

Orbite de la Lune

Position du noeud entre 1999 et 2021

La position du noeud ascendant de l'orbite de la Lune est calculées à partir des coordonnées écliptiques géocentriques de la Lune, données obtenues sur le serveur d'éphémérides de l'IMCCE.

La longitude écliptique géocentrique du périée est celle à 0h TU, donnée en degrés décimaux.

Jour julien	dates	longitude (°)	Jour julien	dates	longitude (°)
2451198.50000	20 1 1999	142.1791	2451544.50000	1 1 2000	123.7704
2451208.50000	30 1 1999	142.1101	2451553.50000	10 1 2000	123.6622
2451210.50000	1 2 1999	142.1062	2451563.50000	20 1 2000	123.6777
2451219.50000	10 2 1999	142.1616	2451573.50000	30 1 2000	123.7564
2451229.50000	20 2 1999	142.2007	2451575.50000	1 2 2000	123.7615
2451238.50000	1 3 1999	142.1671	2451584.50000	10 2 2000	123.7241
2451247.50000	10 3 1999	142.0280	2451594.50000	20 2 2000	123.5916
2451257.50000	20 3 1999	141.7720	2451604.50000	1 3 2000	123.3265
2451267.50000	30 3 1999	141.2565	2451613.50000	10 3 2000	122.8581
2451269.50000	1 4 1999	141.0997	2451623.50000	20 3 2000	122.1415
2451278.50000	10 4 1999	140.3813	2451633.50000	30 3 2000	121.2653
2451288.50000	20 4 1999	139.6009	2451635.50000	1 4 2000	121.0733
2451298.50000	30 4 1999	138.4369	2451644.50000	10 4 2000	120.1577
2451299.50000	1 5 1999	138.3131	2451654.50000	20 4 2000	118.9773
2451308.50000	10 5 1999	137.3144	2451664.50000	30 4 2000	117.9330
2451318.50000	20 5 1999	136.3809	2451665.50000	1 5 2000	117.8380
2451328.50000	30 5 1999	135.2342	2451674.50000	10 5 2000	116.9803
2451330.50000	1 6 1999	135.0375	2451684.50000	20 5 2000	116.0409
2451339.50000	10 6 1999	134.3822	2451694.50000	30 5 2000	115.4669
2451349.50000	20 6 1999	133.7756	2451696.50000	1 6 2000	115.3741
2451359.50000	30 6 1999	133.2674	2451705.50000	10 6 2000	114.9641
2451360.50000	1 7 1999	133.2310	2451715.50000	20 6 2000	114.6682
2451369.50000	10 7 1999	133.0647	2451725.50000	30 6 2000	114.6191
2451379.50000	20 7 1999	132.9621	2451726.50000	1 7 2000	114.6160
2451389.50000	30 7 1999	132.9356	2451735.50000	10 7 2000	114.6072
2451391.50000	1 8 1999	132.9474	2451745.50000	20 7 2000	114.6257
2451400.50000	10 8 1999	132.9823	2451755.50000	30 7 2000	114.6357
2451410.50000	20 8 1999	133.0016	2451757.50000	1 8 2000	114.6462
2451420.50000	30 8 1999	132.9369	2451766.50000	10 8 2000	114.6044
2451422.50000	1 9 1999	132.9089	2451776.50000	20 8 2000	114.3504
2451431.50000	10 9 1999	132.6744	2451786.50000	30 8 2000	113.9772
2451441.50000	20 9 1999	132.2319	2451788.50000	1 9 2000	113.8886
2451451.50000	30 9 1999	131.6700	2451797.50000	10 9 2000	113.3492
2451452.50000	1 10 1999	131.5995	2451807.50000	20 9 2000	112.4878
2451461.50000	10 10 1999	130.7454	2451817.50000	30 9 2000	111.5244
2451471.50000	20 10 1999	129.7231	2451818.50000	1 10 2000	111.4228
2451481.50000	30 10 1999	128.7260	2451827.50000	10 10 2000	110.4403
2451483.50000	1 11 1999	128.4871	2451837.50000	20 10 2000	109.3112
2451492.50000	10 11 1999	127.2779	2451847.50000	30 10 2000	108.2029
2451502.50000	20 11 1999	126.2774	2451849.50000	1 11 2000	108.0033
2451512.50000	30 11 1999	125.3700	2451858.50000	10 11 2000	107.2085
2451513.50000	1 12 1999	125.2697	2451868.50000	20 11 2000	106.4483
2451522.50000	10 12 1999	124.5278	2451878.50000	30 11 2000	105.8984
2451532.50000	20 12 1999	124.1044	2451879.50000	1 12 2000	105.8674
2451542.50000	30 12 1999	123.8144	2451888.50000	10 12 2000	105.6391
			2451898.50000	20 12 2000	105.4989
			2451908.50000	30 12 2000	105.4745

Jour julien	dates			longitude (°)	Jour julien	dates			longitude (°)
2451910.50000	1	1	2001	105.4826	2452275.50000	1	1	2002	87.1925
2451919.50000	10	1	2001	105.5214	2452284.50000	10	1	2002	87.1460
2451929.50000	20	1	2001	105.5761	2452294.50000	20	1	2002	86.8476
2451939.50000	30	1	2001	105.4090	2452304.50000	30	1	2002	86.4771
2451941.50000	1	2	2001	105.3603	2452306.50000	1	2	2002	86.3879
2451950.50000	10	2	2001	105.1507	2452315.50000	10	2	2002	85.7355
2451960.50000	20	2	2001	104.6956	2452325.50000	20	2	2002	84.7187
2451969.50000	1	3	2001	103.9374	2452334.50000	1	3	2002	83.9216
2451978.50000	10	3	2001	103.2093	2452343.50000	10	3	2002	82.8466
2451988.50000	20	3	2001	102.2117	2452353.50000	20	3	2002	81.5627
2451998.50000	30	3	2001	100.9897	2452363.50000	30	3	2002	80.6370
2452000.50000	1	4	2001	100.7625	2452365.50000	1	4	2002	80.4545
2452009.50000	10	4	2001	99.8355	2452374.50000	10	4	2002	79.5193
2452019.50000	20	4	2001	98.7911	2452384.50000	20	4	2002	78.7781
2452029.50000	30	4	2001	97.8957	2452394.50000	30	4	2002	78.3270
2452030.50000	1	5	2001	97.8197	2452395.50000	1	5	2002	78.2833
2452039.50000	10	5	2001	97.2252	2452404.50000	10	5	2002	77.9716
2452049.50000	20	5	2001	96.7699	2452414.50000	20	5	2002	77.8208
2452059.50000	30	5	2001	96.4679	2452424.50000	30	5	2002	77.8021
2452061.50000	1	6	2001	96.4255	2452426.50000	1	6	2002	77.8112
2452070.50000	10	6	2001	96.3254	2452435.50000	10	6	2002	77.8395
2452080.50000	20	6	2001	96.3333	2452445.50000	20	6	2002	77.8542
2452090.50000	30	6	2001	96.3661	2452455.50000	30	6	2002	77.8146
2452091.50000	1	7	2001	96.3677	2452456.50000	1	7	2002	77.8050
2452100.50000	10	7	2001	96.3693	2452465.50000	10	7	2002	77.6619
2452110.50000	20	7	2001	96.3160	2452475.50000	20	7	2002	77.3486
2452120.50000	30	7	2001	96.1882	2452485.50000	30	7	2002	76.7698
2452122.50000	1	8	2001	96.1317	2452487.50000	1	8	2002	76.6402
2452131.50000	10	8	2001	95.6994	2452496.50000	10	8	2002	76.0399
2452141.50000	20	8	2001	95.1992	2452506.50000	20	8	2002	75.1004
2452151.50000	30	8	2001	94.4555	2452516.50000	30	8	2002	73.9746
2452153.50000	1	9	2001	94.2346	2452518.50000	1	9	2002	73.7699
2452162.50000	10	9	2001	93.2790	2452527.50000	10	9	2002	72.9132
2452172.50000	20	9	2001	92.3424	2452537.50000	20	9	2002	71.7009
2452182.50000	30	9	2001	91.1349	2452547.50000	30	9	2002	70.7239
2452183.50000	1	10	2001	91.0093	2452548.50000	1	10	2002	70.6520
2452192.50000	10	10	2001	90.0086	2452557.50000	10	10	2002	70.0187
2452202.50000	20	10	2001	89.1427	2452567.50000	20	10	2002	69.2772
2452212.50000	30	10	2001	88.2761	2452577.50000	30	10	2002	68.9076
2452214.50000	1	11	2001	88.1311	2452579.50000	1	11	2002	68.8646
2452223.50000	10	11	2001	87.6528	2452588.50000	10	11	2002	68.7033
2452233.50000	20	11	2001	87.3224	2452598.50000	20	11	2002	68.6092
2452243.50000	30	11	2001	87.1430	2452608.50000	30	11	2002	68.6540
2452244.50000	1	12	2001	87.1323	2452609.50000	1	12	2002	68.6580
2452253.50000	10	12	2001	87.1211	2452618.50000	10	12	2002	68.7085
2452263.50000	20	12	2001	87.1556	2452628.50000	20	12	2002	68.6742
2452273.50000	30	12	2001	87.1783	2452638.50000	30	12	2002	68.4975

Jour julien	dates			longitude (°)	Jour julien	dates			longitude (°)
2452640.50000	1	1	2003	68.4407	2453005.50000	1	1	2004	49.3896
2452649.50000	10	1	2003	68.0920	2453014.50000	10	1	2004	48.5783
2452659.50000	20	1	2003	67.5115	2453024.50000	20	1	2004	47.6090
2452669.50000	30	1	2003	66.6644	2453034.50000	30	1	2004	46.5631
2452671.50000	1	2	2003	66.4538	2453036.50000	1	2	2004	46.3001
2452680.50000	10	2	2003	65.5022	2453045.50000	10	2	2004	45.1874
2452690.50000	20	2	2003	64.4556	2453055.50000	20	2	2004	44.0885
2452699.50000	1	3	2003	63.3251	2453065.50000	1	3	2004	43.1170
2452708.50000	10	3	2003	62.2904	2453074.50000	10	3	2004	42.3859
2452718.50000	20	3	2003	61.4327	2453084.50000	20	3	2004	41.7771
2452728.50000	30	3	2003	60.5576	2453094.50000	30	3	2004	41.4188
2452730.50000	1	4	2003	60.4089	2453096.50000	1	4	2004	41.3699
2452739.50000	10	4	2003	59.9501	2453105.50000	10	4	2004	41.2172
2452749.50000	20	4	2003	59.6452	2453115.50000	20	4	2004	41.1528
2452759.50000	30	4	2003	59.4322	2453125.50000	30	4	2004	41.1848
2452760.50000	1	5	2003	59.4190	2453126.50000	1	5	2004	41.1881
2452769.50000	10	5	2003	59.3974	2453135.50000	10	5	2004	41.2469
2452779.50000	20	5	2003	59.4444	2453145.50000	20	5	2004	41.2038
2452789.50000	30	5	2003	59.4787	2453155.50000	30	5	2004	41.0171
2452791.50000	1	6	2003	59.4717	2453157.50000	1	6	2004	40.9721
2452800.50000	10	6	2003	59.4041	2453166.50000	10	6	2004	40.7835
2452810.50000	20	6	2003	59.3082	2453176.50000	20	6	2004	40.1812
2452820.50000	30	6	2003	58.9834	2453186.50000	30	6	2004	39.4819
2452821.50000	1	7	2003	58.9353	2453187.50000	1	7	2004	39.4214
2452830.50000	10	7	2003	58.4502	2453196.50000	10	7	2004	38.7395
2452840.50000	20	7	2003	57.8152	2453206.50000	20	7	2004	37.5723
2452850.50000	30	7	2003	56.9326	2453216.50000	30	7	2004	36.5583
2452852.50000	1	8	2003	56.7381	2453218.50000	1	8	2004	36.3684
2452861.50000	10	8	2003	55.8131	2453227.50000	10	8	2004	35.4100
2452871.50000	20	8	2003	54.7544	2453237.50000	20	8	2004	34.3447
2452881.50000	30	8	2003	53.7108	2453247.50000	30	8	2004	33.5638
2452883.50000	1	9	2003	53.5082	2453249.50000	1	9	2004	33.4256
2452892.50000	10	9	2003	52.5778	2453258.50000	10	9	2004	32.8473
2452902.50000	20	9	2003	51.7868	2453268.50000	20	9	2004	32.3931
2452912.50000	30	9	2003	51.1847	2453278.50000	30	9	2004	32.1406
2452913.50000	1	10	2003	51.1226	2453279.50000	1	10	2004	32.1274
2452922.50000	10	10	2003	50.6818	2453288.50000	10	10	2004	32.0723
2452932.50000	20	10	2003	50.4894	2453298.50000	20	10	2004	32.0712
2452942.50000	30	10	2003	50.4095	2453308.50000	30	10	2004	32.0981
2452944.50000	1	11	2003	50.4005	2453310.50000	1	11	2004	32.1069
2452953.50000	10	11	2003	50.3895	2453319.50000	10	11	2004	32.0999
2452963.50000	20	11	2003	50.4363	2453329.50000	20	11	2004	32.0282
2452973.50000	30	11	2003	50.4680	2453339.50000	30	11	2004	31.6710
2452974.50000	1	12	2003	50.4636	2453340.50000	1	12	2004	31.6233
2452983.50000	10	12	2003	50.3044	2453349.50000	10	12	2004	31.1697
2452993.50000	20	12	2003	49.9491	2453359.50000	20	12	2004	30.5443
2453003.50000	30	12	2003	49.5148	2453369.50000	30	12	2004	29.4122

Jour julien	dates			longitude (°)	Jour julien	dates			longitude (°)
2453371.50000	1	1	2005	29.1876	2453736.50000	1	1	2006	8.8113
2453380.50000	10	1	2005	28.2852	2453745.50000	10	1	2006	7.7023
2453390.50000	20	1	2005	27.0993	2453755.50000	20	1	2006	6.5443
2453400.50000	30	1	2005	25.8010	2453765.50000	30	1	2006	5.7798
2453402.50000	1	2	2005	25.5820	2453767.50000	1	2	2006	5.6363
2453411.50000	10	2	2005	24.8075	2453776.50000	10	2	2006	4.9536
2453421.50000	20	2	2005	23.9089	2453786.50000	20	2	2006	4.5267
2453430.50000	1	3	2005	23.3144	2453795.50000	1	3	2006	4.3626
2453439.50000	10	3	2005	22.9998	2453804.50000	10	3	2006	4.2487
2453449.50000	20	3	2005	22.7609	2453814.50000	20	3	2006	4.2434
2453459.50000	30	3	2005	22.6734	2453824.50000	30	3	2006	4.2910
2453461.50000	1	4	2005	22.6760	2453826.50000	1	4	2006	4.3071
2453470.50000	10	4	2005	22.6971	2453835.50000	10	4	2006	4.3117
2453480.50000	20	4	2005	22.7351	2453845.50000	20	4	2006	4.1820
2453490.50000	30	4	2005	22.7397	2453855.50000	30	4	2006	3.9373
2453491.50000	1	5	2005	22.7341	2453856.50000	1	5	2006	3.9052
2453500.50000	10	5	2005	22.5945	2453865.50000	10	5	2006	3.5131
2453510.50000	20	5	2005	22.2945	2453875.50000	20	5	2006	2.8545
2453520.50000	30	5	2005	21.9083	2453885.50000	30	5	2006	2.0213
2453522.50000	1	6	2005	21.7974	2453887.50000	1	6	2006	1.8407
2453531.50000	10	6	2005	21.0631	2453896.50000	10	6	2006	0.9771
2453541.50000	20	6	2005	20.2468	2453906.50000	20	6	2006	359.9264
2453551.50000	30	6	2005	19.3473	2453916.50000	30	6	2006	358.8108
2453552.50000	1	7	2005	19.2114	2453917.50000	1	7	2006	358.7077
2453561.50000	10	7	2005	18.0925	2453926.50000	10	7	2006	357.8734
2453571.50000	20	7	2005	17.1285	2453936.50000	20	7	2006	356.9720
2453581.50000	30	7	2005	16.1162	2453946.50000	30	7	2006	356.2271
2453583.50000	1	8	2005	15.8938	2453948.50000	1	8	2006	356.1315
2453592.50000	10	8	2005	15.0577	2453957.50000	10	8	2006	355.7508
2453602.50000	20	8	2005	14.4971	2453967.50000	20	8	2006	355.4046
2453612.50000	30	8	2005	13.9702	2453977.50000	30	8	2006	355.2590
2453614.50000	1	9	2005	13.8846	2453979.50000	1	9	2006	355.2520
2453623.50000	10	9	2005	13.6456	2453988.50000	10	9	2006	355.2520
2453633.50000	20	9	2005	13.5514	2453998.50000	20	9	2006	355.2898
2453643.50000	30	9	2005	13.5468	2454008.50000	30	9	2006	355.2803
2453644.50000	1	10	2005	13.5472	2454009.50000	1	10	2006	355.2767
2453653.50000	10	10	2005	13.5702	2454018.50000	10	10	2006	355.2654
2453663.50000	20	10	2005	13.5946	2454028.50000	20	10	2006	355.0968
2453673.50000	30	10	2005	13.5377	2454038.50000	30	10	2006	354.6290
2453675.50000	1	11	2005	13.5061	2454040.50000	1	11	2006	354.5233
2453684.50000	10	11	2005	13.2689	2454049.50000	10	11	2006	354.0419
2453694.50000	20	11	2005	12.8013	2454059.50000	20	11	2006	353.1606
2453704.50000	30	11	2005	12.1505	2454069.50000	30	11	2006	352.0958
2453705.50000	1	12	2005	12.0760	2454070.50000	1	12	2006	351.9910
2453714.50000	10	12	2005	11.2937	2454079.50000	10	12	2006	351.0150
2453724.50000	20	12	2005	10.1120	2454089.50000	20	12	2006	349.8096
2453734.50000	30	12	2005	9.0273	2454099.50000	30	12	2006	348.6851

Jour julien	dates			longitude (°)	Jour julien	dates			longitude (°)
2454101.50000	1	1	2007	348.4770	2454466.50000	1	1	2008	328.6028
2454110.50000	10	1	2007	347.6526	2454475.50000	10	1	2008	328.0569
2454120.50000	20	1	2007	346.9483	2454485.50000	20	1	2008	327.7428
2454130.50000	30	1	2007	346.4063	2454495.50000	30	1	2008	327.6126
2454132.50000	1	2	2007	346.3246	2454497.50000	1	2	2008	327.6011
2454141.50000	10	2	2007	346.1241	2454506.50000	10	2	2008	327.5859
2454151.50000	20	2	2007	346.0382	2454516.50000	20	2	2008	327.6106
2454160.50000	1	3	2007	346.0182	2454526.50000	1	3	2008	327.6415
2454169.50000	10	3	2007	346.0531	2454535.50000	10	3	2008	327.5951
2454179.50000	20	3	2007	346.0823	2454545.50000	20	3	2008	327.3788
2454189.50000	30	3	2007	346.0359	2454555.50000	30	3	2008	326.9227
2454191.50000	1	4	2007	345.9963	2454557.50000	1	4	2008	326.8185
2454200.50000	10	4	2007	345.7067	2454566.50000	10	4	2008	326.3326
2454210.50000	20	4	2007	345.3491	2454576.50000	20	4	2008	325.4238
2454220.50000	30	4	2007	344.7149	2454586.50000	30	4	2008	324.3912
2454221.50000	1	5	2007	344.6232	2454587.50000	1	5	2008	324.3084
2454230.50000	10	5	2007	343.8039	2454596.50000	10	5	2008	323.4722
2454240.50000	20	5	2007	342.9480	2454606.50000	20	5	2008	322.2160
2454250.50000	30	5	2007	341.8255	2454616.50000	30	5	2008	321.2061
2454252.50000	1	6	2007	341.5873	2454618.50000	1	6	2008	321.0453
2454261.50000	10	6	2007	340.6159	2454627.50000	10	6	2008	320.2805
2454271.50000	20	6	2007	339.6787	2454637.50000	20	6	2008	319.4376
2454281.50000	30	6	2007	338.7261	2454647.50000	30	6	2008	318.9763
2454282.50000	1	7	2007	338.6424	2454648.50000	1	7	2008	318.9405
2454291.50000	10	7	2007	338.0146	2454657.50000	10	7	2008	318.6351
2454301.50000	20	7	2007	337.5030	2454667.50000	20	7	2008	318.4159
2454311.50000	30	7	2007	337.1556	2454677.50000	30	7	2008	318.3985
2454313.50000	1	8	2007	337.1052	2454679.50000	1	8	2008	318.3988
2454322.50000	10	8	2007	336.9710	2454688.50000	10	8	2008	318.4303
2454332.50000	20	8	2007	336.9379	2454698.50000	20	8	2008	318.4593
2454342.50000	30	8	2007	336.9680	2454708.50000	30	8	2008	318.4289
2454344.50000	1	9	2007	336.9846	2454710.50000	1	9	2008	318.4125
2454353.50000	10	9	2007	337.0092	2454719.50000	10	9	2008	318.2626
2454363.50000	20	9	2007	336.9323	2454729.50000	20	9	2008	317.9703
2454373.50000	30	9	2007	336.8253	2454739.50000	30	9	2008	317.3951
2454374.50000	1	10	2007	336.8077	2454740.50000	1	10	2008	317.3222
2454383.50000	10	10	2007	336.4647	2454749.50000	10	10	2008	316.6276
2454393.50000	20	10	2007	335.8098	2454759.50000	20	10	2008	315.7951
2454403.50000	30	10	2007	335.1782	2454769.50000	30	10	2008	314.5711
2454405.50000	1	11	2007	335.0185	2454771.50000	1	11	2008	314.3255
2454414.50000	10	11	2007	333.9653	2454780.50000	10	11	2008	313.3516
2454424.50000	20	11	2007	332.8169	2454790.50000	20	11	2008	312.2817
2454434.50000	30	11	2007	331.7974	2454800.50000	30	11	2008	311.1124
2454435.50000	1	12	2007	331.6849	2454801.50000	1	12	2008	311.0156
2454444.50000	10	12	2007	330.4857	2454810.50000	10	12	2008	310.3776
2454454.50000	20	12	2007	329.5180	2454820.50000	20	12	2008	309.7595
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Jour julien	dates			longitude (°)	Jour julien	dates			longitude (°)
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2454841.50000	10	1	2009	309.1601	2455206.50000	10	1	2010	290.9597
2454851.50000	20	1	2009	309.1374	2455216.50000	20	1	2010	290.9649
2454861.50000	30	1	2009	309.1519	2455226.50000	30	1	2010	290.9317
2454863.50000	1	2	2009	309.1571	2455228.50000	1	2	2010	290.9377
2454872.50000	10	2	2009	309.1733	2455237.50000	10	2	2010	290.8155
2454882.50000	20	2	2009	309.1513	2455247.50000	20	2	2010	290.3303
2454891.50000	1	3	2009	308.9375	2455256.50000	1	3	2010	289.8632
2454900.50000	10	3	2009	308.5891	2455265.50000	10	3	2010	289.2537
2454910.50000	20	3	2009	308.0425	2455275.50000	20	3	2010	288.1540
2454920.50000	30	3	2009	307.2598	2455285.50000	30	3	2010	287.1453
2454922.50000	1	4	2009	307.0827	2455287.50000	1	4	2010	286.9438
2454931.50000	10	4	2009	306.1678	2455296.50000	10	4	2010	285.9153
2454941.50000	20	4	2009	305.1122	2455306.50000	20	4	2010	284.7749
2454951.50000	30	4	2009	304.0622	2455316.50000	30	4	2010	283.8561
2454952.50000	1	5	2009	303.9554	2455317.50000	1	5	2010	283.7719
2454961.50000	10	5	2009	302.9149	2455326.50000	10	5	2010	283.0610
2454971.50000	20	5	2009	302.0342	2455336.50000	20	5	2010	282.4493
2454981.50000	30	5	2009	301.2961	2455346.50000	30	5	2010	282.0418
2454983.50000	1	6	2009	301.1419	2455348.50000	1	6	2010	281.9932
2454992.50000	10	6	2009	300.5924	2455357.50000	10	6	2010	281.8448
2455002.50000	20	6	2009	300.3134	2455367.50000	20	6	2010	281.7627
2455012.50000	30	6	2009	300.1099	2455377.50000	30	6	2010	281.7684
2455013.50000	1	7	2009	300.0940	2455378.50000	1	7	2010	281.7746
2455022.50000	10	7	2009	300.0217	2455387.50000	10	7	2010	281.8116
2455032.50000	20	7	2009	300.0624	2455397.50000	20	7	2010	281.8327
2455042.50000	30	7	2009	300.1152	2455407.50000	30	7	2010	281.6927
2455044.50000	1	8	2009	300.1171	2455409.50000	1	8	2010	281.6484
2455053.50000	10	8	2009	300.0753	2455418.50000	10	8	2010	281.4317
2455063.50000	20	8	2009	299.9504	2455428.50000	20	8	2010	281.0505
2455073.50000	30	8	2009	299.7197	2455438.50000	30	8	2010	280.2633
2455075.50000	1	9	2009	299.6420	2455440.50000	1	9	2010	280.1020
2455084.50000	10	9	2009	299.1300	2455449.50000	10	9	2010	279.4274
2455094.50000	20	9	2009	298.4568	2455459.50000	20	9	2010	278.3748
2455104.50000	30	9	2009	297.5866	2455469.50000	30	9	2010	277.1648
2455105.50000	1	10	2009	297.4808	2455470.50000	1	10	2010	277.0538
2455114.50000	10	10	2009	296.5128	2455479.50000	10	10	2010	276.1792
2455124.50000	20	10	2009	295.3869	2455489.50000	20	10	2010	275.0480
2455134.50000	30	10	2009	294.2814	2455499.50000	30	10	2010	274.1175
2455136.50000	1	11	2009	294.0674	2455501.50000	1	11	2010	273.9784
2455145.50000	10	11	2009	293.1441	2455510.50000	10	11	2010	273.4162
2455155.50000	20	11	2009	292.2532	2455520.50000	20	11	2010	272.9013
2455165.50000	30	11	2009	291.6541	2455530.50000	30	11	2010	272.6421
2455166.50000	1	12	2009	291.6038	2455531.50000	1	12	2010	272.6268
2455175.50000	10	12	2009	291.2097	2455540.50000	10	12	2010	272.5513
2455185.50000	20	12	2009	290.9602	2455550.50000	20	12	2010	272.5534
2455195.50000	30	12	2009	290.9183	2455560.50000	30	12	2010	272.6131

Jour julien	dates			longitude (°)	Jour julien	dates			longitude (°)
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2455571.50000	10	1	2011	272.5814	2455936.50000	10	1	2012	253.7818
2455581.50000	20	1	2011	272.4676	2455946.50000	20	1	2012	253.3031
2455591.50000	30	1	2011	272.2097	2455956.50000	30	1	2012	252.5718
2455593.50000	1	2	2011	272.0958	2455958.50000	1	2	2012	252.4087
2455602.50000	10	2	2011	271.4856	2455967.50000	10	2	2012	251.6125
2455612.50000	20	2	2011	270.8228	2455977.50000	20	2	2012	250.4789
2455621.50000	1	3	2011	269.9475	2455987.50000	1	3	2012	249.2886
2455630.50000	10	3	2011	268.8190	2455996.50000	10	3	2012	248.3684
2455640.50000	20	3	2011	267.8116	2456006.50000	20	3	2012	247.2392
2455650.50000	30	3	2011	266.6355	2456016.50000	30	3	2012	246.3476
2455652.50000	1	4	2011	266.3814	2456018.50000	1	4	2012	246.2225
2455661.50000	10	4	2011	265.4184	2456027.50000	10	4	2012	245.7038
2455671.50000	20	4	2011	264.7057	2456037.50000	20	4	2012	245.1797
2455681.50000	30	4	2011	263.9967	2456047.50000	30	4	2012	244.9562
2455682.50000	1	5	2011	263.9373	2456048.50000	1	5	2012	244.9447
2455691.50000	10	5	2011	263.5588	2456057.50000	10	5	2012	244.8782
2455701.50000	20	5	2011	263.3458	2456067.50000	20	5	2012	244.8614
2455711.50000	30	5	2011	263.2465	2456077.50000	30	5	2012	244.8838
2455713.50000	1	6	2011	263.2356	2456079.50000	1	6	2012	244.8871
2455722.50000	10	6	2011	263.2400	2456088.50000	10	6	2012	244.9314
2455732.50000	20	6	2011	263.2868	2456098.50000	20	6	2012	244.8359
2455742.50000	30	6	2011	263.2964	2456108.50000	30	6	2012	244.5672
2455743.50000	1	7	2011	263.2943	2456109.50000	1	7	2012	244.5349
2455752.50000	10	7	2011	263.2104	2456118.50000	10	7	2012	244.2325
2455762.50000	20	7	2011	262.9673	2456128.50000	20	7	2012	243.6126
2455772.50000	30	7	2011	262.5874	2456138.50000	30	7	2012	242.8158
2455774.50000	1	8	2011	262.4964	2456140.50000	1	8	2012	242.6446
2455783.50000	10	8	2011	261.9409	2456149.50000	10	8	2012	241.8145
2455793.50000	20	8	2011	261.0375	2456159.50000	20	8	2012	240.7504
2455803.50000	30	8	2011	260.1645	2456169.50000	30	8	2012	239.6377
2455805.50000	1	9	2011	259.9759	2456171.50000	1	9	2012	239.4203
2455814.50000	10	9	2011	258.9065	2456180.50000	10	9	2012	238.5220
2455824.50000	20	9	2011	257.7364	2456190.50000	20	9	2012	237.6509
2455834.50000	30	9	2011	256.8392	2456200.50000	30	9	2012	236.8433
2455835.50000	1	10	2011	256.7468	2456201.50000	1	10	2012	236.7774
2455844.50000	10	10	2011	255.7867	2456210.50000	10	10	2012	236.3608
2455854.50000	20	10	2011	255.0597	2456220.50000	20	10	2012	236.0398
2455864.50000	30	10	2011	254.6050	2456230.50000	30	10	2012	235.8314
2455866.50000	1	11	2011	254.5053	2456232.50000	1	11	2012	235.8176
2455875.50000	10	11	2011	254.1747	2456241.50000	10	11	2012	235.8441
2455885.50000	20	11	2011	254.0781	2456251.50000	20	11	2012	235.8982
2455895.50000	30	11	2011	254.0834	2456261.50000	30	11	2012	235.8978
2455896.50000	1	12	2011	254.0865	2456262.50000	1	12	2012	235.8929
2455905.50000	10	12	2011	254.1055	2456271.50000	10	12	2012	235.8049
2455915.50000	20	12	2011	254.1207	2456281.50000	20	12	2012	235.6580
2455925.50000	30	12	2011	254.0551	2456291.50000	30	12	2012	235.1702

Jour julien	dates			longitude (°)	Jour julien	dates			longitude (°)
2456293.50000	1	1	2013	235.0400	2456658.50000	1	1	2014	215.3454
2456302.50000	10	1	2013	234.4281	2456667.50000	10	1	2014	214.4747
2456312.50000	20	1	2013	233.6239	2456677.50000	20	1	2014	213.1126
2456322.50000	30	1	2013	232.4534	2456687.50000	30	1	2014	212.0445
2456324.50000	1	2	2013	232.2206	2456689.50000	1	2	2014	211.8430
2456333.50000	10	2	2013	231.2145	2456698.50000	10	2	2014	210.7943
2456343.50000	20	2	2013	230.0793	2456708.50000	20	2	2014	209.7607
2456352.50000	1	3	2013	229.0934	2456717.50000	1	3	2014	209.1959
2456361.50000	10	3	2013	228.2740	2456726.50000	10	3	2014	208.6853
2456371.50000	20	3	2013	227.5710	2456736.50000	20	3	2014	208.3064
2456381.50000	30	3	2013	227.0709	2456746.50000	30	3	2014	208.1842
2456383.50000	1	4	2013	226.9946	2456748.50000	1	4	2014	208.1695
2456392.50000	10	4	2013	226.7365	2456757.50000	10	4	2014	208.1568
2456402.50000	20	4	2013	226.6411	2456767.50000	20	4	2014	208.1929
2456412.50000	30	4	2013	226.6418	2456777.50000	30	4	2014	208.2116
2456413.50000	1	5	2013	226.6460	2456778.50000	1	5	2014	208.2104
2456422.50000	10	5	2013	226.6685	2456787.50000	10	5	2014	208.1522
2456432.50000	20	5	2013	226.6618	2456797.50000	20	5	2014	208.0124
2456442.50000	30	5	2013	226.6530	2456807.50000	30	5	2014	207.6194
2456444.50000	1	6	2013	226.6351	2456809.50000	1	6	2014	207.5113
2456453.50000	10	6	2013	226.3855	2456818.50000	10	6	2014	206.9971
2456463.50000	20	6	2013	225.9472	2456828.50000	20	6	2014	206.3504
2456473.50000	30	6	2013	225.5019	2456838.50000	30	6	2014	205.2848
2456474.50000	1	7	2013	225.4391	2456839.50000	1	7	2014	205.1779
2456483.50000	10	7	2013	224.6058	2456848.50000	10	7	2014	204.3154
2456493.50000	20	7	2013	223.6904	2456858.50000	20	7	2014	203.3051
2456503.50000	30	7	2013	222.7734	2456868.50000	30	7	2014	202.0854
2456505.50000	1	8	2013	222.5131	2456870.50000	1	8	2014	201.8779
2456514.50000	10	8	2013	221.4156	2456879.50000	10	8	2014	201.1597
2456524.50000	20	8	2013	220.4443	2456889.50000	20	8	2014	200.3280
2456534.50000	30	8	2013	219.5139	2456899.50000	30	8	2014	199.6651
2456536.50000	1	9	2013	219.3287	2456901.50000	1	9	2014	199.5925
2456545.50000	10	9	2013	218.6225	2456910.50000	10	9	2014	199.3125
2456555.50000	20	9	2013	218.0974	2456920.50000	20	9	2014	199.0830
2456565.50000	30	9	2013	217.7502	2456930.50000	30	9	2014	199.0063
2456566.50000	1	10	2013	217.7238	2456931.50000	1	10	2014	199.0062
2456575.50000	10	10	2013	217.5569	2456940.50000	10	10	2014	199.0315
2456585.50000	20	10	2013	217.4927	2456950.50000	20	10	2014	199.0919
2456595.50000	30	10	2013	217.5496	2456960.50000	30	10	2014	199.0621
2456597.50000	1	11	2013	217.5571	2456962.50000	1	11	2014	199.0426
2456606.50000	10	11	2013	217.5953	2456971.50000	10	11	2014	198.9118
2456616.50000	20	11	2013	217.5269	2456981.50000	20	11	2014	198.5988
2456626.50000	30	11	2013	217.3260	2456991.50000	30	11	2014	198.0641
2456627.50000	1	12	2013	217.3030	2456992.50000	1	12	2014	197.9969
2456636.50000	10	12	2013	217.0329	2457001.50000	10	12	2014	197.2340
2456646.50000	20	12	2013	216.3128	2457011.50000	20	12	2014	196.2985
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2457042.50000	20	1	2015	192.7624	2457407.50000	20	1	2016	172.8215
2457052.50000	30	1	2015	191.7041	2457417.50000	30	1	2016	172.1952
2457054.50000	1	2	2015	191.4975	2457419.50000	1	2	2016	172.1107
2457063.50000	10	2	2015	190.7744	2457428.50000	10	2	2016	171.7952
2457073.50000	20	2	2015	190.3174	2457438.50000	20	2	2016	171.5678
2457082.50000	1	3	2015	189.9432	2457448.50000	1	3	2016	171.5392
2457091.50000	10	3	2015	189.7631	2457457.50000	10	3	2016	171.5736
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2457111.50000	30	3	2015	189.7798	2457477.50000	30	3	2016	171.5582
2457113.50000	1	4	2015	189.7833	2457479.50000	1	4	2016	171.5367
2457122.50000	10	4	2015	189.7982	2457488.50000	10	4	2016	171.4342
2457132.50000	20	4	2015	189.7697	2457498.50000	20	4	2016	171.1168
2457142.50000	30	4	2015	189.6336	2457508.50000	30	4	2016	170.4992
2457143.50000	1	5	2015	189.6086	2457509.50000	1	5	2016	170.4345
2457152.50000	10	5	2015	189.2761	2457518.50000	10	5	2016	169.8779
2457162.50000	20	5	2015	188.7635	2457528.50000	20	5	2016	168.9347
2457172.50000	30	5	2015	188.0700	2457538.50000	30	5	2016	167.8511
2457174.50000	1	6	2015	187.9031	2457540.50000	1	6	2016	167.6650
2457183.50000	10	6	2015	187.0929	2457549.50000	10	6	2016	166.7910
2457193.50000	20	6	2015	186.0452	2457559.50000	20	6	2016	165.6482
2457203.50000	30	6	2015	185.0155	2457569.50000	30	6	2016	164.7000
2457204.50000	1	7	2015	184.9137	2457570.50000	1	7	2016	164.6185
2457213.50000	10	7	2015	183.9704	2457579.50000	10	7	2016	163.9292
2457223.50000	20	7	2015	182.9583	2457589.50000	20	7	2016	163.2687
2457233.50000	30	7	2015	182.2185	2457599.50000	30	7	2016	162.8402
2457235.50000	1	8	2015	182.0859	2457601.50000	1	8	2016	162.7765
2457244.50000	10	8	2015	181.5003	2457610.50000	10	8	2016	162.5805
2457254.50000	20	8	2015	181.0682	2457620.50000	20	8	2016	162.4816
2457264.50000	30	8	2015	180.8735	2457630.50000	30	8	2016	162.4856
2457266.50000	1	9	2015	180.8448	2457632.50000	1	9	2016	162.4880
2457275.50000	10	9	2015	180.7586	2457641.50000	10	9	2016	162.5184
2457285.50000	20	9	2015	180.7606	2457651.50000	20	9	2016	162.5506
2457295.50000	30	9	2015	180.8150	2457661.50000	30	9	2016	162.4554
2457296.50000	1	10	2015	180.8254	2457662.50000	1	10	2016	162.4267
2457305.50000	10	10	2015	180.8424	2457671.50000	10	10	2016	162.1313
2457315.50000	20	10	2015	180.6753	2457681.50000	20	10	2016	161.7854
2457325.50000	30	10	2015	180.4611	2457691.50000	30	10	2016	161.0413
2457327.50000	1	11	2015	180.4023	2457693.50000	1	11	2016	160.8427
2457336.50000	10	11	2015	179.9350	2457702.50000	10	11	2016	159.9780
2457346.50000	20	11	2015	179.1393	2457712.50000	20	11	2016	159.0844
2457356.50000	30	11	2015	178.2958	2457722.50000	30	11	2016	157.7300
2457357.50000	1	12	2015	178.2006	2457723.50000	1	12	2016	157.5991
2457366.50000	10	12	2015	177.1693	2457732.50000	10	12	2016	156.5899
2457376.50000	20	12	2015	175.9747	2457742.50000	20	12	2016	155.6049
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2457773.50000	20	1	2017	153.4405	2458138.50000	20	1	2018	134.6748
2457783.50000	30	1	2017	153.1787	2458148.50000	30	1	2018	134.6898
2457785.50000	1	2	2017	153.1583	2458150.50000	1	2	2018	134.6983
2457794.50000	10	2	2017	153.1057	2458159.50000	10	2	2018	134.7709
2457804.50000	20	2	2017	153.1562	2458169.50000	20	2	2018	134.7390
2457813.50000	1	3	2017	153.1915	2458178.50000	1	3	2018	134.6229
2457822.50000	10	3	2017	153.1739	2458187.50000	10	3	2018	134.4339
2457832.50000	20	3	2017	153.0390	2458197.50000	20	3	2018	133.9679
2457842.50000	30	3	2017	152.7932	2458207.50000	30	3	2018	133.2945
2457844.50000	1	4	2017	152.7245	2458209.50000	1	4	2018	133.1371
2457853.50000	10	4	2017	152.2306	2458218.50000	10	4	2018	132.3650
2457863.50000	20	4	2017	151.4555	2458228.50000	20	4	2018	131.3743
2457873.50000	30	4	2017	150.6906	2458238.50000	30	4	2018	130.2270
2457874.50000	1	5	2017	150.6023	2458239.50000	1	5	2018	130.1127
2457883.50000	10	5	2017	149.5582	2458248.50000	10	5	2018	129.1631
2457893.50000	20	5	2017	148.4357	2458258.50000	20	5	2018	128.2175
2457903.50000	30	5	2017	147.5083	2458268.50000	30	5	2018	127.2467
2457905.50000	1	6	2017	147.2941	2458270.50000	1	6	2018	127.0861
2457914.50000	10	6	2017	146.2569	2458279.50000	10	6	2018	126.5673
2457924.50000	20	6	2017	145.4830	2458289.50000	20	6	2018	126.0919
2457934.50000	30	6	2017	144.8637	2458299.50000	30	6	2018	125.7439
2457935.50000	1	7	2017	144.7981	2458300.50000	1	7	2018	125.7260
2457944.50000	10	7	2017	144.3279	2458309.50000	10	7	2018	125.6711
2457954.50000	20	7	2017	144.1062	2458319.50000	20	7	2018	125.6464
2457964.50000	30	7	2017	143.9894	2458329.50000	30	7	2018	125.6575
2457966.50000	1	8	2017	143.9748	2458331.50000	1	8	2018	125.6662
2457975.50000	10	8	2017	143.9563	2458340.50000	10	8	2018	125.6793
2457985.50000	20	8	2017	143.9984	2458350.50000	20	8	2018	125.6709
2457995.50000	30	8	2017	144.0259	2458360.50000	30	8	2018	125.4523
2457997.50000	1	9	2017	144.0202	2458362.50000	1	9	2018	125.3880
2458006.50000	10	9	2017	143.9578	2458371.50000	10	9	2018	125.0621
2458016.50000	20	9	2017	143.7257	2458381.50000	20	9	2018	124.5341
2458026.50000	30	9	2017	143.3001	2458391.50000	30	9	2018	123.6874
2458027.50000	1	10	2017	143.2490	2458392.50000	1	10	2018	123.5970
2458036.50000	10	10	2017	142.7434	2458401.50000	10	10	2018	122.7418
2458046.50000	20	10	2017	141.8361	2458411.50000	20	10	2018	121.6697
2458056.50000	30	10	2017	140.8073	2458421.50000	30	10	2018	120.5203
2458058.50000	1	11	2017	140.6225	2458423.50000	1	11	2018	120.2895
2458067.50000	10	11	2017	139.6946	2458432.50000	10	11	2018	119.2911
2458077.50000	20	11	2017	138.3560	2458442.50000	20	11	2018	118.3571
2458087.50000	30	11	2017	137.3352	2458452.50000	30	11	2018	117.5730
2458088.50000	1	12	2017	137.2480	2458453.50000	1	12	2018	117.5015
2458097.50000	10	12	2017	136.4267	2458462.50000	10	12	2018	116.9781
2458107.50000	20	12	2017	135.5677	2458472.50000	20	12	2018	116.6897
2458117.50000	30	12	2017	135.1313	2458482.50000	30	12	2018	116.5324

Jour julien	dates			longitude (°)	Jour julien	dates			longitude (°)
2458484.50000	1	1	2019	116.5142	2458849.50000	1	1	2020	98.1721
2458493.50000	10	1	2019	116.4938	2458858.50000	10	1	2020	98.1885
2458503.50000	20	1	2019	116.5319	2458868.50000	20	1	2020	98.1775
2458513.50000	30	1	2019	116.6000	2458878.50000	30	1	2020	97.9135
2458515.50000	1	2	2019	116.5936	2458880.50000	1	2	2020	97.8423
2458524.50000	10	2	2019	116.4391	2458889.50000	10	2	2020	97.5116
2458534.50000	20	2	2019	116.2075	2458899.50000	20	2	2020	96.9035
2458543.50000	1	3	2019	115.8828	2458909.50000	1	3	2020	95.8920
2458552.50000	10	3	2019	115.1752	2458918.50000	10	3	2020	95.0950
2458562.50000	20	3	2019	114.3709	2458928.50000	20	3	2020	93.9566
2458572.50000	30	3	2019	113.4552	2458938.50000	30	3	2020	92.6733
2458574.50000	1	4	2019	113.1966	2458940.50000	1	4	2020	92.4581
2458583.50000	10	4	2019	112.1057	2458949.50000	10	4	2020	91.6552
2458593.50000	20	4	2019	111.0626	2458959.50000	20	4	2020	90.6286
2458603.50000	30	4	2019	110.0197	2458969.50000	30	4	2020	89.8679
2458604.50000	1	5	2019	109.9162	2458970.50000	1	5	2020	89.8172
2458613.50000	10	5	2019	109.0860	2458979.50000	10	5	2020	89.4070
2458623.50000	20	5	2019	108.3876	2458989.50000	20	5	2020	89.0326
2458633.50000	30	5	2019	107.8900	2458999.50000	30	5	2020	88.8668
2458635.50000	1	6	2019	107.8105	2459001.50000	1	6	2020	88.8527
2458644.50000	10	6	2019	107.5304	2459010.50000	10	6	2020	88.8422
2458654.50000	20	6	2019	107.3718	2459020.50000	20	6	2020	88.8720
2458664.50000	30	6	2019	107.3707	2459030.50000	30	6	2020	88.8897
2458665.50000	1	7	2019	107.3715	2459031.50000	1	7	2020	88.8882
2458674.50000	10	7	2019	107.3982	2459040.50000	10	7	2020	88.8635
2458684.50000	20	7	2019	107.4103	2459050.50000	20	7	2020	88.7261
2458694.50000	30	7	2019	107.3697	2459060.50000	30	7	2020	88.4308
2458696.50000	1	8	2019	107.3649	2459062.50000	1	8	2020	88.3400
2458705.50000	10	8	2019	107.2546	2459071.50000	10	8	2020	87.8184
2458715.50000	20	8	2019	106.8407	2459081.50000	20	8	2020	87.1635
2458725.50000	30	8	2019	106.3518	2459091.50000	30	8	2020	86.2454
2458727.50000	1	9	2019	106.2502	2459093.50000	1	9	2020	86.0117
2458736.50000	10	9	2019	105.5858	2459102.50000	10	9	2020	85.0120
2458746.50000	20	9	2019	104.5094	2459112.50000	20	9	2020	84.0452
2458756.50000	30	9	2019	103.5653	2459122.50000	30	9	2020	82.8263
2458757.50000	1	10	2019	103.4670	2459123.50000	1	10	2020	82.7075
2458766.50000	10	10	2019	102.3859	2459132.50000	10	10	2020	81.8184
2458776.50000	20	10	2019	101.1942	2459142.50000	20	10	2020	81.0973
2458786.50000	30	10	2019	100.3080	2459152.50000	30	10	2020	80.3374
2458788.50000	1	11	2019	100.1378	2459154.50000	1	11	2020	80.2218
2458797.50000	10	11	2019	99.3347	2459163.50000	10	11	2020	79.9247
2458807.50000	20	11	2019	98.7323	2459173.50000	20	11	2020	79.7354
2458817.50000	30	11	2019	98.3760	2459183.50000	30	11	2020	79.6336
2458818.50000	1	12	2019	98.3496	2459184.50000	1	12	2020	79.6297
2458827.50000	10	12	2019	98.1733	2459193.50000	10	12	2020	79.6752
2458837.50000	20	12	2019	98.1332	2459203.50000	20	12	2020	79.7316
2458847.50000	30	12	2019	98.1627	2459213.50000	30	12	2020	79.7018

Jour julien	dates			longitude (°)
2459215.50000	1	1	2021	79.6818
2459224.50000	10	1	2021	79.5036
2459234.50000	20	1	2021	79.1388
2459244.50000	30	1	2021	78.5652
2459246.50000	1	2	2021	78.4237
2459255.50000	10	2	2021	77.6340
2459265.50000	20	2	2021	76.5912
2459274.50000	1	3	2021	75.6565
2459283.50000	10	3	2021	74.5650
2459293.50000	20	3	2021	73.4008
2459303.50000	30	3	2021	72.5374
2459305.50000	1	4	2021	72.3714
2459314.50000	10	4	2021	71.5853
2459324.50000	20	4	2021	71.0352
2459334.50000	30	4	2021	70.7196
2459335.50000	1	5	2021	70.6899
2459344.50000	10	5	2021	70.4922
2459354.50000	20	5	2021	70.4475
2459364.50000	30	5	2021	70.4886
2459366.50000	1	6	2021	70.5027
2459375.50000	10	6	2021	70.5241
2459385.50000	20	6	2021	70.4626
2459395.50000	30	6	2021	70.3820
2459396.50000	1	7	2021	70.3655
2459405.50000	10	7	2021	70.0809
2459415.50000	20	7	2021	69.5655
2459425.50000	30	7	2021	68.9560
2459427.50000	1	8	2021	68.8079
2459436.50000	10	8	2021	67.9879
2459446.50000	20	8	2021	66.9734
2459456.50000	30	8	2021	65.9157
2459458.50000	1	9	2021	65.6987
2459467.50000	10	9	2021	64.7470
2459477.50000	20	9	2021	63.7030
2459487.50000	30	9	2021	62.8849
2459488.50000	1	10	2021	62.8178
2459497.50000	10	10	2021	62.2643
2459507.50000	20	10	2021	61.7416
2459517.50000	30	10	2021	61.5313
2459519.50000	1	11	2021	61.5088
2459528.50000	10	11	2021	61.4393
2459538.50000	20	11	2021	61.4188
2459548.50000	30	11	2021	61.4687
2459549.50000	1	12	2021	61.4709
2459558.50000	10	12	2021	61.5034