

TOPOCENTRIC CONFIGURATION

MIRA Oliver Observing Sta., Monterey/Chews Ridge

Location: W121°34'12.0", N36°18'18.0", 1525m

(Longitude referred to Ephemeris meridian)

2008 Jan 01 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	18 43.2	-23 04	0.983	81	232	----	32 31.9	----
Mercury	19 20.4	-24 19	1.372	76	225	E 9	0 04.9	-1.1
Venus	15 59.3	-18 28	1.150	108	260	W 38	0 14.5	-3.9
Mars	5 59.5	+26 56	0.607	90	56	E169	0 15.4	-1.5
Jupiter	18 13.1	-23 14	6.222	86	237	W 7	0 31.7	-1.8
Saturn	10 42.8	+ 9 58	8.715	134	357	W121	0 19.1	0.6
Uranus	23 07.3	- 6 28	20.484	43	168	E 65	0 03.4	5.9
Neptune	21 31.0	-15 00	30.785	53	199	E 40	0 02.2	8.0
Pluto	17 56.4	-17 09	32.354	84	244	W 12	0 00.1	14.0
	h m	° '	km	°	°	°	' "	Illum.
Moon	12 56.2	-10 45	406805	139	299	W 83	29 22.0	44%

2008 Jan 06 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	19 05.2	-22 36	0.983	80	232	----	32 31.9	----
Mercury	19 55.5	-22 57	1.313	73	223	E 12	0 05.1	-1.1
Venus	16 24.4	-19 43	1.182	107	258	W 37	0 14.1	-3.9
Mars	5 51.8	+26 59	0.624	85	60	E163	0 15.0	-1.4
Jupiter	18 18.1	-23 13	6.208	88	239	W 11	0 31.8	-1.8
Saturn	10 42.3	+10 02	8.646	134	4	W127	0 19.2	0.6
Uranus	23 07.9	- 6 24	20.561	43	175	E 61	0 03.4	5.9
Neptune	21 31.6	-14 57	30.839	55	204	E 35	0 02.2	8.0
Pluto	17 57.2	-17 09	32.337	88	247	W 17	0 00.1	14.0
	h m	° '	km	°	°	°	' "	Illum.
Moon	16 57.7	-28 07	403460	105	246	W 29	29 36.5	6%

2008 Jan 11 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	

Sun	19 27.1	-21 56	0.983	79 232	----	32 31.7	----
Mercury	20 29.3	-20 58	1.233	69 221	E 15	0 05.5	-1.0
Venus	16 50.0	-20 45	1.213	107 256	W 36	0 13.8	-3.9
Mars	5 45.3	+26 58	0.645	80 64	E156	0 14.5	-1.2
Jupiter	18 23.0	-23 11	6.189	91 241	W 15	0 31.9	-1.8
Saturn	10 41.7	+10 08	8.582	133 11	W132	0 19.4	0.5
Uranus	23 08.6	- 6 20	20.635	43 182	E 56	0 03.4	5.9
Neptune	21 32.3	-14 54	30.886	56 210	E 30	0 02.2	8.0
Pluto	17 57.9	-17 10	32.313	91 250	W 22	0 00.1	14.0
	h m	' "	km	' "	' "	' "	Illum.
Moon	21 28.2	-16 20	382609	58 210	E 29	31 13.2	6%

2008 Jan 16 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	19 48.7	-21 06	0.984	78 232	----	32 31.3	----	
Mercury	21 00.4	-18 26	1.129	66 220	E 17	0 06.0	-1.0	
Venus	17 16.0	-21 34	1.244	106 255	W 35	0 13.4	-3.8	
Mars	5 40.1	+26 55	0.671	76 67	E150	0 14.0	-1.1	
Jupiter	18 27.9	-23 08	6.164	93 243	W 19	0 32.0	-1.8	
Saturn	10 40.9	+10 13	8.523	132 17	W137	0 19.5	0.5	
Uranus	23 09.3	- 6 15	20.704	43 189	E 51	0 03.4	5.9	
Neptune	21 33.0	-14 51	30.927	58 215	E 26	0 02.2	8.0	
Pluto	17 58.6	-17 10	32.281	95 252	W 26	0 00.1	14.0	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	1 37.2	+14 22	365962	35 120	E 93	32 38.3	52%	

2008 Jan 21 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	20 10.0	-20 05	0.984	77 233	----	32 30.6	----	
Mercury	21 25.8	-15 38	1.004	62 221	E 19	0 06.7	-0.7	
Venus	17 42.3	-22 07	1.273	105 253	W 34	0 13.1	-3.8	
Mars	5 36.4	+26 51	0.700	71 70	E144	0 13.4	-0.9	
Jupiter	18 32.7	-23 05	6.134	96 246	W 23	0 32.1	-1.8	
Saturn	10 39.9	+10 20	8.470	130 24	W143	0 19.6	0.5	
Uranus	23 10.1	- 6 10	20.769	44 195	E 46	0 03.4	5.9	
Neptune	21 33.7	-14 48	30.961	61 219	E 21	0 02.2	8.0	
Pluto	17 59.3	-17 10	32.244	99 255	W 31	0 00.1	14.0	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	6 46.5	+26 23	367317	85 61	E160	32 31.2	97%	

2008 Jan 26 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	20 31.0	-18 55	0.984	76	233	----	32 29.6	----
Mercury	21 40.9	-13 05	0.867	61	223	E 18	0 07.8	-0.2
Venus	18 08.8	-22 24	1.302	104	252	W 33	0 12.8	-3.8
Mars	5 34.2	+26 46	0.734	67	73	E139	0 12.8	-0.8
Jupiter	18 37.5	-23 02	6.099	99	248	W 27	0 32.3	-1.9
Saturn	10 38.9	+10 28	8.423	128	30	W148	0 19.7	0.4
Uranus	23 10.9	- 6 04	20.829	45	202	E 41	0 03.4	5.9
Neptune	21 34.4	-14 44	30.988	63	224	E 16	0 02.2	8.0
Pluto	18 00.0	-17 10	32.200	103	258	W 36	0 00.1	14.0
	h m	° '	km	°	°	°	' "	Illum.
Moon	11 14.0	+ 2 27	393588	139	23	W137	30 21.1	86%

2008 Jan 31 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	20 51.7	-17 37	0.985	75	234	----	32 28.4	----
Mercury	21 40.1	-11 36	0.744	63	229	E 13	0 09.0	----
Venus	18 35.4	-22 24	1.330	102	251	W 32	0 12.5	-3.8
Mars	5 33.5	+26 41	0.770	63	75	E134	0 12.2	-0.6
Jupiter	18 42.2	-22 58	6.059	101	250	W 31	0 32.5	-1.9
Saturn	10 37.7	+10 36	8.383	126	36	W153	0 19.8	0.4
Uranus	23 11.8	- 5 59	20.883	46	208	E 36	0 03.4	5.9
Neptune	21 35.1	-14 41	31.009	66	228	E 11	0 02.2	8.0
Pluto	18 00.6	-17 10	32.150	106	260	W 41	0 00.1	14.0
	h m	° '	km	°	°	°	' "	Illum.
Moon	14 58.3	-22 44	409761	146	283	W 82	29 09.3	43%

2008 Feb 05 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	21 12.0	-16 11	0.986	74	235	----	32 26.9	----
Mercury	21 23.0	-11 48	0.666	69	236	E 5	0 10.1	----
Venus	19 02.1	-22 08	1.358	101	250	W 31	0 12.3	-3.8
Mars	5 34.3	+26 36	0.810	60	78	E129	0 11.6	-0.5
Jupiter	18 46.8	-22 53	6.014	104	252	W 35	0 32.8	-1.9

Saturn	10 36.4	+10 44	8.349	123	41	W159	0 19.9	0.3
Uranus	23 12.7	- 5 53	20.932	48	214	E 31	0 03.4	5.9
Neptune	21 35.8	-14 37	31.022	69	232	E 6	0 02.2	8.0
Pluto	18 01.2	-17 09	32.094	110	263	W 46	0 00.1	14.0
	h m	' "	km	' "	' "	' "	' "	Illum.
Moon	19 24.5	-25 44	393198	99	244	W 27	30 22.9	5%

2008 Feb 10 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	21 32.0	-14 37	0.987	73	236	----	32 25.3	----
Mercury	20 59.7	-13 15	0.651	77	243	W 8	0 10.3	----
Venus	19 28.6	-21 36	1.384	99	250	W 30	0 12.1	-3.8
Mars	5 36.3	+26 32	0.851	56	80	E124	0 11.0	-0.3
Jupiter	18 51.2	-22 48	5.965	107	254	W 39	0 33.0	-1.9
Saturn	10 35.0	+10 53	8.323	120	46	W164	0 20.0	0.3
Uranus	23 13.7	- 5 47	20.974	50	219	E 26	0 03.4	5.9
Neptune	21 36.6	-14 34	31.028	72	235	E 1	0 02.2	8.0
Pluto	18 01.8	-17 09	32.033	114	266	W 50	0 00.1	14.0
	h m	' "	km	' "	' "	' "	' "	Illum.
Moon	23 41.4	+ 0 18	369628	42	215	E 35	32 18.9	9%

2008 Feb 15 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	21 51.7	-12 58	0.988	71	237	----	32 23.5	----
Mercury	20 43.9	-14 57	0.688	85	247	W 17	0 09.8	----
Venus	19 54.8	-20 47	1.410	98	250	W 29	0 11.8	-3.8
Mars	5 39.6	+26 28	0.895	53	82	E120	0 10.5	-0.2
Jupiter	18 55.5	-22 43	5.912	110	256	W 43	0 33.3	-1.9
Saturn	10 33.5	+11 02	8.305	117	50	W170	0 20.0	0.3
Uranus	23 14.6	- 5 40	21.010	53	225	E 22	0 03.4	5.9
Neptune	21 37.3	-14 30	31.027	75	239	W 4	0 02.2	8.0
Pluto	18 02.3	-17 09	31.968	118	268	W 55	0 00.1	14.0
	h m	' "	km	' "	' "	' "	' "	Illum.
Moon	4 18.7	+26 21	365309	37	94	E102	32 41.8	60%

2008 Feb 20 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
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	h	m	'	"	A.U.	.	.	.	'	"	
Sun	22	11.1	-11	13	0.989	70	239	----	32	21.5	----
Mercury	20	40.9	-16	10	0.755	90	250	W 22	0	08.9	0.5
Venus	20	20.8	-19	43	1.435	96	250	W 28	0	11.6	-3.7
Mars	5	43.9	+26	24	0.940	50	84	E116	0	10.0	-0.1
Jupiter	18	59.7	-22	38	5.854	113	258	W 47	0	33.7	-1.9
Saturn	10	32.0	+11	12	8.294	113	55	W175	0	20.0	0.2
Uranus	23	15.7	- 5	34	21.040	55	229	E 17	0	03.3	5.9
Neptune	21	38.1	-14	26	31.018	78	242	W 9	0	02.2	8.0
Pluto	18	02.8	-17	08	31.898	122	271	W 60	0	00.1	14.0
	h	m	'	"	km	.	.	.	'	"	Illum.
Moon	9	20.3	+16	14	380367	97	64	E167	31	24.3	99%

2008 Feb 25 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.			
	h	m	'	"	A.U.	.	.	.	'	"	
Sun	22	30.2	- 9	24	0.990	69	240	----	32	19.4	----
Mercury	20	49.0	-16	44	0.832	92	251	W 26	0	08.1	0.3
Venus	20	46.4	-18	25	1.459	94	250	W 27	0	11.4	-3.7
Mars	5	49.2	+26	20	0.987	47	86	E112	0	09.5	0.1
Jupiter	19	03.8	-22	32	5.793	116	260	W 51	0	34.0	-2.0
Saturn	10	30.5	+11	21	8.292	110	59	W178	0	20.0	0.2
Uranus	23	16.7	- 5	27	21.062	58	234	E 12	0	03.3	5.9
Neptune	21	38.8	-14	23	31.003	82	245	W 14	0	02.2	8.0
Pluto	18	03.2	-17	08	31.825	126	274	W 65	0	00.1	14.0
	h	m	'	"	km	.	.	.	'	"	Illum.
Moon	13	11.2	-12	25	404621	153	33	W134	29	31.5	85%

2008 Mar 01 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.			
	h	m	'	"	A.U.	.	.	.	'	"	
Sun	22	49.0	- 7	32	0.991	68	242	----	32	17.0	----
Mercury	21	04.9	-16	38	0.911	93	252	W 27	0	07.4	0.1
Venus	21	11.5	-16	53	1.482	92	250	W 26	0	11.3	-3.7
Mars	5	55.4	+26	16	1.034	44	88	E108	0	09.1	0.2
Jupiter	19	07.7	-22	27	5.728	119	262	W 55	0	34.4	-2.0
Saturn	10	29.0	+11	30	8.297	106	62	E174	0	20.0	0.2
Uranus	23	17.7	- 5	21	21.078	61	238	E 7	0	03.3	5.9
Neptune	21	39.5	-14	19	30.980	85	248	W 18	0	02.2	8.0
Pluto	18	03.6	-17	08	31.749	129	277	W 70	0	00.1	14.0
	h	m	'	"	km	.	.	.	'	"	Illum.

Moon 17 15.6 -28 10 407161 144 271 W 81 29 20.5 42%

2008 Mar 06 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	23 07.7	- 5 36	0.992	67	243	----	32 14.5	----
Mercury	21 25.8	-15 54	0.986	92	252	W 27	0 06.8	0.0
Venus	21 36.2	-15 09	1.505	90	251	W 24	0 11.1	-3.7
Mars	6 02.3	+26 10	1.082	42	90	E105	0 08.7	0.3
Jupiter	19 11.3	-22 21	5.660	122	265	W 59	0 34.8	-2.0
Saturn	10 27.5	+11 39	8.309	102	66	E168	0 20.0	0.2
Uranus	23 18.8	- 5 14	21.087	64	242	E 3	0 03.3	5.9
Neptune	21 40.2	-14 16	30.951	89	251	W 23	0 02.2	8.0
Pluto	18 03.9	-17 07	31.670	133	281	W 75	0 00.1	14.0
	h m	° ' "	km	°	°	°	' "	Illum.
Moon	21 42.0	-14 30	379519	88	251	W 23	31 28.6	4%

2008 Mar 11 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	23 26.2	- 3 39	0.993	66	245	----	32 12.0	----
Mercury	21 50.1	-14 36	1.057	91	252	W 26	0 06.4	-0.0
Venus	22 00.5	-13 15	1.527	88	252	W 23	0 10.9	-3.7
Mars	6 09.9	+26 04	1.131	39	92	E101	0 08.3	0.4
Jupiter	19 14.8	-22 16	5.589	126	267	W 64	0 35.3	-2.0
Saturn	10 26.1	+11 48	8.330	98	69	E163	0 20.0	0.3
Uranus	23 19.8	- 5 07	21.089	68	245	W 2	0 03.3	5.9
Neptune	21 40.9	-14 12	30.914	92	254	W 28	0 02.2	8.0
Pluto	18 04.2	-17 07	31.589	137	285	W 80	0 00.1	14.0
	h m	° ' "	km	°	°	°	' "	Illum.
Moon	2 01.9	+17 18	360477	24	223	E 44	33 08.1	14%

2008 Mar 16 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	23 44.5	- 1 41	0.995	65	247	----	32 09.4	----
Mercury	22 16.7	-12 44	1.122	88	253	W 24	0 06.0	-0.1
Venus	22 24.4	-11 12	1.547	86	253	W 22	0 10.8	-3.7
Mars	6 18.1	+25 56	1.180	37	94	E 98	0 07.9	0.5

Jupiter	19 18.1	-22 10	5.515	129	270	W 68	0 35.7	-2.1
Saturn	10 24.7	+11 56	8.358	94	72	E158	0 19.9	0.3
Uranus	23 20.9	- 5 00	21.084	71	249	W 7	0 03.3	5.9
Neptune	21 41.6	-14 09	30.872	96	257	W 33	0 02.2	8.0
Pluto	18 04.4	-17 06	31.507	141	289	W 85	0 00.1	14.0
	h m	' "	km	.	.	.	' "	Illum.
Moon	7 13.2	+25 38	371637	48	86	E111	32 08.4	68%

2008 Mar 21 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	.	.	.	' "	
Sun	0 02.8	+ 0 18	0.996	63	249	----	32 06.7	----
Mercury	22 44.9	-10 19	1.182	85	253	W 22	0 05.7	-0.3
Venus	22 47.9	- 9 01	1.567	84	254	W 21	0 10.6	-3.7
Mars	6 26.8	+25 46	1.230	35	96	E 95	0 07.6	0.6
Jupiter	19 21.2	-22 05	5.440	132	272	W 72	0 36.2	-2.1
Saturn	10 23.4	+12 03	8.393	90	75	E152	0 19.8	0.3
Uranus	23 21.9	- 4 54	21.072	75	252	W 11	0 03.3	5.9
Neptune	21 42.2	-14 06	30.823	100	260	W 38	0 02.2	8.0
Pluto	18 04.6	-17 05	31.424	144	294	W 90	0 00.1	14.0
	h m	' "	km	.	.	.	' "	Illum.
Moon	11 28.9	+ 0 46	394146	109	74	E171	30 18.4	99%

2008 Mar 26 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	.	.	.	' "	
Sun	0 21.0	+ 2 16	0.998	62	251	----	32 04.0	----
Mercury	23 14.6	- 7 25	1.234	81	254	W 19	0 05.5	-0.5
Venus	23 11.1	- 6 45	1.586	82	255	W 20	0 10.5	-3.7
Mars	6 35.9	+25 34	1.279	33	98	E 92	0 07.3	0.7
Jupiter	19 24.0	-22 00	5.362	136	275	W 76	0 36.8	-2.1
Saturn	10 22.1	+12 10	8.435	85	78	E147	0 19.7	0.3
Uranus	23 23.0	- 4 47	21.053	78	255	W 16	0 03.3	5.9
Neptune	21 42.8	-14 03	30.769	103	262	W 42	0 02.2	8.0
Pluto	18 04.7	-17 05	31.342	148	299	W 95	0 00.1	14.0
	h m	' "	km	.	.	.	' "	Illum.
Moon	15 17.3	-23 41	410809	163	45	W132	29 04.8	84%

2008 Mar 31 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
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	h	m	'	"	A.U.	.	.	.	'	"	
Sun	0	39.2	+	4 13	0.999	62	253	----	32	01.2	----
Mercury	23	45.7	-	4 02	1.280	77	255	W 16	0	05.3	-0.7
Venus	23	34.0	-	4 23	1.604	80	257	W 18	0	10.4	-3.7
Mars	6	45.5	+	25 20	1.328	31	101	E 90	0	07.1	0.8
Jupiter	19	26.6	-	21 55	5.283	139	278	W 81	0	37.3	-2.1
Saturn	10	21.0	+	12 16	8.483	81	81	E142	0	19.6	0.4
Uranus	23	24.0	-	4 41	21.028	82	258	W 21	0	03.4	5.9
Neptune	21	43.4	-	14 00	30.710	107	265	W 47	0	02.2	8.0
Pluto	18	04.8	-	17 04	31.260	151	306	W 99	0	00.1	14.0
	h	m	'	"	km	.	.	.	'	"	Illum.
Moon	19	38.7	-	24 37	399552	138	272	W 78	29	54.0	40%

2008 Apr 05 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.			
	h	m	'	"	A.U.	.	.	.	'	"	
Sun	0	57.4	+	6 08	1.000	61	255	----	31	58.4	----
Mercury	0	18.4	-	0 12	1.315	72	256	W 12	0	05.1	-1.1
Venus	23	56.8	-	1 58	1.621	78	258	W 17	0	10.3	-3.7
Mars	6	55.4	+	25 04	1.377	29	104	E 87	0	06.8	0.9
Jupiter	19	28.9	-	21 51	5.204	142	281	W 85	0	37.9	-2.2
Saturn	10	20.1	+	12 21	8.537	77	84	E137	0	19.5	0.4
Uranus	23	25.0	-	4 35	20.996	85	261	W 25	0	03.4	5.9
Neptune	21	43.9	-	13 58	30.645	111	268	W 52	0	02.2	8.0
Pluto	18	04.8	-	17 04	31.179	154	314	W104	0	00.1	14.0
	h	m	'	"	km	.	.	.	'	"	Illum.
Moon	23	51.4	+	1 52	365859	76	262	W 17	32	39.1	2%

2008 Apr 10 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.			
	h	m	'	"	A.U.	.	.	.	'	"	
Sun	1	15.7	+	8 00	1.002	60	257	----	31	55.7	----
Mercury	0	53.1	+	4 01	1.336	67	257	W 7	0	05.0	-1.5
Venus	0	19.4	+	0 28	1.637	75	260	W 16	0	10.2	-3.7
Mars	7	05.6	+	24 45	1.426	28	106	E 84	0	06.6	0.9
Jupiter	19	30.9	-	21 47	5.123	146	285	W 89	0	38.5	-2.2
Saturn	10	19.2	+	12 25	8.597	73	87	E132	0	19.3	0.4
Uranus	23	26.0	-	4 28	20.957	89	264	W 30	0	03.4	5.9
Neptune	21	44.4	-	13 55	30.577	115	271	W 57	0	02.2	7.9
Pluto	18	04.7	-	17 03	31.099	157	323	W109	0	00.1	14.0

	h	m	°	'	km	°	'	°	'	"	Illum.
Moon	4	47.1	+27	08	358325	10	207	E	53	33 20.1	20%

2008 Apr 15 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.	
	h	m	°	'	A.U.	°	'	"	
Sun	1	34.2	+ 9	49	1.003	59 259	----	31 53.0	----
Mercury	1	29.9	+ 8	30	1.336	61 258	S 2	0 05.0	-2.0
Venus	0	42.1	+ 2	55	1.652	73 261	W 15	0 10.1	-3.7
Mars	7	16.0	+24	23	1.475	26 110	E 82	0 06.4	1.0
Jupiter	19	32.7	-21	44	5.043	149 290	W 94	0 39.1	-2.2
Saturn	10	18.5	+12	29	8.662	69 90	E127	0 19.2	0.4
Uranus	23	26.9	- 4	23	20.913	93 267	W 35	0 03.4	5.9
Neptune	21	44.9	-13	53	30.504	119 274	W 62	0 02.2	7.9
Pluto	18	04.6	-17	03	31.023	159 335	W114	0 00.1	13.9
	h	m	°	'	km	°	'	"	Illum.
Moon	9	44.3	+13	41	382356	61 94	E118	31 14.3	74%

2008 Apr 20 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.	
	h	m	°	'	A.U.	°	'	"	
Sun	1	52.7	+11	34	1.005	58 261	----	31 50.4	----
Mercury	2	08.9	+13	01	1.308	54 259	E 4	0 05.1	-2.0
Venus	1	04.8	+ 5	20	1.666	71 263	W 13	0 10.0	-3.7
Mars	7	26.7	+23	59	1.522	25 113	E 79	0 06.2	1.1
Jupiter	19	34.1	-21	41	4.963	153 295	W 99	0 39.7	-2.3
Saturn	10	18.0	+12	31	8.731	65 93	E122	0 19.0	0.5
Uranus	23	27.8	- 4	17	20.863	97 269	W 39	0 03.4	5.9
Neptune	21	45.3	-13	51	30.428	123 277	W 66	0 02.2	7.9
Pluto	18	04.4	-17	02	30.949	160 348	W119	0 00.1	13.9
	h	m	°	'	km	°	'	"	Illum.
Moon	13	30.5	-14	20	404870	119 87	E174	29 30.3	100%

2008 Apr 25 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.	
	h	m	°	'	A.U.	°	'	"	
Sun	2	11.5	+13	15	1.006	57 262	----	31 47.8	----
Mercury	2	49.1	+17	11	1.245	48 260	E 10	0 05.4	-1.6
Venus	1	27.7	+ 7	43	1.679	69 264	W 12	0 09.9	-3.7

Mars	7 37.5	+23 31	1.570	23 117	E 77	0 06.0	1.1
Jupiter	19 35.2	-21 39	4.884	156 301	W103	0 40.4	-2.3
Saturn	10 17.6	+12 33	8.803	61 96	E117	0 18.9	0.5
Uranus	23 28.6	- 4 12	20.808	100 272	W 44	0 03.4	5.9
Neptune	21 45.6	-13 49	30.349	127 280	W 71	0 02.3	7.9
Pluto	18 04.2	-17 02	30.879	161 2	W124	0 00.1	13.9
	h m	' "	km	' "	' "	' "	Illum.
Moon	17 38.5	-27 50	411035	170 38	W130	29 03.9	82%

2008 Apr 30 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	2 30.5	+14 49	1.007	57 264	----	31 45.3	----	
Mercury	3 28.4	+20 38	1.152	42 260	E 15	0 05.8	-1.1	
Venus	1 50.8	+10 01	1.690	67 266	W 11	0 09.9	-3.7	
Mars	7 48.4	+23 00	1.616	22 121	E 75	0 05.8	1.2	
Jupiter	19 36.0	-21 38	4.807	159 310	W108	0 41.0	-2.4	
Saturn	10 17.4	+12 33	8.879	57 99	E112	0 18.7	0.5	
Uranus	23 29.4	- 4 07	20.748	104 275	W 49	0 03.4	5.9	
Neptune	21 45.9	-13 48	30.268	130 284	W 76	0 02.3	7.9	
Pluto	18 04.0	-17 02	30.813	160 16	W129	0 00.1	13.9	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	21 52.7	-12 55	388458	128 283	W 74	30 45.2	36%	

2008 May 05 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	2 49.6	+16 18	1.009	56 266	----	31 42.9	----	
Mercury	4 04.4	+23 06	1.042	37 261	E 19	0 06.5	-0.6	
Venus	2 14.3	+12 14	1.700	65 267	W 9	0 09.8	-3.8	
Mars	7 59.5	+22 27	1.662	21 126	E 73	0 05.6	1.3	
Jupiter	19 36.5	-21 37	4.731	162 320	W113	0 41.7	-2.4	
Saturn	10 17.4	+12 33	8.958	53 103	E107	0 18.6	0.6	
Uranus	23 30.2	- 4 02	20.683	108 278	W 53	0 03.4	5.9	
Neptune	21 46.2	-13 47	30.185	134 287	W 81	0 02.3	7.9	
Pluto	18 03.7	-17 01	30.752	158 29	W134	0 00.1	13.9	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	2 11.0	+18 06	356038	63 273	W 9	33 33.1	1%	

2008 May 10 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	3 09.1	+17 40	1.010	55	267	----	31 40.7	----
Mercury	4 35.1	+24 32	0.927	34	261	E 21	0 07.3	-0.1
Venus	2 38.0	+14 19	1.710	63	268	W 8	0 09.8	-3.8
Mars	8 10.7	+21 50	1.707	20	132	E 70	0 05.5	1.3
Jupiter	19 36.7	-21 38	4.658	164	334	W117	0 42.3	-2.4
Saturn	10 17.5	+12 32	9.038	49	106	E102	0 18.4	0.6
Uranus	23 30.9	- 3 58	20.615	111	281	W 58	0 03.4	5.9
Neptune	21 46.4	-13 46	30.101	138	292	W 86	0 02.3	7.9
Pluto	18 03.3	-17 01	30.695	156	40	W139	0 00.1	13.9
	h m	° '	km	°	°	°	' "	Illum.
Moon	7 38.7	+23 57	363632	14	148	E 63	32 50.9	27%

2008 May 15 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	3 28.7	+18 54	1.011	55	268	----	31 38.6	----
Mercury	4 58.9	+25 04	0.818	33	261	E 22	0 08.2	0.4
Venus	3 02.2	+16 16	1.717	61	270	W 7	0 09.7	-3.8
Mars	8 21.9	+21 10	1.751	19	137	E 68	0 05.3	1.4
Jupiter	19 36.5	-21 39	4.588	165	351	W122	0 43.0	-2.5
Saturn	10 17.8	+12 29	9.120	45	111	E 97	0 18.2	0.6
Uranus	23 31.5	- 3 54	20.542	115	285	W 63	0 03.4	5.9
Neptune	21 46.5	-13 45	30.017	141	297	W 90	0 02.3	7.9
Pluto	18 02.9	-17 01	30.644	153	49	W143	0 00.1	13.9
	h m	° '	km	°	°	°	' "	Illum.
Moon	11 51.0	- 2 25	393683	73	107	E124	30 20.4	78%

2008 May 20 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	3 48.6	+20 01	1.012	54	269	----	31 36.7	----
Mercury	5 15.0	+24 50	0.723	34	261	E 21	0 09.3	0.8
Venus	3 26.9	+18 03	1.724	59	271	W 5	0 09.7	-3.8
Mars	8 33.2	+20 28	1.794	19	144	E 66	0 05.2	1.4
Jupiter	19 35.9	-21 41	4.522	165	9	W127	0 43.6	-2.5
Saturn	10 18.3	+12 26	9.203	42	115	E 93	0 18.1	0.6
Uranus	23 32.1	- 3 50	20.466	119	288	W 67	0 03.4	5.9
Neptune	21 46.6	-13 45	29.932	145	302	W 95	0 02.3	7.9

Pluto	18 02.5	-17 01	30.599	150	57	W148	0 00.1	13.9
	h m	' '	km	'	'	'	' "	Illum.
Moon	15 42.4	-24 58	410106	127	96	E175	29 07.7	100%

2008 May 25 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' '	A.U.	'	'	'	' "	
Sun	4 08.7	+20 59	1.013	53	270	----	31 34.9	----
Mercury	5 22.5	+24 00	0.645	37	262	E 17	0 10.4	----
Venus	3 52.0	+19 38	1.729	57	271	W 4	0 09.7	-3.8
Mars	8 44.5	+19 42	1.836	19	150	E 64	0 05.1	1.4
Jupiter	19 35.1	-21 44	4.460	164	26	W132	0 44.2	-2.5
Saturn	10 18.9	+12 22	9.286	38	120	E 88	0 17.9	0.7
Uranus	23 32.6	- 3 47	20.388	122	292	W 72	0 03.5	5.9
Neptune	21 46.7	-13 45	29.848	148	308	W100	0 02.3	7.9
Pluto	18 02.0	-17 01	30.561	147	63	W153	0 00.1	13.9
	h m	' '	km	'	'	'	' "	Illum.
Moon	20 02.3	-22 45	405430	166	3	W126	29 28.0	79%

2008 May 30 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' '	A.U.	'	'	'	' "	
Sun	4 29.0	+21 48	1.014	53	271	----	31 33.2	----
Mercury	5 21.5	+22 41	0.588	42	264	E 12	0 11.4	----
Venus	4 17.6	+21 00	1.732	56	272	W 3	0 09.6	-3.8
Mars	8 55.8	+18 54	1.877	19	157	E 62	0 05.0	1.5
Jupiter	19 33.9	-21 47	4.403	162	41	W137	0 44.8	-2.6
Saturn	10 19.7	+12 17	9.369	35	126	E 83	0 17.7	0.7
Uranus	23 33.1	- 3 44	20.308	126	296	W 77	0 03.5	5.9
Neptune	21 46.7	-13 45	29.766	151	316	W105	0 02.3	7.9
Pluto	18 01.6	-17 01	30.528	143	68	W158	0 00.1	13.9
	h m	' '	km	'	'	'	' "	Illum.
Moon	0 00.9	+ 3 22	376479	116	296	W 67	31 43.9	31%

2008 Jun 04 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' '	A.U.	'	'	'	' "	
Sun	4 49.5	+22 27	1.015	52	272	----	31 31.8	----
Mercury	5 13.7	+21 07	0.556	48	267	E 6	0 12.1	----

Venus	4 43.6	+22 07	1.735	54 272	W 1	0 09.6	-3.8
Mars	9 07.2	+18 02	1.917	19 163	E 60	0 04.9	1.5
Jupiter	19 32.5	-21 51	4.350	159 52	W142	0 45.3	-2.6
Saturn	10 20.6	+12 11	9.451	32 132	E 79	0 17.6	0.7
Uranus	23 33.5	- 3 42	20.226	129 300	W 81	0 03.5	5.9
Neptune	21 46.6	-13 45	29.685	154 325	W110	0 02.3	7.9
Pluto	18 01.1	-17 01	30.503	139 73	W162	0 00.1	13.9
	h m	' "	km	' "	' "	' "	Illum.
Moon	4 56.2	+26 57	353228	49 276	N 5	33 49.1	0%

2008 Jun 09 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	5 10.2	+22 57	1.015	52 272	----	31 30.6	----	
Mercury	5 02.7	+19 34	0.551	55 270	S 4	0 12.2	----	
Venus	5 09.9	+22 59	1.736	52 272	W 0	0 09.6	----	
Mars	9 18.5	+17 08	1.955	19 170	E 58	0 04.8	1.5	
Jupiter	19 30.7	-21 55	4.303	155 61	W148	0 45.8	-2.6	
Saturn	10 21.7	+12 04	9.532	30 140	E 74	0 17.4	0.7	
Uranus	23 33.8	- 3 40	20.142	133 305	W 86	0 03.5	5.9	
Neptune	21 46.5	-13 46	29.606	156 335	W114	0 02.3	7.9	
Pluto	18 00.6	-17 02	30.484	135 77	W167	0 00.1	13.9	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	10 03.8	+10 46	374127	29 149	E 71	31 55.6	34%	

2008 Jun 14 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	5 30.9	+23 16	1.016	52 272	----	31 29.7	----	
Mercury	4 53.0	+18 26	0.575	62 273	W 10	0 11.7	----	
Venus	5 36.6	+23 34	1.735	50 272	E 1	0 09.6	-3.8	
Mars	9 29.9	+16 11	1.993	20 176	E 56	0 04.7	1.6	
Jupiter	19 28.7	-22 01	4.263	151 68	W153	0 46.2	-2.7	
Saturn	10 22.9	+11 56	9.611	28 148	E 70	0 17.3	0.7	
Uranus	23 34.0	- 3 39	20.059	136 310	W 91	0 03.5	5.8	
Neptune	21 46.3	-13 47	29.531	157 346	W119	0 02.3	7.9	
Pluto	18 00.0	-17 02	30.473	131 81	W171	0 00.1	13.9	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	13 53.4	-17 07	402206	83 117	E129	29 41.9	82%	

2008 Jun 19 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	5 51.7	+23 26	1.016	51	272	----	31 28.9	----
Mercury	4 48.6	+17 59	0.623	67	276	W 16	0 10.8	----
Venus	6 03.4	+23 52	1.733	49	271	E 3	0 09.6	-3.8
Mars	9 41.3	+15 12	2.029	21	182	E 54	0 04.6	1.6
Jupiter	19 26.5	-22 06	4.229	147	74	W158	0 46.6	-2.7
Saturn	10 24.3	+11 48	9.688	26	157	E 65	0 17.2	0.8
Uranus	23 34.2	- 3 38	19.975	139	316	W 95	0 03.5	5.8
Neptune	21 46.1	-13 48	29.459	157	359	W124	0 02.3	7.9
Pluto	17 59.5	-17 02	30.469	127	84	W173	0 00.1	13.9
	h m	° '	km	°	°	°	' "	Illum.
Moon	18 07.4	-27 32	408803	134	95	W175	29 13.3	100%

2008 Jun 24 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	6 12.5	+23 24	1.016	51	272	----	31 28.3	----
Mercury	4 51.5	+18 15	0.694	70	278	W 20	0 09.7	----
Venus	6 30.3	+23 53	1.729	47	270	E 4	0 09.7	-3.8
Mars	9 52.6	+14 11	2.064	22	187	E 53	0 04.5	1.6
Jupiter	19 24.0	-22 12	4.201	143	79	W163	0 46.9	-2.7
Saturn	10 25.8	+11 39	9.762	25	167	E 61	0 17.0	0.8
Uranus	23 34.2	- 3 38	19.893	141	322	W100	0 03.5	5.8
Neptune	21 45.9	-13 49	29.391	157	11	W129	0 02.3	7.9
Pluto	17 58.9	-17 03	30.472	123	88	E173	0 00.1	13.9
	h m	° '	km	°	°	°	' "	Illum.
Moon	22 15.5	- 9 58	395437	154	354	W121	30 12.7	76%

2008 Jun 29 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	6 33.2	+23 13	1.017	51	272	----	31 27.9	----
Mercury	5 02.5	+19 08	0.783	71	280	W 22	0 08.6	0.6
Venus	6 57.1	+23 35	1.724	46	269	E 5	0 09.7	-3.8
Mars	10 03.9	+13 07	2.098	24	192	E 51	0 04.5	1.6
Jupiter	19 21.5	-22 17	4.181	138	83	W169	0 47.2	-2.7
Saturn	10 27.4	+11 30	9.834	25	178	E 57	0 16.9	0.8
Uranus	23 34.3	- 3 38	19.811	143	329	W105	0 03.6	5.8

Neptune	21 45.6	-13 51	29.327	156	23	W134	0 02.3	7.9
Pluto	17 58.4	-17 03	30.482	119	91	E170	0 00.1	13.9
	h m	' "	km	'	'	'	' "	Illum.
Moon	2 21.8	+19 03	367192	101	304	W 58	32 32.1	24%

2008 Jul 04 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	'	'	'	' "	
Sun	6 53.9	+22 52	1.017	51	271	----	31 27.7	----
Mercury	5 21.4	+20 23	0.887	71	282	W 22	0 07.6	0.2
Venus	7 23.8	+23 00	1.718	45	267	E 7	0 09.7	-3.8
Mars	10 15.2	+12 01	2.131	25	196	E 49	0 04.4	1.7
Jupiter	19 18.8	-22 23	4.167	134	87	W174	0 47.3	-2.7
Saturn	10 29.1	+11 19	9.901	25	188	E 52	0 16.8	0.8
Uranus	23 34.2	- 3 38	19.731	145	337	W110	0 03.6	5.8
Neptune	21 45.2	-13 53	29.269	154	34	W139	0 02.3	7.9
Pluto	17 57.9	-17 04	30.500	115	94	E166	0 00.1	13.9
	h m	' "	km	'	'	'	' "	Illum.
Moon	7 46.7	+22 54	358480	40	263	E 12	33 19.3	1%

2008 Jul 09 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	'	'	'	' "	
Sun	7 14.4	+22 20	1.017	51	271	----	31 27.8	----
Mercury	5 48.2	+21 42	1.000	69	282	W 20	0 06.7	-0.3
Venus	7 50.1	+22 09	1.710	44	265	E 8	0 09.8	-3.8
Mars	10 26.6	+10 53	2.162	27	200	E 47	0 04.3	1.7
Jupiter	19 16.0	-22 29	4.161	129	91	W180	0 47.4	-2.7
Saturn	10 30.9	+11 09	9.965	26	198	E 48	0 16.7	0.8
Uranus	23 34.1	- 3 40	19.654	147	346	W115	0 03.6	5.8
Neptune	21 44.9	-13 55	29.216	152	43	W143	0 02.3	7.8
Pluto	17 57.4	-17 05	30.525	111	96	E161	0 00.1	13.9
	h m	' "	km	'	'	'	' "	Illum.
Moon	12 07.6	- 5 20	386143	44	157	E 77	30 56.0	39%

2008 Jul 14 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	'	'	'	' "	
Sun	7 34.8	+21 39	1.016	51	270	----	31 28.2	----

Mercury	6 22.4	+22 43	1.114	65 281	W 17	0 06.0	-0.9
Venus	8 16.1	+21 01	1.700	43 262	E 10	0 09.8	-3.8
Mars	10 37.9	+ 9 43	2.192	28 204	E 45	0 04.3	1.7
Jupiter	19 13.3	-22 35	4.163	125 94	E175	0 47.4	-2.7
Saturn	10 32.7	+10 57	10.025	28 207	E 44	0 16.6	0.8
Uranus	23 33.9	- 3 41	19.579	147 355	W119	0 03.6	5.8
Neptune	21 44.5	-13 57	29.169	149 51	W148	0 02.3	7.8
Pluto	17 56.9	-17 06	30.556	107 99	E156	0 00.1	13.9
	h m	' "	km	' "			Illum.
Moon	16 07.0	-26 29	405568	92 122	E133	29 27.1	84%

2008 Jul 19 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	7 54.9	+20 49	1.016	52 269	----	31 28.7	----	
Mercury	7 03.1	+23 01	1.216	61 278	W 12	0 05.5	-1.4	
Venus	8 41.7	+19 38	1.689	43 260	E 11	0 09.9	-3.8	
Mars	10 49.2	+ 8 32	2.220	30 207	E 44	0 04.2	1.7	
Jupiter	19 10.6	-22 40	4.172	120 97	E170	0 47.3	-2.7	
Saturn	10 34.7	+10 45	10.080	30 215	E 40	0 16.5	0.8	
Uranus	23 33.6	- 3 43	19.509	147 4	W124	0 03.6	5.8	
Neptune	21 44.0	-13 59	29.128	145 58	W153	0 02.3	7.8	
Pluto	17 56.4	-17 07	30.594	103 102	E152	0 00.1	13.9	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	20 30.1	-20 47	401234	136 83	W172	29 46.3	99%	

2008 Jul 24 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	8 14.8	+19 50	1.016	52 268	----	31 29.4	----	
Mercury	7 47.5	+22 19	1.293	56 274	W 7	0 05.2	-1.8	
Venus	9 06.7	+18 02	1.677	43 257	E 12	0 10.0	-3.7	
Mars	11 00.5	+ 7 19	2.248	32 210	E 42	0 04.2	1.7	
Jupiter	19 07.9	-22 45	4.188	116 100	E164	0 47.1	-2.7	
Saturn	10 36.8	+10 33	10.131	32 222	E 35	0 16.4	0.8	
Uranus	23 33.2	- 3 45	19.442	147 13	W129	0 03.6	5.8	
Neptune	21 43.6	-14 02	29.093	142 63	W158	0 02.3	7.8	
Pluto	17 56.0	-17 08	30.639	99 105	E147	0 00.1	13.9	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	0 25.3	+ 6 31	383936	137 352	W113	31 07.0	70%	

2008 Jul 29 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	8 34.5	+18 43	1.015	53	267	----	31 30.3	----
Mercury	8 32.3	+20 31	1.337	52	269	N 2	0 05.0	-2.1
Venus	9 31.3	+16 13	1.663	43	253	E 14	0 10.0	-3.7
Mars	11 11.9	+ 6 05	2.274	34	212	E 40	0 04.1	1.7
Jupiter	19 05.5	-22 50	4.211	112	103	E159	0 46.8	-2.7
Saturn	10 38.9	+10 20	10.177	35	228	E 31	0 16.3	0.8
Uranus	23 32.8	- 3 48	19.379	146	22	W134	0 03.6	5.8
Neptune	21 43.1	-14 04	29.066	138	68	W163	0 02.3	7.8
Pluto	17 55.5	-17 09	30.690	95	108	E142	0 00.1	13.9
	h m	° '	km	°	°	°	' "	Illum.
Moon	5 09.1	+26 54	364166	87	302	W 48	32 48.3	16%

2008 Aug 03 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	8 54.0	+17 28	1.015	53	265	----	31 31.5	----
Mercury	9 14.5	+17 51	1.348	49	262	E 5	0 05.0	-1.7
Venus	9 55.4	+14 13	1.648	43	250	E 15	0 10.1	-3.7
Mars	11 23.3	+ 4 49	2.298	36	214	E 39	0 04.1	1.7
Jupiter	19 03.1	-22 54	4.241	107	106	E153	0 46.5	-2.7
Saturn	10 41.1	+10 07	10.217	38	234	E 27	0 16.3	0.8
Uranus	23 32.4	- 3 51	19.322	144	30	W139	0 03.6	5.8
Neptune	21 42.6	-14 07	29.045	134	73	W168	0 02.4	7.8
Pluto	17 55.2	-17 10	30.746	91	111	E137	0 00.1	13.9
	h m	° '	km	°	°	°	' "	Illum.
Moon	10 11.3	+ 9 16	369951	43	241	E 20	32 17.3	3%

2008 Aug 08 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° '	A.U.	°	°	°	' "	
Sun	9 13.1	+16 05	1.014	54	264	----	31 32.9	----
Mercury	9 53.0	+14 36	1.335	47	255	E 10	0 05.0	-1.2
Venus	10 19.0	+12 03	1.632	44	247	E 16	0 10.2	-3.7
Mars	11 34.7	+ 3 32	2.321	38	216	E 37	0 04.0	1.7
Jupiter	19 01.1	-22 57	4.278	103	109	E148	0 46.1	-2.6
Saturn	10 43.3	+ 9 54	10.252	41	238	E 23	0 16.2	0.8

Uranus	23 31.8	- 3 55	19.271	142	38	W144	0 03.7	5.8
Neptune	21 42.0	-14 10	29.031	130	77	W173	0 02.4	7.8
Pluto	17 54.8	-17 11	30.808	87	114	E133	0 00.1	13.9
	h m	' "	km	' "	' "	' "	' "	Illum.
Moon	14 10.0	-19 16	396097	58	161	E 81	30 09.3	42%

2008 Aug 13 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	9 32.1	+14 37	1.013	55	263	----	31 34.5	----
Mercury	10 27.7	+11 02	1.304	46	248	E 14	0 05.2	-0.9
Venus	10 42.3	+ 9 46	1.615	45	244	E 18	0 10.3	-3.7
Mars	11 46.2	+ 2 15	2.343	40	218	E 35	0 04.0	1.7
Jupiter	18 59.2	-23 01	4.320	99	112	E143	0 45.6	-2.6
Saturn	10 45.5	+ 9 40	10.282	44	243	E 19	0 16.2	0.8
Uranus	23 31.3	- 3 59	19.225	139	44	W149	0 03.7	5.7
Neptune	21 41.5	-14 12	29.025	127	81	W178	0 02.4	7.8
Pluto	17 54.5	-17 12	30.875	84	117	E128	0 00.1	13.9
	h m	' "	km	' "	' "	' "	' "	Illum.
Moon	18 30.7	-27 25	402661	97	119	E136	29 39.9	86%

2008 Aug 18 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	9 50.8	+13 03	1.012	56	261	----	31 36.2	----
Mercury	10 59.1	+ 7 21	1.262	47	242	E 18	0 05.3	-0.6
Venus	11 05.1	+ 7 22	1.596	46	240	E 19	0 10.5	-3.7
Mars	11 57.7	+ 0 57	2.363	43	220	E 34	0 04.0	1.7
Jupiter	18 57.7	-23 03	4.368	95	115	E138	0 45.1	-2.6
Saturn	10 47.9	+ 9 27	10.305	47	247	E 14	0 16.1	0.8
Uranus	23 30.7	- 4 03	19.185	136	51	W154	0 03.7	5.7
Neptune	21 41.0	-14 15	29.026	122	84	E177	0 02.4	7.8
Pluto	17 54.3	-17 14	30.946	80	120	E123	0 00.1	13.9
	h m	' "	km	' "	' "	' "	' "	Illum.
Moon	22 41.1	- 7 04	389162	130	66	W166	30 41.8	99%

2008 Aug 23 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	

Sun	10 09.3	+11 23	1.011	57 260	----	31 38.0	----
Mercury	11 27.5	+ 3 42	1.212	48 236	E 21	0 05.6	-0.3
Venus	11 27.7	+ 4 54	1.576	47 237	E 20	0 10.6	-3.7
Mars	12 09.3	- 0 22	2.382	45 221	E 32	0 03.9	1.7
Jupiter	18 56.4	-23 05	4.422	92 118	E133	0 44.6	-2.6
Saturn	10 50.2	+ 9 13	10.323	51 250	E 10	0 16.1	0.8
Uranus	23 30.0	- 4 07	19.152	133 56	W159	0 03.7	5.7
Neptune	21 40.4	-14 18	29.035	118 87	E172	0 02.4	7.8
Pluto	17 54.1	-17 15	31.021	77 123	E118	0 00.1	14.0
	h m	' "	km	' "	' "	' "	Illum.
Moon	2 51.5	+21 11	374979	121 346	W103	31 51.6	62%

2008 Aug 28 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	10 27.6	+ 9 39	1.010	59 258	----	31 40.0	----	
Mercury	11 53.4	+ 0 09	1.154	50 232	E 23	0 05.8	-0.2	
Venus	11 50.1	+ 2 22	1.555	48 234	E 22	0 10.7	-3.7	
Mars	12 21.0	- 1 41	2.399	47 223	E 30	0 03.9	1.7	
Jupiter	18 55.5	-23 07	4.480	88 121	E128	0 44.0	-2.5	
Saturn	10 52.5	+ 8 58	10.335	54 253	E 6	0 16.1	0.8	
Uranus	23 29.3	- 4 11	19.126	129 61	W164	0 03.7	5.7	
Neptune	21 39.9	-14 21	29.050	114 90	E167	0 02.4	7.8	
Pluto	17 53.9	-17 16	31.100	74 127	E113	0 00.1	14.0	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	7 59.8	+21 43	369015	81 291	W 37	32 22.4	10%	

2008 Sep 02 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	10 45.8	+ 7 51	1.009	60 257	----	31 42.2	----	
Mercury	12 17.0	- 3 12	1.090	52 228	E 25	0 06.2	-0.0	
Venus	12 12.4	- 0 12	1.534	50 232	E 23	0 10.9	-3.7	
Mars	12 32.8	- 3 00	2.415	49 224	E 29	0 03.9	1.7	
Jupiter	18 54.9	-23 08	4.542	85 124	E123	0 43.4	-2.5	
Saturn	10 54.9	+ 8 44	10.341	58 256	E 2	0 16.1	0.8	
Uranus	23 28.6	- 4 16	19.108	126 65	W169	0 03.7	5.7	
Neptune	21 39.4	-14 23	29.073	110 93	E162	0 02.3	7.8	
Pluto	17 53.8	-17 18	31.181	71 131	E109	0 00.1	14.0	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	12 16.5	- 6 52	383766	55 225	E 27	31 07.5	6%	

2008 Sep 07 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	11 03.8	+ 6 00	1.008	62	256	----	31 44.6	----
Mercury	12 38.0	- 6 15	1.020	54	225	E 27	0 06.6	0.1
Venus	12 34.7	- 2 47	1.511	52	229	E 24	0 11.0	-3.7
Mars	12 44.7	- 4 20	2.430	51	225	E 27	0 03.9	1.7
Jupiter	18 54.6	-23 09	4.609	81	127	E118	0 42.8	-2.5
Saturn	10 57.3	+ 8 30	10.340	61	259	N 3	0 16.1	0.8
Uranus	23 27.9	- 4 21	19.096	122	70	W174	0 03.7	5.7
Neptune	21 38.9	-14 26	29.103	106	96	E158	0 02.3	7.8
Pluto	17 53.7	-17 19	31.265	68	135	E104	0 00.1	14.0
	h m	° ' "	km	°	°	°	' "	Illum.
Moon	16 24.1	-27 20	401380	67	160	E 84	29 45.5	45%

2008 Sep 12 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	11 21.8	+ 4 07	1.006	63	254	----	31 47.1	----
Mercury	12 56.0	- 8 54	0.945	56	224	E 27	0 07.1	0.2
Venus	12 57.0	- 5 20	1.487	53	226	E 26	0 11.2	-3.7
Mars	12 56.7	- 5 39	2.443	54	226	E 26	0 03.8	1.7
Jupiter	18 54.7	-23 09	4.678	78	131	E113	0 42.1	-2.4
Saturn	10 59.6	+ 8 16	10.334	65	262	W 7	0 16.1	0.9
Uranus	23 27.2	- 4 25	19.092	118	73	W179	0 03.7	5.7
Neptune	21 38.5	-14 28	29.140	102	99	E153	0 02.3	7.8
Pluto	17 53.7	-17 21	31.350	65	139	E 99	0 00.1	14.0
	h m	° ' "	km	°	°	°	' "	Illum.
Moon	20 48.3	-19 30	393812	95	110	E140	30 19.9	88%

2008 Sep 17 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	11 39.7	+ 2 12	1.005	65	253	----	31 49.7	----
Mercury	13 09.9	-10 59	0.866	59	224	E 26	0 07.8	0.3
Venus	13 19.4	- 7 51	1.462	55	224	E 27	0 11.4	-3.7
Mars	13 08.8	- 6 57	2.455	56	227	E 24	0 03.8	1.7
Jupiter	18 55.1	-23 09	4.749	75	134	E108	0 41.5	-2.4

Saturn	11 02.0	+ 8 02	10.321	69 264	W 11	0 16.1	0.9
Uranus	23 26.4	- 4 30	19.096	114 77	E176	0 03.7	5.7
Neptune	21 38.0	-14 30	29.184	98 102	E148	0 02.3	7.8
Pluto	17 53.8	-17 22	31.437	62 143	E 94	0 00.1	14.0
	h m	' "	km	' "	' "	' "	Illum.
Moon	0 51.6	+ 9 22	376010	120 49	W159	31 46.2	97%

2008 Sep 22 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	11 57.6	+ 0 15	1.004	66 252	----	31 52.2	----	
Mercury	13 17.8	-12 14	0.787	62 226	E 23	0 08.5	0.5	
Venus	13 42.1	-10 18	1.437	57 221	E 28	0 11.6	-3.7	
Mars	13 21.1	- 8 15	2.466	58 228	E 22	0 03.8	1.7	
Jupiter	18 55.9	-23 08	4.823	73 138	E103	0 40.9	-2.4	
Saturn	11 04.3	+ 7 48	10.303	72 267	W 15	0 16.1	0.9	
Uranus	23 25.7	- 4 35	19.107	110 81	E171	0 03.7	5.7	
Neptune	21 37.6	-14 32	29.233	94 105	E143	0 02.3	7.8	
Pluto	17 53.9	-17 24	31.524	60 148	E 89	0 00.1	14.0	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	5 43.0	+26 35	372363	112 335	W 93	32 05.0	53%	

2008 Sep 27 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	12 15.6	- 1 42	1.002	68 250	----	31 54.9	----	
Mercury	13 17.1	-12 15	0.716	65 230	E 19	0 09.4	----	
Venus	14 05.1	-12 40	1.410	58 219	E 29	0 11.8	-3.7	
Mars	13 33.6	- 9 31	2.475	60 229	E 21	0 03.8	1.6	
Jupiter	18 57.0	-23 07	4.899	70 141	E 99	0 40.2	-2.3	
Saturn	11 06.6	+ 7 34	10.278	76 269	W 20	0 16.2	1.0	
Uranus	23 25.0	- 4 39	19.125	106 84	E166	0 03.7	5.7	
Neptune	21 37.2	-14 34	29.289	91 108	E138	0 02.3	7.9	
Pluto	17 54.1	-17 25	31.611	58 153	E 84	0 00.1	14.0	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	10 24.4	+ 7 24	379985	84 275	W 29	31 26.3	6%	

2008 Oct 02 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
--------	------	------	-------	------	-----	--------	-------	------

	h	m	'	"	A.U.	.	.	.	'	"	
Sun	12	33.7	- 3	38	1.001	69	249	----	31	57.6	----
Mercury	13	06.2	-10	35	0.666	68	238	E 11	0	10.1	----
Venus	14	28.5	-14	54	1.383	60	217	E 30	0	12.1	-3.7
Mars	13	46.3	-10	47	2.483	62	229	E 19	0	03.8	1.6
Jupiter	18	58.5	-23	05	4.975	68	145	E 94	0	39.6	-2.3
Saturn	11	08.8	+ 7	21	10.248	79	271	W 24	0	16.2	1.0
Uranus	23	24.3	- 4	44	19.151	102	87	E161	0	03.7	5.7
Neptune	21	36.9	-14	36	29.350	87	111	E133	0	02.3	7.9
Pluto	17	54.3	-17	27	31.697	57	158	E 80	0	00.1	14.0
	h	m	'	"	km	.	.	.	'	"	Illum.
Moon	14	22.3	-20	22	395745	65	215	E 31	30	11.0	7%

2008 Oct 07 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.			
	h	m	'	"	A.U.	.	.	.	'	"	
Sun	12	51.9	- 5	34	0.999	71	248	----	32	00.4	----
Mercury	12	47.7	- 7	18	0.661	73	247	S 2	0	10.2	----
Venus	14	52.4	-17	00	1.355	61	215	E 32	0	12.3	-3.8
Mars	13	59.1	-12	01	2.489	64	230	E 18	0	03.8	1.6
Jupiter	19	00.2	-23	03	5.052	66	149	E 90	0	39.0	-2.3
Saturn	11	11.0	+ 7	08	10.212	83	274	W 28	0	16.3	1.0
Uranus	23	23.6	- 4	48	19.184	98	90	E156	0	03.7	5.7
Neptune	21	36.6	-14	37	29.416	83	114	E128	0	02.3	7.9
Pluto	17	54.6	-17	28	31.782	55	163	E 75	0	00.1	14.0
	h	m	'	"	km	.	.	.	'	"	Illum.
Moon	18	45.9	-26	53	400749	68	154	E 86	29	48.3	47%

2008 Oct 12 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.			
	h	m	'	"	A.U.	.	.	.	'	"	
Sun	13	10.3	- 7	27	0.998	73	246	----	32	03.2	----
Mercury	12	32.2	- 3	50	0.718	77	256	W 10	0	09.4	----
Venus	15	16.6	-18	55	1.327	62	213	E 33	0	12.6	-3.8
Mars	14	12.2	-13	13	2.494	66	230	E 16	0	03.8	1.6
Jupiter	19	02.3	-23	00	5.128	64	153	E 85	0	38.4	-2.2
Saturn	11	13.2	+ 6	55	10.170	87	276	W 33	0	16.3	1.0
Uranus	23	23.0	- 4	52	19.224	94	93	E151	0	03.7	5.7
Neptune	21	36.3	-14	39	29.487	79	117	E123	0	02.3	7.9
Pluto	17	54.9	-17	30	31.865	55	169	E 70	0	00.1	14.0
	h	m	'	"	km	.	.	.	'	"	Illum.

Moon 22 54.5 - 5 29 381024 89 98 E144 31 21.0 90%

2008 Oct 17 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	13 28.8	- 9 19	0.997	74	245	----	32 06.0	----
Mercury	12 30.0	- 2 03	0.830	81	260	W 16	0 08.1	0.2
Venus	15 41.4	-20 38	1.298	63	211	E 34	0 12.9	-3.8
Mars	14 25.4	-14 23	2.498	68	231	E 15	0 03.7	1.6
Jupiter	19 04.6	-22 57	5.205	63	157	E 81	0 37.9	-2.2
Saturn	11 15.2	+ 6 43	10.123	90	279	W 37	0 16.4	1.0
Uranus	23 22.4	- 4 55	19.270	90	96	E145	0 03.7	5.8
Neptune	21 36.1	-14 40	29.562	76	121	E118	0 02.3	7.9
Pluto	17 55.3	-17 31	31.946	54	175	E 65	0 00.1	14.0
	h m	° ' "	km	°	°	°	' "	Illum.
Moon	3 21.3	+22 42	366310	113	34	W150	32 36.7	93%

2008 Oct 22 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	13 47.7	-11 06	0.995	75	244	----	32 08.6	----
Mercury	12 42.4	- 2 31	0.967	82	261	W 18	0 07.0	-0.5
Venus	16 06.7	-22 08	1.268	64	208	E 35	0 13.2	-3.8
Mars	14 38.9	-15 31	2.501	70	231	E 13	0 03.7	1.6
Jupiter	19 07.2	-22 53	5.280	61	162	E 76	0 37.3	-2.2
Saturn	11 17.2	+ 6 31	10.071	94	281	W 41	0 16.5	1.1
Uranus	23 21.8	- 4 59	19.323	86	99	E140	0 03.6	5.8
Neptune	21 36.0	-14 40	29.640	73	124	E113	0 02.3	7.9
Pluto	17 55.7	-17 32	32.024	54	180	E 60	0 00.1	14.0
	h m	° ' "	km	°	°	°	' "	Illum.
Moon	8 29.9	+19 03	377291	114	320	W 84	31 39.9	45%

2008 Oct 27 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	14 06.8	-12 50	0.994	77	243	----	32 11.2	----
Mercury	13 04.9	- 4 38	1.100	83	259	W 17	0 06.1	-0.9
Venus	16 32.4	-23 23	1.237	65	207	E 36	0 13.5	-3.8
Mars	14 52.6	-16 36	2.503	72	232	E 12	0 03.7	1.5

Jupiter	19 10.1	-22 49	5.354	60 166	E 72	0 36.8	-2.2
Saturn	11 19.2	+ 6 20	10.014	98 284	W 46	0 16.6	1.1
Uranus	23 21.3	- 5 02	19.381	82 102	E135	0 03.6	5.8
Neptune	21 35.9	-14 41	29.721	69 128	E108	0 02.3	7.9
Pluto	17 56.2	-17 34	32.098	54 186	E 55	0 00.1	14.0
	h m	' "	km	' "	' "	' "	Illum.
Moon	12 31.8	- 8 50	392786	92 261	W 24	30 24.8	4%

2008 Nov 01 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	14 26.2	-14 29	0.993	78 242	----	32 13.8	----	
Mercury	13 32.4	- 7 34	1.212	83 256	W 15	0 05.5	-1.0	
Venus	16 58.4	-24 22	1.206	65 205	E 37	0 13.8	-3.8	
Mars	15 06.6	-17 37	2.503	73 232	E 10	0 03.7	1.5	
Jupiter	19 13.2	-22 44	5.426	60 170	E 68	0 36.3	-2.1	
Saturn	11 21.0	+ 6 09	9.952	101 286	W 50	0 16.7	1.1	
Uranus	23 20.9	- 5 04	19.445	78 106	E130	0 03.6	5.8	
Neptune	21 35.9	-14 41	29.805	66 132	E103	0 02.3	7.9	
Pluto	17 56.7	-17 35	32.167	55 192	E 51	0 00.1	14.0	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	16 40.5	-27 27	402718	69 207	E 34	29 39.6	9%	

2008 Nov 06 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	14 45.9	-16 02	0.991	79 240	----	32 16.3	----	
Mercury	14 02.1	-10 46	1.300	83 251	W 12	0 05.2	-1.1	
Venus	17 24.8	-25 04	1.175	65 203	E 38	0 14.2	-3.9	
Mars	15 20.8	-18 36	2.503	75 232	E 9	0 03.7	1.5	
Jupiter	19 16.6	-22 38	5.496	59 174	E 64	0 35.9	-2.1	
Saturn	11 22.7	+ 5 59	9.886	105 289	W 55	0 16.8	1.1	
Uranus	23 20.6	- 5 06	19.514	74 109	E125	0 03.6	5.8	
Neptune	21 35.9	-14 41	29.890	63 136	E 98	0 02.3	7.9	
Pluto	17 57.3	-17 36	32.233	56 197	E 46	0 00.1	14.0	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	20 59.8	-18 03	394500	62 146	E 88	30 16.6	49%	

2008 Nov 11 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
--------	------	------	-------	------	-----	--------	-------	------

	h	m	'	''	km	.	.	.	'	''	Illum.
Moon	10	49.8	+	3 54	387336	123	305	W 77	30	50.6	39%

2008 Nov 26 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.			
	h	m	'	''	A.U.	.	.	.	'	''	
Sun	16	08.4	-20	58	0.987	82	236	----	32	24.7	----
Mercury	16	08.6	-21	37	1.450	82	236	S 1	0	04.6	----
Venus	19	10.3	-24	50	1.043	63	196	E 42	0	16.0	-4.0
Mars	16	20.2	-21	50	2.489	80	234	E 3	0	03.8	1.4
Jupiter	19	31.8	-22	08	5.748	59	192	E 47	0	34.3	-2.0
Saturn	11	28.5	+ 5	27	9.589	118	302	W 73	0	17.3	1.1
Uranus	23	19.8	- 5	10	19.827	60	124	E105	0	03.6	5.8
Neptune	21	36.5	-14	38	30.233	54	156	E 78	0	02.3	7.9
Pluto	17	59.9	-17	40	32.439	63	217	E 26	0	00.1	14.1
	h	m	'	''	km	.	.	.	'	''	Illum.
Moon	14	42.0	-21	45	402850	98	248	W 20	29	39.2	3%

2008 Dec 01 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.			
	h	m	'	''	A.U.	.	.	.	'	''	
Sun	16	29.9	-21	50	0.986	82	235	----	32	26.4	----
Mercury	16	41.8	-23	22	1.448	81	232	E 3	0	04.6	-1.1
Venus	19	36.0	-24	02	1.009	62	195	E 43	0	16.5	-4.0
Mars	16	35.6	-22	27	2.483	81	234	E 1	0	03.8	1.3
Jupiter	19	36.1	-21	59	5.802	60	196	E 43	0	34.0	-2.0
Saturn	11	29.6	+ 5	21	9.509	122	306	W 78	0	17.5	1.1
Uranus	23	19.8	- 5	10	19.911	57	128	E100	0	03.5	5.8
Neptune	21	36.8	-14	36	30.316	53	161	E 73	0	02.3	7.9
Pluto	18	00.6	-17	41	32.475	65	221	E 22	0	00.1	14.1
	h	m	'	''	km	.	.	.	'	''	Illum.
Moon	19	04.3	-25	37	403118	65	202	E 35	29	37.9	9%

2008 Dec 06 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.			
	h	m	'	''	A.U.	.	.	.	'	''	
Sun	16	51.6	-22	31	0.985	82	234	----	32	28.0	----
Mercury	17	15.7	-24	37	1.431	80	229	E 6	0	04.7	-1.0
Venus	20	01.1	-22	57	0.974	61	194	E 44	0	17.1	-4.0

Mars	16 51.3	-22 58	2.476	82 234	S 0	0 03.8	1.3
Jupiter	19 40.4	-21 49	5.852	61 200	E 39	0 33.7	-2.0
Saturn	11 30.6	+ 5 17	9.427	125 310	W 83	0 17.6	1.1
Uranus	23 19.9	- 5 09	19.997	54 133	E 95	0 03.5	5.8
Neptune	21 37.1	-14 35	30.397	52 167	E 68	0 02.2	7.9
Pluto	18 01.3	-17 42	32.504	68 225	E 17	0 00.1	14.1
	h m	' "	km	' "	' "	' "	Illum.
Moon	23 03.7	- 3 38	384458	50 136	E 91	31 04.1	51%

2008 Dec 11 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	17 13.5	-23 01	0.985	82 234	----	32 29.3	----	
Mercury	17 50.1	-25 20	1.400	78 226	E 9	0 04.8	-0.9	
Venus	20 25.6	-21 37	0.939	59 193	E 44	0 17.8	-4.1	
Mars	17 07.1	-23 24	2.469	83 234	W 2	0 03.8	1.3	
Jupiter	19 44.9	-21 39	5.898	62 204	E 35	0 33.4	-2.0	
Saturn	11 31.4	+ 5 13	9.345	128 315	W 88	0 17.8	1.1	
Uranus	23 20.1	- 5 08	20.083	51 138	E 90	0 03.5	5.8	
Neptune	21 37.5	-14 33	30.475	51 173	E 63	0 02.2	7.9	
Pluto	18 02.0	-17 43	32.526	71 229	E 13	0 00.1	14.1	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	3 29.9	+23 18	358933	79 69	E156	33 16.8	96%	

2008 Dec 16 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	' "	A.U.	' "	' "	' "	' "	
Sun	17 35.6	-23 19	0.984	82 233	----	32 30.3	----	
Mercury	18 24.8	-25 28	1.353	76 223	E 11	0 05.0	-0.9	
Venus	20 49.3	-20 04	0.903	57 192	E 45	0 18.5	-4.1	
Mars	17 23.2	-23 44	2.460	84 235	W 3	0 03.8	1.3	
Jupiter	19 49.5	-21 27	5.939	63 207	E 31	0 33.2	-2.0	
Saturn	11 32.0	+ 5 10	9.262	130 320	W 93	0 17.9	1.0	
Uranus	23 20.3	- 5 06	20.169	48 143	E 84	0 03.5	5.9	
Neptune	21 37.9	-14 31	30.550	51 179	E 58	0 02.2	7.9	
Pluto	18 02.8	-17 43	32.541	73 232	E 8	0 00.1	14.1	
	h m	' "	km	' "	' "	' "	Illum.	
Moon	8 53.3	+16 42	369135	126 12	W133	32 21.8	84%	

2008 Dec 21 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	17 57.8	-23 26	0.984	82	233	----	32 31.0	----
Mercury	18 59.2	-24 59	1.289	74	221	E 14	0 05.2	-0.9
Venus	21 12.3	-18 18	0.868	55	192	E 46	0 19.2	-4.1
Mars	17 39.4	-23 58	2.451	85	235	W 4	0 03.8	1.3
Jupiter	19 54.1	-21 15	5.976	64	211	E 27	0 33.0	-1.9
Saturn	11 32.5	+ 5 09	9.179	133	326	W 98	0 18.1	1.0
Uranus	23 20.6	- 5 04	20.255	46	149	E 79	0 03.5	5.9
Neptune	21 38.4	-14 28	30.621	51	185	E 53	0 02.2	7.9
Pluto	18 03.6	-17 44	32.549	77	236	E 6	0 00.1	14.1
	h m	° ' "	km	°	°	°	' "	Illum.
Moon	12 56.0	-11 50	398175	132	289	W 72	30 00.2	35%

2008 Dec 26 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	18 20.0	-23 22	0.983	81	232	----	32 31.5	----
Mercury	19 32.3	-23 53	1.205	71	219	E 17	0 05.6	-0.9
Venus	21 34.4	-16 21	0.832	53	192	E 46	0 20.1	-4.2
Mars	17 55.7	-24 05	2.441	86	236	W 6	0 03.8	1.3
Jupiter	19 58.8	-21 03	6.007	66	215	E 23	0 32.8	-1.9
Saturn	11 32.8	+ 5 08	9.098	135	332	W103	0 18.3	1.0
Uranus	23 21.0	- 5 01	20.339	44	155	E 75	0 03.5	5.9
Neptune	21 38.9	-14 26	30.688	51	191	E 48	0 02.2	8.0
Pluto	18 04.3	-17 44	32.550	80	239	W 7	0 00.1	14.1
	h m	° ' "	km	°	°	°	' "	Illum.
Moon	17 03.9	-27 30	407102	97	241	W 18	29 20.6	2%

2008 Dec 31 00:00:00.0 (TT)

Object	R.A.	Dec.	Dist.	Z.D.	Az.	Elong.	Diam.	Mag.
	h m	° ' "	A.U.	°	°	°	' "	
Sun	18 42.1	-23 05	0.983	81	232	----	32 31.9	----
Mercury	20 02.5	-22 12	1.101	68	217	E 19	0 06.1	-0.8
Venus	21 55.7	-14 15	0.795	51	192	E 46	0 21.0	-4.2
Mars	18 12.1	-24 06	2.431	86	236	W 7	0 03.9	1.3
Jupiter	20 03.6	-20 49	6.034	67	218	E 19	0 32.7	-1.9
Saturn	11 33.0	+ 5 09	9.018	136	338	W108	0 18.4	1.0
Uranus	23 21.5	- 4 58	20.422	43	162	E 70	0 03.5	5.9
Neptune	21 39.5	-14 23	30.749	52	196	E 43	0 02.2	8.0

Pluto	18 05.1	-17 44	32.543	83 242	W 10	0 00.1	14.1
	h m	' "	km	' "	' "	' "	Illum.
Moon	21 18.3	-15 33	397120	55 202	E 37	30 04.7	10%