

## **SEISMOLOGICAL BULLETIN OF SYOWA STATION, ANTARCTICA, 2005**

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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 seismic 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>), together with as a key station of

the PACIFIC21 Japanese regional network. A distribution map of the FDSN stations in Antarctica is shown in Fig. 1.

All of the observation systems at Syowa Station were maintained in 2005 by two of the authors (S. Sakanaka and T. Uemura) throughout the wintering season of the 46th Japanese Antarctic Research Expedition (JARE-46). In this report, we introduce the seismic observations in 2005, 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 with 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. 2.

### 2.1. Seismographic hut and seismographs

Seismic observations at Syowa Station had been carried out mainly by two types of seismometers. One is called as a short-period (HES) with 1.0 Hz eigenfrequency 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. 3. Another is a three-component broadband seismometer (Streckeisen STS-1) with digital recording system which has been operating since 1990 (Nagasaka *et al.*, 1992). The amplitude and phase responses for the velocity output (Broadband; BRB) are shown in Fig. 4 (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 frequency 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 recording status of the A/D converter has been continuously monitored by a personal computer via a 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 INTERSAT**

Digital waveforms of both 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. Waveform data transmission was greatly improved by using an INTERSAT communication Link established in February 2004. During the 2005 winter season, continuous data of both HES and STS-1 with 20 Hz sampling were automatically transmitted to NIPR once a day from acquisition workstation. The UUCP protocol has been used for the data transfer.

In addition to the remote monitoring operations for data acquisition system from NIPR, Internet access to Syowa has significantly advanced since 2005 via the INTERSAT system. Moreover, a Web-camera using the Station LAN was installed inside ESL, followed by the improvement of monitoring utilization for the analogue recorders when nobody can approach ESL during bad weather.

## **3. Data**

By using the waveform data transmitted via INTERSAT, 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.

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.

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 5 shows the hypocenters of the teleseismic events whose initial phases were detected at Syowa.

#### 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.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](mailto: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. Any questions concerning data availability from PACIFIC21 shall be directed to [y-ishihara@jamstec.go.jp](mailto:y-ishihara@jamstec.go.jp).

#### 5. Data Processing Staff

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

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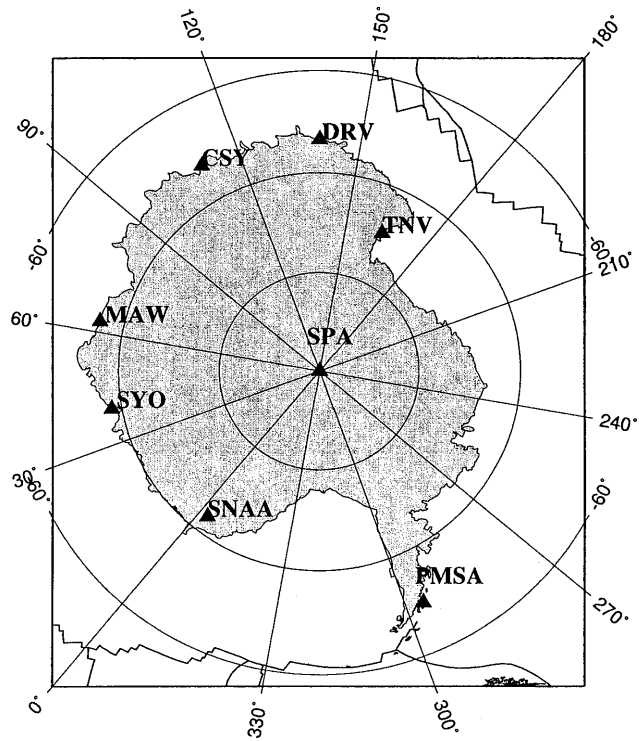


Fig. 1. A distribution of FDSN stations on the Antarctic continent. Syowa (SYO), Mawson (MAW), Casey (CSY), Dumont d'Urville (DRV), Terra Nova Bay (TNV), South Pole (SPA), Palmer (PMSA), Sanac (SNAA).



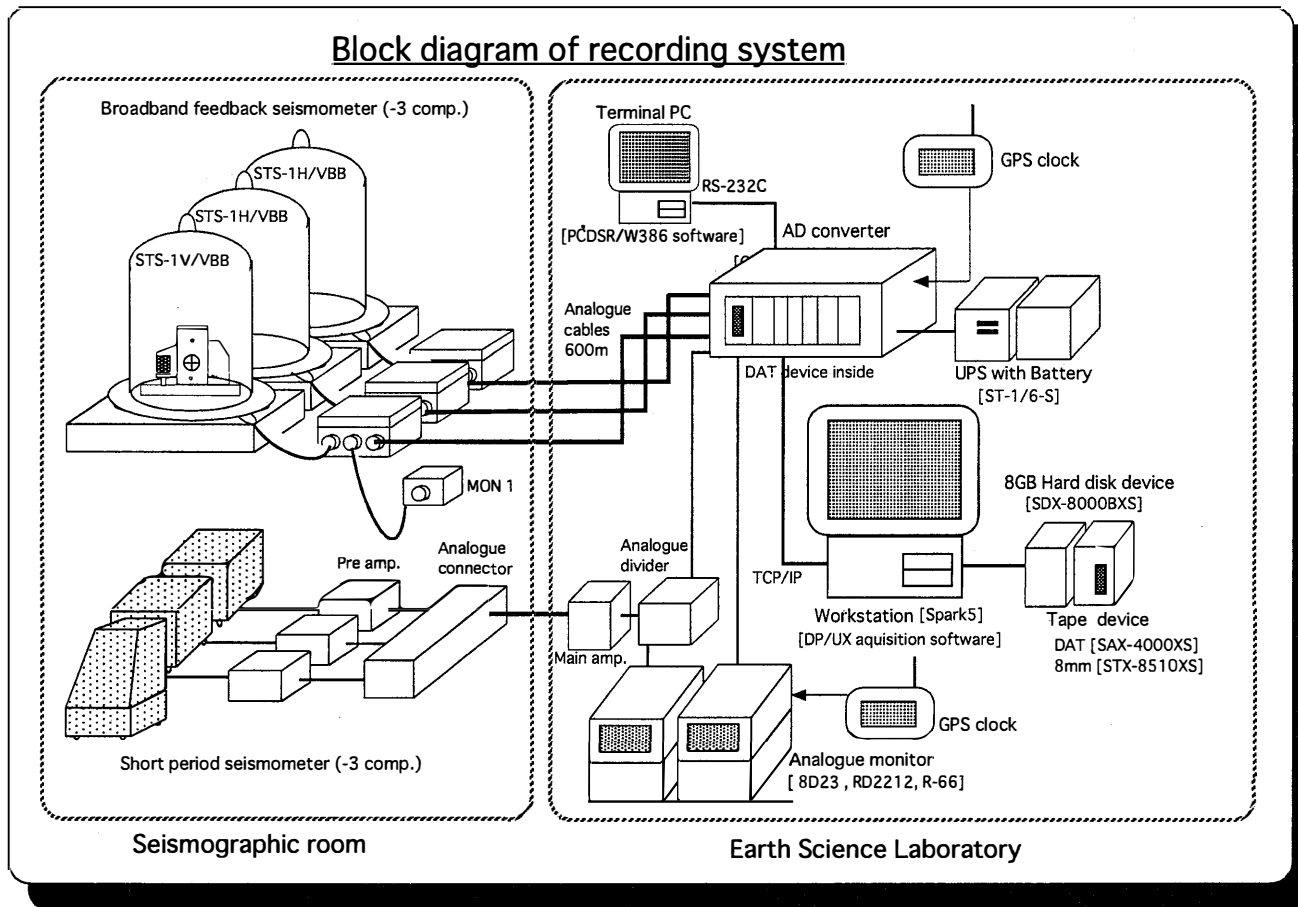


Fig. 2. Block diagram of new recording system for the STS and HES seismographs at Syowa Station. Left figure: Seismographic room; Right figure: Earth Science Laboratory.

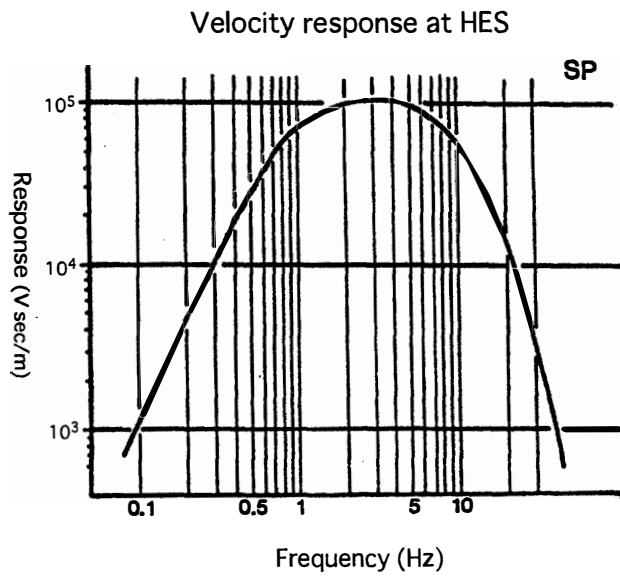


Fig. 3. Over-all frequency responses of the HES seismographs. (Modified after Hagiwara, 1958).

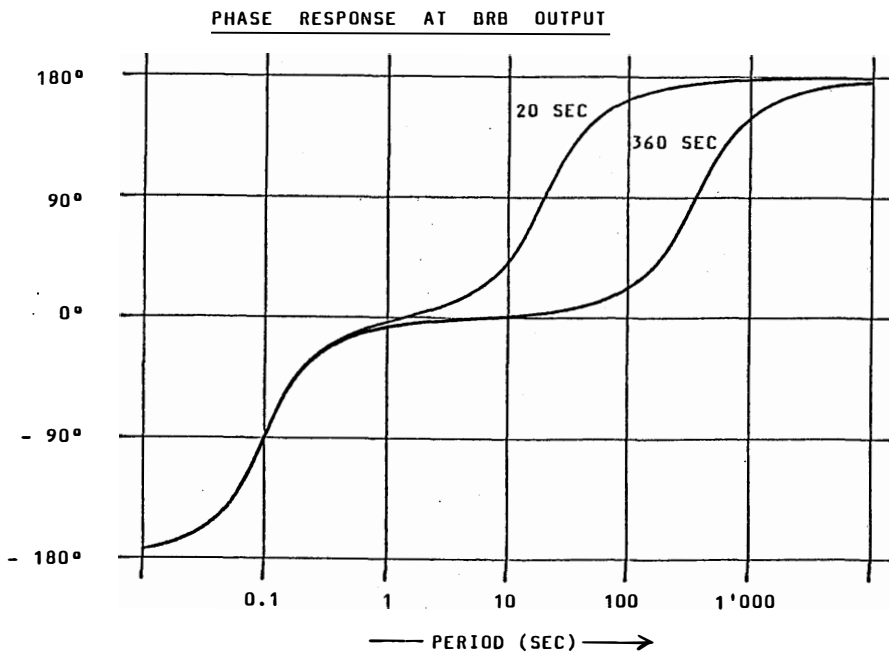
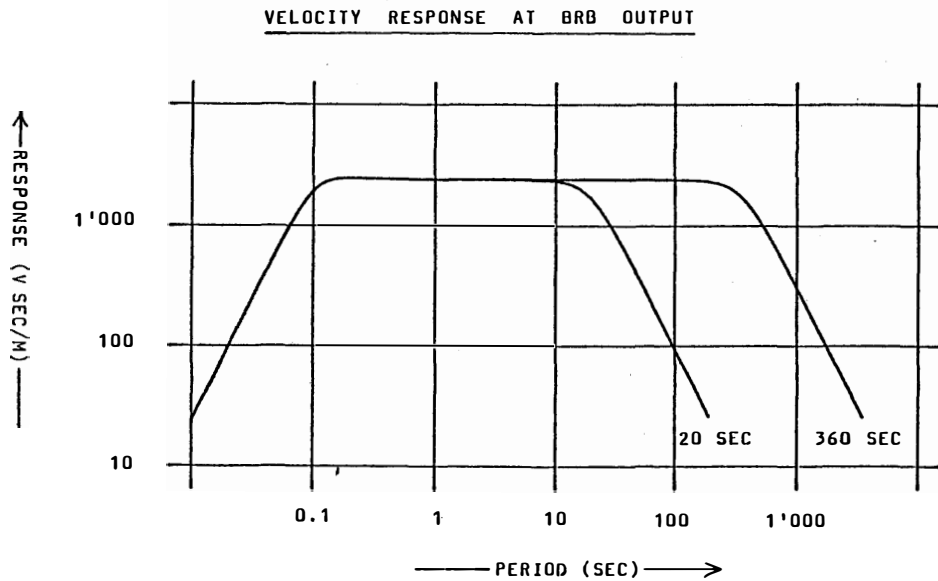


Fig. 4. Amplitude responses (upper figure) and phase responses (lower figure) for the velocity (BRB) output of the broadband seismograph (STS) in the two distinct signal modes of 20-s and 360-s (after Streckeisen and Messegeraete, 1987).

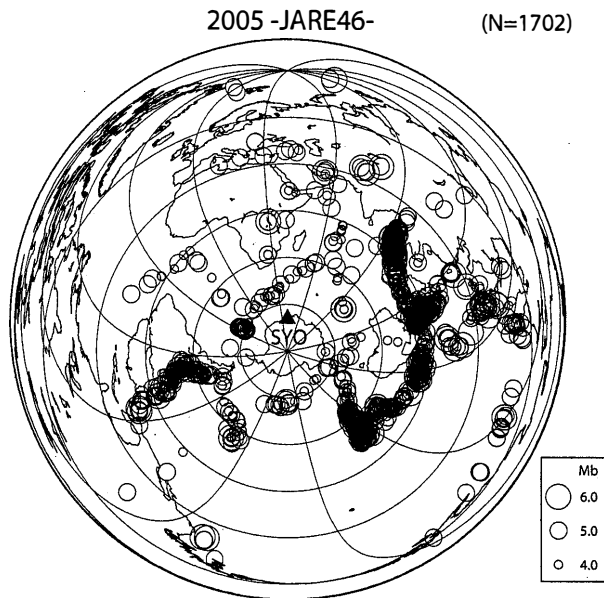
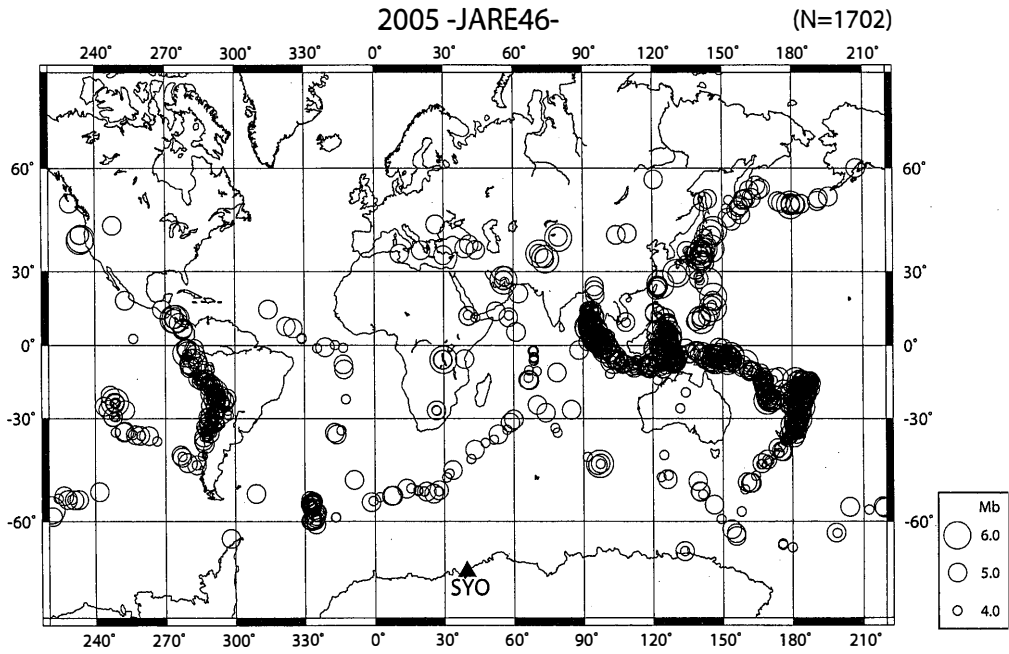


Fig. 5. Epicenters of the 1702 earthquakes recorded at Syowa Station. The sizes of earthquake circles are proportional to the body-wave magnitude (Mb) determined by the National Earthquake Information Center (NEIC) (upper: Mercator Projection, lower: Azimuthal Equidistant Projection).

Table 1. List of phase arrival-time data in 2005.

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
Jan. 1	-EPZ	0310 22.4		6	+IPnZ	0332 53.9	#-11
1	+EPZ	0837 48.4		6	-EPZ	0505 10.8	#-12
1	-EPZ	1632 03.4		6	+EpPZ	0505 13.7	#-12
2	-EpPKiKPZ	0419 21.0	#-1	6	-EPZ	0807 03.5	#-13
2	+IPZ	0840 00.9	#-2	6	+IPcPZ	0807 04.3	#-13
2	-IpPZ	0840 03.2	#-2	6	-EPZ	0846 05.7	#-14
2	-IPcPZ	0840 04.9	#-2	6	+EpPZ	0846 15.1	#-14
2	-EPZ	1224 33.7	#-3	6	+EPZ	1051 45.7	#-15
2	-EPcPZ	1224 38.4	#-3	6	+EpPZ	1051 48.4	#-15
2	+EPZ	1408 35.2		6	+EPZ	1208 32.6	#-16
2	-EPZ	1409 01.2		6	-EpPZ	1208 39.4	#-16
2	+EPZ	1548 23.0	#-4	6	-EPcPZ	1249 46.8	#-17
2	+IPcPZ	1548 26.5	#-4	6	-EPKiKPZ	1319 51.6	#-18
2	-IsPZ	1548 40.0	#-4	6	-IPZ	1346 50.0	#-19
2	+EPZ	1836 18.2	#-5	6	-EPcPZ	1347 01.7	#-19
2	-IPcPZ	1836 19.6	#-5	6	-EPZ	1400 43.0	
2	-EsPZ	1836 32.9	#-5	6	+EPZ	1930 05.8	#-20
3	+EPZ	0029 34.2		6	+EPcPZ	1930 10.1	#-20
3	-EPZ	0101 30.8		6	+EPZ	1953 19.3	
3	-EPZ	0926 53.4	#-6	7	+EPZ	0811 51.1	#-21
3	-IPZ	1808 47.1	#-7	7	+EPZ	1101 53.0	#-22
3	-EpPZ	1808 49.5	#-7	7	-EpPZ	1102 04.2	#-22
3	-EPcPZ	1809 53.0	#-7	7	+EPZ	1429 21.8	#-23
3	-EPPZ	1810 48.9	#-7	7	-EPZ	1504 17.8	#-24
3	ESH	1816 18.9	#-7	7	-EPcPZ	1504 30.4	#-24
3	+EPZ	1817 54.2		7	-EPZ	1612 43.1	#-25
4	None			7	+EPZ	1627 07.3	#-26
5	None			7	+EPcPZ	1627 17.7	#-26
6	+EPZ	0023 39.9	#-8	7	+EPZ	1902 43.1	#-27
6	+EpPZ	0023 49.7	#-8	7	+EPcPZ	1902 50.0	#-27
6	+EPPZ	0026 50.1	#-8	7	-EPZ	2033 24.7	#-28
6	-EPZ	0038 28.9	#-9	7	-EpPZ	2033 37.0	#-28
6	+EPZ	0041 36.5	#-10	7	+EPZ	2332 36.5	#-29
6	+EPcPZ	0041 42.9	#-10	7	+EPcPZ	2332 37.4	#-29
6	+EpPZ	0041 48.1	#-10	8	-EPZ	0610 48.9	#-30
6	-EPnZ	0332 51.4	#-11	8	-EsPZ	0611 00.5	#-30
6	-IPZ	0332 52.7	#-11	8	-EpPZ	0703 20.4	#-31

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
8	-EPZ	0720	59.8	#-32	9	ESH	2235	32.4	#-48
8	+EpPZ	0721	06.0	#-32	9	+EPZ	2326	37.1	#-49
8	+EPZ	0808	25.6	#-33	9	-EsPZ	2326	44.1	#-49
8	-EpPZ	0808	34.5	#-33	9	+EPcPZ	2333	24.9	#-50
8	-EPZ	1034	04.9	#-34	10	+EPZ	0117	00.0	
8	-EPZ	1112	12.9		10	-EPZ	0230	55.7	
8	-EPZ	1112	32.8		10	+EPZ	0552	09.5	
8	+EPcPZ	1140	58.5	#-35	10	+EPZ	0928	04.9	
8	-EpPZ	1141	03.1	#-35	10	+EPZ	1533	26.2	
8	-EPZ	1244	25.7	#-36	10	+EPZ	1710	49.1	
8	-EpPZ	1511	57.3	#-37	10	-EPZ	1711	06.2	
8	+EPZ	1620	32.5	#-38	10	+EPZ	1714	07.9	
8	-EpPZ	1620	35.3	#-38	10	-EPZ	1834	55.3	
8	+EsPZ	1620	37.7	#-38	10	-EPZ	1849	04.8	
8	+EPZ	1851	26.7	#-39	10	+EPZ	2355	32.5	
8	-IpPZ	1851	35.1	#-39	11	+EPZ	0102	11.7	#-51
8	ESH	1856	45.6	#-39	11	+EPZ	0107	37.1	#-52
8	-EPZ	1901	58.6		11	-EPZ	0243	32.7	
8	-EPZ	1907	48.1		11	-EPZ	0602	06.1	#-53
8	+EPZ	2015	04.2	#-40	11	-EPcPZ	0719	21.0	#-54
8	+EPcPZ	2147	04.8	#-41	11	-EPZ	0735	03.9	#-55
8	-EPZ	2224	18.5	#-42	11	+EsPZ	0933	23.2	#-56
9	+EPZ	0120	11.1	#-43	11	-IPZ	1042	49.1	#-57
9	+EPcPZ	0120	13.8	#-43	11	+IPcPZ	1042	51.1	#-57
9	-EpPZ	0120	35.7	#-43	11	+EPZ	1210	34.9	
9	-EsPZ	0120	45.8	#-43	11	+EPZ	1356	54.5	#-58
9	+EPZ	0211	44.4	#-44	11	+EpPZ	1357	02.3	#-58
9	+EsPZ	0211	59.4	#-44	11	-IPZ	1740	05.6	#-59
9	-EPKPdfZ	1640	25.7	#-45	11	+EsPZ	1741	02.6	#-59
9	-EPKPdfZ	1647	00.3	#-46	11	-EpPdiffZ	1934	36.0	#-60
9	+EpPKPdfZ	1647	09.6	#-46	11	+EPPZ	1939	11.2	#-60
9	-IPKpabZ	1647	22.8	#-46	11	-EPZ	2158	57.2	#-61
9	+EPZ	1728	59.8	#-47	11	-EPZ	2308	40.7	#-62
9	+IpPZ	1729	06.7	#-47	11	+EPcPZ	2308	43.6	#-62
9	+EPPZ	1732	05.6	#-47	12	-EPZ	0852	05.7	#-63
9	-IPZ	2225	18.6	#-48	12	+EpPZ	0852	08.9	#-63
9	-IpPZ	2225	27.6	#-48	12	-EPZ	1041	20.6	#-64

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
12	-EPcPZ	1041 23.7	#-64	14	-EPZ	0332 59.4	
12	+EpPZ	1041 27.5	#-64	14	-EPZ	0525 05.5	#-82
12	-EPZ	1410 42.5	#-65	14	-EsPZ	0525 17.0	#-82
12	+EsPZ	1410 58.5	#-65	14	-EPZ	0846 32.1	#-83
12	-EPZ	1857 02.0	#-66	14	-EPcPZ	0846 34.7	#-83
12	+EPcPZ	1857 08.9	#-66	14	+EpPZ	1011 58.4	#-84
12	+EsPZ	1857 20.0	#-66	14	-EPZ	1116 34.6	#-85
12	+EPZ	1900 07.1		14	+EPcPZ	1543 09.2	#-86
12	+EPPZ	1902 39.6	#-67	14	+EpPZ	1543 30.2	#-86
12	-EPZ	2019 13.7		14	+EPZ	1634 45.9	#-87
12	+EPPZ	2025 21.0	#-68	14	+EpPZ	1721 06.1	#-88
12	-EPZ	2026 15.3		14	+EPZ	2119 02.6	#-89
13	+EPZ	0020 39.7	#-69	14	+EpPZ	2119 06.3	#-89
13	-EpPZ	0020 49.0	#-69	14	+EPZ	2150 29.7	#-90
13	-EPPZ	0024 26.4	#-69	14	-EpPZ	2150 31.6	#-90
13	-EPZ	0318 31.2	#-70	14	-IPcPZ	2150 37.0	#-90
13	-EpPZ	0318 39.5	#-70	14	+EPZ	2303 40.9	#-91
13	+EXZ	0741 02.9	#-71	15	-EPZ	0513 07.0	#-92
13	-EPZ	0905 07.7	#-72	15	-EPcPZ	0513 08.2	#-92
13	-EPZ	1048 54.9	#-73	15	+EsPKiKPZ	0518 47.4	#-92
13	-EpPZ	1049 02.0	#-73	15	+EPZ	0523 37.4	#-93
13	+EPPZ	1052 50.5	#-73	15	-EpPZ	0523 41.7	#-93
13	+EPZ	1309 43.3	#-74	15	-EPZ	0759 56.6	#-94
13	+EPZ	1338 31.6	#-75	15	-EpPZ	0800 06.9	#-94
13	+EpPZ	1338 40.8	#-75	15	-EPZ	1154 04.9	#-95
13	+EXZ	1544 57.7	#-76	15	-EPZ	1358 41.0	
13	+EPcPZ	1545 06.3	#-76	15	-IPZ	1358 42.6	#-96
13	-EPZ	1601 20.9	#-77	15	+EpPKiKPZ	1404 36.9	#-96
13	-EPZ	1726 14.9	#-78	15	+EPZ	1711 09.6	#-97
13	-EPcPZ	1726 25.1	#-78	15	-EPPZ	1852 18.2	#-98
13	-EPZ	2009 25.4	#-79	15	+EPZ	2157 06.2	
13	+EpPZ	2009 36.3	#-79	15	-EPZ	2157 13.5	
13	+EPkPbcZ	2107 48.8	#-80	16	-IPZ	0837 24.5	#-99
14	-EPZ	0024 34.5		16	+IsPZ	0837 32.7	#-99
14	-EPZ	0025 37.0		16	+EPZ	1300 20.6	
14	-EPZ	0047 27.4	#-81	16	+IPZ	1300 36.9	#-100
14	+EPPZ	0050 31.7	#-81	16	-EPcPZ	1300 48.3	#-100

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
16	+IPZ	1501 00.4	#-101	18	-EpPZ	2134 02.8	#-118
16	-EPcPZ	1501 06.7	#-101	18	ESH	2141 30.6	#-118
16	-EPKiKPZ	1506 28.6	#-101	18	+EPZ	2217 15.9	#-119
16	-IPZ	1631 41.8		18	-EPcPZ	2217 19.1	#-119
16	-IPdiffZ	2031 54.5	#-102	18	-EpPZ	2217 26.5	#-119
16	-EPZ	2300 05.7	#-103	18	-EPPZ	2220 34.3	#-119
16	+EPcPZ	2300 13.1	#-103	19	-EPcPZ	0301 22.7	#-120
17	-EpPZ	0306 12.5	#-104	19	-EPZ	0621 18.8	#-121
17	-EPdiffZ	0557 55.2	#-105	19	+EPcPZ	0621 19.6	#-121
17	-EPPZ	0602 16.7	#-105	19	-EPZ	0629 47.6	
17	+EPdiffZ	1104 35.6	#-106	19	-EPZ	0630 15.9	
17	-IPPZ	1108 55.8	#-106	19	+EPKPdfZ	0630 36.5	#-122
17	-IPZ	1109 59.4		19	+EPdiffZ	0643 04.1	#-123
17	-EPcPZ	1710 01.8	#-107	19	-EPKPdfZ	0646 54.3	#-123
17	+EpPZ	1710 41.3	#-107	19	-EpPZ	1311 54.7	#-124
17	-EpPZ	1720 47.3	#-108	19	+EPKPdfZ	1410 50.3	#-125
18	+EsPZ	0249 44.7	#-109	19	-EPZ	1439 16.0	#-126
18	-EPPZ	0252 54.8	#-109	19	+EPZ	1621 28.1	#-127
18	+EPdiffZ	0316 28.7	#-110	19	+EPZ	1636 31.7	
18	-EpPdiffZ	0316 57.4	#-110	19	-EPZ	1636 51.1	#-128
18	+EPZ	0439 19.7	#-111	19	-EPZ	1649 06.6	
18	-EpPZ	0439 35.4	#-111	19	+EXZ	1744 49.1	#-129
18	-EPZ	0445 16.0	#-112	19	-EPKPdfZ	1924 29.9	#-130
18	+EpPZ	0445 47.1	#-112	19	+EPKiKPZ	1924 39.6	#-130
18	+EPdiffZ	0558 44.1	#-113	19	-EPZ	2104 44.6	#-131
18	-EPZ	0846 44.3	#-114	20	-EPKpbcZ	0318 39.2	#-132
18	+EPPZ	0849 07.7	#-114	20	-EPZ	0340 54.1	
18	+EPZ	0936 36.1	#-115	20	-EPZ	0853 46.0	#-133
18	+EPcPZ	0937 11.4	#-115	20	-EPcPZ	1010 55.0	#-134
18	-EpPdiffZ	1425 31.3	#-116	20	+EpPZ	1101 18.3	#-135
18	-EPKPdfZ	1428 17.8	#-116	20	+EPZ	1409 50.1	#-136
18	+EPPZ	1430 55.9	#-116	20	+IpPZ	1409 52.8	#-136
18	ESH	1431 49.2		20	-EsPZ	1409 56.7	#-136
18	+EPZ	2047 53.2	#-117	20	-IPcPZ	1410 07.0	#-136
18	-EPcPZ	2047 56.0	#-117	20	+EPdiffZ	1432 02.9	#-137
18	-IPZ	2131 59.1	#-118	20	+EpPZ	1530 43.1	#-138
18	+IPcPZ	2132 00.5	#-118	20	+EPZ	1621 16.7	#-139



Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
20	-EPZ	1635	16.0		22	-IPcPZ	1139	40.9	#-156
20	-EPcPZ	1636	05.6	#-140	22	-EsPZ	1225	05.4	#-157
20	-EpPZ	1636	13.9	#-140	22	-EPZ	1242	04.0	#-158
20	+EPZ	1700	14.0	#-141	22	-EPcPZ	1242	18.7	#-158
20	-EPPZ	1703	55.1	#-141	22	-EPZ	1704	05.7	
20	-EPZ	1907	10.1	#-142	22	-EPZ	1826	10.1	
20	-EpPZ	1907	18.5	#-142	22	+EPZ	1851	15.5	#-159
20	-EPZ	1939	08.4	#-143	22	-EPcPZ	1851	18.6	#-159
20	+EPcPZ	1939	13.6	#-143	22	+EPZ	2043	28.1	#-160
20	-EpPZ	1939	18.5	#-143	22	-EpPZ	2043	40.3	#-160
20	-EPZ	2033	16.4	#-144	22	+EPPZ	2047	13.8	#-160
20	-IPZ	2230	14.9	#-145	22	-EPZ	2056	14.7	
20	+EPcPZ	2230	24.1	#-145	22	+EPZ	2056	19.8	
20	-EpPZ	2230	41.6	#-145	22	+EPZ	2358	55.4	
20	-EPcPZ	2259	45.2	#-146	23	-EPZ	0117	02.9	#-161
20	+EpPZ	2300	06.7	#-146	23	+EpPZ	0117	27.9	#-161
20	-EPcPZ	2340	59.1	#-147	23	-EsPZ	0117	33.4	#-161
21	+EPZ	1442	39.0	#-148	23	+EXZ	0342	14.1	#-162
21	+IPZ	1807	28.8	#-149	23	-EPcPZ	0343	07.0	#-162
21	-IPcPZ	1807	29.9	#-149	23	-EPZ	0628	13.8	#-163
21	-EPZ	2100	39.4	#-150	23	-EpPZ	0628	22.4	#-163
21	+EpPZ	2100	42.8	#-150	23	+EPZ	0649	43.9	
21	+EPcPZ	2100	54.9	#-150	23	+EPZ	0801	53.0	
22	+IPZ	0307	48.8	#-151	23	-EpPZ	0900	46.6	#-164
22	+EPcPZ	0307	57.2	#-151	23	-EPcPZ	1708	52.2	#-165
22	-EpPZ	0309	37.5	#-151	23	+EpPZ	1708	58.0	#-165
22	-EPZ	0739	16.8		23	+EPZ	2012	20.6	#-166
22	+EPZ	0739	18.8		23	+EPcPZ	2012	23.0	#-166
22	+EPZ	0739	43.4		23	-EPZ	2013	20.3	
22	+EPZ	0930	20.7	#-152	23	-EPZ	2014	31.9	
22	+EpPZ	0930	26.0	#-152	23	+EPZ	2022	50.4	#-167
22	+EPZ	0936	47.6	#-153	23	-IPcPZ	2022	54.5	#-167
22	+EPZ	1100	39.8	#-154	23	-IpPZ	2022	59.0	#-167
22	+EpPZ	1100	54.6	#-154	23	ESH	2033	25.8	#-167
22	-EpPZ	1119	48.9	#-155	23	-EPZ	2110	43.8	
22	+EPZ	1139	26.2	#-156	23	-EPZ	2115	09.3	#-168
22	+EpPZ	1139	28.1	#-156	23	-EPdiffZ	2250	13.9	#-169

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
24	+EPZ	0051	46.1 # -170	26	-EPZ	0558	19.6
24	+EPcPZ	0051	50.8 # -170	26	+EPZ	0558	32.5
24	+EPZ	0142	54.2	26	+EsPZ	0559	19.8 # -183
24	+EPZ	0429	17.3 # -171	26	-EPZ	0846	20.3 # -184
24	-IPcPZ	0429	18.8 # -171	26	-EPZ	1151	26.5
24	+EpPZ	0429	28.0 # -171	26	+EPZ	1151	36.0 # -185
24	+IsPZ	0429	30.7 # -171	26	-EPZ	1426	45.1
24	ESH	0439	41.6 # -171	26	+EPcPZ	1438	35.3 # -186
24	+EpPKiKPZ	0630	05.9 # -172	26	+EPZ	1702	17.9
24	+EPZ	1117	26.7 # -173	26	+EsPZ	1702	38.6 # -187
24	-EPZ	1918	21.8 # -174	26	+EPZ	1743	07.8 # -188
24	-EPcPZ	1918	41.8 # -174	26	-EPcPZ	1743	12.5 # -188
24	-EpPZ	1918	45.5 # -174	26	-EpPZ	1743	17.3 # -188
24	+EPZ	2121	32.5	26	+EOZ	1802	21.5 # -189
24	-EPZ	2337	06.2 # -175	26	+EPcPZ	1802	26.6 # -189
24	-EPdiffZ	2340	30.8 # -176	26	+EpPZ	1802	50.5 # -189
24	-EsPdiffZ	2340	35.8 # -176	26	+EsPZ	1803	01.0 # -189
24	-EPZ	2341	27.4	26	ESH	1812	26.5
25	+EPZ	0643	46.4	26	+EPZ	2212	56.3 # -190
25	+EPZ	0643	47.9	26	+EpPZ	2212	59.0 # -190
25	+EPZ	1006	34.8	26	-EPcPz	2213	01.6 # -190
25	-EPPZ	1702	54.9 # -177	26	ESH	2223	03.4
25	-EPZ	1818	19.8 # -178	26	+EPZ	2259	36.0 # -191
25	+EPZ	1818	34.0 # -178	26	+EPPZ	2302	27.2 # -192
25	-EPKpdfZ	1913	41.3	26	-EPZ	2357	46.9
25	-EPKiKPZ	2241	56.8	27	+EPZ	0035	26.9
25	-EPZ	2243	02.4	27	+EPZ	0411	20.7 # -193
26	-EPZ	0206	57.6 # -179	27	+EpPZ	0411	30.3 # -193
26	+EPcPZ	0207	01.2 # -179	27	+EPZ	0534	54.4 # -194
26	-EpPZ	0208	59.6 # -179	27	-EPcPZ	0534	58.1 # -194
26	+EsPZ	0209	54.9 # -179	27	-EPcPZ	0548	26.6 # -195
26	+EPZ	0311	29.5 # -180	27	+EsPZ	0548	34.5 # -195
26	+EPcPZ	0311	40.0 # -180	27	-EXZ	0600	45.0 # -196
26	-EPZ	0350	50.9 # -181	27	-EPcPZ	0600	49.2 # -196
26	-EpPZ	0351	01.6 # -181	27	-EPZ	0619	45.1
26	+EPZ	0527	31.5 # -182	27	-EPZ	0620	45.1 # -197
26	-EPPZ	0531	12.4 # -182	27	+EpPZ	0620	55.1 # -197

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
27	-EPcPZ	0631 19.7	#-198	27	+EPZ	1224 31.4	#-212
27	-EPZ	0709 33.7	#-199	27	-EPcPZ	1224 33.4	#-212
27	-EPcPZ	0709 38.7	#-199	27	+EpPZ	1224 39.9	#-212
27	-EpPZ	0709 47.7	#-199	27	+EPZ	1303 02.7	
27	-EPPZ	0712 50.2	#-199	27	+EPZ	1313 49.8	#-213
27	+EPZ	0733 00.7	#-200	27	-EpPZ	1314 02.9	#-213
27	-EPcPZ	0733 04.7	#-200	27	-EPcPZ	1327 58.0	#-214
27	-EPZ	0738 37.7	#-201	27	+EpPZ	1328 04.8	#-214
27	+EpPZ	0738 44.2	#-201	27	+EPZ	1330 36.8	#-215
27	-EPZ	0741 05.6	#-202	27	-EpPZ	1330 49.9	#-215
27	-EpPZ	0741 17.2	#-202	27	+EPPZ	1330 59.6	#-215
27	+EPZ	0748 12.7		27	-EPZ	1337 53.5	#-216
27	+EPZ	0748 21.8	#-203	27	+EPcPZ	1337 56.6	#-216
27	+EPZ	0753 57.1	#-204	27	-EPPZ	1341 10.5	#-216
27	-EPZ	0820 02.5	#-205	27	-EPZ	1406 52.0	#-217
27	-EPcPZ	0820 06.2	#-205	27	-EPcPZ	1406 58.4	#-217
27	-EpPZ	0820 13.9	#-205	27	-EPZ	1409 43.3	#-218
27	+EsPZ	0820 20.0	#-205	27	+EPcPZ	1409 47.0	#-218
27	-EPZ	0821 53.6		27	-EsPZ	1409 58.7	#-218
27	-EPZ	0831 43.2	#-206	27	-EPcPZ	1447 48.5	#-219
27	-EpPZ	0831 54.7	#-206	27	+EPPZ	1451 09.5	#-219
27	-EPPZ	0835 03.0	#-206	27	-EPcPZ	1537 25.2	#-220
27	-EPZ	0854 53.1	#-207	27	+EPZ	1540 28.9	#-221
27	-EPcPZ	0854 58.2	#-207	27	+EPcPZ	1540 33.0	#-221
27	-EsPZ	0855 07.3	#-207	27	-EPZ	1547 07.1	#-222
27	-EPZ	0938 02.6	#-208	27	-EPZ	1613 31.4	#-223
27	-EPcPZ	0938 04.3	#-208	27	+EPZ	1711 26.2	#-224
27	+EsPZ	0938 23.0	#-208	27	+EPcPZ	1711 28.7	#-224
27	-EPZ	1020 45.9	#-209	27	-EPZ	1737 35.6	#-225
27	-EPcPZ	1020 52.0	#-209	27	+EsPZ	1737 44.0	#-225
27	+EPZ	1110 43.2		27	+EPPZ	1740 53.4	#-225
27	+EPZ	1110 50.3		27	-EPZ	1753 24.4	#-226
27	-EPZ	1156 41.4	#-210	27	-EPcPZ	1753 27.6	#-226
27	-EPcPZ	1156 46.1	#-210	27	-EPZ	1903 08.2	#-227
27	-EpPZ	1156 52.6	#-210	27	-EsPZ	1903 30.3	#-227
27	-EPZ	1200 12.1	#-211	27	-EPZ	1905 14.7	#-228
27	-lpPZ	1200 22.8	#-211	27	-EPcPZ	1905 18.5	#-228

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
27	+EpPZ	1905 25.4	#-228	28	-EPZ	0421 29.9	
27	-EPZ	1919 11.9	#-229	28	-EPZ	0425 19.6	
27	-EsPZ	1921 15.7	#-229	28	+EpPZ	0517 15.9	#-248
27	-EPZ	1932 56.5	#-230	28	+EPZ	0519 22.5	#-249
27	-EPcPZ	1932 59.6	#-230	28	+EPZ	0519 45.0	
27	-EPZ	2022 16.8	#-231	28	+EPcPZ	0533 01.0	#-250
27	-EPZ	2030 18.8	#-232	28	-EPZ	0548 40.2	#-251
27	+EPZ	2113 27.6	#-233	28	+EsPZ	0548 53.8	#-251
27	-EpPZ	2113 38.3	#-233	28	-EPZ	0615 10.0	#-252
27	+EsPZ	2113 43.6	#-233	28	+EPZ	0619 30.4	#-253
27	+EPPZ	2116 52.8	#-233	28	-EpPZ	0619 35.7	#-253
27	-EPZ	2253 23.1	#-234	28	-EsPZ	0619 45.3	#-253
27	+EPcPZ	2253 26.6	#-234	28	-EPZ	0623 04.3	#-254
27	+EPZ	2332 41.9	#-235	28	+EpPZ	0623 10.0	#-254
27	-EpPZ	2332 56.7	#-235	28	-EPZ	0626 00.6	#-255
27	+EPZ	2339 37.0	#-236	28	-EpPZ	0626 06.3	#-255
27	-EpPZ	2339 47.9	#-236	28	+EPZ	0652 27.9	#-256
28	+EPZ	0028 25.5	#-237	28	+EpPZ	0652 35.3	#-256
28	-EsPZ	0028 38.2	#-237	28	+EPZ	0801 52.6	#-257
28	+EPZ	0114 02.8	#-238	28	-EpPZ	0802 03.8	#-257
28	-EPcPZ	0114 04.4	#-238	28	-EPZ	0833 59.7	#-258
28	-EPZ	0130 57.3	#-239	28	-EPcPZ	0834 03.0	#-258
28	-EPZ	0148 54.6	#-240	28	-EpPZ	0834 07.1	#-258
28	-EpPZ	0148 59.7	#-240	28	+EPZ	0842 26.3	#-259
28	-EPZ	0159 23.7	#-241	28	-EpPZ	0842 30.5	#-259
28	-EpPZ	0159 35.4	#-241	28	-EpPZ	0857 08.6	#-260
28	-EPZ	0232 40.6	#-242	28	-EPZ	0859 06.7	
28	+EPZ	0235 49.9	#-243	28	+EPZ	0859 52.7	#-261
28	-EPcPZ	0235 52.7	#-243	28	-EPcPZ	0859 56.4	#-261
28	+EPZ	0240 13.5	#-244	28	+EpPZ	0900 01.9	#-261
28	+EPZ	0241 35.2	#-245	28	+EPZ	0939 35.6	
28	-EpPZ	0241 45.6	#-245	28	-EPPZ	0944 02.0	#-262
28	-EsPZ	0241 48.7	#-245	28	+EPcPZ	0952 59.4	#-263
28	-EPcPZ	0339 06.4	#-246	28	+EpPZ	0953 02.0	#-263
28	+EPPZ	0342 21.6	#-246	28	-EpPZ	1013 58.1	#-264
28	+EPZ	0344 02.5	#-247	28	-EpPZ	1017 21.3	#-265
28	-EsPZ	0344 11.5	#-247	28	-EPZ	1205 40.5	#-266

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
28	-EpPZ	1205 45.5	#-266	29	+EPZ	0126 13.7	#-283
28	-EsPZ	1205 47.7	#-266	29	-EpPZ	0126 26.7	#-283
28	-EpPZ	1212 22.4	#-267	29	-EPZ	0159 19.0	#-284
28	+EsPZ	1212 26.9	#-267	29	-EsPZ	0159 33.8	#-284
28	-EPZ	1249 49.1	#-268	29	+EpPZ	0203 05.8	#-285
28	-EPcPZ	1249 51.4	#-268	29	-EPZ	0216 04.4	#-286
28	+EpPZ	1249 53.8	#-268	29	+EpPZ	0216 13.3	#-286
28	+EpPZ	1613 12.5	#-269	29	+EPZ	0220 38.4	#-287
28	-EPZ	1717 29.5	#-270	29	-EpPZ	0220 45.0	#-287
28	-EPcPZ	1717 33.0	#-270	29	-EPZ	0307 41.4	#-288
28	+EPZ	1729 06.0	#-271	29	+EpPZ	0307 52.6	#-288
28	-EPcPZ	1729 10.0	#-271	29	-EsPZ	0307 56.0	#-288
28	-EPPZ	1732 24.9	#-271	29	-EPcPZ	0343 12.2	#-289
28	-EPcPZ	1738 59.1	#-272	29	-EPZ	0350 38.8	#-290
28	-EPZ	1744 35.3	#-273	29	+EPcPZ	0350 42.2	#-290
28	-EpPZ	1744 44.6	#-273	29	-EpPZ	0350 44.1	#-290
28	-EPZ	1802 17.4	#-274	29	-EpPZ	0517 02.4	#-291
28	-EpPZ	1802 22.1	#-274	29	+EPZ	0539 18.3	
28	+EPPZ	1805 40.0	#-274	29	-EPZ	0539 24.2	#-292
28	-EPcPZ	1931 31.8	#-275	29	+EPcPZ	0539 27.1	#-292
28	-EpPZ	1931 35.1	#-275	29	-EPZ	0556 43.7	
28	-EsPZ	1931 39.7	#-275	29	+EPZ	0557 03.2	
28	+EPZ	1951 33.2	#-276	29	-EPZ	0557 11.7	#-293
28	-EpPZ	1951 38.1	#-276	29	+EpPZ	0557 14.0	#-293
28	-EPZ	2052 07.4	#-277	29	-EPZ	0622 56.1	#-294
28	-EpPZ	2052 15.8	#-277	29	-EPcPZ	0623 00.8	#-294
28	+EPcPZ	2054 40.4	#-278	29	-IpPZ	0623 05.4	#-294
28	-EPPZ	2057 55.1	#-278	29	+EPZ	0628 22.3	#-295
28	-EPZ	2223 38.0		29	+EsPZ	0628 32.0	#-295
28	-EPZ	2223 48.8		29	-EPZ	0647 12.7	#-296
28	+EPZ	2241 39.2	#-279	29	-IpPZ	0647 14.5	#-296
28	-EPZ	2247 58.4	#-280	29	+EPZ	0733 55.9	#-297
28	-EPcPZ	2248 01.4	#-280	29	-EPcPZ	0734 03.5	#-297
28	-EPZ	2344 48.1	#-281	29	-EPZ	0940 14.0	#-298
28	-EPcPZ	2344 49.6	#-281	29	+EpPZ	0940 24.7	#-298
29	+EPcPZ	0039 13.1	#-282	29	-EPZ	1023 53.1	#-299
29	-EsPZ	0039 23.9	#-282	29	-EPZ	1023 55.5	#-299

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
29	-EPZ	1143 22.8		30	+EpPZ	0823 27.3	#-316
29	-EPZ	1203 35.1	#-300	30	+EPZ	0902 15.1	#-317
29	-EPZ	1203 35.9	#-300	30	-EPcPZ	0902 18.2	#-317
29	-EpPZ	1203 49.1	#-300	30	-EPZ	0951 11.8	
29	+EPZ	1236 24.5	#-301	30	+IPZ	1545 51.1	#-318
29	+EpPZ	1236 35.8	#-301	30	-IPcPZ	1545 54.4	#-318
29	-EPcPZ	1319 39.1	#-302	30	+IpPZ	1545 57.6	#-318
29	+EPZ	1334 13.3	#-303	30	-EPZ	1726 31.5	
29	+EPZ	1505 21.0	#-304	30	-EPZ	1727 11.0	
29	+EPPZ	1509 09.4	#-304	30	+EPZ	1727 43.5	
29	+EpPZ	1511 05.0	#-305	30	+EPZ	2151 39.7	#-319
29	+EPZ	1625 32.8	#-306	30	+EPcPZ	2151 44.8	#-319
29	+EPZ	1649 52.8		31	-EPZ	0039 22.0	
29	+EPZ	1650 08.6		31	+EPdiffZ	0119 48.8	#-320
29	-EPZ	1833 23.4	#-307	31	-EPPZ	0124 12.6	#-320
29	-EpPZ	1833 36.0	#-307	31	-IPZ	1402 49.4	#-321
29	+EPZ	1850 33.9	#-308	31	+IpPZ	1403 14.7	#-321
29	-EPcPZ	1918 55.6	#-309	31	+EPZ	2032 34.9	
29	+EPZ	2014 32.0	#-310	Feb. 1	-EPZ	0120 06.8	#-322
29	+EPcPZ	2014 34.8	#-310	1	-EPcPZ	0120 45.2	#-322
29	+EpPZ	2014 39.0	#-310	1	-EPPZ	0218 49.9	#-323
29	-EsPZ	2216 31.1	#-311	1	+EPZ	0308 58.4	#-324
29	-EPZ	2327 04.8	#-312	1	+EPcPZ	0309 10.4	#-324
29	-EPZ	2348 39.5	#-313	1	-EPZ	0454 35.8	#-325
29	-EpPZ	2348 50.0	#-313	1	-EPZ	0932 37.1	#-326
30	+EPZ	0025 38.7	#-314	1	-EpPZ	1041 44.8	#-327
30	+EpPZ	0025 48.5	#-314	1	-IPZ	1048 00.8	#-328
30	+EPZ	0253 22.8		1	-IPcPZ	1048 02.2	#-328
30	-EPZ	0253 29.1		1	+IpPZ	1048 10.1	#-328
30	-EPZ	0253 44.3		1	+EPZ	1354 31.2	#-329
30	-EPZ	0343 42.6		1	-EPcPZ	1354 35.5	#-329
30	-EPZ	0720 49.7		1	-EPcPZ	1407 25.8	#-330
30	-IPZ	0820 49.6	#-315	1	-IPZ	1428 13.5	#-331
30	-IPcPZ	0820 52.1	#-315	1	-EpPZ	1428 22.5	#-331
30	+EpPZ	0820 58.9	#-315	1	+IsPZ	1428 28.9	#-331
30	-IsPZ	0821 03.2	#-315	1	-IPZ	1515 51.7	
30	-EPZ	0823 12.5	#-316	1	+IPZ	1516 05.8	

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
1	+IPZ	1549	41.0	#-332	4	-EPZ	0626	04.9	#-347
1	-IPcPZ	1549	43.5	#-332	4	-EPPZ	0630	40.3	#-347
1	-EPPZ	1553	15.3	#-332	4	-EPZ	0925	54.2	#-348
1	-EPZ	1553	44.4		4	-EpPZ	0957	35.1	#-349
1	+EPZ	1553	46.1		4	+EPPZ	1000	48.3	#-349
1	+EPcPZ	1607	02.9	#-333	4	-EPZ	1658	43.7	#-350
1	-EPZ	1726	14.0	#-334	4	+EPPZ	1702	21.9	#-350
1	-EPcPZ	1726	21.6	#-334	4	-EPZ	1805	43.3	#-351
1	-EPZ	2042	45.1	#-335	4	-EPPZ	1809	00.6	#-351
2	-EPZ	0143	08.4	#-336	5	-EPZ	0211	07.7	#-352
2	-EpPZ	0143	19.2	#-336	5	-EPPZ	0214	42.6	#-352
2	+EPdiffZ	0244	29.6	#-337	5	+EPPZ	0353	18.4	#-353
2	-EpPdiffZ	0245	10.5	#-337	5	-EPcPZ	0415	27.5	#-354
2	-IPZ	0255	45.6		5	+EPcPZ	0422	11.4	#-355
2	-EPZ	0256	17.8		5	+EPcPZ	0431	43.0	#-356
2	-IPZ	0442	20.7		5	-EPPZ	0448	32.5	#-357
2	-EPZ	0442	29.2	#-338	5	+EPZ	0813	06.0	#-358
2	+EPcPZ	0442	32.5	#-338	5	-EpPZ	0813	11.1	#-358
2	+IpPKiKPZ	0447	45.7	#-338	5	-EsPZ	0813	15.1	#-358
2	-EPZ	0641	24.2	#-339	5	+EPZ	1235	33.9	#-359
2	+IPcPZ	0641	27.3	#-339	5	+IPcPZ	1235	38.0	#-359
2	-EpPZ	0641	33.3	#-339	5	-EPPZ	1239	26.3	#-359
2	+EPZ	0752	33.4		5	+EPZ	1245	15.0	
2	+EPZ	0848	30.2		5	-EPZ	1245	46.4	
2	-EPZ	0916	49.4	#-340	5	+EPZ	1255	44.6	
2	+EPcPZ	0916	54.5	#-340	5	-EPZ	1748	23.9	#-360
2	-EPZ	1102	58.5		5	-EpPZ	1748	32.0	#-360
2	-EPZ	1424	42.3	#-341	5	+EPZ	1953	58.6	#-361
2	-EPZ	2053	32.6	#-342	5	+EPZ	2002	03.0	#-362
2	-EPcPZ	2053	38.0	#-342	5	+EPZ	2350	40.4	#-363
2	-EpPZ	2053	41.3	#-342	5	-EPcPZ	2350	42.4	#-363
3	+IPcPZ	0503	47.9	#-343	6	-EPZ	0134	00.0	#-364
3	+EPZ	0900	28.7	#-344	6	+EPZ	0137	06.6	#-365
3	-EPZ	1229	38.4	#-345	6	-EpPZ	0137	08.9	#-365
3	+EpPZ	1410	05.9	#-346	6	-EPZ	0154	08.7	
3	-EPZ	1523	38.8		6	+EPZ	0437	19.6	#-366
3	-EPZ	1631	17.5		6	-EpPZ	0437	28.1	#-366

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
6	+EPZ	0620	32.9	#-367	10	-EPZ	2205	30.9	
6	-EpPZ	0620	38.8	#-367	10	+EPZ	2204	40.1	#-383
7	+EpPZ	1306	43.3	#-368	11	-EPcPZ	1516	22.3	#-384
7	+EPZ	1404	15.3		11	-EPZ	1819	32.4	
7	+EPZ	1405	25.0		11	-EPZ	1819	37.9	
7	-EPZ	1417	29.4	#-369	11	+EPZ	1819	57.1	
7	-EPcPZ	1417	32.9	#-369	11	+EPZ	2118	52.7	
7	+EpPZ	1419	37.4	#-369	11	+EPZ	2135	40.4	
7	-EPZ	1429	36.6	#-370	12	None			
7	+EpPZ	1430	03.6	#-370	13	-EPcPZ	0214	32.4	#-385
7	-EpPZ	1430	08.7	#-370	13	-EPdiffZ	0343	44.3	#-386
7	-EsPZ	1430	22.4	#-370	13	-EPZ	0539	11.8	#-387
7	+EPZ	1659	08.9	#-371	13	+EpPZ	0539	18.0	#-387
7	-EPZ	1702	10.3		13	-EPZ	0705	29.5	#-388
7	-EPZ	2015	32.2	#-372	13	+EPZ	1036	46.8	#-389
7	-EPcPZ	2015	29.1	#-372	13	-EPZ	1523	51.8	#-390
7	+EPPZ	2019	17.0	#-372	14	+EPZ	1335	01.8	#-391
7	-EPdiffZ	2103	44.6	#-373	14	-EPPZ	1338	40.6	#-391
7	+EPPZ	2105	08.6	#-373	14	+EPZ	1718	51.9	#-392
8	None				14	+IpPZ	1719	08.7	#-392
9	-EPZ	1901	09.8		14	+EsPZ	1719	17.8	#-392
9	+EPKpdFZ	1904	55.9	#-374	14	-EPZ	1907	38.4	#-393
9	-EPPZ	1906	19.3	#-374	14	-EsPZ	1907	55.6	#-393
9	+EPZ	1906	26.5		14	-EPZ	2154	50.8	
9	+EPZ	2009	29.4	#-375	14	-EPZ	2352	09.4	
9	-EpPZ	2009	24.6	#-375	14	-EPdiffZ	2352	59.0	#-394
9	+EPZ	2113	06.7		15	+EPZ	0157	47.5	#-395
10	-EpPZ	0540	06.6	#-376	15	-EpPZ	0245	08.4	#-396
10	-EPPZ	0559	39.7	#-377	15	+EPcPZ	0245	14.0	#-396
10	-EPZ	0723	44.4	#-378	15	+EPZ	0251	59.8	
10	-EPZ	0950	58.1	#-379	15	-EPcPZ	1313	40.6	#-397
10	+EPcPZ	0951	06.4	#-379	15	+EpPZ	1313	42.6	#-397
10	+IPZ	1705	34.1	#-380	15	-EPZ	1340	56.4	#-398
10	+IpPZ	1705	37.5	#-380	15	-EsPZ	1341	33.6	#-398
10	-IsPZ	1705	40.0	#-380	15	+IPZ	1455	37.1	#-399
10	-EPZ	2003	43.0	#-381	15	-IpPZ	1455	46.8	#-399
10	-EPZ	2029	26.3	#-382	15	-EPZ	1943	35.7	



Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
15	-EPZ	2021 03.0		17	+EPcPZ	1152 08.1	#-411
15	+EPZ	2021 22.0	#-400	17	-EXZ	1655 38.1	#-412
15	-EPcPZ	2021 25.3	#-400	17	-EPcPZ	1655 43.6	#-412
15	-EpPZ	2021 28.1	#-400	17	+EPZ	2000 06.4	#-413
15	-EPZ	2033 21.0	#-401	17	-EPZ	2056 35.4	#-414
15	+EPcPZ	2033 25.2	#-401	18	+EPZ	0821 28.5	
15	-EPcPZ	2132 27.1	#-402	18	+EpPZ	1159 17.1	#-415
15	+EPZ	2210 04.2		18	+EPZ	1224 40.2	#-416
16	+EPZ	0832 21.8	#-403	18	-IPZ	1538 00.4	#-417
16	-EsPZ	0832 29.9	#-403	18	-EPcPZ	1538 06.9	#-417
16	-EPZ	0922 35.9	#-404	18	+EpPZ	1538 31.5	#-417
16	+EPcPZ	0922 45.4	#-404	18	-EPcPZ	1946 10.1	#-418
16	+EpPZ	0923 28.6	#-404	18	-EpPZ	1946 23.0	#-418
16	-EPZ	1154 22.5	#-405	18	-EPPZ	1949 21.7	#-418
16	-EPZ	1737 03.1		18	-EPdiffZ	2032 39.2	#-419
16	+EPZ	1737 30.1		18	+EPPZ	2037 11.3	#-419
16	+EPZ	2036 06.2	#-406	18	-EPZ	2335 58.4	
16	-EpPZ	2036 08.4	#-406	19	-EPZ	0017 04.7	#-420
16	-IsPZ	2036 10.8	#-406	19	+EPcPZ	0017 14.1	#-420
16	-IPPZ	2037 53.7	#-406	19	+EPZ	0021 32.7	#-421
17	-IPZ	0125 29.1	#-407	19	+EpPZ	0021 35.9	#-421
17	-IPZ	0125 30.8		19	+EPZ	0250 18.2	#-422
17	+IPnPnZ	0126 33.7	#-407	19	-EPcPZ	0250 23.5	#-422
17	-IPPZ	0126 39.7	#-407	19	-EPZ	1416 18.6	#-423
17	+EPcPZ	0128 18.2	#-407	19	-EpPZ	1416 27.9	#-423
17	ESH	0130 29.0	#-407	19	+EPcPZ	1436 06.2	#-424
17	-EScPZ	0131 50.2	#-407	19	-EpPZ	1436 08.9	#-424
17	+EPZ	0325 01.7		19	+EPZ	1456 08.2	
17	+EPZ	0543 48.7	#-408	19	+EPZ	1837 18.7	
17	-EpPZ	0543 58.7	#-408	19	+EPZ	1840 21.7	
17	-IPZ	0625 20.3	#-409	19	+EpPZ	1904 47.5	#-425
17	-IpPZ	0625 31.9	#-409	19	-EPZ	2033 44.7	#-426
17	-EPKiKPZ	0630 09.8	#-409	19	-EpPZ	2033 49.7	#-426
17	-EPZ	0631 51.5	#-410	19	+EPcPZ	2211 52.9	#-427
17	-EPcPZ	0632 06.1	#-410	20	+EPZ	0506 20.8	#-428
17	-EPZ	1101 54.1		20	+EPZ	0522 05.5	#-429
17	-EPZ	1152 05.2	#-411	20	-EpPZ	0522 19.2	#-429

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
20	-EPZ	1041	46.8		23	-EPZ	1352	06.3	
20	-EPZ	1156	29.3	#-430	23	+EPZ	1836	58.4	#-449
20	+EPcPZ	1156	33.6	#-430	23	-EPcPZ	1837	06.4	#-449
20	+EpPZ	1156	40.5	#-430	23	-EPZ	1859	48.5	
20	-IPZ	1228	03.1	#-431	24	-EPZ	0320	16.0	#-450
20	+EPcPZ	1329	37.6	#-432	24	-EPZ	0508	39.1	#-451
20	+EPZ	1352	10.1	#-433	24	+EPZ	0628	44.7	
20	-EPZ	1538	52.9	#-434	24	-EPZ	0628	52.0	
20	-IPcPZ	1538	54.4	#-434	24	+EsPZ	0629	47.1	#-452
20	+IpPZ	1539	47.1	#-434	24	+EPZ	0714	48.4	#-453
20	-EsPZ	1540	10.4	#-434	24	-EPZ	0748'	03.8	#-454
20	-EPZ	2033	19.9	#-435	24	-EPcPZ	0748	10.7	#-454
20	+EpPZ	2033	23.7	#-435	24	-EPZ	1455	55.8	#-455
20	+IPZ	2320	50.0	#-436	24	+EPZ	2040	21.0	#-456
20	-EPcPZ	2320	53.5	#-436	25	+EPZ	0159	33.9	
21	-EPZ	0016	49.2	#-437	25	-EPZ	0527	18.9	
21	-EpPZ	0016	53.3	#-437	25	+EPZ	0527	23.6	
21	-EPZ	0039	07.3	#-438	25	-EPZ	1553	35.0	
21	-IPZ	0622	24.2	#-439	26	+EPZ	0422	17.4	
21	+EPcPZ	0622	32.6	#-439	26	-EPZ	0422	22.1	
21	-EPZ	1024	56.3		26	-IPZ	0656	40.5	#-457
21	-EXZ	1119	52.3	#-440	26	-EPcPZ	0656	43.0	#-457
21	+EPZ	2332	00.5	#-441	26	+EpPZ	0705	21.4	#-458
22	+EPdiffZ	0333	52.7	#-442	26	-EXZ	0946	17.0	#-459
22	-EPZ	0817	48.9	#-443	26	-EPZ	1309	06.1	#-460
22	-IPZ	1724	45.7	#-444	26	+EPZ	1712	33.2	#-461
22	-IPcPZ	1724	49.5	#-444	26	+EPZ	1835	52.0	
22	+IPZ	2320	52.0	#-445	27	-EPZ	0448	41.8	#-462
22	+IpPZ	2320	57.3	#-445	27	-EPZ	0506	47.0	#-463
22	-EsPZ	2320	54.1	#-445	27	-EPZ	0915	18.6	#-464
23	-EPZ	0917	01.3		27	-EPcPZ	2004	07.8	#-465
23	-EPZ	0917	15.9		27	-EPZ	2106	14.0	#-466
23	-EPZ	1053	05.2	#-446	27	-EPcPZ	2106	26.3	#-466
23	+EpPZ	1053	20.8	#-446	28	-EPZ	0002	42.9	
23	+EPZ	1147	03.1	#-447	28	-EPZ	0048	12.6	#-467
23	-EPZ	1215	38.4	#-448	28	+EPZ	0136	28.7	#-468
23	-EpPZ	1215	55.1	#-448	28	+EpPZ	0136	32.7	#-468

Date	Phase	Time		Remarks	Date	Phase	Time		Remarks	
		h	m				s	h		m
	28	-EPZ	0841	45.4	#-469	6	+EPZ	1240	10.8	
	28	-EsPZ	0842	07.0	#-469	6	+EsPZ	1512	35.5	#-491
	28	-EXZ	0938	42.6	#-470	6	+EPZ	1750	29.5	#-492
	28	-EPZ	0950	55.3	#-471	6	+EpPZ	2247	25.0	#-493
Mar.	1	-EPZ	0642	50.8	#-472	7	+EpPKPdFZ	0224	26.0	#-494
	1	-EPZ	0735	02.4	#-473	7	+EpPKPdFZ	0308	11.5	#-495
	1	+EpPZ	0735	09.5	#-473	7	-EPZ	0533	14.0	
	1	-EPcPZ	1243	49.0	#-474	7	-EXZ	0735	13.8	#-496
	1	-EPZ	1414	38.7	#-475	7	+EPZ	2013	32.5	#-497
	1	-EPZ	1532	22.5	#-476	7	+EPcPZ	2013	36.6	#-497
	1	+EPZ	1550	40.6		8	-EXZ	0511	32.9	#-498
	1	+EXZ	1604	13.0	#-477	8	-EPZ	0650	51.6	#-499
	1	+EpPZ	1935	14.8	#-478	8	-EPcPZ	0650	57.0	#-499
	1	+EPZ	1937	21.5		8	-EPZ	1515	33.1	
	2	-EPZ	0737	27.1		9	+EXZ	0015	18.2	#-500
	2	-EPZ	0914	07.7		9	-EPZ	0950	18.5	#-501
	2	+EPZ	1402	08.0		9	+EPZ	1023	29.9	#-502
	3	-EPZ	1206	14.5	#-479	9	+EPZ	1839	42.5	#-503
	4	+EXZ	0917	15.5	#-480	9	-EpPZ	1839	53.2	#-503
	4	-EPZ	1331	37.2		9	-EPPZ	1842	48.5	#-503
	4	-EPZ	1918	19.4	#-481	10	NONE			
	4	-IPZ	2148	14.8	#-482	11	+EPZ	1122	53.3	
	4	+EPZ	2219	16.0	#-483	11	-EPZ	1312	24.5	#-504
	5	-EPZ	0459	15.0		11	-EPZ	1552	37.2	#-505
	5	+EXZ	1926	46.4	#-484	11	-EXZ	1552	43.4	#-505
	5	+EPZ	2011	33.2		12	-EPZ	0503	29.0	#-506
	5	+EPZ	2055	57.5	#-485	12	+EPcPZ	0503	33.7	#-506
	6	+EPZ	0152	10.5	#-486	12	+EPZ	1343	44.5	#-507
	6	+EpPZ	0152	21.6	#-486	12	+EPcPZ	1343	47.2	#-507
	6	-EPZ	0302	23.1	#-487	12	-EPZ	1922	10.4	
	6	+EpPZ	0302	37.7	#-487	12	+EPZ	2245	38.0	#-508
	6	-EPZ	0414	38.7		12	-EpPZ	2245	52.0	#-508
	6	-EPZ	0541	35.0	#-488	13	-EPZ	0018	53.0	
	6	-EPZ	0627	24.5		13	-EPZ	0220	41.5	#-509
	6	+EPZ	0833	03.6	#-489	13	+EpPZ	0220	43.3	#-509
	6	-EPZ	0846	04.5		13	-EPZ	0950	53.0	
	6	+EPZ	1143	48.0	#-490	13	+EPZ	1440	02.0	

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
13	+EPZ	1445 49.2	#-510	17	-EPZ	0811 39.8	
13	+EPcPZ	1445 51.2	#-510	17	-EXZ	1356 15.5	#-526
13	+IPZ	1518 39.8	#-511	17	-EpPZ	2333 24.0	
13	-EPZ	2049 49.0	#-512	18	None		
13	+EpPZ	2049 58.2	#-512	19	None		
13	+EPZ	2225 08.0	#-513	20	None		
13	+EPcPZ	2225 11.4	#-513	21	None		
14	-EPZ	0119 20.3		22	None		
14	+EPZ	0213 12.0		23	+EPZ	0614 27.7	
14	-EPZ	0416 04.8		23	+EPZ	0756 42.2	#-527
14	+EPZ	0439 13.5		23	+EPZ	0902 16.2	#-528
14	+EPZ	0439 50.2	#-514	23	-EPPZ	0933 34.6	#-529
14	-EPZ	0520 20.0	#-515	23	+EPZ	1011 04.4	
14	+IpPZ	0520 26.2	#-515	23	+EPZ	1045 28.2	
14	+EPZ	0622 53.8		23	-EpPZ	1100 56.2	#-530
14	-EPZ	0713 14.0		23	-EPZ	1101 04.5	
14	-EPKiKPZ	0713 23.3	#-516	23	+EPZ	1144 41.0	#-531
14	-IPZ	0814 39.3	#-517	23	-EPZ	1214 00.2	
14	+IpPZ	0814 42.5	#-517	23	+EPZ	1225 11.4	
14	+EPZ	0820 34.0		23	-EPZ	1359 35.4	
14	-EPZ	0820 40.6		23	+EPZ	1404 19.5	#-532
14	-IPZ	1254 47.8	#-518	23	-IPZ	1404 20.7	#-532
14	-IpPZ	1254 55.6	#-518	23	+IpPZ	1404 28.2	#-532
14	+IPZ	1548 34.1	#-519	24	+EPZ	0614 53.2	#-533
15	+EPZ	2017 55.7	#-520	24	-EpPZ	0615 05.2	#-533
15	+EPZ	2018 14.0	#-521	24	-EPZ	1013 30.2	#-534
16	+IPZ	0943 54.0	#-522	24	-EPZ	1715 04.6	#-535
16	+EPcPZ	0944 10.4	#-522	24	-EPZ	1943 29.8	
16	-EPZ	1233 19.5	#-523	24	-EXZ	2135 37.5	#-536
16	+EsPZ	1233 34.0	#-523	24	+EPZ	2145 04.5	
16	-EXZ	1236 16.0	#-523	25	+EPZ	0019 15.5	#-537
16	+EPZ	1634 26.9		25	+EPcPZ	0019 20.5	#-537
16	+EPZ	1643 33.5		25	+EPZ	0117 15.5	#-538
16	+EPZ	2250 17.0	#-524	25	+EpPZ	0117 25.4	#-538
17	-EPZ	0128 42.5		25	-EsPZ	0017 30.0	#-538
17	+IPZ	0128 43.7		25	-EPZ	0406 11.8	#-539
17	+EsPZ	0709 38.0	#-525	25	-EPZ	1343 26.7	

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
26	+EPZ	0139	40.2	29	-EXZ	1649	05.2 # -560
26	+EPZ	0247	48.5 # -540	29	-EPZ	1716	21.3
26	+EpPZ	0247	50.0 # -540	29	+EPZ	1818	48.4 # -561
26	+EpPZ	0255	21.5 # -541	29	-EPZ	1819	16.8
26	+EPZ	0434	38.5 # -542	29	+EPZ	1902	19.5 # -562
26	-IPZ	0516	10.7 # -543	29	+EpPZ	1902	28.8 # -562
26	-EPZ	1553	12.2 # -544	29	+EXZ	2030	39.5 # -563
26	ESH	1603	50.2 # -544	29	+EPZ	2113	00.8
27	+EPZ	0508	50.8 # -545	30	+EPZ	0125	26.2 # -564
27	-EPcPZ	0509	04.4 # -545	30	+EPZ	0557	49.2
28	-IPZ	1621	51.6 # -546	30	-EPZ	0805	02.0 # -565
28	+EPZ	1817	11.2	30	-EPZ	1032	32.0 # -566
28	+EPZ	2138	09.5	30	+EPcPZ	1032	39.0 # -566
28	-EPZ	2203	25.5	30	+EPZ	1213	29.0 # -567
28	+EPZ	2253	24.0 # -547	30	+EPcPZ	1213	31.5 # -567
28	+EPcPZ	2253	29.2 # -547	30	+EpPZ	1309	52.3 # -568
28	+EPZ	2349	46.2 # -548	30	-EPZ	1419	55.0
28	+EPcPZ	2349	49.5 # -548	30	-EPZ	1420	16.5
28	+EpPZ	2349	54.8 # -548	30	+EpPZ	1609	12.1 # -569
29	+EPZ	0108	14.8 # -549	30	+EPZ	1631	55.3 # -570
29	-EpPZ	0108	22.0 # -549	30	-EsPZ	1632	6.5 # -570
29	+EsPZ	0142	30.0 # -550	30	-EPZ	1651	10.5 # -571
29	-EPZ	0142	34.9	30	-EPZ	1651	51.5
29	-EPZ	0234	48.2 # -551	30	+EXZ	1708	40.6 # -572
29	+EPZ	0252	46.5 # -552	30	+EPZ	1741	35.5 # -573
29	+EPcPZ	0252	54.2 # -552	30	-EPcPZ	1741	41.8 # -573
29	+EPZ	0350	45.0 # -553	30	-EpPZ	1741	44.9 # -573
29	-EPZ	0502	07.7 # -554	30	+IPZ	1753	28.3 # -574
29	+EXZ	0525	50.5 # -555	30	-IPcPZ	1753	28.9 # -574
29	+EPZ	0528	42.5 # -556	30	ESH	1803	03.6 # -574
29	+EpPZ	0528	56.0 # -556	30	+EPZ	2341	48.5 # -575
29	+EPZ	0809	08.1	30	-EpPZ	2342	10.9 # -575
29	-EPZ	0940	51.2	30	-EsPZ	2342	18.0 # -575
29	-EPcPZ	1109	12.3 # -557	30	-EPZ	2353	01.4 # -576
29	-EpPZ	1109	16.6 # -557	31	+EPZ	0151	52.3 # -577
29	+EPZ	1308	27.2 # -558	31	+EPcPZ	0151	53.1 # -577
29	+EpPZ	1455	49.0 # -559	31	-EPZ	0159	03.0 # -578

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
31	-EPZ	0159 04.9	#-578	1	+EPZ	1345 07.4	
31	-IpPZ	0159 07.2	#-578	1	-EPZ	1345 25.0	
31	-EPZ	0251 36.0	#-579	1	-EPZ	1412 44.5	
31	+EPZ	0447 42.1	#-580	1	-EPZ	1503 45.8	
31	-EPcPZ	0447 46.0	#-580	1	+EPZ	1545 50.0	
31	-EsPZ	0500 30.0	#-581	1	+EPcPZ	1736 54.5	#-595
31	+EPKiKPZ	0505 43.9	#-581	1	+EpPZ	1736 58.5	#-595
31	+EPZ	0506 03.5		1	-EPZ	2044 41.0	#-596
31	+EPcPZ	0506 26.4	#-582	1	+EPcPZ	2044 48.5	#-596
31	+EPZ	0524 34.0	#-583	1	+EPZ	2115 02.0	
31	-EPZ	0524 38.5	#-583	1	+EPZ	2232 15.5	#-597
31	-EPnPnZ	0524 50.7	#-583	2	+EpPZ	0218 08.5	#-598
31	+EpPZ	0721 54.8	#-584	2	-EPZ	0349 30.5	#-599
31	+EsPZ	0721 56.0	#-584	2	-EPZ	0351 01.8	#-600
31	+EPZ	0736 05.4	#-585	2	+EPcPZ	0351 09.5	#-600
31	-EPcPZ	0736 12.4	#-585	2	+EPZ	0624 26.8	
31	-EPcPZ	1313 46.5	#-586	2	-EPZ	0812 09.8	#-601
31	+EPZ	1645 03.5	#-587	2	-EPcPZ	0812 11.2	#-601
31	+EPZ	1814 39.5	#-588	2	+EPZ	1220 14.0	
31	+EpPZ	1814 44.1	#-588	2	+EpPKPdfZ	1312 22.6	#-602
31	+EPcPZ	1926 53.0	#-589	2	+EPKiKPZ	1312 26.0	#-602
31	+EPZ	2134 52.6	#-590	2	+IPZ	1312 40.2	#-603
31	-EsPZ	2135 05.0	#-590	2	+EPZ	1329 04.8	
31	-EPZ	2108 31.5		2	+EPZ	1334 07.0	#-604
31	+EPZ	2202 22.5	#-591	2	+EPcPZ	1334 10.8	#-604
31	+EpPZ	2202 26.8	#-591	2	-EPZ	1533 17.8	#-605
31	+EXZ	2204 03.2		2	+EpPZ	1533 24.7	#-605
31	+EPZ	2204 32.6		2	-EPZ	1542 45.5	
Apr. 1	-EPZ	0608 10.0	#-592	2	+EPZ	1637 52.6	
1	+EPZ	0750 42.2		2	-EPZ	1719 08.2	
1	-EPZ	0753 06.3		2	-EPcPZ	2323 08.2	#-606
1	+EPZ	0757 52.2		3	+EPZ	0111 26.4	#-607
1	+EPcPZ	0810 50.5	#-593	3	+EpPZ	0111 36.6	#-607
1	-EPZ	1050 00.1	#-594	3	+EXZ	0155 39.2	#-608
1	-EPcPZ	1050 03.0	#-594	3	-EPZ	0323 08.0	#-609
1	+EpPZ	1050 11.5	#-594	3	+IXZ	0323 19.2	#-609
1	+EPZ	1146 40.5		3	+IpPZ	0323 21.0	#-609

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
3	-EPZ	1032 33.5		6	+EPZ	0340 48.6	
3	-EpPZ	1455 41.0	#-610	6	+EPZ	1131 53.1	#-627
3	-EsPZ	1455 42.7	#-610	6	-EPcPZ	1132 02.3	#-627
3	+EPZ	2212 46.0		6	-EpPZ	1132 10.0	#-627
3	-EPZ	2318 36.0		7	-EXZ	0558 50.3	#-628
4	+EPZ	0445 55.5	#-611	7	-EPZ	0706 22.2	#-629
4	-EPZ	0559 04.9		7	-EPZ	0928 21.3	#-630
4	-EXZ	0716 44.5	#-612	7	-EPcPZ	0928 24.0	#-630
4	-EPZ	0816 44.9		7	-EPZ	1158 09.0	#-631
4	+EPZ	0828 07.6	#-613	7	-IPcPZ	1158 15.0	#-631
4	+EPZ	1122 05.5		7	+IPZ	1554 51.5	#-632
4	+EPcPZ	1139 24.0	#-614	7	+EPcPZ	1554 55.2	#-632
4	-EPZ	1315 04.0		7	-EpPZ	1653 09.4	#-633
4	+EPZ	1710 26.5		7	+EsPZ	2115 09.8	#-634
4	+EPZ	1949 29.0	#-615	8	+IPZ	0130 50.2	#-635
5	-EPZ	0138 54.0	#-616	8	-EPZ	0600 41.3	#-636
5	-EPZ	0232 07.9	#-617	8	+IPZ	0600 43.5	#-636
5	-EPZ	0239 28.3	#-618	8	-EpPZ	1150 38.5	#-637
5	-EXZ	0649 15.0	#-619	8	+EPcPZ	1150 41.2	#-637
5	+EPZ	0856 08.9	#-620	8	+EsPZ	1838 48.4	#-638
5	+EPZ	0949 33.0	#-621	9	+IPZ	1557 46.5	#-639
5	-EPcPZ	0949 39.8	#-621	10	+EPZ	0142 28.5	
5	+EPZ	1303 40.9		10	+EPZ	0236 57.2	
5	-EPZ	1303 48.4		10	+EPZ	1040 10.7	#-640
5	+EPZ	1534 47.5	#-622	10	+EPcPZ	1040 17.0	#-640
5	-EPZ	1540 49.9		10	-EPZ	1041 08.8	#-641
5	-EPZ	1541 07.0		10	+EPZ	1057 45.0	#-642
5	+EpPKiKPZ	1541 15.9	#-622	10	+EPZ	1107 04.5	#-643
5	+IPZ	1613 25.2	#-623	10	+EPcPZ	1107 14.5	#-643
5	+EpPZ	1615 33.5	#-623	10	-EPZ	1126 14.0	#-644
5	-EPZ	1952 36.7		10	+IPcPZ	1126 24.2	#-644
5	-IPZ	2003 26.5	#-624	10	-EPPZ	1129 11.2	#-644
5	+IPZ	2003 30.0	#-624	10	-EPZ	1156 59.8	#-645
				10	-IPZ	1207 27.0	#-646
5	-IPnPnZ	2003 43.2	#-624	10	+EsPZ	12074 42.5	#-646
6	-EPZ	0036 16.2	#-625	10	+EPZ	1249 30.5	#-647
6	+EPcPZ	0216 41.0	#-626	10	+EPZ	1351 33.0	#-648

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
10	-EPZ	1351 45.2	#-649	11	+EPZ	0916 42.0	#-665
10	+EpPZ	1351 55.0	#-649	11	+EpPZ	0916 50.0	#-665
10	+EPZ	1352 37.2	#-650	11	-EPZ	0938 54.0	#-666
10	-EPcPZ	1402 52.0	#-651	11	-EPcPZ	0939 03.0	#-666
10	+EPZ	1406 09.8	#-652	11	-EpPZ	0939 05.2	#-666
10	+EPcPZ	1406 19.5	#-652	11	+EPZ	1110 37.8	#-667
10	-EPZ	1437 35.8	#-653	11	+EPcPZ	1110 41.5	#-667
10	-EPcPZ	1437 45.5	#-653	11	+EpPZ	1131 43.0	#-668
10	+EPZ	1459 20.5	#-654	11	-EPZ	1233 15.2	#-669
10	-EPcPZ	1459 30.2	#-654	11	-EpPZ	1233 28.8	#-669
10	-EPZ	1553 47.0		11	+EPZ	1352 14.0	#-670
10	-EPZ	1556 12.7		11	-EPZ	1507 02.3	#-671
10	+EPZ	1649 08.5		11	-IPcPZ	1507 03.0	#-671
10	-IPZ	1736 35.2	#-655	11	-IpPZ	1507 37.7	#-671
10	-IpPZ	1736 47.8	#-655	11	+EPZ	1644 36.0	#-672
10	+EPZ	1754 32.0	#-656	11	+IPZ	1721 07.8	#-673
10	+EPcPZ	1754 32.8	#-656	11	-IPcPZ	1721 10.0	#-673
10	+EpPZ	1755 06.7	#-656	11	+EPZ	1831 11.3	#-674
10	-EPZ	1926 45.5	#-657	11	-EpPZ	1831 18.5	#-674
10	+EpPZ	1926 54.0	#-657	11	+EPZ	1903 51.8	#-675
10	-EPZ	1931 13.4	#-658	11	-EPZ	2032 26.8	
10	-EPcPZ	1931 22.8	#-658	12	+EPZ	0112 20.5	#-676
10	-EPZ	2012 30.8		12	+EPZ	0136 48.5	#-677
10	+EPZ	2012 55.7		12	+EPZ	0139 45.1	#-678
10	+EPZ	2019 29.5	#-659	12	+IPZ	0406 40.5	#-679
10	+EPcPZ	2019 38.5	#-659	12	+EPcPZ	0406 49.5	#-679
10	-EsPZ	2019 42.5	#-659	12	+EPZ	0441 56.5	#-680
10	-EPZ	2241 13.0		12	+EPcPZ	0442 04.0	#-680
10	+EpPKPdfZ	2241 27.5	#-660	12	+EPZ	1439 42.7	
11	+EPZ	0026 39.0	#-661	12	+EPZ	1912 24.0	#-681
11	+EPZ	0107 47.5	#-662	12	+EPZ	1937 05.4	
11	+EpPZ	0107 55.4	#-662	12	+EPZ	2112 33.0	
11	+EPZ	0441 09.5	#-663	12	+EPZ	2138 19.0	
11	+EPPZ	0444 51.0	#-663	13	-IPZ	0311 30.9	#-682
11	-EPZ	0623 22.8	#-664	13	+EPcPZ	0311 41.0	#-682
11	+EpPZ	0623 31.2	#-664	13	+EPZ	0410 09.5	#-683
11	+IsPZ	0623 34.5	#-664	13	+IPcPZ	0410 19.8	#-683



Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
13	+IpPZ	0410	25.0	#-683	17	-EPZ	2150	37.0	#-699
13	+EPZ	0836	11.5		17	+EpPZ	2150	47.3	#-699
13	+EPZ	0936	16.3	#-684	18	+EPZ	0112	32.2	
13	-EPZ	0936	20.5	#-684	18	+EPZ	0235	53.5	#-700
13	-EsPZ	0936	25.5	#-684	18	+EPZ	1530	43.7	
13	-EPZ	1132	14.0		18	+EPZ	1530	49.5	
13	-EPZ	1132	19.4		18	+EPZ	1941	29.2	
13	+EPZ	1741	35.3	#-685	18	-EPZ	1941	40.0	
13	-EsPZ	1741	49.2	#-685	18	+EPZ	2030	06.8	
14	+EPZ	1017	25.5		18	-EPZ	2032	19.8	
14	-EPZ	1142	18.2		18	+EpPZ	2032	46.5	#-701
14	-EPZ	2221	36.1	#-686	18	+EPcPZ	2111	37.9	#-702
14	-EPcPZ	2221	41.7	#-686	18	+EPZ	2138	54.2	
14	-EpPZ	2222	10.7	#-686	19	+EPdiffZ	0045	05.2	#-703
15	-EPZ	0429	32.0	#-687	19	+EPZ	2127	49.0	
15	-EPZ	1840	36.5		19	-EPZ	2236	25.4	
15	+EPZ	1844	42.0	#-688	20	-EPZ	0240	44.0	#-704
15	-EPcPZ	1844	45.0	#-688	20	+EPZ	1052	57.0	#-705
15	+EPZ	2244	27.7		20	+EPcPZ	1053	03.4	#-705
16	+EXZ	1228	18.5	#-689	20	-EPZ	1122	47.2	
16	+EPZ	1650	14.2	#-690	20	-EPZ	1135	13.0	#-706
16	-IpPZ	1650	24.8	#-690	20	+EPcPZ	1135	17.4	#-706
16	-EPZ	2013	57.0	#-691	20	+EPZ	1721	02.5	
16	+IPZ	2253	13.5	#-692	21	+EPZ	0119	47.0	#-707
16	-IPcPZ	2253	19.4	#-692	21	+EPnZ	0119	50.0	#-707
16	-EpPZ	2253	39.9	#-692	21	-IPZ	0119	53.0	#-707
17	+EPZ	0202	51.5	#-693	21	-EPZ	0627	31.5	
17	-EPZ	0433	44.0	#-694	21	+EXZ	0920	48.1	#-708
17	+EpPZ	1153	41.0	#-695	21	-EpPKPdfZ	0946	01.3	#-709
17	+EPZ	1154	15.8		21	+EPZ	1722	55.5	#-710
17	+EPZ	1355	57.8	#-696	21	+EpPZ	1722	57.2	#-710
17	-EPcPZ	1356	07.3	#-696	21	+EPcPZ	1803	08.2	#-711
17	-EPZ	2040	48.0	#-697	21	-EPZ	2150	42.5	
17	-EPcPZ	2040	58.0	#-697	22	+EPZ	0120	41.1	#-712
17	-EpPZ	2041	01.0	#-697	22	-EpPZ	0120	51.5	#-712
17	-EPZ	2135	47.8	#-698	22	-EPZ	0357	01.0	#-713
17	+IpPZ	2135	54.0	#-698	22	-EPcPZ	0357	29.5	#-713

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
22	-EPZ	0609	58.4	26	-EpPZ	1146	39.8 # -732
22	-EPZ	0754	30.4 # -714	26	+EPZ	1414	15.0 # -733
22	+EPZ	1137	22.4 # -715	26	-EpPZ	1414	26.0 # -733
22	-EPcPZ	1137	24.0 # -715	26	+EPZ	1730	32.5 # -734
22	-EPZ	2219	01.4 # -716	26	-EPcPZ	1730	39.0 # -734
23	+EPZ	0917	04.5	26	+EPcPZ	1909	25.0 # -735
23	+EPZ	1043	55.0 # -717	27	-EPZ	0930	08.4
23	+EPZ	1456	19.7 # -718	27	-EPZ	1209	29.0
23	-EPcPZ	1456	22.3 # -718	27	-EPZ	1417	22.2 # -736
23	-EPZ	1729	01.2	27	+EPZ	1948	58.0
23	-EPZ	2046	24.8 # -719	28	+EPZ	1324	22.1 # -737
23	-IpPZ	2047	01.5 # -719	28	-IPZ	1419	45.2
24	-EPZ	0648	32.8 # -720	28	-IPZ	1420	03.0
24	-EPZ	0724	12.4 # -721	28	-EPZ	1611	34.3 # -738
24	+EPZ	0427	23.0 # -721	28	+EPZ	2357	34.8 # -739
24	-EpPZ	0944	09.4 # -722	29	-EPZ	1127	45.4
24	-EPZ	1017	47.2 # -723	29	-EPZ	1127	50.4
24	-EPZ	1155	28.8 # -724	29	-EXZ	1414	24.0 # -740
24	-EpPZ	1155	31.4 # -724	29	+EPcPZ	1414	37.7 # -740
24	+EPZ	1419	49.8	29	-EPZ	1604	38.2 # -741
25	-EPZ	0142	20.5	29	-EpPZ	1604	40.3 # -741
25	+EpPZ	0142	11.6 # -725	29	-EPZ	1728	03.0 # -742
25	-EPZ	0244	53.7 # -726	29	+EsPZ	1728	21.0 # -742
25	+EPZ	0819	41.6 # -727	29	-EPcPZ	2025	43.0 # -743
25	+EPZ	0839	14.2	29	-EsPZ	2025	48.4 # -743
25	+EPPZ	0844	22.6 # -728	29	+EPZ	2237	39.5 # -744
25	-EPZ	1140	49.4	30	+EPZ	0124	40.5
25	-EPZ	1140	52.4	30	+EPZ	0841	26.0 # -745
25	+EPZ	1718	23.2 # -729	30	+EPZ	1329	30.3 # -746
25	+EpPZ	1718	27.9 # -729	30	+EPcPZ	1329	35.1 # -746
25	-EPZ	2030	22.0 # -730	May 1	-EPZ	0518	05.8 # -747
25	-EPZ	2152	19.0 # -731	1	+EPZ	0518	23.0 # -747
25	+EpPZ	2152	24.4 # -731	1	+EPZ	05389	53.0 # -748
25	+EPPZ	2155	17.8 # -731	1	+EPZ	0906	05.5
25	+EPZ	2252	46.5	1	+EPZ	1419	27.3 # -749
26	+EPZ	0011	26.5	1	+EPcPZ	1419	53.6 # -749
26	-EPZ	1146	35.2 # -732	1	+EPZ	2301	08.0

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
2	-EPZ	0410	12.5	9	+EPZ	1812	16.8 # -762
2	+EPZ	0616	36.9 # -750	9	+EPZ	2252	12.0 # -763
2	+EpPZ	0618	49.0 # -750	9	-EpPZ	2252	15.7 # -763
2	-EPZ	0821	03.8	9	-EPcPZ	2356	06.6 # -764
2	-EPZ	0821	19.5	10	-IPZ	0120	45.0 # -765
2	+EPZ	0907	13.8 # -751	10	+IpPZ	0120	49.8 # -765
2	+EPcPZ	0907	24.3 # -751	10	+IsPZ	0120	51.5 # -765
2	-EpPZ	0907	55.4 # -751	10	+EPZ	1131	03.1 # -766
2	+EPZ	0947	14.5	10	-EPcPZ	1131	04.9 # -766
2	+EsPZ	0948	04.5 # -752	10	-EPZ	2130	17.4 # -767
2	-EPZ	1226	34.2	10	+EpPZ	2130	41.5 # -767
2	-EPZ	1545	51.9 # -753	10	-EPZ	2130	30.2
2	+IpPZ	1545	56.7 # -753	10	+EPZ	2336	43.2 # -768
2	-EPZ	1550	18.3 # -754	11	+EPZ	0035	00.5 # -769
2	+EPZ	1555	12.5	11	-EPcPZ	0035	15.1 # -769
2	-EPZ	1615	04.0	11	-EPZ	0824	48.2 # -770
2	-EPZ	1615	24.5	11	-EPZ	2310	11.5
2	+EXZ	1721	10.5 # -755	11	-EPZ	2310	15.5
2	-EPZ	1808	04.0 # -756	12	-EPZ	0341	52.4
2	+EPZ	2145	48.5 # -757	12	+IPZ	1124	57.5 # -771
2	-EPcPZ	2145	50.6 # -757	12	+IPcPZ	1126	05.5 # -771
3	+EPZ	0313	00.5	13	-EPZ	0435	56.5
3	+EPZ	1924	07.5 # -758	13	+EPZ	1719	25.0
3	+EPcPZ	1924	11.7 # -758	13	+EPZ	2134	55.6
3	-EpPZ	1924	18.0 # -758	14	-EPKpdfZ	0211	44.0 # -772
3	-EPZ	2127	15.0 # -759	14	-EPZ	0517	22.0 # -773
3	+EPcPZ	2127	22.4 # -759	14	-IXZ	0517	25.8 # -773
4	-EPZ	0245	20.0	14	+EPZ	0804	30.6 # -774
4	-EPZ	0909	50.8	14	-EpPZ	0804	49.0 # -774
4	-EPZ	1746	37.5	14	+EPnPnZ	0805	30.5 # -774
5	+EPZ	1337	30.0	14	-EPZ	1015	05.2 # -775
6	+EPZ	2139	27.5	14	+EpPZ	1015	08.8 # -775
7	+EPZ	0008	16.4 # -760	14	+EPZ	1033	48.2 # -776
7	-EPnZ	0008	19.5 # -760	14	+IpPZ	1033	53.0 # -776
7	-IpPZ	0008	24.3 # -760	14	+IsPZ	1033	54.5 # -776
8	-EPZ	1959	41.7 # -761	14	-EPZ	1122	59.2 # -777
8	-EpPZ	1959	43.9 # -761	15	-EPZ	2007	16.9 # -778

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
15	-EPcPZ	2007 19.4	#-778	20	-EPZ	0333 18.0	
16	-IPZ	0405 50.2	#-779	20	-EPZ	0528 55.4	
16	+EPcPZ	1010 54.5	#-780	20	-EPZ	0529 08.0	
16	+EPZ	1011 45.7	#-781	20	-EpPZ	0803 58.6	#-796
16	+EPZ	1119 38.2	#-782	20	+EPZ	0804 47.0	
16	+EPcPZ	1119 49.0	#-782	20	+EPcPZ	0807 05.0	#-796
16	-EPZ	2323 56.0	#-783	20	-EPZ	1301 30.2	
16	+EPcPZ	2324 05.0	#-783	20	+EPZ	1301 37.8	
17	+EXZ	0316 24.8	#-784	20	-EPZ	1628 24.2	#-797
17	+EPZ	0729 05.4		20	+EPZ	2144 23.2	#-798
17	+EPZ	0729 25.4		20	-EPcPZ	2144 30.5	#-798
17	-EPcPZ	0734 18.0	#-785	21	+EPZ	0221 15.5	
17	+EPZ	1011 06.6		21	-EPZ	0525 01.6	#-799
17	+EPZ	1011 10.1		21	-IPcPZ	0525 04.5	#-799
17	-EPZ	1109 57.0		21	+EsPZ	0525 19.5	#-799
17	-EPZ	1613 53.9	#-786	21	-EPZ	0904 20.2	#-800
17	+EPcPZ	1614 01.2	#-786	21	-EPKIPZ	1647 28.8	#-801
18	-EPZ	0914 26.2	#-787	21	+EPcPZ	2321 20.3	#-802
18	+EPcPZ	0914 34.3	#-787	22	+EPZ	0117 37.0	#-803
18	-EPZ	0917 01.8		22	-EPcPZ	0117 45.5	#-803
18	-EScPZ	0923 25.2	#-788	22	-EPZ	2147 24.9	
19	-EPZ	0021 28.0		23	-EPZ	0600 22.5	#-804
19	+EPZ	0021 54.4		23	-EPcPZ	0600 29.9	#-804
19	-EPKpdfZ	0132 25.3	#-789	23	+EPZ	0603 10.4	
19	+EPZ	0407 02.0	#-790	24	-EPZ	0503 37.0	#-805
19	-IPcPZ	0207 07.0	#-790	25	-EPZ	1400 27.3	#-806
19	-lpPZ	0207 10.0	#-790	25	+EPZ	1417 03.6	
19	+EPZ	0708 06.3		25	-EPZ	1454 30.0	#-807
19	+EPZ	0805 37.4	#-791	25	-EPcPZ	1454 35.8	#-807
19	+EPcPZ	0805 38.8	#-791	26	+EpPZ	0619 34.6	#-808
19	+EXZ	0809 19.0	#-791	26	+EPZ	0945 41.0	
19	-EPZ	1231 21.8	#-792	26	-EPZ	1020 50.0	#-809
19	-EPZ	1430 31.0	#-793	26	+EPcPZ	1020 54.0	#-809
19	-EPZ	1607 18.0	#-794	26	-EpPZ	1021 00.0	#-809
19	-EPcPZ	1607 46.0	#-794	26	-EPcPZ	1558 49.0	#-810
19	+EPZ	2056 12.2	#-795	26	-EPZ	2335 14.5	#-811
19	+EpPZ	2056 18.8	#-795	26	+EpPZ	2335 46.6	#-811

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
26	-EsPZ	2335 57.0	#-811	1	+EPZ	0954 22.5	#-830
27	-EPZ	2012 26.0	#-812	1	+EPcPZ	0954 25.3	#-830
28	-EPZ	0400 09.8		1	+EpPZ	0954 32.2	#-830
28	-EPZ	0417 29.8		1	-IPZ	1407 59.8	#-831
28	+EPZ	0603 33.2	#-813	1	-IpPZ	1408 02.8	#-831
28	+EPcPZ	0635 50.8	#-814	1	+EPZ	1446 33.2	
28	+EPZ	0739 06.5		1	-EPZ	1602 53.6	#-832
28	-EPPZ	1342 36.4	#-815	1	-EPZ	1722 57.0	#-833
28	+EPZ	1405 17.8	#-816	1	-IpPZ	1723 00.3	#-833
28	+EpPZ	1407 36.5	#-816	1	+EPZ	2016 04.0	
28	+EPZ	1621 52.0	#-817	2	+EPZ	0015 12.0	
29	-EPZ	0930 10.2		2	-IPZ	0223 52.3	#-834
29	+EPZ	1414 51.3	#-818	2	+IpPZ	0224 00.5	#-834
29	-EPnZ	1706 47.7	#-819	2	+EPZ	1013 38.5	#-835
29	-EPZ	2156 19.5	#-820	2	+IPZ	1107 10.2	#-836
29	+IPcPZ	2156 27.5	#-820	2	+EPZ	1116 25.5	
30	-EPZ	0343 02.2	#-821	2	+EPZ	1132 00.5	
30	-EPcPZ	0343 04.6	#-821	2	+EPZ	1538 06.5	#-837
30	-EPZ	1014 17.5	#-822	2	-EPZ	1538 53.4	#-838
30	+EpPZ	1014 20.0	#-822	2	-EPZ	1823 23.8	
30	+EPZ	1133 40.3		2	+EPZ	1916 55.0	
30	-EPZ	1840 11.0	#-823	2	+EPZ	2244 01.0	
30	+EPZ	2351 05.9		3	+EPZ	0054 09.0	#-839
30	-EPZ	2351 40.9		3	+EPcPZ	0054 15.7	#-839
31	+EPZ	0013 39.6	#-824	3	+EPZ	0106 38.8	#-840
31	-EpPZ	0013 49.4	#-824	3	-EPcPZ	0106 40.3	#-840
31	+EPZ	0222 10.0		3	+EPZ	0223 24.2	#-841
31	+EPZ	0222 19.8		3	+EPZ	0524 23.5	#-842
31	+EPZ	0241 53.0	#-825	3	-EPZ	1756 30.2	
31	+EpPZ	0242 02.5	#-825	3	+EPZ	1936 51.8	#-843
31	+EpPZ	0740 45.0	#-826	3	-EPcPZ	1936 54.9	#-843
31	+EPZ	0914 35.5	#-827	3	+EpPZ	1937 24.5	#-843
31	+EPZ	1037 21.0	#-828	3	+EPZ	2111 23.3	
31	+EPZ	1847 02.0		3	+EPZ	2111 26.8	
Jun. 1	+EPZ	0254 30.0	#-829	4	+EPZ	0305 12.8	
1	+EPZ	0639 47.8		4	-EPZ	1503 43.1	#-844
1	-EPZ	0651 34.5		4	+IPcPZ	1503 44.5	#-844

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
4	-EPZ	1721 50.2		7	+EPZ	0542 55.0	#-863
4	-EPZ	1721 53.4		7	+EPZ	1632 39.5	#-864
4	+EPZ	1751 37.9	#-845	7	+EPcPZ	1632 43.5	#-864
4	+EPZ	1957 20.5	#-846	7	-EPZ	1727 45.0	#-865
4	+EPcPZ	1957 24.5	#-846	8	-IPZ	0250 32.5	#-866
5	-EPZ	0110 48.1	#-847	8	-EPcPZ	0250 50.0	#-866
5	-EPnZ	0113 21.0	#-848	8	+EPZ	0640 15.0	
5	-EPZ	0244 23.2		8	+EPZ	0640 20.5	#-867
5	+EPZ	0506 39.6	#-849	8	+EPcPZ	0640 29.0	#-867
5	+EPZ	0617 48.6		8	+EpPZ	0640 34.2	#-867
5	-IPZ	0756 44.5	#-850	8	+EPZ	1106 55.2	#-868
5	+EpPZ	0756 47.0	#-850	8	+EPcPZ	1302 41.5	#-869
5	+EPcPZ	0757 51.3	#-850	8	+EPZ	1348 37.3	#-870
5	-EPZ	0941 31.5	#-851	8	-EPZ	2136 35.5	#-871
5	+EpPZ	0941 35.4	#-851	9	-IPZ	0034 28.8	#-872
5	+EpPZ	0941 41.0	#-851	9	+EPZ	0358 23.8	#-873
5	-EPnZ	1208 38.5	#-852	9	+EpPZ	0358 47.6	#-873
5	-IPZ	1208 40.3	#-852	9	+EPKpabZ	1421 38.0	#-874
5	-EPZ	1245 32.0	#-853	9	-EPZ	1839 02.5	#-875
5	+EPcPZ	1245 34.2	#-853	9	-EPcPZ	1839 05.0	#-875
5	+EPZ	1423 39.8		9	+EpPZ	1840 04.5	#-875
5	+EPZ	1423 44.8		9	+EPZ	2321 38.8	
5	-EPZ	2014 14.3	#-854	9	+EPZ	2321 42.8	
5	-EsPZ	2014 29.5	#-854	10	-IPZ	0334 20.5	#-876
5	-EPZ	2204 21.5	#-855	10	+EPcPZ	0334 28.8	#-876
5	-EPcPZ	2204 29.8	#-855	10	+EpPZ	0334 32.4	#-876
5	-EPZ	2241 09.4	#-856	10	+EPZ	0410 26.6	
5	-EpPZ	2241 12.1	#-856	10	+EPZ	0410 44.5	
6	-EPdiffZ	1208 23.9	#-857	10	+EPZ	0635 04.3	#-877
6	+EPZ	1402 29.5		10	+EpPZ	0635 33.0	#-877
6	+EPZ	1922 15.0	#-858	10	+EPZ	0407 03.6	
6	+EPcPZ	1922 39.0	#-858	10	+EPZ	0840 06.5	#-878
6	-EPKpdfZ	2256 50.0	#-859	10	+EPcPZ	0840 08.2	#-878
7	-EPZ	0232 36.5		10	+EPZ	1035 40.5	#-879
7	+EPZ	0340 04.0	#-860	10	+EpPZ	1036 02.6	#-879
7	+EPZ	0433 23.0	#-861	10	+EPcPZ	1041 25.0	#-880
7	-EpPZ	0520 49.0	#-862	10	-EPZ	1314 11.4	#-881

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
10	+EpPZ	1314 21.8	#-881	14	-EPZ	0713 57.5	
10	+EPZ	1754 50.0	#-882	14	+EPKiKPZ	0823 06.3	#-905
10	-EPcPZ	1754 57.7	#-882	14	-EPZ	0823 33.6	
10	+EPZ	1838 22.5	#-883	14	-IPZ	0917 51.0	#-906
10	+EPZ	1917 05.0	#-884	14	-EPZ	0917 54.0	#-906
11	-EPZ	2220 36.9	#-885	14	-EpPZ	0918 07.5	#-906
11	-EPcPZ	2220 41.8	#-885	14	-EPZ	0942 29.0	#-907
11	+EPZ	2336 04.5		14	+EPZ	0943 07.6	
12	-EPZ	0436 39.0	#-886	14	-EPZ	1051 49.5	#-908
12	-EPZ	0747 57.6		14	-EPcPZ	1054 46.8	#-908
12	+EPZ	1144 03.6		14	-EPKiKPZ	1208 55.5	#-909
12	+EXZ	1543 16.0	#-887	14	+EPZ	1209 07.5	
12	-IPZ	1932 34.0	#-888	14	-EPZ	1251 14.2	#-910
12	-IsPZ	1933 06.0	#-888	14	+EPcPZ	1251 24.2	#-910
12	ESH	1937 34.0	#-888	14	-EPZ	1641 33.7	#-911
12	+EPKPdfZ	2241 02.5	#-889	14	+EPZ	1659 30.0	#-912
13	+EPcPZ	0023 12.5	#-890	14	-EPZ	1725 24.5	
13	+EPZ	0239 04.3	#-891	14	-EPZ	1725 29.5	
13	-EPZ	0715 34.8	#-892	14	+IPKiKPZ	1730 10.5	#-913
13	+EPcPZ	0715 35.0	#-892	14	+EPKPabZ	1808 15.5	#-914
13	-EsPZ	0933 23.7	#-893	14	-EPZ	2244 24.6	#-915
13	+EPZ	1940 47.6	#-894	14	-EXZ	2244 40.0	#-915
13	+EPcPZ	1940 50.0	#-894	14	+EPKPbcZ	2309 11.0	#-916
13	+EPZ	2012 05.6	#-895	15	+EPZ	0226 47.5	#-917
13	+EPcPZ	2012 09.2	#-895	15	-EPKPdfZ	0310 39.5	#-918
13	+IPZ	2256 17.5	#-896	15	-IpPKPdfZ	0310 43.2	#-918
13	-EPZ	2338 25.0	#-897	15	-IpPZ	0315 56.0	#-919
13	+EPZ	2338 44.0	#-897	15	+EPZ	1027 06.4	#-920
14	+EPZ	0118 59.0	#-898	15	+EXZ	1030 52.0	#-920
14	-IPZ	0134 49.0	#-899	15	+EPZ	1031 15.5	#-920
14	-EXZ	0151 18.0	#-900	15	+IPZ	1319 54.0	#-921
14	-EPZ	0438 31.8	#-901	15	-EPnPnZ	1320 41.0	#-921
14	-EPcPZ	0438 38.5	#-901	15	-EPZ	1511 02.6	
14	+EPZ	0459 29.5	#-902	15	+EPZ	1511 09.8	
14	-EPZ	0627 30.8	#-903	15	+EPZ	1650 36.3	#-922
14	-EPcPZ	0627 38.2	#-903	15	-EpPZ	2002 16.0	#-923
14	+IXZ	0713 28.6	#-904	15	-EsPZ	2002 18.4	#-923

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
15	+EXZ	2333	31.5 # -924	18	-EPZ	2343	07.4 # -941
16	-EpPKPdfZ	1037	52.3 # -925	18	-EPZ	2355	22.0 # -942
16	+EPZ	1038	10.7	18	+EXZ	2355	29.0 # -942
16	-EPZ	1230	13.5 # -926	19	-EPZ	0040	22.6 # -943
16	+EsPZ	1230	26.0 # -926	19	-EPcPZ	0040	27.5 # -943
16	-EPZ	1823	03.0 # -927	19	-EpPZ	0040	49.4 # -943
16	+EPZ	2058	18.8	19	-EPZ	0213	40.0 # -944
17	+EPZ	0222	53.6 # -928	19	+EPcPZ	0213	43.0 # -944
17	+EPcPZ	0222	56.4 # -928	19	-EPZ	0401	06.0 # -945
17	+EPcPZ	0250	03.0 # -929	19	-EsPZ	0401	12.0 # -945
17	-EpPZ	0250	16.4 # -929	19	-EPZ	0425	15.8 # -946
17	+EXZ	0456	53.5 # -930	19	+IPZ	0727	52.2 # -947
17	+EPKPdfZ	0641	25.7 # -931	19	+IPcPZ	0727	54.9 # -947
17	+IpPKPdfZ	0641	32.0 # -931	19	ESH	0737	36.0 # -947
17	+IPZ	0641	51.9	19	-EPZ	1041	46.4 # -948
17	+EPZ	0914	33.3	19	-EpPZ	1041	49.2 # -948
17	+EPZ	1437	54.0	19	+EPZ	1214	31.8
17	-EPZ	2030	20.2 # -932	19	+EPcPZ	1257	10.5 # -949
17	+EPZ	2138	13.0 # -933	19	+IpPZ	1406	52.6 # -950
17	-EPcPZ	2138	19.0 # -933	19	+IsPZ	1406	55.5 # -950
17	+EXZ	2138	32.6 # -933	19	-EPZ	1546	04.6
18	-EPZ	0445	15.8	19	+EPKPdfZ	1634	11.8 # -951
18	+EPZ	0858	40.5 # -934	19	-EpPKPdfZ	1634	27.0 # -951
18	-EpPZ	0858	52.0 # -934	19	-EPZ	1837	40.8
18	+EPZ	1241	38.8	19	+EPZ	1837	48.0
18	+EPKPdfZ	1535	04.0 # -935	19	+EPZ	1934	50.0
18	+EPZ	1702	17.8 # -936	20	-EPZ	0247	38.9
18	+EPcPZ	1702	29.8 # -936	20	+EPZ	0247	49.5
18	-EPZ	1801	08.7 # -937	20	-EPZ	0257	06.7 # -952
18	+EPcPZ	1801	13.2 # -937	20	+EpPZ	0257	10.4 # -952
18	+EpPZ	2006	37.0 # -938	20	-EPZ	0447	05.0 # -953
18	-EPZ	2011	19.5 # -939	20	+EPcPZ	0447	08.0 # -953
18	-EsPZ	2011	41.0 # -939	20	+EPZ	0452	08.2
18	-EPZ	2119	22.8	20	-EPZ	0520	05.4 # -954
18	+EPZ	2119	32.5	20	-EPcPZ	0520	12.0 # -954
18	-EPZ	2332	45.5 # -940	20	-EsPZ	0642	59.0 # -955
18	+EPcPZ	2332	47.5 # -940	20	+EPZ	0642	03.4



Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
20	+EPZ	0714 17.5		23	+EPZ	1632 40.0	
20	-EsPZ	0751 03.8	#-956	23	+EPZ	1737 01.5	
20	-EPZ	1721 25.0		23	+EPZ	1749 24.3	#-968
20	+EPZ	2247 06.0		23	+EPZ	1840 41.0	#-969
21	+EPZ	0523 03.0	#-957	23	+EPZ	1844 27.0	#-970
21	-EpPZ	0523 30.5	#-957	23	+EXZ	2357 22.0	#-971
21	-EPZ	1054 46.0	#-958	23	+EpPZ	2357 26.5	#-971
21	-EPZ	1452 18.7		24	-EPZ	0205 39.3	
21	-EPZ	1608 38.5	#-959	24	+EPZ	1247 13.5	#-972
21	+EPcPZ	1608 41.8	#-959	24	+EPcPZ	1325 07.4	#-973
21	+EPZ	1845 40.0		24	-EsPZ	1325 18.0	#-973
21	+EPZ	1845 43.1		24	-EPZ	1355 19.0	#-974
21	-EPZ	2251 38.5		24	+EPcPZ	1406 35.0	#-975
22	+EPZ	0047 27.6		24	+EPZ	2157 30.0	#-976
22	+EPZ	0242 38.4		24	+ESPZ	2157 45.0	#-976
22	-EPZ	0643 44.0	#-960	25	-EPZ	1735 33.0	
22	+EsPZ	0644 13.5	#-960	25	+EPZ	2215 31.5	#-977
22	-EPZ	1552 32.0		25	-EPcPZ	2215 36.5	#-977
22	+EPZ	1934 14.5		26	+IPZ	0441 33.6	#-978
22	-EPZ	1934 23.5		26	-EPZ	0835 53.7	#-979
22	+EPZ	2019 59.0	#-961	26	+IPcPZ	0835 54.5	#-979
22	-EXZ	2020 16.0	#-961	26	ESH	0846 35.5	#-979
22	+EPZ	2029 23.7		26	-EpPZ	1144 16.6	#-980
23	+EPZ	0543 14.4		27	-EPZ	0105 39.6	#-981
23	+EPZ	0543 19.5		27	-EPKiKPZ	1154 49.0	#-982
23	+EPZ	0744 22.7		27	+EpPZ	1418 15.2	#-983
23	+IPZ	1020 40.3	#-962	27	+EPZ	1817 18.4	
23	-EpPZ	1020 42.8	#-962	28	+EpPZ	0622 46.2	#-984
23	+IsPZ	1020 45.2	#-962	28	+EPZ	1035 32.5	
23	-EPZ	1203 44.2	#-963	28	-IPZ	1558 34.0	
23	-EPcPZ	1203 49.0	#-963	28	+EPZ	1621 38.5	
23	-EpPZ	1203 55.0	#-963	28	-EPZ	1858 39.7	
23	-EpPZ	1226 35.8	#-964	28	+EPZ	1934 21.0	
23	+EPZ	1249 32.2	#-965	28	-EPZ	2154 09.2	#-985
23	-EPcPZ	1256 52.0	#-966	29	+EPZ	0054 14.5	
23	+EPZ	1332 02.0	#-967	29	-EPZ	0434 27.2	#-986
23	+EPZ	1342 25.0		29	+EPZ	1004 44.0	

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks	
	29	-EPZ	1004	53.8		6	+EPKPdfZ	1818	20.0	#-1001
	29	+EPZ	1423	21.0	#-987	6	-EPKiKPZ	1818	26.8	#-1001
	29	-EPZ	1805	40.5		7	-EPKpbcZ	0236	55.9	#-1002
	29	-EPZ	1805	50.0		7	-EPZ	0756	52.5	#-1003
	30	-EXZ	0730	41.0	#-988	7	-EPcPZ	0757	03.2	#-1003
	30	-EpPZ	0730	48.0	#-988	7	-EPZ	1021	56.5	#-1004
	30	-EPcPZ	0731	27.2	#-988	7	+EPKiKPZ	1027	06.2	#-1004
	30	+EPZ	0914	48.5	#-989	7	-EPZ	1027	12.0	#-1005
	30	+EPZ	1359	40.2		7	+EPZ	1213	07.5	
	30	-IPZ	1401	23.8	#-990	7	-EPZ	1523	32.0	#-1006
Jul.	1	-EPZ	1356	31.0		7	+EPZ	1556	42.8	
	1	+EPZ	2110	11.0	#-991	7	+EPZ	1558	08.8	
	1	-EPZ	2110	14.0	#-991	7	+IPZ	1605	46.5	#-1007
	1	+EPZ	2240	52.0		7	-IPcPZ	1605	47.0	#-1007
	2	+EPZ	0235	08.0		7	+EPZ	1624	30.8	
	2	-EPPZ	0236	07.2	#-992	7	-EPZ	2218	21.0	#-1008
	2	+EPZ	0246	09.2		7	-EpPZ	2218	23.8	#-1008
	2	+EPZ	0339	08.5		8	-EPZ	0716	03.0	
	2	-EPZ	1031	29.0		8	-EPZ	0844	28.3	#-1009
	2	+EPZ	1825	21.4	#-993	8	-EPcPZ	0844	29.1	#-1009
	2	+EPcPZ	1825	26.0	#-993	8	+EpPZ	0846	07.0	#-1009
	3	-EPZ	1021	53.3	#-994	8	-EPZ	1054	22.5	
	3	-EPZ	1215	37.0	#-995	8	+EPZ	1054	50.2	#-1010
	3	+EPZ	1648	07.7		8	+EPZ	1105	21.5	#-1011
	3	+EPZ	1947	25.0		8	-EPZ	1838	34.0	
	3	+EPZ	2004	25.6	#-996	8	+EPZ	2043	47.0	
	4	-EPZ	0540	44.5		8	+EPZ	2052	06.4	
	4	+EPZ	0712	26.5	#-997	8	+EPZ	2140	31.7	#-1012
	4	+EpPZ	0714	27.5	#-997	8	+EPcPZ	2140	36.0	#-1012
	4	-EPZ	1037	26.6		9	+EPZ	0600	07.5	
	4	+EPZ	1141	38.9		9	+EPZ	1020	05.5	#-1013
	4	-EPZ	1620	19.6	#-998	9	-EPZ	1132	54.8	#-1014
	4	+EPcPZ	1620	22.0	#-998	9	+EpPZ	1133	1.0	#-1014
	4	+IPZ	2209	22.0	#-999	9	+EPZ	1148	25.0	#-1015
	4	-EPcPZ	2209	40.5	#-999	9	+EPZ	1720	47.8	
	5	-EPZ	0207	00.0		9	+EPZ	1720	57.8	#-1016
	6	-EPZ	0730	38.9	#-1000	9	-EsPZ	1721	27.0	#-1016

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
9	+EPZ	1835	21.8	#-1017	14	+EPZ	1408	43.0	
9	-EPZ	2352	33.2		14	+EPZ	1914	20.0	#-1036
9	-EPZ	2356	02.0		14	+EpPZ	1914	36.5	#-1036
9	+IXZ	2357	49.4	#-1018	14	+EPZ	2030	25.5	#-1037
10	-EPZ	0011	50.0		14	-EPZ	2308	40.0	
10	+EPZ	0457	42.4	#-1019	15	+EPZ	0119	03.2	#-1038
10	-IpPZ	0457	44.8	#-1019	15	-EpPZ	0119	35.5	#-1038
10	+EPZ	0644	12.5		15	-EsPZ	0119	48.0	#-1038
10	-EPZ	0644	16.5		15	-EPZ	0955	22.6	
10	-EPZ	0854	33.0	#-1020	15	-EPZ	1356	57.6	#-1039
10	-EXZ	0900	09.0	#-1020	15	-EpPZ	1357	05.0	#-1039
10	-EPKPdfZ	2259	20.0	#-1021	15	+EpPZ	1808	00.0	#-1040
11	+EpPZ	0120	16.0	#-1022	15	+EPZ	2110	02.0	
11	-EPZ	0342	30.2	#-1023	15	+EPZ	2218	17.0	#-1041
11	-EPcPZ	0342	33.6	#-1023	15	-EPZ	2358	41.0	#-1042
11	+EPZ	0346	03.3	#-1024	15	+EPcPZ	2358	43.4	#-1042
11	-EPZ	1214	09.2	#-1025	16	-EPZ	0355	22.8	#-1043
11	-IPcPZ	1214	12.0	#-1025	16	-EPZ	1600	02.3	#-1044
11	-IpPZ	1214	14.5	#-1025	16	+EPZ	2120	19.5	
11	-EPZ	1448	17.0	#-1026	16	+EPZ	2335	33.3	#-1045
11	-EPcPZ	1448	24.0	#-1026	17	+EPdiffZ	0118	05.6	#-1046
11	+EPZ	1618	37.2	#-1027	17	+EPZ	1035	23.7	#-1047
11	-EPcPZ	1618	44.3	#-1027	17	-EpPZ	1035	32.5	#-1047
11	-EPcPZ	1635	06.9	#-1028	17	+EPZ	1153	23.8	#-1048
11	-EPZ	2318	13.5	#-1029	17	+EPZ	1255	29.2	#-1049
11	+EPcPZ	2318	20.2	#-1029	17	-EpPZ	1255	37.7	#-1049
12	+EPZ	1902	26.6		17	+EPcPZ	1256	04.0	#-1049
12	-EPZ	2338	04.0	#-1030	17	-EPZ	1743	34.5	#-1050
12	+EPcPZ	2338	07.8	#-1030	18	-IPZ	0211	53.8	#-1051
13	-EPZ	0042	11.4	#-1031	18	-IPcPZ	0211	56.6	#-1051
13	-EPcPZ	0042	13.2	#-1031	18	-EPZ	0217	01.5	#-1052
13	-EPZ	0405	30.0	#-1032	18	+EPcPZ	0217	12.5	#-1052
13	+EPZ	0759	32.5	#-1033	18	+EPZ	0218	55.2	#-1053
13	-IPZ	1218	13.8	#-1034	18	-EpPZ	0218	58.5	#-1053
13	-IPcPZ	1218	17.4	#-1034	18	+EpPZ	0522	36.5	#-1054
13	-EpPZ	1218	33.9	#-1034	18	-EpPZ	1802	13.2	#-1055
13	+EPZ	1924	56.9	#-1035	18	-EPZ	1950	08.4	#-1056

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
18	+IPZ	1950 09.5	#-1056	23	+EPPZ	0232 14.2	#-1073
18	+EpPZ	1950 23.8	#-1056	23	-EPZ	0516 11.2	#-1074
18	-EPZ	2157 52.9		23	+EPcPZ	0516 16.0	#-1074
19	+EPZ	1043 55.4	#-1057	23	+EPZ	0741 26.8	#-1075
19	-EPZ	1044 00.0	#-1057	23	+EpPZ	0741 38.2	#-1075
19	+EPcPZ	1233 04.0	#-1058	23	-EPKPdfZ	0753 50.0	#-1076
19	-EPZ	1519 39.9	#-1059	23	+IPZ	0754 51.0	
19	-EPcPZ	1519 47.2	#-1059	23	-IPZ	0903 38.0	#-1077
19	-EPZ	2314 26.6		23	+EPZ	0916 26.5	
19	+EPZ	2340 34.8		23	+EPZ	1146 13.0	#-1078
19	+EPZ	2340 46.2		23	+EPdiffZ	1454 23.8	#-1079
20	-EPZ	0328 17.8	#-1060	23	-EPZ	2305 56.0	#-1080
20	-EPcPZ	0328 20.6	#-1060	24	+EPZ	0627 45.1	#-1081
20	-EPZ	0500 04.0	#-1061	24	+EPZ	0631 51.2	#-1082
20	+EPcPZ	0500 07.2	#-1061	24	-EPZ	1142 16.0	
20	-EPZ	1322 44.0		24	-EPZ	1241 54.8	
20	+EPZ	2030 38.2		24	+IPZ	1554 39.2	#-1083
20	+EPKPdfZ	2213 00.4	#-1062	24	-IpPZ	1554 46.6	#-1083
21	+EPZ	0155 09.2	#-1063	24	-EpPZ	1607 17.5	#-1084
21	+EPcPZ	0155 11.6	#-1063	24	-EPZ	1612 47.0	#-1085
21	-EPZ	0421 00.4	#-1064	25	+EPZ	0229 46.0	#-1086
21	-EPZ	1208 08.0	#-1065	25	-EPZ	0338 48.3	#-1087
21	-IpPZ	1208 09.8	#-1065	25	-EPcPZ	0338 52.5	#-1087
21	-EPZ	1833 12.8		25	+EPZ	0444 18.0	#-1088
21	-EpPZ	1929 01.0	#-1066	25	+EPcPZ	0444 20.5	#-1088
21	+EsPZ	1929 04.6	#-1066	25	+EPZ	0634 09.5	#-1089
22	-EPZ	0013 00.3	#-1067	25	-EPZ	1005 55.2	#-1090
22	+EPcPZ	0013 04.5	#-1067	25	+EPcPZ	1006 02.0	#-1090
22	+EPZ	0025 45.0	#-1068	25	+EpPZ	1256 22.2	#-1091
22	-EPZ	0705 28.5		25	-EPcPZ	1614 16.2	#-1092
22	+EPZ	1002 17.7	#-1069	25	-IPZ	1951 30.0	#-1093
22	+EPcPZ	1002 24.0	#-1069	26	-EPZ	0004 21.6	#-1094
22	-IPZ	1222 50.5	#-1070	26	-EpPZ	0004 33.0	#-1094
23	+EPZ	0057 22.7	#-1071	26	+EPcPZ	0151 11.3	#-1095
23	+EPcPZ	0057 26.8	#-1071	26	+EPKPdfZ	0428 22.8	#-1096
23	-IPZ	0117 01.2	#-1072	26	+EpPKPdfZ	0428 27.0	#-1096
23	+EpPZ	0231 06.4	#-1073	26	+EPKiKPZ	0428 34.0	#-1096

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
26	+EPKPdfZ	0533 37.5	#-1097	29	+IPZ	2045 47.7	#-1115
26	+EPZ	0644 44.2	#-1098	29	+EPcPZ	2045 53.2	#-1115
26	-EpPZ	0644 53.2	#-1098	30	-IPZ	0010 51.0	#-1116
26	+EPZ	0807 23.8	#-1099	30	+EPZ	0039 11.0	#-1117
26	+EPcPZ	0807 29.3	#-1099	30	+EpPZ	0039 12.6	#-1117
26	-EpPZ	1025 02.0	#-1100	30	+EPZ	0048 37.0	#-1118
26	-EPKiKPZ	1235 02.8	#-1101	30	-EPcPZ	0048 42.6	#-1118
26	-EPKPdfZ	1236 54.0	#-1102	30	+EPZ	0052 16.5	#-1119
26	-EPKPbcZ	1236 57.6	#-1102	30	+EPcPZ	0052 24.1	#-1119
26	+IPZ	1423 50.4	#-1103	30	+EsPZ	0052 30.0	#-1119
26	-EPcPZ	1423 54.1	#-1103	30	+EPZ	0935 13.8	#-1120
26	+EPZ	1824 35.0		30	+EpPZ	0935 25.5	#-1120
26	+EPZ	2111 54.2		30	+EPZ	0943 33.0	
27	+EPZ	0249 19.8		30	-EpPZ	1111 36.5	#-1121
27	+EPKPdfZ	0258 17.0	#-1104	30	-IPZ	1111 49.0	
27	+EpKPdfZ	0258 28.0	#-1104	30	-EPZ	1112 03.5	
27	-EPZ	0705 25.8		30	-IPcPZ	1113 32.5	#-1121
27	+EPZ	1123 15.2	#-1105	30	+EPZ	1245 03.2	
28	+EPZ	0041 29.0		30	-EPZ	1525 40.7	#-1122
28	-EPcPZ	0051 15.5	#-1106	30	+IPZ	1525 52.3	#-1122
28	+IPZ	0843 07.2	#-1107	31	+EPZ	0035 39.8	
28	-EPcPZ	0843 09.2	#-1107	31	+IPZ	0136 30.0	#-1123
28	+EPZ	1344 01.8	#-1108	31	+EPcPZ	0136 36.1	#-1123
28	+EPZ	2000 13.5	#-1109	31	+EPPZ	0139 39.8	#-1123
29	-EXZ	0151 45.0	#-1110	31	-EPZ	0529 10.0	#-1124
29	+EpPZ	0152 22.0	#-1110	31	+EPcPZ	0529 12.0	#-1124
29	-EPZ	0520 18.5		31	-EPcPZ	0816 46.4	#-1125
29	-EPKPdfZ	0520 21.4	#-1111	31	+EPZ	1120 23.8	
29	+IPZ	0520 57.2		31	+EPZ	1120 35.5	
29	+EPPZ	0524 40.2	#-1111	31	+EPZ	1230 25.5	#-1126
29	-EPZ	0835 04.5		31	+IPcPZ	1230 33.5	#-1126
29	+EPZ	1239 35.4	#-1112	31	+EPcPZ	1249 30.0	#-1126
29	+EPZ	1306 27.0		31	+EpPZ	1249 32.8	#-1126
29	+EPKPdfZ	1310 02.8	#-1113	31	+EPPZ	1252 25.2	#-1127
29	-EXZ	1310 11.8	#-1113	31	+EPZ	1422 06.0	#-1128
29	-EPZ	1705 38.5	#-1114	31	+EPZ	1422 15.6	#-1128
29	-EsPZ	1705 53.2	#-1114	31	-EPZ	1719 16.8	

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks	
	31	-IPZ	2219	30.6	#-1129	4	+EPZ	2209	35.8	#-1145
	31	+EPcPZ	2219	33.8	#-1129	4	+EPcPZ	2209	38.0	#-1145
Aug.	1	+EPZ	0121	45.0		4	+EPZ	2240	11.6	#-1146
	1	-EPZ	0201	21.2		4	+EPcPZ	2240	13.7	#-1146
	1	-EPZ	0545	49.6	#-1130	4	+EPZ	2312	23.7	#-1147
	1	-EPcPZ	0545	50.5	#-1130	4	-EPcPZ	2312	34.5	#-1147
	1	+EPZ	0926	31.4		4	-EPZ	2344	07.5	
	1	-EPZ	0935	44.5		5	-EPZ	0054	06.8	#-1148
	1	+EPZ	1636	03.8	#-1131	5	+EPZ	0116	40.8	
	2	+EPZ	0404	26.5	#-1132	5	+EpPKPbcZ	0117	03.7	#-1149
	2	-IPZ	0852	30.0	#-1133	5	-EPZ	0118	03.4	
	2	+IPZ	1145	00.5	#-1134	5	+EPZ	0516	20.0	
	2	+EPcPZ	2109	05.0	#-1135	5	+EPZ	0744	07.4	
	3	+EPZ	0500	05.0		5	-EPZ	0814	10.5	#-1150
	3	-EPZ	0500	11.7		5	-EPZ	1814	09.0	
	3	-EPZ	1054	19.1	#-1136	6	-IPZ	0009	44.8	#-1151
	3	-EPcPZ	1054	19.7	#-1136	6	+EpPZ	0010	12.8	#-1151
	3	-EPZ	1111	33.0		6	+EPZ	0127	06.2	
	3	-EPPZ	1122	34.5	#-1137	6	+EXZ	0422	37.0	#-1152
	3	-EPZ	1122	45.8		6	+EPZ	0422	40.5	
	3	+EPZ	1930	31.5	#-1138	6	-EPZ	0422	51.5	
	3	-EPcPZ	1930	35.0	#-1138	6	-EPZ	0602	34.0	#-1153
	3	-EPZ	2001	31.0	#-1139	6	+IPZ	0748	23.9	#-1154
	3	+EPcPZ	2001	38.5	#-1139	6	+IPcPZ	0748	28.6	#-1154
	3	+EPZ	2051	10.7		6	-EpPZ	0748	56.2	#-1154
	3	-EPZ	2234	36.6	#-1140	6	ESH	0758	19.3	#-1154
	3	+EpPZ	2234	53.2	#-1140	6	+IPZ	1008	39.0	#-1155
	3	-EPZ	2356	17.5	#-1141	6	+IPcPZ	1008	40.0	#-1155
	3	-EPcPZ	2356	19.4	#-1141	6	+EPZ	1205	13.1	
	4	-EPZ	0939	48.8	#-1142	6	-EPZ	1205	22.0	
	4	+IPcPZ	0939	49.8	#-1142	6	+EPdiffZ	1254	18.8	#-1156
	4	+IPZ	1039	34.5	#-1143	6	+EpPdiffZ	1254	24.0	#-1156
	4	+IpPZ	1039	37.5	#-1143	6	-EPZ	1442	41.0	
	4	+EPZ	1149	44.7		6	-EPcPZ	1442	48.5	#-1157
	4	-EPZ	1217	07.3		6	+EpPZ	1548	38.8	#-1158
	4	+EPZ	1305	37.8	#-1144	7	-IPZ	0222	41.3	#-1159
	4	-EpPZ	1305	41.5	#-1144	7	-IPZ	0222	43.1	#-1159

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks	
7	-EPZ	0502	57.4	#-1160	10	-EpPKiKPZ	1529 24.1	#-1174
7	+EPcPZ	0503	04.5	#-1160	10	+EPZ	2131 10.2	#-1175
7	ESH	0512	24.0	#-1160	10	+EPcPZ	2131 11.8	#-117
7	+EPZ	1133	35.5	#-1161	11	-IPZ	0126 48.4	#-1176
7	+EsPZ	1133	48.0	#-1161	11	-EpPZ	0126 59.0	#-1176
7	+EPZ	1148	35.5	#-1162	11	+EPcPZ	0133 51.5	#-1177
7	+EPcPZ	1148	38.5	#-1162	11	+EPZ	0715 14.0	#-1178
7	-EPZ	1407	36.8	#-1163	11	+EsPZ	0715 18.5	#-1178
7	+EPZ	1454	10.5	#-1164	11	-EPZ	0753 05.5	#-1179
7	-EPcPZ	1454	12.0	#-1164	11	+EPPZ	0755 55.0	#-1179
7	-EPKpPfZ	1525	43.6	#-1165	11	-EPZ	0832 39.6	
7	+EPZ	1839	27.2		11	+EPcPZ	0859 08.0	#-1180
7	+EPZ	2133	00.6		11	+EPZ	0921 05.5	#-1181
8	+EPZ	0236	05.0		11	+EsPZ	0921 10.8	#-1181
8	+EPZ	0846	57.5	#-1166	11	+EPZ	1146 09.0	#-1182
8	-EsPZ	0847	03.0	#-1166	11	+EpPZ	1146 12.3	#-1182
8	+EPZ	0947	22.0		11	+EPZ	1203 11.5	#-1183
8	+EPZ	1408	29.5	#-1167	11	+EpPZ	1203 17.0	#-1183
8	-EPcPZ	1408	35.2	#-1167	11	+EPZ	1607 37.7	#-1184
8	+EPZ	1515	21.0		11	+EPcPZ	1607 40.5	#-1184
9	-EpPZ	0511	29.4	#-1168	11	+EpPZ	2257 21.4	#-1185
9	-EPZ	0538	44.3	#-1169	12	-EPZ	0102 53.9	#-1186
9	-EPZ	1010	26.8		12	-EPcPZ	0102 56.6	#-1186
9	-EPZ	1135	35.4	#-1170	12	+EPZ	0217 08.0	
9	-EPcPZ	1135	39.2	#-1170	12	+EPZ	0909 55.0	#-1187
9	+IPZ	1135	43.0	#-1170	12	-EPZ	0910 03.8	
9	-EPZ	1424	47.0	#-1171	12	-EPZ	1932 43.0	#-1188
9	-EPcPZ	1424	51.0	#-1171	12	-EPZ	1934 09.3	
10	-EPZ	0213	16.3	#-1172	13	-EPZ	0321 43.5	#-1189
10	-IPZ	1007	10.4		13	-EPcPZ	0321 52.0	#-1189
10	+EPZ	1007	18.0		13	+EpPZ	0322 28.2	#-1189
10	-EPZ	1105	20.2		13	+EPZ	0447 39.5	
10	-EPZ	1105	23.9		13	+EPZ	0535 39.6	#-1190
10	-EPZ	1307	07.6		13	+EPZ	0551 48.6	#-1191
10	-EPKpbcZ	1307	10.0	#-1173	13	+EpPZ	0552 03.4	#-1191
10	-IPKiKPZ	1307	18.8	#-1173	13	+EPZ	0919 53.5	#-1192
10	+EPKiKPZ	1529	21.1	#-1174	13	-EPZ	1252 57.0	

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks	
13	+EPZ	1703	41.0	#-1193	17	+EPZ	0710 31.5	#-1208
13	-EPZ	1834	19.5	#-1194	17	-EpPZ	0710 44.5	#-1208
13	+EpPZ	1834	43.2	#-1194	17	-IPZ	0852 15.6	#-1209
13	+EPZ	1839	29.6	#-1195	17	+IpPZ	0952 21.6	#-1209
13	-EPZ	1839	36.8	#-1195	17	-IPcPZ	0952 29.5	#-1209
13	+EPKpFZ	2343	07.8	#-1196	17	+EPZ	1048 16.9	
13	-EPKiKPZ	2343	13.0	#-1196	17	+EPZ	1048 21.0	#-1210
13	+EpPKiKPZ	2343	17.5	#-1196	17	+EPZ	1221 54.0	
14	+IPZ	0251	25.2	#-1197	17	-EPZ	1603 41.5	#-1211
14	-IPcPZ	0251	34.6	#-1197	17	+EPZ	1603 59.4	#-1211
14	+IpPZ	0251	56.8	#-1197	17	+EpPZ	1604 04.4	#-1211
14	ESH	0301	10.0	#-1197	18	-EPZ	0218 03.7	
14	+EPZ	1122	22.3		18	+EPZ	0637 26.0	
14	-EPZ	1218	40.7	#-1198	18	-EPZ	1349 08.3	
14	+EpPZ	1218	42.0	#-1198	18	-EPZ	2040 34.0	
14	-EPZ	1242	35.4		19	+EPZ	0130 04.5	#-1212
14	+EPZ	2149	40.3		19	-EPZ	0338 57.0	
15	-EPZ	0328	54.0	#-1199	19	+EPZ	0339 03.0	
15	-EPcPZ	0328	55.6	#-1199	19	-EPZ	0905 54.1	#-1213
15	-EPZ	0435	16.7	#-1199	19	+EPZ	1051 04.6	
15	-EXZ	1935	05.8	#-1200	19	-EPZ	1311 30.5	#-1214
15	-EPZ	2321	18.6	#-1201	19	-EpPZ	1311 34.6	#-1214
15	-EPcPZ	2321	22.5	#-1201	19	+EPZ	1601 20.1	#-1215
15	-EPZ	2336	22.5		19	+EpPZ	1601 37.8	#-1215
16	-EPZ	0305	23.8		19	+EPZ	1844 21.0	
16	+EPKpFZ	0305	32.8	#-1202	19	+EPZ	1845 05.6	
16	+EpPKiKPZ	0305	47.3	#-1202	19	-EPZ	1907 03.0	
16	+EPZ	0447	55.8	#-1203	19	+EPZ	2343 12.8	#-1216
16	-EPZ	0448	29.6		19	-EsPZ	2343 38.2	#-1216
16	+EPZ	0955	04.3	#-1204	20	+EPZ	0157 58.0	#-1217
16	+EPZ	1052	21.8	#-1205	20	+IPcPZ	0158 21.5	#-1217
16	+EPcPZ	1052	23.2	#-1205	20	-EsPZ	0158 31.0	
16	+EPZ	1254	34.8		20	+EPZ	0251 22.4	
16	+EPZ	1254	38.0		21	+EPZ	0718 05.0	#-1218
17	-EPZ	0011	01.5		21	-EpPZ	0718 17.0	#-1218
17	-EPZ	0028	46.8	#-1206	21	-EPZ	1813 05.3	#-1219
17	+EPZ	0627	30.0	#-1207	21	+EpPZ	1813 30.4	#-1219



Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
21	ESH	1818 06.0	#-1219	26	+EPZ	0254 17.5	#-1234
22	+EPZ	0224 49.8	#-1220	26	+EPZ	0411 54.8	#-1235
22	+EPcPZ	0225 11.3	#-1220	26	+EPcPZ	0412 05.2	#-1235
22	-EPZ	1518 14.3	#-1221	26	-EpPZ	0412 35.0	#-1235
22	+EPZ	1701 31.0	#-1222	26	+EPZ	0504 20.5	
22	+EpPZ	1701 35.0	#-1222	26	+EPZ	0543 37.1	#-1236
22	-EPZ	2245 49.3		26	+EPZ	0613 39.8	
23	+EPZ	0244 39.8		26	+EPZ	0805 02.6	
23	+EPZ	0645 42.5	#-1223	26	+EPZ	0832 30.0	
23	+EPZ	0758 06.0		26	-EXZ	1030 38.3	#-1237
23	+EPZ	0854 19.0		26	+EPZ	1829 02.6	#-1238
23	-EPZ	1924 49.5	#-1224	26	+IpPZ	1829 06.7	#-1238
23	+EpPZ	1924 51.8	#-1224	26	+IsPZ	1829 10.4	#-1238
23	-EPZ	2018 20.4		26	-EPZ	2147 42.3	#-1239
24	+EPZ	0143 12.7		26	+EPcPZ	2150 42.0	#-1239
24	-EPZ	0143 18.2		27	-EPZ	0327 43.0	#-1240
24	-EPZ	0200 28.2		27	-EPcPZ	0327 44.3	#-1240
24	-EPZ	0508 35.8	#-1225	27	-EPZ	0058 23.5	#-1240
24	+EPcPZ	0508 39.5	#-1225	27	-EpPZ	0340 51.5	#-1241
24	+EpPZ	0510 03.2	#-1225	27	+EPcPZ	0340 53.5	#-1241
24	+EPZ	1034 22.0		27	-EPZ	0455 44.8	#-1242
24	+EPKpdfZ	1034 34.6	#-1226	27	+EPZ	0519 25.4	
24	+EPZ	1035 19.4		27	-IPZ	1110 58.3	#-1243
24	-EPPZ	1036 14.5	#-1227	27	+EpPZ	1111 42.4	#-1243
25	+EPZ	0051 20.5		27	ESH	1121 53.0	
25	+EPZ	0101 12.0	#-1228	27	+EPZ	1747 48.0	#-1244
25	+EPZ	0107 12.6	#-1229	27	-EsPZ	1747 55.1	#-1244
25	-EPcPZ	0107 14.0	#-1229	27	+EPZ	1831 33.0	#-1245
25	-EPZ	0934 09.2		27	+EPdiffZ	1852 37.8	#-1246
25	+EPZ	1040 22.6		28	-EPZ	0350 04.5	#-1247
25	-EPdiffZ	1613 37.3	#-1230	28	+EpPZ	0350 31.8	#-1247
25	+EPZ	1832 34.0	#-1231	28	-EPZ	0358 02.4	
25	-IPZ	2320 47.6	#-1232	28	+EPZ	0456 01.9	#-1248
25	-IPcPZ	2320 50.0	#-1232	28	+EPZ	0613 39.8	#-1249
25	-EpPZ	2322 42.6	#-1232	28	+EPZ	1421 38.5	#-1250
25	ESH	2330 21.0		28	+EPcPZ	1421 40.5	#-1250
26	+EPcPZ	0049 23.4	#-1233	28	+EPZ	1540 05.6	

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks	
	28	+EPZ	1655	10.5		1	+EPZ	1106	17.0	
	29	+EPZ	1457	32.2	#-1251	1	-IPZ	1133	36.0	#-1262
	29	-EpPZ	1457	44.0	#-1251	1	+EPZ	1135	41.2	
	29	+EPZ	1724	40.8	#-1252	1	+EPZ	1135	25.2	#-1263
	29	-EPcPZ	1724	42.0	#-1252	1	-EPZ	1141	36.0	#-1264
	29	-EPZ	1725	02.7	#-1252	1	+EPcPZ	1141	40.8	#-1264
	29	-EPZ	1752	24.5	#-1253	1	+EPZ	1143	06.5	
	29	+EPcPZ	1752	29.0	#-1253	1	+EPZ	1404	01.5	
	29	+EPZ	2006	54.0	#-1254	1	+EPZ	1443	35.5	
	29	+EpPZ	2007	09.0	#-1254	1	+EPcPZ	1655	05.0	#-1265
	30	-EPZ	1429	20.5		1	+EPZ	2234	39.5	
	30	+EPZ	1745	26.8	#-1255	2	-EPZ	0531	12.5	#-1266
	30	-IPZ	1745	32.0		2	+EPZ	0734	37.0	#-1267
	30	+EPZ	1807	06.0		2	+EpPZ	0734	45.1	#-1267
	30	+EPZ	1826	24.4		2	+IPZ	0816	06.5	#-1268
	30	-EPZ	1829	48.2		2	+EPZ	0952	39.8	
	30	-EPKpdfZ	1829	53.2	#-1256	2	+EPZ	1318	24.4	
	30	ESH	1833	15.0		2	+EPZ	1548	15.0	#-1269
	30	-EPZ	2111	03.5	#-1257	2	-EPdiffZ	1849	11.0	#-1270
	30	+EPcPZ	2111	13.0	#-1257	3	+EPZ	0243	45.4	
	30	-EPZ	2012	44.4		3	+EPZ	0613	25.2	#-1271
	30	+EPZ	2012	49.2		3	+EpPZ	0613	46.5	#-1271
	30	-EPZ	2013	01.3		3	+EPZ	1001	25.0	
	30	-EPZ	2140	08.0	#-1258	3	+EPZ	1244	28.0	#-1272
	31	-EPZ	0130	47.0	#-1259	3	-EpPZ	1244	30.8	#-1272
	31	+EpPZ	0130	56.1	#-1259	3	+EPZ	1311	39.6	#-1273
	31	+EPZ	0317	07.2		3	+EPcPZ	1311	50.3	#-1273
	31	-EPZ	0432	48.4		3	-EPZ	1707	49.0	#-1274
	31	+EpPZ	0828	15.0	#-1260	3	-EPZ	2031	33.0	#-1275
	31	+EPZ	1633	06.2		3	-EPZ	2128	57.5	
	31	+EPZ	1648	29.1		4	-EPZ	0524	50.6	
	31	+EPZ	1819	56.7		4	-EPZ	0536	32.0	#-1276
Sep.	1	-EPZ	0112	10.2		4	-EXZ	0536	49.4	#-1276
	1	-EPZ	0751	50.5		4	-EPZ	0759	04.2	
	1	+EPZ	0804	49.5		4	-EPZ	1226	34.0	#-1277
	1	+EPcPZ	1009	20.8	#-1261	4	-EpPZ	1226	41.8	#-1277
	1	+EsPZ	1009	43.8	#-1261	4	+EPZ	1351	43.5	#-1278

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
4	-EPZ	2234	48.5	9	+EpPZ	0909	26.5 # -1296
5	+EPZ	0010	46.0 # -1279	9	+EPZ	0944	50.8 # -1297
5	+EpPZ	0012	32.8 # -1279	9	+IPZ	1136	46.1 # -1298
5	-ESKSacZ	0020	33.0 # -1279	9	-IsPZ	1137	26.6 # -1298
5	ESH	0021	02.0 # -1279	9	+EPZ	1608	27.8 # -1299
5	+EPZ	0212	16.4 # -1280	9	-EPZ	1730	23.0
5	+EpPZ	0212	25.0 # -1280	9	-EPZ	1734	14.2
5	+EPZ	0729	00.8	9	-EPZ	1734	15.5
5	+EPZ	0746	58.0	9	-EPZ	1808	39.8 # -1300
5	-EPZ	2003	23.2 # -1281	9	-IPZ	2001	30.5 # -1301
5	-EPcPZ	2003	28.8 # -1281	9	+IXZ	2001	55.9 # -1301
5	+EPZ	2352	24.0	9	-EScPZ	2007	48.8 # -1301
6	+EPZ	0108	34.0 # -1282	10	-IPZ	0137	35.0 # -1302
6	+EpPZ	0108	47.6 # -1282	10	-EPcPZ	0137	37.0 # -1302
6	-EPPZ	0135	04.5 # -1283	10	-EpPZ	0138	02.3 # -1302
6	+EPZ	0438	08.4 # -1284	10	+EPZ	0301	34.0 # -1303
6	-EPZ	0605	58.3 # -1285	10	-EpPZ	0301	43.5 # -1303
6	-EPZ	1112	49.5	10	+EPZ	0517	59.5 # -1304
6	-EPZ	2126	03.6 # -1286	10	+EPZ	0728	29.4 # -1305
7	+EPZ	0055	21.3 # -1287	10	-EpPZ	0730	23.4 # -1305
7	+EpPZ	0055	24.8 # -1287	10	+EPZ	0851	13.0
7	+EPZ	1933	16.5 # -1288	10	+EPZ	1048	33.6 # -1306
8	+EPZ	0415	49.0 # -1289	10	-EpPZ	1710	23.0 # -1307
8	-EPZ	0423	01.5 # -1290	10	-EsPZ	1710	29.1 # -1307
8	-EpPZ	0739	09.5 # -1291	10	+EPZ	2331	44.3
9	-EPZ	0126	38.2 # -1292	10	+EPZ	2331	46.8
9	-EpPZ	0126	46.4 # -1292	11	+EPZ	0014	04.4
9	-EPZ	0133	10.0	11	+EPZ	1300	32.8 # -1308
9	+EXZ	0143	26.4 # -1293	11	+EsPZ	1301	05.8 # -1308
9	+EPZ	0155	06.5	11	-EPZ	1841	56.6 # -1309
9	-EPZ	0556	57.9	11	-EpPZ	1842	06.6 # -1309
9	-EPZ	0739	47.8	12	+EPZ	1036	07.6 # -1310
9	-IPZ	0739	50.1 # -1294	12	+EpPZ	1036	19.8 # -1310
9	ESH	0751	28.2 # -1294	12	-EPZ	1245	41.5 # -1311
9	+EPZ	0902	45.0 # -1295	12	+EPcPZ	1245	46.0 # -1311
9	+EPcPZ	0902	47.0 # -1295	12	-EpPZ	1245	57.7 # -1311
9	-EPZ	0908	54.5 # -1296	12	+EPZ	1410	20.0 # -1312

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
12	-EpPZ	1410 33.2	#-1312	18	+EPZ	1808 14.4	
12	-IPZ	2127 17.0	#-1313	19	+EPZ	1332 42.5	#-1332
13	+EPZ	0900 29.0	#-1314	20	-EPZ	0140 51.5	#-1333
13	+EPZ	1445 29.0	#-1315	20	-EPcPZ	0140 56.5	#-1333
13	-EPcPZ	1445 33.8	#-1315	20	+EPZ	1512 17.2	#-1334
13	+EpPZ	1445 40.0	#-1315	20	-EPcPZ	1512 20.2	#-1334
14	-EPZ	0523 50.8	#-1316	20	+EPZ	1622 19.0	#-1335
14	+EPZ	0924 04.6		20	+EPcPZ	1622 30.6	#-1335
14	+EPcPZ	1113 11.7	#-1317	20	+EPZ	1831 43.6	
14	-EPZ	2356 19.0		20	+EPZ	1831 51.2	
14	+EPZ	2356 21.4		20	-EPZ	2135 33.5	
15	-EPcPZ	2345 28.3	#-1318	20	+EPcPZ	2136 03.0	#-1336
15	+EpPZ	2345 41.5	#-1318	21	-EPKpdfZ	0244 13.5	#-1337
16	-EPZ	0044 53.9	#-1319	21	+EPKiKPZ	0244 17.8	#-1337
16	+IPcPZ	0044 55.5	#-1319	21	+EPZ	0438 06.4	#-1338
16	+EPZ	0159 28.0		21	-EpPZ	0438 08.5	#-1338
16	-EPZ	0352 15.6	#-1320	21	-EsPZ	0438 11.5	#-1338
16	-EPZ	1540 34.5	#-1321	22	-IPZ	0020 25.2	#-1339
16	-EPcPZ	1540 35.8	#-1321	22	-IPcPZ	0020 27.5	#-1339
16	-EPcPZ	1731 46.3	#-1322	22	+EPZ	1625 34.5	#-1340
16	-EpPZ	1731 47.8	#-1322	22	-EpPZ	1625 37.7	#-1340
16	+EPZ	2051 30.0	#-1323	22	-EsPZ	1625 40.1	#-1340
17	-EPZ	0211 15.6		22	-EPZ	1923 05.8	#-1341
17	-EPZ	1440 15.3	#-1324	22	+EPZ	2354 52.5	
17	+EpPZ	1440 20.0	#-1324	23	-EPZ	1600 24.5	#-1342
17	-EPZ	1644 56.3	#-1325	23	-EPcPZ	2038 57.5	#-1343
17	+EXZ	1645 07.3	#-1326	23	+EPZ	2346 12.7	
17	+EXZ	2059 14.2		24	+EPZ	0056 06.0	
17	-EPKiKPZ	2059 15.5	#-1327	24	+EPZ	0337 45.8	#-1344
18	+EPZ	0134 32.8		24	+EPZ	0815 23.0	
18	-EPZ	0134 39.5		24	-EPZ	1846 25.0	
18	-EPZ	0138 24.0		24	-EPZ	1846 26.3	
18	+EPZ	0245 37.5	#-1328	24	-EpPZ	1936 23.0	#-1345
18	+EPZ	0400 12.0	#-1329	24	-EsPZ	1936 25.5	#-1345
18	+EPcPZ	0400 17.0	#-1329	25	-EPZ	0021 33.5	#-1346
18	-IPZ	0739 39.2	#-1330	25	-EPcPZ	0021 35.0	#-1346
18	-EpPZ	0823 33.0	#-1331	25	+EPZ	0313 04.0	#-1347

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
25	+EsPZ	0313 24.2	#-1347	29	+IsPZ	1603 44.5	#-1359
25	-EPZ	1308 23.4	#-1348	29	ESH	1614 45.0	#-1359
25	+IPcPZ	1308 25.2	#-1348	29	-EPZ	1646 46.6	#-1360
25	+EPZ	1412 07.4	#-1349	29	-EPZ	1650 19.2	
25	+EPcPZ	1549 19.0	#-1350	29	+EPZ	1824 45.7	#-1361
25	+EPPZ	1552 12.5	#-1350	29	+EPcPZ	1824 49.8	#-1361
25	+EPZ	1634 46.0	#-1351	29	-EpPZ	1825 01.0	#-1361
25	+EpPZ	1853 20.5	#-1352	29	+EPZ	1836 32.0	#-1362
25	-IPZ	2041 17.4	#-1353	29	-IpPZ	1836 41.5	#-1362
25	-IPcPZ	2041 19.2	#-1353	29	+EPZ	1853 19.3	#-1363
25	-IpPZ	2041 25.5	#-1353	29	+EPZ	1904 22.5	#-1364
25	+EXZ	2137 12.5	#-1354	29	+EXZ	1904 28.5	#-1364
25	+EPZ	2137 24.6		29	+EPZ	1925 48.5	#-1365
25	-EPZ	2311 31.6	#-1355	29	+EPZ	2014 04.0	#-1366
25	+IXZ	2311 32.4	#-1355	29	-EpPZ	2014 07.8	#-1366
25	+EPZ	2348 10.0		29	+EPZ	2151 08.9	
26	+EPZ	0147 06.5		29	+EPZ	2151 11.4	
26	+IPZ	0147 08.4		29	-EPZ	2304 51.0	#-1367
26	-IPZ	0147 17.5		29	-EPcPZ	2304 57.0	#-1367
26	+EPZ	0208 36.2		29	-EpPZ	2305 04.6	#-1367
26	+EPZ	0208 39.0		30	+IPZ	0452 00.1	#-1368
26	ESH	0219 38.5		30	+EPZ	0938 23.0	
26	-EPZ	2027 25.0		30	+EPZ	1024 16.6	
26	-EPZ	2122 09.3		30	-EPZ	1043 19.5	
27	+EPZ	0231 24.5		30	-EPZ	1043 47.5	
27	+EPZ	0715 16.0		30	-EPZ	1137 04.2	#-1369
27	-EPZ	0904 27.5		30	-EPZ	1307 20.0	#-1370
27	+IPZ	1319 53.0	#-1356	30	-EPcPZ	1307 24.5	#-1370
27	-EPZ	1416 05.0		30	+EPZ	1704 47.7	#-1371
28	+EPZ	1424 06.5	#-1357	30	+EPcPZ	1704 47.7	#-1371
28	-EpPZ	1424 09.8	#-1357	30	+EPZ	2116 48.0	
28	+EPZ	1750 13.6		30	-IPZ	2328 26.8	#-1372
29	-EPZ	0211 37.6		30	-IPcPZ	2328 28.3	#-1372
29	-EXZ	0937 09.5	#-1358	30	+EPZ	2342 51.5	#-1373
29	-EPZ	0937 25.3		30	+EPcPZ	2342 55.0	#-1373
29	-IPZ	1603 32.4	#-1359	30	+EpPZ	2348 19.9	#-1374
29	-IPcPZ	1603 34.2	#-1359	30	+EsPZ	2348 23.8	#-1374

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
Oct. 1	-EPZ	0904 10.0	#-1375	5	-IPZ	1020 06.5	#-1390
1	-EpPZ	0904 22.0	#-1375	5	-IPcPZ	1020 08.6	#-1390
1	+EPZ	0913 48.2		5	+IpPZ	1020 19.5	#-1390
1	-EPZ	2232 05.8	#-1376	5	+EPZ	1110 11.8	
1	+EPcPZ	2232 10.0	#-1376	5	+EPZ	1224 29.8	#-1391
1	+IPZ	2213 18.6		5	+EpPZ	1224 51.0	#-1391
1	-IPZ	2213 23.2		5	-IPZ	1231 38.5	#-1392
2	-EPZ	0234 23.2	#-1377	5	-EpPZ	1231 40.8	#-1392
2	-EPcPZ	0234 24.8	#-1377	5	-EPZ	2057 11.8	#-1393
2	-EPZ	0328 01.2	#-1378	5	-EPcPZ	2057 13.5	#-1393
2	-EpPZ	0328 03.2	#-1378	5	-IPZ	2319 30.2	
2	-EPZ	0357 04.3		5	-IPZ	2319 31.5	
2	+EPZ	0357 07.9		6	+EPZ	0254 25.0	#-1394
2	+EPcPZ	0816 37.8	#-1379	6	+EPZ	0305 35.0	#-1395
2	+EPZ	1407 44.4		6	-EPZ	0315 26.3	
2	+EPZ	1409 15.0		6	+EPZ	0315 31.0	
2	-EPZ	1948 19.0		6	+EPZ	1718 53.0	#-1396
2	-EPZ	2355 14.5	#-1380	6	+EPZ	2318 04.0	#-1397
2	-EpPZ	2355 15.8	#-1380	6	-EpPZ	2318 08.5	#-1397
3	+EPZ	0012 51.0	#-1381	7	+EPZ	0021 03.8	#-1398
3	-EPcPZ	0012 54.0	#-1381	7	+EpPZ	0021 11.5	#-1398
3	-EpPZ	0013 00.5	#-1381	7	-EXZ	0226 24.0	#-1399
3	-EPZ	0435 30.0	#-1382	7	-EPZ	0658 12.8	#-1400
3	-EPZ	0517 08.2	#-1383	7	+EPZ	0813 23.0	#-1401
3	-EpPZ	0517 11.9	#-1383	7	-EPcPZ	0813 24.6	#-1401
3	+EPZ	1034 28.2	#-1384	7	+EPZ	1634 27.0	
3	-EpPZ	1034 37.5	#-1384	7	-EpPZ	1637 33.4	#-1402
3	-EPZ	2221 45.5	#-1385	7	+EPZ	1757 29.5	
3	+IPcPZ	2221 50.0	#-1385	8	+IPdiffZ	0404 51.0	#-1403
3	-IpPZ	2221 56.0	#-1385	8	+IPPZ	0409 19.2	#-1403
3	+EXZ	2342 02.0	#-1386	8	-EPZ	0428 53.8	
4	+EXZ	0433 48.3	#-1387	8	-EPcPZ	0443 02.7	#-1404
4	-EPZ	1235 46.5	#-1388	8	-EsPZ	0443 10.5	#-1404
4	-EXZ	1235 56.6	#-1388	8	+EPZ	0451 33.4	
5	+EPZ	0037 44.8		8	-EPZ	0523 55.8	
5	+EPZ	0454 36.0		8	+EPZ	0834 24.0	
5	+EPZ	0859 08.4	#-1389	8	+EPZ	1104 51.8	

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
8	+IPZ	1148 06.6		12	-EPcPZ	2255 27.0	#-1414
8	-EPZ	1148 33.2		12	-EPZ	2322 34.5	#-1415
8	-EPZ	1237 20.3		13	-EPZ	0036 21.0	#-1416
8	+EPZ	1632 10.5		13	+EPZ	0441 47.6	#-1417
8	+EPZ	2257 02.5		13	-EPZ	1827 16.8	#-1418
8	-EPZ	2257 09.4		13	+EpPZ	1827 37.5	#-1418
9	+EPZ	0721 10.5		13	+EXZ	1829 47.2	#-1418
9	-EPZ	1352 27.8		13	+EPZ	1941 44.0	
9	+EPZ	1352 39.5		13	-EPZ	1942 01.0	
9	+EPZ	1926 50.0		13	-IPZ	2217 20.0	#-1419
10	+EPZ	0919 35.8	#-1405	13	+IPcPZ	2217 22.7	#-1419
10	+EpPZ	0919 48.5	#-1405	14	-EPZ	0108 55.2	
10	+EPZ	1107 25.5	#-1406	14	-IPZ	0349 10.7	#-1420
10	-EpPZ	1107 36.6	#-1406	14	-IpPZ	0349 21.4	#-1420
10	+EPcPZ	1107 40.8	#-1406	14	-IPZ	0838 39.5	#-1421
10	-EPZ	1616 36.6	#-1407	14	-IPcPZ	0838 55.0	#-1421
10	-EXZ	1616 42.0	#-1407	14	-EpPZ	0839 24.2	#-1421
10	-EPZ	1923 13.6	#-1408	14	ESH	0847 44.0	#-1421
10	-EPZ	1923 34.0		14	+EPZ	0910 36.6	#-1422
10	-EPZ	1923 38.0		14	+EPZ	0934 20.4	#-1422
11	+EPZ	0350 43.3	#-1409	14	-EPZ	1911 06.8	#-1423
11	+EPcPZ	0350 44.5	#-1409	15	-EPZ	0316 33.6	#-1424
11	+EpPZ	0350 50.5	#-1409	15	-EPZ	0602 32.0	
11	+EPZ	0642 34.5		15	-EPZ	0831 23.6	
11	+EPZ	0642 35.8		15	+EPZ	0918 23.5	#-1425
11	+EPZ	1242 08.5		15	-EXZ	0918 27.5	#-1425
11	-EPZ	1242 48.8		15	+EpPZ	0919 13.0	#-1425
11	-EPZ	1421 21.6	#-1410	15	+EPZ	1025 33.8	
11	-EPZ	1518 00.0	#-1411	15	-EPZ	1025 37.0	
11	-EXZ	1518 03.0	#-1411	15	-IpPKiKPZ	1025 57.0	#-1426
11	+EPZ	1536 21.0		15	+EPZ	1204 42.8	
11	-EPZ	1536 39.9		15	+EPKiKPZ	1609 17.5	#-1427
12	+EPZ	0459 13.0	#-1412	15	-IPPZ	1610 05.2	#-1427
12	-EPZ	1018 54.6		15	+ESKPdfZ	1612 36.6	#-1427
12	-EPZ	1418 34.5	#-1413	15	-ESKacZ	1615 40.0	#-1427
12	+EPPZ	1420 12.1	#-1413	15	-EPZ	1620 13.5	
12	-EpPZ	2255 24.8	#-1414	15	+EPZ	1620 16.8	

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
15	-EPZ	1620	23.4	19	-EPZ	1308	44.5
15	-EPZ	1815	29.0	20	-EPZ	0537	56.0
15	+EPZ	2329	03.7	20	-EPZ	0647	42.3 # -1442
16	-EPZ	0155	46.0 # -1428	20	-EPZ	1014	13.0 # -1443
16	+EPcPZ	0155	53.8 # -1428	20	+EPcPZ	1014	23.0 # -1443
16	-EPZ	0354	31.0 # -1429	20	-EpPKPdfZ	1546	36.5 # -1444
16	+EpPZ	0354	35.5 # -1429	20	-IPZ	1711	08.5 # -1445
16	+EPZ	0450	23.8	20	+EpPZ	1711	10.6 # -1445
16	+EPZ	0724	38.5 # -1430	20	-EPZ	1904	27.2 # -1446
16	+EPZ	0724	43.0 # -1430	20	+EpPZ	1904	48.0 # -1446
16	+EpPZ	1012	22.0 # -1431	20	+EScPZ	1910	45.5 # -1446
16	+EsPKPdfZ	1504	36.0 # -1432	20	-EPZ	2327	47.0 # -1447
16	-EPZ	1842	53.5 # -1433	20	+EPcPZ	2328	00.5 # -1447
16	+EPZ	1915	36.0 # -1434	21	+EPZ	0445	43.2
16	+EPcPZ	1915	42.2 # -1434	21	-EPZ	0445	50.0
17	+IPZ	0135	55.7 # -1435	21	+EXZ	0825	38.8 # -1448
17	+EPZ	0219	18.0 # -1436	21	-EPZ	1426	21.0
17	+EPZ	0403	17.8 # -1437	21	-EPZ	1514	04.0
17	+EpPZ	0403	31.2 # -1437	21	+EPZ	1645	00.5
17	+EPZ	0610	14.0	22	+EPZ	0337	44.8
17	+EPZ	0722	11.6	22	-EPZ	1122	07.4 # -1449
17	-IPZ	1934	56.5	22	+EPZ	1229	08.5 # -1450
17	+IPZ	1935	26.7	22	-EPcPZ	1229	13.0 # -1450
17	-IPZ	1935	40.2	22	+EPKPdfZ	1331	45.5 # -1451
17	+EPZ	1944	52.5	22	+EPZ	2005	11.2
17	+EPZ	2213	08.5	23	-IPZ	0500	49.1 # -1452
18	+EPZ	0140	27.4 # -1438	23	ESH	0510	23.6 # -1452
18	-EPcPZ	0140	31.0 # -1438	23	+EPZ	0614	12.0
18	-EPZ	0620	01.0	23	+EXZ	0626	54.0 # -1453
18	+EPZ	0714	36.8 # -1439	23	-EPKPdfZ	1026	29.0 # -1454
18	-EPZ	0854	38.5 # -1440	23	-EpPKiKPZ	1028	07.5 # -1454
18	-EPcPZ	0854	42.0 # -1440	23	+EPZ	1030	11.4
19	+EPZ	0019	01.4	23	-EPZ	1036	03.5
19	-EPZ	0404	24.5	23	+EPZ	1517	22.5
19	+EPKPdfZ	1203	41.3 # -1441	23	+EPZ	1840	35.0 # -1455
19	+IPKiKPZ	1203	45.0 # -1441	23	-EPcPZ	1840	38.7 # -1455
19	-EPZ	1217	02.5	23	-EPZ	2330	46.9



Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
24	-EPZ	0057 49.4	#-1456	28	+EPZ	0332 09.4	
24	-EPcPZ	0057 52.1	#-1456	28	-EPZ	0338 19.4	
24	+EpPZ	0057 03.0	#-1456	28	-EPZ	0520 19.5	
24	-EPZ	0213 04.9	#-1457	28	-EPZ	0844 38.2	
24	-EPZ	0251 51.2		28	-EPZ	1057 52.5	
24	+EPZ	0428 27.0		28	-EPZ	1554 21.5	#-1470
24	+IPZ	0506 46.0		28	+EPZ	2142 20.5	
24	+EPZ	0506 50.5		29	+EPZ	0001 02.0	
24	-EPZ	1324 30.2		29	+EPZ	0122 52.0	#-1471
24	+EPZ	1324 39.2		29	+EpPZ	0123 05.7	#-1471
25	+IPZ	0527 38.5	#-1458	29	+EpPZ	0130 46.8	#-1472
25	-EPcPZ	0527 41.2	#-1458	29	+EsPZ	0130 54.8	#-1472
25	-EpPZ	0528 07.8	#-1458	29	+EPZ	0211 02.5	
25	+EpPZ	0752 27.5	#-1459	29	+EPZ	0211 20.2	
25	+EPZ	1112 41.5		29	+EPZ	0211 31.4	
25	-EPZ	1112 43.8		29	+EPZ	0254 05.8	
25	+EPZ	1112 54.5		29	+EPZ	0254 08.5	
25	+EPZ	1131 54.0	#-1460	29	+EPZ	0413 04.5	#-1473
25	-IPZ	1953 17.0		29	-IPZ	0413 08.0	#-1473
25	-EPZ	2010 52.3		29	-IsPZ	0413 10.3	#-1473
26	-EPZ	0051 50.0	#-1461	29	+EPZ	0652 03.0	#-1474
26	-EPZ	1248 13.5		29	+EpPZ	0652 12.5	#-1474
26	+EPZ	1248 18.4		29	-EPZ	1646 01.0	#-1475
26	+EPZ	1417 10.9		29	+EpPZ	1646 05.4	#-1475
27	-EPZ	0351 25.3		29	+EPPZ	1649 26.3	#-1475
27	+EPZ	0610 38.2	#-1462	29	-EPZ	1727 17.2	
27	-EpPZ	0610 43.2	#-1462	29	+EPZ	1834 33.9	#-1476
27	-EPZ	0737 32.2	#-1463	29	-EPZ	2240 31.2	#-1477
27	-EpPZ	0737 37.0	#-1463	29	+EPZ	2321 30.6	
27	+EPKpdfZ	0859 53.2	#-1464	30	-EPZ	0506 22.8	
27	+EPZ	1532 38.2	#-1465	30	-EPZ	1321 23.5	#-1478
27	-EPZ	1830 47.7		30	+EPcPZ	1356 02.0	#-1479
27	-EPZ	2029 51.5	#-1466	30	-EPZ	1504 02.8	
27	-EPZ	2116 28.3	#-1467	30	+EPZ	1721 08.2	
28	-EPZ	0051 04.2	#-1468	30	-EPZ	1721 11.3	
28	-EPZ	0051 11.6		30	+EPZ	1721 24.6	
28	+EPcPZ	0319 52.4	#-1469	31	+EPZ	0223 42.0	#-1480

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
	31	+EPZ	0613 47.5		5	-EpPZ	1101 44.9 #-1502
	31	+EPZ	0616 31.0		5	-EXZ	1540 03.0 #-1503
	31	-EPZ	0759 30.6 #-1481		5	+EXZ	1540 18.0 #-1503
	31	-EPcPZ	0759 36.0 #-1481		5	-EpPZ	1540 22.6 #-1503
	31	+EXZ	1036 00.5 #-1482		6	-EPdiffZ	0211 15.1 #-1504
	31	+EpPZ	1036 13.4 #-1482		6	+EPZ	1337 33.2 #-1505
	31	-EXZ	1554 36.7 #-1483		6	+EPZ	1542 11.1
	31	+EPcPZ	1554 42.6 #-1483		7	-EPZ	1728 59.8 #-1506
	31	+EPZ	1659 36.5 #-1484		7	+EPZ	2023 11.2 #-1507
	31	-EPZ	1659 38.5 #-1484		7	-EPZ	2027 05.0
	31	+EPZ	1810 22.4 #-1485		7	+EPZ	2217 12.9
	31	-EPcPZ	1810 24.8 #-1485		7	+EPZ	2222 12.7
	31	+EPZ	2149 08.5		7	-EPZ	2223 35.5
Nov.	1	+EXZ	0038 49.2 #-1486		7	ESH	2227 30.5
	1	+EPZ	0550 21.9 #-1487		8	+EPZ	0308 40.0 #-1508
	1	+EPZ	2126 10.0 #-1488		8	+EPZ	0807 50.6 #-1509
	1	+EpPZ	2126 17.8 #-1488		8	+EPZ	1014 50.9 #-1510
	1	+EPdiffZ	2318 29.1 #-1489		8	-EPcPZ	1014 55.2 #-1510
	2	+EPZ	0043 38.5 #-1490		8	-EPKPdfZ	1651 14.9 #-1511
	2	+IPZ	0321 08.8 #-1491		8	-EPKPbcZ	1651 16.1 #-1511
	2	-EPZ	0648 45.4 #-1492		8	+EPZ	1745 56.6 #-1512
	2	-EpPZ	0648 50.5 #-1492		9	+EPZ	0034 15.7
	3	+EPZ	0923 48.7 #-1493		9	-EPZ	0813 50.7
	3	-EPZ	1213 09.9 #-1494		9	+EPZ	1242 26.3
	3	-EpPZ	1213 19.2 #-1494		9	-EPZ	1242 38.7
	3	-EPZ	1835 15.1		9	+EPZ	1511 45.4
	3	-EpPZ	2142 52.1 #-1495		10	+EPZ	0658 17.2 #-1513
	3	+EPZ	2315 54.5 #-1496		10	+EPZ	0936 15.8 #-1514
	4	-EPZ	1231 50.9 #-1497		10	+EPZ	1314 53.2 #-1515
	4	-EPZ	1349 14.4 #-1498		10	-EsPZ	1314 58.4 #-1515
	4	-EPZ	1610 22.2 #-1499		10	+EPZ	1609 35.4 #-1516
	4	+EPZ	1610 28.1 #-1499		10	-EPdiffZ	1946 35.6 #-1517
	4	+EPcPZ	1757 00.3 #-1500		10	+EPKPdfZ	1949 20.3 #-1517
	4	-EpPZ	1757 06.4 #-1500		10	-EPZ	2214 52.0 #-1518
	4	+EPZ	2049 55.7 #-1501		10	-EpPZ	2215 10.5 #-1518
	4	-EPZ	2149 53.4		10	+EPZ	2216 33.0 #-1519
	5	-EPZ	1101 38.0 #-1502		11	+EPZ	0614 55.1 #-1520

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
11	+EsPZ	0615 34.1	#-1520	13	ESH	1048 20.2	#-1536
11	+EPZ	1028 15.3	#-1521	13	-EPZ	1050 09.4	
11	+EpPZ	1331 42.5	#-1522	13	+EPZ	1104 18.1	
11	+EPZ	1505 11.1	#-1523	13	-EPZ	2101 15.5	#-1537
11	+EpPZ	1505 13.2	#-1523	13	-EPZ	2135 37.3	#-1538
11	ESH	1510 19.5	#-1523	14	+EPZ	1102 14.8	
11	+EPZ	1923 47.0	#-1524	14	+EPZ	1302 56.9	#-1539
11	-EPZ	2208 42.0	#-1525	14	+EPZ	2038 23.9	
12	-EPZ	0024 38.5	#-1526	14	+EPZ	2154 22.4	
12	-EPZ	0233 57.8	#-1527	14	+EPdiffZ	2154 52.5	#-1540
12	+EPcPZ	0234 11.5	#-1527	15	+EPZ	0347 31.2	#-1541
12	ESH	0243 10.0	#-1527	15	-EPZ	1127 06.6	#-1542
12	-EPZ	0615 11.8	#-1528	15	+EPZ	1336 34.1	#-1543
12	+EPZ	0628 35.8	#-1529	16	-EPZ	0734 27.7	#-1544
12	-EpPZ	0628 40.1	#-1529	16	+EpPZ	0734 43.0	#-1544
12	+EPcPZ	0628 49.4	#-1529	16	-EPPZ	0738 01.3	#-1544
12	-IPZ	0832 47.9	#-1530	16	+EPZ	0808 23.0	
12	-EPZ	1724 11.7		16	+EPZ	1433 45.0	#-1545
12	-EPZ	1906 23.4	#-1531	17	-IPZ	0426 28.8	#-1546
12	-EPcPZ	1906 32.6	#-1531	17	+EPcPZ	0426 47.2	#-1546
12	+EPZ	1930 35.5	#-1532	17	ESH	0434 39.1	#-1546
12	-EpPZ	1931 36.5	#-1532	17	+EPZ	1015 10.4	#-1547
12	-EPZ	1948 30.9		17	+EPZ	1938 20.7	#-1548
12	-EPZ	1948 54.5		17	+IPcPZ	1938 28.6	#-1548
13	-EPZ	0245 53.4	#-1533	17	+IpPZ	1938 58.2	#-1548
13	-EPcPZ	0246 06.3	#-1533	17	ESH	1947 50.4	#-1548
13	-EPZ	0245 53.4	#-1533	17	+EpPZ	2000 17.3	#-1549
13	-EPcPZ	0246 06.3	#-1533	17	ESh	2009 09.5	#-1549
13	ESH	0255 10.0	#-1533	18	-EPZ	0711 23.8	#-1550
13	-EPZ	0453 45.0	#-1534	18	+EPKPdfZ	1655 34.5	#-1551
13	+EPcPZ	0453 59.4	#-1534	18	-EpPKPdfZ	1655 48.6	#-1551
13	+EPZ	0731 43.5		18	+EPZ	1656 49.5	#-1552
13	-EPZ	0746 21.3		18	-EPPZ	1659 44.8	#-1552
13	+EPZ	0955 08.9	#-1535	19	+EpPZ	0651 15.8	#-1553
13	+EpPZ	0955 11.3	#-1535	19	ESH	0701 17.4	#-1553
13	-EPZ	1037 40.4	#-1536	19	-EPcPZ	1422 31.8	#-1554
13	-IPcPZ	1037 42.0	#-1536	19	+EpPZ	1422 36.7	#-1554

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
19	-EPKiKPZ	1427 50.4	#-1554	23	-EPZ	1952 00.7	
19	ESH	1432 29.5	#-1554	23	+EPZ	1954 44.0	
19	+EPcPZ	1723 42.6	#-1555	23	-EPZ	1955 41.4	
19	+EPZ	1734 28.8	#-1556	24	+IPZ	1059 01.8	#-1569
19	-EPZ	1807 19.7		24	-EPcPZ	1059 05.7	#-1569
19	+EPZ	1807 51.1		25	-EPZ	0544 35.4	#-1570
19	-EPZ	1808 20.0	#-1557	25	-EPcPZ	0544 39.0	#-1570
20	+EPZ	1312 56.8		25	+IPZ	0600 25.7	#-1571
20	-EPZ	1315 21.5		25	-IpPZ	0600 38.2	#-1571
20	+EPZ	1543 04.9	#-1558	25	-EsPZ	0600 45.9	#-1571
20	-EPZ	1545 00.9	#-1559	25	+EXZ	0620 24.6	#-1572
20	+EPZ	1946 57.0	#-1560	25	-EpPZ	0620 33.7	#-1572
20	+EpPZ	1947 09.1	#-1560	25	-EPZ	0941 57.0	#-1573
21	-EPZ	0031 54.5	#-1561	25	-EPcPZ	0942 05.5	#-1573
21	-EpPZ	0032 23.2	#-1561	25	+EpPZ	0942 40.9	#-1573
21	ESH	0042 01.1	#-1561	25	ESH	0951 50.5	#-1573
21	-EPZ	0923 02.2		25	+IPZ	1049 09.2	#-1574
21	-EPZ	1408 49.5	#-1562	25	+IPZ	1049 13.6	#-1574
21	+EPZ	2031 03.8	#-1563	25	ESH	1058 44.5	#-1574
22	+EPZ	0831 36.7		25	-EPZ	2100 17.9	#-1575
22	-EPZ	0958 28.0	#-1564	25	+EpPZ	2100 27.1	#-1575
22	+EpPZ	0958 34.4	#-1564	26	-EpPZ	0412 51.7	#-1576
22	-EPZ	1006 51.7	#-1565	26	+EpPdiffZ	1611 21.4	#-1577
22	+EpPZ	1006 57.8	#-1565	26	+EPKPdfZ	1622 22.8	#-1578
22	-EPZ	1327 10.0	#-1566	26	-EPZ	2018 09.1	#-1579
22	-EPnPnZ	1327 49.9	#-1566	27	-EPZ	0228 19.2	
22	+IPZ	1524 27.0	#-1567	27	+EPZ	0859 18.7	#-1580
22	+IPcPZ	1524 28.8	#-1567	27	-EpPZ	0859 28.3	#-1580
22	+IpPZ	1524 52.6	#-1567	27	-EPZ	1035 44.3	#-1581
22	+EsPZ	1524 59.8	#-1567	27	-EPcPZ	1035 54.1	#-1581
22	+EPPZ	1528 00.6	#-1567	27	-EPZ	1126 41.8	#-1582
22	ESH	1535 16.1	#-1567	27	+EPZ	1434 25.2	#-1583
22	+EPZ	1713 33.1		27	-EPcPZ	1434 29.5	#-1583
22	-EPZ	2340 18.2		27	-EPZ	1644 06.7	#-1584
22	+EPZ	2340 32.0		27	+EPcPZ	1644 08.0	#-1584
22	+EPZ	2340 55.3		27	-EpPZ	1644 10.3	#-1584
23	+EPZ	0153 09.1	#-1568	27	+EPZ	2343 43.0	#-1585

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
27	+EPcPZ	2343 52.6	#-1585	2	ESH	1335 35.0	
27	ESH	2353 48.6	#-1585	2	-EPZ	1957 47.9	#-1603
28	+EPZ	0326 29.6	#-1586	2	-EPZ	2108 35.3	#-1604
28	+EPZ	0335 56.0	#-1587	2	+EPcPZ	2108 38.5	#-1604
28	-EPnPnZ	0337 37.2	#-1587	3	-EPZ	0414 29.6	#-1605
28	+EPZ	0711 05.3	#-1588	3	-EpPZ	0605 30.1	#-1606
28	-EPZ	0718 41.8		3	-EPZ	1017 26.3	#-1607
28	+EPZ	1219 03.9		3	+EPZ	1552 11.7	#-1608
28	+EPZ	1253 44.4	#-1589	3	+EPKPdfZ	1629 21.3	#-1609
28	+EpPZ	1253 55.1	#-1589	3	+EPZ	1639 44.3	
28	+IPZ	1644 25.8	#-1590	3	+EPdiffZ	1639 52.4	#-1610
28	-EpPZ	1644 40.9	#-1590	3	-EPKPdfZ	1643 33.1	#-1610
28	-IsPZ	1644 45.1	#-1590	3	+EPZ	1703 15.1	
28	ESH	1653 30.6	#-1590	3	+EPcPZ	1900 23.1	#-1611
28	-EPdiffZ	1656 17.0	#-1591	4	+EPZ	0301 48.3	#-1612
28	+EPZ	2157 11.6	#-1592	4	+EPZ	0444 22.5	#-1613
29	-EPZ	0314 59.5	#-1593	4	+EpPZ	0444 29.9	#-1613
29	+EPZ	0458 49.9		4	-EPcPZ	1421 36.0	#-1614
29	-EPZ	2358 17.7		4	-EPZ	2201 01.0	#-1615
30	-EPZ	0510 28.7		4	-EPcPZ	2201 05.5	#-1615
30	+EPZ	0511 46.5		4	ESH	2210 30.8	#-1615
30	+EPZ	0554 44.9	#-1594	5	-EPZ	0612 40.9	#-1616
30	+EpPZ	0554 52.4	#-1594	5	-EpPZ	0612 53.1	#-1616
30	-EPZ	1707 00.1	#-1595	5	+EPZ	1230 20.5	#-1617
30	-IPcPZ	1707 02.1	#-1595	5	-IpPZ	1230 28.6	#-1617
Dec. 1	-EPZ	0320 14.1	#-1596	5	+EPZ	2321 56.3	
1	+EpPZ	0322 31.6	#-1596	6	-EPZ	0603 37.5	#-1618
1	ESH	0329 51.8	#-1596	6	-EpPZ	0603 41.6	#-1618
1	+EPdiffZ	1552 42.5	#-1597	6	+EPZ	1555 28.6	
1	-EPZ	2227 28.0	#-1598	7	+EPcPZ	0231 43.5	#-1619
2	+EPZ	0320 11.2	#-1599	7	-EPZ	0323 57.5	
2	-EpPZ	0320 20.2	#-1599	7	+EPZ	0418 20.8	
2	+EXZ	0959 55.7	#-1600	7	-EPcPZ	0850 27.5	#-1620
2	-EpPZ	1224 41.8	#-1601	7	-EPZ	1520 09.0	
2	+EpPdfZ	1329 12.2	#-1602	7	+IPZ	2344 45.9	#-1621
2	+IPKPdfZ	1332 13.1	#-1602	7	-IPcPZ	2344 54.7	#-1621
2	+IPPZ	1334 24.1	#-1602	7	ESH	2354 34.2	#-1621

Date	Phase	Time h m	s	Remarks	Date	Phase	Time h m	s	Remarks
8	+EXZ	0213	42.9	#-1622	12	+EPPZ	0420	47.1	#-1640
8	-EPZ	0327	04.1	#-1623	12	-EPZ	0503	09.6	#-1641
8	-EPZ	0512	09.2	#-1624	12	+EPZ	0503	20.1	
8	-EpPZ	0512	15.4	#-1624	12	+EPZ	0516	05.1	#-1642
8	-EPZ	0544	04.2	#-1625	12	+EPdiffZ	2201	39.2	#-1643
8	-EPcPZ	0544	13.0	#-1625	12	-EpPdiffZ	2202	33.0	#-1643
8	-EPZ	0914	06.5	#-1626	12	-EsPdiffZ	2202	56.2	#-1643
8	-EpPZ	0914	59.4	#-1626	12	-EXZ	2206	07.8	#-1643
8	ESKSac	0924	15.0	#-1626	12	-EPZ	2207	20.9	
8	ESH	0924	44.3	#-1626	13	+EPZ	0329	11.4	#-1644
8	+EPZ	0937	31.8		13	-EPZ	0330	27.2	
8	+EPcPZ	1403	38.0	#-1627	13	-EPZ	0745	36.2	#-1645
8	-EPZ	1409	22.7		14	+EPZ	0658	36.2	#-1646
8	+EPZ	1436	26.1		14	-EPcPZ	0658	38.6	#-1646
8	-EPZ	1518	43.0		14	-EPZ	0933	25.3	#-1647
8	+EPZ	1724	25.6	#-1628	14	+EPZ	1103	03.3	#-1648
8	-EpPZ	1726	19.9	#-1628	14	+EsPZ	1103	23.0	#-1648
8	+EXZ	1728	10.1	#-1628	14	-EPnPnZ	1317	57.1	#-1649
8	+EPPZ	2058	20.5	#-1629	14	-EPPZ	1318	05.7	#-1649
9	-IPZ	2340	52.8	#-1630	14	-EpPZ	1538	42.2	#-1650
9	ESH	2349	25.0	#-1630	14	+EPZ	1633	06.9	
10	+EPdiffZ	0024	13.1	#-1631	15	+EPPZ	0154	36.0	#-1651
10	-EPZ	0835	40.9	#-1632	15	-EPZ	0457	38.6	#-1652
10	-EPcPZ	0835	42.1	#-1632	15	+EPZ	0626	11.4	#-1653
11	+EpPdiffZ	0456	32.6	#-1633	15	-EPZ	1310	37.5	#-1654
11	+EPZ	0607	26.7		15	ESH	1319	53.5	#-1654
11	+EPZ	0607	32.6	#-1634	15	+EpPZ	1517	38.6	#-1655
11	+EPKPdfZ	0908	10.5	#-1635	16	-EPZ	0529	27.7	
11	+EpPKPdfZ	0908	24.3	#-1635	16	+EpPZ	1242	42.1	#-1656
11	-EPZ	1041	17.9	#-1636	16	+EPZ	1312	10.8	
11	-IPZ	1433	51.0	#-1637	16	-EPcPZ	1446	30.9	
11	-IpPZ	1433	54.7	#-1637	16	-EPZ	1848	04.5	
11	-EPPZ	1437	31.2	#-1637	16	-EPZ	1848	15.9	
11	+EPdiffZ	1636	55.6	#-1638	16	+EPKPdfZ	1851	18.5	#-1657
11	-EPZ	2038	33.4	#-1639	16	-EPZ	1854	38.3	
11	-EPcPZ	2038	40.7	#-1639	16	+EPcPZ	1947	23.4	
12	-EPZ	0418	05.0	#-1640	16	+EpPZ	1947	59.7	

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
16	ESKSacH	1956 57.7	#-1658	20	+IPZ	1845 59.2	#-1675
16	+EPZ	2016 35.6		20	+EPcPZ	1846 02.9	#-1675
17	+EPZ	0550 09.2		20	+EpPZ	1847 49.6	#-1675
17	+EPZ	0911 51.1	#-1659	21	+IPZ	0721 53.6	#-1676
17	-EPZ	0958 26.7		21	+EPcPZ	0721 56.5	#-1676
17	+EpPZ	0959 51.8	#-1660	21	-EpPZ	0721 58.3	#-1676
17	+EPZ	1054 04.7	#-1661	21	-EsPZ	0722 00.3	#-1676
17	+IPZ	1106 56.4	#-1662	21	ESH	0732 33.1	#-1676
17	+EpPZ	1107 06.6	#-1662	21	+EPZ	1356 30.2	
17	+EPZ	1239 25.8		21	-EPPZ	1451 18.4	#-1677
17	+EPKPdfZ	1239 37.6	#-1663	21	-EPZ	1626 35.7	
17	+EpPKPdfZ	1239 51.2	#-1663	21	+EPZ	2229 37.1	#-1678
17	+EPZ	1623 31.3		21	-EPZ	2246 55.7	#-1679
18	+EPZ	0435 26.2	#-1664	21	-EPcPZ	2247 09.7	#-1679
18	-EPZ	0443 14.6		21	+EPZ	2342 49.6	#-1680
18	-EPZ	0522 56.2	#-1665	21	-EPcPZ	2343 01.9	#-1680
18	+EPZ	0615 07.4		21	ESH	2352 05.0	#-1680
18	+EPZ	0922 29.6	#-1666	22	+EsPZ	0327 27.6	#-1681
18	+EpPZ	0922 39.8	#-1666	22	+EPZ	1028 15.9	
18	+EPZ	1735 03.3	#-1667	22	+EPZ	1229 46.8	#-1682
18	-EPcPZ	1735 05.5	#-1667	22	+EPZ	1358 17.0	
18	+EPZ	1847 34.7	#-1668	23	+EPZ	0145 35.2	
18	-EPZ	2056 12.0		23	+EpPZ	0257 09.2	#-1683
18	-EPZ	2308 39.4		23	+EPZ	0311 30.8	#-1684
19	-EpPZ	1006 33.6	#-1669	23	+EPZ	0427 10.3	
19	+EPZ	1144 30.5		23	-EPKpabZ	0545 02.7	#-1685
19	+EPZ	1144 47.6	#-1670	23	+EPZ	0617 03.6	#-1686
19	-EPcPZ	1145 09.1	#-1670	23	-EPZ	1817 12.5	#-1687
19	+EpPZ	1145 28.9	#-1670	23	-EpPZ	1817 18.3	#-1687
19	-EpPZ	1336 22.3	#-1671	23	-IPZ	2200 42.0	#-1688
19	+EPZ	1406 46.7		23	-EpPZ	2201 26.1	#-1688
19	-EPZ	1604 49.9	#-1672	23	+EsPZ	2201 51.2	#-1688
19	+EPZ	2309 13.6		23	-IPPZ	2204 44.6	#-1688
20	+EPKiKPZ	0609 30.3	#-1673	23	+EPKiKPZ	2205 12.8	#-1688
20	+EpPKiKPZ	0609 41.8	#-1673	23	ESh	2211 48.4	#-1688
20	+EPdiffZ	1619 46.7	#-1674	24	-EPZ	0419 57.3	#-1689
20	+EpPZ	1648 39.6	#-1674	24	+EXZ	0422 08.0	#-1689

Date	Phase	Time h m s	Remarks	Date	Phase	Time h m s	Remarks
24	-EPZ	1744 05.9		28	+EPPZ	2223 13.6	#-1706
24	+EPKPabZ	1744 47.1	#-1690	29	-EPZ	0339 01.4	
24	+EPZ	1855 28.7		29	-EpPZ	0359 06.7	#-1707
25	+EPZ	0816 38.4		29	-EPZ	0531 41.4	#-1708
26	+EPZ	0106 19.3	#-1691	29	-EPcPZ	0531 42.2	#-1708
26	+EPcPZ	0526 10.1	#-1692	29	-EPZ	0707 21.9	
26	-EPdiffZ	0538 39.9	#-1693	29	-EPZ	0754 35.2	#-1709
26	+EPdiffZ	1454 00.9	#-1694	29	-EPKPdfZ	0848 26.9	#-1710
26	+EPZ	1936 56.5		29	-EPZ	0949 23.1	
26	-EPZ	2350 37.5	#-1695	29	+EPZ	1021 18.9	#-1711
27	-EPZ	0004 04.5	#-1696	29	-EPZ	1048 47.7	#-1712
27	-EPcPZ	0004 08.9	#-1696	29	-EPcPZ	1048 54.9	#-1712
27	-EsPZ	0004 30.1	#-1696	29	-EPZ	1202 35.0	
27	+EPZ	0609 34.7	#-1697	29	-EsPZ	1508 13.7	#-1713
27	-EpPZ	0609 50.3	#-1697	29	+EPZ	1519 02.4	
27	+EsPZ	0609 57.5	#-1697	30	+EPZ	0058 52.6	#-1714
27	+EPZ	0948 39.6		30	-EPZ	0100 38.6	
27	-EPdiffZ	0948 49.3	#-1698	30	+EpPZ	0754 47.7	#-1715
27	+EpPdiffZ	0949 17.3	#-1698	30	-EPZ	1136 47.8	#-1716
27	-EPZ	1048 34.7	#-1699	30	+EPZ	1149 54.9	
27	+EPZ	1108 43.7		30	-EPZ	1841 27.0	
27	-EPZ	1437 32.4	#-1700	30	+EPPZ	1845 31.7	#-1717
27	-EPcPZ	1437 34.8	#-1700	31	-EPZ	0941 35.6	#-1718
27	-EpPZ	1437 53.7	#-1700	31	+IPcPZ	0941 41.5	#-1718
27	+EPZ	1715 06.0	#-1701	31	-EPZ	1249 19.6	
27	-EXZ	2206 45.5	#-1702				
27	-EsPZ	2207 11.0	#-1702				
28	+EpPKPdfZ	0023 10.8	#-1703				
28	+EPZ	1203 46.4					
28	+IPZ	1233 45.8	#-1704				
28	+IPcPZ	1233 50.7	#-1704				
28	ESH	1243 27.7	#-1704				
28	-EPZ	1304 34.7					
28	+EPZ	1304 46.0					
28	-EPZ	1524 31.4					
28	+EpPdiffZ	1542 36.6	#-1705				
28	+EPZ	1734 01.9					



Table 2. List of hypocenters of teleseismic events detected at Syowa Station. The total number of events is 1702.

No.	Date	Origin time			Geographic		Coordinates	Depth	Epicentral			Magnitude	Region
		UTC			Latitude	Longitude			distance				
		h	m	s	(deg)	(deg)	(km)	(deg)	Mb	Ms			
1.	1/2	4	1		31.9	4.777	95.190	30	83.05	4.8	4.2	NORTHERN SUMATRA, INDONESIA	
2.	1/2	8	27		41.6	3.197	95.475	8	81.63	5.6	5.9	OFF THE W COAST OF NORTHERN SUMATRA	
3.	1/2	12	12		11.0	5.385	94.452	21	83.41	5.4	4.9	NORTHERN SUMATRA, INDONESIA	
4.	1/2	15	35		56.6	6.342	92.804	30	83.85	5.7	6.2	NICOBAR ISLANDS, INDIA REGION	
5.	1/2	18	23		17.6	2.144	126.740	30	91.19	5.4	-	MOLUCCA SEA	
6.	1/3	9	14		3.1	10.536	92.236	23	87.70	5.0	-	ANDAMAN ISL, INDIA REGION	
7.	1/3	17	59		28.9	-50.698	161.685	10	53.13	5.5	5.4	NORTH OF MACQUARIE ISLAND	
8.	1/6	0	11		18.4	5.588	93.189	40	83.24	5.6	4.9	OFF THE W COAST OF NORTHERN SUMATRA	
9.	1/6	0	25		58.0	6.859	91.882	7	84.08	4.9	-	NICOBAR ISL, INDIA REGION	
10.	1/6	0	29		11.2	6.891	91.895	25	84.11	5.2	-	NICOBAR ISLANDS, INDIA REGION	
11.	1/6	3	28		51.0	-52.570	27.598	10	17.29	5.2	-	SOUTH OF AFRICA	
12.	1/6	4	52		39.8	6.970	91.956	10	84.21	5.1	4.4	NICOBAR ISL, INDIA REGION	
13.	1/6	7	54		27.2	10.831	93.623	124	88.38	5.0	-	ANDAMAN ISL, INDIA REGION	
14.	1/6	8	33		44.5	4.772	95.181	30	83.05	4.9	-	NORTHERN SUMATRA, INDONESIA	
15.	1/6	10	38		40.4	14.039	92.851	7	91.23	5.1	-	ANDAMAN ISL, INDIA REGION	
16.	1/6	11	55		45.5	10.889	91.798	23	87.92	5.4	5.3	ANDAMAN ISL, INDIA REGION	
17.	1/6	12	37		28.6	3.010	94.297	30	81.10	4.9	-	OFF WEST COAST OF N SUMATRA	
18.	1/6	13	0		40.1	41.441	142.076	66	132.74	5.2	-	HOKKAIDO, JAPAN REGION	
19.	1/6	13	35		16.3	-21.780	-68.286	125	75.67	5.2	-	ANTOFAGASTA, CHILE	
20.	1/6	19	17		46.6	4.635	93.845	30	82.52	4.8	-	OFF WEST COAST OF N SUMATRA	
21.	1/7	7	59		27.5	5.760	93.299	13	83.43	5.0	-	OFF WEST COAST OF N SUMATRA	
22.	1/7	10	49		14.5	8.813	93.519	30	86.42	5.6	4.9	NICOBAR ISLANDS, INDIA	
23.	1/7	14	17		9.7	-7.570	128.008	82	82.58	5.1	-	KEPULAUAN BARAT DAYA, INDONESIA	
24.	1/7	14	53		3.0	-24.390	-66.779	138	72.74	4.5	-	SALTA, ARGENTINA	
25.	1/7	16	0		23.2	5.075	94.882	30	83.25	4.6	-	NORTHERN SUMATRA, INDONESIA	
26.	1/7	16	15		38.6	-21.123	-66.128	169	75.57	4.8	-	POTOSI, BOLIVIA	
27.	1/7	18	50		21.2	5.855	93.576	32	83.61	4.7	-	OFF WEST COAST OF N SUMATRA	
28.	1/7	20	20		47.4	8.907	93.945	33	86.63	4.7	-	NICOBAR ISL, INDIA REGION	
29.	1/7	23	21		2.1	-20.156	-178.821	657	86.78	4.5	-	FIJI REGION	
30.	1/8	5	58		22.8	4.880	94.788	38	83.03	5.0	-	OFF WEST COAST OF N SUMATRA	
31.	1/8	6	51		0.0	3.300	93.810	30	81.23	4.9	-	OFF WEST COAST OF N SUMATRA	
32.	1/8	7	14		35.2	-55.260	-28.100	27	32.15	4.9	-	SOUTH SANDWICH ISL REGION	
33.	1/8	7	56		4.5	4.735	96.171	30	83.31	4.6	-	NORTHERN SUMATRA, INDONESIA	
34.	1/8	10	21		55.6	3.030	92.610	30	80.62	4.7	-	OFF WEST COAST OF N SUMATRA	
35.	1/8	11	28		31.1	4.952	96.438	30	83.60	4.8	-	NORTHERN SUMATRA, INDONESIA	
36.	1/8	12	31		36.4	11.611	93.304	29	89.03	4.7	-	ANDAMAN ISL, INDIA REGION	
37.	1/8	14	59		34.0	3.546	92.905	10	81.20	4.9	-	OFF WEST COAST OF N SUMATRA	
38.	1/8	16	8		18.1	-26.857	-107.241	10	81.02	5.0	4.3	EASTER ISLAND REGION	
39.	1/8	18	45		3.4	-55.204	-27.823	10	32.10	5.7	5.3	SOUTH SANDWICH ISLANDS REGION	
40.	1/8	20	2		12.7	11.400	92.246	28	88.53	4.9	-	ANDAMAN ISL, INDIA REGION	
41.	1/8	21	34		17.7	9.748	93.949	30	87.44	4.7	-	NICOBAR ISL, INDIA REGION	
42.	1/8	22	11		59.0	4.673	94.862	42	82.86	4.9	-	OFF WEST COAST OF N SUMATRA	
43.	1/9	1	7		53.5	-7.133	130.002	94	83.70	5.3	-	KEPULAUAN TANIMBAR REG, INDONESIA	
44.	1/9	1	59		13.0	7.587	92.395	30	84.92	5.1	4.9	NICOBAR ISL, INDIA REGION	
45.	1/9	16	22		6.5	34.592	136.709	325	124.72	4.7	-	WESTERN HONSHU, JAPAN	
46.	1/9	16	27		9.1	51.552	-176.159	41	155.96	5.0	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA	
47.	1/9	17	16		45.6	3.241	94.222	26	81.30	5.4	4.7	OFF THE W COAST OF NORTHERN SUMATRA	
48.	1/9	22	12		56.3	4.916	95.088	40	83.16	6.0	5.7	NORTHERN SUMATRA, INDONESIA	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region	
		UTC			Latitude	Longitude		distance	Mb	Ms		
		h	m	s	(deg)	(deg)		(deg)				
49.	1/9	23	18		1.7	-24.836	70.016	10	47.87	5.0	-	MID-INDIAN RIDGE
50.	1/9	23	20		37.0	10.540	92.285	22	87.72	4.9	-	ANDAMAN ISL, INDIA REGION
51.	1/11	0	49		33.6	8.813	93.546	30	86.43	4.8	-	NICOBAR ISL, INDIA REGION
52.	1/11	0	55		1.7	7.917	94.287	30	85.78	4.7	-	NICOBAR ISL, INDIA REGION
53.	1/11	5	49		29.2	8.213	93.823	30	85.93	4.9	-	NICOBAR ISL, INDIA REGION
54.	1/11	7	7		13.7	-15.710	-71.010	155	82.26	4.6	-	SOUTHERN PERU
55.	1/11	7	21		38.8	8.771	125.512	50	96.94	4.7	-	MINDANAO, PHILIPPINES
56.	1/11	9	19		55.4	-6.720	155.110	52	92.71	4.4	-	BOUGAINVILLE REG, P.N.G.
57.	1/11	10	29		42.9	-4.686	153.547	102	94.13	5.3	-	NEW IRELAND REG, P.N.G.
58.	1/11	13	44		3.8	-19.232	-174.493	25	88.54	4.8	-	TONGA
59.	1/11	17	28		49.7	-23.773	-66.791	166	73.32	4.9	-	JUJUY, ARGENTINA
60.	1/11	19	19		48.2	11.401	-86.515	41	112.87	5.0	-	NEAR THE COAST OF NICARAGUA
61.	1/11	21	46		34.1	5.054	94.805	30	83.20	5.0	-	NORTHERN SUMATRA, INDONESIA
62.	1/11	22	55		49.4	11.898	92.308	27	89.03	4.9	-	ANDAMAN ISL, INDIA REGION
63.	1/12	8	40		3.6	-0.838	-21.209	10	78.96	5.7	6.0	CENTRAL MID-ATLANTIC RIDGE
64.	1/12	10	28		55.6	4.288	97.888	33	83.41	4.9	-	NORTHERN SUMATRA, INDONESIA
65.	1/12	13	58		18.6	5.538	94.637	34	83.62	5.7	5.1	NORTHERN SUMATRA, INDONESIA
66.	1/12	18	44		39.9	5.106	94.746	32	126.01	5.2	4.7	NORTHERN SUMATRA, INDONESIA
67.	1/12	18	41		52.0	34.161	141.409	45	83.24	5.0	4.9	OFF E COAST OF HONSHU, JAPAN
68.	1/12	20	3		31.8	42.390	145.327	19	134.73	5.4	-	HOKKAIDO, JAPAN REGION
69.	1/13	0	7		22.2	6.057	126.305	45	94.69	5.0	4.7	MINDANAO, PHILIPPINES
70.	1/13	3	5		28.7	-16.813	-173.730	15	91.05	5.3	4.6	TONGA
71.	1/13	7	28		32.4	7.299	92.524	10	84.68	4.8	-	NICOBAR ISL, INDIA REGION
72.	1/13	8	52		42.9	5.610	94.412	30	83.62	4.9	-	NORTHERN SUMATRA, INDONESIA
73.	1/13	10	35		25.7	8.156	126.866	10	96.85	5.0	-	MINDANAO, PHILIPPINES
74.	1/13	12	56		37.7	14.473	92.252	10	91.48	4.8	-	ANDAMAN ISL, INDIA REGION
75.	1/13	13	25		28.8	14.505	92.509	30	91.58	4.8	-	ANDAMAN ISL, INDIA REGION
76.	1/13	15	32		40.0	4.605	95.638	30	83.02	4.8	-	NORTHERN SUMATRA, INDONESIA
77.	1/13	15	48		57.0	4.679	96.249	30	83.28	4.7	-	NORTHERN SUMATRA, INDONESIA
78.	1/13	17	14		14.4	-27.070	-176.551	79	80.48	5.1	-	KERMADEC ISLANDS REGION
79.	1/13	19	56		23.5	14.582	92.454	30	91.64	4.9	-	ANDAMAN ISL, INDIA REGION
80.	1/13	20	47		56.3	51.783	175.490	30	153.41	5.1	4.8	RAT ISLANDS, ALEUTIAN ISLANDS, ALASKA
81.	1/14	0	35		19.1	3.348	91.915	30	80.73	4.5	-	OFF WEST COAST OF N SUMATRA
82.	1/14	5	12		0.1	14.729	92.857	30	91.89	4.4	-	ANDAMAN ISL, INDIA REGION
83.	1/14	8	33		14.1	-4.307	152.762	10	94.23	5.4	6.0	NEW BRITAIN REGION, PAPUA NEW GUINEA
84.	1/14	9	59		7.3	10.079	91.654	30	87.10	4.7	-	ANDAMAN ISL, INDIA REGION
85.	1/14	11	4		30.6	-18.672	-71.266	36	79.55	4.3	-	OFF COAST OF TARAPACA, CHILE
86.	1/14	15	29		57.9	6.054	126.506	75	94.76	4.8	-	MINDANAO, PHILIPPINES
87.	1/14	16	22		4.5	8.852	93.227	13	86.37	5.0	-	NICOBAR ISL, INDIA REGION
88.	1/14	17	8		34.4	4.835	95.181	32	83.11	5.1	-	NORTHERN SUMATRA, INDONESIA
89.	1/14	21	11		15.6	-33.407	77.763	10	41.65	4.8	-	MID-INDIAN RIDGE
90.	1/14	21	38		14.8	3.137	93.896	10	81.10	5.4	5.2	OFF THE W COAST OF NORTHERN SUMATRA
91.	1/14	22	51		21.8	4.813	94.828	42	82.98	4.7	-	OFF WEST COAST OF N SUMATRA
92.	1/15	5	0		28.9	-0.030	123.474	95	87.99	5.1	-	SULAWESI, INDONESIA
93.	1/15	5	13		11.0	-5.938	38.893	10	63.07	5.1	-	TANZANIA
94.	1/15	7	46		53.1	14.579	92.379	25	91.61	5.2	5.2	ANDAMAN ISLANDS, INDIA REGION
95.	1/15	11	40		37.4	-3.593	-80.702	35	96.82	4.8	-	PERU-ECUADOR BORDER REGION
96.	1/15	13	46		59.3	-6.401	105.212	15	75.66	5.5	5.3	SUNDA STRAIT, INDONESIA

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region	
		UTC			Latitude (deg)	Longitude (deg)		distance (deg)	Mb	Ms		
		h	m	s								
97.	1/15	16	58		56.3	-23.556	-177.307	126	83.77	4.9	-	SOUTH OF THE FIJI ISLANDS
98.	1/15	18	36		18.6	8.610	93.194	10	86.13	4.7	-	NICOBAR ISL, INDIA REGION
99.	1/16	8	25		4.3	-25.560	-176.322	16	82.00	6.1	6.0	SOUTH OF THE FIJI ISLANDS
100.	1/16	12	49		15.0	-24.034	-68.055	124	73.49	4.5	-	ANTOFAGASTA, CHILE
101.	1/16	14	49		49.6	-26.193	178.278	568	80.30	4.7	-	SOUTH OF THE FIJI ISLANDS
102.	1/16	20	17		50.4	10.945	140.837	10	104.44	6.3	6.6	STATE OF YAP, FED. STATES OF MICRONESIA
103.	1/16	22	47		30.3	8.681	93.577	39	86.31	5.0	4.9	NICOBAR ISL, INDIA REGION
104.	1/17	2	53		40.2	3.853	95.894	41	82.38	4.9	-	OFF W CST N SUMATRA
105.	1/17	5	43		53.5	10.974	140.733	10	104.43	5.2	4.3	STATE OF YAP, FED. STATES OF MICRONESIA
106.	1/17	10	50		32.1	10.994	140.667	10	104.42	5.9	5.9	STATE OF YAP, FED. STATES OF MICRONESIA
107.	1/17	16	58		59.6	-36.490	177.610	263	70.17	4.0	-	OFF E CST N ISL, N.Z.
108.	1/17	17	8		6.2	7.463	92.477	19	84.83	4.7	-	NICOBAR ISL, INDIA REGION
109.	1/18	2	36		44.9	10.646	92.026	22	87.75	5.0	-	ANDAMAN ISL, INDIA REGION
110.	1/18	3	2		56.0	22.950	94.724	117	100.27	5.0	-	MYANMAR
111.	1/18	4	26		54.8	-19.835	168.572	45	84.14	5.0	-	VANUATU
112.	1/18	4	34		44.1	-31.805	-66.567	124	65.78	4.2	-	LA RIOJA, ARGENTINA
113.	1/18	5	44		48.3	11.009	140.776	52	104.48	5.0	-	STATE OF YAP, FED. STATES OF MICRONESIA
114.	1/18	8	36		4.4	-41.460	175.780	20	65.00	5.1	-	NORTH ISLAND OF NEW ZEALAND
115.	1/18	9	26		0.5	-41.450	175.780	24	65.01	5.0	-	NORTH ISLAND OF NEW ZEALAND
116.	1/18	14	9		6.1	42.915	144.882	42	135.03	6.3	5.7	HOKKAIDO, JAPAN REGION
117.	1/18	20	35		16.9	8.179	94.013	30	85.96	4.8	-	NICOBAR ISL, INDIA REGION
118.	1/18	21	20		32.6	-22.886	178.933	592	83.65	5.3	-	SOUTH OF THE FIJI ISLANDS
119.	1/18	22	4		39.9	8.127	93.994	30	85.90	4.9	-	NICOBAR ISL, INDIA REGION
120.	1/19	2	48		40.8	8.260	94.060	30	86.05	4.6	-	NICOBAR ISL, INDIA REGION
121.	1/19	6	8		41.5	8.262	94.303	26	86.12	4.8	-	NICOBAR ISL, INDIA REGION
122.	1/19	6	11		36.8	34.118	141.543	28	126.02	5.7	6.4	OFF THE EAST COAST OF HONSHU, JAPAN
123.	1/19	6	28		19.8	41.941	79.208	37	114.87	5.1	-	KYRGYZSTAN
124.	1/19	12	58		6.3	5.836	125.691	217	94.26	4.3	-	MINDANAO, PHILIPPINES
125.	1/19	13	51		51.3	33.804	141.543	4	125.73	5.1	4.8	OFF E COAST OF HONSHU, JAPAN
126.	1/19	14	26		58.5	-6.310	129.760	131	84.38	4.2	-	BANDA SEA
127.	1/19	16	9		15.0	3.563	92.613	10	81.13	4.9	-	OFF WEST COAST OF N SUMATRA
128.	1/19	16	24		24.8	-15.983	-176.154	350	91.40	4.6	-	FIJI REGION
129.	1/19	17	32		30.7	4.729	95.202	30	83.01	5.1	-	NORTHERN SUMATRA, INDONESIA
130.	1/19	19	5		46.3	52.489	152.839	459	145.97	4.5	-	NORTHWEST OF KURIL ISLANDS
131.	1/19	20	52		21.6	6.600	92.934	45	84.13	4.5	-	NICOBAR ISL, INDIA REGION
132.	1/20	2	59		10.7	49.775	156.203	42	144.94	5.4	4.8	KURIL ISLANDS
133.	1/20	8	41		37.2	2.784	94.703	30	81.01	4.7	-	OFF WEST COAST OF N SUMATRA
134.	1/20	9	58		32.0	5.191	94.184	35	83.15	4.8	-	NORTHERN SUMATRA, INDONESIA
135.	1/20	10	48		32.3	8.289	94.226	15	86.12	4.7	-	NICOBAR ISL, INDIA REGION
136.	1/20	13	58		12.8	-32.552	-179.024	10	74.66	5.4	5.1	SOUTH OF KERMADEC ISLANDS
137.	1/20	14	16		26.8	33.894	141.477	51	125.79	5.3	-	OFF E COAST OF HONSHU, JAPAN
138.	1/20	15	17		37.1	13.034	92.497	23	90.17	4.8	-	ANDAMAN ISL, INDIA REGION
139.	1/20	16	9		44.6	-7.697	112.882	184	77.08	4.7	-	JAVA, INDONESIA
140.	1/20	16	23		4.3	-11.101	161.561	37	90.54	5.1	-	SOLOMON ISLANDS
141.	1/20	16	47		2.0	3.794	126.813	10	92.76	5.6	4.5	KEPULAUAN TALAUD, INDONESIA
142.	1/20	18	56		30.6	-41.233	175.229	41	65.11	5.2	-	NORTH ISLAND OF NEW ZEALAND
143.	1/20	19	26		40.3	6.441	93.328	27	84.09	5.3	4.8	NICOBAR ISL, INDIA REGION
144.	1/20	20	20		51.5	-31.225	-178.651	300	76.03	4.8	-	KERMADEC ISLANDS REGION

No.	Date	Origin time			Geographic		Coordinates	Depth	Epicentral			Magnitude	Region
		UTC			Latitude	Longitude			distance	Mb	Ms		
		h	m	s	(deg)	(deg)	(km)	(deg)					
145.	1/20	22	18		38.7	-22.086	-68.648	102	75.50	5.1	-	ANTOFAGASTA, CHILE	
146.	1/20	22	47		25.6	5.360	94.272	78	83.34	4.7	-	NORTHERN SUMATRA, INDONESIA	
147.	1/20	23	28		28.9	6.355	93.352	30	84.02	4.6	-	NICOBAR ISL, INDIA REGION	
148.	1/21	14	28		22.5	24.669	122.414	105	110.63	5.3	-	TAIWAN REGION	
149.	1/21	17	54		34.6	5.134	125.224	174	93.44	5.5	-	MINDANAO, PHILIPPINES	
150.	1/21	20	48		59.7	-32.718	-178.770	10	74.55	5.0	-	SOUTH OF KERMADEC ISLANDS	
151.	1/22	2	57		7.0	-22.235	-63.582	525	73.68	5.2	-	SALTA, ARGENTINA	
152.	1/22	9	18		3.3	3.646	94.142	10	81.66	5.2	4.9	OFF WEST COAST OF N SUMATRA	
153.	1/22	9	24		29.8	3.554	94.065	10	81.55	5.1	-	OFF WEST COAST OF N SUMATRA	
154.	1/22	10	48		47.0	-10.770	123.879	60	78.12	4.9	-	TIMOR REGION, INDONESIA	
155.	1/22	11	7		26.0	3.569	94.114	10	81.58	5.1	-	OFF WEST COAST OF N SUMATRA	
156.	1/22	11	27		40.6	-31.644	-177.986	10	75.74	5.5	5.3	KERMADEC ISLANDS REGION	
157.	1/22	12	11		54.0	14.260	91.920	10	91.18	4.4	-	ANDAMAN ISL, INDIA REGION	
158.	1/22	12	30		18.6	-31.639	-177.783	10	75.79	5.1	-	KERMADEC ISLANDS REGION	
159.	1/22	18	38		12.8	14.682	92.673	30	91.79	5.5	-	ANDAMAN ISLANDS, INDIA REGION	
160.	1/22	20	30		17.2	-7.723	159.487	28	92.37	6.2	6.4	SOLOMON ISLANDS	
161.	1/23	1	4		2.5	-5.820	151.437	86	57.81	5.2	-	NEW BRITAIN REG, P.N.G.	
162.	1/23	3	32		26.9	-13.842	66.222	10	80.74	4.9	5.1	MID-INDIAN RIDGE	
163.	1/23	6	16		3.8	2.604	94.399	28	87.48	5.0	4.4	OFF WEST COAST OF N SUMATRA	
164.	1/23	8	47		54.2	9.830	93.840	30	90.86	4.5	-	NICOBAR ISL, INDIA REGION	
165.	1/23	16	55		49.0	13.596	93.041	28	85.85	5.0	4.1	ANDAMAN ISL, INDIA REGION	
166.	1/23	19	59		42.0	-1.060	120.149	10	85.70	5.0	-	SULAWESI, INDONESIA	
167.	1/23	20	10		14.2	-1.151	119.972	25	85.83	5.9	5.9	SULAWESI, INDONESIA	
168.	1/23	21	2		32.3	-1.105	120.209	10	105.10	4.9	-	SULAWESI, INDONESIA	
169.	1/23	22	36		4.9	35.865	29.741	10	83.27	5.4	5.4	EASTERN MEDITERRANEAN SEA	
170.	1/24	0	39		19.8	4.694	96.156	17	84.72	5.2	4.7	NORTHERN SUMATRA, INDONESIA	
171.	1/24	4	16		47.4	7.350	92.468	30	97.97	6.1	6.2	NICOBAR ISLANDS, INDIA REGION	
172.	1/24	6	11		52.3	-2.356	-80.648	29	90.99	5.2	5.1	NEAR THE COAST OF ECUADOR	
173.	1/24	11	4		39.7	-10.487	161.118	149	69.63	4.7	-	SOLOMON ISLANDS	
174.	1/24	19	7		23.2	-29.401	-71.665	109	98.92	5.1	-	OFFSHORE COQUIMBO, CHILE	
175.	1/24	23	23		25.5	-1.397	-80.750	16	98.94	5.4	5.7	NEAR THE COAST OF ECUADOR	
176.	1/24	23	26		50.0	-1.402	-80.837	10	106.71	5.3	-	NEAR THE COAST OF ECUADOR	
177.	1/25	16	44		10.7	37.641	43.705	3	42.83	5.4	5.7	TURKEY-IRAQ BORDER REGION	
178.	1/25	18	10		35.5	-26.812	26.559	10	93.63	4.5	-	SOUTH AFRICA	
179.	1/26	1	54		42.3	5.854	123.885	552	82.15	4.5	-	CELEBES SEA	
180.	1/26	3	0		2.2	-24.594	179.674	466	85.81	4.8	-	SOUTH OF THE FIJI ISLANDS	
181.	1/26	3	38		15.3	8.012	94.051	30	90.63	4.8	-	NICOBAR ISL, INDIA REGION	
182.	1/26	5	14		36.3	13.490	92.580	30	82.98	4.3	-	ANDAMAN ISL, INDIA REGION	
183.	1/26	5	46		39.3	5.403	92.901	48	82.37	4.6	-	OFF WEST COAST OF N SUMATRA	
184.	1/26	8	34		5.8	4.652	93.264	41	81.84	4.7	-	OFF WEST COAST OF N SUMATRA	
185.	1/26	11	39		18.1	3.620	94.810	28	85.93	4.4	-	OFF WEST COAST OF N SUMATRA	
186.	1/26	14	25		53.7	8.073	94.288	30	81.89	4.4	-	NICOBAR ISL, INDIA REGION	
187.	1/26	16	50		8.2	3.226	96.231	33	86.06	5.1	-	NORTHERN SUMATRA, INDONESIA	
188.	1/26	17	30		29.4	8.297	93.978	26	83.78	5.6	5.3	NICOBAR ISLANDS, INDIA	
189.	1/26	17	50		4.8	-6.867	129.545	103	80.91	5.5	-	BANDA SEA	
190.	1/26	22	0		40.7	2.739	94.524	10	85.84	5.6	6.1	OFF THE W COAST OF NORTHERN SUMATRA	
191.	1/26	22	46		56.4	8.053	94.091	4	85.86	5.3	5.5	NICOBAR ISLANDS, INDIA	
192.	1/26	22	46		33.9	8.041	94.081	73	85.80	4.6	-	NICOBAR ISL, INDIA REGION	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region	
		UTC			Latitude (deg)	Longitude (deg)		distance (deg)	Mb	Ms		
		h	m	s								
193.	1/27	3	58		45.0	8.036	93.942	30	85.65	5.3	4.9	NICOBAR ISL, INDIA REGION
194.	1/27	5	22		19.6	7.877	93.941	35	90.53	5.2	5.0	NICOBAR ISLANDS, INDIA REGION
195.	1/27	5	35		23.1	13.298	92.880	30	85.82	5.0	-	ANDAMAN ISL, INDIA REGION
196.	1/27	5	48		14.1	8.013	94.093	41	85.78	5.0	-	NICOBAR ISL, INDIA REGION
197.	1/27	6	8		9.1	7.944	94.198	30	85.82	4.8	-	NICOBAR ISL, INDIA REGION
198.	1/27	6	18		38.6	7.975	94.219	30	85.76	4.8	-	NICOBAR ISL, INDIA REGION
199.	1/27	6	56		59.5	7.975	94.014	41	85.75	5.5	5.2	NICOBAR ISLANDS, INDIA
200.	1/27	7	20		26.1	7.958	94.049	44	85.69	5.0	-	NICOBAR ISL, INDIA REGION
201.	1/27	7	26		1.1	7.938	93.892	30	85.70	5.3	-	NICOBAR ISL, INDIA REGION
202.	1/27	7	28		31.0	7.931	93.955	27	85.67	5.2	-	NICOBAR ISL, INDIA REGION
203.	1/27	7	35		40.6	7.833	94.163	2	85.66	5.2	-	NICOBAR ISL, INDIA REGION
204.	1/27	7	41		21.1	7.797	94.238	30	85.82	4.9	-	NICOBAR ISL, INDIA REGION
205.	1/27	8	7		25.6	8.016	94.098	41	85.74	5.0	-	NICOBAR ISL, INDIA REGION
206.	1/27	8	19		7.8	7.951	94.029	30	85.85	5.3	5.1	NICOBAR ISLANDS, INDIA REGION
207.	1/27	8	42		17.0	7.979	94.294	35	85.77	5.2	-	NICOBAR ISLANDS, INDIA REGION
208.	1/27	9	25		28.9	7.967	94.083	38	85.81	5.1	-	NICOBAR ISL, INDIA REGION
209.	1/27	10	8		15.8	8.004	94.100	58	85.79	5.0	-	NICOBAR ISL, INDIA REGION
210.	1/27	11	44		4.9	7.953	94.186	30	85.86	5.1	-	NICOBAR ISL, INDIA REGION
211.	1/27	11	47		38.3	8.058	94.079	32	85.76	5.4	5.3	NICOBAR ISLANDS, INDIA
212.	1/27	12	11		55.6	7.884	94.320	30	85.84	5.2	-	NICOBAR ISLANDS, INDIA REGION
213.	1/27	13	1		15.7	8.049	94.050	38	85.83	4.9	-	NICOBAR ISL, INDIA REGION
214.	1/27	13	15		19.5	8.046	94.033	30	85.73	5.0	-	NICOBAR ISL, INDIA REGION
215.	1/27	13	18		3.3	7.870	94.251	42	85.65	5.0	-	NICOBAR ISL, INDIA REGION
216.	1/27	13	25		15.8	7.827	94.110	15	85.78	5.1	-	NICOBAR ISL, INDIA REGION
217.	1/27	13	54		15.6	7.911	94.275	30	85.80	5.2	-	NICOBAR ISL, INDIA REGION
218.	1/27	13	57		6.3	7.977	94.135	30	85.85	5.2	-	NICOBAR ISLANDS, INDIA REGION
219.	1/27	14	35		4.9	8.028	94.147	15	85.53	5.0	-	NICOBAR ISL, INDIA REGION
220.	1/27	15	24		49.6	7.675	94.218	36	85.81	4.9	-	NICOBAR ISL, INDIA REGION
221.	1/27	15	27		54.6	7.962	94.212	38	85.57	5.3	-	NICOBAR ISL, INDIA REGION
222.	1/27	15	34		28.3	7.737	94.157	18	85.93	5.1	-	NICOBAR ISL, INDIA REGION
223.	1/27	16	0		56.0	8.085	94.221	24	85.76	5.0	-	NICOBAR ISL, INDIA REGION
224.	1/27	16	58		51.6	7.949	94.086	30	85.49	5.5	5.5	NICOBAR ISLANDS, INDIA REGION
225.	1/27	17	24		58.4	7.629	94.219	17	85.79	5.2	-	NICOBAR ISL, INDIA REGION
226.	1/27	17	40		46.1	7.975	94.121	11	86.02	5.6	4.7	NICOBAR ISLANDS, INDIA REGION
227.	1/27	18	50		35.4	8.189	94.195	64	85.69	4.9	-	NICOBAR ISL, INDIA REGION
228.	1/27	18	52		39.1	7.868	94.111	30	53.06	5.3	-	NICOBAR ISLANDS, INDIA REGION
229.	1/27	19	9		57.6	-50.460	160.450	10	85.75	5.0	-	NORTH OF MACQUARIE ISLAND
230.	1/27	19	20		20.1	7.934	94.121	30	83.51	5.1	-	NICOBAR ISLANDS, INDIA REGION
231.	1/27	20	9		52.1	5.526	94.322	30	85.91	5.7	5.2	NORTHERN SUMATRA, INDONESIA
232.	1/27	20	17		39.2	8.138	93.988	30	87.27	5.0	-	NICOBAR ISL, INDIA REGION
233.	1/27	21	0		45.3	9.710	93.481	35	85.87	5.1	-	NICOBAR ISL, INDIA REGION
234.	1/27	22	40		49.7	8.067	94.072	50	85.92	5.4	4.8	NICOBAR ISLANDS, INDIA REGION
235.	1/27	23	20		9.7	8.106	94.114	52	85.66	5.0	-	NICOBAR ISL, INDIA REGION
236.	1/27	23	27		2.4	7.831	94.140	41	85.96	5.1	-	NICOBAR ISL, INDIA REGION
237.	1/28	0	15		48.4	8.211	93.933	30	85.84	4.9	-	NICOBAR ISL, INDIA REGION
238.	1/28	1	1		28.7	8.013	94.174	37	85.55	4.9	-	NICOBAR ISL, INDIA REGION
239.	1/28	1	18		22.3	7.738	94.078	38	85.83	4.9	-	NICOBAR ISL, INDIA REGION
240.	1/28	1	36		17.0	8.001	94.168	19	85.83	5.2	-	NICOBAR ISL, INDIA REGION

No.	Date	Origin time UTC			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		h	m	s	Latitude (deg)	Longitude (deg)		(deg)	Mb	Ms		
241.	1/28	1	46		49.9	8.167	93.622	30	85.84	4.8	-	NICOBAR ISL, INDIA REGION
242.	1/28	2	20		4.0	8.029	94.107	28	85.59	4.8	-	NICOBAR ISL, INDIA REGION
243.	1/28	2	23		14.6	7.807	93.964	30	85.85	5.1	-	NICOBAR ISL, INDIA REGION
244.	1/28	2	27		38.7	8.066	94.008	30	85.82	4.8	-	NICOBAR ISL, INDIA REGION
245.	1/28	2	29		0.5	8.096	93.818	22	85.74	5.2	4.7	NICOBAR ISL, INDIA REGION
246.	1/28	3	26		27.1	7.944	94.056	21	85.78	4.9	-	NICOBAR ISL, INDIA REGION
247.	1/28	3	31		25.0	7.995	94.026	23	85.55	5.2	-	NICOBAR ISL, INDIA REGION
248.	1/28	5	4		30.2	7.897	93.530	30	86.06	4.9	-	NICOBAR ISL, INDIA REGION
249.	1/28	5	6		44.5	8.235	94.172	20	86.29	5.1	-	NICOBAR ISL, INDIA REGION
250.	1/28	5	20		20.8	8.760	93.260	30	86.26	4.7	-	NICOBAR ISL, INDIA REGION
251.	1/28	5	36		0.7	8.528	93.910	30	85.57	4.8	-	NICOBAR ISL, INDIA REGION
252.	1/28	6	2		33.4	7.792	93.960	30	85.57	4.9	-	NICOBAR ISL, INDIA REGION
253.	1/28	6	6		54.8	7.800	93.941	25	85.71	5.2	-	NICOBAR ISL, INDIA REGION
254.	1/28	6	10		27.5	7.928	94.003	17	85.94	5.5	5.1	NICOBAR ISL, INDIA REGION
255.	1/28	6	13		24.4	7.916	94.036	19	85.87	5.4	-	NICOBAR ISLANDS, INDIA REGION
256.	1/28	6	39		52.2	8.156	94.022	30	85.85	4.8	-	NICOBAR ISL, INDIA REGION
257.	1/28	7	49		17.2	8.057	94.134	22	85.66	5.3	-	NICOBAR ISLANDS, INDIA REGION
258.	1/28	8	21		23.3	8.051	94.066	29	85.95	5.4	-	NICOBAR ISL, INDIA REGION
259.	1/28	8	29		47.0	7.877	93.993	25	85.72	5.2	-	NICOBAR ISL, INDIA REGION
260.	1/28	8	44		24.2	8.127	94.155	30	99.25	4.7	-	NICOBAR ISL, INDIA REGION
261.	1/28	8	47		18.3	7.950	93.960	30	85.48	5.1	-	NICOBAR ISL, INDIA REGION
262.	1/28	9	26		17.7	-1.194	-81.200	10	89.71	5.0	5.6	OFF THE COAST OF ECUADOR
263.	1/28	9	40		18.8	7.600	94.280	17	85.85	4.8	-	NICOBAR ISL, INDIA REGION
264.	1/28	10	0		55.8	12.640	92.230	18	85.75	4.7	-	ANDAMAN ISL, INDIA REGION
265.	1/28	10	4		38.1	8.050	94.070	30	85.98	4.6	-	NICOBAR ISL, INDIA REGION
266.	1/28	11	53		1.1	7.943	94.098	21	85.85	5.2	-	NICOBAR ISL, INDIA REGION
267.	1/28	11	59		36.3	8.180	94.080	30	86.01	4.7	-	NICOBAR ISL, INDIA REGION
268.	1/28	12	37		10.8	8.051	94.069	14	86.09	5.4	4.5	NICOBAR ISL, INDIA REGION
269.	1/28	16	0		27.0	8.185	94.173	23	85.88	4.8	-	NICOBAR ISL, INDIA REGION
270.	1/28	17	4		53.5	8.184	94.445	30	85.84	4.9	-	NICOBAR ISL, INDIA REGION
271.	1/28	17	16		32.6	8.112	93.989	37	85.89	4.8	-	NICOBAR ISL, INDIA REGION
272.	1/28	17	26		18.0	7.988	94.228	30	85.88	4.9	-	NICOBAR ISL, INDIA REGION
273.	1/28	17	31		59.3	8.028	94.272	33	85.79	4.8	-	NICOBAR ISL, INDIA REGION
274.	1/28	17	49		39.0	8.052	94.158	16	85.76	5.3	-	NICOBAR ISL, INDIA REGION
275.	1/28	19	18		51.4	7.966	94.144	19	85.84	5.3	5.1	NICOBAR ISLANDS, INDIA REGION
276.	1/28	19	38		54.4	8.019	93.881	17	85.75	4.7	-	NICOBAR ISL, INDIA REGION
277.	1/28	20	39		30.9	8.037	94.073	20	85.51	4.8	-	NICOBAR ISL, INDIA REGION
278.	1/28	20	42		1.5	8.004	93.899	29	85.55	4.9	-	NICOBAR ISL, INDIA REGION
279.	1/28	22	29		3.0	7.745	93.918	20	85.80	5.2	-	NICOBAR ISL, INDIA REGION
280.	1/28	22	35		25.7	7.759	94.014	23	87.30	5.2	-	NICOBAR ISL, INDIA REGION
281.	1/28	23	32		10.8	7.990	94.087	25	84.71	5.1	-	NICOBAR ISL, INDIA REGION
282.	1/29	0	26		28.7	-2.020	126.750	27	85.59	4.9	-	CERAM SEA, INDONESIA
283.	1/29	1	13		44.1	7.321	92.531	34	85.67	5.1	4.9	NICOBAR ISL, INDIA REGION
284.	1/29	1	46		44.6	7.756	94.162	30	82.97	4.6	-	NICOBAR ISL, INDIA REGION
285.	1/29	1	50		22.9	7.864	94.060	30	85.53	5.1	-	NICOBAR ISL, INDIA REGION
286.	1/29	2	3		43.2	-24.622	-176.022	40	83.19	4.9	4.6	SOUTH OF THE FIJI ISLANDS
287.	1/29	2	8		2.1	7.716	94.083	22	85.87	4.8	-	NICOBAR ISL, INDIA REGION
288.	1/29	2	55		18.8	5.072	94.708	38	86.01	5.3	4.6	NORTHERN SUMATRA, INDONESIA

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region	
		UTC			Latitude (deg)	Longitude (deg)		distance	Mb	Ms		
		h	m	s				(deg)				
289.	1/29	3	30		32.3	7.956	94.457	30	85.99	4.3	-	NICOBAR ISL, INDIA REGION
290.	1/29	3	38		1.0	8.170	94.230	17	85.81	5.4	4.7	NICOBAR ISL, INDIA REGION
291.	1/29	5	4		18.5	8.092	94.407	10	90.40	4.8	-	NICOBAR ISL, INDIA REGION
292.	1/29	5	26		46.1	7.967	94.210	16	81.20	5.3	4.9	NICOBAR ISL, INDIA REGION
293.	1/29	5	44		9.5	13.123	93.010	2	92.03	5.6	4.9	ANDAMAN ISLANDS, INDIA REGION
294.	1/29	6	10		43.5	3.307	93.671	29	54.08	5.5	5.3	OFF THE W COAST OF NORTHERN SUMATRA
295.	1/29	6	15		16.0	-15.870	-173.440	10	81.24	4.6	-	TONGA
296.	1/29	6	37		46.9	-56.914	-141.002	10	85.79	5.2	-	PACIFIC-ANTARCTIC RIDGE
297.	1/29	7	21		44.6	3.330	93.746	29	85.74	4.9	-	OFF WEST COAST OF N SUMATRA
298.	1/29	9	27		40.3	7.922	94.276	31	87.33	4.9	-	NICOBAR ISL, INDIA REGION
299.	1/29	10	11		17.0	7.857	94.317	30	85.78	4.9	-	NICOBAR ISL, INDIA REGION
300.	1/29	11	50		54.7	-1.966	126.687	50	85.61	5.2	-	KEPULAUAN SULA, INDONESIA
301.	1/29	12	23		48.2	7.907	94.305	30	85.97	4.6	-	NICOBAR ISL, INDIA REGION
302.	1/29	13	6		58.4	7.836	93.962	30	93.94	4.5	-	NICOBAR ISL, INDIA REGION
303.	1/29	13	21		36.0	8.122	94.256	30	85.52	4.5	-	NICOBAR ISL, INDIA REGION
304.	1/29	14	52		9.7	-4.791	153.284	43	86.38	5.2	-	NEW IRELAND REG, P.N.G.
305.	1/29	14	58		18.4	7.900	93.420	30	83.50	4.6	-	NICOBAR ISL, INDIA REGION
306.	1/29	16	12		49.4	8.542	94.271	15	85.96	4.9	-	NICOBAR ISL, INDIA REGION
307.	1/29	18	20		59.3	5.518	94.298	36	85.70	5.3	-	NORTHERN SUMATRA, INDONESIA
308.	1/29	18	37		57.6	8.111	94.245	30	85.91	4.9	-	NICOBAR ISL, INDIA REGION
309.	1/29	19	6		15.6	7.818	94.310	30	85.87	5.1	-	NICOBAR ISL, INDIA REGION
310.	1/29	20	1		54.7	8.092	94.151	21	85.61	5.3	4.8	NICOBAR ISL, INDIA REGION
311.	1/29	22	3		39.3	8.044	94.155	45	85.95	5.3	-	NICOBAR ISL, INDIA REGION
312.	1/29	23	14		34.5	7.962	93.539	64	86.13	5.1	-	NICOBAR ISL, INDIA REGION
313.	1/29	23	36		3.6	8.125	94.166	30	83.18	5.0	-	NICOBAR ISL, INDIA REGION
314.	1/30	0	13		1.3	8.256	94.356	30	84.69	4.8	-	NICOBAR ISL, INDIA REGION
315.	1/30	8	8		26.6	-24.408	-176.020	33	85.88	5.5	5.4	SOUTH OF THE FIJI ISLANDS
316.	1/30	8	10		44.0	-23.047	-175.078	48	85.94	5.3	-	TONGA REGION
317.	1/30	8	49		37.0	8.040	94.206	21	86.10	5.2	-	NICOBAR ISL, INDIA REGION
318.	1/30	15	33		13.6	8.156	94.043	19	107.43	5.6	4.7	NICOBAR ISLANDS, INDIA
319.	1/30	21	39		3.4	8.256	94.269	21	31.28	5.1	-	NICOBAR ISL, INDIA REGION
320.	1/31	1	5		32.5	37.509	20.158	25	85.72	5.2	5.4	IONIAN SEA
321.	1/31	13	56		37.5	-56.076	-27.423	109	110.03	5.5	-	SOUTH SANDWICH ISLANDS REGION
322.	2/1	1	8		1.7	7.927	94.039	16	73.53	5.3	4.7	NICOBAR ISL, INDIA REGION
323.	2/1	1	59		47.7	24.250	121.807	17	90.01	5.1	-	TAIWAN
324.	2/1	2	57		42.5	-23.478	-66.621	183	85.09	4.7	-	JUJUY, ARGENTINA
325.	2/1	4	41		32.3	12.869	92.505	10	87.12	4.8	-	ANDAMAN ISL, INDIA REGION
326.	2/1	9	21		1.5	-21.749	-179.496	573	87.69	5.0	-	FIJI REGION
327.	2/1	10	28		39.7	-20.393	-175.989	172	86.00	5.1	-	TONGA
328.	2/1	10	35		17.1	10.008	93.959	33	87.71	5.2	4.7	ANDAMAN ISLANDS, INDIA REGION
329.	2/1	13	41		53.6	8.176	94.190	20	83.28	5.2	-	NICOBAR ISL, INDIA REGION
330.	2/1	13	54		38.1	10.022	94.000	42	87.27	5.2	-	ANDAMAN ISL, INDIA REGION
331.	2/1	14	15		50.0	5.199	94.594	31	87.76	5.5	4.8	NORTHERN SUMATRA, INDONESIA
332.	2/1	15	37		54.3	-19.775	-178.264	566	80.93	4.7	-	FIJI REGION
333.	2/1	15	54		13.5	10.032	94.123	35	90.94	5.1	-	ANDAMAN ISL, INDIA REGION
334.	2/1	17	14		5.7	2.849	94.237	29	87.68	5.2	-	OFF WEST COAST OF N SUMATRA
335.	2/1	20	30		29.8	2.970	123.870	412	108.73	4.6	-	CELEBES SEA
336.	2/2	1	30		21.5	9.998	93.951	34	87.61	5.4	4.9	NICOBAR ISLANDS, INDIA REGION

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance (deg)	Magnitude		Region
		UTC h m s	Latitude (deg)	Longitude (deg)	Mb	Ms					
337.	2/2	2 30	25.6	14.097	144.654	159	88.67	5.5	-	ROTA REGION, NORTHERN MARIANA ISLANDS	
338.	2/2	4 29	44.7	9.915	94.011	33	83.35	4.7	-	NICOBAR ISL, INDIA REGION	
339.	2/2	6 28	36.4	-7.478	145.087	25	89.34	5.7	5.3	NEAR SOUTH COAST OF NEW GUINEA, P.N.G.	
340.	2/2	9 4	27.5	5.302	94.506	43	84.31	5.1	-	NORTHERN SUMATRA, INDONESIA	
341.	2/2	14 11	45.9	-6.628	144.690	6	83.32	5.1	-	NEW GUINEA, PAPUA NEW GUINEA	
342.	2/2	20 41	4.8	6.812	92.848	17	78.27	5.0	4.3	NICOBAR ISL, INDIA REGION	
343.	2/3	4 51	16.8	5.655	93.250	27	69.45	5.3	5.0	OFF THE W COAST OF NORTHERN SUMATRA	
344.	2/3	8 48	38.2	-19.255	-69.017	110	69.04	4.7	-	TARAPACA, CHILE	
345.	2/3	12 18	33.1	-2.428	68.502	10	91.23	4.9	-	CARLSBERG RIDGE	
346.	2/3	13 58	35.4	-37.450	176.610	216	62.39	4.5	-	N ISL OF NEW ZEALAND	
347.	2/4	6 13	8.7	-4.462	144.284	84	85.76	5.1	-	NR N CST NEW GUINEA, P.N.G.	
348.	2/4	9 15	36.0	-37.865	-73.780	23	91.73	5.1	-	OFFSHORE BIO-BIO, CHILE	
349.	2/4	9 44	53.1	7.884	94.301	21	85.88	5.1	4.9	NICOBAR ISL, INDIA REGION	
350.	2/4	16 45	40.2	-13.470	174.316	29	90.65	5.0	-	FIJI REGION	
351.	2/4	17 53	3.0	8.016	94.290	16	110.91	4.8	-	NICOBAR ISL, INDIA REGION	
352.	2/5	1 58	10.2	13.441	92.821	30	80.60	4.7	-	ANDAMAN ISL, INDIA REGION	
353.	2/5	3 34	24.9	15.989	145.851	139	80.79	6.3	-	SAIPAN REG., NORTHERN MARIANA ISLANDS	
354.	2/5	4 3	13.6	2.255	95.034	30	87.54	5.4	5.9	SIMEULUE, INDONESIA	
355.	2/5	4 9	52.8	2.454	95.016	30	80.66	5.0	-	SIMEULUE, INDONESIA	
356.	2/5	4 18	54.8	10.127	93.060	30	85.97	5.2	-	ANDAMAN ISL, INDIA REGION	
357.	2/5	4 33	17.4	2.279	95.160	27	92.93	5.1	-	SIMEULUE, INDONESIA	
358.	2/5	8 0	27.9	8.155	94.141	18	85.95	5.7	5.0	NICOBAR ISLANDS, INDIA REGION	
359.	2/5	12 23	16.5	5.358	123.209	501	85.37	6.4	-	CELEBES SEA	
360.	2/5	17 35	46.7	8.116	94.186	30	93.57	5.5	5.8	NICOBAR ISLANDS, INDIA	
361.	2/5	19 41	35.1	-22.194	-175.932	119	88.13	5.0	-	TONGA REGION	
362.	2/5	19 49	3.0	-5.523	154.266	119	45.33	5.0	-	BOUGAINVILLE REG, P.N.G.	
363.	2/5	23 38	5.0	0.071	123.600	129	45.40	5.0	-	MINAHASA, SULAWESI, INDONESIA	
364.	2/6	1 25	43.1	-52.982	140.372	10	91.27	5.0	-	WEST OF MACQUARIE ISLAND	
365.	2/6	1 28	47.8	-52.813	140.094	10	85.89	5.3	5.2	WEST OF MACQUARIE ISLAND	
366.	2/6	4 24	18.7	13.864	93.587	37	88.43	5.6	5.1	ANDAMAN ISLANDS, INDIA REGION	
367.	2/6	6 7	55.1	8.101	94.059	18	87.06	5.4	5.1	NICOBAR ISLANDS, INDIA REGION	
368.	2/7	12 53	46.2	-10.041	-73.562	40	28.35	4.7	-	CENTRAL PERU	
369.	2/7	14 5	46.0	-19.924	-178.577	578	81.92	4.6	-	FIJI REGION	
370.	2/7	14 23	54.7	-59.849	-27.143	146	94.15	5.1	-	SOUTH SANDWICH ISL REGION	
371.	2/7	16 46	51.9	4.216	93.164	30	107.38	4.9	-	OFF WEST COAST OF N SUMATRA	
372.	2/7	20 2	19.1	-4.527	153.154	52	119.59	5.6	5.8	NEW IRELAND REGION, PAPUA NEW GUINEA	
373.	2/7	20 46	26.6	36.324	10.789	10	31.46	5.0	5.1	TUNISIA	
374.	2/9	18 46	10.0	26.085	144.012	24	86.68	6.2	6.3	BONIN ISLANDS, JAPAN REGION	
375.	2/9	20 3	5.5	-55.451	-26.550	10	86.66	5.1	-	SOUTH SANDWICH ISL REGION	
376.	2/10	5 27	17.9	8.928	94.043	30	92.65	4.6	-	NICOBAR ISL, INDIA REGION	
377.	2/10	5 43	34.3	8.899	94.081	30	77.49	4.4	-	NICOBAR ISL, INDIA REGION	
378.	2/10	7 10	35.3	-15.191	-173.706	10	81.18	5.2	4.8	TONGA	
379.	2/10	9 39	7.5	-29.940	-177.534	35	85.52	4.9	-	KERMADEC ISL, NEW ZEALAND	
380.	2/10	16 53	19.9	-23.086	169.207	9	73.91	6.0	5.7	SOUTHEAST OF THE LOYALTY ISLANDS	
381.	2/10	19 51	19.8	-18.447	168.752	127	81.39	4.8	-	VANUATU	
382.	2/10	20 18	34.2	-33.020	179.440	400	89.15	4.4	-	SOUTH OF KERMADEC ISLANDS	
383.	2/10	21 52	26.7	-22.858	169.180	50	83.21	5.1	-	SOUTHEAST OF LOYALTY ISLANDS	
384.	2/11	15 4	27.8	-17.735	-178.803	590	118.90	4.4	-	FIJI REGION	



No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region	
		UTC			Latitude (deg)	Longitude (deg)		distance (deg)	Mb	Ms		
		h	m	s								
385.	2/13	2	2		7.6	5.064	94.788	52	82.06	5.5	-	NORTHERN SUMATRA, INDONESIA
386.	2/13	3	29		22.1	26.766	140.324	445	59.42	4.5	-	BONIN ISLANDS, JAPAN REGION
387.	2/13	5	26		54.4	11.966	57.834	10	90.35	5.0	4.2	OWEN FRACTURE ZONE REGION
388.	2/13	6	55		31.6	-45.300	166.950	20	74.07	4.8	-	OFF W CST S ISL, NZ
389.	2/13	10	23		51.1	12.987	93.296	53	92.26	4.7	-	ANDAMAN ISL, INDIA REGION
390.	2/13	15	12		15.6	-33.277	-178.429	42	79.50	4.9	4.0	SOUTH OF KERMADEC ISLANDS
391.	2/14	13	21		56.3	14.869	93.678	36	86.07	5.0	4.4	ANDAMAN ISL, INDIA REGION
392.	2/14	17	6		53.8	-0.108	98.763	56	114.68	6.1	-	KEPULAUAN BATU, INDONESIA
393.	2/14	18	55		3.0	-17.559	167.611	30	79.30	5.1	5.0	VANUATU
394.	2/14	23	38		8.4	41.709	79.406	22	79.29	6.0	6.2	SOUTHERN XINJIANG, CHINA
395.	2/15	1	45		46.7	1.803	92.087	30	81.26	4.8	4.4	OFF WEST COAST OF N SUMATRA
396.	2/15	2	32		59.4	1.785	92.108	10	88.23	5.3	5.0	OFF THE W COAST OF NORTHERN SUMATRA
397.	2/15	13	1		20.6	3.270	94.010	23	93.51	4.6	-	OFF WEST COAST OF N SUMATRA
398.	2/15	13	28		17.5	-15.267	167.465	95	86.52	4.9	-	VANUATU
399.	2/15	14	42		25.8	4.752	126.419	40	86.54	6.0	6.0	KEPULAUAN TALAUD, INDONESIA
400.	2/15	20	8		42.3	8.808	93.882	30	90.80	4.9	-	NICOBAR ISL, INDIA REGION
401.	2/15	20	20		43.5	8.823	93.896	30	86.03	4.7	-	NICOBAR ISL, INDIA REGION
402.	2/15	21	19		23.9	-13.819	171.947	21	74.05	5.0	-	VANUATU REGION
403.	2/16	8	19		42.7	8.228	94.101	16	86.42	5.6	5.7	NICOBAR ISLANDS, INDIA REGION
404.	2/16	9	11		23.8	-22.810	-66.298	237	44.78	4.2	-	JUJUY, ARGENTINA
405.	2/16	11	42		11.1	-20.919	-176.927	274	31.26	4.7	-	FIJI REGION
406.	2/16	20	27		53.0	-35.673	-16.363	10	83.01	5.9	6.1	SOUTHERN MID-ATLANTIC RIDGE
407.	2/17	1	19		16.7	-56.115	-27.441	103	92.05	5.3	-	SOUTH SANDWICH ISLANDS REGION
408.	2/17	5	31		26.4	4.720	95.212	34	73.35	6.0	5.5	NORTHERN SUMATRA, INDONESIA
409.	2/17	6	12		16.3	-5.849	150.571	38	86.03	5.4	-	NEW BRITAIN REG, P.N.G.
410.	2/17	6	20		23.1	-34.085	-178.080	37	89.81	5.2	4.7	SOUTH OF KERMADEC ISLANDS
411.	2/17	11	39		26.7	8.151	94.344	30	82.93	4.7	-	NICOBAR ISL, INDIA REGION
412.	2/17	16	42		45.0	0.962	125.962	17	98.66	5.3	4.3	MOLUCCA SEA
413.	2/17	19	47		40.1	12.808	58.085	10	82.08	4.4	-	OWEN FRACTURE ZONE REGION
414.	2/17	20	42		57.9	-1.767	-81.044	10	82.80	5.1	5.0	OFF THE COAST OF ECUADOR
415.	2/18	11	46		51.9	3.870	94.840	30	83.66	4.4	-	OFF WEST COAST OF N SUMATRA
416.	2/18	12	12		30.5	-7.427	128.260	118	83.49	4.4	-	KEPULAUAN BARAT DAYA, INDONESIA
417.	2/18	15	25		45.8	-23.655	-177.364	124	108.94	5.2	-	SOUTH OF THE FIJI ISLANDS
418.	2/18	19	33		46.3	5.455	94.465	48	82.33	5.7	-	NORTHERN SUMATRA, INDONESIA
419.	2/18	20	18		17.5	23.182	121.524	15	82.23	5.5	5.5	TAIWAN
420.	2/19	0	4		43.5	-5.559	122.086	10	82.69	6.3	6.3	SULAWESI, INDONESIA
421.	2/19	0	9		11.7	-5.635	121.995	10	75.18	5.4	-	SULAWESI, INDONESIA
422.	2/19	2	37		58.4	4.516	94.821	30	80.54	4.8	-	OFF WEST COAST OF N SUMATRA
423.	2/19	14	4		40.9	-5.669	101.691	28	65.46	5.5	4.7	SOUTHWEST OF SUMATRA, INDONESIA
424.	2/19	14	23		50.0	2.109	95.293	28	49.29	5.0	-	SIMEULUE, INDONESIA
425.	2/19	18	53		59.8	-6.466	68.388	10	65.42	4.9	-	CHAGOS ARCHIPELAGO REGION
426.	2/19	20	24		57.7	-42.604	124.606	10	98.01	4.7	-	SOUTH OF AUSTRALIA
427.	2/19	22	0		38.2	-6.546	68.576	10	97.30	4.9	-	CHAGOS ARCHIPELAGO REGION
428.	2/20	4	52		49.2	9.667	126.190	34	88.54	5.0	-	MINDANAO, PHILIPPINES
429.	2/20	5	8		38.1	8.906	126.189	42	94.02	5.1	-	MINDANAO, PHILIPPINES
430.	2/20	11	43		42.4	11.414	92.218	33	85.54	5.0	-	ANDAMAN ISL, INDIA REGION
431.	2/20	12	14		51.5	-4.656	153.139	46	69.53	5.3	4.8	NEW IRELAND REGION, PAPUA NEW GUINEA
432.	2/20	13	17		1.6	7.780	93.910	30	89.71	4.5	-	NICOBAR ISL, INDIA REGION

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC h m s	Latitude (deg)	Longitude (deg)	Latitude (deg)	Longitude (deg)		(deg)	Mb	Ms		
433.	2/20	13	41	4.2	-2.347	68.529	10	71.70	4.9	4.6	CARLSBERG RIDGE	
434.	2/20	15	26	21.2	-13.669	167.286	229	87.85	5.0	-	VANUATU	
435.	2/20	20	21	55.7	-35.810	-104.060	10	77.69	4.6	-	SOUTHEAST OF EASTER ISLAND	
436.	2/20	23	8	4.1	10.279	93.607	25	83.31	5.2	4.7	ANDAMAN ISL, INDIA REGION	
437.	2/21	0	4	56.0	-29.870	-176.854	10	81.17	5.2	5.0	KERMADEC ISLANDS REGION	
438.	2/21	0	26	43.9	5.200	94.690	30	84.20	4.5	-	NORTHERN SUMATRA, INDONESIA	
439.	2/21	6	10	12.2	3.255	93.745	28	83.09	5.2	4.7	OFF WEST COAST OF N SUMATRA	
440.	2/21	11	7	26.9	6.863	92.281	25	99.68	4.6	-	NICOBAR ISL, INDIA REGION	
441.	2/21	23	19	36.3	5.050	94.440	30	82.28	4.6	-	NORTHERN SUMATRA, INDONESIA	
442.	2/22	3	20	7.2	12.596	123.189	17	87.82	5.7	5.4	MASBATE REGION, PHILIPPINES	
443.	2/22	8	5	32.8	3.730	95.936	30	32.87	4.4	-	OFF WEST COAST OF N SUMATRA	
444.	2/22	17	11	56.7	10.794	91.773	6	85.73	5.6	4.9	ANDAMAN ISLANDS, INDIA	
445.	2/22	23	14	17.9	-65.729	133.391	10	91.66	5.7	5.3	SOUTH OF AUSTRALIA	
446.	2/23	10	40	32.5	-18.126	168.402	40	91.68	5.2	4.8	VANUATU	
447.	2/23	11	33	58.4	-6.265	150.579	50	82.96	5.8	5.4	NEW BRITAIN REGION, PAPUA NEW GUINEA	
448.	2/23	12	2	38.2	-6.289	150.701	55	92.09	4.8	-	NEW BRITAIN REG, P.N.G.	
449.	2/23	18	24	39.6	4.697	95.126	30	87.83	4.9	-	NORTHERN SUMATRA, INDONESIA	
450.	2/24	3	7	13.4	-9.300	161.027	43	91.04	4.7	-	SOLOMON ISLANDS	
451.	2/24	4	55	49.9	-21.020	-113.638	10	59.89	5.5	5.3	SOUTHERN EAST PACIFIC RISE	
452.	2/24	6	16	32.8	13.790	93.042	30	81.38	4.7	-	ANDAMAN ISL, INDIA REGION	
453.	2/24	7	4	41.7	-43.223	-82.853	10	79.44	5.0	-	WEST CHILE RISE	
454.	2/24	7	35	50.2	2.865	95.684	30	32.87	5.7	5.5	SIMEULUE, INDONESIA	
455.	2/24	14	43	52.8	1.946	92.099	30	82.94	4.7	-	OFF WEST COAST OF N SUMATRA	
456.	2/24	20	33	45.5	-65.706	133.322	10	82.52	4.9	-	SOUTH OF AUSTRALIA	
457.	2/26	6	44	31.8	-7.394	128.560	139	81.10	5.0	-	KEPULAUAN BARAT DAYA, INDONESIA	
458.	2/26	6	52	52.0	3.358	97.896	30	81.40	4.8	-	NORTHERN SUMATRA, INDONESIA	
459.	2/26	9	34	10.5	2.644	95.450	30	86.04	4.8	-	SIMEULUE, INDONESIA	
460.	2/26	12	56	51.3	2.926	95.557	27	91.92	6.0	6.8	SIMEULUE, INDONESIA	
461.	2/26	17	0	56.3	-20.864	-179.078	573	89.25	4.3	-	FIJI REGION	
462.	2/27	4	35	33.3	-2.722	141.568	13	79.67	5.2	4.5	NR N CST NEW GUINEA, P.N.G.	
463.	2/27	4	54	50.8	-17.672	-178.596	556	60.55	5.1	-	FIJI REGION	
464.	2/27	9	3	11.8	-1.228	-24.566	10	74.10	4.7	4.6	CENTRAL MID-ATLANTIC RIDGE	
465.	2/27	19	53	11.2	-42.687	-83.465	10	87.57	5.1	4.6	WEST CHILE RISE	
466.	2/27	20	55	2.6	-22.763	-66.298	248	73.50	4.7	-	JUJUY, ARGENTINA	
467.	2/28	0	35	29.9	9.901	93.921	30	77.06	4.7	-	NICOBAR ISL, INDIA REGION	
468.	2/28	1	24	56.8	-34.596	-107.540	10	83.06	5.1	5.2	SOUTHERN EAST PACIFIC RISE	
469.	2/28	8	29	57.7	-30.344	-177.710	41	73.20	5.2	4.4	KERMADEC ISL, NEW ZEALAND	
470.	2/28	9	26	25.6	5.080	94.220	30	72.97	4.7	-	NORTHERN SUMATRA, INDONESIA	
471.	2/28	9	39	23.6	-34.943	-107.773	10	67.74	5.1	4.7	SOUTHERN EAST PACIFIC RISE	
472.	3/1	6	31	39.7	-24.041	-66.498	187	77.59	5.0	-	JUJUY, ARGENTINA	
473.	3/1	7	24	5.7	-31.441	-71.714	25	54.46	5.3	5.0	OFFSHORE COQUIMBO, CHILE	
474.	3/1	12	31	47.2	-29.930	-177.090	52	82.31	5.1	-	KERMADEC ISL, NEW ZEALAND	
475.	3/1	14	5	10.5	-56.531	-141.563	10	119.55	5.0	-	PACIFIC-ANTARCTIC RIDGE	
476.	3/1	15	21	8.2	-6.202	123.694	646	83.41	4.9	-	BANDA SEA	
477.	3/1	15	44	43.0	27.721	139.712	501	74.46	4.2	-	BONIN ISLANDS, JAPAN REGION	
478.	3/1	19	22	42.2	5.426	94.291	39	89.26	4.6	-	NORTHERN SUMATRA, INDONESIA	
479.	3/3	11	54	36.3	-32.700	-179.323	10	91.55	5.3	4.9	SOUTH OF KERMADEC ISLANDS	
480.	3/4	9	0	39.2	-17.626	-178.766	530	85.04	4.0	-	FIJI REGION	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC h m s	Latitude (deg)	Longitude (deg)	distance (deg)	Mb		Ms			
481.	3/4	19	5	16.0	2.655	126.411	27	74.30	6.0	5.0	MOLUCCA SEA
482.	3/4	21	35	50.5	-22.412	-176.543	101	110.45	5.3	-	SOUTH OF THE FIJI ISLANDS
483.	3/4	22	8	3.2	-22.437	-65.986	233	69.35	4.5	-	JUJUY, ARGENTINA
484.	3/5	19	8	0.4	24.725	121.759	14	91.00	5.4	-	TAIWAN
485.	3/5	20	45	1.3	-28.255	-67.422	116	92.79	4.3	-	CATAMARCA, ARGENTINA
486.	3/6	1	39	11.8	-11.118	163.178	47	156.14	5.4	5.7	SOLOMON ISLANDS
487.	3/6	2	49	15.9	3.206	128.442	41	45.78	5.1	-	N OF HALMAHERA, INDONESIA
488.	3/6	5	21	43.5	84.985	99.222	10	92.49	6.1	6.1	NORTH OF SEVERNAYA ZEMLYA
489.	3/6	8	23	5.5	-57.746	157.843	10	91.02	4.7	-	MACQUARIE ISLAND REGION
490.	3/6	11	31	4.0	2.796	128.675	222	91.11	4.7	-	HALMAHERA, INDONESIA
491.	3/6	14	59	23.2	-10.979	162.800	10	79.53	5.2	5.1	SOLOMON ISLANDS
492.	3/6	17	37	22.4	-10.935	162.976	10	152.46	5.0	-	SOLOMON ISLANDS
493.	3/6	22	34	57.6	-18.180	-69.760	135	152.48	4.4	-	TARAPACA, CHILE
494.	3/7	2	34	33.9	42.497	-126.701	10	112.65	5.2	-	OFF THE COAST OF OREGON
495.	3/7	2	48	20.6	42.539	-126.599	10	91.82	5.1	-	OFF THE COAST OF OREGON
496.	3/7	7	17	22.8	11.343	-85.995	80	73.76	5.2	-	NICARAGUA
497.	3/7	20	0	29.6	-16.053	-173.623	49	83.58	5.1	-	TONGA
498.	3/8	4	54	21.2	-14.700	121.930	10	141.83	4.2	-	NORTHWEST OF AUSTRALIA
499.	3/8	6	38	31.1	-20.538	169.051	65	88.72	4.9	-	VANUATU
500.	3/8	23	58	40.3	52.171	141.840	21	42.75	5.0	4.2	SAKHALIN, RUSSIA
501.	3/9	9	38	23.1	-18.135	-178.980	531	81.07	4.9	-	FIJI REGION
502.	3/9	10	15	33.6	-26.891	26.661	15	153.97	5.0	4.3	SOUTH AFRICA
503.	3/9	18	27	32.2	3.213	93.550	34	89.06	5.2	4.8	OFF WEST COAST OF N SUMATRA
504.	3/11	12	59	53.9	7.415	94.278	30	115.17	5.3	4.5	NICOBAR ISL, INDIA REGION
505.	3/11	15	41	17.9	-20.885	-66.030	244	155.92	4.7	-	POTOSI, BOLIVIA
506.	3/12	4	50	50.7	9.349	92.975	30	114.58	4.9	-	NICOBAR ISL, INDIA REGION
507.	3/12	13	32	28.3	-7.178	120.556	502	90.93	5.1	-	FLORES SEA
508.	3/12	22	33	14.4	5.477	94.679	60	155.99	5.3	-	NORTHERN SUMATRA, INDONESIA
509.	3/13	2	9	49.0	-26.155	131.644	5	155.85	4.5	-	SOUTH AUSTRALIA
510.	3/13	14	34	0.2	-18.150	-177.979	615	93.59	4.6	-	FIJI REGION
511.	3/13	15	8	12.0	-40.225	173.689	147	115.00	5.5	-	COOK STRAIT, NEW ZEALAND
512.	3/13	20	38	59.9	-32.538	-71.579	26	95.19	5.3	4.8	OFFSHORE VALPARAISO, CHILE
513.	3/13	22	12	45.9	5.513	94.575	53	85.30	5.5	-	NORTHERN SUMATRA, INDONESIA
514.	3/14	4	27	13.3	9.414	93.078	29	75.76	5.0	-	NICOBAR ISL, INDIA REGION
515.	3/14	5	11	57.4	-27.722	73.814	10	86.77	5.7	5.4	MID-INDIAN RIDGE
516.	3/14	6	54	5.1	47.668	152.284	116	80.28	5.2	-	KURIL ISLANDS
517.	3/14	8	4	35.3	-45.096	166.749	10	83.57	5.5	4.6	OFF WEST COAST OF THE SOUTH ISLAND, N.Z.
518.	3/14	12	43	44.8	-28.416	-65.758	24	66.62	5.3	5.1	CATAMARCA, ARGENTINA
519.	3/14	15	37	0.9	-8.566	112.742	120	88.92	5.1	-	JAVA, INDONESIA
520.	3/15	20	5	29.9	-19.431	168.524	50	65.76	5.2	-	VANUATU
521.	3/15	20	7	1.1	-24.139	-66.736	175	66.67	5.2	-	SALTA, ARGENTINA
522.	3/16	9	32	52.9	-35.037	179.313	201	83.57	5.0	-	OFF E COAST OF N ISL, N.Z.
523.	3/16	12	27	4.2	-56.210	-26.679	48	86.87	5.1	5.1	SOUTH SANDWICH ISL REGION
524.	3/16	22	41	14.8	-52.380	159.370	10	46.00	4.9	5.2	MACQUARIE ISLAND REGION
525.	3/17	6	56	18.3	-15.849	-172.014	16	141.77	5.3	5.0	SAMOA ISLANDS REGION
526.	3/17	13	37	37.3	15.139	-91.402	198	59.57	5.8	-	GUATEMALA
527.	3/23	7	45	27.9	-23.225	-66.589	196	68.65	4.3	-	JUJUY, ARGENTINA
528.	3/23	8	49	17.4	-5.630	154.280	144	76.21	4.4	-	BOUGAINVILLE REG, P.N.G.

No.	Date	Origin time			Geographic		Coordinates	Depth	Epicentral			Magnitude	Region
		UTC			Latitude	Longitude			distance	Mb	Ms		
		h	m	s	(deg)	(deg)	(km)	(deg)					
529.	3/23	9	17		6.2	12.320	92.540	30	84.51	4.9	-	ANDAMAN ISL, INDIA REGION	
530.	3/23	10	55		51.3	-55.280	-0.810	10	72.96	4.8	-	BOUVET ISLAND REGION	
531.	3/23	11	32		7.2	-14.774	-76.263	23	71.92	4.7	-	EAR COAST OF CENTRAL PERU	
532.	3/23	13	59		19.1	-55.566	-1.535	25	30.91	5.6	5.6	BOUVET ISLAND REGION	
533.	3/24	6	8		36.6	-55.950	-27.082	53	51.02	5.0	-	SOUTH SANDWICH ISL REGION	
534.	3/24	10	1		2.1	-0.112	122.884	169	92.31	4.6	-	SULAWESI, INDONESIA	
535.	3/24	17	2		43.8	-22.509	171.897	10	117.90	4.8	-	SOUTHEAST OF LOYALTY ISLANDS	
536.	3/24	21	22		57.6	-17.080	-174.245	116	73.76	4.5	-	TONGA	
537.	3/25	0	7		20.7	-20.041	-70.428	55	93.47	4.7	-	OFFSHORE TARAPACA, CHILE	
538.	3/25	1	4		52.9	5.495	94.367	39	89.50	5.9	5.7	NORTHERN SUMATRA, INDONESIA	
539.	3/25	3	54		26.7	-20.232	-68.819	96	22.47	5.0	-	TARAPACA, CHILE	
540.	3/26	2	40		39.8	-43.129	91.629	10	84.82	4.7	-	SOUTHEAST INDIAN RIDGE	
541.	3/26	2	42		3.3	-15.386	-173.304	10	22.49	5.0	4.7	TONGA	
542.	3/26	4	23		16.1	-23.623	179.642	600	31.26	4.4	-	SOUTH OF THE FIJI ISLANDS	
543.	3/26	5	3		4.8	-6.819	153.602	29	87.70	5.5	4.9	NEW BRITAIN REGION, PAPUA NEW GUINEA	
544.	3/26	15	40		34.5	-4.907	129.956	10	82.40	5.8	5.8	BANDA SEA	
545.	3/27	4	57		37.8	-24.263	-66.861	167	90.70	4.6	-	SALTA, ARGENTINA	
546.	3/28	16	9		36.2	2.074	97.013	30	78.00	7.1	8.4	NORTHERN SUMATRA, INDONESIA	
547.	3/28	22	41		17.6	1.013	97.344	30	83.49	4.9	-	NIAS REGION, INDONESIA	
548.	3/28	23	37		31.3	2.905	96.347	30	77.29	5.7	-	SIMEULUE, INDONESIA	
549.	3/29	0	56		3.9	1.667	97.116	30	37.16	5.0	-	NIAS REGION, INDONESIA	
550.	3/29	1	30		5.6	2.090	96.409	30	92.53	4.7	-	SIMEULUE, INDONESIA	
551.	3/29	2	22		41.7	1.031	97.460	23	83.09	5.1	-	NIAS REGION, INDONESIA	
552.	3/29	2	40		36.8	1.146	97.193	23	92.13	4.7	-	NIAS REGION, INDONESIA	
553.	3/29	3	38		30.0	2.479	96.659	30	85.76	4.7	-	SIMEULUE, INDONESIA	
554.	3/29	4	50		7.9	0.219	97.087	36	72.88	5.4	4.7	NIAS REGION, INDONESIA	
555.	3/29	5	13		51.4	0.227	98.011	30	80.12	4.9	-	NIAS REGION, INDONESIA	
556.	3/29	5	16		29.7	2.643	96.566	30	81.62	5.7	5.9	SIMEULUE, INDONESIA	
557.	3/29	10	56		53.9	2.270	96.504	27	81.52	5.2	-	SIMEULUE, INDONESIA	
558.	3/29	12	56		3.9	5.502	93.343	26	80.68	5.0	-	OFF WEST COAST OF N SUMATRA	
559.	3/29	14	43		31.8	0.959	97.482	30	80.86	4.8	-	NIAS REGION, INDONESIA	
560.	3/29	16	38		20.1	-33.711	-72.277	34	80.18	5.1	-	OFFSHORE VALPARAISO, CHILE	
561.	3/29	18	6		35.5	2.415	96.683	30	80.20	5.0	-	SIMEULUE, INDONESIA	
562.	3/29	18	50		6.9	2.220	96.737	30	81.31	4.0	-	SIMEULUE, INDONESIA	
563.	3/29	20	19		43.3	-36.920	177.640	164	79.29	4.2	-	OFF E CST N ISL, N.Z.	
564.	3/30	1	13		15.7	1.821	97.056	27	79.58	5.5	5.5	NIAS REGION, INDONESIA	
565.	3/30	7	55		22.3	-45.658	-76.790	10	81.44	4.7	-	OFF COAST OF AISEN, CHILE	
566.	3/30	10	20		22.6	1.923	96.950	28	81.06	5.4	4.8	NIAS REGION, INDONESIA	
567.	3/30	12	0		34.7	-10.235	161.335	80	83.20	5.7	-	SOLOMON ISLANDS	
568.	3/30	12	57		43.3	0.247	98.045	21	80.12	5.2	5.1	NIAS REGION, INDONESIA	
569.	3/30	16	0		52.2	-53.651	141.196	10	65.80	4.9	-	WEST OF MACQUARIE ISLAND	
570.	3/30	16	19		41.0	3.005	95.368	22	81.25	6.0	6.3	OFF THE W COAST OF NORTHERN SUMATRA	
571.	3/30	16	38		22.4	1.093	125.729	91	81.09	5.4	-	MOLUCCA SEA	
572.	3/30	16	56		46.6	-20.130	-70.410	85	69.76	4.4	-	OFFSHORE TARAPACA, CHILE	
573.	3/30	17	29		21.9	2.954	95.408	26	80.87	5.7	-	SIMEULUE, INDONESIA	
574.	3/30	17	41		57.2	-22.347	-179.758	589	91.30	5.8	-	SOUTH OF THE FIJI ISLANDS	
575.	3/30	23	31		23.2	-35.237	-70.998	90	79.61	5.1	-	MAULE, CHILE	
576.	3/30	23	40		51.4	1.914	97.066	49	81.42	5.2	-	NIAS REGION, INDONESIA	

No.	Date	Origin time			Geographic		Coordinates	Depth	Epicentral			Magnitude	Region
		UTC			Latitude	Longitude			distance				
		h	m	s	(deg)	(deg)	(km)	(deg)	Mb	Ms			
577.	3/31	1	39		5.8	-18.569	176.028	10	89.85	5.3	-	FIJI REGION	
578.	3/31	1	46		17.7	-18.435	176.001	10	77.91	5.8	5.7	FIJI REGION	
579.	3/31	2	39		28.1	1.101	97.320	23	81.38	4.9	-	NIAS REGION, INDONESIA	
580.	3/31	4	35		59.4	-19.830	-178.257	600	84.45	4.4	-	FIJI REGION	
581.	3/31	4	48		8.1	1.261	97.173	30	63.99	5.2	4.7	NIAS REGION, INDONESIA	
582.	3/31	4	54		13.1	1.288	97.110	30	80.90	4.6	-	NIAS REGION, INDONESIA	
583.	3/31	5	19		52.4	-53.966	7.760	10	87.20	5.3	-	BOUVET ISLAND REGION	
584.	3/31	7	9		33.8	1.549	97.057	28	87.32	4.8	-	NIAS REGION, INDONESIA	
585.	3/31	7	23		53.8	1.785	97.054	22	80.20	5.7	5.8	NIAS REGION, INDONESIA	
586.	3/31	13	1		33.1	1.290	97.270	24	87.22	4.7	-	NIAS REGION, INDONESIA	
587.	3/31	16	33		40.7	-23.510	-64.518	35	80.31	5.1	4.6	SALTA, ARGENTINA	
588.	3/31	18	2		33.3	0.377	97.702	21	80.31	5.2	4.1	NIAS REGION, INDONESIA	
589.	3/31	19	14		37.1	1.379	97.048	27	20.75	4.9	-	NIAS REGION, INDONESIA	
590.	3/31	21	22		45.8	0.942	97.474	26	80.55	4.7	-	NIAS REGION, INDONESIA	
591.	3/31	21	52		35.6	-22.936	-64.655	10	80.77	5.2	4.5	SALTA, ARGENTINA	
592.	4/1	5	55		56.8	2.316	96.420	30	80.36	5.0	-	SIMEULUE, INDONESIA	
593.	4/1	7	58		20.1	5.660	94.440	30	72.81	4.6	-	NORTHERN SUMATRA, INDONESIA	
594.	4/1	10	37		45.8	2.887	96.324	27	79.63	5.4	4.5	SIMEULUE, INDONESIA	
595.	4/1	17	24		40.6	1.235	97.194	27	80.38	5.1	4.4	NIAS REGION, INDONESIA	
596.	4/1	20	32		37.8	0.352	98.089	32	80.10	5.5	5.0	NIAS REGION, INDONESIA	
597.	4/1	22	20		18.0	-0.366	96.947	30	81.08	5.1	4.4	SW OF SUMATRA, INDONESIA	
598.	4/2	2	7		50.5	-44.370	169.870	12	83.67	4.9	-	SOUTH ISLAND OF NEW ZEALAND	
599.	4/2	3	37		23.6	0.844	97.365	30	80.29	5.0	4.7	NIAS REGION, INDONESIA	
600.	4/2	3	39		5.0	-1.718	99.764	30	79.73	5.2	-	KEPULAUAN MENTAWAI REG, INDONESIA	
601.	4/2	7	59		15.5	-5.234	145.704	78	78.69	4.9	-	E NEW GUINEA REG, P.N.G.	
602.	4/2	12	52		36.3	78.533	5.975	10	60.96	5.6	5.9	SVALBARD REGION	
603.	4/2	13	1		16.9	-25.080	-70.701	53	79.97	5.0	-	OFFSHORE ANTOFAGASTA, CHILE	
604.	4/2	13	21		16.3	-19.010	-173.880	10	78.29	4.7	-	TONGA	
605.	4/2	15	21		18.0	-0.399	96.961	23	90.99	5.2	-	SW OF SUMATRA, INDONESIA	
606.	4/2	23	10		45.2	2.961	96.246	27	148.79	4.4	-	SIMEULUE, INDONESIA	
607.	4/3	0	59		22.5	0.363	98.328	39	73.36	5.9	6.0	NIAS REGION, INDONESIA	
608.	4/3	1	41		32.5	13.576	120.782	128	88.87	5.3	-	MINDORO, PHILIPPINES	
609.	4/3	3	10		58.6	2.025	97.932	55	78.66	5.9	-	NORTHERN SUMATRA, INDONESIA	
610.	4/3	14	42		48.4	9.841	93.652	18	81.64	5.1	4.3	NICOBAR ISL, INDIA REGION	
611.	4/4	4	33		50.3	1.624	97.905	61	79.81	5.5	-	NIAS REGION, INDONESIA	
612.	4/4	7	4		43.0	1.261	97.164	30	99.75	4.6	-	NIAS REGION, INDONESIA	
613.	4/4	8	16		22.4	-20.516	-178.398	546	81.27	5.2	-	FIJI REGION	
614.	4/4	11	27		10.3	1.123	97.072	23	87.44	4.7	-	NIAS REGION, INDONESIA	
615.	4/4	19	37		10.4	4.788	94.801	51	80.88	5.2	-	OFF W CST N SUMATRA	
616.	4/5	1	27		40.5	-24.098	-66.777	175	80.30	4.5	-	SALTA, ARGENTINA	
617.	4/5	2	19		33.1	5.338	94.270	30	86.52	4.9	-	NORTHERN SUMATRA, INDONESIA	
618.	4/5	2	27		59.7	-24.183	179.655	534	80.14	4.8	-	SOUTH OF THE FIJI ISLANDS	
619.	4/5	6	36		49.7	1.041	97.220	30	82.95	4.8	-	NIAS REGION, INDONESIA	
620.	4/5	8	43		32.6	-1.110	120.431	30	73.01	4.8	-	SULAWESI, INDONESIA	
621.	4/5	9	37		22.7	1.892	96.970	25	83.32	5.2	5.1	NIAS REGION, INDONESIA	
622.	4/5	15	23		25.9	-24.120	-68.240	116	82.54	4.1	-	ANTOFAGASTA, CHILE	
623.	4/5	16	1		41.8	-10.470	-70.887	612	80.11	4.9	-	PERU-BRAZIL BORDER REGION	
624.	4/5	19	58		42.0	-54.067	7.038	10	85.90	5.0	-	BOUVET ISLAND REGION	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC			Latitude (deg)	Longitude (deg)		(deg)	Mb	Ms		
		h	m	s								
625.	4/6	0	28	5.5	-56.200	146.130	10	80.84	5.1	5.0	WEST OF MACQUARIE ISLAND	
626.	4/6	2	4	26.8	1.322	97.184	26	73.47	4.6	-	NIAS REGION, INDONESIA	
627.	4/6	11	20	8.4	-4.022	102.350	65	20.88	5.7	-	SOUTHERN SUMATRA, INDONESIA	
628.	4/7	5	46	44.5	1.395	97.380	23	44.18	4.7	-	NIAS REGION, INDONESIA	
629.	4/7	6	54	20.9	0.477	96.437	32	80.37	4.8	-	NIAS REGION, INDONESIA	
630.	4/7	9	16	40.2	-20.657	-178.795	580	76.95	4.1	-	FIJI REGION	
631.	4/7	11	46	5.4	0.637	97.374	30	80.50	5.9	5.7	NIAS REGION, INDONESIA	
632.	4/7	15	43	21.9	-23.391	-179.919	541	79.33	4.7	-	SOUTH OF THE FIJI ISLANDS	
633.	4/7	16	40	52.7	1.256	97.158	23	86.30	5.0	-	NIAS REGION, INDONESIA	
634.	4/7	21	2	44.0	2.276	96.372	30	79.78	4.3	-	SIMEULUE, INDONESIA	
635.	4/8	1	20	24.7	-24.812	-63.395	551	80.30	4.6	-	SALTA, ARGENTINA	
636.	4/8	5	48	37.1	-0.260	97.703	19	81.03	5.8	6.4	KEPULAUAN BATU, INDONESIA	
637.	4/8	11	38	17.1	-23.270	169.245	10	71.22	5.3	5.4	SOUTHEAST OF THE LOYALTY ISLANDS	
638.	4/8	18	25	24.5	-17.280	-174.290	69	79.03	4.7	-	TONGA	
639.	4/9	15	53	52.6	-53.467	25.322	10	81.01	5.1	5.1	SOUTH OF AFRICA	
640.	4/10	10	27	56.8	2.891	95.318	22	90.49	5.3	-	SIMEULUE, INDONESIA	
641.	4/10	10	29	11.1	-1.672	99.620	19	16.79	6.4	6.7	KEPULAUAN MENTAWAI REGION, IND.	
642.	4/10	10	45	49.2	-1.629	99.574	30	81.29	5.7	-	KEPULAUAN MENTAWAI REGION, IND.	
643.	4/10	10	55	7.8	-1.751	99.664	28	78.29	5.3	-	KEPULAUAN MENTAWAI REGION, IND.	
644.	4/10	11	14	19.4	-1.729	99.761	30	78.32	6.2	6.3	KEPULAUAN MENTAWAI REGION, IND.	
645.	4/10	11	45	2.4	-1.693	99.535	30	78.23	5.4	-	KEPULAUAN MENTAWAI REGION, IND.	
646.	4/10	11	55	30.4	-1.723	99.689	29	78.28	5.7	-	KEPULAUAN MENTAWAI REGION, IND.	
647.	4/10	12	37	36.0	-1.698	99.657	29	78.24	5.0	-	KEPULAUAN MENTAWAI REGION, IND.	
648.	4/10	13	39	36.4	-1.717	99.513	30	78.26	4.7	-	KEPULAUAN MENTAWAI REGION, IND.	
649.	4/10	13	39	47.9	-1.605	99.626	27	78.28	5.3	-	KEPULAUAN MENTAWAI REGION, IND.	
650.	4/10	13	40	39.4	-1.632	99.699	21	78.21	5.3	-	KEPULAUAN MENTAWAI REGION, IND.	
651.	4/10	13	50	10.9	-15.188	-174.989	253	78.36	4.7	-	TONGA	
652.	4/10	13	54	16.2	-1.766	99.907	33	78.35	5.3	-	KEPULAUAN MENTAWAI REGION, IND.	
653.	4/10	14	25	39.7	-1.609	99.606	30	92.41	5.2	-	KEPULAUAN MENTAWAI REGION, IND.	
654.	4/10	14	47	24.0	-1.647	99.572	30	78.29	5.1	-	KEPULAUAN MENTAWAI REGION, IND.	
655.	4/10	17	24	39.3	-1.593	99.699	30	78.35	5.9	6.2	KEPULAUAN MENTAWAI REGION, IND.	
656.	4/10	17	41	39.9	-7.573	-76.293	134	78.30	5.4	-	NORTHERN PERU	
657.	4/10	19	14	50.5	-1.732	99.732	23	78.39	4.9	-	KEPULAUAN MENTAWAI REGION, IND.	
658.	4/10	19	19	19.2	-1.576	99.797	47	91.65	5.1	-	KEPULAUAN MENTAWAI REGION, IND.	
659.	4/10	20	7	32.7	-1.770	99.682	30	78.27	4.9	-	KEPULAUAN MENTAWAI REGION, IND.	
660.	4/10	22	22	15.6	35.601	140.370	43	78.44	6.1	5.4	NEAR THE EAST COAST OF HONSHU, JAPAN	
661.	4/11	0	14	42.4	-1.700	99.650	30	78.22	4.6	-	KEPULAUAN MENTAWAI REGION, IND.	
662.	4/11	0	56	6.6	-6.220	103.763	35	126.93	5.0	-	SW OF SUMATRA, INDONESIA	
663.	4/11	4	29	19.7	-19.225	-177.622	553	78.27	4.6	-	FIJI REGION	
664.	4/11	6	11	11.8	2.177	96.748	24	75.34	5.9	6.1	SIMEULUE, INDONESIA	
665.	4/11	9	4	30.4	2.057	96.824	26	87.94	5.5	5.2	SIMEULUE, INDONESIA	
666.	4/11	9	26	48.7	0.966	97.444	30	81.05	5.0	-	NIAS REGION, INDONESIA	
667.	4/11	10	58	24.4	-7.196	129.767	133	80.96	4.7	-	KEPULAUAN BABAR, INDONESIA	
668.	4/11	11	18	27.5	-3.596	145.818	35	80.11	4.6	-	NR N CST NEW GUINEA, P.N.G.	
669.	4/11	12	20	9.6	-3.475	145.897	35	83.56	5.9	6.7	NEAR NORTH COAST OF NEW GUINEA, P.N.G.	
670.	4/11	13	39	59.1	2.360	97.118	30	92.57	5.1	-	NORTHERN SUMATRA, INDONESIA	
671.	4/11	14	54	6.7	-7.342	-77.846	130	92.71	6.2	-	NORTHERN PERU	
672.	4/11	16	32	26.5	1.248	97.171	30	81.34	4.4	-	NIAS REGION, INDONESIA	

No.	Date	Origin time			Geographic Latitude (deg)	Coordinates Longitude (deg)	Depth (km)	Epicentral distance		Magnitude Mb Ms	Region
		h	m	s				(deg)	(deg)		
673.	4/11	17	8	53.8	-22.036	170.574	68	92.36	6.0	-	SOUTHEAST OF THE LOYALTY ISLANDS
674.	4/11	18	19	14.0	-1.703	99.786	24	82.53	5.0	-	KEPULAUAN MENTAWAI REGION, IND.
675.	4/11	18	51	56.3	-1.701	99.705	30	78.31	5.3	-	KEPULAUAN MENTAWAI REGION, IND.
676.	4/12	1	0	26.0	-1.834	99.603	29	78.29	4.9	-	KEPULAUAN MENTAWAI REGION, IND.
677.	4/12	1	24	51.4	-1.696	99.582	23	78.13	5.1	-	KEPULAUAN MENTAWAI REGION, IND.
678.	4/12	1	27	48.2	-1.797	99.574	26	78.26	5.2	-	KEPULAUAN MENTAWAI REGION, IND.
679.	4/12	3	54	44.7	-1.758	99.814	33	78.16	5.2	5.0	KEPULAUAN MENTAWAI REGION, IND.
680.	4/12	4	30	0.4	-1.766	99.773	30	78.27	5.3	5.1	KEPULAUAN MENTAWAI REGION, IND.
681.	4/12	19	1	12.5	-28.845	-71.285	27	78.25	4.9	-	ATACAMA, CHILE
682.	4/13	2	59	35.0	-1.697	99.800	33	70.03	5.3	5.0	KEPULAUAN MENTAWAI REGION, IND.
683.	4/13	3	58	18.4	-29.632	-177.761	54	78.32	5.5	-	KERMADEC ISLANDS, NEW ZEALAND
684.	4/13	9	25	27.6	-33.125	-72.816	30	77.75	5.6	4.7	OFFSHORE VALPARAISO, CHILE
685.	4/13	17	29	35.1	-1.635	99.835	34	66.51	5.2	-	KEPULAUAN MENTAWAI REGION, IND.
686.	4/14	22	9	30.1	-22.261	171.462	124	78.39	5.4	-	SOUTHEAST OF THE LOYALTY ISLANDS
687.	4/15	4	17	55.3	-6.071	104.808	63	82.54	5.4	-	SUNDA STRAIT, INDONESIA
688.	4/15	18	32	15.6	-23.623	-175.048	46	75.83	5.2	5.1	TONGA REGION
689.	4/16	12	18	31.7	-54.927	-132.075	10	73.03	5.2	5.6	PACIFIC-ANTARCTIC RIDGE
690.	4/16	16	38	4.1	1.818	97.645	31	84.13	6.0	6.4	NIAS REGION, INDONESIA
691.	4/16	20	7	45.6	-56.106	-27.158	96	55.89	4.7	-	SOUTH SANDWICH ISL REGION
692.	4/16	22	41	16.7	-17.377	-69.465	117	80.98	5.6	-	LA PAZ, BOLIVIA
693.	4/17	1	50	27.6	-22.078	-175.832	97	31.16	4.7	-	TONGA REGION
694.	4/17	4	21	46.1	-1.670	99.610	25	80.18	4.2	-	KEPULAUAN MENTAWAI REG, INDONESIA
695.	4/17	11	41	25.8	0.905	97.471	30	85.50	4.7	-	NIAS REGION, INDONESIA
696.	4/17	13	43	54.5	0.323	97.654	25	78.29	5.7	5.3	NIAS REGION, INDONESIA
697.	4/17	20	28	53.8	-1.606	99.573	41	80.06	5.0	4.2	KEPULAUAN MENTAWAI REGION, IND.
698.	4/17	21	23	50.4	-1.640	99.611	20	79.56	5.8	5.1	KEPULAUAN MENTAWAI REGION, IND.
699.	4/17	21	37	53.6	10.175	93.621	29	78.34	5.1	-	ANDAMAN ISL, INDIA REGION
700.	4/18	2	24	6.6	-19.900	-178.180	550	78.32	4.2	-	FIJI REGION
701.	4/18	20	20	2.2	7.506	94.210	30	87.75	4.5	-	NICOBAR ISL, INDIA REGION
702.	4/18	21	0	39.2	-35.094	-70.168	37	87.17	4.5	-	MENDOZA, ARGENTINA
703.	4/19	0	31	42.7	13.933	120.688	174	85.37	5.0	-	MINDORO, PHILIPPINES
704.	4/20	2	28	49.1	-17.793	-178.594	558	63.87	4.6	-	FIJI REGION
705.	4/20	10	40	47.2	-17.564	-71.275	28	100.05	5.2	-	NEAR COAST OF SOUTHERN PERU
706.	4/20	11	23	30.0	-1.977	102.296	190	89.14	4.5	-	SOUTHERN SUMATRA, INDONESIA
707.	4/21	1	15	8.9	-52.187	13.637	10	80.60	5.0	4.8	SOUTHWEST OF AFRICA,
708.	4/21	9	7	45.7	-4.390	153.506	113	78.86	4.5	-	NEW IRELAND REG, P.N.G.
709.	4/21	9	26	0.6	51.320	-178.429	48	20.61	5.3	5.5	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
710.	4/21	17	17	29.9	-59.109	-16.975	10	94.40	4.9	-	EAST OF THE SOUTH SANDWICH ISLANDS
711.	4/21	17	50	51.6	1.569	97.043	30	155.04	4.2	-	NIAS REGION, INDONESIA
712.	4/22	1	8	34.8	-7.961	120.755	30	25.30	4.6	-	FLORES SEA
713.	4/22	3	46	6.3	-10.263	-13.195	10	80.56	5.1	4.9	ASCENSION ISLAND REGION
714.	4/22	7	41	26.6	4.937	126.171	91	79.62	5.4	-	KEPULAUAN TALAUD, INDONESIA
715.	4/22	11	25	46.8	-21.068	-178.778	592	67.52	4.6	-	FIJI REGION
716.	4/22	22	7	46.1	-7.457	122.887	544	93.59	4.6	-	FLORES SEA
717.	4/23	10	31	44.6	2.710	95.959	30	85.90	5.1	4.4	SIMEULUE, INDONESIA
718.	4/23	14	44	37.7	-10.236	-70.867	628	80.85	4.4	-	PERU-BRAZIL BORDER REGION
719.	4/23	20	35	59.1	-32.759	-67.908	155	81.31	4.7	-	MENDOZA, ARGENTINA

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance			Magnitude Mb Ms	Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)		(deg)	(deg)			
720.	4/24	6	40	41.0	-59.451	149.150	10	87.36	4.7	5.1	WEST OF MACQUARIE ISLAND	
721.	4/24	7	11	30.5	-20.692	-174.108	33	65.32	5.2	5.1	TONGA	
722.	4/24	9	32	22.3	-9.577	111.863	44	42.15	5.2	-	SOUTH OF JAVA, INDONESIA	
723.	4/24	10	6	13.1	-9.529	111.849	44	87.18	4.9	-	SOUTH OF JAVA, INDONESIA	
724.	4/24	11	43	50.2	-32.834	-178.577	10	74.96	5.0	-	SOUTH OF KERMADEC ISLANDS	
725.	4/25	1	29	54.4	1.055	97.245	24	74.47	5.2	4.6	NIAS REGION, INDONESIA	
726.	4/25	2	32	48.0	-27.136	-176.570	56	80.13	5.5	5.3	KERMADEC ISLANDS REGION	
727.	4/25	8	8	4.2	-10.645	115.084	27	80.41	4.9	-	SOUTH OF BALLI, INDONESIA	
728.	4/25	8	28	42.9	-17.478	-178.993	508	75.10	4.7	-	FIJI REGION	
729.	4/25	17	5	24.7	1.091	126.299	10	89.36	5.4	4.2	MOLUCCA SEA	
730.	4/25	20	18	20.4	0.357	97.264	36	90.05	5.5	5.3	NIAS REGION, INDONESIA	
731.	4/25	21	40	14.3	0.301	97.266	19	79.48	5.0	-	NIAS REGION, INDONESIA	
732.	4/26	11	33	27.7	-15.245	-176.343	10	79.42	5.4	5.3	FIJI REGION	
733.	4/26	14	1	40.8	7.850	93.915	24	92.09	5.1	-	NICOBAR ISL, INDIA REGION	
734.	4/26	17	18	23.5	1.345	97.159	22	85.61	5.2	4.6	NIAS REGION, INDONESIA	
735.	4/26	18	56	31.8	-18.598	-176.741	18	80.38	5.1	4.9	FIJI REGION	
736.	4/27	14	4	44.2	8.648	93.678	35	88.73	5.0	-	NICOBAR ISL, INDIA REGION	
737.	4/28	13	11	14.8	6.115	126.787	127	86.31	4.5	-	MINDANAO, PHILIPPINES	
738.	4/28	15	58	31.0	-6.547	154.850	65	94.91	4.8	-	BOUGAINVILLE REG, P.N.G.	
739.	4/28	23	45	41.0	-29.482	-178.790	10	92.79	4.8	-	KERMADEC ISL, NEW ZEALAND	
740.	4/29	14	3	9.4	-23.416	-66.518	198	77.70	4.2	-	JUJUY, ARGENTINA	
741.	4/29	15	57	34.8	-34.060	57.170	10	73.56	4.7	-	SOUTH INDIAN OCEAN	
742.	4/29	17	15	42.3	-7.406	129.861	42	36.40	4.7	-	KEPULAUAN BABAR, INDONESIA	
743.	4/29	20	13	34.4	0.162	97.943	30	83.39	4.9	-	NIAS REGION, INDONESIA	
744.	4/29	22	24	39.0	-11.537	162.636	10	79.50	4.9	-	SOLOMON ISLANDS	
745.	4/30	8	28	37.6	-19.974	-173.684	10	90.44	5.1	4.6	TONGA	
746.	4/30	13	17	18.8	1.940	97.122	30	87.96	5.3	4.9	NIAS REGION, INDONESIA	
747.	5/1	5	6	55.8	-22.930	-66.243	258	80.94	4.5	-	JUJUY, ARGENTINA	
748.	5/1	5	32	51.1	-57.631	-25.402	38	73.92	4.9	4.4	SOUTH SANDWICH ISL REGION	
749.	5/1	14	8	45.8	-31.438	-69.252	119	29.38	4.6	-	SAN JUAN, ARGENTINA	
750.	5/2	6	4	46.7	-9.068	-71.230	598	66.97	4.8	-	PERU-BRAZIL BORDER REGION	
751.	5/2	8	56	3.0	-24.286	-66.815	196	88.58	4.1	-	SALTA, ARGENTINA	
752.	5/2	9	35	48.1	-1.460	100.050	41	72.84	4.6	-	SOUTHERN SUMATRA, INDONESIA	
753.	5/2	15	35	38.0	-43.952	169.073	17	78.63	5.2	4.9	SOUTH ISLAND OF NEW ZEALAND	
754.	5/2	15	40	3.6	-44.016	169.092	10	61.18	4.9	-	S ISL NEW ZEALAND	
755.	5/2	17	8	29.5	5.032	94.572	30	61.13	4.5	-	NORTHERN SUMATRA, INDONESIA	
756.	5/2	17	56	53.0	-24.163	-66.774	174	83.11	4.2	-	SALTA, ARGENTINA	
757.	5/2	21	33	5.2	-20.868	-173.936	36	72.95	5.2	4.7	TONGA	
758.	5/3	19	11	39.5	-14.910	-74.581	31	87.04	5.7	5.4	CENTRAL PERU	
759.	5/3	21	15	26.0	-30.000	-177.790	55	84.16	4.9	-	KERMADEC ISL, NEW ZEALAND	
760.	5/7	0	3	31.2	-48.108	32.040	10	77.38	4.1	-	PRINCE EDWARD ISLANDS REGION	
761.	5/8	19	51	19.4	-35.121	-17.274	10	21.18	5.1	4.7	SOUTHERN MID-ATLANTIC RIDGE	
762.	5/9	18	0	40.3	-21.645	-68.293	105	45.59	4.3	-	ANTOFAGASTA, CHILE	
763.	5/9	22	40	35.6	-33.250	-178.657	10	75.80	4.8	-	SOUTH OF KERMADEC ISLANDS	
764.	5/9	23	43	46.6	-15.770	167.040	288	74.05	4.6	-	VANUATU	
765.	5/10	1	9	5.1	-6.202	103.133	17	87.63	6.0	6.4	SOUTHWEST OF SUMATRA, INDONESIA	



No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)		Mb	Ms			
766.	5/10	11 19 14.6	-20.177	-178.031	519	75.15	4.5	-	FIJI REGION			
767.	5/10	21 17 13.4	-5.632	154.406	90	86.93	5.5	-	BOUGAINVILLE REGION, PAPUA NEW GUINEA			
768.	5/10	23 25 18.8	-23.467	-68.027	127	93.51	4.4	-	ANTOFAGASTA, CHILE			
769.	5/11	0 23 25.5	-33.635	-178.819	10	74.01	4.6	-	SOUTH OF KERMADEC ISLANDS			
770.	5/11	8 16 48.9	-64.360	175.600	10	73.65	4.7	-	BALLENY ISLANDS REGION			
771.	5/12	11 15 34.9	-57.447	-139.169	10	43.19	6.0	6.2	PACIFIC-ANTARCTIC RIDGE			
772.	5/14	1 53 20.6	45.684	26.437	149	53.54	5.2	-	ROMANIA			
773.	5/14	5 5 18.4	0.586	98.401	34	115.07	6.4	6.8	NIAS REGION, INDONESIA			
774.	5/14	7 58 20.2	-56.159	-26.619	87	80.05	4.9	-	SOUTH SANDWICH ISL REGION			
775.	5/14	10 2 30.9	-22.623	-176.654	7	30.93	5.6	5.9	SOUTH OF THE FIJI ISLANDS			
776.	5/14	10 26 44.4	-45.631	96.020	10	84.81	5.5	5.5	SOUTHEAST INDIAN RIDGE			
777.	5/14	11 15 55.7	-45.592	95.981	10	36.51	5.4	-	SOUTHEAST INDIAN RIDGE			
778.	5/15	19 55 6.0	-6.709	129.642	165	36.53	4.8	-	BANDA SEA			
779.	5/16	3 54 15.1	-32.566	-179.276	34	83.96	6.2	6.4	SOUTH OF THE KERMADEC ISLANDS			
780.	5/16	9 58 46.0	0.240	97.961	27	74.60	4.9	-	NIAS REGION, INDONESIA			
781.	5/16	10 0 40.5	-27.980	179.310	539	79.58	4.9	-	KERMADEC ISLANDS REGION			
782.	5/16	11 7 37.2	-1.784	99.695	21	78.78	4.7	-	KEPULAUAN MENTAWAI REG, INDONESIA			
783.	5/16	23 12 1.4	-8.414	117.569	35	78.21	5.5	-	SUMBAWA REGION, INDONESIA			
784.	5/17	3 4 20.2	-20.798	-176.985	296	78.06	4.4	-	FIJI REGION			
785.	5/17	7 21 56.9	2.183	97.013	30	86.53	4.7	-	NORTHERN SUMATRA, INDONESIA			
786.	5/17	16 1 5.4	-3.682	135.476	22	81.13	5.0	4.5	PAPUA, INDONESIA			
787.	5/18	9 2 6.9	-6.940	129.640	74	88.87	5.1	-	BANDA SEA			
788.	5/18	9 10 53.1	-56.410	-26.894	98	83.75	5.8	-	SOUTH SANDWICH ISLANDS REGION			
789.	5/19	1 12 29.0	60.015	-152.676	96	30.83	5.3	-	SOUTHERN ALASKA			
790.	5/19	1 54 52.6	1.965	96.976	30	169.74	6.3	6.9	NIAS REGION, INDONESIA			
791.	5/19	7 52 51.1	-12.996	166.803	120	80.92	4.9	-	SANTA CRUZ ISLANDS			
792.	5/19	12 20 44.0	-32.725	-69.798	93	90.23	4.7	-	MENDOZA, ARGENTINA			
793.	5/19	14 17 27.9	6.419	125.751	141	65.95	5.4	-	MINDANAO, PHILIPPINES			
794.	5/19	15 56 37.8	-31.441	-69.254	117	94.83	4.9	-	SAN JUAN, ARGENTINA			
795.	5/19	20 44 7.8	0.373	97.243	18	66.97	5.2	4.4	NIAS REGION, INDONESIA			
796.	5/20	7 57 57.8	-58.758	-25.264	10	79.48	5.1	4.7	SOUTH SANDWICH ISL REGION			
797.	5/20	16 22 13.5	-55.890	-27.481	135	28.49	4.3	-	SOUTH SANDWICH ISL REGION			
798.	5/20	21 32 59.1	-21.318	-66.608	205	31.44	4.6	-	POTOSI, BOLIVIA			
799.	5/21	5 11 34.7	-3.285	-80.847	39	75.55	6.1	5.7	PERU-ECUADOR BORDER REGION			
800.	5/21	8 51 42.2	0.040	120.330	30	97.15	4.7	-	MINAHASA, SULAWESI, INDONESIA			
801.	5/21	16 29 23.0	30.689	138.500	399	86.94	5.0	-	IZU ISLANDS, JAPAN REGION			
802.	5/21	23 9 6.4	1.303	97.072	23	121.82	5.1	-	NIAS REGION, INDONESIA			
803.	5/22	1 5 55.4	-19.498	-68.249	150	80.32	4.9	-	ORURO, BOLIVIA			
804.	5/23	5 48 16.9	0.786	97.441	25	77.79	5.1	-	NIAS REGION, INDONESIA			
805.	5/24	4 51 45.3	-18.449	-177.816	559	79.94	5.0	-	FIJI REGION			
806.	5/25	13 49 35.3	-27.757	-66.598	166	88.66	4.4	-	CATAMARCA, ARGENTINA			
807.	5/25	14 42 14.5	2.852	95.540	27	69.54	5.1	4.7	SIMEULUE, INDONESIA			
808.	5/26	6 6 55.9	-23.473	-176.341	50	81.32	4.8	-	SOUTH OF THE FIJI ISLANDS			
809.	5/26	10 8 27.0	5.676	93.232	30	84.04	5.5	5.3	OFF THE W COAST OF NORTHERN SUMATRA			
810.	5/26	15 49 50.4	-56.026	-27.532	128	83.34	4.9	-	SOUTH SANDWICH ISL REGION			
811.	5/26	23 29 29.5	-59.795	-27.703	140	31.36	5.2	-	SOUTH SANDWICH ISL REGION			

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		UTC h m s	Latitude (deg)	Longitude (deg)	distance (deg)	Mb		Ms			
812.	5/27	19 59 39.3	-14.770	171.650	100	28.58	4.6	-	VANUATU REGION		
813.	5/28	5 51 34.9	-16.950	-70.570	156	89.81	4.7	-	SOUTHERN PERU		
814.	5/28	6 23 31.1	2.045	96.666	24	80.95	5.0	-	SIMEULUE, INDONESIA		
815.	5/28	13 26 59.4	-17.828	-178.693	573	80.90	4.3	-	FIJI REGION		
816.	5/28	13 53 34.9	-18.448	-178.008	663	89.08	4.0	-	FIJI REGION		
817.	5/28	16 10 41.0	-24.058	-66.703	189	88.62	4.1	-	JUJUY, ARGENTINA		
818.	5/29	14 3 17.8	-23.277	179.995	489	73.02	4.3	-	SOUTH OF THE FIJI ISLANDS		
819.	5/29	17 2 50.3	-52.812	27.382	10	83.50	4.8	-	SOUTH OF AFRICA		
820.	5/29	21 44 31.5	-30.094	-178.036	50	17.09	5.9	5.5	KERMADEC ISLANDS, NEW ZEALAND		
821.	5/30	3 30 54.8	-17.189	-178.409	452	77.25	4.3	-	FIJI REGION		
822.	5/30	10 4 33.6	-54.022	-133.604	10	89.76	5.0	4.7	PACIFIC-ANTARCTIC RIDGE		
823.	5/30	18 28 22.5	-21.656	-178.146	440	56.85	4.2	-	FIJI REGION		
824.	5/31	0 1 36.8	0.570	96.256	35	85.46	5.0	-	NIAS REGION, INDONESIA		
825.	5/31	2 29 31.5	5.271	94.414	30	79.37	5.5	5.2	NORTHERN SUMATRA, INDONESIA		
826.	5/31	7 28 4.9	5.452	94.640	54	83.29	5.0	-	NORTHERN SUMATRA, INDONESIA		
827.	5/31	9 6 54.9	-62.966	155.557	10	83.53	5.3	5.2	BALLENY ISLANDS REGION		
828.	5/31	10 27 18.7	-36.150	-72.110	253	40.64	4.2	-	MAULE, CHILE		
829.	6/1	2 41 19.3	-6.725	155.370	33	63.48	4.9	-	BOUGAINVILLE REG, P.N.G.		
830.	6/1	9 41 38.0	-15.642	167.242	24	92.79	5.0	-	VANUATU		
831.	6/1	13 56 21.8	-32.825	-179.199	10	87.81	5.2	4.6	SOUTH OF KERMADEC ISLANDS		
832.	6/1	15 50 24.0	-6.910	131.061	10	74.36	4.8	-	KEPULAUAN TANIMBAR REG, INDONESIA		
833.	6/1	17 11 19.8	-32.851	-179.171	10	84.28	5.3	4.6	SOUTH OF KERMADEC ISLANDS		
834.	6/2	2 11 14.6	-20.204	178.846	22	74.34	5.8	5.1	SOUTH OF THE FIJI ISLANDS		
835.	6/2	10 1 42.1	-16.162	-69.574	190	86.24	4.7	-	SOUTHERN PERU		
836.	6/2	10 56 1.5	-24.103	-66.771	197	81.36	5.8	-	SALTA, ARGENTINA		
837.	6/2	15 25 21.5	-1.185	127.031	50	73.00	4.6	-	KEPULAUAN OBI, INDONESIA		
838.	6/2	15 26 57.3	-18.625	-178.086	495	88.19	4.5	-	FIJI REGION		
839.	6/3	0 42 1.9	1.458	97.137	25	88.43	5.4	5.8	NIAS REGION, INDONESIA		
840.	6/3	0 53 41.5	-18.251	-173.189	10	80.48	5.4	5.4	TONGA		
841.	6/3	2 11 18.8	1.229	97.000	21	89.74	4.6	-	NIAS REGION, INDONESIA		
842.	6/3	5 12 56.4	-23.598	179.920	544	80.22	4.6	-	SOUTH OF THE FIJI ISLANDS		
843.	6/3	19 24 49.3	-16.428	-70.762	135	83.17	4.9	-	SOUTHERN PERU		
844.	6/4	14 50 48.9	-6.334	146.817	44	81.50	6.0	6.0	EASTERN NEW GUINEA REG, P.N.G.		
845.	6/4	17 38 43.3	-6.458	146.911	51	90.34	4.2	-	E NEW GUINEA REG, P.N.G.		
846.	6/4	19 45 31.9	-19.668	-177.800	537	90.25	4.1	-	FIJI REGION		
847.	6/5	1 4 45.8	-57.366	-26.071	70	87.47	5.1	-	SOUTH SANDWICH ISL REGION		
848.	6/5	1 9 13.7	-52.934	21.287	10	29.81	4.8	4.6	SOUTH OF AFRICA		
849.	6/5	4 54 50.3	-20.452	-177.912	494	18.07	4.3	-	FIJI REGION		
850.	6/5	7 47 25.8	-50.604	162.344	10	86.68	5.0	-	AUCKLAND ISLANDS, NEW ZEALAND REGION		
851.	6/5	9 36 57.0	-52.141	15.402	10	53.38	4.5	-	SOUTHWEST OF AFRICA		
852.	6/5	12 4 32.4	-52.955	22.270	10	20.19	5.1	4.7	SOUTH OF AFRICA		
853.	6/5	12 32 31.4	-6.849	155.283	70	17.85	4.8	-	BOUGAINVILLE REG, P.N.G.		
854.	6/5	20 3 1.8	-36.790	-179.230	33	92.64	5.0	-	E N ISL, NEW ZEALAND		
855.	6/5	21 52 52.8	-7.036	125.964	477	70.50	4.7	-	KEPULAUAN BARAT DAYA, INDONESIA		
856.	6/5	22 32 16.2	-26.759	84.745	10	82.34	5.3	4.2	SOUTH INDIAN OCEAN		
857.	6/6	11 54 10.9	28.220	139.840	385	49.94	4.2	-	BONIN ISLANDS, JAPAN REGION		

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral			Region
		UTC h m s	Latitude (deg)	Longitude (deg)	distance (deg)	Mb		Ms			
858.	6/6	19	11	19.3	-30.461	-70.971	56	120.05	4.6	-	COQUIMBO, CHILE
859.	6/6	22	37	18.9	50.615	157.048	48	68.42	5.0	-	KURIL ISLANDS
860.	6/7	3	27	4.7	12.435	94.891	10	145.94	5.0	-	ANDAMAN ISL, INDIA REGION
861.	6/7	4	22	0.7	-29.544	-179.186	320	90.28	5.4	-	KERMADEC ISLANDS REGION
862.	6/7	5	12	8.8	-62.372	-161.325	10	77.56	4.9	-	PACIFIC-ANTARCTIC RIDGE
863.	6/7	5	34	15.6	-62.290	-161.644	10	47.82	5.3	5.4	PACIFIC-ANTARCTIC RIDGE
864.	6/7	16	20	1.9	-10.698	-74.143	119	47.88	5.3	-	CENTRAL PERU
865.	6/7	17	19	56.5	-53.464	-51.102	10	88.00	5.1	4.6	SOUTH ATLANTIC OCEAN
866.	6/8	2	39	31.6	-28.367	-68.897	89	41.43	5.2	-	LA RIOJA, ARGENTINA
867.	6/8	6	28	13.9	2.210	96.735	46	69.72	5.8	-	SIMEULUE, INDONESIA
868.	6/8	10	53	45.1	-15.119	-173.608	10	81.08	4.5	-	TONGA
869.	6/8	12	50	51.3	-19.386	-68.844	135	92.74	4.5	-	TARAPACA, CHILE
870.	6/8	13	37	17.4	-35.921	-102.857	10	78.09	5.0	4.8	SOUTHEAST OF EASTER ISLAND
871.	6/8	21	24	58.6	-28.269	-178.125	232	71.36	5.0	-	KERMADEC ISLANDS REGION
872.	6/9	0	22	43.6	-31.037	-178.425	40	79.01	5.1	-	KERMADEC ISLANDS REGION
873.	6/9	3	45	18.2	5.186	126.878	102	76.25	5.1	-	MINDANAO, PHILIPPINES
874.	6/9	14	0	49.7	51.571	-131.132	10	94.08	5.2	5.4	QUEEN CHARLOTTE ISLANDS REGION
875.	6/9	18	27	2.2	-23.028	-178.254	254	161.94	4.6	-	SOUTH OF THE
876.	6/10	3	22	31.3	-30.169	-178.072	41	84.10	5.3	-	KERMADEC ISL, NEW ZEALAND
877.	6/10	6	24	23.5	-31.393	-68.932	119	77.17	4.1	-	SAN JUAN, ARGENTINA
878.	6/10	8	27	9.1	-1.406	134.193	31	66.91	5.0	-	NR N CST PAPUA, INDONESIA
879.	6/10	10	23	10.9	-5.120	131.146	85	90.54	4.6	-	BANDA SEA
880.	6/10	10	29	15.0	-25.917	-177.271	109	85.99	4.5	-	SOUTH OF THE FIJI ISLANDS
881.	6/10	13	8	19.1	-58.848	-25.220	55	81.47	4.7	-	SOUTH SANDWICH ISL REGION
882.	6/10	17	42	41.5	1.818	97.065	25	28.41	5.3	5.1	NIAS REGION, INDONESIA
883.	6/10	18	26	0.5	-12.533	166.751	354	80.80	4.3	-	SANTA CRUZ ISLANDS
884.	6/10	19	5	17.6	-18.181	-178.499	626	90.66	4.1	-	FIJI REGION
885.	6/11	22	8	25.5	-6.464	130.185	167	88.78	4.9	-	BANDA SEA
886.	6/12	4	17	13.4	52.785	143.832	10	84.39	5.6	5.1	SAKHALIN, RUSSIA
887.	6/12	15	31	46.7	-8.083	107.395	62	143.03	4.6	-	JAVA, INDONESIA
888.	6/12	19	26	24.8	-56.240	-27.042	95	74.82	5.9	-	SOUTH SANDWICH ISLANDS REGION
889.	6/12	22	21	14.6	54.922	161.573	15	31.02	5.2	4.2	NR E COAST KAMCHATKA, RUSSIA
890.	6/13	0	11	20.4	-20.346	-68.645	113	151.03	4.4	-	POTOSI, BOLIVA
891.	6/13	2	26	50.2	2.767	95.590	22	77.13	5.0	-	SIMEULUE, INDONESIA
892.	6/13	7	2	33.1	2.086	126.612	10	81.26	5.7	5.3	MOLUCCA SEA
893.	6/13	9	20	45.1	-25.408	-116.170	12	91.09	5.0	4.1	SOUTHERN EAST PACIFIC RISE
894.	6/13	19	18	20.7	37.305	135.166	354	83.86	4.5	-	NICOBAR ISL, INDIA REGION
895.	6/13	19	59	52.6	2.780	94.129	23	126.61	5.5	5.4	OFF THE W COAST OF NORTHERN SUMATRA
896.	6/13	22	44	33.8	-19.934	-69.028	117	80.83	6.9	-	TARAPACA, CHILE
897.	6/13	23	26	39.2	-19.855	-68.851	107	77.64	4.8	-	TARAPACA, CHILE
898.	6/14	1	7	12.8	-19.911	-69.016	100	77.66	4.8	-	TARAPACA, CHILE
899.	6/14	1	22	8.7	-18.643	-174.732	114	77.66	5.8	-	TONGA
900.	6/14	1	39	31.9	-19.892	-68.986	129	89.07	4.2	-	TARAPACA, CHILE
901.	6/14	4	26	25.6	2.415	93.060	30	77.67	4.9	-	OFF WEST COAST OF N SUMATRA
902.	6/14	4	50	19.2	-58.930	-138.470	10	80.17	5.0	-	PACIFIC-ANTARCTIC RIDGE
903.	6/14	6	15	26.4	2.396	93.025	32	52.05	4.9	-	OFF WEST COAST OF N SUMATRA

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC			Latitude (deg)	Longitude (deg)		distance (deg)	Mb	Ms	
		h	m	s							
904.	6/14	6	54	40.3	50.269	151.694	342	80.14	4.9	-	NORTHWEST OF KURIL ISLANDS
905.	6/14	8	3	9.7	51.240	179.502	51	143.74	5.2	-	RAT ISLANDS, ALEUTIAN ISLANDS, ALASKA
906.	6/14	9	5	6.9	-15.040	166.867	50	154.30	5.3	4.9	VANUATU
907.	6/14	9	29	53.6	-14.132	-76.018	21	88.28	5.3	-	NR CST CEN PERU
908.	6/14	10	45	47.2	-57.072	-26.302	89	85.35	4.9	-	SOUTH SANDWICH ISL REGION
909.	6/14	11	49	3.0	51.120	179.587	52	30.12	5.2	5.0	RAT ISLANDS, ALEUTIAN ISLANDS, ALASKA
910.	6/14	12	39	30.0	-20.197	-69.174	109	154.22	4.4	-	TARAPACA, CHILE
911.	6/14	16	30	46.1	-32.724	-71.700	31	77.44	4.5	-	OFFSHORE VALPARAISO, CHILE
912.	6/14	16	47	44.2	-19.960	-68.918	102	66.54	4.5	-	TARAPACA, CHILE
913.	6/14	17	10	16.3	51.231	179.394	52	77.58	6.1	6.7	RAT ISLANDS, ALEUTIAN ISLANDS, ALASKA
914.	6/14	17	48	8.2	51.113	179.402	50	154.25	5.1	-	RAT ISLANDS, ALEUTIAN ISLANDS, ALASKA
915.	6/14	22	33	25.3	-34.992	178.746	194	154.16	4.9	-	SOUTH OF KERMADEC ISLANDS
916.	6/14	22	49	20.0	51.186	179.398	50	71.85	5.1	5.1	RAT ISLANDS, ALEUTIAN ISLANDS, ALASKA
917.	6/15	2	15	3.7	-19.938	-68.755	123	154.22	4.2	-	TARAPACA, CHILE
918.	6/15	2	50	53.0	41.284	-125.983	10	77.55	6.2	7.1	OFF THE COAST OF NORTHERN CALIFORNIA
919.	6/15	3	2	38.1	-14.542	-175.515	10	151.16	5.2	-	SAMOA ISLANDS REGION
920.	6/15	10	13	59.1	-4.594	153.186	76	92.94	5.7	-	NEW IRELAND REGION, PAPUA NEW GUINEA
921.	6/15	13	13	52.6	-57.950	-24.851	3	94.10	5.2	4.9	SOUTH SANDWICH ISL REGION
922.	6/15	16	38	50.3	-20.039	-69.201	107	28.94	4.6	-	TARAPACA, CHILE
923.	6/15	19	52	24.3	-44.975	-80.568	10	77.60	5.5	5.8	OFF THE COAST OF AISEN, CHILE
924.	6/15	23	21	27.5	-20.150	-68.730	122	57.67	4.3	-	POTOSI, BOLIVIA
925.	6/16	10	18	0.5	81.563	-4.239	10	77.34	5.0	4.1	NORTH OF SVALBARD
926.	6/16	12	17	59.5	2.081	98.887	30	152.28	4.8	-	NORTHERN SUMATRA, INDONESIA
927.	6/16	18	11	0.1	-19.934	-177.894	363	81.62	4.6	-	FIJI REGION
928.	6/17	2	11	28.9	-24.820	179.700	500	87.19	4.3	-	SOUTH OF THE FIJI ISLANDS
929.	6/17	2	37	39.3	5.605	94.722	59	81.93	5.4	-	NORTHERN SUMATRA, INDONESIA
930.	6/17	4	44	50.3	-20.320	-68.770	100	83.70	4.2	-	TARAPACA, CHILE
931.	6/17	6	21	41.9	40.758	-126.595	10	77.19	6.3	6.5	OFF THE COAST OF NORTHERN CALIFORNIA
932.	6/17	20	18	52.8	-21.240	-179.420	675	150.73	4.3	-	FIJI REGION
933.	6/17	21	26	2.9	2.128	96.773	27	85.60	5.2	4.7	SIMEULUE, INDONESIA
934.	6/18	8	46	30.1	3.725	93.157	38	81.01	4.8	-	OFF WEST COAST OF N SUMATRA
935.	6/18	15	16	42.4	45.705	26.537	141	81.45	5.0	-	ROMANIA
936.	6/18	16	50	32.7	-19.988	-68.796	107	115.09	4.4	-	TARAPACA, CHILE
937.	6/18	17	49	23.3	-19.954	-68.848	101	77.51	4.8	-	TARAPACA, CHILE
938.	6/18	19	56	19.0	-11.063	69.837	10	77.56	4.8	-	MID-INDIAN RIDGE
939.	6/18	19	58	11.9	3.985	128.089	51	61.25	4.9	-	N OF HALMAHERA, INDONESIA
940.	6/18	23	20	12.4	-23.956	-111.815	10	93.39	4.9	-	EASTER ISLAND REGION
941.	6/18	23	30	34.6	-24.029	-111.759	10	84.65	5.2	4.9	EASTER ISLAND REGION
942.	6/18	23	42	48.7	-24.076	-111.879	10	84.57	4.7	-	EASTER ISLAND REGION
943.	6/19	0	28	11.4	-21.510	169.920	104	84.54	4.7	-	SOUTHEAST OF LOYALTY ISLANDS
944.	6/19	2	1	6.6	-23.931	-111.927	10	82.87	5.6	5.3	EASTER ISLAND REGION
945.	6/19	3	48	32.8	-24.134	-111.599	10	84.69	4.8	-	EASTER ISLAND REGION
946.	6/19	4	13	32.8	-19.946	-68.708	126	84.44	4.4	-	TARAPACA, CHILE
947.	6/19	7	16	11.6	-20.778	-178.750	554	77.52	4.6	-	FIJI REGION
948.	6/19	10	29	13.9	-24.134	-111.751	10	86.19	4.8	-	EASTER ISLAND REGION
949.	6/19	12	44	55.7	1.230	97.223	22	84.46	4.8	-	NIAS REGION, INDONESIA

No.	Date	Origin time UTC			Geographic Coordinates		Depth (km)	Epicentral Magnitude distance			Region
		h	m	s	Latitude (deg)	Longitude (deg)		(deg)	Mb	Ms	
950.	6/19	13	59	46.3	-63.462	-61.957	10	80.29	5.4	5.1	SOUTH SHETLAND ISLANDS
951.	6/19	16	15	15.1	35.592	140.468	48	36.41	5.4	5.1	NEAR THE EAST COAST OF HONSHU, JAPAN
952.	6/20	2	44	54.3	-26.722	-176.123	10	126.96	5.6	5.5	SOUTH OF THE FIJI ISLANDS
953.	6/20	4	34	31.4	-23.810	-111.972	10	80.90	5.2	4.7	EASTER ISLAND REGION
954.	6/20	5	9	5.1	-7.072	117.098	612	84.82	4.6	-	BALI SEA
955.	6/20	6	32	9.8	-32.850	-68.310	10	79.15	4.3	-	MENDOZA, ARGENTINA
956.	6/20	7	38	36.6	2.326	96.351	47	65.36	5.0	-	SIMEULUE, INDONESIA
957.	6/21	5	11	18.1	-19.968	-68.661	106	81.07	5.5	-	TARAPACA, CHILE
958.	6/21	10	43	29.2	-36.168	-100.880	10	77.49	5.4	5.3	SOUTHEAST OF EASTER ISLAND
959.	6/21	15	56	5.3	7.434	94.170	30	70.74	4.8	-	NICOBAR ISL, INDIA REGION
960.	6/22	6	30	19.0	9.662	126.273	75	85.29	5.2	-	MINDANAO, PHILIPPINES
961.	6/22	20	8	27.5	-7.861	107.444	70	98.04	5.2	-	JAVA, INDONESIA
962.	6/23	10	8	26.1	-26.700	-176.071	10	75.04	5.5	5.1	SOUTH OF THE FIJI ISLANDS
963.	6/23	11	51	34.3	-26.587	-176.189	35	80.93	4.9	-	SOUTH OF THE FIJI ISLANDS
964.	6/23	12	15	58.7	-41.990	173.970	12	81.02	4.5	-	SOUTH ISLAND OF NEW ZEALAND
965.	6/23	12	36	59.5	7.487	94.312	30	64.12	4.7	-	NICOBAR ISL, INDIA REGION
966.	6/23	12	44	38.8	-29.267	-112.475	10	85.38	5.2	4.9	EASTER ISLAND REGION
967.	6/23	13	19	54.1	-29.187	-112.202	10	79.52	4.8	-	EASTER ISLAND REGION
968.	6/23	17	38	25.4	-6.100	113.102	590	79.56	4.4	-	JAVA, INDONESIA
969.	6/23	18	29	50.2	-4.998	68.521	10	78.65	4.9	-	CHAGOS ARCHIP
970.	6/23	18	32	20.9	-29.407	-112.577	10	66.93	5.0	-	EASTER ISLAND REGION
971.	6/23	23	45	20.3	-29.365	-111.414	10	79.40	4.7	-	EASTER ISLAND REGION
972.	6/24	12	35	40.9	-6.971	106.179	92	79.26	4.7	-	JAVA, INDONESIA
973.	6/24	13	11	48.1	-5.883	-80.991	25	75.45	4.9	4.5	NEAR COAST OF NORTHERN PERU
974.	6/24	13	44	10.7	-23.889	-66.384	199	94.73	4.1	-	SALTA, ARGENTINA
975.	6/24	13	54	35.8	-1.028	-13.404	10	73.07	4.9	5.1	NORTH OF ASCENSION ISLAND
976.	6/24	21	45	9.7	4.801	95.066	36	76.40	5.4	4.8	NORTHERN SUMATRA, INDONESIA
977.	6/25	22	3	13.6	-20.673	169.384	80	83.04	4.8	-	VANUATU
978.	6/26	4	29	15.8	4.124	93.188	16	83.54	5.0	4.5	OFF WEST COAST OF N SUMATRA
979.	6/26	8	23	4.1	1.757	125.840	94	81.84	5.9	-	MOLUCCA SEA
980.	6/26	8	49	51.5	3.191	-31.291	10	90.51	4.5	-	CENTRAL MID-ATLANTIC RIDGE
981.	6/26	11	32	5.8	-19.883	-68.809	120	86.07	4.5	-	TARAPACA, CHILE
982.	6/27	0	53	43.9	-19.563	-69.636	37	78.19	4.9	4.2	TARAPACA, CHILE
983.	6/27	11	35	44.1	18.776	-107.310	10	125.64	5.9	5.9	OFF THE COAST OF JALISCO, MEXICO
984.	6/27	14	5	8.0	7.329	-35.020	10	91.22	5.2	4.9	CENTRAL MID-ATLANTIC RIDGE
985.	6/28	6	10	31.0	-19.717	-68.699	103	77.74	4.6	-	TARAPACA, CHILE
986.	6/28	21	41	53.6	-16.445	-177.366	399	90.71	4.6	-	FIJI REGION
987.	6/29	4	21	50.3	-13.936	167.168	161	89.42	4.9	-	VANUATU
988.	6/29	14	11	26.3	-17.821	178.215	525	88.42	4.8	-	FIJI
989.	6/30	7	20	39.1	-45.320	166.370	33	59.27	4.9	-	OFF WEST COAST OF THE SOUTH ISLAND, N.Z.
990.	6/30	9	3	24.3	-24.167	-68.612	89	73.54	4.3	-	ANTOFAGASTA, CHILE
991.	6/30	13	48	30.5	-10.881	162.306	72	90.97	5.6	-	SOLOMON ISLANDS
992.	7/1	20	58	27.8	-20.664	-178.245	528	86.41	4.8	-	FIJI REGION
993.	7/2	2	16	44.1	11.198	-86.411	27	112.64	6.0	6.3	NEAR THE COAST OF NICARAGUA
994.	7/2	18	12	22.4	13.906	93.634	44	91.32	5.1	-	ANDAMAN ISL, INDIA REGION
995.	7/3	10	9	36.3	-6.780	130.295	119	84.13	4.9	-	BANDA SEA

No.	Date	Origin time			Geographic		Coordinates	Depth	Epicentral		Magnitude		Region
		UTC			Latitude	Longitude			distance	Mb	Ms		
		h	m	s	(deg)	(deg)	(km)	(deg)					
996.	7/3	12	3	41.3	-1.781	99.806	25	78.25	4.7	-		KEPULAUAN MENTAWAI REG, INDONESIA	
997.	7/3	19	53	14.1	-23.978	-66.519	166	73.03	4.2	-		JUJUY, ARGENTINA	
998.	7/4	7	0	33.3	-17.919	-178.516	559	89.03	4.3	-		FIJI REGION	
999.	7/4	16	7	36.3	10.317	93.563	38	87.87	4.9	-		ANDAMAN ISL, INDIA REGION	
1000.	7/4	21	59	10.3	-26.999	-63.263	553	69.14	4.9	-		SANTIAGO DEL ESTERO, ARGENTINA	
1001.	7/6	7	19	6.2	-8.585	113.428	125	76.44	4.8	-		JAVA, INDONESIA	
1002.	7/6	17	58	33.0	52.997	162.631	2	149.88	5.1	-		OFF E CST KAMCHATKA, RUSSIA	
1003.	7/7	2	17	5.5	56.112	164.527	33	153.01	5.6	5.0		KOMANDORSKIYE OSTROVA, RUSSIA REGION	
1004.	7/7	7	45	42.3	-28.887	179.911	433	78.02	4.9	-		KERMADEC ISLANDS REGION	
1005.	7/7	10	9	22.4	-23.745	-111.619	10	84.83	5.3	4.4		EASTER ISLAND REGION	
1006.	7/7	10	14	38.0	-23.821	-111.298	10	84.70	4.8	-		EASTER ISLAND REGION	
1007.	7/7	15	10	37.9	-4.221	143.506	96	91.19	4.6	-		NEW GUINEA, PAPUA NEW GUINEA	
1008.	7/7	22	10	19.6	-65.061	179.670	10	43.13	4.9	-		BALLENY ISLANDS REGION	
1009.	7/8	8	32	45.0	-22.581	-179.134	439	84.35	4.8	-		SOUTH OF THE FIJI ISLANDS	
1010.	7/8	10	43	15.2	-24.820	-179.760	400	82.04	4.1	-		SOUTH OF THE FIJI ISLANDS	
1011.	7/8	10	52	30.1	-14.040	167.840	35	89.51	4.6	-		VANUATU	
1012.	7/8	21	28	24.0	1.220	97.221	30	80.28	4.9	-		NIAS REGION, INDONESIA	
1013.	7/9	10	7	4.4	2.822	126.475	44	91.73	5.8	5.1		MOLUCCA SEA	
1014.	7/9	11	19	54.4	2.724	126.680	57	91.71	5.3	-		MOLUCCA SEA	
1015.	7/9	11	36	42.4	-8.597	118.834	128	78.34	5.2	-		SUMBAWA REGION, INDONESIA	
1016.	7/9	17	9	49.8	-36.180	179.300	74	70.81	4.7	-		OFF E CST N ISL, N.Z.	
1017.	7/9	18	23	56.1	-23.454	179.028	568	83.12	4.6	-		SOUTH OF THE FIJI ISLANDS	
1018.	7/9	23	37	10.8	33.397	140.829	53	125.11	5.8	-		IZU ISLANDS, JAPAN REGION	
1019.	7/10	4	46	31.4	-36.256	-97.094	10	69.88	5.3	5.7		WEST CHILE RISE	
1020.	7/10	8	41	52.1	-18.498	-174.606	129	89.24	4.8	-		TONGA	
1021.	7/10	22	39	34.9	55.452	166.648	28	153.26	5.1	4.5		KOMANDORSKIYE OSTROVA, RUSSIA REGION	
1022.	7/11	1	7	55.1	2.642	94.343	30	80.76	4.9	4.1		OFF WEST COAST OF N SUMATRA	
1023.	7/11	3	29	45.9	-3.708	130.912	10	87.22	5.0	-		SERAM, INDONESIA	
1024.	7/11	3	35	11.2	-27.830	-66.585	157	69.47	4.6	-		CATAMARCA, ARGENTINA	
1025.	7/11	12	1	34.9	-23.858	-111.618	10	84.71	6.0	5.4		EASTER ISLAND REGION	
1026.	7/11	14	36	9.7	1.308	97.206	23	80.36	5.4	5.4		NIAS REGION, INDONESIA	
1027.	7/11	16	6	25.2	-26.853	-176.522	10	80.70	5.3	5.2		SOUTH OF THE FIJI ISLANDS	
1028.	7/11	16	22	47.6	-26.842	-176.491	10	80.71	4.9	-		SOUTH OF THE FIJI ISLANDS	
1029.	7/11	21	5	21.9	38.907	44.434	10	107.99	4.0	-		TURKEY-IRAN BORDER REGION	
1030.	7/11	23	6	2.0	-26.942	-176.367	10	80.64	5.5	5.7		SOUTH OF THE FIJI ISLANDS	
1031.	7/12	23	26	21.3	-20.547	-178.562	541	86.46	4.8	-		FIJI REGION	
1032.	7/13	0	29	30.2	10.423	92.950	51	87.80	5.5	-		ANDAMAN ISLANDS, INDIA REGION	
1033.	7/13	3	53	12.1	-16.004	-177.832	392	91.04	4.4	-		FIJI REGION	
1034.	7/13	7	46	57.4	-14.937	167.369	136	88.52	5.1	-		VANUATU	
1035.	7/13	12	6	13.2	-17.819	-70.003	80	79.94	5.6	-		SOUTHERN PERU	
1036.	7/13	19	13	46.7	-24.099	-66.683	197	72.98	4.0	-		JUJUY, ARGENTINA	
1037.	7/14	19	8	13.0	-56.485	-26.659	84	30.69	4.9	-		SOUTH SANDWICH ISL REGION	
1038.	7/14	20	17	29.3	-6.023	142.414	8	89.12	5.3	-		NEW GUINEA, PAPUA NEW GUINEA	
1039.	7/15	1	7	16.5	-18.973	-68.622	127	78.41	4.9	-		ORURO, BOLIVIA	
1040.	7/15	13	45	23.4	-32.692	-179.354	25	74.46	5.1	-		SOUTH OF KERMADEC ISLANDS	
1041.	7/15	17	58	36.2	-57.329	-147.664	10	53.57	4.9	5.2		PACIFIC-ANTARCTIC RIDGE	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC h m s	Latitude (deg)	Longitude (deg)	distance (deg)	Mb		Ms			
1042.	7/15	22	5	21.6	-6.363	149.188	72	91.11	5.1	-	NEW BRITAIN REG, P.N.G.
1043.	7/15	23	45	46.7	-5.746	145.709	50	90.51	4.7	-	E NEW GUINEA REG, P.N.G.
1044.	7/16	3	42	25.9	-11.935	166.473	49	91.15	4.8	-	SANTA CRUZ ISLANDS
1045.	7/16	15	48	28.6	-6.680	105.910	84	75.63	4.9	-	SUNDA STRAIT, INDONESIA
1046.	7/16	23	23	30.9	-8.817	124.045	50	79.99	4.7	-	KEPULAUAN ALOR, INDONESIA
1047.	7/17	1	4	43.7	21.013	95.026	118	98.50	5.0	-	MYANMAR
1048.	7/17	10	22	38.8	-3.491	131.181	18	87.52	4.6	-	CERAM SEA, INDONESIA
1049.	7/17	11	41	56.1	-23.034	-68.364	109	74.52	4.3	-	ANTOFAGASTA, CHILE
1050.	7/17	12	45	2.5	-36.559	-73.265	31	63.45	4.7	-	OFFSHORE BIO-BIO, CHILE
1051.	7/17	17	32	3.0	-22.363	-179.603	560	84.47	4.1	-	SOUTH OF THE FIJI ISLANDS
1052.	7/18	1	59	38.0	-4.862	129.576	184	85.66	5.3	-	BANDA SEA
1053.	7/18	2	4	59.8	-9.981	124.374	10	79.03	5.7	5.2	TIMOR REGION
1054.	7/18	2	6	52.8	-9.821	124.173	2	79.11	5.8	5.2	TIMOR REGION
1055.	7/18	5	16	6.2	-55.173	-28.287	8	32.29	4.8	-	SOUTH SANDWICH ISL REGION
1056.	7/18	17	49	2.5	-15.645	-177.568	15	91.45	4.9	4.8	FIJI REGION
1057.	7/18	19	37	23.5	-0.172	125.095	50	88.44	5.8	5.1	MOLUCCA SEA
1058.	7/19	10	31	32.3	-20.470	168.906	43	83.61	5.4	5.0	LOYALTY ISLANDS
1059.	7/19	12	21	11.1	-8.806	110.990	35	75.38	5.0	4.6	JAVA, INDONESIA
1060.	7/19	15	8	5.1	-21.442	-68.146	130	75.94	4.6	-	POTOSI, BOLIVIA
1061.	7/20	3	15	48.9	0.024	123.072	157	87.90	4.6	-	MINAHASA, SULAWESI, INDONESIA
1062.	7/20	4	48	13.6	-17.937	-178.512	584	89.01	4.9	-	FIJI REGION
1063.	7/20	21	54	5.8	43.074	109.037	6	123.25	5.5	4.7	EASTERN MONGOLIA
1064.	7/21	1	42	44.7	4.432	96.088	15	82.99	5.1	4.6	NORTHERN SUMATRA, INDONESIA
1065.	7/21	4	7	42.8	-0.978	148.307	67	95.88	5.0	-	ADMIRALTY ISL REG., P.N.G.
1066.	7/21	12	2	40.0	-59.020	-16.694	10	25.26	4.9	-	EAST OF SOUTH SANDWICH ISLANDS
1067.	7/21	19	17	49.1	-8.152	-13.456	10	69.61	5.3	4.8	ASCENSION ISLAND REGION
1068.	7/22	0	1	27.3	-23.651	-179.798	468	83.17	4.5	-	SOUTH OF THE FIJI ISLANDS
1069.	7/22	0	14	41.2	-29.340	-71.044	50	69.49	5.0	-	COQUIMBO, CHILE
1070.	7/22	9	50	7.9	2.410	97.131	43	81.39	5.1	4.6	NORTHERN SUMATRA, INDONESIA
1071.	7/23	0	44	56.6	5.454	94.361	30	83.45	5.2	4.8	NORTHERN SUMATRA, INDONESIA
1072.	7/23	1	4	25.2	-15.252	167.546	123	88.26	5.4	-	VANUATU
1073.	7/23	2	24	49.4	-38.558	47.644	10	30.81	4.8	4.5	SOUTHWEST INDIAN RIDGE
1074.	7/23	5	3	50.9	5.159	93.147	27	82.82	4.9	4.5	OFF WEST COAST OF N SUMATRA
1075.	7/23	7	29	2.3	6.170	93.860	30	83.99	4.7	-	NICOBAR ISL, INDIA REGION
1076.	7/23	7	34	57.5	35.506	139.933	66	126.69	6.0	-	NEAR THE SOUTH COAST OF HONSHU, JAPAN
1077.	7/23	8	51	50.0	-30.045	-178.154	53	77.27	5.7	5.6	KERMADEC ISLANDS, NEW ZEALAND
1078.	7/23	11	35	7.9	-22.667	-66.007	277	74.09	4.8	-	JUJUY, ARGENTINA
1079.	7/23	14	40	24.4	36.401	70.783	204	107.99	5.5	-	HINDU KUSH REGION, AFGHANISTAN
1080.	7/23	22	53	34.8	5.154	94.744	47	83.28	5.7	4.6	NORTHERN SUMATRA, INDONESIA
1081.	7/24	6	15	49.5	-1.572	99.507	30	78.35	4.9	-	KEPULAUAN MENTAWAI REG, INDONESIA
1082.	7/24	6	19	16.4	-13.238	-76.286	50	86.28	4.6	-	NEAR THE COAST OF CENTRAL PERU
1083.	7/24	15	42	6.0	7.909	92.139	16	85.16	6.7	7.5	NICOBAR ISLANDS, INDIA REGION
1084.	7/24	15	54	34.0	8.056	91.883	20	85.23	5.2	-	NICOBAR ISL, INDIA REGION
1085.	7/24	16	0	9.6	8.128	92.291	10	85.41	5.2	-	NICOBAR ISL, INDIA REGION
1086.	7/25	2	17	15.4	7.758	91.998	30	84.97	5.4	-	NICOBAR ISL, INDIA REGION
1087.	7/25	3	26	17.2	8.090	91.903	31	85.26	5.4	5.1	NICOBAR ISLANDS, INDIA 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			
1088.	7/25	4 31 29.4	-4.026	151.883	240	94.21	5.2	-	-	-	NEW BRITAIN REG, P.N.G.	
1089.	7/25	6 22 39.2	-23.543	-179.991	507	83.24	4.4	-	-	-	SOUTH OF THE FIJI ISLANDS	
1090.	7/25	9 53 45.5	-16.814	-70.344	42	81.00	4.7	-	-	-	SOUTHERN PERU	
1091.	7/25	12 43 40.6	7.808	92.260	10	85.09	5.1	4.6	-	-	NICOBAR ISL, INDIA REGION	
1092.	7/25	16 2 2.2	1.199	96.818	25	80.14	5.3	5.0	-	-	NIAS REGION, INDONESIA	
1093.	7/25	19 45 16.0	-55.994	-27.682	85	31.43	5.5	-	-	-	SOUTH SANDWICH ISLANDS REGION	
1094.	7/25	23 52 58.7	-25.921	-70.627	37	72.55	4.8	-	-	-	ANTOFAGASTA, CHILE	
1095.	7/26	1 38 55.2	1.892	97.000	28	80.85	5.1	-	-	-	NIAS REGION, INDONESIA	
1096.	7/26	4 8 37.1	45.348	-112.606	13	152.33	5.7	5.2	-	-	WESTERN MONTANA	
1097.	7/26	5 14 42.8	33.213	142.298	37	125.47	5.2	4.6	-	-	OFF E COAST OF HONSHU, JAPAN	
1098.	7/26	6 32 11.3	8.344	91.623	25	85.43	5.2	4.9	-	-	NICOBAR ISLANDS, INDIA REGION	
1099.	7/26	7 55 15.9	1.029	97.149	24	80.08	4.8	-	-	-	NIAS REGION, INDONESIA	
1100.	7/26	10 11 40.4	-15.205	-173.276	36	92.72	5.0	4.7	-	-	TONGA	
1101.	7/26	12 16 8.8	42.532	104.189	16	121.35	5.2	-	-	-	CENTRAL MONGOLIA	
1102.	7/26	12 17 14.3	52.861	160.146	28	148.88	5.4	5.4	-	-	OFF THE E COAST OF KAMCHATKA, RUSSIA	
1103.	7/26	14 11 36.4	-15.336	-72.969	111	83.24	5.9	-	-	-	SOUTHERN PERU	
1104.	7/27	2 39 22.6	33.243	142.325	34	125.51	5.4	4.8	-	-	OFF THE EAST COAST OF HONSHU, JAPAN	
1105.	7/27	11 11 48.5	33.175	142.361	37	125.46	5.2	-	-	-	OFF E COAST OF HONSHU, JAPAN	
1106.	7/28	0 38 55.9	2.319	96.777	35	81.19	4.5	-	-	-	SIMEULUE, INDONESIA	
1107.	7/28	8 31 32.1	-23.747	-179.733	450	83.09	4.8	-	-	-	SOUTH OF THE FIJI ISLANDS	
1108.	7/28	13 32 16.6	-19.940	-68.809	118	77.56	4.4	-	-	-	TARAPACA, CHILE	
1109.	7/28	19 47 27.4	-0.296	125.206	43	88.36	5.2	-	-	-	MOLUCCA SEA	
1110.	7/29	1 40 36.8	-35.884	179.914	216	71.22	4.7	-	-	-	OFF E COAST OF N ISL, N.Z.	
1111.	7/29	5 0 30.2	52.956	-168.618	51	159.46	5.6	-	-	-	FOX ISLANDS, ALEUTIAN ISLANDS, ALASKA	
1112.	7/29	12 27 1.1	8.327	92.408	34	85.63	5.2	-	-	-	NICOBAR ISL, INDIA REGION	
1113.	7/29	12 51 6.5	33.283	142.402	36	125.57	5.3	4.7	-	-	OFF E COAST OF HONSHU, JAPAN	
1114.	7/29	16 53 0.3	-4.004	128.847	25	86.20	4.9	-	-	-	BANDA SEA	
1115.	7/29	20 33 39.9	2.865	93.523	32	80.73	5.7	5.0	-	-	OFF THE W COAST OF NORTHERN SUMATRA	
1116.	7/30	0 0 30.5	-11.638	78.515	21	62.67	5.3	4.8	-	-	SOUTH INDIAN OCEAN	
1117.	7/30	0 27 26.6	-32.034	-177.943	10	75.37	4.9	4.2	-	-	SOUTH OF KERMADEC ISLANDS	
1118.	7/30	0 36 29.4	1.087	97.397	26	80.21	5.2	5.0	-	-	NIAS REGION, INDONESIA	
1119.	7/30	0 40 11.5	1.025	97.430	30	80.16	5.0	-	-	-	NIAS REGION, INDONESIA	
1120.	7/30	9 23 6.1	-26.963	-175.959	38	80.70	5.2	-	-	-	SOUTH OF TONGA	
1121.	7/30	11 3 48.7	-61.611	153.615	10	41.37	5.3	-	-	-	BALLENY ISLANDS REGION	
1122.	7/30	15 13 20.1	5.203	94.454	38	83.24	5.9	5.3	-	-	NORTHERN SUMATRA, INDONESIA	
1123.	7/31	1 24 11.0	-22.580	172.955	20	82.59	5.2	4.8	-	-	SOUTHEAST OF LOYALTY ISLANDS	
1124.	7/31	5 16 39.5	-14.272	-75.629	47	85.10	4.7	-	-	-	NEAR COAST OF CENTRAL PERU	
1125.	7/31	8 4 30.9	1.570	97.025	30	80.56	4.8	-	-	-	NIAS REGION, INDONESIA	
1126.	7/31	12 18 22.7	0.384	97.744	26	79.65	5.1	4.7	-	-	NIAS REGION, INDONESIA	
1127.	7/31	12 37 18.3	0.410	97.838	30	79.70	5.1	4.5	-	-	NIAS REGION, INDONESIA	
1128.	7/31	14 9 11.2	-5.997	146.642	52	90.59	5.0	-	-	-	E NEW GUINEA REG, P.N.G.	
1129.	7/31	22 6 53.4	-0.074	123.749	95	88.05	5.3	-	-	-	SULAWESI, INDONESIA	
1130.	8/1	5 33 16.8	-18.030	167.844	40	85.68	4.8	-	-	-	VANUATU	
1131.	8/1	16 23 53.0	-16.810	-70.317	44	80.99	4.9	4.2	-	-	SOUTHERN PERU	
1132.	8/2	3 51 39.0	1.600	126.833	127	90.71	4.9	-	-	-	MOLUCCA SEA	
1133.	8/2	8 39 54.5	-3.995	128.798	28	86.19	5.7	5.2	-	-	SERAM, INDONESIA	



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		UTC	Latitude (deg)	Longitude (deg)	distance (deg)	Mb		Ms			
		h	m	s							
1134.	8/2	11	33	53.7	-6.909	122.876	668	81.36	5.2	-	FLORES SEA
1135.	8/2	20	56	36.1	5.215	94.225	36	83.19	5.0	4.7	NORTHERN SUMATRA, INDONESIA
1136.	8/3	10	41	18.1	2.985	128.151	69	92.48	5.7	-	HALMAHERA, INDONESIA
1137.	8/3	11	3	14.3	11.239	-85.507	10	112.40	6.1	6.3	NICARAGUA
1138.	8/3	19	18	49.2	-21.086	-178.451	533	85.95	4.2	-	FIJI REGION
1139.	8/3	19	49	46.7	-20.331	-178.215	538	86.74	4.9	-	FIJI REGION
1140.	8/3	22	22	38.8	-28.108	-177.429	62	79.30	5.1	-	KERMADEC ISLANDS REGION
1141.	8/4	9	26	52.7	-3.696	140.219	40	90.53	5.8	5.6	PAPUA, INDONESIA
1142.	8/4	10	27	12.3	-26.633	-114.523	10	82.42	5.9	5.4	EASTER ISLAND REGION
1143.	8/4	12	11	20.5	-59.672	-25.893	44	28.04	5.6	5.1	SOUTH SANDWICH ISLANDS REGION
1144.	8/4	12	57	34.3	-49.651	126.016	10	43.64	5.0	-	W INDIAN-ANTARCTIC RIDGE
1145.	8/4	21	57	40.5	-17.821	-178.590	545	89.11	4.4	-	FIJI REGION
1146.	8/5	0	42	57.9	-23.942	-66.686	195	73.12	4.4	-	JUJUY, ARGENTINA
1147.	8/5	0	56	53.9	51.315	-178.161	23	155.12	5.6	5.3	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
1148.	8/5	8	3	53.6	-35.075	-70.052	144	63.85	4.6	-	MENDOZA, ARGENTINA
1149.	8/5	23	56	57.2	-5.605	145.648	115	90.62	5.4	-	EASTERN NEW GUINEA REG, P.N.G.
1150.	8/6	4	2	32.5	85.281	96.298	10	156.14	5.3	5.0	NORTH OF SEVERNAYA ZEMLYA
1151.	8/6	5	49	36.7	5.784	125.677	169	94.21	4.6	-	MINDANAO, PHILIPPINES
1152.	8/6	7	36	29.7	-17.325	-69.496	141	80.24	5.3	-	LA PAZ, BOLIVIA
1153.	8/6	12	40	37.4	11.688	125.701	29	99.72	5.2	4.8	SAMAR, PHILIPPINES
1154.	8/6	14	29	46.8	-16.771	-172.871	45	91.25	4.7	-	SAMOA ISLANDS REGION
1155.	8/7	2	17	45.9	-47.063	33.525	10	22.12	5.7	5.8	PRINCE EDWARD ISLANDS REGION
1156.	8/7	4	51	35.1	-7.239	119.606	412	79.88	5.0	-	FLORES SEA
1157.	8/7	11	20	29.2	-7.987	-79.908	33	92.40	5.3	4.5	NEAR THE COAST OF NORTHERN PERU
1158.	8/7	11	35	26.1	-14.444	-177.291	10	92.68	5.7	5.9	FIJI REGION
1159.	8/7	13	54	25.1	-14.382	-176.962	10	92.80	5.0	5.1	FIJI REGION
1160.	8/7	14	41	0.8	-14.445	-177.262	10	92.68	5.3	5.6	FIJI REGION
1161.	8/7	15	6	45.3	36.319	141.371	38	127.93	5.5	5.1	NEAR THE EAST COAST OF HONSHU, JAPAN
1162.	8/8	8	33	56.5	-3.838	140.185	9	90.39	5.7	-	PAPUA, INDONESIA
1163.	8/8	13	56	43.6	-20.110	-68.899	97	77.43	4.5	-	TARAPACA, CHILE
1164.	8/9	4	58	55.9	-21.199	173.834	7	84.14	5.1	5.2	VANUATU REGION
1165.	8/9	5	26	20.3	-21.022	173.787	45	84.30	5.4	6.0	VANUATU REGION
1166.	8/9	11	23	0.2	7.723	94.104	22	85.55	5.3	5.0	NICOBAR ISLANDS, INDIA REGION
1167.	8/9	14	12	20.9	-21.192	173.802	35	84.13	5.3	5.9	VANUATU REGION
1168.	8/10	2	2	4.4	-22.633	-66.006	236	74.12	4.4	-	JUJUY, ARGENTINA
1169.	8/10	12	47	40.1	48.641	158.068	31	144.66	5.5	4.3	EAST OF THE KURIL ISLANDS
1170.	8/10	15	10	48.5	16.740	145.489	23	111.48	5.3	4.8	ANATAHAN REG., NORTHERN MARIANA ISL.
1171.	8/10	21	18	9.5	-15.174	-174.016	80	92.61	4.7	-	TONGA
1172.	8/11	1	17	33.1	-50.667	162.299	29	53.31	5.3	4.7	AUCKLAND ISLANDS, NEW ZEALAND REGION
1173.	8/11	1	21	33.2	3.043	94.007	28	81.05	5.0	-	OFF WEST COAST OF N SUMATRA
1174.	8/11	7	2	51.5	-22.085	170.066	10	82.36	5.2	4.6	SOUTHEAST OF LOYALTY ISLANDS
1175.	8/11	7	41	20.7	-20.014	-68.962	124	77.54	4.2	-	TARAPACA, CHILE
1176.	8/11	8	46	38.6	-22.200	170.190	10	82.28	5.0	-	SOUTHEAST OF LOYALTY ISLANDS
1177.	8/11	9	8	46.9	-22.622	169.535	10	81.71	5.6	5.9	SOUTHEAST OF THE LOYALTY ISLANDS
1178.	8/11	11	36	33.6	-55.010	-129.184	10	55.68	5.0	-	PACIFIC-ANTARCTIC RIDGE
1179.	8/11	11	50	51.2	-21.972	170.280	10	82.52	5.4	-	SOUTHEAST OF THE LOYALTY ISLANDS

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance (deg)	Magnitude		Region
		UTC	Latitude	Longitude	h	m			s	(deg)	
1180.	8/11	15	55	5.0	-19.596	-175.724	134	87.95	4.9	-	TONGA
1181.	8/11	22	44	57.1	-22.245	170.452	10	82.30	4.9	-	SOUTHEAST OF LOYALTY ISLANDS
1182.	8/12	0	51	24.7	-24.140	-179.996	500	82.66	4.3	-	SOUTH OF THE FIJI ISLANDS
1183.	8/12	8	59	19.2	-33.393	-70.661	83	65.60	4.1	-	REGION METROPOLITANA, CHILE
1184.	8/12	19	24	43.5	-64.596	175.568	10	42.96	4.7	-	BALLENY ISLANDS REGION
1185.	8/13	3	10	5.9	-8.243	117.308	185	78.13	5.3	-	SUMBAWA REGION, INDONESIA
1186.	8/13	5	23	52.8	-19.649	-68.798	104	77.83	4.7	-	ARAPACA, CHILE
1187.	8/13	5	40	47.6	-37.320	178.110	33	69.47	4.7	-	OFF E CST N ISL, N.Z.
1188.	8/13	9	7	17.0	-4.091	128.863	23	86.13	5.1	-	BANDA SEA
1189.	8/13	16	51	29.4	-16.654	-70.275	48	81.13	4.8	-	SOUTHERN PERU
1190.	8/13	18	21	18.3	3.947	126.227	88	92.69	4.7	-	KEPULAUAN TALAUD, INDONESIA
1191.	8/14	2	39	40.2	-19.765	-68.920	114	77.76	5.7	-	TARAPACA, CHILE
1192.	8/14	12	7	46.3	-38.105	-93.672	10	67.35	4.8	4.1	WEST CHILE RISE
1193.	8/15	3	15	52.4	-3.731	140.150	10	90.48	5.3	5.0	PAPUA, INDONESIA
1194.	8/15	19	22	33.2	0.127	121.956	198	87.60	4.4	-	MINAHASA, SULAWESI, INDONESIA
1195.	8/15	23	8	48.7	-14.328	-75.554	48	85.02	4.4	-	NEAR THE COAST OF CENTRAL PERU
1196.	8/16	4	36	26.8	-23.383	179.203	520	83.23	4.5	-	SOUTH OF THE FIJI ISLANDS
1197.	8/16	9	42	53.6	-18.789	169.195	215	85.30	4.7	-	VANUATU
1198.	8/16	10	39	21.0	2.670	126.648	57	91.65	5.4	4.8	MOLUCCA SEA
1199.	8/17	0	17	26.6	-24.220	179.460	600	82.47	4.3	-	SOUTH OF THE FIJI ISLANDS
1200.	8/17	6	14	25.3	-14.925	-173.849	44	92.88	4.5	-	SAMOA ISLANDS REGION
1201.	8/17	7	0	9.3	-36.646	-72.584	54	63.16	4.6	-	BIO-BIO, CHILE
1202.	8/17	9	40	23.2	-30.231	-177.884	18	77.14	5.0	-	KERMADEC ISL, NEW ZEALAND
1203.	8/17	10	35	26.1	-5.243	151.303	133	92.87	5.0	-	NEW BRITAIN REG, P.N.G.
1204.	8/17	15	55	47.2	-48.664	126.418	10	44.63	4.7	-	W INDIAN-ANTARCTIC RIDGE
1205.	8/19	1	18	9.5	-9.196	123.998	87	79.62	4.5	-	TIMOR REGION, INDONESIA
1206.	8/19	8	54	29.5	-24.174	179.811	550	82.58	4.0	-	SOUTH OF THE FIJI ISLANDS
1207.	8/19	13	4	3.9	-31.439	58.508	10	39.19	5.4	4.1	SOUTHWEST INDIAN RIDGE
1208.	8/19	15	48	18.8	2.622	128.111	55	92.13	5.5	4.6	HALMAHERA, INDONESIA
1209.	8/19	23	32	6.1	-28.382	-70.805	59	70.31	4.7	-	ATACAMA, CHILE
1210.	8/20	1	45	43.7	-21.216	169.997	91	83.18	5.2	-	SOUTHEAST OF THE LOYALTY ISLANDS
1211.	8/21	7	12	16.2	-59.144	-25.589	40	28.32	5.0	-	SOUTH SANDWICH ISL REGION
1212.	8/21	18	6	54.2	-55.875	-27.744	124	31.55	5.1	-	SOUTH SANDWICH ISL REGION
1213.	8/22	2	13	49.3	-28.248	-68.924	100	69.84	4.8	-	LA RIOJA, ARGENTINA
1214.	8/22	15	5	54.8	-7.166	128.027	30	82.96	5.1	-	KEPULAUAN BARAT DAYA, INDONESIA
1215.	8/22	16	48	20.7	-14.816	-175.077	20	92.76	5.3	5.1	SAMOA ISLANDS REGION
1216.	8/23	6	32	25.3	-4.893	-80.256	55	95.44	4.8	-	PERU-ECUADOR BORDER REGION
1217.	8/24	4	56	38.2	-21.051	-178.060	364	86.07	4.5	-	FIJI REGION
1218.	8/24	10	14	50.5	38.475	143.103	31	130.48	5.6	-	OFF THE EAST COAST OF HONSHU, JAPAN
1219.	8/24	10	15	33.9	38.540	142.857	55	130.45	5.8	-	NEAR THE EAST COAST OF HONSHU, JAPAN
1220.	8/25	0	48	5.6	-15.513	-171.946	35	92.65	4.9	-	SAMOA ISLANDS REGION
1221.	8/25	0	54	54.4	0.500	123.500	288	88.50	4.1	-	MINAHASA, SULAWESI, INDONESIA
1222.	8/25	15	57	41.2	38.511	143.056	21	130.49	5.1	-	OFF E COAST OF HONSHU, JAPAN
1223.	8/25	18	19	49.3	-14.989	166.943	57	88.35	4.9	-	VANUATU
1224.	8/25	23	9	19.1	-23.621	179.997	538	83.16	5.1	-	SOUTH OF THE FIJI ISLANDS
1225.	8/26	0	36	52.7	5.381	94.529	30	83.43	4.9	-	NORTHERN SUMATRA, INDONESIA

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude distance			Region
		UTC	h	m	s	Latitude (deg)		Longitude (deg)	(deg)	Mb	
1226.	8/26	2	41	54.6	-6.780	130.170	44	84.09	4.5	-	BANDA SEA
1227.	8/26	4	0	42.3	-23.718	-66.635	192	73.32	4.2	-	JUJUY, ARGENTINA
1228.	8/26	5	30	43.4	1.751	126.315	66	90.67	5.1	-	MOLUCCA SEA
1229.	8/26	10	19	15.0	-24.420	-67.014	156	72.79	4.1	-	SALTA, ARGENTINA
1230.	8/26	18	16	33.3	14.428	52.323	10	83.97	5.8	5.8	GULF OF ADEN
1231.	8/26	21	42	6.5	-59.533	-28.414	272	29.02	4.8	-	SOUTH SANDWICH ISL REGION
1232.	8/27	3	15	11.8	-14.394	167.379	195	89.04	4.6	-	VANUATU
1233.	8/27	3	28	18.1	-24.468	-111.520	10	84.10	4.8	3.9	EASTER ISLAND REGION
1234.	8/27	4	43	33.9	-8.193	125.388	29	81.06	5.0	-	EAST TIMOR REGION
1235.	8/27	10	58	1.3	5.702	125.786	163	94.17	5.4	-	MINDANAO, PHILIPPINES
1236.	8/27	17	40	12.1	-30.393	59.889	10	40.44	5.0	-	SOUTHWEST INDIAN RIDGE
1237.	8/27	18	20	42.3	-32.381	-71.821	27	66.89	4.0	-	OFFSHORE VALPARAISO, CHILE
1238.	8/27	18	38	23.6	6.914	-82.446	25	107.34	5.6	5.6	SOUTH OF PANAMA
1239.	8/28	3	44	2.0	-56.798	-27.202	131	30.65	5.2	-	SOUTH SANDWICH ISL REGION
1240.	8/28	4	43	38.3	5.544	94.571	30	83.60	5.4	4.8	NORTHERN SUMATRA, INDONESIA
1241.	8/28	6	2	2.0	-32.532	-178.805	10	74.72	5.0	-	SOUTH OF KERMADEC ISLANDS
1242.	8/28	14	9	19.3	4.389	95.247	40	82.70	4.9	4.0	NORTHERN SUMATRA, INDONESIA
1243.	8/29	14	44	48.4	11.014	92.290	41	88.17	5.4	4.8	ANDAMAN ISL, INDIA REGION
1244.	8/29	17	11	45.9	-2.710	139.141	72	91.08	5.3	-	NEAR N COAST PAPUA, INDONESIA
1245.	8/29	17	40	18.1	0.336	97.723	25	79.60	5.2	5.0	NIAS REGION, INDONESIA
1246.	8/29	19	53	55.3	-2.348	138.230	39	91.09	5.3	4.8	PAPUA, INDONESIA
1247.	8/30	17	34	12.7	-35.800	178.470	33	71.01	5.0	-	OFF E CST N ISL, N.Z.
1248.	8/30	18	10	45.6	38.495	143.151	23	130.51	5.7	5.7	OFF THE EAST COAST OF HONSHU, JAPAN
1249.	8/30	20	59	8.5	-1.624	99.587	29	78.32	5.2	-	KEPULAUAN MENTAWAI REG, INDONESIA
1250.	8/30	21	28	4.5	-1.856	99.425	30	78.05	4.5	-	KEPULAUAN MENTAWAI REG, INDONESIA
1251.	8/31	1	24	52.5	-59.460	-27.097	38	28.62	5.3	5.2	SOUTH SANDWICH ISLANDS REGION
1252.	8/31	8	18	27.2	-14.631	66.154	10	57.03	5.0	4.6	MID-INDIAN RIDGE
1253.	9/1	9	56	15.4	2.659	128.251	59	92.21	5.0	-	HALMAHERA, INDONESIA
1254.	9/1	11	22	11.9	-24.460	179.837	534	82.31	4.9	-	SOUTH OF THE FIJI ISLANDS
1255.	9/1	11	23	7.9	-24.615	178.479	10	81.87	5.1	-	SOUTH OF THE FIJI ISLANDS
1256.	9/1	11	30	10.7	-24.382	179.787	516	82.38	4.5	-	SOUTH OF THE FIJI ISLANDS
1257.	9/1	16	42	39.4	5.054	94.713	30	83.18	5.3	4.8	NORTHERN SUMATRA, INDONESIA
1258.	9/2	5	18	1.0	-3.252	146.227	10	93.03	4.9	-	BISMARCK SEA
1259.	9/2	7	23	59.1	-34.518	-72.442	27	65.09	4.8	-	OFFSHORE LIBERTADOR O'HIGGINS, CHILE
1260.	9/2	8	4	5.1	2.482	98.895	148	82.00	5.2	-	NORTHERN SUMATRA, INDONESIA
1261.	9/2	15	36	17.8	-19.152	169.579	333	85.05	4.6	-	VANUATU
1262.	9/2	18	35	12.6	10.334	138.392	10	103.00	5.7	5.0	STATE OF YAP, FED. STATES OF MICRONESIA
1263.	9/3	6	0	24.9	-15.850	-172.538	81	92.22	4.5	-	SAMOA ISLANDS REGION
1264.	9/3	12	38	21.7	-49.841	-8.904	10	29.73	5.4	5.2	SOUTHERN MID-ATLANTIC RIDGE
1265.	9/3	13	0	9.6	-23.094	-69.631	99	74.88	4.3	-	ANTOFAGASTA, CHILE
1266.	9/3	16	56	7.8	-3.809	102.663	99	77.25	5.1	-	S SUMATRA, INDONESIA
1267.	9/3	20	21	25.2	-43.027	-82.882	10	60.09	4.9	5.0	WEST CHILE RISE
1268.	9/4	5	24	41.8	-30.371	-178.069	10	76.97	5.0	4.1	KERMADEC ISL, NEW ZEALAND
1269.	9/4	12	13	37.7	-17.100	-176.810	20	90.18	5.4	-	FIJI REGION
1270.	9/4	23	58	35.7	2.986	123.023	454	90.65	5.8	-	CELEBES SEA
1271.	9/5	2	0	25.6	-9.578	118.891	30	77.44	5.0	-	SUMBAWA REGION, INDONESIA

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC			Latitude (deg)	Longitude (deg)		distance (deg)	Mb	Ms	
		h	m	s							
1272.	9/5	19	50	34.5	-3.344	136.215	50	89.45	5.3	-	PAPUA, INDONESIA
1273.	9/6	0	56	16.8	-7.251	127.385	35	82.65	5.2	-	KEPULAUAN BARAT DAYA, INDONESIA
1274.	9/6	1	16	2.3	24.077	122.171	32	110.00	5.8	6.1	TAIWAN REGION
1275.	9/6	4	26	32.8	-21.445	-68.238	118	75.97	4.2	-	ANTOFAGASTA, CHILE
1276.	9/6	5	53	28.3	-13.725	167.203	228	89.64	4.9	-	VANUATU
1277.	9/6	21	13	54.4	-7.359	128.819	128	83.06	5.1	-	KEPULAUAN BARAT DAYA, INDONESIA
1278.	9/7	0	43	16.4	0.078	97.696	12	79.34	5.2	5.0	NIAS REGION, INDONESIA
1279.	9/7	19	20	40.9	-0.657	121.917	82	86.85	4.8	-	SULAWESI, INDONESIA
1280.	9/8	4	3	37.5	-15.522	-71.664	107	82.65	4.5	-	SOUTHERN PERU
1281.	9/8	4	10	10.4	0.752	126.293	48	89.73	5.7	5.2	MOLUCCA SEA
1282.	9/8	7	26	36.6	-24.392	-111.681	10	84.20	4.7	4.2	EASTER ISLAND REGION
1283.	9/9	1	20	19.1	-55.651	-27.096	35	31.49	5.5	5.1	SOUTH SANDWICH ISLANDS REGION
1284.	9/9	1	31	34.2	-18.230	-178.023	543	88.83	4.2	-	FIJI REGION
1285.	9/9	7	26	43.5	-4.543	153.457	90	94.23	6.3	-	NEW IRELAND REGION, PAPUA NEW GUINEA
1286.	9/9	8	49	40.6	-4.906	153.789	100	94.00	4.5	-	NEW IRELAND REG, P.N.G.
1287.	9/9	8	55	51.2	-4.828	153.836	110	94.09	5.1	-	NEW IRELAND REG, P.N.G.
1288.	9/9	9	31	46.5	-5.176	154.088	100	93.84	4.6	-	BOUGAINVILLE REG, P.N.G.
1289.	9/9	11	26	6.8	-31.616	-69.003	112	66.73	5.8	-	SAN JUAN, ARGENTINA
1290.	9/9	15	55	24.9	-11.813	166.235	10	91.20	5.3	-	SANTA CRUZ ISLANDS
1291.	9/9	17	56	56.2	-20.360	-68.170	99	76.96	4.2	-	POTOSI, BOLIVIA
1292.	9/9	19	55	21.4	-56.025	-27.910	140	31.49	5.7	-	SOUTH SANDWICH ISLANDS REGION
1293.	9/10	1	24	32.2	-5.188	153.976	95	93.79	5.4	-	NEW IRELAND REGION, PAPUA NEW GUINEA
1294.	9/10	2	49	22.3	1.766	96.841	30	80.69	5.0	4.1	NIAS REGION, INDONESIA
1295.	9/10	5	5	38.4	-21.076	168.450	31	82.91	5.0	4.4	LOYALTY ISLANDS
1296.	9/10	7	16	58.9	-23.406	179.344	515	83.23	4.6	-	SOUTH OF THE FIJI ISLANDS
1297.	9/10	10	35	27.6	-4.374	153.608	98	94.44	4.7	-	NEW IRELAND REG, P.N.G.
1298.	9/10	16	57	48.3	4.857	95.043	51	83.09	5.8	-	NORTHERN SUMATRA, INDONESIA
1299.	9/11	12	48	54.0	-9.613	116.185	81	76.45	4.7	-	LOMBOK REGION, INDONESIA
1300.	9/11	18	31	29.8	-36.708	-73.540	30	63.39	5.0	-	OFFSHORE BIO-BIO, CHILE
1301.	9/12	10	23	7.4	-2.231	139.024	30	91.48	5.0	-	NEAR N COAST PAPUA, INDONESIA
1302.	9/12	12	33	30.4	-22.768	170.606	60	81.83	5.0	-	SOUTHEAST OF LOYALTY ISLANDS
1303.	9/12	13	57	50.5	-22.335	-176.126	35	85.19	5.0	-	SOUTH OF THE FIJI ISLANDS
1304.	9/12	21	15	5.3	-17.484	-177.329	403	89.70	5.3	-	FIJI REGION
1305.	9/13	8	48	19.7	1.122	98.506	30	80.59	4.7	-	NORTHERN SUMATRA, INDONESIA
1306.	9/13	14	32	57.6	8.042	91.903	30	85.22	5.4	4.9	NICOBAR ISLANDS, INDIA REGION
1307.	9/14	5	12	21.0	-19.844	134.046	5	73.30	4.5	-	NORTHERN TERRITORY, AUSTRALIA
1308.	9/14	11	1	0.7	0.157	-17.048	10	78.61	4.7	4.6	NORTH OF ASCENSION ISLAND
1309.	9/15	23	33	44.7	-8.717	111.416	93	75.61	4.9	-	JAVA, INDONESIA
1310.	9/16	0	31	44.2	-5.635	153.600	24	93.25	6.0	5.4	NEW IRELAND REGION, PAPUA NEW GUINEA
1311.	9/16	3	40	41.3	-34.982	-111.367	10	73.73	4.9	-	SOUTHERN EAST PACIFIC RISE
1312.	9/16	15	27	45.8	0.999	126.362	76	89.98	4.8	-	MOLUCCA SEA
1313.	9/16	17	19	27.3	2.425	96.292	24	81.14	5.0	-	SIMEULUE, INDONESIA
1314.	9/16	20	38	51.4	-3.350	152.149	366	94.93	4.7	-	NEW IRELAND REG, P.N.G.
1315.	9/17	14	27	11.7	2.200	126.963	10	91.32	4.9	-	MOLUCCA SEA
1316.	9/17	16	33	29.6	-22.880	-179.960	578	83.89	4.7	-	SOUTH OF THE FIJI ISLANDS
1317.	9/17	16	34	17.6	-37.870	176.630	155	68.64	4.2	-	NORTH ISLAND OF NEW ZEALAND

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC			Latitude (deg)	Longitude (deg)		distance (deg)	Mb	Ms	
		h	m	s							
1318.	9/17	20	39	25.1	52.154	174.033	40	153.22	5.2	4.6	NEAR ISLANDS, ALEUTIAN ISLANDS, ALASKA
1319.	9/18	2	33	22.4	-7.686	125.510	31	81.57	4.7	-	KEPULAUAN BARAT DAYA, INDONESIA
1320.	9/18	3	47	40.0	7.639	93.979	30	85.43	5.2	-	NICOBAR ISL, INDIA REGION
1321.	9/18	7	25	59.5	24.557	94.789	85	101.82	5.6	-	MYANMAR-INDIA BORDER REGION
1322.	9/18	8	11	14.5	2.749	94.216	29	80.83	4.8	-	OFF WEST COAST OF N SUMATRA
1323.	9/19	13	20	55.7	-19.949	-68.918	88	77.59	5.1	-	TARAPACA, CHILE
1324.	9/20	1	27	50.6	-4.590	153.580	137	94.23	4.9	-	NEW IRELAND REG, P.N.G.
1325.	9/20	15	0	0.6	4.481	95.368	52	82.82	5.2	-	NORTHERN SUMATRA, INDONESIA
1326.	9/20	16	10	28.1	-9.863	118.510	10	77.04	5.0	-	SUMBAWA REGION, INDONESIA
1327.	9/20	21	23	37.4	12.656	40.413	10	81.67	5.2	5.1	ETHIOPIA
1328.	9/21	2	25	7.6	43.884	146.159	99	136.33	6.1	-	KURIL ISLANDS
1329.	9/21	4	29	31.5	-50.195	139.072	10	47.38	5.0	4.8	WESTERN INDIAN-ANTARCTIC RIDGE
1330.	9/22	0	7	20.9	-16.702	-172.640	10	91.36	5.4	5.6	SAMOA ISLANDS REGION
1331.	9/22	16	19	42.4	-40.816	43.188	10	28.28	5.2	4.9	SOUTHWEST INDIAN RIDGE
1332.	9/22	19	18	6.7	-54.314	2.015	10	22.30	4.8	-	BOUVET ISLAND REGION
1333.	9/23	15	49	11.0	-24.063	-67.027	157	73.12	4.7	-	SALTA, ARGENTINA
1334.	9/24	3	25	27.5	12.841	40.365	10	81.86	4.8	-	ETHIOPIA
1335.	9/24	19	24	3.3	12.536	40.529	10	81.55	5.0	4.9	ETHIOPIA
1336.	9/25	0	8	40.3	1.556	126.603	64	90.59	5.4	-	MOLUCCA SEA
1337.	9/25	3	0	46.9	-21.541	169.850	50	82.83	4.7	4.9	SOUTHEAST OF LOYALTY ISLANDS
1338.	9/25	12	55	46.3	-17.491	167.796	30	86.18	5.7	5.9	VANUATU
1339.	9/25	15	37	8.6	0.119	97.857	28	79.43	5.1	-	NIAS REGION, INDONESIA
1340.	9/25	16	23	20.4	-25.181	179.459	457	81.53	4.6	-	SOUTH OF THE FIJI ISLANDS
1341.	9/25	18	41	9.3	-27.565	-176.574	10	79.99	4.8	-	KERMADEC ISLANDS REGION
1342.	9/25	20	28	40.6	-17.386	167.887	30	86.31	5.3	5.2	VANUATU
1343.	9/25	21	25	40.1	-5.951	103.873	53	75.63	5.2	-	SOUTHERN SUMATRA, INDONESIA
1344.	9/25	22	58	55.7	-17.517	167.671	30	86.12	5.3	5.2	VANUATU
1345.	9/27	13	8	13.9	-28.184	-178.531	207	79.01	5.0	-	KERMADEC ISLANDS REGION
1346.	9/28	14	12	51.6	-36.181	-100.520	10	70.66	4.8	-	SOUTHEAST OF EASTER ISLAND
1347.	9/29	9	17	38.9	50.643	157.063	36	145.97	5.1	-	KURIL ISLANDS
1348.	9/29	15	50	23.9	-5.437	151.816	25	92.85	6.0	6.6	NEW BRITAIN REGION, PAPUA NEW GUINEA
1349.	9/29	16	33	38.1	-5.536	151.991	25	92.82	4.9	-	NEW BRITAIN REG, P.N.G.
1350.	9/29	18	12	25.9	5.209	94.475	46	83.25	5.4	-	NORTHERN SUMATRA, INDONESIA
1351.	9/29	18	23	25.7	-5.584	151.881	28	92.74	5.8	6.0	NEW BRITAIN REGION, PAPUA NEW GUINEA
1352.	9/29	18	40	9.0	-5.439	151.713	25	92.82	4.8	-	NEW BRITAIN REG, P.N.G.
1353.	9/29	18	51	14.4	-5.502	151.778	25	92.78	5.7	-	NEW BRITAIN REGION, PAPUA NEW GUINEA
1354.	9/29	19	12	37.7	-5.522	151.773	25	92.76	5.2	-	NEW BRITAIN REG, P.N.G.
1355.	9/29	20	0	50.2	-5.391	151.695	25	92.86	4.9	-	NEW BRITAIN REG, P.N.G.
1356.	9/29	22	52	29.0	-20.419	169.401	38	83.79	5.0	-	VANUATU
1357.	9/30	4	39	58.2	0.219	97.828	30	79.52	5.1	4.3	NIAS REGION, INDONESIA
1358.	9/30	11	24	25.9	2.830	-31.254	10	85.71	4.6	-	CENTRAL MID-ATLANTIC RIDGE
1359.	9/30	12	54	13.6	-5.470	151.608	25	92.75	5.0	-	NEW BRITAIN REG, P.N.G.
1360.	9/30	16	51	52.5	-5.660	154.299	157	93.45	4.4	-	BOUGAINVILLE REG, P.N.G.
1361.	9/30	23	15	19.7	-5.645	151.658	25	92.60	5.6	5.7	NEW BRITAIN REGION, PAPUA NEW GUINEA
1362.	9/30	23	29	44.6	-5.625	151.574	25	92.60	4.8	-	NEW BRITAIN REG, P.N.G.
1363.	9/30	23	35	3.1	-5.509	151.736	25	92.76	5.0	-	NEW BRITAIN REG, P.N.G.

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC			Latitude (deg)	Longitude (deg)		distance (deg)	Mb	Ms	
		h	m	s							
1364.	10/1	8	51	28.9	-3.503	131.019	40	87.45	4.8	-	CERAM SEA, INDONESIA
1365.	10/1	22	19	52.1	-16.602	-70.598	27	81.28	5.3	-	SOUTHERN PERU
1366.	10/2	2	22	5.4	-17.225	-177.373	346	89.94	5.2	-	FIJI REGION
1367.	10/2	3	15	46.0	-16.702	-70.586	13	81.18	5.0	4.4	SOUTHERN PERU
1368.	10/2	8	5	28.2	-34.355	179.522	258	72.62	4.7	-	SOUTH OF KERMADEC ISLANDS
1369.	10/2	23	45	29.6	-53.015	-118.277	10	56.84	5.2	5.1	SOUTHERN EAST PACIFIC RISE
1370.	10/2	23	59	43.5	-5.525	151.604	25	92.70	5.4	5.6	NEW BRITAIN REGION, PAPUA NEW GUINEA
1371.	10/3	4	22	7.5	-1.364	150.274	30	96.18	5.2	-	NEW IRELAND REG, P.N.G.
1372.	10/3	10	28	30.9	-57.888	-25.284	35	29.14	5.2	-	SOUTH SANDWICH ISL REGION
1373.	10/3	22	9	24.0	5.534	94.335	30	83.52	5.5	4.7	NORTHERN SUMATRA, INDONESIA
1374.	10/3	23	30	29.2	-8.018	106.938	35	74.72	5.0	-	SOUTH OF JAVA, INDONESIA
1375.	10/4	4	20	23.7	-5.021	153.426	73	93.77	5.1	-	NEW IRELAND REG, P.N.G.
1376.	10/4	12	23	24.8	5.550	94.265	41	83.52	5.3	4.4	NORTHERN SUMATRA, INDONESIA
1377.	10/5	8	46	47.2	5.248	95.617	55	83.63	5.4	5.5	NORTHERN SUMATRA, INDONESIA
1378.	10/5	12	11	46.8	-14.580	167.310	87	88.85	4.7	-	VANUATU
1379.	10/5	12	19	2.8	7.893	92.044	1	85.11	5.4	-	NICOBAR ISL, INDIA REGION
1380.	10/5	20	44	28.2	-20.623	-174.302	20	87.21	5.2	-	TONGA
1381.	10/6	2	41	40.1	-20.527	-174.290	10	87.31	4.8	-	TONGA
1382.	10/6	2	53	0.8	7.693	93.666	14	85.39	4.9	-	NICOBAR ISL, INDIA REGION
1383.	10/6	17	10	33.7	-34.256	-14.329	10	45.39	4.7	-	TRISTAN DA CUNHA REGION
1384.	10/6	23	4	56.2	21.686	62.107	10	92.22	5.0	-	OWEN FRACTURE ZONE REGION
1385.	10/7	0	9	26.1	-6.955	105.557	24	75.25	4.6	-	SUNDA STRAIT, INDONESIA
1386.	10/7	2	13	43.0	-5.990	145.400	133	90.18	4.3	-	E NEW GUINEA REG, P.N.G.
1387.	10/7	6	45	18.6	2.207	126.552	80	91.18	5.4	-	MOLUCCA SEA
1388.	10/7	8	0	55.2	-14.906	-177.512	350	92.18	4.7	-	FIJI REGION
1389.	10/7	16	25	11.6	2.401	96.237	30	81.11	4.8	-	SIMEULUE, INDONESIA
1390.	10/8	3	50	40.6	34.476	73.577	26	106.58	6.7	7.7	PAKISTAN
1391.	10/8	4	30	44.0	1.982	97.768	30	81.18	5.6	-	NIAS REGION, INDONESIA
1392.	10/10	9	8	2.4	-32.130	-178.780	35	75.12	4.8	-	SOUTH OF KERMADEC ISLANDS
1393.	10/10	10	55	48.6	-6.871	105.470	30	75.30	5.2	-	SUNDA STRAIT, INDONESIA
1394.	10/10	16	7	0.1	-45.591	-76.631	35	56.05	5.0	-	OFF COAST OF AISEN, CHILE
1395.	10/10	19	12	8.8	-32.310	179.923	297	74.69	4.3	-	SOUTH OF KERMADEC ISLANDS
1396.	10/11	3	37	57.0	10.916	92.327	23	88.09	5.5	4.8	ANDAMAN ISLANDS, INDIA REGION
1397.	10/11	14	10	45.1	-31.449	-66.915	106	66.22	4.9	-	LA RIOJA, ARGENTINA
1398.	10/11	15	5	39.5	4.806	95.077	30	83.05	5.9	5.4	NORTHERN SUMATRA, INDONESIA
1399.	10/12	4	47	31.9	-11.353	119.418	32	75.98	4.8	-	OUTH OF SUMBA, INDONESIA
1400.	10/12	14	10	34.6	-27.011	26.769	2	42.62	4.6	-	SOUTH AFRICA
1401.	10/12	22	43	6.4	-16.693	-70.714	6	81.23	4.8	-	SOUTHERN PERU
1402.	10/12	23	10	6.3	-23.650	-175.866	10	83.95	5.1	4.5	TONGA REGION
1403.	10/13	0	24	28.7	-17.679	-178.342	581	89.30	4.3	-	FIJI REGION
1404.	10/13	4	32	25.3	-56.677	-155.867	10	53.85	5.5	4.7	PACIFIC-ANTARCTIC RIDGE
1405.	10/13	18	16	9.5	-28.008	-70.011	80	70.41	4.6	-	ATACAMA, CHILE
1406.	10/13	22	4	9.4	-5.129	153.792	33	93.79	5.7	5.0	NEW IRELAND REGION, PAPUA NEW GUINEA
1407.	10/14	3	36	45.6	-23.711	-176.018	32	83.87	5.4	5.3	SOUTH OF THE FIJI ISLANDS
1408.	10/14	8	27	34.2	-34.507	179.539	193	72.48	5.1	-	SOUTH OF THE KERMADEC ISLANDS
1409.	10/14	9	22	29.5	-26.784	-177.750	184	80.53	4.7	-	SOUTH OF THE FIJI ISLANDS

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC h m s	Latitude (deg)	Longitude (deg)	distance (deg)	Mb		Ms			
1410.	10/14	18 58	17.3	-18.316	-172.493	60	89.80	5.4	-	TONGA REGION	
1411.	10/15	3 4	3.5	-6.368	131.165	31	84.83	4.7	-	KEPULAUAN TANIMBAR REG, INDONESIA	
1412.	10/15	9 6	33.4	-26.781	-177.768	180	80.53	4.6	-	SOUTH OF THE FIJI ISLANDS	
1413.	10/15	10 6	16.8	46.830	154.107	41	141.71	5.9	5.7	EAST OF THE KURIL ISLANDS	
1414.	10/15	15 51	7.4	25.295	123.316	185	111.52	6.1	-	NORTHEAST OF TAIWAN	
1415.	10/16	1 43	49.0	-28.346	-175.961	67	79.34	4.8	-	KERMADEC ISLANDS REGION	
1416.	10/16	3 42	3.4	-23.685	-175.960	10	83.90	5.3	5.0	TONGA REGION	
1417.	10/16	7 5	43.2	36.039	139.745	54	127.10	5.1	-	EASTERN HONSHU, JAPAN	
1418.	10/16	9 59	29.7	10.580	92.254	28	87.75	4.8	-	ANDAMAN ISL, INDIA REGION	
1419.	10/16	14 44	29.3	51.415	-178.530	57	155.09	5.1	-	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA	
1420.	10/16	18 31	42.8	-24.184	-66.740	181	72.92	4.5	-	SALTA, ARGENTINA	
1421.	10/16	19 3	28.7	2.078	97.991	75	81.34	5.4	-	NORTHERN SUMATRA, INDONESIA	
1422.	10/17	1 24	4.5	-18.367	-177.921	565	88.72	4.8	-	FIJI REGION	
1423.	10/17	2 6	53.4	-15.454	-74.815	41	83.72	4.9	-	NEAR THE COAST OF SOUTHERN PERU	
1424.	10/17	3 50	54.2	-23.866	-176.038	35	83.71	5.1	-	SOUTH OF THE FIJI ISLANDS	
1425.	10/18	1 27	53.4	-23.750	-111.568	10	84.81	4.6	-	EASTER ISLAND	
1426.	10/18	7 3	6.4	-21.746	-179.293	615	85.14	4.7	-	FIJI REGION	
1427.	10/18	8 42	13.5	-14.176	-72.608	55	84.22	5.0	-	CENTRAL PERU	
1428.	10/19	11 44	43.8	36.383	140.833	42	127.80	6.2	6.5	NEAR THE EAST COAST OF HONSHU, JAPAN	
1429.	10/20	6 35	24.5	-6.829	130.151	95	84.03	4.6	-	BANDA SEA	
1430.	10/20	10 2	23.2	-20.761	-70.363	50	77.30	4.8	-	OFFSHORE TARAPACA, CHILE	
1431.	10/20	15 26	31.6	52.260	-169.075	34	158.71	5.6	5.2	FOX ISLANDS, ALEUTIAN ISLANDS, ALASKA	
1432.	10/20	17 6	34.0	-49.176	31.063	10	20.21	4.8	-	SOUTH OF AFRICA	
1433.	10/20	18 58	15.5	-55.953	-27.743	108	31.49	4.9	-	SOUTH SANDWICH ISL REGION	
1434.	10/20	23 15	55.5	-9.286	117.454	10	77.20	5.5	4.9	SUMBAWA REGION, INDONESIA	
1435.	10/21	8 14	12.2	-9.395	107.583	35	73.65	4.6	-	SOUTH OF JAVA	
1436.	10/22	11 9	11.8	12.498	95.116	65	90.40	4.7	-	ANDAMAN ISL, INDIA REGION	
1437.	10/22	12 16	35.7	-5.861	129.991	15	84.88	5.7	5.2	BANDA SEA	
1438.	10/22	13 12	47.8	37.141	140.932	53	128.51	5.6	-	EASTERN HONSHU, JAPAN	
1439.	10/23	4 49	16.2	-21.779	-68.430	117	75.72	5.4	-	ANTOFAGASTA, CHILE	
1440.	10/23	6 15	26.6	-9.362	107.552	30	73.67	4.6	-	SOUTH OF JAVA, INDONESIA	
1441.	10/23	10 8	14.4	37.369	134.528	379	126.44	5.7	-	SEA OF JAPAN	
1442.	10/23	18 29	22.6	-7.306	120.205	523	80.03	4.9	-	FLORES SEA	
1443.	10/24	0 44	43.0	-15.157	-172.953	35	92.82	5.3	-	SAMOA ISLANDS REGION	
1444.	10/24	2 1	53.0	-23.201	-66.170	210	73.64	4.6	-	JUJUY, ARGENTINA	
1445.	10/25	5 15	17.7	-22.779	-176.046	107	84.77	5.2	-	SOUTH OF THE FIJI ISLANDS	
1446.	10/25	7 40	19.6	-19.289	-69.958	39	78.55	4.4	-	TARAPACA, CHILE	
1447.	10/25	11 20	15.2	-4.682	125.642	477	84.42	5.0	-	BANDA SEA	
1448.	10/26	0 39	31.6	4.032	94.344	21	82.09	5.1	-	OFF WEST COAST OF N SUMATRA	
1449.	10/27	6 1	1.3	-54.970	-127.200	10	55.61	5.1	4.9	PACIFIC-ANTARCTIC RIDGE	
1450.	10/27	7 25	56.5	-33.078	-178.507	10	74.25	5.1	-	SOUTH OF KERMADEC ISLANDS	
1451.	10/27	8 41	46.5	30.851	138.494	380	121.97	5.0	-	IZU ISLANDS, JAPAN REGION	
1452.	10/27	15 19	59.3	-4.883	145.373	213	91.21	4.9	-	NEAR NORTH COAST OF NEW GUINEA, P.N.G.	
1453.	10/27	20 17	12.8	-15.540	167.820	105	88.06	5.0	-	VANUATU	
1454.	10/27	21 4	55.7	-33.059	-178.238	50	74.32	5.1	-	SOUTH OF KERMADEC ISLANDS	
1455.	10/28	0 38	7.7	-15.326	-173.868	111	92.49	4.6	-	TONGA	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC	h	m	s	Latitude (deg)		Longitude (deg)	(deg)	Mb	
1456.	10/28	3	7	34.9	2.218	96.227	30	80.93	5.2	-	SIMEULUE, INDONESIA
1457.	10/28	15	41	59.1	1.205	97.340	30	80.31	4.7	-	NIAS REGION, INDONESIA
1458.	10/29	1	9	50.2	2.611	127.094	53	91.75	4.9	-	MOLUCCA SEA
1459.	10/29	1	17	31.3	2.589	127.065	56	91.72	5.1	4.6	MOLUCCA SEA
1460.	10/29	4	5	55.9	-45.264	96.916	8	37.14	6.2	6.3	SOUTHEAST INDIAN RIDGE
1461.	10/29	6	38	57.8	-8.564	-79.700	32	91.78	5.3	4.7	NEAR COAST OF NORTHERN PERU
1462.	10/29	16	33	12.7	-19.374	-176.451	16	88.03	5.2	4.9	FIJI REGION
1463.	10/29	18	22	0.9	-7.287	146.033	178	89.18	4.5	-	E NEW GUINEA REG, P.N.G.
1464.	10/29	22	29	4.8	-23.549	179.858	550	83.20	4.9	-	SOUTH OF THE FIJI ISLANDS
1465.	10/30	13	8	18.6	-16.515	-172.784	10	91.52	5.1	5.0	SAMOA ISLANDS REGION
1466.	10/30	13	42	51.9	-15.887	-173.098	10	92.08	4.9	-	TONGA
1467.	10/31	2	10	28.7	-5.817	-78.598	41	94.04	5.5	4.8	NORTHERN PERU
1468.	10/31	7	46	56.9	-17.839	167.749	35	85.84	4.6	-	VANUATU
1469.	10/31	10	28	56.1	-45.278	97.140	35	37.21	4.6	-	SOUTHEAST INDIAN RIDGE
1470.	10/31	15	42	12.7	-6.706	130.024	35	84.10	4.7	-	BANDA SEA
1471.	10/31	16	47	5.6	-24.287	-111.658	10	84.30	5.0	-	EASTER ISLAND REGION
1472.	10/31	17	57	49.9	9.167	93.624	99	86.79	4.6	-	NICOBAR ISL, INDIA REGION
1473.	11/1	0	26	47.7	0.971	97.394	48	80.10	4.5	-	NIAS REGION, INDONESIA
1474.	11/1	5	39	53.9	-41.895	174.322	45	64.29	4.8	-	COOK STRAIT, NEW ZEALAND
1475.	11/1	21	13	32.4	-3.617	127.341	13	86.03	5.5	5.2	SERAM, INDONESIA
1476.	11/1	23	4	48.2	2.850	-103.700	400	109.33	4.4	-	GALAPAGOS TRIPLE JUNCTION REGION
1477.	11/2	0	31	29.7	-17.192	-178.638	445	89.71	4.6	-	FIJI REGION
1478.	11/2	3	9	18.9	-30.275	-178.166	40	77.04	5.9	5.3	KERMADEC ISLANDS, NEW ZEALAND
1479.	11/2	6	35	39.4	-16.359	-173.036	15	91.63	5.2	4.8	TONGA
1480.	11/3	9	11	52.3	-20.102	-177.798	477	87.05	4.5	-	FIJI REGION
1481.	11/3	12	2	24.8	-32.733	-70.308	38	66.10	4.5	-	VALPARAISO, CHILE
1482.	11/3	21	30	14.3	4.837	95.171	69	83.11	5.1	-	NORTHERN SUMATRA, INDONESIA
1483.	11/3	23	4	16.6	-21.004	-178.521	600	86.02	4.4	-	FIJI REGION
1484.	11/4	12	25	3.1	-35.703	53.316	10	34.24	5.0	5.1	SOUTHWEST INDIAN RIDGE
1485.	11/4	13	38	4.1	-22.999	-66.344	224	73.89	4.2	-	JUJUY, ARGENTINA
1486.	11/4	16	6	8.2	-52.876	21.092	10	18.17	4.8	-	SOUTH OF AFRICA
1487.	11/4	17	44	48.2	1.260	97.249	30	80.33	5.4	5.1	NIAS REGION, INDONESIA
1488.	11/4	20	38	49.3	-35.520	179.620	114	71.51	4.8	-	OFF E COAST OF N ISL, N.Z.
1489.	11/5	10	48	21.3	-3.141	148.119	25	93.78	5.8	6.1	BISMARCK SEA
1490.	11/5	15	28	43.8	-35.517	-178.399	93	71.89	5.2	-	EAST OF THE NORTH ISLAND, NEW ZEALAND
1491.	11/6	1	57	1.4	12.333	143.820	10	106.79	5.0	-	GUAM REGION
1492.	11/6	13	27	55.8	-48.730	164.195	10	55.56	4.9	-	OFF WEST COAST OF THE SOUTH ISLAND, N.Z.
1493.	11/7	17	15	54.0	9.919	108.335	35	92.08	4.8	-	SOUTH CHINA SEA
1494.	11/7	20	18	55.4	-52.849	18.699	74	18.73	4.5	-	SOUTHWEST OF AFRICA
1495.	11/8	2	56	23.3	-24.298	-176.620	84	83.18	4.9	-	SOUTH OF THE FIJI ISLANDS
1496.	11/8	7	54	38.8	9.985	108.298	10	92.13	5.2	4.8	SOUTH CHINA SEA
1497.	11/8	10	1	46.1	-6.964	155.029	48	92.45	5.2	-	BOUGAINVILLE REG, P.N.G.
1498.	11/8	16	31	39.5	52.708	158.881	65	148.31	5.2	-	NR E COAST KAMCHATKA, RUSSIA
1499.	11/8	17	34	44.4	-22.686	-66.090	235	74.10	4.2	-	JUJUY, ARGENTINA
1500.	11/10	6	47	32.0	-5.608	68.573	10	66.34	4.8	-	CHAGOS ARCHIPELAGO REGION
1501.	11/10	9	23	20.8	-10.509	161.019	68	90.94	5.3	-	SOLOMON ISLANDS



No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC h m s	Latitude (deg)	Longitude (deg)	Distance (deg)	Mb		Ms				
1502.	11/10	13	6	50.2	-49.067	123.434	10	43.27	4.8	-	W INDIAN-ANTARCTIC RIDGE	
1503.	11/10	15	57	34.6	-17.846	-178.360	498	89.13	4.5	-	FIJI REGION	
1504.	11/10	19	29	54.0	57.445	120.537	6	139.34	5.8	5.6	SOUTHEASTERN SIBERIA, RUSSIA	
1505.	11/10	22	1	44.3	-5.020	152.263	66	93.39	4.6	-	NEW BRITAIN REG, P.N.G.	
1506.	11/10	22	4	28.6	-18.006	-178.036	459	89.04	4.6	-	FIJI REGION	
1507.	11/11	6	3	7.3	-19.605	-69.201	107	78.01	4.7	-	TARAPACA, CHILE	
1508.	11/11	10	21	7.5	-45.285	97.182	10	37.22	4.8	-	SOUTHEAST INDIAN RIDGE	
1509.	11/11	13	19	10.9	-15.391	-75.529	8	84.01	4.9	-	NEAR COAST OF CENTRAL PERU	
1510.	11/11	14	58	47.1	-55.620	-27.005	10	31.49	5.7	5.3	SOUTH SANDWICH ISLANDS REGION	
1511.	11/11	19	10	32.0	-3.754	-77.040	88	95.50	5.0	-	PERU-ECUADOR BORDER REGION	
1512.	11/11	21	57	18.4	-22.200	-179.980	690	84.55	4.6	-	SOUTH OF THE FIJI ISLANDS	
1513.	11/12	0	12	20.9	-21.730	-176.610	180	85.69	4.9	-	FIJI REGION	
1514.	11/12	2	22	47.0	-23.899	-66.532	192	73.11	4.9	-	JUJUUY, ARGENTINA	
1515.	11/12	6	2	37.9	-21.393	175.873	18	84.42	5.2	5.0	SOUTH OF THE FIJI ISLANDS	
1516.	11/12	6	16	54.5	-32.134	-178.895	10	75.09	5.1	-	SOUTH OF KERMADEC ISLANDS	
1517.	11/12	8	19	54.2	-5.202	145.598	82	90.99	5.1	-	E NEW GUINEA REG, P.N.G.	
1518.	11/12	18	54	13.8	1.884	97.009	30	80.85	5.3	-	NIAS REGION, INDONESIA	
1519.	11/12	19	17	52.9	-15.065	-174.887	226	92.55	4.9	-	TONGA	
1520.	11/13	2	34	34.5	-31.439	-179.709	222	75.61	5.2	-	KERMADEC ISLANDS REGION	
1521.	11/13	4	42	31.7	-24.000	-66.967	156	73.16	4.4	-	SALTA, ARGENTINA	
1522.	11/13	9	47	32.3	-35.047	78.685	10	40.37	4.9	-	MID-INDIAN RIDGE	
1523.	11/13	10	24	58.4	-3.109	128.933	20	87.07	5.8	5.7	SERAM, INDONESIA	
1524.	11/13	20	49	10.9	-16.446	-71.143	131	81.61	4.6	-	SOUTHERN PERU	
1525.	11/14	12	57	30.2	-43.810	41.529	10	25.23	4.7	-	PRINCE EDWARD ISLANDS REGION	
1526.	11/14	21	38	51.6	38.101	144.925	11	130.80	6.7	6.8	OFF THE EAST COAST OF HONSHU, JAPAN	
1527.	11/15	3	34	49.1	-20.379	-173.817	50	87.54	4.9	5.1	TONGA	
1528.	11/15	11	16	1.7	-31.130	-179.840	398	75.89	4.5	-	KERMADEC ISLANDS REGION	
1529.	11/15	13	23	37.5	-7.087	155.502	123	92.49	4.4	-	SOLOMON ISLANDS	
1530.	11/16	7	21	32.1	-9.349	-78.465	61	90.65	5.3	-	NEAR COAST OF NORTHERN PERU	
1531.	11/16	14	22	0.7	-6.175	127.681	421	83.76	4.4	-	BANDA SEA	
1532.	11/17	4	16	30.5	-28.806	-62.824	608	67.33	4.8	-	SANTIAGO DEL ESTERO, ARGENTINA	
1533.	11/17	10	2	43.4	-19.330	-175.950	202	88.17	4.7	-	TONGA	
1534.	11/17	19	26	56.4	-22.263	-67.784	163	75.05	6.1	-	POTOSI, BOLIVIA	
1535.	11/17	19	48	20.1	-22.501	-67.817	142	74.84	4.3	-	POTOSI, BOLIVIA	
1536.	11/18	7	7	2.4	-52.630	18.500	10	18.98	4.4	-	SOUTHWEST OF AFRICA	
1537.	11/18	16	36	1.1	51.071	158.044	48	146.67	5.2	-	NR E COAST KAMCHATKA, RUSSIA	
1538.	11/18	16	45	8.7	-8.479	113.255	64	76.48	4.9	-	JAVA, INDONESIA	
1539.	11/19	6	38	54.3	2.847	95.417	30	81.28	5.2	5.0	SIMEULUE, INDONESIA	
1540.	11/19	14	10	14.4	2.220	96.763	30	81.09	6.0	6.1	SIMEULUE, INDONESIA	
1541.	11/19	17	11	45.0	-4.045	103.582	44	77.33	5.2	4.6	SOUTHERN SUMATRA, INDONESIA	
1542.	11/19	17	22	16.4	2.048	96.679	30	80.90	4.7	-	SIMEULUE, INDONESIA	
1543.	11/19	17	55	10.0	6.246	125.902	94	94.72	5.4	-	MINDANAO, PHILIPPINES	
1544.	11/20	15	31	34.5	-8.223	111.756	155	76.19	4.6	-	JAVA, INDONESIA	
1545.	11/20	15	32	36.3	-13.958	-73.184	89	84.61	4.7	-	CENTRAL PERU	
1546.	11/20	19	34	46.8	-7.894	123.643	44	80.71	4.9	-	BANDA SEA	
1547.	11/21	0	19	41.4	-6.974	129.294	121	83.59	5.1	-	BANDA SEA	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC			Latitude (deg)	Longitude (deg)		distance (deg)	Mb	Ms	
		h	m	s							
1548.	11/21	13	56	54.3	-17.780	-178.517	577	89.17	4.4	-	FIJI REGION
1549.	11/21	20	17	53.2	-15.287	-173.458	10	92.60	4.8	-	TONGA
1550.	11/22	9	48	46.4	-14.775	66.586	10	56.97	5.5	4.8	MID-INDIAN RIDGE
1551.	11/22	9	57	8.7	-14.864	66.647	10	56.89	5.5	5.4	MID-INDIAN RIDGE
1552.	11/22	13	21	23.3	-60.562	-25.427	10	27.24	5.5	-	SOUTH SANDWICH ISLANDS REGION
1553.	11/22	15	11	33.3	-5.210	145.251	86	90.86	6.0	-	EASTERN NEW GUINEA REG, P.N.G.
1554.	11/23	1	42	47.5	-36.654	-72.109	57	63.01	4.6	-	BIO-BIO, CHILE
1555.	11/24	10	46	38.2	-24.302	-176.312	35	83.23	5.8	5.2	SOUTH OF THE FIJI ISLANDS
1556.	11/25	5	31	18.9	5.897	126.369	39	94.56	5.5	-	MINDANAO, PHILIPPINES
1557.	11/25	5	48	51.8	-32.661	-179.239	46	74.51	5.2	-	SOUTH OF KERMADEC ISLANDS
1558.	11/25	6	9	20.9	-2.411	68.084	10	69.39	4.6	-	CARLSBERG RIDGE
1559.	11/25	9	29	59.8	-25.790	-177.858	172	81.48	5.0	-	SOUTH OF THE FIJI ISLANDS
1560.	11/25	10	37	39.6	-23.567	-179.975	533	83.22	4.7	-	SOUTH OF THE FIJI ISLANDS
1561.	11/25	20	47	45.8	7.017	92.379	25	84.37	4.7	-	NICOBAR ISL, INDIA REGION
1562.	11/26	3	59	33.3	-5.819	146.861	93	90.84	5.0	-	E NEW GUINEA REG, P.N.G.
1563.	11/26	15	56	58.2	38.151	38.849	20	107.16	5.3	4.2	EASTERN TURKEY
1564.	11/26	16	2	44.6	52.548	159.346	41	148.34	5.3	-	OFF E CST KAMCHATKA, RUSSIA
1565.	11/26	20	6	15.0	-5.475	128.632	326	84.75	4.9	-	BANDA SEA
1566.	11/27	8	46	11.8	-7.687	-77.645	49	91.97	4.8	-	NORTHERN PERU
1567.	11/27	10	22	19.1	26.784	55.847	10	96.58	6.0	5.8	SOUTHERN IRAN
1568.	11/27	11	13	10.1	26.747	55.761	10	96.54	5.2	-	SOUTHERN IRAN
1569.	11/27	14	22	53.6	-23.447	-179.998	512	83.33	5.0	-	SOUTH OF THE FIJI ISLANDS
1570.	11/27	16	30	37.3	26.868	55.775	10	96.66	5.4	5.3	SOUTHERN IRAN
1571.	11/27	23	31	37.5	1.200	97.274	25	80.28	5.3	5.3	NIAS REGION, INDONESIA
1572.	11/28	3	14	22.5	-8.780	124.095	35	80.05	4.9	-	KEPULAUAN ALOR, INDONESIA
1573.	11/28	3	28	13.9	-62.420	155.460	10	41.09	5.2	5.4	BALLENY ISLANDS REGION
1574.	11/28	6	58	6.1	-8.226	158.461	95	92.34	5.0	-	SOLOMON ISLANDS
1575.	11/28	12	40	32.8	-14.973	-172.611	35	93.07	5.1	5.0	SAMOA ISLANDS
1576.	11/28	16	33	22.0	-29.272	-70.897	49	69.51	5.2	5.6	COQUIMBO, CHILE
1577.	11/28	16	41	32.6	20.302	146.007	42	114.97	6.1	5.9	MARIANA ISLANDS REGION
1578.	11/28	21	43	46.1	26.070	56.190	35	95.91	4.5	-	STRAIT OF HORMUZ
1579.	11/29	3	2	22.5	-13.354	167.213	198	90.00	5.1	-	VANUATU
1580.	11/30	5	41	42.8	-9.672	-79.619	23	90.71	5.1	-	OFF COAST OF NORTHERN PERU
1581.	11/30	16	53	46.4	6.257	123.977	40	94.04	5.9	5.7	MORO GULF, MINDANAO, PHILIPPINES
1582.	12/1	3	8	40.7	-20.874	-179.169	644	86.01	5.2	-	FIJI REGION
1583.	12/1	15	38	27.7	34.800	73.092	10	106.81	5.1	-	PAKISTAN
1584.	12/1	22	15	57.3	-22.412	-68.017	116	74.99	4.4	-	ANTOFAGASTA, CHILE
1585.	12/2	3	7	59.7	3.097	93.818	28	81.04	5.2	-	OFF WEST COAST OF N SUMATRA
1586.	12/2	9	47	44.9	11.808	43.607	10	80.88	4.7	-	NEAR THE COAST OF DJIBOUTI
1587.	12/2	12	13	30.8	-12.158	101.434	10	68.98	4.8	-	SOUTH INDIAN OCEAN
1588.	12/2	13	13	9.6	38.119	142.102	29	129.80	6.0	6.3	NEAR THE EAST COAST OF HONSHU, JAPAN
1589.	12/2	19	45	20.3	-21.558	169.872	10	82.81	4.9	-	SOUTHEAST OF LOYALTY ISLANDS
1590.	12/2	20	56	25.4	-23.209	172.517	81	81.88	5.3	-	SOUTHEAST OF LOYALTY ISLANDS
1591.	12/3	4	7	19.0	-45.163	97.213	10	37.33	5.1	4.4	SOUTHEAST INDIAN RIDGE
1592.	12/3	5	52	5.6	-15.617	-173.569	75	92.26	4.5	-	TONGA
1593.	12/3	10	6	6.5	-7.261	116.803	378	78.86	4.2	-	BALI SEA

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC	h	m	s	Latitude (deg)		Longitude (deg)	distance (deg)	Mb	
1594.	12/3	16	10	40.2	29.364	130.240	30	117.68	6.0	-	RYUKYU ISLANDS, JAPAN
1595.	12/3	16	24	55.1	29.190	130.466	38	117.60	5.3	-	RYUKYU ISLANDS, JAPAN
1596.	12/3	18	48	7.9	1.106	97.155	30	80.15	4.9	-	NIAS REGION, INDONESIA
1597.	12/4	2	49	24.2	-23.407	-176.187	35	84.13	5.2	4.5	SOUTH OF THE FIJI ISLANDS
1598.	12/4	4	32	51.7	-33.646	-178.637	35	73.67	5.2	-	SOUTH OF KERMADEC ISLANDS
1599.	12/4	14	9	24.3	0.874	97.430	30	80.02	5.0	-	NIAS REGION, INDONESIA
1600.	12/4	21	49	35.1	-24.101	179.242	540	82.54	4.7	-	SOUTH OF THE FIJI ISLANDS
1601.	12/5	5	59	48.8	-5.406	142.066	35	89.58	5.4	5.3	NEW GUINEA, PAPUA NEW GUINEA
1602.	12/5	12	19	57.0	-6.174	29.717	22	63.14	6.3	7.2	LAKE TANGANYIKA REG., CONGO-TANZANIA
1603.	12/6	5	53	9.0	-6.095	29.524	10	63.23	5.4	4.8	LAKE TANGANYIKA REG., CONGO-TANZANIA
1604.	12/7	2	19	29.0	1.438	97.238	30	80.50	4.9	-	NIAS REGION, INDONESIA
1605.	12/7	8	38	15.0	0.179	97.269	2	79.31	5.1	-	NIAS REGION, INDONESIA
1606.	12/7	23	32	54.2	-30.026	-177.642	38	77.39	6.0	6.4	KERMADEC ISLANDS, NEW ZEALAND
1607.	12/8	2	1	45.9	-29.799	-177.476	46	77.64	4.8	-	KERMADEC ISL, NEW ZEALAND
1608.	12/8	3	16	34.6	-6.213	29.350	10	63.12	5.0	-	LAKE TANGANYIKA REG., CONGO-TANZANIA
1609.	12/8	5	0	15.9	-29.930	-177.390	25	77.53	5.1	-	KERMADEC ISL, NEW ZEALAND
1610.	12/8	5	32	12.7	-29.894	-177.973	35	77.45	5.2	-	KERMADEC ISL, NEW ZEALAND
1611.	12/8	9	1	26.9	-5.556	146.979	218	91.12	6.1	-	EASTERN NEW GUINEA REG, P.N.G.
1612.	12/8	13	51	35.5	-29.970	-177.150	9	77.54	4.8	-	KERMADEC ISL, NEW ZEALAND
1613.	12/8	17	12	22.9	-17.523	-178.595	494	89.40	4.6	-	FIJI REGION
1614.	12/8	20	41	41.3	-17.400	-173.320	10	90.55	4.7	-	TONGA
1615.	12/9	23	30	23.8	-6.213	29.508	10	63.11	5.5	5.4	LAKE TANGANYIKA REG, CONGO-TANZANIA
1616.	12/10	0	9	52.0	39.440	40.918	21	108.46	5.2	5.0	EASTERN TURKEY
1617.	12/10	8	24	13.4	-24.608	179.903	507	82.18	5.0	-	SOUTH OF THE FIJI ISLANDS
1618.	12/11	4	42	30.7	15.265	-45.819	10	102.40	5.3	5.1	NORTHERN MID-ATLANTIC RIDGE
1619.	12/11	5	55	12.6	-7.909	128.978	35	82.61	5.5	5.1	KEPULAUAN BARAT DAYA, INDONESIA
1620.	12/11	8	48	23.0	51.492	-176.255	47	155.88	5.2	4.8	ANDREANOF ISLANDS, ALEUTIAN IS., ALASKA
1621.	12/11	10	29	54.1	-35.272	-104.830	10	72.36	4.8	-	SOUTHEAST OF EASTER ISLAND
1622.	12/11	14	20	43.8	-6.594	152.208	10	91.89	6.1	6.2	NEW BRITAIN REGION, PAPUA NEW GUINEA
1623.	12/11	16	23	37.9	14.067	120.731	223	100.19	5.2	-	LUZON, PHILIPPINES
1624.	12/11	20	26	40.5	-29.995	-177.037	34	77.53	5.2	5.1	KERMADEC ISL, NEW ZEALAND
1625.	12/12	4	6	55.3	-24.128	-66.838	180	73.00	4.6	-	SALTA, ARGENTINA
1626.	12/12	4	50	47.6	-22.230	-176.486	140	85.23	5.1	-	SOUTH OF THE FIJI ISLANDS
1627.	12/12	5	4	51.7	-24.343	-66.923	153	72.83	4.6	-	SALTA, ARGENTINA
1628.	12/12	21	47	46.3	36.332	71.130	225	107.98	6.0	-	HINDU KUSH REGION, AFGHANISTAN
1629.	12/13	3	16	6.3	-15.258	-178.580	10	91.61	6.1	6.8	FIJI REGION
1630.	12/13	7	32	31.4	-15.295	-178.467	10	91.60	5.1	-	FIJI REGION
1631.	12/14	6	45	42.1	-14.606	167.940	10	88.99	5.2	5.2	VANUATU
1632.	12/14	9	20	31.1	-14.686	168.048	10	88.94	4.9	-	VANUATU
1633.	12/14	10	52	8.6	-30.986	-71.451	58	68.08	5.2	-	COQUIMBO, CHILE
1634.	12/14	13	10	24.4	-37.505	51.452	10	32.23	4.8	-	SOUTH INDIAN OCEAN
1635.	12/14	15	25	45.6	-1.248	127.844	38	88.42	5.1	-	KEPULAUAN OBI, INDONESIA
1636.	12/15	1	37	46.2	-5.836	151.848	35	92.49	4.6	-	NEW BRITAIN REG, P.N.G.
1637.	12/15	4	45	33.6	-16.125	-70.772	137	81.79	5.0	-	S PERU
1638.	12/15	6	13	48.7	-8.099	128.919	14	82.41	4.8	-	TIMOR SEA
1639.	12/15	12	59	25.4	-23.767	-66.441	190	73.21	5.0	-	JUJUY, ARGENTINA

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral distance		Magnitude		Region
		UTC h m s	Latitude (deg)	Longitude (deg)	(deg)	(deg)		Mb	Ms			
1640.	12/15	15	5	19.3	-9.341	118.582	151	77.55	4.8	-	SUMBAWA REGION, INDONESIA	
1641.	12/16	12	30	33.3	-8.490	113.310	141	76.48	4.4	-	JAVA, INDONESIA	
1642.	12/16	18	32	16.9	38.581	141.807	48	130.11	5.7	5.6	NEAR THE EAST COAST OF HONSHU, JAPAN	
1643.	12/16	19	36	4.3	-34.241	-179.372	200	72.95	4.8	-	SOUTH OF KERMADEC ISLANDS	
1644.	12/17	8	58	58.8	1.847	126.722	76	90.91	4.8	-	MOLUCCA SEA	
1645.	12/17	9	45	44.6	13.468	92.566	29	90.60	4.4	-	ANDAMAN ISL, INDIA REGION	
1646.	12/17	10	41	17.4	-14.689	167.839	57	88.88	5.1	-	VANUATU	
1647.	12/17	10	54	7.4	-14.719	167.930	33	88.88	5.3	4.8	VANUATU	
1648.	12/17	12	20	1.7	52.481	158.930	57	148.14	5.0	-	NR E COAST KAMCHATKA, RUSSIA	
1649.	12/18	4	23	9.7	2.803	95.873	18	81.38	5.3	5.6	SIMEULUE, INDONESIA	
1650.	12/18	5	10	15.4	-20.753	-174.108	20	87.12	4.9	-	TONGA	
1651.	12/18	9	9	53.8	-21.822	-174.619	31	85.98	5.0	4.8	TONGA	
1652.	12/18	17	22	33.8	-22.962	-175.942	30	84.61	5.2	4.2	TONGA REGION	
1653.	12/19	9	54	28.4	-30.129	-177.479	35	77.32	4.9	-	KERMADEC ISL, NEW ZEALAND	
1654.	12/19	11	33	56.8	-27.944	-66.681	164	69.39	4.7	-	CATAMARCA, ARGENTINA	
1655.	12/19	13	24	29.1	5.783	61.030	10	76.33	5.2	4.1	CARLSBERG RIDGE	
1656.	12/19	15	53	1.9	5.786	60.961	10	76.32	5.3	4.2	CARLSBERG RIDGE	
1657.	12/20	5	51	12.5	12.216	140.988	22	105.68	5.8	5.7	STATE OF YAP, FED. STATES OF MICRONESIA	
1658.	12/20	16	5	40.3	12.173	140.896	29	105.60	5.4	5.2	STATE OF YAP, FED. STATES OF MICRONESIA	
1659.	12/20	18	34	37.3	-25.516	179.408	528	81.19	5.2	-	SOUTH OF THE FIJI ISLANDS	
1660.	12/21	7	9	3.7	-0.082	124.636	16	88.36	6.3	-	MOLUCCA SEA	
1661.	12/21	14	32	38.5	6.584	-82.673	10	107.09	5.9	5.3	SOUTH OF PANAMA	
1662.	12/21	22	19	46.0	-42.811	-74.175	26	57.93	4.9	-	OFFSHORE LOS LAGOS, CHILE	
1663.	12/21	22	35	18.2	-1.995	88.101	10	74.52	5.2	4.6	SOUTH INDIAN OCEAN	
1664.	12/21	23	31	36.8	-23.852	-66.685	175	73.21	5.2	-	JUJUY, ARGENTINA	
1665.	12/22	3	13	49.8	-7.112	-76.000	108	91.99	4.5	-	NORTHERN PERU	
1666.	12/22	12	20	4.0	-54.620	-136.070	10	56.32	0.0	6.1	PACIFIC-ANTARCTIC RIDGE	
1667.	12/23	2	47	29.3	-54.902	-130.230	10	55.84	4.8	-	PACIFIC-ANTARCTIC RIDGE	
1668.	12/23	2	59	4.2	-0.464	124.777	185	88.05	4.5	-	MOLUCCA SEA	
1669.	12/23	5	25	0.6	55.009	165.639	37	152.55	5.1	-	KOMANDORSKIYE OSTROVA, RUSSIA REGION	
1670.	12/23	6	7	29.8	-22.623	-12.382	10	55.56	4.6	-	SOUTHERN MID-ATLANTIC RIDGE	
1671.	12/23	18	3	58.8	8.081	-37.995	10	92.95	5.4	4.7	CENTRAL MID-ATLANTIC RIDGE	
1672.	12/23	21	47	27.7	-1.437	-77.557	194	97.86	5.7	-	ECUADOR	
1673.	12/24	4	9	45.4	-10.671	66.384	10	60.96	4.9	4.8	MID-INDIAN RIDGE	
1674.	12/24	17	24	41.4	51.693	179.412	66	154.65	5.2	-	RAT ISLANDS, ALEUTIAN ISLANDS, ALASKA	
1675.	12/26	0	56	10.8	-38.936	-73.198	30	61.22	5.2	-	ARAUCANIA, CHILE	
1676.	12/26	5	13	57.6	-7.544	128.218	137	82.68	4.2	-	KEPULAUAN BARAT DAYA, INDONESIA	
1677.	12/26	5	24	42.5	16.966	145.477	355	111.69	4.8	-	ANATAHAN REG., N MARIANA ISL	
1678.	12/26	14	39	58.3	12.105	140.895	44	105.54	5.4	4.3	STATE OF YAP, FED. STATES OF MICRONESIA	
1679.	12/26	23	37	40.5	-11.350	162.750	35	90.65	4.6	-	SOLOMON ISLANDS	
1680.	12/26	23	51	5.6	-5.950	149.440	53	91.58	4.7	-	NEW BRITAIN REG, P.N.G.	
1681.	12/27	5	58	48.6	-32.391	-71.322	65	66.73	4.6	-	VALPARAISO, CHILE	
1682.	12/27	9	34	16.9	18.830	145.953	115	113.59	5.1	-	PAGAN REGION, N MARIANA ISLANDS	
1683.	12/27	10	33	44.1	37.000	135.776	330	126.55	4.6	-	SEA OF JAPAN	
1684.	12/27	14	24	37.3	-4.469	144.776	82	91.39	4.6	-	NR N CST NEW GUINEA, P.N.G.	
1685.	12/27	17	2	29.1	-12.253	-76.755	98	87.36	4.5	-	NEAR THE COAST OF CENTRAL PERU	

No.	Date	Origin time			Geographic Coordinates		Depth (km)	Epicentral Magnitude			Region
		UTC			Latitude	Longitude		distance		Mb	
		h	m	s	(deg)	(deg)		(deg)			
1686.	12/27	21	53	19.8	28.184	56.080	55	98.00	5.0	-	SOUTHERN IRAN
1687.	12/28	0	3	5.1	53.419	-164.429	35	161.01	5.2	4.5	UNIMAK ISLAND REGION, ALASKA
1688.	12/28	12	21	58.4	-19.848	-68.769	104	77.64	5.0	-	TARAPACA, CHILE
1689.	12/28	15	27	54.5	9.772	-84.278	73	110.62	5.1	-	COSTA RICA
1690.	12/28	22	4	30.8	34.746	73.333	10	106.80	5.2	-	PAKISTAN
1691.	12/29	3	47	56.8	-38.240	177.680	62	68.49	4.6	-	NORTH ISLAND OF NEW ZEALAND
1692.	12/29	5	18	33.2	-5.969	151.622	18	92.29	5.2	-	NEW BRITAIN REG, P.N.G.
1693.	12/29	7	41	52.4	-0.195	124.793	87	88.31	4.9	-	MOLUCCA SEA
1694.	12/29	8	30	34.3	27.333	139.926	468	119.27	5.2	-	BONIN ISLANDS, JAPAN REGION
1695.	12/29	10	8	20.3	-6.000	148.270	44	91.14	4.6	-	NEW BRITAIN REG, P.N.G.
1696.	12/29	10	36	40.5	1.181	97.133	30	80.22	4.7	-	NIAS REGION, INDONESIA
1697.	12/29	14	56	14.4	-10.441	112.053	82	74.22	4.5	-	SOUTH OF JAVA, INDONESIA
1698.	12/30	0	47	6.3	-20.106	-178.216	518	86.96	4.6	-	FIJI REGION
1699.	12/30	7	41	16.0	-4.697	152.009	110	93.61	4.8	-	NEW BRITAIN REG, P.N.G.
1700.	12/30	11	24	15.1	-12.283	166.866	281	90.93	4.4	-	SANTA CRUZ ISLANDS
1701.	12/30	18	26	45.0	7.539	-82.221	19	107.86	5.7	5.4	SOUTH OF PANAMA
1702.	12/31	9	29	27.5	-27.177	-176.451	35	80.39	5.2	4.7	KERMADEC ISLANDS REGION