

# Voyager Location in Heliocentric Coordinates

Information derived from the “Heliocentric Trajectories for Selected Spacecraft, Planets, and Comets” web site at <http://nssdc.gsfc.nasa.gov/space/helios/heli.html>

Information is provided for each spacecraft on the launch days and then for every 30 days after Voyager 1 launch until late 2015.

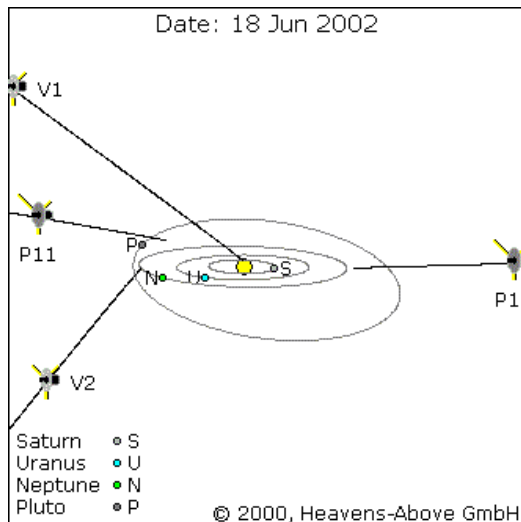
The coordinate system is defined at <http://nssdc.gsfc.nasa.gov/space/helios/coordes.html>  
Some of the information is repeated here.

## Heliographic Inertial Coordinate System (HGI)

The HGI coordinates are Sun-centered and inertially fixed with respect to an X-axis directed along the intersection line of the ecliptic and solar equatorial planes, and defines zero of the longitude, HGI\_LONG. The solar equator plane is inclined at 7.25 degrees from the ecliptic. This direction was towards ecliptic longitude of 74.367 deg on 1 January 1900 at 12:00 UT; because of the precession of the Earth's equator, this longitude increases by 1.4 deg/century. The Z-axis is directed perpendicular to and northward of the solar equator, and the Y-axis completes the right-handed set. The longitude, HGI\_LONG increase from zero in the X-direction towards Y-direction. The latitude HG\_LAT increases to +90 deg towards the north pole, and to -90 deg towards south pole.

## Heliographic (rotating) Coordinate System (HG)

HG, differs from HGI only in the sense that the zero of the longitude, HG\_LONG is fixed on the Sun and (by convention) rotates at the fixed period of 25.38 days. The zero longitude is defined as the longitude that passed through the ascending node of the solar equator on the ecliptic plane on 1 January, 1854 at 12 UT (Julian day = 2398220.0). The longitudes are also known as Carrington longitudes. The latitude is HG\_LAT.



To view today's spacecraft distances and speeds, along with a graphical representation similar to this image, go to [http://heavens-above.com/solar-escape.asp/?/](http://heavens-above.com/solar-escape.asp?/)

13 pages follow.

			VOYAGER 1					VOYAGER 2				
Year	Day of Year	Date	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude
1977	237	8/25/77						1.01	151.09	7.1	123.0	257.5
1977	252	9/9/77	1.01	151.09	7.3	284.7	271.9	1.01	151.09	7.5	289.6	276.9
1977	282	10/9/77	1.13	169.05	6.4	255.2	308.0	1.16	173.53	6.2	258.2	311.0
1977	312	11/8/77	1.38	206.45	4.2	215.4	333.7	1.40	209.44	3.9	216.8	335.1
1977	342	12/8/77	1.68	251.32	2.2	167.1	350.9	1.68	251.32	1.9	167.7	351.6
1978	7	1/7/78	1.98	296.20	0.7	113.4	2.8	1.96	293.21	0.4	113.9	3.3
1978	37	2/6/78	2.28	341.08	-0.4	56.6	11.5	2.24	335.10	-0.8	57.1	12.0
1978	67	3/8/78	2.57	384.47	-1.3	357.8	18.3	2.50	373.99	-1.7	358.5	18.9
1978	97	4/7/78	2.85	426.35	-2.0	297.7	23.7	2.75	411.39	-2.4	298.5	24.5
1978	127	5/7/78	3.11	465.25	-2.5	236.6	28.1	2.99	447.30	-3.0	237.7	29.2
1978	157	6/6/78	3.37	504.14	-3.0	174.9	31.9	3.21	480.21	-3.5	176.2	33.2
1978	187	7/6/78	3.61	540.05	-3.4	112.6	35.1	3.42	511.62	-3.9	114.2	36.8
1978	217	8/5/78	3.85	575.95	-3.7	49.9	38.0	3.63	543.04	-4.2	51.8	39.9
1978	247	9/4/78	4.07	608.86	-4.0	346.9	40.5	3.82	571.46	-4.5	349.0	42.7
1978	277	10/4/78	4.29	641.77	-4.2	283.6	42.8	4.00	598.39	-4.8	286.0	45.2
1978	307	11/3/78	4.5	673.19	-4.4	220.1	44.8	4.17	623.82	-5.0	222.8	47.5
1978	337	12/3/78	4.7	703.11	-4.6	156.5	46.7	4.33	647.76	-5.2	159.5	49.7
1979	2	1/2/79	4.89	731.53	-4.8	92.7	48.4	4.49	671.69	-5.4	95.9	51.7
1979	32	2/1/79	5.08	759.96	-4.9	28.7	50.0	4.63	692.64	-5.6	32.2	53.5
1979	62	3/3/79	5.27	788.38	-5.1	324.6	51.5	4.77	713.58	-5.7	328.5	55.3
1979	92	4/2/79	5.38	804.84	-5.2	263.3	55.7	4.91	734.53	-5.9	264.6	56.9
1979	122	5/2/79	5.49	821.29	-5.3	201.9	59.8	5.03	752.48	-6.0	200.6	58.5
1979	152	6/1/79	5.61	839.24	-5.4	140.4	63.8	5.15	770.43	-6.1	136.5	60.0
1979	182	7/1/79	5.75	860.19	-5.5	78.6	67.6	5.27	788.38	-6.2	72.4	61.3
1979	212	7/31/79	5.91	884.12	-5.5	16.7	71.2	5.42	810.82	-5.6	9.8	64.3
1979	242	8/30/79	6.08	909.56	-5.5	314.6	74.6	5.53	827.28	-5.7	307.7	67.7
1979	272	9/29/79	6.26	936.48	-5.5	252.2	77.8	5.64	843.73	-5.7	245.4	71.0
1979	302	10/29/79	6.45	964.91	-5.5	189.7	80.8	5.76	861.68	-5.7	183.0	74.1
1979	332	11/28/79	6.66	996.32	-5.4	127.0	83.7	5.89	881.13	-5.7	120.5	77.1
1979	362	12/28/79	6.87	1,027.74	-5.4	64.2	86.3	6.03	902.08	-5.6	57.8	79.9
1980	27	1/27/80	7.09	1,060.65	-5.3	1.1	88.8	6.17	923.02	-5.6	355.0	82.6
1980	57	2/26/80	7.32	1,095.06	-5.3	298.0	91.2	6.32	945.46	-5.5	292.0	85.2
1980	87	3/27/80	7.55	1,129.46	-5.2	234.6	93.4	6.47	967.90	-5.5	228.9	87.7
1980	117	4/26/80	7.79	1,165.37	-5.1	171.2	95.4	6.63	991.83	-5.4	165.8	90.0
1980	147	5/26/80	8.04	1,202.77	-5.0	107.6	97.4	6.80	1,017.27	-5.3	102.5	92.3
1980	177	6/25/80	8.29	1,240.17	-5.0	43.9	99.2	6.96	1,041.20	-5.2	39.1	94.4
1980	207	7/25/80	8.54	1,277.57	-4.9	340.1	100.9	7.13	1,066.63	-5.2	335.6	96.4
1980	237	8/24/80	8.8	1,316.46	-4.8	276.1	102.5	7.31	1,093.56	-5.1	272.0	98.4

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1980	267	9/23/80	9.06	1,355.36	-4.8	212.1	104.1	7.48	1,118.99	-5.0	208.3	100.2
1980	297	10/23/80	9.33	1,395.75	-4.7	148.0	105.5	7.66	1,145.92	-4.9	144.5	102.0
1980	327	11/22/80	9.56	1,430.16	-4.2	84.0	107.0	7.85	1,174.34	-4.8	80.6	103.6
1980	357	12/22/80	9.7	1,451.10	-3.0	20.1	108.6	8.03	1,201.27	-4.7	16.7	105.2
1981	21	1/21/81	9.84	1,472.04	-1.7	316.1	110.2	8.21	1,228.20	-4.7	312.7	106.8
1981	51	2/20/81	10	1,495.98	-0.5	252.1	111.7	8.40	1,256.62	-4.6	248.6	108.2
1981	81	3/22/81	10.16	1,519.91	0.6	188.1	113.2	8.59	1,285.05	-4.5	184.5	109.6
1981	111	4/21/81	10.33	1,545.35	1.7	124.0	114.6	8.78	1,313.47	-4.4	120.3	110.9
1981	141	5/21/81	10.51	1,572.27	2.8	59.8	116.0	8.97	1,341.89	-4.3	56.0	112.2
1981	171	6/20/81	10.7	1,600.70	3.8	355.6	117.4	9.16	1,370.32	-4.2	351.7	113.4
1981	201	7/20/81	10.89	1,629.12	4.9	291.4	118.7	9.35	1,398.74	-4.2	287.4	114.6
1981	231	8/19/81	11.09	1,659.04	5.8	227.1	119.9	9.55	1,428.66	-4.1	223.0	115.7
1981	261	9/18/81	11.3	1,690.46	6.7	162.8	121.1	9.61	1,437.64	-4.0	159.3	117.7
1981	291	10/18/81	11.51	1,721.87	7.6	98.5	122.3	9.64	1,442.12	-3.9	95.9	119.8
1981	321	11/17/81	11.73	1,754.78	8.5	34.1	123.4	9.67	1,446.61	-3.8	32.5	121.9
1981	351	12/17/81	11.95	1,787.69	9.3	329.6	124.5	9.71	1,452.60	-3.8	329.0	123.9
1982	16	1/16/82	12.17	1,820.61	10.1	265.2	125.6	9.76	1,460.08	-3.7	265.5	126.0
1982	46	2/15/82	12.4	1,855.01	10.8	200.7	126.6	9.82	1,469.05	-3.6	202.0	128.0
1982	76	3/17/82	12.64	1,890.92	11.6	136.1	127.6	9.89	1,479.52	-3.5	138.5	130.0
1982	106	4/16/82	12.88	1,926.82	12.3	71.6	128.6	9.97	1,491.49	-3.4	74.9	131.9
1982	136	5/16/82	13.12	1,962.72	12.9	7.0	129.5	10.06	1,504.95	-3.2	11.3	133.9
1982	166	6/15/82	13.36	1,998.63	13.6	302.3	130.4	10.15	1,518.42	-3.1	307.7	135.8
1982	196	7/15/82	13.61	2,036.03	14.2	237.7	131.3	10.26	1,534.87	-3.0	244.0	137.6
1982	226	8/14/82	13.86	2,073.43	14.8	173.0	132.2	10.37	1,551.33	-2.9	180.3	139.4
1982	256	9/13/82	14.12	2,112.32	15.3	108.3	133.0	10.49	1,569.28	-2.8	116.5	141.2
1982	286	10/13/82	14.37	2,149.72	15.9	43.6	133.8	10.62	1,588.73	-2.7	52.7	142.9
1982	316	11/12/82	14.63	2,188.62	16.4	338.8	134.6	10.75	1,608.18	-2.6	348.9	144.6
1982	346	12/12/82	14.89	2,227.51	16.9	274.0	135.3	10.89	1,629.12	-2.5	285.0	146.3
1983	11	1/11/83	15.16	2,267.90	17.4	209.2	136.1	11.04	1,651.56	-2.4	221.1	147.9
1983	41	2/10/83	15.42	2,306.80	17.8	144.4	136.8	11.19	1,674.00	-2.3	157.1	149.5
1983	71	3/12/83	15.69	2,347.19	18.3	79.6	137.4	11.35	1,697.94	-2.1	93.1	151.0
1983	101	4/11/83	15.96	2,387.58	18.7	14.7	138.1	11.52	1,723.37	-2.0	29.0	152.4
1983	131	5/11/83	16.23	2,427.97	19.1	309.8	138.8	11.69	1,748.80	-1.9	324.9	153.9
1983	161	6/10/83	16.5	2,468.36	19.5	244.9	139.4	11.87	1,775.73	-1.8	260.8	155.3
1983	191	7/10/83	16.77	2,508.76	19.9	180.0	140.0	12.05	1,802.65	-1.7	196.6	156.6
1983	221	8/9/83	17.05	2,550.64	20.2	115.0	140.6	12.24	1,831.08	-1.6	132.4	157.9
1983	251	9/8/83	17.33	2,592.53	20.6	50.1	141.2	12.43	1,859.50	-1.5	68.1	159.2
1983	281	10/8/83	17.6	2,632.92	20.9	345.1	141.7	12.62	1,887.93	-1.5	3.8	160.4

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1983	311	11/7/83	17.88	2,674.81	21.2	280.1	142.3	12.82	1,917.84	-1.4	299.5	161.6
1983	341	12/7/83	18.16	2,716.70	21.5	215.1	142.8	13.02	1,947.76	-1.3	235.1	162.8
1984	6	1/6/84	18.44	2,758.58	21.8	150.1	143.4	13.23	1,979.18	-1.2	170.7	163.9
1984	36	2/5/84	18.72	2,800.47	22.1	85.1	143.9	13.44	2,010.60	-1.1	106.2	165.0
1984	66	3/6/84	19.01	2,843.86	22.4	20.1	144.4	13.65	2,042.01	-1.0	41.7	166.0
1984	96	4/5/84	19.29	2,885.74	22.7	315.0	144.8	13.86	2,073.43	-0.9	337.2	167.0
1984	126	5/5/84	19.58	2,929.13	23.0	250.0	145.3	14.08	2,106.34	-0.9	272.7	168.0
1984	156	6/4/84	19.86	2,971.01	23.2	184.9	145.8	14.30	2,139.25	-0.8	208.1	169.0
1984	186	7/4/84	20.15	3,014.40	23.4	119.8	146.2	14.53	2,173.66	-0.7	143.5	169.9
1984	216	8/3/84	20.43	3,056.28	23.7	54.7	146.6	14.75	2,206.57	-0.6	78.9	170.8
1984	246	9/2/84	20.72	3,099.67	23.9	349.6	147.1	14.98	2,240.98	-0.6	14.2	171.7
1984	276	10/2/84	21.01	3,143.05	24.1	284.5	147.5	15.21	2,275.38	-0.5	309.5	172.5
1984	306	11/1/84	21.3	3,186.43	24.3	219.3	147.9	15.45	2,311.29	-0.4	244.8	173.3
1984	336	12/1/84	21.59	3,229.82	24.6	154.2	148.3	15.68	2,345.69	-0.4	180.1	174.1
1984	366	12/31/84	21.88	3,273.20	24.8	89.1	148.7	15.92	2,381.60	-0.3	115.3	174.9
1985	30	1/30/85	22.17	3,316.58	25.0	23.9	149.0	16.15	2,416.01	-0.3	50.5	175.7
1985	60	3/1/85	22.46	3,359.97	25.1	318.7	149.4	16.39	2,451.91	-0.2	345.7	176.4
1985	90	3/31/85	22.75	3,403.35	25.3	253.6	149.8	16.64	2,489.31	-0.1	280.9	177.1
1985	120	4/30/85	23.04	3,446.73	25.5	188.4	150.1	16.88	2,525.21	-0.1	216.1	177.8
1985	150	5/30/85	23.33	3,490.12	25.7	123.2	150.5	17.12	2,561.12	0.0	151.2	178.5
1985	180	6/29/85	23.62	3,533.50	25.8	58.0	150.8	17.37	2,598.52	0.0	86.3	179.1
1985	210	7/29/85	23.92	3,578.38	26.0	352.8	151.1	17.62	2,635.91	0.1	21.4	179.7
1985	240	8/28/85	24.21	3,621.76	26.2	287.6	151.4	17.86	2,671.82	0.1	316.5	180.3
1985	270	9/27/85	24.5	3,665.15	26.3	222.4	151.8	18.11	2,709.22	0.2	251.5	180.9
1985	300	10/27/85	24.8	3,710.03	26.5	157.1	152.1	18.36	2,746.62	0.2	186.6	181.5
1985	330	11/26/85	25.09	3,753.41	26.6	91.9	152.4	18.62	2,785.51	0.3	121.6	182.1
1985	360	12/26/85	25.38	3,796.79	26.8	26.7	152.7	18.87	2,822.91	0.3	56.6	182.6
1986	25	1/25/86	25.68	3,841.67	26.9	321.4	152.9	19.12	2,860.31	0.3	351.6	183.2
1986	55	2/24/86	25.97	3,885.06	27.0	256.2	153.2	19.34	2,893.22	0.5	286.9	183.9
1986	85	3/26/86	26.27	3,929.94	27.2	190.9	153.5	19.55	2,924.64	0.6	222.1	184.7
1986	115	4/25/86	26.56	3,973.32	27.3	125.7	153.8	19.77	2,957.55	0.7	157.4	185.5
1986	145	5/25/86	26.86	4,018.20	27.4	60.4	154.0	19.99	2,990.46	0.9	92.6	186.2
1986	175	6/24/86	27.15	4,061.58	27.5	355.1	154.3	20.22	3,024.87	1.0	27.8	187.0
1986	205	7/24/86	27.45	4,106.46	27.6	289.9	154.6	20.44	3,057.78	1.1	323.0	187.7
1986	235	8/23/86	27.75	4,151.34	27.8	224.6	154.8	20.67	3,092.19	1.2	258.2	188.4
1986	265	9/22/86	28.04	4,194.72	27.9	159.3	155.1	20.90	3,126.60	1.3	193.3	189.1
1986	295	10/22/86	28.34	4,239.60	28.0	94.0	155.3	21.14	3,162.50	1.5	128.5	189.8
1986	325	11/21/86	28.63	4,282.99	28.1	28.7	155.5	21.37	3,196.91	1.6	63.6	190.4

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1986	355	12/21/86	28.93	4,327.87	28.2	323.4	155.8	21.61	3,232.81	1.7	358.7	191.1
1987	20	1/20/87	29.23	4,372.75	28.3	258.1	156.0	21.85	3,268.71	1.8	293.8	191.7
1987	50	2/19/87	29.52	4,416.13	28.4	192.8	156.2	22.09	3,304.62	1.9	228.9	192.3
1987	80	3/21/87	29.82	4,461.01	28.5	127.5	156.4	22.34	3,342.02	2.0	163.9	192.9
1987	110	4/20/87	30.12	4,505.89	28.6	62.2	156.7	22.58	3,377.92	2.1	99.0	193.5
1987	140	5/20/87	30.42	4,550.77	28.7	356.9	156.9	22.83	3,415.32	2.2	34.0	194.1
1987	170	6/19/87	30.71	4,594.15	28.8	291.5	157.1	23.08	3,452.72	2.3	329.1	194.6
1987	200	7/19/87	31.01	4,639.03	28.8	226.2	157.3	23.33	3,490.12	2.4	264.1	195.2
1987	230	8/18/87	31.31	4,683.91	28.9	160.9	157.5	23.59	3,529.01	2.4	199.1	195.7
1987	260	9/17/87	31.61	4,728.79	29.0	95.5	157.7	23.84	3,566.41	2.5	134.1	196.2
1987	290	10/17/87	31.9	4,772.17	29.1	30.2	157.9	24.10	3,605.31	2.6	69.1	196.8
1987	320	11/16/87	32.2	4,817.05	29.2	324.9	158.1	24.36	3,644.20	2.7	4.1	197.3
1987	350	12/16/87	32.5	4,861.93	29.2	259.5	158.3	24.62	3,683.10	2.8	299.0	197.8
1988	15	1/15/88	32.8	4,906.81	29.3	194.2	158.4	24.88	3,722.00	2.9	234.0	198.3
1988	45	2/14/88	33.09	4,950.19	29.4	128.8	158.6	25.14	3,760.89	2.9	168.9	198.7
1988	75	3/15/88	33.39	4,995.07	29.5	63.5	158.8	25.40	3,799.79	3.0	103.8	199.2
1988	105	4/14/88	33.69	5,039.95	29.5	358.1	159.0	25.67	3,840.18	3.1	38.8	199.6
1988	135	5/14/88	33.99	5,084.83	29.6	292.7	159.2	25.94	3,880.57	3.2	333.7	200.1
1988	165	6/13/88	34.29	5,129.71	29.7	227.4	159.3	26.20	3,919.46	3.2	268.6	200.5
1988	195	7/13/88	34.59	5,174.59	29.8	162.0	159.5	26.47	3,959.86	3.3	203.5	201.0
1988	225	8/12/88	34.88	5,217.97	29.8	96.7	159.7	26.74	4,000.25	3.4	138.4	201.4
1988	255	9/11/88	35.18	5,262.85	29.9	31.3	159.8	27.01	4,040.64	3.4	73.3	201.8
1988	285	10/11/88	35.48	5,307.73	29.9	325.9	160.0	27.28	4,081.03	3.5	8.1	202.2
1988	315	11/10/88	35.78	5,352.61	30.0	260.5	160.1	27.56	4,122.92	3.6	303.0	202.6
1988	345	12/10/88	36.08	5,397.49	30.1	195.2	160.3	27.83	4,163.31	3.6	237.8	203.0
1989	9	1/9/89	36.36	5,439.38	30.1	129.8	160.4	28.11	4,205.20	3.7	172.7	203.4
1989	39	2/8/89	36.66	5,484.26	30.2	64.4	160.6	28.38	4,245.59	3.7	107.5	203.7
1989	69	3/10/89	36.96	5,529.14	30.3	359.0	160.7	28.65	4,285.98	3.8	42.3	204.1
1989	99	4/9/89	37.26	5,574.02	30.3	293.6	160.9	28.93	4,327.87	3.8	337.2	204.4
1989	129	5/9/89	37.56	5,618.90	30.4	228.2	161.0	29.20	4,368.26	3.9	271.9	204.7
1989	159	6/8/89	37.86	5,663.78	30.4	162.8	161.1	29.46	4,407.15	3.9	206.6	204.9
1989	189	7/8/89	38.16	5,708.65	30.5	97.4	161.3	29.73	4,447.54	4.0	141.2	205.1
1989	219	8/7/89	38.45	5,752.04	30.5	32.0	161.4	29.99	4,486.44	4.0	75.9	205.3
1989	249	9/6/89	38.75	5,796.92	30.6	326.6	161.6	30.29	4,531.32	3.9	10.6	205.5
1989	279	10/6/89	39.05	5,841.80	30.6	261.2	161.7	30.49	4,561.24	3.5	305.5	205.9
1989	309	11/5/89	39.35	5,886.68	30.7	195.8	161.8	30.69	4,591.16	3.2	240.3	206.2
1989	339	12/5/89	39.65	5,931.56	30.7	130.4	162.0	30.89	4,621.08	2.8	174.8	206.3
1990	4	1/4/90	39.95	5,976.43	30.8	65.0	162.1	31.09	4,651.00	2.4	109.3	206.4

			VOYAGER 1					VOYAGER 2				
Year	Day of Year	Date	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude
1990	34	2/3/90	40.25	6,021.31	30.8	359.6	162.2	31.29	4,680.92	2.1	43.9	206.5
1990	64	3/5/90	40.54	6,064.70	30.9	294.2	162.3	31.50	4,712.33	1.7	338.4	206.5
1990	94	4/4/90	40.84	6,109.58	30.9	228.8	162.5	31.70	4,742.25	1.4	273.0	206.6
1990	124	5/4/90	41.14	6,154.46	31.0	163.4	162.6	31.91	4,773.67	1.0	207.5	206.7
1990	154	6/3/90	41.44	6,199.34	31.0	98.0	162.7	32.12	4,805.08	0.7	142.0	206.8
1990	184	7/3/90	41.74	6,244.22	31.1	32.6	162.8	32.32	4,835.00	0.3	76.6	206.8
1990	214	8/2/90	42.04	6,289.09	31.1	327.2	162.9	32.53	4,866.42	0.0	11.1	206.9
1990	244	9/1/90	42.34	6,333.97	31.1	261.7	163.0	32.74	4,897.83	-0.4	305.7	207.0
1990	274	10/1/90	42.64	6,378.85	31.2	196.3	163.2	32.96	4,930.75	-0.7	240.2	207.0
1990	304	10/31/90	42.93	6,422.24	31.2	130.9	163.3	33.17	4,962.16	-1.0	174.7	207.1
1990	334	11/30/90	43.23	6,467.12	31.3	65.5	163.4	33.38	4,993.58	-1.3	109.3	207.2
1990	364	12/30/90	43.53	6,512.00	31.3	0.1	163.5	33.59	5,024.99	-1.7	43.8	207.2
1991	29	1/29/91	43.83	6,556.87	31.3	294.6	163.6	33.80	5,056.41	-2.0	338.4	207.3
1991	59	2/28/91	44.13	6,601.75	31.4	229.2	163.7	34.01	5,087.82	-2.3	272.9	207.4
1991	89	3/30/91	44.43	6,646.63	31.4	163.8	163.8	34.23	5,120.74	-2.6	207.5	207.5
1991	119	4/29/91	44.73	6,691.51	31.4	98.4	163.9	34.44	5,152.15	-2.9	142.0	207.6
1991	149	5/29/91	45.03	6,736.39	31.5	32.9	164.0	34.66	5,185.06	-3.2	76.6	207.7
1991	179	6/28/91	45.32	6,779.78	31.5	327.5	164.1	34.88	5,217.97	-3.4	11.2	207.8
1991	209	7/28/91	45.62	6,824.65	31.6	262.1	164.2	35.10	5,250.89	-3.7	305.7	207.9
1991	239	8/27/91	45.92	6,869.53	31.6	196.6	164.3	35.32	5,283.80	-4.0	240.3	208.0
1991	269	9/26/91	46.22	6,914.41	31.6	131.2	164.4	35.54	5,316.71	-4.3	174.8	208.1
1991	299	10/26/91	46.52	6,959.29	31.7	65.8	164.5	35.76	5,349.62	-4.6	109.4	208.2
1991	329	11/25/91	46.82	7,004.17	31.7	0.3	164.6	35.98	5,382.53	-4.8	44.0	208.2
1991	359	12/25/91	47.12	7,049.05	31.7	294.9	164.7	36.20	5,415.44	-5.1	338.5	208.3
1992	24	1/24/92	47.41	7,092.44	31.8	229.4	164.8	36.43	5,449.85	-5.4	273.1	208.4
1992	54	2/23/92	47.71	7,137.31	31.8	164.0	164.9	36.65	5,482.76	-5.6	207.6	208.5
1992	84	3/24/92	48.01	7,182.19	31.8	98.6	165.0	36.87	5,515.67	-5.9	142.2	208.6
1992	114	4/23/92	48.31	7,227.07	31.8	33.1	165.1	37.10	5,550.08	-6.1	76.7	208.7
1992	144	5/23/92	48.61	7,271.95	31.9	327.7	165.2	37.32	5,582.99	-6.4	11.3	208.7
1992	174	6/22/92	48.91	7,316.83	31.9	262.2	165.2	37.55	5,617.40	-6.6	305.8	208.8
1992	204	7/22/92	49.21	7,361.71	31.9	196.8	165.3	37.78	5,651.81	-6.9	240.4	208.9
1992	234	8/21/92	49.5	7,405.09	32.0	131.3	165.4	38.00	5,684.72	-7.1	174.9	209.0
1992	264	9/20/92	49.8	7,449.97	32.0	65.9	165.5	38.23	5,719.13	-7.4	109.5	209.1
1992	294	10/20/92	50.1	7,494.85	32.0	0.4	165.6	38.46	5,753.53	-7.6	44.0	209.1
1992	324	11/19/92	50.4	7,539.73	32.0	295.0	165.7	38.69	5,787.94	-7.9	338.6	209.2
1992	354	12/19/92	50.7	7,584.61	32.1	229.5	165.7	38.92	5,822.35	-8.1	273.1	209.3
1993	18	1/18/93	51	7,629.49	32.1	164.1	165.8	39.15	5,856.76	-8.3	207.6	209.4
1993	48	2/17/93	51.3	7,674.37	32.1	98.6	165.9	39.38	5,891.16	-8.5	142.2	209.4

			VOYAGER 1					VOYAGER 2				
Year	Day of Year	Date	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude
1993	78	3/19/93	51.59	7,717.75	32.2	33.2	166.0	39.61	5,925.57	-8.8	76.7	209.5
1993	108	4/18/93	51.89	7,762.63	32.2	327.7	166.1	39.84	5,959.98	-9.0	11.3	209.6
1993	138	5/18/93	52.19	7,807.51	32.2	262.3	166.1	40.07	5,994.39	-9.2	305.8	209.7
1993	168	6/17/93	52.49	7,852.39	32.2	196.8	166.2	40.31	6,030.29	-9.4	240.3	209.7
1993	198	7/17/93	52.79	7,897.27	32.3	131.4	166.3	40.54	6,064.70	-9.6	174.9	209.8
1993	228	8/16/93	53.08	7,940.65	32.3	65.9	166.4	40.77	6,099.11	-9.9	109.4	209.9
1993	258	9/15/93	53.38	7,985.53	32.3	0.5	166.4	41.01	6,135.01	-10.1	44.0	209.9
1993	288	10/15/93	53.68	8,030.41	32.3	295.0	166.5	41.24	6,169.42	-10.3	338.5	210.0
1993	318	11/14/93	53.98	8,075.29	32.4	229.5	166.6	41.48	6,205.32	-10.5	273.0	210.1
1993	348	12/14/93	54.28	8,120.17	32.4	164.1	166.7	41.71	6,239.73	-10.7	207.6	210.1
1994	13	1/13/94	54.58	8,165.05	32.4	98.6	166.7	41.95	6,275.63	-10.9	142.1	210.2
1994	43	2/12/94	54.87	8,208.44	32.4	33.2	166.8	42.18	6,310.04	-11.1	76.6	210.3
1994	73	3/14/94	55.17	8,253.31	32.4	327.7	166.9	42.42	6,345.94	-11.3	11.2	210.3
1994	103	4/13/94	55.47	8,298.19	32.5	262.2	166.9	42.66	6,381.85	-11.5	305.7	210.4
1994	133	5/13/94	55.77	8,343.07	32.5	196.8	167.0	42.89	6,416.25	-11.6	240.2	210.5
1994	163	6/12/94	56.07	8,387.95	32.5	131.3	167.1	43.13	6,452.16	-11.8	174.8	210.5
1994	193	7/12/94	56.36	8,431.34	32.5	65.8	167.1	43.37	6,488.06	-12.0	109.3	210.6
1994	223	8/11/94	56.66	8,476.22	32.6	0.4	167.2	43.61	6,523.96	-12.2	43.8	210.7
1994	253	9/10/94	56.96	8,521.09	32.6	294.9	167.3	43.84	6,558.37	-12.4	338.4	210.7
1994	283	10/10/94	57.26	8,565.97	32.6	229.4	167.3	44.08	6,594.27	-12.6	272.9	210.8
1994	313	11/9/94	57.55	8,609.36	32.6	164.0	167.4	44.32	6,630.18	-12.8	207.4	210.8
1994	343	12/9/94	57.85	8,654.24	32.6	98.5	167.5	44.56	6,666.08	-12.9	141.9	210.9
1995	8	1/8/95	58.15	8,699.12	32.7	33.0	167.5	44.80	6,701.98	-13.1	76.5	211.0
1995	38	2/7/95	58.45	8,744.00	32.7	327.6	167.6	45.04	6,737.89	-13.3	11.0	211.0
1995	68	3/9/95	58.75	8,788.87	32.7	262.1	167.7	45.28	6,773.79	-13.4	305.5	211.1
1995	98	4/8/95	59.04	8,832.26	32.7	196.6	167.7	45.52	6,809.70	-13.6	240.0	211.1
1995	128	5/8/95	59.34	8,877.14	32.7	131.2	167.8	45.77	6,847.09	-13.8	174.6	211.2
1995	158	6/7/95	59.64	8,922.02	32.8	65.7	167.8	46.01	6,883.00	-14.0	109.1	211.3
1995	188	7/7/95	59.94	8,966.90	32.8	0.2	167.9	46.25	6,918.90	-14.1	43.6	211.3
1995	218	8/6/95	60.23	9,010.28	32.8	294.7	168.0	46.49	6,954.81	-14.3	338.1	211.4
1995	248	9/5/95	60.53	9,055.16	32.8	229.3	168.0	46.73	6,990.71	-14.4	272.7	211.4
1995	278	10/5/95	60.83	9,100.04	32.8	163.8	168.1	46.98	7,028.11	-14.6	207.2	211.5
1995	308	11/4/95	61.13	9,144.92	32.8	98.3	168.1	47.22	7,064.01	-14.8	141.7	211.5
1995	338	12/4/95	61.42	9,188.30	32.9	32.8	168.2	47.46	7,099.91	-14.9	76.2	211.6
1996	3	1/3/96	61.72	9,233.18	32.9	327.4	168.2	47.70	7,135.82	-15.1	10.8	211.6
1996	33	2/2/96	62.02	9,278.06	32.9	261.9	168.3	47.95	7,173.22	-15.2	305.3	211.7
1996	63	3/3/96	62.31	9,321.44	32.9	196.4	168.4	48.19	7,209.12	-15.4	239.8	211.7
1996	93	4/2/96	62.61	9,366.32	32.9	130.9	168.4	48.44	7,246.52	-15.5	174.3	211.8

			VOYAGER 1					VOYAGER 2				
Year	Day of Year	Date	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude
1996	123	5/2/96	62.91	9,411.20	32.9	65.5	168.5	48.68	7,282.42	-15.7	108.8	211.8
1996	153	6/1/96	63.21	9,456.08	33.0	360.0	168.5	48.93	7,319.82	-15.8	43.4	211.9
1996	183	7/1/96	63.5	9,499.46	33.0	294.5	168.6	49.17	7,355.73	-16.0	337.9	211.9
1996	213	7/31/96	63.8	9,544.34	33.0	229.0	168.6	49.42	7,393.13	-16.1	272.4	212.0
1996	243	8/30/96	64.1	9,589.22	33.0	163.5	168.7	49.66	7,429.03	-16.2	206.9	212.0
1996	273	9/29/96	64.4	9,634.10	33.0	98.1	168.7	49.91	7,466.43	-16.4	141.4	212.1
1996	303	10/29/96	64.69	9,677.49	33.0	32.6	168.8	50.15	7,502.33	-16.5	75.9	212.1
1996	333	11/28/96	64.99	9,722.37	33.1	327.1	168.8	50.40	7,539.73	-16.7	10.5	212.2
1996	363	12/28/96	65.29	9,767.24	33.1	261.6	168.9	50.64	7,575.64	-16.8	305.0	212.2
1997	27	1/27/97	65.58	9,810.63	33.1	196.1	168.9	50.89	7,613.04	-16.9	239.5	212.3
1997	57	2/26/97	65.88	9,855.51	33.1	130.7	169.0	51.14	7,650.44	-17.1	174.0	212.3
1997	87	3/28/97	66.18	9,900.39	33.1	65.2	169.0	51.38	7,686.34	-17.2	108.5	212.4
1997	117	4/27/97	66.47	9,943.77	33.1	359.7	169.1	51.63	7,723.74	-17.3	43.0	212.4
1997	147	5/27/97	66.77	9,988.65	33.2	294.2	169.1	51.88	7,761.14	-17.5	337.6	212.5
1997	177	6/26/97	67.07	10,033.53	33.2	228.7	169.2	52.12	7,797.04	-17.6	272.1	212.5
1997	207	7/26/97	67.36	10,076.91	33.2	163.2	169.2	52.37	7,834.44	-17.7	206.6	212.6
1997	237	8/25/97	67.66	10,121.79	33.2	97.8	169.3	52.62	7,871.84	-17.8	141.1	212.6
1997	267	9/24/97	67.96	10,166.67	33.2	32.3	169.3	52.87	7,909.24	-18.0	75.6	212.7
1997	297	10/24/97	68.26	10,211.55	33.2	326.8	169.4	53.12	7,946.64	-18.1	10.1	212.7
1997	327	11/23/97	68.55	10,254.93	33.2	261.3	169.4	53.36	7,982.54	-18.2	304.6	212.7
1997	357	12/23/97	68.85	10,299.81	33.3	195.8	169.5	53.61	8,019.94	-18.3	239.1	212.8
1998	22	1/22/98	69.15	10,344.69	33.3	130.3	169.5	53.86	8,057.34	-18.5	173.7	212.8
1998	52	2/21/98	69.44	10,388.08	33.3	64.8	169.5	54.11	8,094.74	-18.6	108.2	212.9
1998	82	3/23/98	69.74	10,432.96	33.3	359.3	169.6	54.36	8,132.14	-18.7	42.7	212.9
1998	112	4/22/98	70.04	10,477.83	33.3	293.9	169.6	54.61	8,169.54	-18.8	337.2	213.0
1998	142	5/22/98	70.33	10,521.22	33.3	228.4	169.7	54.86	8,206.94	-18.9	271.7	213.0
1998	172	6/21/98	70.63	10,566.10	33.3	162.9	169.7	55.11	8,244.34	-19.0	206.2	213.0
1998	202	7/21/98	70.92	10,609.48	33.3	97.4	169.8	55.36	8,281.74	-19.2	140.7	213.1
1998	232	8/20/98	71.22	10,654.36	33.4	31.9	169.8	55.61	8,319.14	-19.3	75.2	213.1
1998	262	9/19/98	71.52	10,699.24	33.4	326.4	169.8	55.86	8,356.54	-19.4	9.7	213.2
1998	292	10/19/98	71.81	10,742.62	33.4	260.9	169.9	56.10	8,392.44	-19.5	304.2	213.2
1998	322	11/18/98	72.11	10,787.50	33.4	195.4	169.9	56.36	8,431.34	-19.6	238.7	213.2
1998	352	12/18/98	72.41	10,832.38	33.4	129.9	170.0	56.61	8,468.74	-19.7	173.3	213.3
1999	17	1/17/99	72.7	10,875.77	33.4	64.5	170.0	56.86	8,506.13	-19.8	107.8	213.3
1999	47	2/16/99	73	10,920.64	33.4	359.0	170.1	57.11	8,543.53	-19.9	42.3	213.4
1999	77	3/18/99	73.3	10,965.52	33.4	293.5	170.1	57.36	8,580.93	-20.0	336.8	213.4
1999	107	4/17/99	73.59	11,008.91	33.5	228.0	170.1	57.61	8,618.33	-20.1	271.3	213.4
1999	137	5/17/99	73.89	11,053.79	33.5	162.5	170.2	57.86	8,655.73	-20.2	205.8	213.5



			VOYAGER 1					VOYAGER 2				
Year	Day of Year	Date	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude
1999	167	6/16/99	74.19	11,098.67	33.5	97.0	170.2	58.11	8,693.13	-20.4	140.3	213.5
1999	197	7/16/99	74.48	11,142.05	33.5	31.5	170.2	58.36	8,730.53	-20.5	74.8	213.6
1999	227	8/15/99	74.78	11,186.93	33.5	326.0	170.3	58.61	8,767.93	-20.6	9.3	213.6
1999	257	9/14/99	75.07	11,230.31	33.5	260.5	170.3	58.86	8,805.33	-20.7	303.8	213.6
1999	287	10/14/99	75.37	11,275.19	33.5	195.0	170.4	59.12	8,844.23	-20.8	238.3	213.7
1999	317	11/13/99	75.67	11,320.07	33.5	129.5	170.4	59.37	8,881.63	-20.9	172.8	213.7
1999	347	12/13/99	75.96	11,363.45	33.5	64.0	170.4	59.62	8,919.03	-21.0	107.3	213.7
2000	12	1/12/00	76.26	11,408.33	33.6	358.5	170.5	59.87	8,956.42	-21.1	41.8	213.8
2000	42	2/11/00	76.56	11,453.21	33.6	293.0	170.5	60.12	8,993.82	-21.2	336.3	213.8
2000	72	3/12/00	76.85	11,496.60	33.6	227.5	170.5	60.37	9,031.22	-21.2	270.8	213.8
2000	102	4/11/00	77.15	11,541.48	33.6	162.0	170.6	60.63	9,070.12	-21.3	205.3	213.9
2000	132	5/11/00	77.44	11,584.86	33.6	96.5	170.6	60.88	9,107.52	-21.4	139.8	213.9
2000	162	6/10/00	77.74	11,629.74	33.6	31.1	170.7	61.13	9,144.92	-21.5	74.3	213.9
2000	192	7/10/00	78.04	11,674.62	33.6	325.6	170.7	61.38	9,182.32	-21.6	8.8	214.0
2000	222	8/9/00	78.33	11,718.00	33.6	260.1	170.7	61.64	9,221.21	-21.7	303.3	214.0
2000	252	9/8/00	78.63	11,762.88	33.6	194.6	170.8	61.89	9,258.61	-21.8	237.8	214.0
2000	282	10/8/00	78.93	11,807.76	33.6	129.1	170.8	62.14	9,296.01	-21.9	172.4	214.1
2000	312	11/7/00	79.22	11,851.14	33.7	63.6	170.8	62.40	9,334.91	-22.0	106.9	214.1
2000	342	12/7/00	79.52	11,896.02	33.7	358.1	170.9	62.65	9,372.31	-22.1	41.4	214.1
2001	6	1/6/01	79.81	11,939.41	33.7	292.6	170.9	62.90	9,409.71	-22.2	335.9	214.2
2001	36	2/5/01	80.11	11,984.29	33.7	227.1	170.9	63.16	9,448.60	-22.2	270.4	214.2
2001	66	3/7/01	80.41	12,029.16	33.7	161.6	171.0	63.41	9,486.00	-22.3	204.9	214.2
2001	96	4/6/01	80.7	12,072.55	33.7	96.1	171.0	63.66	9,523.40	-22.4	139.4	214.3
2001	126	5/6/01	81	12,117.43	33.7	30.6	171.0	63.92	9,562.30	-22.5	73.9	214.3
2001	156	6/5/01	81.29	12,160.81	33.7	325.1	171.1	64.17	9,599.70	-22.6	8.4	214.3
2001	186	7/5/01	81.59	12,205.69	33.7	259.6	171.1	64.43	9,638.59	-22.7	302.9	214.4
2001	216	8/4/01	81.89	12,250.57	33.7	194.1	171.1	64.68	9,675.99	-22.8	237.4	214.4
2001	246	9/3/01	82.18	12,293.95	33.7	128.6	171.2	64.93	9,713.39	-22.8	171.9	214.4
2001	276	10/3/01	82.48	12,338.83	33.8	63.1	171.2	65.19	9,752.29	-22.9	106.4	214.5
2001	306	11/2/01	82.77	12,382.22	33.8	357.6	171.2	65.44	9,789.68	-23.0	40.9	214.5
2001	336	12/2/01	83.07	12,427.10	33.8	292.1	171.3	65.70	9,828.58	-23.1	335.4	214.5
2002	1	1/1/02	83.37	12,471.97	33.8	226.6	171.3	65.95	9,865.98	-23.2	269.8	214.6
2002	31	1/31/02	83.66	12,515.36	33.8	161.1	171.3	66.21	9,904.88	-23.2	204.3	214.6
2002	61	3/2/02	83.96	12,560.24	33.8	95.6	171.3	66.46	9,942.27	-23.3	138.8	214.6
2002	91	4/1/02	84.25	12,603.62	33.8	30.1	171.4	66.72	9,981.17	-23.4	73.3	214.6
2002	121	5/1/02	84.55	12,648.50	33.8	324.6	171.4	66.97	10,018.57	-23.5	7.8	214.7
2002	151	5/31/02	84.85	12,693.38	33.8	259.1	171.4	67.22	10,055.97	-23.6	302.3	214.7
2002	181	6/30/02	85.14	12,736.76	33.8	193.6	171.5	67.48	10,094.86	-23.6	236.8	214.7

			VOYAGER 1					VOYAGER 2				
Year	Day of Year	Date	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude
2002	211	7/30/02	85.44	12,781.64	33.8	128.1	171.5	67.74	10,133.76	-23.7	171.3	214.8
2002	241	8/29/02	85.73	12,825.03	33.9	62.6	171.5	67.99	10,171.16	-23.8	105.8	214.8
2002	271	9/28/02	86.03	12,869.90	33.9	357.1	171.6	68.25	10,210.05	-23.9	40.3	214.8
2002	301	10/28/02	86.32	12,913.29	33.9	291.6	171.6	68.50	10,247.45	-23.9	334.8	214.9
2002	331	11/27/02	86.62	12,958.17	33.9	226.1	171.6	68.76	10,286.35	-24.0	269.3	214.9
2002	361	12/27/02	86.92	13,003.05	33.9	160.6	171.6	69.01	10,323.75	-24.1	203.8	214.9
2003	26	1/26/03	87.21	13,046.43	33.9	95.0	171.7	69.27	10,362.64	-24.2	138.3	214.9
2003	56	2/25/03	87.51	13,091.31	33.9	29.5	171.7	69.52	10,400.04	-24.2	72.8	215.0
2003	86	3/27/03	87.8	13,134.69	33.9	324.0	171.7	69.78	10,438.94	-24.3	7.3	215.0
2003	116	4/26/03	88.1	13,179.57	33.9	258.5	171.8	70.03	10,476.34	-24.4	301.8	215.0
2003	146	5/26/03	88.39	13,222.96	33.9	193.0	171.8	70.29	10,515.23	-24.4	236.3	215.0
2003	176	6/25/03	88.69	13,267.84	33.9	127.5	171.8	70.55	10,554.13	-24.5	170.8	215.1
2003	206	7/25/03	88.99	13,312.71	33.9	62.0	171.8	70.80	10,591.53	-24.6	105.3	215.1
2003	236	8/24/03	89.28	13,356.10	33.9	356.5	171.9	71.06	10,630.42	-24.6	39.8	215.1
2003	266	9/23/03	89.58	13,400.98	34.0	291.0	171.9	71.32	10,669.32	-24.7	334.3	215.2
2003	296	10/23/03	89.87	13,444.36	34.0	225.5	171.9	71.57	10,706.72	-24.8	268.8	215.2
2003	326	11/22/03	90.17	13,489.24	34.0	160.0	172.0	71.83	10,745.62	-24.9	203.3	215.2
2003	356	12/22/03	90.46	13,532.62	34.0	94.5	172.0	72.08	10,783.01	-24.9	137.8	215.2
2004	21	1/21/04	90.76	13,577.50	34.0	29.0	172.0	72.34	10,821.91	-25.0	72.2	215.3
2004	51	2/20/04	91.06	13,622.38	34.0	323.5	172.0	72.60	10,860.81	-25.0	6.7	215.3
2004	81	3/21/04	91.35	13,665.77	34.0	258.0	172.1	72.85	10,898.20	-25.1	301.2	215.3
2004	111	4/20/04	91.65	13,710.64	34.0	192.5	172.1	73.11	10,937.10	-25.2	235.7	215.3
2004	141	5/20/04	91.94	13,754.03	34.0	127.0	172.1	73.37	10,976.00	-25.2	170.2	215.4
2004	171	6/19/04	92.24	13,798.91	34.0	61.5	172.1	73.62	11,013.40	-25.3	104.7	215.4
2004	201	7/19/04	92.53	13,842.29	34.0	356.0	172.2	73.88	11,052.29	-25.4	39.2	215.4
2004	231	8/18/04	92.83	13,887.17	34.0	290.5	172.2	74.14	11,091.19	-25.4	333.7	215.4
2004	261	9/17/04	93.12	13,930.55	34.0	224.9	172.2	74.39	11,128.59	-25.5	268.2	215.5
2004	291	10/17/04	93.42	13,975.43	34.0	159.4	172.2	74.65	11,167.48	-25.6	202.7	215.5
2004	321	11/16/04	93.72	14,020.31	34.0	93.9	172.3	74.91	11,206.38	-25.6	137.2	215.5
2004	351	12/16/04	94.01	14,063.70	34.1	28.4	172.3	75.17	11,245.27	-25.7	71.7	215.5
2005	15	1/15/05	94.31	14,108.58	34.1	322.9	172.3	75.42	11,282.67	-25.7	6.2	215.6
2005	45	2/14/05	94.6	14,151.96	34.1	257.4	172.3	75.68	11,321.57	-25.8	300.7	215.6
2005	75	3/16/05	94.9	14,196.84	34.1	191.9	172.4	75.94	11,360.46	-25.9	235.2	215.6
2005	105	4/15/05	95.19	14,240.22	34.1	126.4	172.4	76.19	11,397.86	-25.9	169.6	215.6
2005	135	5/15/05	95.49	14,285.10	34.1	60.9	172.4	76.45	11,436.76	-26.0	104.1	215.7
2005	165	6/14/05	95.78	14,328.48	34.1	355.4	172.4	76.71	11,475.65	-26.0	38.6	215.7
2005	195	7/14/05	96.08	14,373.36	34.1	289.9	172.5	76.97	11,514.55	-26.1	333.1	215.7
2005	225	8/13/05	96.37	14,416.75	34.1	224.4	172.5	77.22	11,551.95	-26.2	267.6	215.7

			VOYAGER 1					VOYAGER 2				
Year	Day of Year	Date	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude
2005	255	9/12/05	96.67	14,461.63	34.1	158.9	172.5	77.48	11,590.84	-26.2	202.1	215.7
2005	285	10/12/05	96.96	14,505.01	34.1	93.3	172.5	77.74	11,629.74	-26.3	136.6	215.8
2005	315	11/11/05	97.26	14,549.89	34.1	27.8	172.5	78.00	11,668.63	-26.3	71.1	215.8
2005	345	12/11/05	97.55	14,593.27	34.1	322.3	172.6	78.25	11,706.03	-26.4	5.6	215.8
2006	10	1/10/06	97.85	14,638.15	34.1	256.8	172.6	78.51	11,744.93	-26.4	300.1	215.8
2006	40	2/9/06	98.14	14,681.54	34.1	191.3	172.6	78.77	11,783.82	-26.5	234.6	215.9
2006	70	3/11/06	98.44	14,726.41	34.2	125.8	172.6	79.03	11,822.72	-26.6	169.0	215.9
2006	100	4/10/06	98.73	14,769.80	34.2	60.3	172.7	79.28	11,860.12	-26.6	103.5	215.9
2006	130	5/10/06	99.03	14,814.68	34.2	354.8	172.7	79.54	11,899.01	-26.7	38.0	215.9
2006	160	6/9/06	99.32	14,858.06	34.2	289.3	172.7	79.80	11,937.91	-26.7	332.5	216.0
2006	190	7/9/06	99.62	14,902.94	34.2	223.8	172.7	80.06	11,976.81	-26.8	267.0	216.0
2006	220	8/8/06	99.91	14,946.32	34.2	158.3	172.8	80.32	12,015.70	-26.8	201.5	216.0
2006	250	9/7/06	100.21	14,991.20	34.2	92.7	172.8	80.57	12,053.10	-26.9	136.0	216.0
2006	280	10/7/06	100.5	15,034.59	34.2	27.2	172.8	80.83	12,092.00	-26.9	70.5	216.0
2006	310	11/6/06	100.8	15,079.47	34.2	321.7	172.8	81.09	12,130.89	-27.0	5.0	216.1
2006	340	12/6/06	101.09	15,122.85	34.2	256.2	172.8	81.35	12,169.79	-27.0	299.5	216.1
2007	5	1/5/07	101.39	15,167.73	34.2	190.7	172.9	81.61	12,208.68	-27.1	233.9	216.1
2007	35	2/4/07	101.68	15,211.11	34.2	125.2	172.9	81.86	12,246.08	-27.1	168.4	216.1
2007	65	3/6/07	101.98	15,255.99	34.2	59.7	172.9	82.12	12,284.98	-27.2	102.9	216.1
2007	95	4/5/07	102.27	15,299.37	34.2	354.2	172.9	82.38	12,323.87	-27.2	37.4	216.2
2007	125	5/5/07	102.57	15,344.25	34.2	288.7	172.9	82.64	12,362.77	-27.3	331.9	216.2
2007	155	6/4/07	102.86	15,387.64	34.2	223.2	173.0	82.90	12,401.66	-27.3	266.4	216.2
2007	185	7/4/07	103.16	15,432.52	34.2	157.6	173.0	83.16	12,440.56	-27.4	200.9	216.2
2007	215	8/3/07	103.45	15,475.90	34.2	92.1	173.0	83.41	12,477.96	-27.4	135.4	216.2
2007	245	9/2/07	103.75	15,520.78	34.3	26.6	173.0	83.67	12,516.85	-27.5	69.9	216.3
2007	275	10/2/07	104.04	15,564.16	34.3	321.1	173.1	83.93	12,555.75	-27.5	4.3	216.3
2007	305	11/1/07	104.34	15,609.04	34.3	255.6	173.1	84.19	12,594.64	-27.6	298.8	216.3
2007	335	12/1/07	104.63	15,652.43	34.3	190.1	173.1	84.45	12,633.54	-27.6	233.3	216.3
2007	365	12/31/07	104.93	15,697.30	34.3	124.6	173.1	84.71	12,672.44	-27.7	167.8	216.4
2008	30	1/30/08	105.22	15,740.69	34.3	59.1	173.1	84.96	12,709.84	-27.7	102.3	216.4
2008	60	2/29/08	105.51	15,784.07	34.3	353.5	173.2	85.22	12,748.73	-27.8	36.8	216.4
2008	90	3/30/08	105.81	15,828.95	34.3	288.0	173.2	85.48	12,787.63	-27.8	331.3	216.4
2008	120	4/29/08	106.1	15,872.33	34.3	222.5	173.2	85.74	12,826.52	-27.9	265.8	216.4
2008	150	5/29/08	106.4	15,917.21	34.3	157.0	173.2	86.00	12,865.42	-27.9	200.2	216.4
2008	180	6/28/08	106.69	15,960.60	34.3	91.5	173.2	86.26	12,904.31	-28.0	134.7	216.5
2008	210	7/28/08	106.99	16,005.48	34.3	26.0	173.2	86.52	12,943.21	-28.0	69.2	216.5
2008	240	8/27/08	107.28	16,048.86	34.3	320.5	173.3	86.77	12,980.61	-28.1	3.7	216.5
2008	270	9/26/08	107.58	16,093.74	34.3	255.0	173.3	87.03	13,019.50	-28.1	298.2	216.5

			VOYAGER 1					VOYAGER 2				
Year	Day of Year	Date	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude	Radial Distance (AU)	Radial Distance (Million km)	Heliographic Latitude	Heliographic Rotating Longitude	Heliographic Inertial Longitude
2008	300	10/26/08	107.87	16,137.12	34.3	189.4	173.3	87.29	13,058.40	-28.2	232.7	216.5
2008	330	11/25/08	108.16	16,180.51	34.3	123.9	173.3	87.55	13,097.29	-28.2	167.2	216.6
2008	360	12/25/08	108.46	16,225.39	34.3	58.4	173.3	87.81	13,136.19	-28.2	101.7	216.6
2009	24	1/24/09	108.75	16,268.77	34.3	352.9	173.4	88.07	13,175.08	-28.3	36.1	216.6
2009	54	2/23/09	109.05	16,313.65	34.3	287.4	173.4	88.33	13,213.98	-28.3	330.6	216.6
2009	84	3/25/09	109.34	16,357.03	34.3	221.9	173.4	88.59	13,252.88	-28.4	265.1	216.6
2009	114	4/24/09	109.64	16,401.91	34.4	156.4	173.4	88.84	13,290.27	-28.4	199.6	216.7
2009	144	5/24/09	109.93	16,445.29	34.4	90.9	173.4	89.10	13,329.17	-28.5	134.1	216.7
2009	174	6/23/09	110.22	16,488.68	34.4	25.3	173.5	89.36	13,368.07	-28.5	68.6	216.7
2009	204	7/23/09	110.52	16,533.56	34.4	319.8	173.5	89.62	13,406.96	-28.6	3.1	216.7
2009	234	8/22/09	110.81	16,576.94	34.4	254.3	173.5	89.88	13,445.86	-28.6	297.6	216.7
2009	264	9/21/09	111.11	16,621.82	34.4	188.8	173.5	90.14	13,484.75	-28.6	232.0	216.7
2009	294	10/21/09	111.4	16,665.20	34.4	123.3	173.5	90.40	13,523.65	-28.7	166.5	216.8
2009	324	11/20/09	111.7	16,710.08	34.4	57.8	173.5	90.66	13,562.54	-28.7	101.0	216.8
2009	354	12/20/09	111.99	16,753.47	34.4	352.3	173.6	90.92	13,601.44	-28.8	35.5	216.8
2010	19	1/19/10	112.28	16,796.85	34.4	286.7	173.6	91.17	13,638.84	-28.8	330.0	216.8
2010	49	2/18/10	112.58	16,841.73	34.4	221.2	173.6	91.43	13,677.73	-28.9	264.5	216.8
2010	79	3/20/10	112.87	16,885.11	34.4	155.7	173.6	91.69	13,716.63	-28.9	199.0	216.9
2010	109	4/19/10	113.17	16,929.99	34.4	90.2	173.6	91.95	13,755.52	-28.9	133.4	216.9
2010	139	5/19/10	113.46	16,973.37	34.4	24.7	173.6	92.21	13,794.42	-29.0	67.9	216.9
2010	169	6/18/10	113.75	17,016.76	34.4	319.2	173.7	92.47	13,833.32	-29.0	2.4	216.9
2010	199	7/18/10	114.05	17,061.64	34.4	253.7	173.7	92.73	13,872.21	-29.1	296.9	216.9
2010	229	8/17/10	114.34	17,105.02	34.4	188.1	173.7	92.99	13,911.11	-29.1	231.4	216.9
2010	259	9/16/10	114.64	17,149.90	34.4	122.6	173.7	93.25	13,950.00	-29.1	165.9	217.0
2010	289	10/16/10	114.93	17,193.28	34.4	57.1	173.7	93.51	13,988.90	-29.2	100.3	217.0
2010	319	11/15/10	115.22	17,236.67	34.4	351.6	173.7	93.76	14,026.30	-29.2	34.8	217.0
2010	349	12/15/10	115.52	17,281.55	34.4	286.1	173.8	94.02	14,065.19	-29.3	329.3	217.0
2011	14	1/14/11	115.81	17,324.93	34.4	220.6	173.8	94.28	14,104.09	-29.3	263.8	217.0
2011	44	2/13/11	116.11	17,369.81	34.5	155.0	173.8	94.54	14,142.98	-29.3	198.3	217.0
2011	74	3/15/11	116.4	17,413.19	34.5	89.5	173.8	94.80	14,181.88	-29.4	132.8	217.1
2011	104	4/14/11	116.69	17,456.58	34.5	24.0	173.8	95.06	14,220.77	-29.4	67.3	217.1
2011	134	5/14/11	116.99	17,501.45	34.5	318.5	173.8	95.32	14,259.67	-29.4	1.7	217.1
2011	164	6/13/11	117.28	17,544.84	34.5	253.0	173.9	95.58	14,298.56	-29.5	296.2	217.1
2011	194	7/13/11	117.58	17,589.72	34.5	187.5	173.9	95.84	14,337.46	-29.5	230.7	217.1
2011	224	8/12/11	117.87	17,633.10	34.5	121.9	173.9	96.10	14,376.36	-29.6	165.2	217.1
2011	254	9/11/11	118.16	17,676.48	34.5	56.4	173.9	96.36	14,415.25	-29.6	99.7	217.2
2011	284	10/11/11	118.46	17,721.36	34.5	350.9	173.9	96.62	14,454.15	-29.6	34.2	217.2
2011	314	11/10/11	118.75	17,764.75	34.5	285.4	173.9	96.87	14,491.55	-29.7	328.6	217.2

			VOYAGER 1					VOYAGER 2				
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2011	344	12/10/11	119.05	17,809.63	34.5	219.9	174.0	97.13	14,530.44	-29.7	263.1	217.2
2012	9	1/9/12	119.34	17,853.01	34.5	154.4	174.0	97.39	14,569.34	-29.7	197.6	217.2
2012	39	2/8/12	119.63	17,896.39	34.5	88.9	174.0	97.65	14,608.23	-29.8	132.1	217.2
2012	69	3/9/12	119.93	17,941.27	34.5	23.3	174.0	97.91	14,647.13	-29.8	66.6	217.3
2012	99	4/8/12	120.22	17,984.66	34.5	317.8	174.0	98.17	14,686.02	-29.9	1.1	217.3
2012	129	5/8/12	120.51	18,028.04	34.5	252.3	174.0	98.43	14,724.92	-29.9	295.5	217.3
2012	159	6/7/12	120.81	18,072.92	34.5	186.8	174.0	98.69	14,763.81	-29.9	230.0	217.3
2012	189	7/7/12	121.1	18,116.30	34.5	121.3	174.1	98.95	14,802.71	-30.0	164.5	217.3
2012	219	8/6/12	121.4	18,161.18	34.5	55.8	174.1	99.21	14,841.60	-30.0	99.0	217.3
2012	249	9/5/12	121.69	18,204.56	34.5	350.2	174.1	99.47	14,880.50	-30.0	33.5	217.3
2012	279	10/5/12	121.98	18,247.95	34.5	284.7	174.1	99.73	14,919.40	-30.1	328.0	217.4
2012	309	11/4/12	122.28	18,292.83	34.5	219.2	174.1	99.99	14,958.29	-30.1	262.4	217.4
2012	339	12/4/12	122.57	18,336.21	34.5	153.7	174.1	100.25	14,997.19	-30.1	196.9	217.4
2013	3	1/3/13	122.86	18,379.59	34.5	88.2	174.2	100.51	15,036.08	-30.2	131.4	217.4
2013	33	2/2/13	123.16	18,424.47	34.5	22.6	174.2	100.77	15,074.98	-30.2	65.9	217.4
2013	63	3/4/13	123.45	18,467.86	34.6	317.1	174.2	101.03	15,113.87	-30.2	0.4	217.4
2013	93	4/3/13	123.75	18,512.74	34.6	251.6	174.2	101.29	15,152.77	-30.3	294.9	217.4
2013	123	5/3/13	124.04	18,556.12	34.6	186.1	174.2	101.55	15,191.66	-30.3	229.3	217.5
2013	153	6/2/13	124.33	18,599.50	34.6	120.6	174.2	101.81	15,230.56	-30.3	163.8	217.5
2013	183	7/2/13	124.63	18,644.38	34.6	55.1	174.2	102.06	15,269.96	-30.4	98.3	217.5
2013	213	8/1/13	124.92	18,687.77	34.6	349.5	174.3	102.32	15,306.85	-30.4	32.8	217.5
2013	243	8/31/13	125.22	18,732.65	34.6	284.0	174.3	102.58	15,345.75	-30.4	327.3	217.5
2013	273	9/30/13	125.51	18,776.03	34.6	218.5	174.3	102.84	15,384.65	-30.5	261.8	217.5
2013	303	10/30/13	125.8	18,819.41	34.6	153.0	174.3	103.10	15,423.54	-30.5	196.2	217.5
2013	333	11/29/13	126.1	18,864.29	34.6	87.5	174.3	103.36	15,462.44	-30.5	130.7	217.6
2013	363	12/29/13	126.39	18,907.67	34.6	22.0	174.3	103.62	15,501.33	-30.6	65.2	217.6
2014	28	1/28/14	126.68	18,951.06	34.6	316.4	174.3	103.88	15,540.23	-30.6	359.7	217.6
2014	58	2/27/14	126.98	18,995.94	34.6	250.9	174.3	104.14	15,579.12	-30.6	294.2	217.6
2014	88	3/29/14	127.27	19,039.32	34.6	185.4	174.4	104.40	15,618.02	-30.7	228.6	217.6
2014	118	4/28/14	127.57	19,084.20	34.6	119.9	174.4	104.66	15,656.91	-30.7	163.1	217.6
2014	148	5/28/14	127.86	19,127.58	34.6	54.4	174.4	104.92	15,695.81	-30.7	97.6	217.6
2014	178	6/27/14	128.15	19,170.97	34.6	348.8	174.4	105.18	15,734.70	-30.8	32.1	217.7
2014	208	7/27/14	128.45	19,215.85	34.6	283.3	174.4	105.44	15,773.60	-30.8	326.6	217.7
2014	238	8/26/14	128.74	19,259.23	34.6	217.8	174.4	105.70	15,812.49	-30.8	261.1	217.7
2014	268	9/25/14	129.03	19,302.61	34.6	152.3	174.4	105.96	15,851.39	-30.8	195.5	217.7
2014	298	10/25/14	129.33	19,347.49	34.6	86.8	174.5	106.22	15,890.29	-30.9	130.0	217.7
2014	328	11/24/14	129.62	19,390.88	34.6	21.2	174.5	106.48	15,929.18	-30.9	64.5	217.7
2014	358	12/24/14	129.92	19,435.76	34.6	315.7	174.5	106.74	15,968.08	-30.9	359.0	217.7

			VOYAGER 1					VOYAGER 2				
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2015	23	1/23/15	130.21	19,479.14	34.6	250.2	174.5	107.00	16,006.97	-31.0	293.5	217.8
2015	53	2/22/15	130.5	19,522.52	34.6	184.7	174.5	107.26	16,045.87	-31.0	227.9	217.8
2015	83	3/24/15	130.8	19,567.40	34.6	119.2	174.5	107.52	16,084.76	-31.0	162.4	217.8
2015	113	4/23/15	131.09	19,610.78	34.6	53.7	174.5	107.78	16,123.66	-31.1	96.9	217.8
2015	143	5/23/15	131.38	19,654.17	34.6	348.1	174.5	108.04	16,162.55	-31.1	31.4	217.8
2015	173	6/22/15	131.68	19,699.05	34.6	282.6	174.6	108.30	16,201.45	-31.1	325.9	217.8
2015	203	7/22/15	131.97	19,742.43	34.6	217.1	174.6	108.56	16,240.34	-31.1	260.3	217.8
2015	233	8/21/15	132.26	19,785.81	34.7	151.6	174.6	108.82	16,279.24	-31.2	194.8	217.8
2015	263	9/20/15	132.56	19,830.69	34.7	86.1	174.6	109.08	16,318.14	-31.2	129.3	217.9
2015	293	10/20/15	132.85	19,874.08	34.7	20.5	174.6	109.34	16,357.03	-31.2	63.8	217.9
2015	323	11/19/15	133.15	19,918.96	34.7	315.0	174.6	109.60	16,395.93	-31.3	358.3	217.9