662	12	127.75	5.3	4.9	NR THE WEST COAST OF Yamagata Prefectures
1220.	10/24	21	4	56.6	37.299	138.698	11	127.86	6.0	5.0	NEAR THE WEST COAST OF HONSHU, JAPAN
1221.	10/25	1	50	56.2	-8.853	124.344	50	80.07	5.4	4.5	KEPULAUAN ALOR, INDONESIA
1222.	10/25	14	0	12.2	-56.897	-24.858	10	29.74	4.8	-	SOUTH SANDWICH ISL REGION
1223.	10/25	14	8	19.0	-56.903	-24.738	10	29.69	4.9	-	SOUTH SANDWICH ISL REGION
1224.	10/25	16	40	39.5	31.711	-40.873	10	115.93	5.1	5.1	NORTHERN MID-ATLANTIC RIDGE
1225.	10/26	2	11	33.3	30.947	81.114	10	104.61	6.0	5.4	WESTERN XIZANG
1226.	10/26	7	24	18.9	-9.627	160.606	116	91.66	5.3	-	SOLOMON ISLANDS
1227.	10/26	15	34	7.4	-19.710	-176.386	208	87.71	4.7	-	FIJI REGION
1228.	10/26	17	54	27.4	-20.892	168.210	32	83.03	4.8	-	LOYALTY ISLANDS
1229.	10/26	20	48	10.4	-57.045	-24.819	10	29.62	5.4	5.5	SOUTH SANDWICH ISLANDS REGION
1230.	10/26	22	53	7.8	-57.079	-24.712	10	29.55	5.5	6.3	SOUTH SANDWICH ISLANDS REGION
1231.	10/26	23	25	21.1	-56.991	-24.665	10	29.60	5.2	5.7	SOUTH SANDWICH ISLANDS REGION
1232.	10/27	1	40	50.0	37.259	138.895	14	127.89	5.7	5.4	NEAR THE WEST COAST OF HONSHU, JAPAN
1233.	10/27	6	44	57.9	2.610	126.680	10	91.60	4.7	-	MOLUCCA SEA
1234.	10/27	9	23	38.8	45.084	80.221	18	118.09	5.5	4.9	KAZAKHSTAN-XINJIANG BORDER REGION
1235.	10/27	10	47	13.9	-9.869	160.216	59	91.31	5.3	4.8	SOLOMON ISLANDS
1236.	10/27	14	43	15.1	53.343	153.785	466	146.99	4.5	-	SEA OF OKHOTSK
1237.	10/27	16	3	11.0	56.167	-153.350	11	166.02	5.0	-	KODIAK ISLAND REGION, ALASKA
1238.	10/27	17	30	43.3	-5.540	36.170	10	63.50	4.5	-	TANZANIA
1239.	10/27	20	34	36.8	45.788	26.627	96	115.16	5.6	-	ROMANIA
1240.	10/28	4	23	28.1	-15.151	-177.670	371	91.91	4.2	-	FIJI REGION
1241.	10/28	6	51	50.5	-57.251	147.845	10	43.72	4.5	-	WEST OF MACQUARIE ISLAND
1242.	10/28	8	21	50.4	-4.888	103.119	33	76.38	5.0	-	SOUTHERN SUMATRA, INDONESIA
1243.	10/28	8	32	6.8	-4.894	103.189	41	76.40	5.6	4.9	SOUTHERN SUMATRA, INDONESIA
1244.	10/28	18	49	50.8	-5.315	35.695	10	63.73	4.4	-	TANZANIA
1245.	10/28	20	45	22.5	-6.993	-80.198	69	93.43	5.4	-	NEAR THE COAST OF NORTHERN PERU
1246.	10/29	0	0	39.9	-33.922	-72.562	29	65.69	4.3	-	OFF THE COAST OF VALPARAISO, CHILE
1247.	10/29	1	54	48.4	-20.670	169.860	84	83.67	4.4	-	VANUATU
1248.	10/29	3	2	14.8	-4.930	151.093	135	93.09	4.5	-	NEW BRITAIN REG, P.N.G.
1249.	10/29	3	5	24.9	12.261	141.923	25	106.05	5.1	4.4	MARIANA ISLANDS REGION
1250.	10/29	8	14	29.8	-17.567	-178.809	560	89.31	4.6	-	FIJI REGION

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(km)	(deg)		mb	MS			
1251.	10/29	8 55 39.8	-30.534	-67.163	24	67.15	4.8	-	LA RIOJA, ARGENTINA			
1252.	10/30	9 43 12.6	0.842	127.706	10	90.32	4.7	-	HALMAHERA, INDONESIA			
1253.	10/30	9 55 23.3	-8.648	112.564	9	76.08	5.1	-	JAVA, INDONESIA			
1254.	10/30	13 26 56.5	-15.524	168.033	60	88.13	5.6	5.0	VANUATU			
1255.	10/31	5 14 2.1	-4.559	133.811	19	87.46	5.1	4.9	NEAR THE SOUTH COAST OF PAPUA, IND.			
1256.	10/31	6 2 58.4	35.344	74.368	17	107.57	5.6	4.8	NORTHWESTERN KASHMIR			
1257.	10/31	6 10 38.2	35.256	74.475	15	107.50	5.3	4.7	NORTHWESTERN KASHMIR			
1258.	10/31	7 1 50.9	-23.721	-66.625	196	73.31	4.2	-	JUJUY, ARGENTINA			
1259.	10/31	17 47 14.9	-20.066	-66.661	216	76.74	4.4	-	POTOSI, BOLIVIA			
1260.	10/31	19 35 48.6	37.187	138.749	10	127.78	5.1	4.0	NEAR THE WEST COAST OF HONSHU, JAPAN			
1261.	11/1	3 4 29.1	-22.406	-65.812	263	74.27	4.8	-	JUJUY, ARGENTINA			
1262.	11/1	10 36 4.5	-32.838	-178.623	10	74.46	4.9	-	SOUTH OF KERMADEC ISLANDS			
1263.	11/1	11 37 58.2	-32.916	-178.406	10	74.43	5.1	-	SOUTH OF KERMADEC ISLANDS			
1264.	11/1	14 2 39.0	-32.757	-178.534	10	74.56	4.9	-	SOUTH OF KERMADEC ISLANDS			
1265.	11/1	20 50 26.1	-2.040	100.210	42	78.13	4.7	-	KEPULAUAN MENTAWAI REG, INDONESIA			
1266.	11/2	3 50 14.6	-18.235	-69.927	44	79.53	5.0	4.5	TARAPACA, CHILE			
1267.	11/2	8 49 17.7	-6.298	130.468	108	84.64	4.8	-	BANDA SEA			
1268.	11/2	8 45 56.1	28.690	143.191	10	121.68	5.6	5.4	BONIN ISLANDS, JAPAN REGION			
1269.	11/2	10 2 12.4	49.305	-128.781	10	159.42	5.8	6.4	VANCOUVER ISLAND, CANADA REGION			
1270.	11/2	10 32 51.2	-30.946	-178.854	18	76.26	5.3	-	KERMADEC ISLANDS, NEW ZEALAND			
1271.	11/2	21 48 17.8	-1.152	119.837	50	85.65	4.9	-	SULAWESI, INDONESIA			
1272.	11/2	22 25 30.6	-31.590	178.820	584	75.17	4.1	-	KERMADEC ISLANDS REGION			
1273.	11/4	5 31 39.5	-31.422	-67.934	110	66.57	4.6	-	SAN JUAN, ARGENTINA			
1274.	11/4	6 22 39.0	35.893	23.197	72	105.55	5.6	-	CRETE, GREECE			
1275.	11/4	8 10 19.4	-45.854	-76.487	35	55.77	4.9	-	OFF COAST OF AISEN, CHILE			
1276.	11/4	8 29 18.2	-45.837	-76.371	35	55.75	5.1	-	OFF COAST OF AISEN, CHILE			
1277.	11/4	9 37 57.4	-22.427	-69.025	86	75.30	4.9	-	ANTOFAGASTA, CHILE			
1278.	11/4	14 12 32.2	-6.624	104.727	20	75.28	4.9	-	SUNDA STRAIT, INDONESIA			
1279.	11/4	19 6 49.6	-55.246	-28.483	94	32.30	4.4	-	SOUTH SANDWICH ISL REGION			
1280.	11/4	21 32 5.7	-31.290	179.560	466	75.61	4.4	-	KERMADEC ISLANDS REGION			
1281.	11/4	23 37 9.9	-35.673	-104.332	10	71.88	4.5	-	SOUTHEAST OF EASTER ISLAND			
1282.	11/4	23 51 17.0	-4.776	139.606	44	89.31	4.9	-	PAPUA, INDONESIA			
1283.	11/5	5 18 34.4	-4.380	143.911	122	91.18	5.7	-	NEW GUINEA, P.N.G.			
1284.	11/5	5 35 28.8	-4.973	152.428	77	93.49	5.1	-	NEW BRITAIN REG, P.N.G.			
1285.	11/5	17 31 33.2	-18.589	168.951	189	85.43	5.3	-	VANUATU			
1286.	11/6	4 20 38.4	-34.496	179.325	171	72.45	4.6	-	SOUTH OF KERMADEC ISLANDS			
1287.	11/6	7 4 39.1	-24.308	-179.806	504	82.53	4.4	-	SOUTH OF THE FIJI ISLANDS			
1288.	11/6	14 28 17.9	-16.640	-173.540	15	91.26	4.8	-	TONGA			
1289.	11/6	15 28 48.9	-41.260	-85.676	10	62.45	4.8	-	WEST CHILE RISE			
1290.	11/6	22 20 44.2	2.599	128.269	74	92.16	5.2	-	HALMAHERA, INDONESIA			
1291.	11/7	2 2 25.9	47.960	144.431	473	139.22	5.5	-	SEA OF OKHOTSK			
1292.	11/7	2 41 41.1	-55.519	-29.100	40	32.30	5.3	5.4	SOUTH SANDWICH ISLANDS REGION			
1293.	11/7	12 42 57.2	-10.592	115.839	42	75.41	4.6	-	SOUTH OF BALI, INDONESIA			
1294.	11/9	1 18 19.6	-10.236	160.585	112	91.07	4.9	-	SOLOMON ISLANDS			
1295.	11/9	1 22 14.4	-15.196	-175.713	325	92.26	4.6	-	TONGA			
1296.	11/9	2 10 44.9	-32.202	-67.709	135	65.77	4.3	-	SAN JUAN, ARGENTINA			
1297.	11/9	10 12 55.8	-8.173	125.057	10	80.96	4.7	-	EAST TIMOR REGION			
1298.	11/9	18 0 53.0	-17.565	-70.228	73	80.26	4.5	-	SOUTHERN PERU			
1299.	11/9	18 43 7.5	37.415	138.784	5	127.99	5.3	4.6	NEAR THE WEST COAST OF HONSHU, JAPAN			
1300.	11/9	18 51 33.6	0.706	122.943	76	88.49	5.1	-	MINAHASA, SULAWESI, INDONESIA			

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral		Magnitude		Region
		UTC			Latitude (deg)	Longitude (deg)		distance (deg)	mb	MS		
		h	m	s								
1301.	11/9	22	14	37.2	11.596	140.665	53	104.99	5.5	-	STATE OF YAP, FED. STATES OF MICRONESIA	
1302.	11/9	23	58	23.3	-11.236	163.707	13	91.04	6.6	6.7	SOLOMON ISLANDS	
1303.	11/10	2	18	42.5	0.913	127.482	20	90.31	4.5	-	HALMAHERA, INDONESIA	
1304.	11/10	2	34	15.4	-20.602	-175.782	10	86.95	5.2	5.1	TONGA	
1305.	11/10	7	51	3.8	-7.003	102.835	10	74.30	5.3	4.8	SW OF SUMATRA, INDONESIA	
1306.	11/10	10	35	38.6	-21.131	-176.028	36	86.39	5.0	5.3	FIJI REGION	
1307.	11/11	2	3	57.3	13.904	24.083	10	83.59	4.4	-	SUDAN	
1308.	11/11	2	16	46.2	24.378	122.196	59	110.28	5.8	-	TAIWAN REGION	
1309.	11/11	3	23	58.1	-22.805	-69.584	71	75.13	5.1	-	ANTOFAGASTA, CHILE	
1310.	11/11	9	11	38.0	-16.992	-69.372	83	80.51	5.3	-	SOUTHERN PERU	
1311.	11/11	10	2	47.4	42.091	144.330	36	134.11	5.8	5.9	HOKKAIDO, JAPAN REGION	
1312.	11/11	10	4	42.4	-22.297	-176.300	55	85.20	5.3	-	SOUTH OF THE FIJI ISLANDS	
1313.	11/11	13	52	53.4	-4.280	143.137	54	91.00	5.3	-	NEW GUINEA, P.N.G.	
1314.	11/11	17	33	7.1	-11.413	162.174	10	90.42	5.6	-	SOLOMON ISLANDS	
1315.	11/11	17	34	53.8	-11.134	162.193	22	90.69	5.8	6.6	SOLOMON ISLANDS	
1316.	11/11	17	39	15.1	-11.167	161.917	82	90.58	5.3	-	SOLOMON ISLANDS	
1317.	11/11	17	54	9.5	-10.965	162.222	35	90.86	4.9	-	SOLOMON ISLANDS	
1318.	11/11	22	49	48.1	-8.267	124.834	10	80.79	6.1	6.9	KEPULAUAN ALOR, INDONESIA	
1319.	11/12	5	3	24.5	-8.295	124.849	10	80.77	5.0	-	KEPULAUAN ALOR, INDONESIA	
1320.	11/12	6	36	16.8	-26.687	-63.327	568	69.46	5.7	-	SANTIAGO DEL ESTERO, ARGENTINA	
1321.	11/12	6	42	31.8	-7.284	128.341	10	82.96	5.0	-	KEPULAUAN BARAT DAYA, INDONESIA	
1322.	11/12	9	59	45.9	-8.099	124.914	10	80.98	5.0	4.7	KEPULAUAN ALOR, INDONESIA	
1323.	11/12	11	31	52.7	-11.106	162.340	20	90.76	5.0	5.4	SOLOMON ISLANDS	
1324.	11/12	12	8	43.0	-8.290	125.520	10	81.01	5.0	-	EAST TIMOR REGION	
1325.	11/12	19	28	1.6	-11.058	161.726	20	90.63	5.1	5.1	SOLOMON ISLANDS	
1326.	11/12	20	13	14.3	8.285	-102.917	10	114.43	5.1	5.0	NORTHERN EAST PACIFIC RISE	
1327.	11/13	0	32	48.8	-10.273	164.551	10	92.20	4.5	-	SANTA CRUZ ISLANDS REGION	
1328.	11/13	0	37	19.4	-10.386	164.652	10	92.12	4.6	-	SANTA CRUZ ISLANDS REGION	
1329.	11/13	0	44	0.2	-10.950	164.900	10	91.65	4.5	-	SANTA CRUZ ISLANDS REGION	
1330.	11/13	1	6	49.0	-8.204	124.575	10	80.76	4.6	-	KEPULAUAN ALOR, INDONESIA	
1331.	11/13	2	55	3.5	27.810	139.907	348	119.70	4.2	-	BONIN ISLANDS, JAPAN REGION	
1332.	11/13	4	15	31.3	-8.157	124.850	10	80.90	4.8	-	KEPULAUAN ALOR, INDONESIA	
1333.	11/13	5	36	15.0	2.168	128.476	51	91.83	4.8	-	HALMAHERA, INDONESIA	
1334.	11/13	9	8	26.8	-7.932	125.117	23	81.20	4.8	-	KEPULAUAN BARAT DAYA, INDONESIA	
1335.	11/13	12	47	13.3	-8.237	124.460	15	80.68	4.8	-	KEPULAUAN ALOR, INDONESIA	
1336.	11/13	13	43	35.0	27.680	139.890	493	119.58	4.6	-	BONIN ISLANDS, JAPAN REGION	
1337.	11/13	19	29	27.1	-29.742	-71.575	15	69.28	4.8	-	OFFSHORE COQUIMBO, CHILE	
1338.	11/13	20	6	8.3	-23.112	-66.446	188	73.82	5.2	-	JUJUY, ARGENTINA	
1339.	11/13	22	34	6.2	-8.143	125.011	10	80.97	5.3	-	EAST TIMOR REGION	
1340.	11/14	2	55	47.8	-10.690	164.526	10	91.79	4.9	4.4	SANTA CRUZ ISLANDS REGION	
1341.	11/14	9	46	37.1	-10.875	163.630	10	91.36	5.0	4.6	SOLOMON ISLANDS	
1342.	11/14	17	37	43.3	41.721	144.019	21	133.68	5.3	4.8	HOKKAIDO, JAPAN REGION	
1343.	11/14	18	38	7.6	-30.131	-71.313	49	68.83	4.7	-	COQUIMBO, CHILE	
1344.	11/14	18	44	14.2	41.750	143.995	25	133.69	5.6	5.1	HOKKAIDO, JAPAN REGION	
1345.	11/15	2	38	40.0	16.192	-98.370	10	120.90	5.2	4.6	OFFSHORE OAXACA, MEXICO	
1346.	11/15	9	6	56.3	4.679	-77.511	15	103.63	6.6	7.1	NEAR THE WEST COAST OF COLOMBIA	
1347.	11/15	12	16	6.8	-5.566	102.367	50	75.50	4.8	-	SOUTHERN SUMATRA, INDONESIA	
1348.	11/15	23	5	2.8	-8.022	124.770	10	81.00	5.2	4.7	KEPULAUAN ALOR, INDONESIA	
1349.	11/15	23	35	8.4	-21.022	-178.752	492	85.95	4.3	-	FIJI REGION	
1350.	11/16	3	39	37.5	-11.167	162.383	34	90.72	5.1	4.9	SOLOMON ISLANDS	

No.	Date	Origin time			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude mb MS	Region
		UTC h m s						(deg)	(deg)		
1351.	11/16	7	13	47.7	-55.504	-138.610	10	55.48	5.0	4.4	PACIFIC-ANTARCTIC RIDGE
1352.	11/16	9	27	20.8	-52.630	28.116	10	17.16	5.0	-	SOUTH OF AFRICA
1353.	11/16	10	6	54.6	-5.573	151.421	56	92.59	5.6	-	NEW BRITAIN REGION, P.N.G.
1354.	11/16	11	57	28.4	53.051	160.111	54	149.02	5.5	-	NR E COAST KAMCHATKA, RUSSIA
1355.	11/17	10	43	50.6	-30.057	-177.887	30	77.31	5.3	4.8	KERMADEC ISL, NEW ZEALAND
1356.	11/17	13	26	24.3	9.574	93.551	100	87.16	5.3	-	NICOBAR ISLANDS, INDIA REGION
1357.	11/17	21	4	22.3	-19.973	-178.713	601	86.98	5.2	-	FIJI REGION
1358.	11/17	20	58	21.8	39.099	71.829	20	110.80	5.8	5.6	TAJKISTAN
1359.	11/17	21	9	13.0	-20.073	-178.708	623	86.89	5.9	-	FIJI REGION
1360.	11/17	21	33	32.0	-20.020	-178.631	597	86.96	4.7	-	FIJI REGION
1361.	11/18	2	13	6.3	-32.232	-178.146	9	75.14	5.2	-	SOUTH OF KERMADEC ISLANDS
1362.	11/18	3	22	55.3	-55.135	-29.042	27	32.59	4.7	-	SOUTH SANDWICH ISL REGION
1363.	11/18	12	27	7.3	-21.035	-179.116	626	85.87	5.2	-	FIJI REGION
1364.	11/18	13	42	6.0	-7.941	124.941	40	81.13	5.4	4.6	BANDA SEA
1365.	11/19	6	56	1.6	-14.141	166.741	50	89.11	5.0	-	VANUATU
1366.	11/19	8	52	9.2	-14.117	166.685	50	89.12	5.1	-	VANUATU
1367.	11/20	2	32	42.4	-3.402	126.143	12	85.80	5.6	5.0	BURU, INDONESIA
1368.	11/20	7	38	13.4	11.980	143.608	40	106.39	5.1	4.0	SOUTH OF THE MARIANA ISLANDS
1369.	11/20	8	7	21.9	9.581	-84.228	16	110.43	5.9	6.3	COSTA RICA
1370.	11/20	10	6	34.5	4.882	125.202	173	93.20	4.8	-	KEPULAUAN SANGIHE, INDONESIA
1371.	11/20	13	54	0.2	-5.427	-78.008	57	94.23	4.6	-	NORTHERN PERU
1372.	11/20	22	1	45.8	13.384	-90.029	41	115.82	5.6	5.9	NEAR THE COAST OF GUATEMALA
1373.	11/20	23	39	11.2	-17.704	-174.891	180	89.96	4.6	-	TONGA
1374.	11/21	7	14	37.4	-23.459	179.996	510	83.32	4.8	-	SOUTH OF THE FIJI ISLANDS
1375.	11/21	11	7	13.2	-15.382	-174.942	253	92.23	5.6	-	TONGA
1376.	11/21	11	41	7.6	15.699	-61.654	14	108.45	6.3	6.1	LEEWARD ISLANDS
1377.	11/21	18	53	2.2	15.695	-61.718	10	108.47	5.4	4.9	LEEWARD ISLANDS
1378.	11/22	14	57	36.0	41.880	143.929	15	133.78	5.1	-	HOKKAIDO, JAPAN REGION
1379.	11/22	17	18	51.1	-27.568	-63.090	550	68.56	4.0	-	SANTIAGO DEL ESTERO, ARGENTINA
1380.	11/22	20	26	24.3	-46.694	164.777	10	57.60	6.4	7.1	OFF WEST COAST OF THE SOUTH ISLAND, N.Z.
1381.	11/23	2	26	16.2	40.335	20.656	15	110.19	5.4	5.2	ALBANIA
1382.	11/23	5	14	1.2	-17.294	-176.744	20	90.00	5.0	4.8	FIJI REGION
1383.	11/23	11	19	40.1	-16.110	-174.930	262	91.52	4.2	-	TONGA
1384.	11/23	16	49	39.8	-22.807	-67.924	126	74.59	5.0	-	ANTOFAGASTA, CHILE
1385.	11/23	21	4	56.0	-24.214	178.945	537	82.36	5.6	-	SOUTH OF THE FIJI ISLANDS
1386.	11/23	22	46	9.5	-30.650	-178.630	350	76.59	4.4	-	KERMADEC ISL, NEW ZEALAND
1387.	11/24	2	42	59.0	-30.633	117.472	0	57.50	4.1	-	WESTERN AUSTRALIA
1388.	11/24	10	17	45.7	-23.785	-66.549	191	73.22	4.6	-	JUJUY, ARGENTINA
1389.	11/24	16	19	51.0	-0.872	-80.414	24	99.31	5.0	4.3	NEAR THE COAST OF ECUADOR
1390.	11/25	18	52	53.3	-3.569	135.498	5	88.99	5.1	4.4	PAPUA, INDONESIA
1391.	11/25	22	29	53.9	-15.260	-173.620	10	92.60	4.2	-	TONGA
1392.	11/25	23	11	30.9	32.611	142.272	47	124.92	5.0	-	IZU ISLANDS, JAPAN REGION
1393.	11/25	23	45	29.4	-19.920	-176.161	260	87.55	4.9	-	FIJI REGION
1394.	11/26	4	45	53.2	-3.393	135.519	10	89.16	5.1	-	PAPUA, INDONESIA
1395.	11/26	5	5	18.0	15.608	-61.568	10	108.33	5.2	-	LEEWARD ISLANDS
1396.	11/26	8	1	11.4	-3.567	135.384	10	88.95	5.2	5.3	PAPUA, INDONESIA
1397.	11/26	15	29	1.5	-3.674	135.283	10	88.81	5.4	4.9	PAPUA, INDONESIA
1398.	11/26	22	42	37.4	42.380	142.852	60	133.84	5.3	-	HOKKAIDO, JAPAN REGION
1399.	11/27	4	17	7.8	-4.821	153.161	61	93.88	4.8	4.2	NEW IRELAND REG, P.N.G.
1400.	11/27	6	38	31.4	76.051	7.299	25	146.37	5.1	4.7	SVALBARD REGION

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC			Latitude (deg)	Longitude (deg)		(deg)	(deg)	mb	MS	
		h	m	s								
1401.	11/27	8	49	2.8	-45.766	-20.453	10	37.26	5.2	-	SOUTHERN MID-ATLANTIC RIDGE	
1402.	11/27	9	40	48.3	19.577	121.262	36	105.51	5.1	-	BABUYAN ISL REG, PHILIPPINES	
1403.	11/27	9	48	58.4	-3.613	135.445	10	88.93	5.3	5.5	PAPUA, INDONESIA	
1404.	11/27	10	50	16.7	-3.456	130.743	10	87.39	4.4	-	SERAM, INDONESIA	
1405.	11/27	18	56	56.6	-3.754	135.346	10	88.76	4.5	-	PAPUA, INDONESIA	
1406.	11/27	21	57	55.2	-41.002	-91.092	10	64.00	4.8	-	SOUTHEAST OF EASTER ISLAND	
1407.	11/27	22	42	35.9	2.031	98.081	43	81.32	5.4	4.7	NORTHERN SUMATRA, INDONESIA	
1408.	11/28	1	22	19.4	-8.130	125.307	41	81.09	5.1	-	EAST TIMOR REGION	
1409.	11/28	2	35	15.1	-26.238	-113.506	10	82.66	5.7	6.1	EASTER ISLAND REGION	
1410.	11/28	7	36	44.5	-3.594	135.442	17	88.94	6.0	6.1	PAPUA, INDONESIA	
1411.	11/28	13	11	43.8	-9.893	118.771	17	77.11	4.9	-	SUMBAWA REGION, INDONESIA	
1412.	11/28	18	32	13.9	42.995	145.056	39	135.16	6.3	6.7	HOKKAIDO, JAPAN REGION	
1413.	11/29	6	32	52.7	-26.531	-112.964	10	82.29	5.0	4.5	EASTER ISLAND REGION	
1414.	11/29	8	0	22.1	42.989	145.357	42	135.26	5.1	-	HOKKAIDO, JAPAN REGION	
1415.	11/30	1	25	34.5	-34.010	179.160	237	72.89	4.8	-	SOUTH OF KERMADEC ISLANDS	
1416.	11/30	5	9	25.3	-3.536	135.366	10	88.97	5.1	4.1	PAPUA, INDONESIA	
1417.	11/30	9	13	15.1	-3.535	135.155	10	88.89	4.5	-	PAPUA, INDONESIA	
1418.	11/30	13	14	34.5	-3.607	135.479	10	88.94	4.5	-	PAPUA, INDONESIA	
1419.	11/30	18	25	30.8	-55.970	-24.415	10	30.30	5.5	4.4	SOUTH SANDWICH ISLANDS REGION	
1420.	11/30	20	8	3.6	-20.085	-178.083	535	87.00	4.6	-	FIJI REGION	
1421.	11/30	21	29	12.1	-3.252	135.602	10	89.32	4.5	-	PAPUA, INDONESIA	
1422.	12/1	2	15	45.5	-58.874	-25.191	27	28.38	4.5	-	SOUTH SANDWICH ISL REGION	
1423.	12/1	11	18	58.0	-3.312	135.522	10	89.23	4.8	-	PAPUA, INDONESIA	
1424.	12/1	17	49	34.5	-22.322	169.581	10	82.01	4.8	-	SOUTHEAST OF LOYALTY ISLANDS	
1425.	12/2	3	30	12.4	-44.060	168.820	9	61.02	4.7	-	SOUTH ISLAND OF NEW ZEALAND	
1426.	12/2	3	30	2.6	36.972	-33.231	10	118.31	5.1	-	AZORES ISLANDS REGION	
1427.	12/2	3	32	22.2	-3.328	135.425	10	89.18	5.4	5.2	PAPUA, INDONESIA	
1428.	12/2	3	45	33.2	-3.318	135.451	10	89.20	5.6	5.7	PAPUA, INDONESIA	
1429.	12/2	8	4	8.3	-3.717	135.542	10	88.86	4.5	-	PAPUA, INDONESIA	
1430.	12/2	10	27	39.4	47.948	154.987	4	142.97	5.0	5.4	KURIL ISLANDS	
1431.	12/2	19	16	34.6	10.462	-61.488	51	103.52	5.4	-	TRINIDAD	
1432.	12/3	3	46	46.3	10.571	-61.445	42	103.60	5.1	5.1	TRINIDAD	
1433.	12/3	14	17	14.6	-29.578	-69.412	109	68.75	4.8	-	SAN JUAN, ARGENTINA	
1434.	12/3	14	59	14.2	-34.394	179.317	155	72.55	5.2	-	SOUTH OF THE KERMADEC ISLANDS	
1435.	12/3	21	28	31.8	-6.568	127.378	395	83.29	4.4	-	BANDA SEA	
1436.	12/4	5	15	33.7	-21.330	-68.633	165	76.20	4.2	-	ANTOFAGASTA, CHILE	
1437.	12/4	9	0	11.3	-3.370	135.497	10	89.17	5.3	-	PAPUA, INDONESIA	
1438.	12/4	10	30	0.7	35.046	-3.066	13	108.57	5.0	4.9	STRAIT OF GIBRALTAR	
1439.	12/4	11	6	5.8	-17.987	-178.400	600	88.99	4.2	-	FIJI REGION	
1440.	12/4	13	41	12.5	-34.095	179.351	10	72.84	4.9	-	SOUTH OF KERMADEC ISLANDS	
1441.	12/4	16	5	28.5	-5.856	146.623	36	90.72	4.7	-	E NEW GUINEA REG, P.N.G.	
1442.	12/4	21	53	23.7	-3.549	135.436	10	88.98	4.9	-	PAPUA, INDONESIA	
1443.	12/5	1	40	46.4	-3.590	135.331	10	88.91	5.0	4.3	PAPUA, INDONESIA	
1444.	12/5	19	45	32.6	41.479	141.968	71	132.73	5.0	-	HOKKAIDO, JAPAN REGION	
1445.	12/6	7	10	10.2	-32.278	-71.384	43	66.86	4.3	-	VALPARAISO, CHILE	
1446.	12/6	9	17	24.3	-26.825	-114.445	10	82.22	4.6	-	EASTER ISLAND REGION	
1447.	12/6	11	47	1.6	-12.524	166.908	263	90.71	4.7	-	SANTA CRUZ ISLANDS	
1448.	12/6	14	15	11.9	42.907	145.200	35	135.14	6.4	6.5	HOKKAIDO, JAPAN REGION	
1449.	12/6	16	26	29.0	-18.415	-178.130	440	88.63	5.1	-	FIJI REGION	
1450.	12/7	0	25	36.0	-20.500	-178.670	570	86.48	4.2	-	FIJI REGION	

No.	Date	Origin time			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude		Region
		UTC	h	m				s	(deg)	(deg)	mb	
1451.	12/7	0	48	6.3	-30.441	-177.552	10	77.00	5.0	-	KERMADEC ISL, NEW ZEALAND	
1452.	12/7	1	42	36.8	-21.485	-68.508	85	76.02	5.2	-	ANTOFAGASTA, CHILE	
1453.	12/7	4	37	52.3	-20.038	156.748	30	80.60	5.1	-	EAST OF AUSTRALIA	
1454.	12/7	5	19	48.5	-3.047	100.641	30	77.32	5.1	-	KEPULAUAN MENTAWAI REG, INDONESIA	
1455.	12/7	15	59	41.6	-7.110	155.410	134	92.44	4.4	-	SOLOMON ISLANDS	
1456.	12/7	22	13	16.1	-18.810	167.870	100	84.94	4.3	-	VANUATU	
1457.	12/7	22	42	27.0	-4.490	138.196	10	89.08	5.1	4.4	PAPUA, INDONESIA	
1458.	12/8	6	3	55.2	-30.852	-71.108	44	68.10	5.7	5.0	COQUIMBO, CHILE	
1459.	12/8	9	38	51.5	30.413	137.326	484	121.15	4.6	-	IZU ISLANDS, JAPAN REGION	
1460.	12/8	18	14	37.4	-7.700	108.150	35	75.43	4.8	-	JAVA, INDONESIA	
1461.	12/8	23	55	7.3	-37.740	-70.770	100	61.60	4.7	-	NEUQUEN, ARGENTINA	
1462.	12/9	8	31	11.2	-5.005	102.459	35	76.06	4.9	-	SOUTHERN SUMATRA, INDONESIA	
1463.	12/9	8	49	0.1	24.745	92.514	34	101.38	5.5	4.6	INDIA-BANGLADESH BORDER REGION	
1464.	12/9	13	12	2.7	-6.794	130.253	105	84.10	5.4	-	BANDA SEA	
1465.	12/9	19	5	34.5	-14.834	167.314	173	88.60	4.3	-	VANUATU	
1466.	12/10	0	53	56.8	-18.966	168.981	155	85.08	5.4	-	VANUATU	
1467.	12/10	1	30	42.2	50.046	150.790	381	143.23	4.8	-	NORTHWEST OF KURIL ISLANDS	
1468.	12/10	2	33	50.8	-20.169	-177.782	493	86.98	4.8	-	FIJI REGION	
1469.	12/11	1	55	51.5	-4.709	149.710	565	92.84	5.3	-	BISMARCK SEA	
1470.	12/11	9	34	48.1	-32.830	-70.290	112	66.00	4.5	-	VALPARAISO, CHILE	
1471.	12/11	19	45	46.2	18.672	-64.693	52	112.29	5.2	-	VIRGIN ISLANDS	
1472.	12/12	1	1	17.7	-4.900	102.908	45	76.30	4.8	-	SOUTHERN SUMATRA, INDONESIA	
1473.	12/12	9	32	21.3	-7.398	128.429	139	82.89	4.6	-	KEPULAUAN BARAT DAYA, INDONESIA	
1474.	12/12	15	5	30.0	-8.844	108.545	49	74.50	4.9	4.5	JAVA, INDONESIA	
1475.	12/12	16	3	36.9	-3.478	145.189	10	92.46	5.1	5.3	NEAR NORTH COAST OF NEW GUINEA, P.N.G.	
1476.	12/12	19	36	56.7	-44.313	-82.169	10	58.70	4.9	4.7	WEST CHILE RISE	
1477.	12/12	21	2	16.9	-18.289	-69.687	122	79.40	4.6	-	TARAPACA, CHILE	
1478.	12/12	21	19	15.0	-2.555	139.226	10	91.25	5.2	4.9	NEAR N COAST PAPUA, INDONESIA	
1479.	12/13	12	0	12.7	-8.064	125.124	10	81.08	5.8	4.7	EAST TIMOR REGION	
1480.	12/13	15	23	41.6	13.370	-89.514	62	115.66	5.5	-	EL SALVADOR	
1481.	12/14	3	53	10.9	-55.947	-27.854	146	31.53	4.7	-	SOUTH SANDWICH ISL REGION	
1482.	12/14	5	0	10.7	-3.683	135.052	10	88.72	4.3	-	PAPUA, INDONESIA	
1483.	12/14	5	56	9.9	44.133	141.765	10	134.98	5.8	5.3	HOKKAIDO, JAPAN REGION	
1484.	12/14	8	7	39.6	-12.798	-71.029	14	85.00	4.7	-	CENTRAL PERU	
1485.	12/14	8	33	11.5	-8.714	111.771	72	75.74	4.8	-	JAVA, INDONESIA	
1486.	12/14	9	15	32.5	-30.527	-71.403	52	68.49	4.5	-	COQUIMBO, CHILE	
1487.	12/14	14	21	24.8	-14.285	172.747	10	90.55	4.7	-	VANUATU REGION	
1488.	12/14	20	40	49.9	-54.960	158.720	10	48.51	4.7	-	MACQUARIE ISLAND REGION	
1489.	12/14	23	20	13.5	19.011	-81.348	10	118.38	6.2	6.6	CAYMAN ISLANDS REGION	
1490.	12/16	0	10	4.7	24.119	122.338	47	110.09	5.0	5.1	TAIWAN REGION	
1491.	12/16	2	1	44.2	-11.836	166.787	224	91.33	4.6	-	SANTA CRUZ ISLANDS	
1492.	12/16	4	29	21.4	-20.401	-173.742	50	87.53	4.9	-	TONGA	
1493.	12/16	4	48	23.1	-21.646	-179.241	577	85.24	4.3	-	FIJI REGION	
1494.	12/16	5	55	43.7	-22.354	-67.998	109	75.04	4.3	-	ANTOFAGASTA, CHILE	
1495.	12/16	9	1	36.8	-0.397	-20.352	10	79.10	4.5	-	CENTRAL MID-ATLANTIC RIDGE	
1496.	12/16	16	19	46.7	-7.050	149.550	72	90.58	4.6	-	NEW BRITAIN REG, P.N.G.	
1497.	12/17	2	50	21.7	0.020	123.231	150	87.95	5.0	-	MINAHASA, SULAWESI, INDONESIA	
1498.	12/17	7	13	11.1	-21.898	-179.312	594	84.98	5.5	-	FIJI REGION	
1499.	12/17	19	11	9.1	-33.434	-68.756	25	64.96	4.5	-	MENDOZA, ARGENTINA	
1500.	12/17	20	43	37.3	-56.159	-27.026	144	31.07	5.0	-	SOUTH SANDWICH ISL REGION	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral		Magnitude		Region
		UTC			Latitude (deg)	Longitude (deg)		distance (deg)	mb	MS		
		h	m	s								
1501.	12/18	6	46	19.3	48.848	156.210	10	144.17	5.5	6.0	EAST OF THE KURIL ISLANDS	
1502.	12/18	8	50	5.5	48.718	156.075	10	144.01	5.4	-	EAST OF THE KURIL ISLANDS	
1503.	12/18	9	12	48.4	40.885	10.164	10	111.96	5.1	4.6	TYRRHENIAN SEA	
1504.	12/18	17	15	26.6	-16.009	-174.731	10	91.65	5.1	5.5	TONGA	
1505.	12/18	17	57	22.9	-16.205	-73.845	28	82.71	5.5	5.3	NEAR THE COAST OF SOUTHERN PERU	
1506.	12/18	19	18	42.3	-17.760	178.639	515	88.57	4.7	-	FIJI	
1507.	12/19	3	7	49.9	-19.076	167.684	37	84.63	5.6	4.6	VANUATU REGION	
1508.	12/19	8	23	48.1	9.373	-78.804	58	108.48	5.5	-	PANAMA	
1509.	12/19	15	14	51.4	7.383	123.748	576	95.01	5.4	-	MINDANAO, PHILIPPINES	
1510.	12/19	20	13	36.4	-18.091	-178.873	563	88.79	5.2	-	FIJI REGION	
1511.	12/19	22	39	13.5	55.490	-158.121	24	164.43	5.2	-	ALASKA PENINSULA	
1512.	12/20	3	58	42.0	-15.200	-75.083	18	84.05	5.0	5.0	NEAR THE COAST OF CENTRAL PERU	
1513.	12/20	7	39	28.6	-15.863	-174.647	228	91.81	4.9	-	TONGA	
1514.	12/20	9	52	43.9	0.724	-25.657	10	81.87	4.9	-	CENTRAL MID-ATLANTIC RIDGE	
1515.	12/20	23	2	17.4	37.022	28.293	30	106.33	5.2	4.7	WESTERN TURKEY	
1516.	12/21	15	34	28.0	42.924	145.419	39	135.23	5.5	5.0	HOKKAIDO, JAPAN REGION	
1517.	12/21	17	21	8.3	60.638	-147.627	30	171.18	-	-	S ALASKA	
1518.	12/21	19	46	41.9	1.628	127.364	119	90.93	5.4	-	HALMAHERA, INDONESIA	
1519.	12/22	5	41	6.5	-56.679	-25.505	33	30.14	4.5	-	SOUTH SANDWICH ISL REGION	
1520.	12/23	0	53	4.2	-21.025	-67.726	150	76.19	4.3	-	POTOSI, BOLIVIA	
1521.	12/23	11	6	15.4	-17.940	-178.460	583	89.02	4.3	-	FIJI REGION	
1522.	12/23	16	7	34.7	-49.281	161.072	10	54.30	5.1	-	NORTH OF MACQUARIE ISLAND	
1523.	12/23	16	16	29.8	-49.821	161.512	10	53.90	5.1	-	NORTH OF MACQUARIE ISLAND	
1524.	12/23	19	5	31.6	-49.176	161.550	10	54.51	5.0	-	NORTH OF MACQUARIE ISLAND	
1525.	12/23	19	50	0.6	-49.887	161.598	10	53.86	5.6	5.7	NORTH OF MACQUARIE ISLAND	
1526.	12/24	5	31	44.8	-50.053	161.489	10	53.68	5.4	4.7	NORTH OF MACQUARIE ISLAND	
1527.	12/24	13	32	16.5	-20.137	-178.639	600	86.84	4.4	-	FIJI REGION	
1528.	12/24	13	39	44.1	-20.358	-178.751	620	86.60	5.2	-	FIJI REGION	
1529.	12/24	13	49	55.4	-20.262	-178.754	600	86.69	4.6	-	FIJI REGION	
1530.	12/24	19	36	39.3	-18.909	167.670	33	84.79	5.3	-	VANUATU	
1531.	12/24	23	54	46.3	-6.591	109.202	248	76.84	4.5	-	JAVA, INDONESIA	
1532.	12/25	18	17	33.0	-6.220	151.081	64	91.87	4.6	-	NEW BRITAIN REG, P.N.G.	
1533.	12/25	22	20	46.5	-5.990	127.640	348	83.92	4.0	-	BANDA SEA	
1534.	12/25	22	25	39.5	-19.102	167.761	35	84.63	5.2	-	VANUATU REGION	
1535.	12/25	23	25	7.9	1.307	127.420	158	90.65	4.7	-	HALMAHERA, INDONESIA	
1536.	12/26	0	58	53.2	3.316	95.854	30	81.86	6.3	8.8	OFF THE WEST COAST OF NORTHERN SUMATRA	
1537.	12/26	1	21	21.0	6.347	93.413	30	84.03	6.0	-	NICOBAR ISL, INDIA REGION	
1538.	12/26	1	25	48.9	5.570	94.120	30	83.49	5.7	-	NORTHERN SUMATRA, INDONESIA	
1539.	12/26	1	40	7.4	5.773	93.040	30	83.37	5.3	-	OFF WEST COAST OF N SUMATRA	
1540.	12/26	1	48	49.6	5.415	94.437	31	83.44	5.8	-	NORTHERN SUMATRA, INDONESIA	
1541.	12/26	2	15	56.8	12.349	92.536	8	89.52	5.7	-	ANDAMAN ISL, INDIA REGION	
1542.	12/26	2	22	3.5	8.866	92.431	26	86.16	5.8	-	NICOBAR ISL, INDIA REGION	
1543.	12/26	2	34	52.2	4.018	94.115	30	82.01	5.7	-	OFF WEST COAST OF N SUMATRA	
1544.	12/26	2	36	9.4	12.187	92.947	33	89.48	5.8	-	ANDAMAN ISL, INDIA REGION	
1545.	12/26	2	52	1.5	12.496	92.542	30	89.66	5.8	-	ANDAMAN ISL, INDIA REGION	
1546.	12/26	2	59	14.5	3.207	94.323	30	81.30	5.8	-	OFF WEST COAST OF N SUMATRA	
1547.	12/26	3	8	44.5	13.745	93.075	30	91.01	5.9	-	ANDAMAN ISL, INDIA REGION	
1548.	12/26	3	14	13.4	7.397	94.253	30	85.28	5.4	-	NICOBAR ISL, INDIA REGION	
1549.	12/26	3	17	52.7	7.158	92.854	30	84.64	5.8	-	NICOBAR ISL, INDIA REGION	
1550.	12/26	3	19	15.1	3.722	93.817	30	81.64	5.6	-	OFF WEST COAST OF N SUMATRA	

No.	Date	Origin time			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance (deg)		Magnitude		Region
		h	m	s				mb	MS			
1551.	12/26	3	24	54.8	4.492	94.055	26	82.44	5.7	-	OFF WEST COAST OF N SUMATRA	
1552.	12/26	4	10	12.4	5.509	92.922	34	83.09	5.4	-	OFF WEST COAST OF N SUMATRA	
1553.	12/26	4	21	29.7	6.885	92.938	40	84.41	6.1	7.5	NICOBAR ISLANDS, INDIA REGION	
1554.	12/26	6	2	29.4	8.313	94.012	29	86.08	5.6	-	NICOBAR ISL, INDIA REGION	
1555.	12/26	6	22	2.2	10.667	92.332	39	87.85	5.5	-	ANDAMAN ISL, INDIA REGION	
1556.	12/26	6	38	39.5	6.707	92.943	38	84.24	5.5	-	NICOBAR ISL, INDIA REGION	
1557.	12/26	7	7	12.5	10.367	93.734	30	87.97	5.6	-	ANDAMAN ISL, INDIA REGION	
1558.	12/26	7	38	27.6	13.152	93.021	30	90.43	5.8	-	ANDAMAN ISL, INDIA REGION	
1559.	12/26	7	52	32.8	8.174	94.049	48	85.96	5.4	-	NICOBAR ISL, INDIA REGION	
1560.	12/26	9	19	59.9	8.874	92.368	6	86.15	6.0	6.6	NICOBAR ISLANDS, INDIA REGION	
1561.	12/26	10	18	13.4	8.967	93.722	14	86.62	5.5	-	NICOBAR ISL, INDIA REGION	
1562.	12/26	10	19	28.9	13.470	92.779	6	90.66	6.3	-	ANDAMAN ISL, INDIA REGION	
1563.	12/26	10	51	20.1	7.595	92.333	30	84.91	5.6	-	NICOBAR ISL, INDIA REGION	
1564.	12/26	11	5	0.5	13.525	92.859	13	90.74	6.3	6.3	ANDAMAN ISLANDS, INDIA REGION	
1565.	12/26	12	9	41.5	12.228	92.605	13	89.43	5.4	-	ANDAMAN ISL, INDIA REGION	
1566.	12/26	12	11	58.5	11.540	92.415	30	88.71	5.5	-	ANDAMAN ISL, INDIA REGION	
1567.	12/26	13	56	40.5	2.771	94.461	30	80.92	5.9	-	OFF THE WEST COAST OF NORTHERN SUMATRA	
1568.	12/26	15	12	22.6	6.704	92.985	20	84.25	5.5	-	NICOBAR ISL, INDIA REGION	
1569.	12/26	18	42	43.6	13.751	92.969	24	90.99	5.3	4.7	ANDAMAN ISL, INDIA REGION	
1570.	12/26	20	50	32.4	6.360	126.886	103	95.18	5.8	-	MINDANAO, PHILIPPINES	
1571.	12/26	21	6	51.6	4.585	96.372	45	83.23	5.6	-	NORTHERN SUMATRA, INDONESIA	
1572.	12/27	0	24	29.9	4.473	93.758	10	82.34	5.4	-	OFF WEST COAST OF N SUMATRA	
1573.	12/27	0	32	16.4	5.473	94.469	33	83.50	6.0	5.1	NORTHERN SUMATRA, INDONESIA	
1574.	12/27	0	49	28.1	12.996	92.430	19	90.11	6.1	-	ANDAMAN ISL, INDIA REGION	
1575.	12/27	3	4	38.5	-4.246	152.693	62	94.27	5.2	-	NEW BRITAIN REG, P.N.G.	
1576.	12/27	5	10	52.3	5.997	93.214	26	83.64	4.9	-	OFF WEST COAST OF N SUMATRA	
1577.	12/27	5	16	34.8	14.031	93.093	30	91.29	4.7	-	ANDAMAN ISL, INDIA REGION	
1578.	12/27	6	59	14.8	3.042	95.547	28	81.51	5.4	5.2	OFF WEST COAST OF N SUMATRA	
1579.	12/27	7	47	36.4	2.685	94.489	33	80.85	5.4	5.6	OFF WEST COAST OF N SUMATRA	
1580.	12/27	8	21	39.8	5.538	94.594	48	83.60	5.4	-	NORTHERN SUMATRA, INDONESIA	
1581.	12/27	8	37	38.6	6.487	93.240	30	84.11	5.6	5.7	NICOBAR ISL, INDIA REGION	
1582.	12/27	9	39	6.8	5.363	94.655	35	83.45	6.1	5.9	NORTHERN SUMATRA, INDONESIA	
1583.	12/27	9	57	52.7	7.714	92.662	9	85.12	5.4	5.6	NICOBAR ISL, INDIA REGION	
1584.	12/27	10	5	2.3	4.783	95.112	25	83.04	5.9	-	NORTHERN SUMATRA, INDONESIA	
1585.	12/27	10	46	38.8	13.661	93.099	30	90.94	5.1	-	ANDAMAN ISL, INDIA REGION	
1586.	12/27	10	46	47.5	13.646	93.067	24	90.91	5.3	-	ANDAMAN ISL, INDIA REGION	
1587.	12/27	11	57	53.8	8.083	92.281	13	85.36	5.1	-	NICOBAR ISL, INDIA REGION	
1588.	12/27	12	58	15.8	7.760	93.230	30	85.33	4.6	-	NICOBAR ISL, INDIA REGION	
1589.	12/27	13	34	26.1	2.742	95.641	30	81.25	4.7	-	SIMEULUE, INDONESIA	
1590.	12/27	14	20	55.7	8.265	93.548	30	85.90	4.8	-	NICOBAR ISL, INDIA REGION	
1591.	12/27	14	30	31.0	8.551	93.862	15	86.27	5.2	-	NICOBAR ISL, INDIA REGION	
1592.	12/27	14	46	46.5	12.355	92.504	19	89.52	5.8	-	ANDAMAN ISLANDS, INDIA REGION	
1593.	12/27	15	20	32.0	10.596	93.591	14	88.14	5.1	-	ANDAMAN ISL, INDIA REGION	
1594.	12/27	15	41	3.0	10.474	92.855	34	87.82	4.8	-	ANDAMAN ISL, INDIA REGION	
1595.	12/27	15	49	32.2	7.195	92.272	30	84.51	4.6	-	NICOBAR ISL, INDIA REGION	
1596.	12/27	16	8	15.8	5.794	93.119	14	83.42	4.4	-	OFF WEST COAST OF N SUMATRA	
1597.	12/27	16	18	10.7	4.856	94.252	31	82.85	4.8	-	OFF WEST COAST OF N SUMATRA	
1598.	12/27	17	40	1.6	5.600	93.158	9	83.24	5.2	-	OFF WEST COAST OF N SUMATRA	
1599.	12/27	18	9	33.6	2.753	94.636	42	80.96	5.0	-	OFF WEST COAST OF N SUMATRA	
1600.	12/27	18	24	4.2	9.294	93.864	27	86.98	4.9	-	NICOBAR ISL, INDIA REGION	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude mb MS	Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)					
1601.	12/27	19	13	19.0	11.606	92.533	26	88.81	5.6	-	ANDAMAN ISL, INDIA REGION
1602.	12/27	19	26	57.5	7.810	92.133	36	85.06	5.0	-	NICOBAR ISL, INDIA REGION
1603.	12/27	19	28	52.7	8.581	93.656	30	86.24	5.4	-	NICOBAR ISL, INDIA REGION
1604.	12/27	20	10	50.6	2.923	95.612	24	81.41	5.7	5.8	SIMEULUE, INDONESIA
1605.	12/27	20	36	18.9	8.981	93.686	30	86.63	5.4	-	NICOBAR ISL, INDIA REGION
1606.	12/28	0	37	51.1	7.646	94.155	22	85.49	5.3	5.1	NICOBAR ISLANDS, INDIA REGION
1607.	12/28	2	5	14.9	13.862	93.364	30	91.20	4.8	-	ANDAMAN ISL, INDIA REGION
1608.	12/28	2	52	42.3	3.354	93.732	29	81.26	4.9	-	OFF WEST COAST OF N SUMATRA
1609.	12/28	3	20	19.0	6.823	92.805	15	84.31	5.2	4.5	NICOBAR ISL, INDIA REGION
1610.	12/28	4	36	28.6	13.857	93.417	30	91.21	4.8	-	ANDAMAN ISL, INDIA REGION
1611.	12/28	5	36	13.1	9.483	93.732	30	87.12	5.3	4.8	NICOBAR ISLANDS, INDIA REGION
1612.	12/28	6	28	12.6	5.380	94.460	30	83.41	4.9	-	NORTHERN SUMATRA, INDONESIA
1613.	12/28	7	20	59.4	11.379	92.906	30	88.70	4.9	-	ANDAMAN ISL, INDIA REGION
1614.	12/28	11	17	43.9	4.730	95.221	36	83.02	5.8	5.5	NORTHERN SUMATRA, INDONESIA
1615.	12/28	13	6	42.0	6.702	93.008	20	84.25	5.0	4.2	NICOBAR ISL, INDIA REGION
1616.	12/28	13	46	3.3	5.063	96.155	30	83.62	5.1	-	NORTHERN SUMATRA, INDONESIA
1617.	12/28	14	8	43.6	10.433	93.021	30	87.83	5.2	4.2	ANDAMAN ISL, INDIA REGION
1618.	12/28	14	30	42.2	4.691	95.260	47	82.99	5.2	4.1	NORTHERN SUMATRA, INDONESIA
1619.	12/28	14	45	18.7	-9.750	-78.900	33	90.41	4.5	-	NEAR THE COAST OF NORTHERN PERU
1620.	12/28	14	48	29.9	3.377	93.736	30	81.29	5.1	4.3	OFF WEST COAST OF N SUMATRA
1621.	12/28	17	11	16.2	9.927	93.826	47	87.57	5.4	5.0	NICOBAR ISL, INDIA REGION
1622.	12/28	19	55	11.8	9.487	93.722	30	87.12	5.4	4.3	NICOBAR ISL, INDIA REGION
1623.	12/28	21	7	35.8	53.280	-173.826	251	158.17	5.4	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
1624.	12/28	21	47	27.5	8.958	93.766	14	86.63	5.4	4.8	NICOBAR ISLANDS, INDIA REGION
1625.	12/28	21	51	54.0	3.615	94.400	30	81.71	5.1	4.7	OFF WEST COAST OF N SUMATRA
1626.	12/28	23	7	53.2	6.719	93.021	30	84.27	5.1	4.6	NICOBAR ISL, INDIA REGION
1627.	12/29	0	49	4.0	-16.318	-74.040	26	82.66	4.9	-	NEAR COAST OF SOUTHERN PERU
1628.	12/29	1	39	41.2	8.390	93.188	34	85.92	5.7	5.6	NICOBAR ISLANDS, INDIA REGION
1629.	12/29	1	50	52.5	9.107	93.811	8	86.78	6.1	5.7	NICOBAR ISLANDS, INDIA REGION
1630.	12/29	2	13	25.2	13.284	92.630	10	90.44	5.4	-	ANDAMAN ISL, INDIA REGION
1631.	12/29	3	3	7.1	-28.924	-68.160	94	68.96	4.5	-	LA RIOJA, ARGENTINA
1632.	12/29	5	56	47.6	8.799	93.229	12	86.32	5.8	6.2	NICOBAR ISLANDS, INDIA REGION
1633.	12/29	6	5	12.0	8.776	93.129	1	86.27	5.6	-	NICOBAR ISL, INDIA REGION
1634.	12/29	6	19	5.9	9.608	93.621	30	87.21	5.2	-	NICOBAR ISL, INDIA REGION
1635.	12/29	6	30	40.4	13.245	92.652	10	90.41	5.4	6.1	ANDAMAN ISL, INDIA REGION
1636.	12/29	6	35	44.6	9.355	93.127	51	86.82	5.1	-	NICOBAR ISL, INDIA REGION
1637.	12/29	13	58	52.1	38.509	141.913	55	130.08	5.0	-	NEAR THE EAST COAST OF HONSHU, JAPAN
1638.	12/29	18	50	20.7	5.539	94.345	39	83.53	5.6	-	NORTHERN SUMATRA, INDONESIA
1639.	12/29	21	12	59.0	5.203	94.713	26	83.32	5.7	-	NORTHERN SUMATRA, INDONESIA
1640.	12/30	1	4	51.6	4.235	94.215	16	82.25	5.5	4.9	OFF THE WEST COAST OF NORTHERN SUMATRA
1641.	12/30	3	12	45.2	9.041	92.565	10	86.36	5.1	-	NICOBAR ISL, INDIA REGION
1642.	12/30	3	42	16.4	5.769	94.406	19	83.77	5.0	-	NORTHERN SUMATRA, INDONESIA
1643.	12/30	4	27	36.7	5.534	94.318	30	83.52	5.4	4.9	NORTHERN SUMATRA, INDONESIA
1644.	12/30	5	17	37.0	5.658	94.120	30	83.58	4.7	-	NORTHERN SUMATRA, INDONESIA
1645.	12/30	6	15	55.8	9.291	93.021	30	86.73	4.5	-	NICOBAR ISL, INDIA REGION
1646.	12/30	7	23	5.8	3.488	95.593	30	81.95	4.9	-	OFF WEST COAST OF N SUMATRA
1647.	12/30	8	12	26.8	9.536	94.210	30	87.31	4.9	-	NICOBAR ISL, INDIA REGION
1648.	12/30	8	19	2.4	9.320	93.789	30	86.98	4.5	-	NICOBAR ISL, INDIA REGION
1649.	12/30	8	53	59.2	8.431	92.357	30	85.72	4.7	-	NICOBAR ISL, INDIA REGION
1650.	12/30	9	53	54.4	11.352	91.856	10	88.38	4.8	-	ANDAMAN ISL, INDIA REGION

No.	Date	Origin time			Geographic		Coordinates	Depth	Epicentral		Magnitude		Region
		UTC			Latitude	Longitude			distance		mb	MS	
		h	m	s	(deg)	(deg)	(km)	(deg)					
1651.	12/30	10	17	26.7	-2.349	68.756	10	69.57	4.5	-		CARLSBERG RIDGE	
1652.	12/30	10	59	36.1	13.249	92.031	30	90.24	4.7	-		ANDAMAN ISL, INDIA REGION	
1653.	12/30	11	26	41.4	5.087	94.694	30	83.20	4.8	-		NORTHERN SUMATRA, INDONESIA	
1654.	12/30	11	34	14.8	6.384	92.864	30	83.91	4.5	-		NICOBAR ISL, INDIA REGION	
1655.	12/30	14	57	25.7	8.118	93.697	30	85.81	4.7	-		NICOBAR ISL, INDIA REGION	
1656.	12/30	16	18	32.6	7.449	94.042	30	85.27	4.6	-		NICOBAR ISL, INDIA REGION	
1657.	12/30	16	48	7.5	-18.189	-177.901	486	88.89	4.4	-		FIJI REGION	
1658.	12/30	17	34	41.0	6.751	92.925	6	84.27	5.4	5.0		NICOBAR ISLANDS, INDIA REGION	
1659.	12/30	17	58	6.7	12.237	92.501	1	89.40	5.9	5.4		ANDAMAN ISLANDS, INDIA REGION	
1660.	12/30	18	27	43.5	-15.412	167.910	50	88.21	5.1	-		VANUATU	
1661.	12/30	19	18	1.2	2.687	94.333	10	80.80	5.3	4.6		OFF WEST COAST OF N SUMATRA	
1662.	12/30	21	0	39.7	-17.480	-175.150	240	90.13	4.5	-		TONGA	
1663.	12/30	21	36	1.8	5.256	94.498	30	83.31	5.4	4.9		NORTHERN SUMATRA, INDONESIA	
1664.	12/30	23	4	55.4	5.353	94.484	30	83.39	4.9	-		NORTHERN SUMATRA, INDONESIA	