

Supplementary data for

Along arc heterogeneity in local seismicity across the Lesser Antilles subduction zone from a dense ocean-bottom seismometer network

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Figure S1 adds details of the local network and island names. Figures S2 and S3 show the quality of magnitude estimation. Figure S4 shows the relationship between station correction and elevation. Figure S5 shows the comparison of our slab geometry with that of Slab2.0. Figure S6 shows seismicity projected to dense profiles in the central part of the arc. Table S1 describes the optimal 1-D velocity model. Table S2 shows 378 well-relocated events.

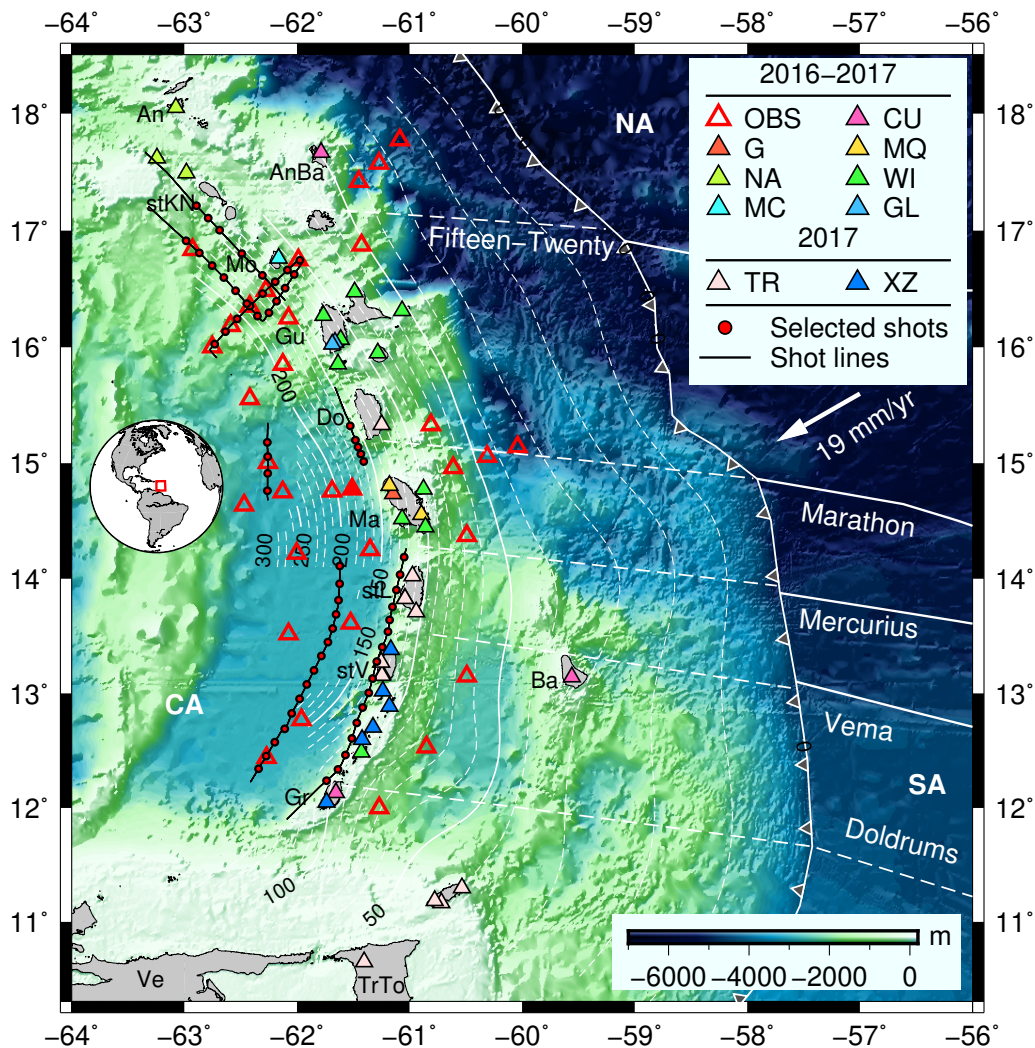
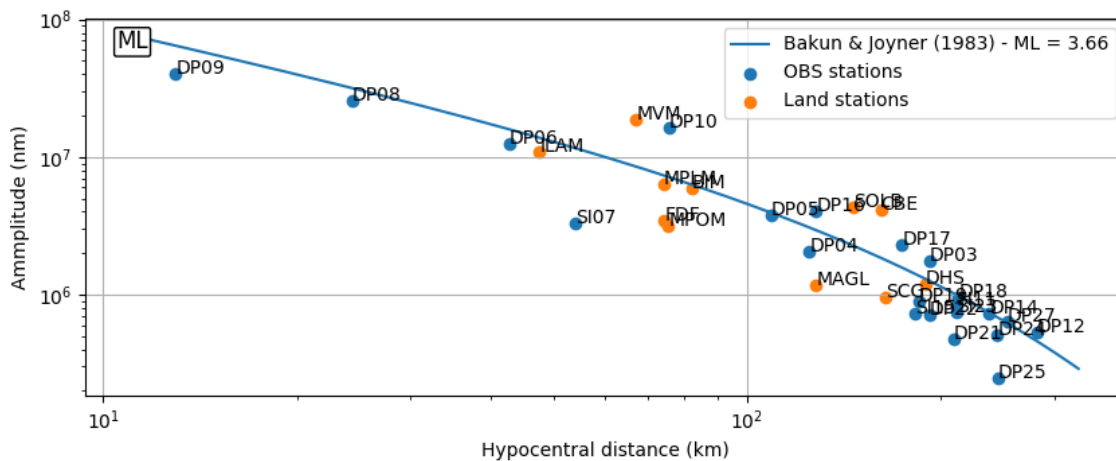


Figure S1. Similar to Figure 1. Black lines show active shots in the back-arc. This study includes seismic data from permanent stations of the following networks: the USGS Caribbean Network (code: CU); the Eastern Caribbean Seismic Network of UWI-SRC (code: TR); the West Indies French Seismic Network (code: WI); the Guadeloupe Volcano and Seismic Observatory network (code: GL); the Martinique Volcano Observatory (code: MQ); the GEOSCOPE network (code: G); the Montserrat CALIPSO Borehole Network (code: MC); and the Netherlands Antilles Seismic Network (code: NA). Our temporal network of land stations installed in 2017 is assigned code XZ. An: Anguilla; AnBa: Antigua & Barbuda; stKN: st. Kitts & Nevis; Mo: Montserrat; Gu: Guadeloupe; Do: Dominica; Ma: Martinique; stL: st. Lucia; stV: st. Vincent; Gr: Grenada; Ba: Barbados; Ve: Venezuela; TrTo: Trinidad & Tobago.

Event: e20170402.125949



Event: e20160316.154131

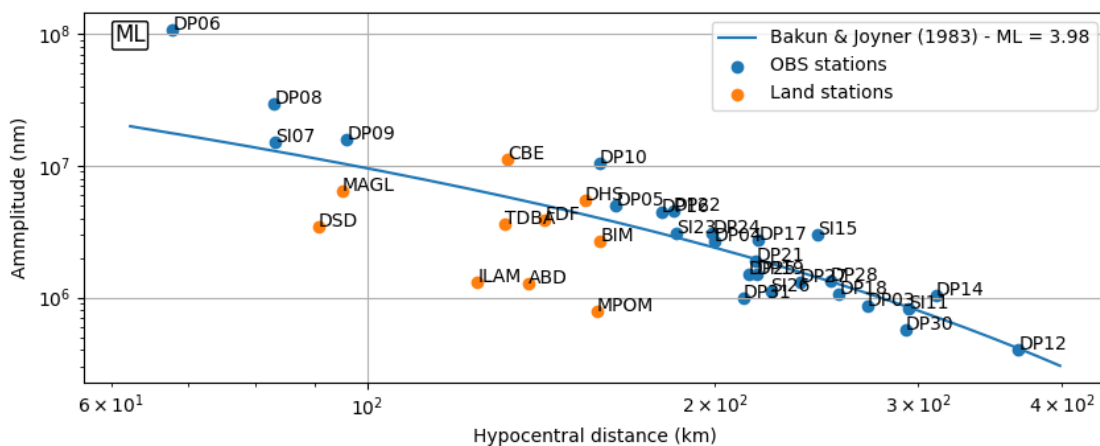


Figure S2. Example amplitude-distance plot showing the M_L fit. Overall, the M_L scale fitting robustly both the OBS and the land stations.

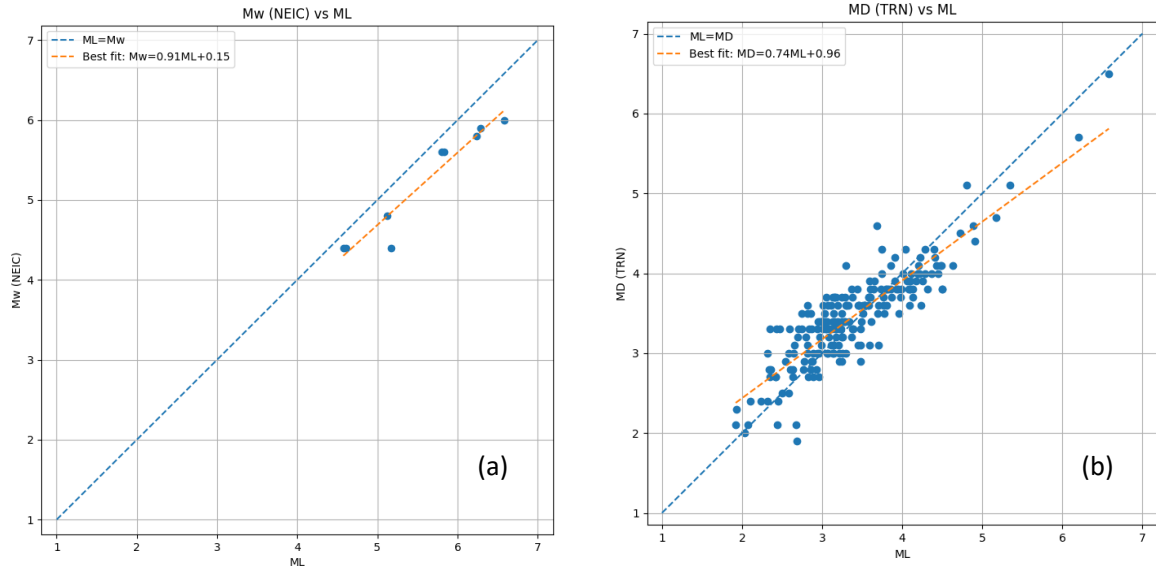


Figure S3. (a) Correlation between our M_L and moment magnitude (M_w) from NEIC. (b) Correlation between our M_L and duration magnitude (M_d) from SRC.

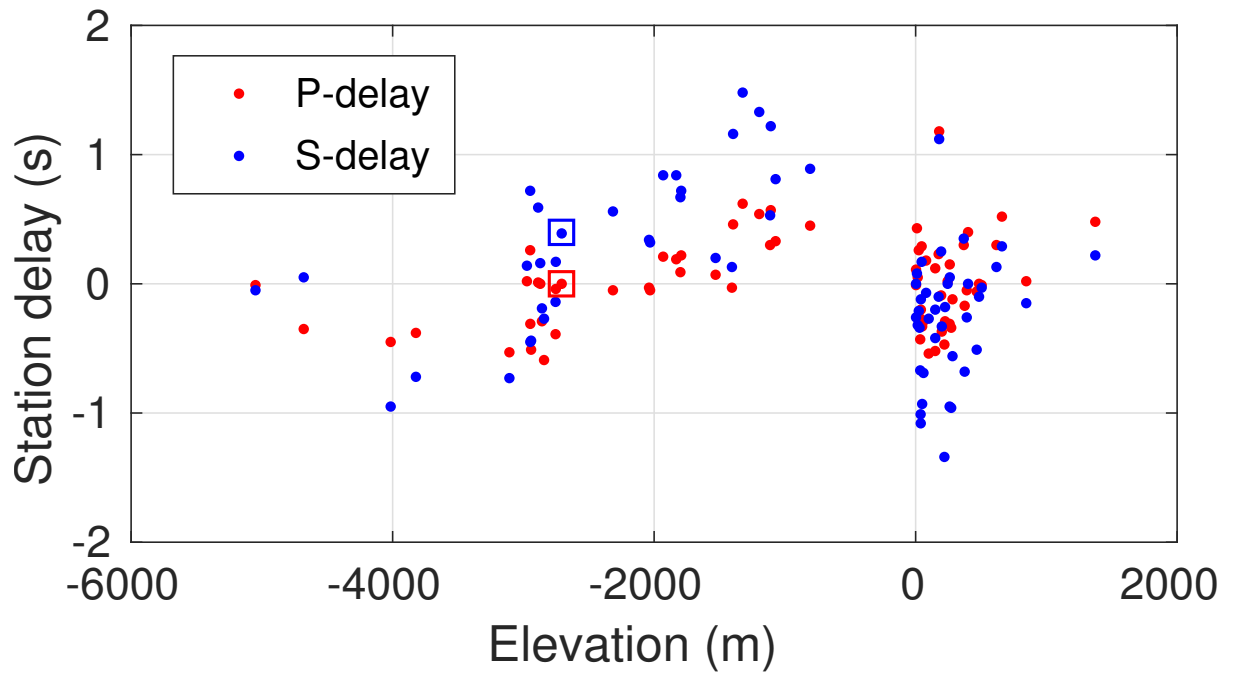


Figure S4. Station correction versus elevation. Rectangle is the reference station.

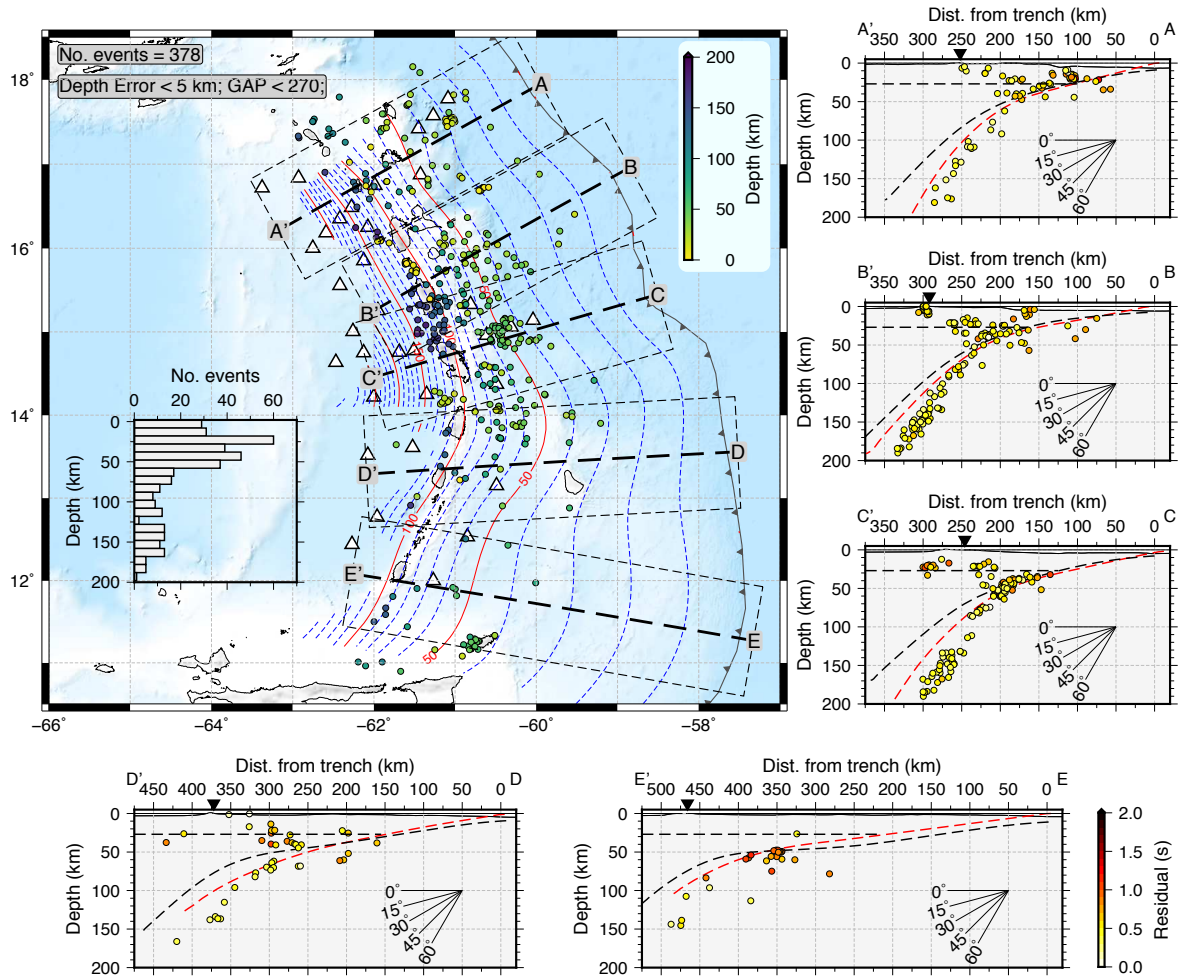


Figure S5. Similar to Figure 5, but with slab contours from Bie et al. (2017). Profiles show how slab curves fit the local seismicity reported by this study. Red dashed curves are from slab model in Bie et al. (2017), while the black dashed curves are from Slab2.0 (Hayes et al., 2018).

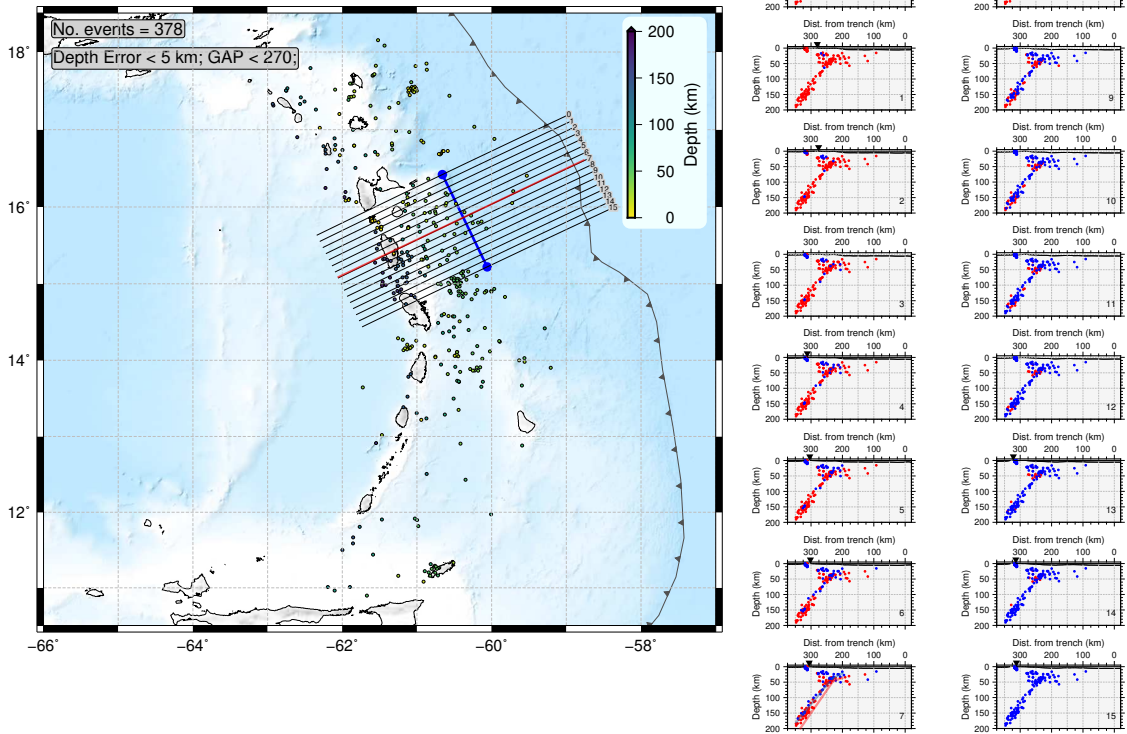


Figure S6. Seismicity bounded by line 0 and 15 are projected onto multiple profiles roughly parallel to the subduction direction. Profiles are taken every 10 km with seismicity to the north of the profile marked in blue, and those to the south in red. Profile 7 indicates increased Wadati-Benioff zone thickness from north (blue line) to south (red line), and no obvious slab tear was observed.

Table S1. Minimum 1D velocity model derived in this study by inverting 265 events with $GAP \leq 180^\circ$ and more than 20 P- and 5 S-arrival picks.

Depth (km)	V_p (km/s)	V_s (km/s)
-5	4.24	1.68
3	6.28	3.63
15	7.00	3.91
27	7.65	4.38
40	7.85	4.56
50	7.94	4.56
80	8.05	4.66
110	8.29	4.76
140	8.61	4.85
200	9.14	5.35

Table S2. Locations of the final 378 events.

Date	Time	Latitude	Longitude	Depth (km)	M _L	RMS (s)
16-03-09	10:53:08.66	11.1595	-61.2497	24.44	3.21	0.44
16-03-09	23:33:45.26	14.5876	-60.6681	81.04	2.42	0.32
16-03-14	04:19:12.80	15.0150	-60.4095	48.73	2.00	0.25
16-03-16	09:26:09.16	15.8203	-60.8743	22.75	2.65	0.53
16-03-16	12:52:01.71	13.9081	-60.1534	44.71	3.13	0.41
16-03-16	15:41:32.33	15.7854	-60.4672	25.77	3.97	0.27
16-03-16	16:30:49.46	11.5011	-61.9985	143.75	3.25	0.28
16-03-17	01:10:31.36	16.9697	-61.1031	43.81	3.30	0.53
16-03-17	18:31:25.85	15.0137	-60.5814	58.32	4.23	0.44
16-03-18	09:07:18.28	15.3052	-61.0999	131.68	3.59	0.39
16-03-22	14:09:36.17	17.3081	-61.6214	39.38	4.88	0.46
16-03-23	15:01:31.92	14.1830	-61.0670	23.51	2.03	0.66
16-03-25	20:42:25.15	15.8407	-61.6094	0.75	3.18	0.29
16-03-28	06:31:40.05	14.1902	-60.8984	17.17	1.93	0.93
16-03-29	06:48:21.42	17.8511	-60.8729	21.60	3.99	1.23
16-03-30	23:04:52.78	14.1431	-61.1333	19.52	2.67	0.72
16-03-31	05:20:55.27	14.4305	-60.5066	75.60	2.58	0.27
16-04-01	23:20:25.77	15.1018	-60.2002	31.70	3.23	0.42
16-04-04	07:21:45.93	14.8483	-60.4403	59.77	3.46	0.44
16-04-05	21:08:06.00	15.0835	-61.1370	141.10	3.26	0.41
16-04-07	22:12:36.68	14.0591	-60.4949	13.71	2.45	0.63
16-04-07	22:20:54.10	14.0525	-60.4479	21.80	3.16	0.69
16-04-08	03:11:03.11	15.9323	-60.3648	27.32	2.59	0.39
16-04-09	10:56:03.85	14.9664	-60.4288	44.23	2.83	0.30
16-04-10	04:21:15.35	14.6049	-60.6369	21.51	2.00	0.53
16-04-11	08:11:56.99	13.8195	-61.0837	136.73	3.87	0.36
16-04-11	09:59:37.02	16.5860	-62.0547	128.54	2.00	0.28
16-04-11	21:03:27.60	13.7315	-60.4620	64.01	3.77	0.49
16-04-12	01:44:50.42	14.9053	-60.0045	34.60	3.01	0.64
16-04-12	08:47:17.89	14.8977	-60.0034	36.09	2.35	0.72
16-04-12	12:36:33.62	15.7107	-61.4827	10.91	4.49	0.69
16-04-12	15:24:27.59	15.7064	-61.4804	6.33	4.10	0.58
16-04-13	03:08:58.16	13.3064	-61.0031	115.18	3.21	0.37
16-04-15	12:20:22.03	14.2882	-61.2530	22.40	2.32	0.78
16-04-16	23:29:28.30	15.7981	-61.5153	6.72	2.82	0.47
16-04-17	03:19:34.46	14.9328	-59.9656	51.70	2.41	0.67
16-04-18	01:01:42.30	14.5754	-60.3217	63.94	2.36	0.53
16-04-20	13:14:36.35	14.9872	-60.4486	49.05	2.63	0.37
16-04-21	16:17:56.66	16.4918	-62.2093	151.51	3.61	0.28
16-04-22	11:30:52.73	14.8728	-60.3472	39.04	2.34	0.66
16-04-22	17:43:19.33	17.7728	-60.8678	23.85	3.65	0.59
16-04-23	09:16:07.78	15.4901	-60.9159	82.11	3.80	0.61
16-04-23	12:07:05.04	15.0726	-60.5000	50.54	3.20	0.42
16-04-23	15:35:21.30	11.9047	-61.4689	96.38	2.94	0.26
16-04-24	09:09:41.86	13.0181	-61.4698	26.27	2.74	0.55
16-04-24	21:01:41.09	13.9140	-60.4874	73.44	2.58	0.33
16-04-25	05:56:16.69	15.3144	-60.9230	21.21	3.11	0.49
16-04-28	03:22:33.36	14.9064	-60.5648	50.24	2.93	0.50
16-04-28	05:40:58.22	16.0781	-60.8840	38.33	3.60	0.49
16-04-28	20:14:59.92	15.3166	-60.9393	21.45	3.00	0.48
16-05-01	10:35:35.55	18.1520	-61.5212	30.48	4.81	0.62
16-05-02	14:05:29.53	16.8880	-62.1028	109.09	3.91	0.37
16-05-02	15:09:55.79	15.8168	-61.5988	-0.19	3.17	0.42
16-05-04	21:06:32.70	14.5784	-60.5782	18.53	3.51	0.60
16-05-05	02:23:26.02	14.9758	-61.4646	184.31	3.53	0.48
16-05-06	13:15:46.40	11.8078	-61.7669	107.58	2.96	0.46
16-05-06	13:49:31.22	16.1244	-61.1265	23.20	3.14	0.58
16-05-07	05:23:25.85	17.3452	-61.2489	27.25	3.83	0.45
16-05-08	13:48:04.53	17.7046	-61.5840	32.53	5.35	0.77
16-05-09	00:21:50.57	17.6963	-61.5937	31.04	3.43	0.52
16-05-09	13:36:27.76	16.1791	-60.6147	32.34	5.17	0.51
16-05-09	15:03:38.41	16.1579	-60.5937	50.37	3.09	0.59
16-05-09	20:04:41.80	14.1632	-61.0872	19.78	2.51	0.71
16-05-10	06:21:14.02	16.7254	-60.5881	3.95	3.29	0.66
16-05-14	22:12:22.75	14.1328	-61.1803	23.33	2.44	1.04
16-05-15	08:17:07.36	14.1558	-61.1601	20.31	2.81	0.80

16-05-15	16:09:15.03	13.3840	-61.1817	137.99	2.96	0.29
16-05-17	02:08:26.10	15.0090	-60.4183	50.27	2.78	0.38
16-05-17	11:41:17.04	14.7345	-61.1478	133.88	3.59	0.32
16-05-20	01:24:47.25	14.2049	-61.1311	22.55	1.92	0.58
16-05-20	06:18:29.94	15.8104	-60.1353	30.62	3.15	0.64
16-05-21	22:17:56.58	14.1704	-61.1121	22.32	3.39	0.69
16-05-24	09:04:33.96	15.7970	-60.1822	47.83	3.74	0.56
16-05-24	17:11:07.47	16.6854	-60.7059	5.09	3.17	0.50
16-05-24	23:19:40.48	11.3335	-60.5114	26.44	2.00	0.49
16-05-26	04:40:55.73	16.8810	-59.9632	30.04	3.04	0.74
16-05-28	18:58:51.45	14.2564	-61.0099	12.23	2.08	0.35
16-05-30	02:52:58.32	14.0395	-60.7542	17.18	2.10	0.34
16-05-30	18:55:21.10	14.1857	-60.1926	57.35	4.31	0.67
16-06-02	10:04:47.26	16.0890	-61.9155	4.68	2.60	0.21
16-06-05	12:45:48.27	14.0277	-59.5608	51.78	4.17	0.67
16-06-05	13:07:55.57	13.9994	-59.6307	22.27	2.54	0.43
16-06-05	13:09:06.93	13.9808	-59.5586	25.45	2.82	0.61
16-06-09	03:38:32.47	11.8971	-60.9981	57.60	4.45	0.82
16-06-10	01:45:16.98	15.3293	-60.8674	81.89	4.09	0.50
16-06-12	08:56:55.92	16.8581	-60.9412	13.19	4.29	0.50
16-06-13	18:31:31.84	15.2783	-61.1863	145.38	4.25	0.55
16-06-18	20:08:33.36	15.4089	-61.2030	117.02	3.26	0.35
16-06-20	21:57:16.77	14.8762	-60.3946	51.33	4.10	0.37
16-06-22	00:50:28.14	13.4967	-60.5094	69.64	3.21	0.38
16-06-23	20:03:29.22	13.9437	-60.6777	82.17	3.49	0.32
16-06-25	00:27:21.28	16.7131	-61.5612	91.78	3.80	0.37
16-06-25	11:58:01.77	15.5776	-61.1914	100.40	3.25	0.31
16-06-29	14:16:09.21	16.1668	-60.8335	31.99	3.12	0.44
16-06-29	15:54:22.87	15.3685	-61.1193	132.18	4.48	0.52
16-06-30	00:58:55.86	14.8546	-61.0775	158.01	3.53	0.37
16-06-30	23:04:35.50	15.4570	-61.5372	150.52	3.29	0.31
16-07-01	05:41:56.88	16.0630	-61.1892	17.09	3.37	0.39
16-07-02	04:14:52.99	14.8283	-59.8211	32.10	2.89	1.06
16-07-06	11:05:56.03	15.0181	-61.1350	152.51	3.57	0.38
16-07-07	09:33:45.63	15.9205	-60.8967	22.49	2.00	0.37
16-07-11	06:58:09.58	15.7260	-61.1169	21.22	4.50	0.38
16-07-11	06:58:09.61	15.7287	-61.1176	23.81	4.50	0.49
16-07-13	10:28:25.05	15.2462	-60.6919	34.69	3.24	0.34
16-07-14	18:09:40.04	15.3155	-61.2106	132.61	3.48	0.44
16-07-18	11:15:20.63	15.6725	-61.5541	149.86	3.27	0.34
16-07-19	18:57:40.51	15.6479	-60.4986	36.06	4.20	0.50
16-07-25	04:59:44.09	15.5637	-61.3561	112.29	3.05	0.29
16-07-25	15:57:08.87	16.6772	-61.5268	16.77	3.51	0.52
16-07-25	19:30:43.22	16.6696	-62.0322	10.28	3.58	0.37
16-07-26	03:27:22.06	16.6701	-61.6885	86.68	3.09	0.30
16-07-26	17:50:04.38	15.9487	-61.1604	88.96	3.05	0.54
16-07-29	13:55:02.01	15.7893	-60.2517	34.18	2.88	0.45
16-08-01	03:43:03.21	14.8774	-61.3117	160.14	3.58	0.48
16-08-02	00:13:09.34	15.1445	-61.4591	171.05	3.48	0.42
16-08-02	07:58:32.85	15.1543	-60.3870	46.81	4.63	0.51
16-08-04	23:26:26.99	14.9932	-60.6788	46.38	3.45	0.30
16-08-05	16:21:15.16	14.9002	-60.4179	45.12	3.19	0.44
16-08-07	13:10:23.27	15.1378	-60.4086	43.32	3.01	0.40
16-08-08	10:15:56.26	17.3848	-61.9171	62.15	4.91	0.48
16-08-09	03:53:15.58	15.5623	-60.8552	34.70	3.04	0.49
16-08-10	05:07:31.13	14.9592	-60.4659	49.94	2.64	0.45
16-08-10	19:20:33.43	15.7398	-61.1132	21.62	3.08	0.33
16-08-11	21:21:39.52	13.7187	-60.1178	68.21	2.20	0.13
16-08-13	02:22:35.53	17.0238	-62.3014	6.58	3.13	0.41
16-08-15	12:36:29.60	14.9719	-61.2589	155.41	3.30	0.45
16-08-15	19:06:27.25	14.9041	-60.0723	37.50	3.15	0.59
16-08-16	05:24:15.88	17.4239	-61.8781	22.62	2.71	0.53
16-08-16	10:57:42.64	11.5887	-61.8569	138.63	4.10	0.52
16-08-17	13:38:31.34	15.3731	-60.5758	42.04	2.97	0.82
16-08-18	22:51:39.07	15.5133	-61.5110	154.15	3.46	0.36
16-08-19	07:21:38.12	16.0263	-61.1417	20.60	4.22	0.54
16-08-20	02:16:33.57	11.8165	-60.9822	53.92	3.69	1.10
16-08-23	01:09:49.90	14.8897	-61.2307	156.59	4.41	0.37
16-08-23	16:58:20.84	15.4605	-60.4928	40.64	3.37	0.53
16-08-23	17:10:05.90	17.2027	-62.0384	6.65	2.98	0.41

16-08-23	19:25:26.72	15.7416	-61.4788	5.95	2.76	0.37
16-08-24	17:03:03.05	14.2683	-61.1897	32.98	3.80	0.64
16-08-26	00:49:42.76	14.9743	-61.2531	150.35	3.11	0.52
16-08-26	22:20:24.69	14.9018	-60.4426	51.87	3.07	0.78
16-08-27	22:12:25.61	15.1388	-61.1272	148.89	3.25	0.49
16-08-27	22:40:56.70	13.2883	-60.6266	76.97	2.86	0.42
16-08-31	02:30:44.05	15.2753	-61.5602	167.89	2.00	0.43
16-09-05	07:15:36.57	14.8279	-60.3866	55.45	3.58	0.49
16-09-05	12:12:19.98	17.2845	-61.3701	29.76	4.06	0.57
16-09-06	05:31:48.12	14.8682	-60.2186	37.96	3.01	0.78
16-09-07	02:42:21.53	16.2046	-59.7119	41.76	3.75	0.72
16-09-07	03:38:01.15	15.7196	-60.0715	57.02	2.69	0.79
16-09-08	11:45:47.93	13.8654	-60.2280	37.92	3.06	0.66
16-09-08	18:53:03.95	15.0258	-61.4593	184.95	3.21	0.51
16-09-08	21:39:51.28	15.0812	-61.3608	182.18	4.11	0.46
16-09-10	05:34:48.29	15.2228	-60.8473	21.30	3.14	0.55
16-09-11	23:16:03.27	16.0396	-61.1192	14.90	2.32	0.55
16-09-13	09:34:25.61	12.9053	-60.4175	39.72	3.06	1.02
16-09-18	01:08:40.64	16.0634	-61.8121	7.87	3.01	0.65
16-09-19	00:48:51.56	15.9978	-60.7382	24.09	3.37	0.55
16-09-19	08:42:27.68	15.9425	-60.7565	36.50	3.29	0.50
16-09-19	14:33:31.06	14.9847	-61.4180	183.69	4.72	0.45
16-09-23	01:48:34.40	17.7937	-62.4255	96.05	4.04	0.56
16-09-24	05:42:03.61	14.0905	-60.2558	50.23	3.15	0.68
16-09-25	11:20:01.75	14.3112	-60.5063	74.35	2.94	0.36
16-09-25	23:09:27.13	15.3838	-61.3099	0.30	2.47	0.58
16-09-26	02:16:32.07	14.9955	-60.5664	23.76	2.95	0.46
16-09-26	15:41:24.55	14.4182	-59.2894	68.85	3.15	0.74
16-09-26	20:36:18.73	15.3945	-61.3102	-0.18	2.42	0.56
16-09-30	18:57:04.07	13.9059	-60.1981	39.49	3.34	0.44
16-10-01	11:11:03.91	13.8641	-60.2507	27.74	3.73	0.55
16-10-02	14:53:41.24	15.7408	-61.4756	9.80	3.14	0.51
16-10-03	15:18:58.80	15.3517	-60.8800	32.29	4.47	0.51
16-10-04	03:55:40.76	15.8086	-61.6137	147.93	3.21	0.35
16-10-05	02:04:27.16	15.3106	-60.5963	60.61	3.69	0.53
16-10-05	04:21:19.98	16.0827	-61.9554	8.93	3.22	0.44
16-10-06	12:00:50.95	13.6438	-61.7255	37.72	3.51	0.88
16-10-07	06:50:21.72	12.9124	-61.5476	166.13	3.61	0.33
16-10-07	19:04:44.32	17.4953	-61.8388	20.54	3.26	0.39
16-10-09	23:03:37.25	15.9015	-61.0491	48.38	3.75	0.47
16-10-13	10:38:03.75	17.5344	-62.7350	98.38	3.46	0.28
16-10-14	17:06:46.17	16.2464	-62.2245	180.97	3.68	0.50
16-10-14	17:25:24.00	16.7226	-60.6546	10.65	4.60	0.74
16-10-15	02:26:51.65	16.7235	-60.6433	3.81	2.94	0.88
16-10-16	12:05:39.27	17.2597	-62.3534	101.81	3.35	0.36
16-10-17	15:32:00.19	16.9834	-61.2799	33.68	3.21	0.49
16-10-18	00:42:51.29	13.7843	-61.1145	136.45	3.01	0.41
16-10-18	22:08:13.75	15.2983	-61.3521	159.62	5.83	0.38
16-10-19	03:26:32.20	15.7502	-60.7451	36.28	3.00	0.40
16-10-19	19:38:32.40	15.3274	-61.4344	158.33	3.37	0.55
16-10-19	20:22:19.40	15.3136	-61.3983	158.66	3.91	0.36
16-10-20	00:58:21.86	14.3961	-60.3085	60.25	3.19	0.35
16-10-24	14:14:05.22	16.6809	-60.6911	9.66	3.68	0.68
16-10-25	18:45:34.45	16.2307	-61.4916	89.26	4.73	0.43
16-10-26	03:11:02.62	13.7161	-60.4368	61.88	2.91	0.46
16-10-26	03:20:57.64	16.4041	-59.5292	15.55	3.27	0.64
16-10-26	17:50:38.94	17.8200	-61.0188	20.27	4.66	0.67
16-10-27	19:07:52.43	11.9732	-60.0082	78.34	3.53	0.85
16-10-29	05:35:30.90	15.9287	-60.8268	49.91	2.78	0.50
16-10-29	08:21:41.40	16.6912	-62.2224	143.41	3.27	0.38
16-10-29	10:38:20.32	16.0418	-60.4774	16.31	2.39	0.81
16-10-31	11:44:35.98	16.3659	-60.8487	35.48	3.28	0.58
16-10-31	13:37:07.75	15.2325	-61.2537	133.84	2.77	0.29
16-10-31	15:04:30.48	14.1168	-60.0227	36.65	2.88	0.70
16-11-02	03:29:29.19	13.8484	-60.4213	40.82	2.93	0.52
16-11-02	20:01:57.59	16.7402	-62.2235	133.20	3.36	0.40
16-11-03	15:01:21.21	15.4149	-61.1293	105.75	2.88	0.35
16-11-03	23:56:37.18	15.7968	-60.7762	38.42	2.53	0.45
16-11-08	17:05:00.79	15.1485	-60.9587	113.99	4.19	0.46
16-11-09	15:34:05.71	13.2374	-60.8738	96.06	4.10	0.48

16-11-10	02:29:23.26	13.3488	-60.4430	25.59	2.89	0.92
16-11-12	18:44:11.58	15.4076	-60.4669	37.33	3.25	0.65
16-11-13	05:19:02.80	15.0530	-60.3382	38.88	3.10	0.76
16-11-16	02:59:18.77	15.3288	-61.2435	139.78	3.08	0.41
16-11-16	08:41:51.77	15.3202	-61.4527	159.90	3.14	0.37
16-11-17	09:53:58.83	15.0075	-61.1537	165.62	4.64	0.43
16-11-18	07:32:33.84	16.8030	-62.0933	108.59	3.01	0.29
16-11-19	17:04:17.22	16.9035	-62.6030	162.00	3.90	0.48
16-11-19	18:05:28.89	15.6609	-60.3532	35.64	2.95	0.41
16-11-20	00:07:22.75	14.1563	-61.1005	20.73	2.56	0.61
16-11-20	00:46:50.38	15.1066	-60.8939	111.27	2.00	0.31
16-11-20	02:10:05.18	13.2184	-60.9425	1.50	2.00	0.17
16-11-20	05:41:05.56	16.0192	-60.6176	24.61	2.52	0.38
16-11-20	05:56:07.68	15.4519	-60.8953	78.17	2.57	0.50
16-11-20	09:09:55.17	14.0489	-60.7523	0.48	2.20	0.03
16-11-20	09:17:41.94	14.1090	-60.4620	38.02	2.45	0.75
16-11-20	16:06:18.84	17.5331	-61.1166	12.00	2.89	0.09
16-11-20	16:20:36.70	17.5067	-61.1042	8.63	2.03	0.19
16-11-20	17:14:03.50	14.8806	-60.5477	58.85	2.53	0.21
16-11-20	17:47:11.96	14.1065	-60.4635	35.29	2.10	0.61
16-11-20	20:11:03.56	14.0614	-60.4747	22.11	3.28	0.68
16-11-21	08:00:19.56	12.5063	-60.8702	113.30	3.09	0.39
16-11-21	14:43:38.47	14.0605	-60.4862	22.11	3.22	0.63
16-11-21	22:45:37.35	15.1037	-60.3805	52.43	2.70	0.85
16-11-22	00:02:02.37	11.9163	-61.0275	59.23	4.39	1.00
16-11-22	02:24:12.68	14.1298	-60.5703	39.34	2.92	0.55
16-11-22	04:12:25.36	12.8802	-59.5917	61.18	4.52	0.81
16-11-22	08:36:26.43	15.9181	-60.7503	39.94	2.00	0.06
16-11-22	18:37:20.68	16.9980	-61.8571	76.66	2.76	0.20
16-11-22	20:02:59.77	14.9026	-60.0743	41.78	2.21	0.52
16-11-23	06:09:38.09	14.9178	-60.1926	39.22	2.00	0.25
16-11-23	07:52:08.42	15.4317	-60.6632	52.42	2.76	0.28
16-11-23	09:58:21.74	17.6125	-61.0771	44.36	2.49	0.36
16-11-23	11:37:38.22	15.1939	-61.2828	139.14	2.00	0.28
16-11-23	12:03:19.06	13.7226	-60.4409	70.22	2.84	0.46
16-11-23	14:26:34.91	15.4324	-61.2860	124.76	3.85	0.43
16-11-23	16:40:14.20	16.7428	-62.0993	4.67	2.35	0.34
16-11-24	01:06:03.70	14.3597	-60.6537	86.38	2.72	0.24
16-11-24	02:38:10.73	14.0719	-60.4679	22.33	2.58	0.76
16-11-24	05:00:36.03	17.3318	-62.5647	97.52	2.00	0.40
16-11-24	13:48:21.59	14.5725	-60.5006	74.44	2.00	0.06
16-11-24	16:08:47.15	17.4455	-61.0970	9.50	2.00	0.33
16-11-24	21:22:03.69	16.0512	-60.6067	24.45	2.00	0.50
16-11-25	03:40:29.87	14.5102	-60.4290	22.46	3.03	0.57
16-11-25	07:28:49.65	14.4237	-60.0913	38.13	2.60	0.35
16-11-25	08:40:24.61	13.8190	-60.5875	35.12	2.82	0.89
16-11-25	14:39:18.55	15.0430	-60.4622	53.62	2.69	0.33
16-11-25	16:05:37.01	17.4306	-61.8456	22.85	2.58	0.34
16-11-25	16:41:49.56	14.8854	-60.0920	35.49	2.45	0.50
16-11-25	17:20:49.22	16.0497	-59.7258	25.18	2.84	0.48
16-11-26	08:07:50.43	17.7161	-61.5695	28.59	3.94	0.59
16-11-26	19:50:13.31	15.8878	-60.2756	46.84	4.27	0.55
16-11-27	23:28:17.28	16.5054	-61.8241	109.01	2.93	0.45
16-11-28	10:01:29.22	13.9013	-59.2085	38.21	2.77	0.64
16-11-30	18:17:31.60	16.0781	-61.0269	18.30	3.18	0.57
16-12-02	22:11:59.64	15.0058	-60.4910	52.72	4.71	0.37
16-12-05	23:55:59.38	16.6917	-60.6777	13.00	4.07	0.64
16-12-06	23:20:44.60	11.2807	-60.7710	47.61	4.32	0.94
16-12-06	23:48:53.94	11.2652	-60.7020	49.27	4.68	1.02
16-12-07	00:50:36.65	11.0823	-60.9113	15.27	3.71	1.16
16-12-07	02:37:48.63	11.1602	-60.8228	44.81	3.50	0.74
16-12-07	02:43:11.68	11.2001	-60.7562	50.28	3.87	0.88
16-12-07	03:38:12.94	11.2922	-60.7604	56.03	4.68	0.82
16-12-07	04:24:59.10	11.2632	-60.7122	50.17	5.24	0.87
16-12-07	07:54:43.72	17.0378	-60.2318	33.87	2.92	0.78
16-12-09	17:34:48.55	11.2045	-60.8426	55.69	4.50	0.72
16-12-10	11:33:15.47	13.8639	-60.1814	40.29	2.98	0.43
16-12-11	14:27:41.76	11.2212	-60.8960	61.51	4.06	0.65
16-12-13	01:24:10.85	14.7985	-60.2680	43.71	3.81	0.54
16-12-13	04:17:37.07	11.3140	-60.8163	74.92	4.81	1.07

16-12-15	22:47:12.05	16.7441	-61.3313	42.61	3.49	0.62
16-12-16	19:51:56.91	14.9272	-61.2113	167.57	4.17	0.65
16-12-21	07:16:58.94	15.0003	-60.7191	45.52	3.44	0.48
16-12-24	12:53:59.72	14.5745	-60.5188	15.53	3.22	0.69
16-12-26	22:13:45.62	11.4405	-61.5883	83.55	4.08	0.85
16-12-30	06:10:52.97	14.3791	-60.5684	77.14	2.92	0.33
17-01-01	07:22:21.71	15.2427	-61.1844	136.94	3.81	0.38
17-01-04	12:55:57.39	15.7472	-60.9799	74.13	3.17	0.41
17-01-06	15:01:38.44	11.0102	-61.8976	112.05	4.23	0.61
17-01-08	04:43:21.69	13.8851	-60.2872	36.10	4.31	0.84
17-01-08	09:51:38.90	10.9632	-62.1024	86.86	4.65	0.82
17-01-08	18:01:42.57	10.8968	-61.6706	53.03	4.31	0.92
17-01-13	16:34:17.88	14.2429	-59.8916	37.13	3.79	0.57
17-01-15	19:19:08.11	15.7291	-61.5311	3.20	2.80	0.48
17-01-17	01:33:11.91	14.2523	-59.8987	40.68	4.05	0.71
17-01-20	13:57:05.22	15.3286	-61.2474	148.03	3.26	0.45
17-01-24	19:26:18.87	16.7864	-62.2514	127.40	3.15	0.35
17-02-03	05:00:24.47	11.1646	-60.7194	59.27	3.85	0.60
17-02-03	12:08:37.99	17.4169	-62.5552	98.41	4.05	0.51
17-02-03	19:54:22.86	15.0646	-60.4572	51.14	6.23	0.41
17-02-04	13:53:08.38	14.4891	-60.7169	85.16	2.84	0.36
17-02-04	14:46:00.55	16.1935	-61.9573	176.30	3.40	0.50
17-02-06	18:21:55.94	16.2790	-61.0531	76.55	4.11	0.40
17-02-07	01:31:39.44	16.7929	-61.8421	13.11	2.84	0.47
17-02-07	11:41:20.02	16.7939	-61.8405	13.56	3.33	0.58
17-02-09	09:32:36.95	16.7373	-61.9979	110.90	3.57	0.42
17-02-11	03:46:46.20	17.8241	-61.5507	26.01	4.03	0.53
17-02-12	20:16:17.86	14.9929	-61.4668	190.12	3.61	0.47
17-02-14	14:02:56.90	17.1480	-61.5534	22.74	3.71	0.75
17-02-17	17:33:05.07	15.6766	-60.9620	76.13	3.03	0.28
17-02-18	10:18:33.89	15.6321	-60.6337	34.42	3.18	0.43
17-02-21	13:30:03.12	15.0838	-61.1920	148.12	3.10	0.39
17-02-21	20:10:05.61	17.5165	-62.0962	39.42	3.97	0.46
17-02-27	09:15:16.46	15.1628	-60.3875	45.55	3.38	0.51
17-02-28	02:40:57.90	17.5947	-61.8955	42.97	3.90	0.65
17-02-28	03:16:46.58	15.8521	-60.5973	44.62	3.28	0.55
17-03-02	15:03:11.25	17.5951	-61.8772	39.94	3.37	0.49
17-03-06	17:35:00.61	15.3531	-61.0708	133.98	3.81	0.48
17-03-07	00:06:57.30	17.3636	-62.5056	111.42	3.97	0.56
17-03-07	10:51:34.22	17.4214	-61.9075	38.88	3.40	0.52
17-03-10	06:01:17.60	17.5024	-62.7492	102.63	4.78	0.58
17-03-10	14:11:47.33	13.5232	-61.1266	133.82	3.49	0.30
17-03-10	20:19:32.41	11.2523	-60.7321	49.89	4.47	0.79
17-03-14	00:18:35.57	17.5054	-62.7546	105.29	4.44	0.50
17-03-19	17:32:07.00	18.0826	-61.4345	42.94	3.39	0.63
17-03-20	19:01:49.52	11.2822	-60.7476	47.63	4.87	1.00
17-03-20	20:58:47.99	14.7961	-61.2983	164.38	3.26	0.39
17-03-21	00:01:41.72	16.8004	-61.3324	47.34	3.18	0.64
17-03-21	21:59:14.84	15.0319	-61.2641	147.14	3.29	0.31
17-03-22	07:33:01.47	15.0045	-60.4810	44.06	3.41	0.48
17-03-25	14:46:33.14	11.2506	-60.8024	48.32	4.32	0.96
17-03-26	18:53:31.85	16.8234	-61.3364	20.81	3.71	0.61
17-03-27	22:12:13.88	16.1272	-61.9710	174.79	3.37	0.45
17-03-30	03:56:39.15	15.7539	-61.2079	91.29	3.23	0.38
17-03-30	05:32:24.30	17.4376	-60.5659	34.70	3.63	0.79
17-03-30	07:27:47.40	13.6522	-60.1382	68.44	3.04	0.48
17-03-30	18:59:58.36	17.3119	-62.9221	159.81	3.55	0.46
17-03-31	22:50:47.25	14.9080	-60.5579	60.35	4.05	0.41
17-04-01	20:22:07.51	15.0585	-60.4412	49.06	3.48	0.40
17-04-02	12:59:52.91	15.0697	-60.5383	52.83	3.64	0.53
17-04-07	00:39:19.47	14.9064	-61.2614	172.17	3.90	0.50
17-04-07	21:45:34.57	12.4290	-60.3496	60.04	4.65	0.71
17-04-08	06:14:03.79	15.7418	-61.4813	10.58	3.50	0.53
17-04-10	18:20:25.49	15.1594	-60.3134	37.04	3.65	0.54
17-04-10	18:39:14.89	15.8231	-61.6137	145.76	3.37	0.42
17-04-12	14:47:01.72	16.1043	-61.9085	169.09	3.51	0.41
17-04-13	00:44:53.40	16.1720	-61.1369	63.37	3.26	0.34
17-04-15	07:06:52.94	17.3324	-62.9312	143.29	3.18	0.46
17-04-15	18:16:17.98	17.5370	-61.0468	19.09	4.73	0.65
17-04-15	18:48:26.36	17.5312	-61.0848	20.77	3.67	0.71

17-04-16	10:10:32.08	17.5506	-61.0678	19.90	3.67	0.57
17-04-17	04:13:11.10	17.4934	-61.0537	14.74	4.23	0.46
17-04-17	06:25:11.40	17.5133	-61.0247	20.59	5.13	0.59
17-04-17	08:28:51.30	17.4893	-61.1148	14.38	3.93	0.81
17-04-17	15:12:00.58	17.4836	-61.0380	18.25	4.03	0.87
17-04-17	16:08:01.04	17.5323	-61.0562	14.55	3.92	0.73
17-04-19	20:32:03.41	17.5015	-61.0026	21.67	4.09	0.81
17-04-20	01:14:23.01	17.5382	-61.0183	21.25	3.63	1.02
17-04-20	22:22:10.34	17.5259	-61.0866	18.89	3.51	0.53
17-04-21	10:16:01.46	15.0438	-60.5065	54.42	4.41	0.39
17-04-22	03:29:27.75	14.0205	-60.1253	40.68	3.00	0.57
17-04-22	03:48:17.91	17.5250	-61.0571	17.76	3.86	0.63
17-04-22	09:13:53.49	17.5539	-61.0302	16.29	3.71	0.69
17-04-23	01:52:22.68	11.0106	-62.1931	98.09	4.97	0.96
17-04-23	14:04:03.80	13.6691	-59.5945	60.14	3.14	0.62
17-04-24	09:24:36.31	15.0268	-60.4966	48.07	3.65	0.67
17-04-24	22:21:07.33	17.5277	-61.0115	19.39	3.81	1.30
17-04-25	09:53:31.81	16.8355	-60.9151	15.71	4.57	0.78
17-04-27	20:42:48.71	15.8234	-61.5942	5.28	3.30	0.58
17-04-27	20:54:32.75	15.8281	-61.5925	4.28	3.26	0.54
17-04-27	22:57:09.40	15.8217	-61.5949	4.55	3.43	0.58
17-04-29	07:49:59.97	15.8385	-61.6026	4.59	2.85	0.42
17-04-29	13:32:03.02	15.8321	-61.6011	4.70	2.71	0.46
17-04-29	14:26:12.46	15.8298	-61.6056	4.00	3.01	0.51
17-04-29	14:54:26.20	15.8321	-61.6111	1.55	3.03	0.45
17-04-29	14:58:17.71	15.8318	-61.6150	0.41	2.81	0.35
17-04-30	09:49:12.87	15.0461	-60.4935	52.38	3.04	0.47
17-04-30	19:04:00.88	15.8283	-61.6081	4.30	3.31	0.84
17-04-30	23:13:12.85	15.8351	-61.6044	3.86	2.97	0.44
17-05-02	06:28:12.31	11.6675	-61.8544	145.30	4.06	0.54
17-05-05	20:03:19.93	14.8248	-61.0278	147.90	3.86	0.49
17-05-09	14:52:14.58	15.8249	-61.5668	6.54	2.94	0.51