

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
Local Time = UT - 7.00 hours Elevation: 1707 meters

Introduction to Reports Generated by Astronomy Lab

In all reports, times and dates are in standard time (not daylight savings time or summer time). Times are in 24 hour format.

Abbreviations used in reports:

AU	Astronomical Units
D	Degrees
DEC	Declination
DIST	Distance
DSO	December Solstice
E	East
FM	Full Moon
FQ	First Quarter Moon
H	Hours
ILL FR,	
ILLUM FRAC	Illuminated Fraction
JSO	June Solstice
KM	Kilometers
LE	Lunar Eclipse
LQ	Last Quarter Moon
M	Minutes
MEQ	March Equinox
MR	Moon Rise
MS	Moon Set
N	North
NM	New Moon
RA	Right Ascension
S	South, Seconds
SE	Solar Eclipse
SEQ	September Equinox
SR	Sunrise
SS	Sunset
UT	Universal Time
W	West
ZHR	Zenithal Hourly Rate

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

February 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
				SR: 7:36	SR: 7:35	SR: 7:34
				SS: 17:44	SS: 17:45	SS: 17:46
				MR: 17:18	MR: 18:25	MR: 19:29
				MS: 7:35	MS: 8:04	MS: 8:28
				FM: 22:46		
4	5	6	7	8	9	10
SR: 7:33	SR: 7:32	SR: 7:30	SR: 7:29	SR: 7:28	SR: 7:27	SR: 7:26
SS: 17:47	SS: 17:49	SS: 17:50	SS: 17:51	SS: 17:52	SS: 17:53	SS: 17:55
MR: 20:30	MR: 21:31	MR: 22:30	MR: 23:31	MR: None	MR: 0:33	MR: 1:37
MS: 8:49	MS: 9:08	MS: 9:27	MS: 9:47	MS: 10:08	MS: 10:32	MS: 11:02
						LQ: 2:52
11	12	13	14	15	16	17
SR: 7:25	SR: 7:24	SR: 7:22	SR: 7:21	SR: 7:20	SR: 7:18	SR: 7:17
SS: 17:56	SS: 17:57	SS: 17:58	SS: 18:00	SS: 18:01	SS: 18:02	SS: 18:03
MR: 2:42	MR: 3:46	MR: 4:45	MR: 5:38	MR: 6:22	MR: 6:58	MR: 7:28
MS: 11:39	MS: 12:25	MS: 13:23	MS: 14:31	MS: 15:46	MS: 17:04	MS: 18:22
						NM: 9:15
18	19	20	21	22	23	24
SR: 7:16	SR: 7:14	SR: 7:13	SR: 7:12	SR: 7:10	SR: 7:09	SR: 7:07
SS: 18:04	SS: 18:06	SS: 18:07	SS: 18:08	SS: 18:09	SS: 18:10	SS: 18:11
MR: 7:55	MR: 8:20	MR: 8:44	MR: 9:11	MR: 9:41	MR: 10:16	MR: 11:00
MS: 19:40	MS: 20:57	MS: 22:13	MS: 23:31	MS: None	MS: 0:48	MS: 2:03
						FQ: 0:57
25	26	27	28			
SR: 7:06	SR: 7:04	SR: 7:03	SR: 7:01			
SS: 18:13	SS: 18:14	SS: 18:15	SS: 18:16			
MR: 11:52	MR: 12:53	MR: 13:59	MR: 15:07			
MS: 3:11	MS: 4:10	MS: 4:58	MS: 5:36			

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

March 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
				SR: 7:00	SR: 6:58	SR: 6:57
				SS: 18:17	SS: 18:18	SS: 18:19
				MR: 16:14	MR: 17:18	MR: 18:20
				MS: 6:07	MS: 6:32	MS: 6:54
						FM: 16:18
						LE: 16:24
4	5	6	7	8	9	10
SR: 6:55	SR: 6:54	SR: 6:52	SR: 6:51	SR: 6:49	SR: 6:47	SR: 6:46
SS: 18:20	SS: 18:22	SS: 18:23	SS: 18:24	SS: 18:25	SS: 18:26	SS: 18:27
MR: 19:21	MR: 20:20	MR: 21:21	MR: 22:22	MR: 23:25	MR: None	MR: 0:29
MS: 7:14	MS: 7:32	MS: 7:51	MS: 8:12	MS: 8:35	MS: 9:02	MS: 9:35
11	12	13	14	15	16	17
SR: 6:44	SR: 6:43	SR: 6:41	SR: 6:39	SR: 6:38	SR: 6:36	SR: 6:35
SS: 18:28	SS: 18:29	SS: 18:30	SS: 18:31	SS: 18:32	SS: 18:33	SS: 18:35
MR: 1:32	MR: 2:33	MR: 3:27	MR: 4:13	MR: 4:52	MR: 5:25	MR: 5:53
MS: 10:17	MS: 11:08	MS: 12:10	MS: 13:20	MS: 14:35	MS: 15:53	MS: 17:10
LQ: 20:56						
18	19	20	21	22	23	24
SR: 6:33	SR: 6:31	SR: 6:30	SR: 6:28	SR: 6:26	SR: 6:25	SR: 6:23
SS: 18:36	SS: 18:37	SS: 18:38	SS: 18:39	SS: 18:40	SS: 18:41	SS: 18:42
MR: 6:19	MR: 6:44	MR: 7:10	MR: 7:39	MR: 8:13	MR: 8:55	MR: 9:46
MS: 18:28	MS: 19:47	MS: 21:07	MS: 22:28	MS: 23:47	MS: None	MS: 1:00
NM: 19:44						
SE: 19:31						
		MEQ:17:06				
25	26	27	28	29	30	31
SR: 6:21	SR: 6:20	SR: 6:18	SR: 6:16	SR: 6:15	SR: 6:13	SR: 6:12
SS: 18:43	SS: 18:44	SS: 18:45	SS: 18:46	SS: 18:47	SS: 18:48	SS: 18:49
MR: 10:46	MR: 11:51	MR: 12:59	MR: 14:06	MR: 15:10	MR: 16:12	MR: 17:13
MS: 2:04	MS: 2:57	MS: 3:38	MS: 4:11	MS: 4:37	MS: 5:00	MS: 5:20
FQ: 11:18						

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
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May 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
		SR: 5:25	SR: 5:24	SR: 5:23	SR: 5:21	SR: 5:20
		SS: 19:21	SS: 19:22	SS: 19:23	SS: 19:24	SS: 19:26
		MR: 19:08	MR: 20:11	MR: 21:15	MR: 22:17	MR: 23:14
		MS: 4:45	MS: 5:09	MS: 5:39	MS: 6:15	MS: 6:59
			FM: 3:11			
6	7	8	9	10	11	12
SR: 5:19	SR: 5:18	SR: 5:17	SR: 5:16	SR: 5:15	SR: 5:13	SR: 5:12
SS: 19:27	SS: 19:28	SS: 19:29	SS: 19:30	SS: 19:31	SS: 19:32	SS: 19:33
MR: None	MR: 0:04	MR: 0:47	MR: 1:22	MR: 1:51	MR: 2:18	MR: 2:42
MS: 7:53	MS: 8:55	MS: 10:03	MS: 11:14	MS: 12:26	MS: 13:39	MS: 14:52
			LQ: 21:28			
13	14	15	16	17	18	19
SR: 5:11	SR: 5:10	SR: 5:09	SR: 5:09	SR: 5:08	SR: 5:07	SR: 5:06
SS: 19:34	SS: 19:34	SS: 19:35	SS: 19:36	SS: 19:37	SS: 19:38	SS: 19:39
MR: 3:06	MR: 3:32	MR: 4:01	MR: 4:37	MR: 5:21	MR: 6:16	MR: 7:20
MS: 16:08	MS: 17:27	MS: 18:48	MS: 20:10	MS: 21:26	MS: 22:33	MS: 23:27
			NM: 12:29			
20	21	22	23	24	25	26
SR: 5:05	SR: 5:04	SR: 5:04	SR: 5:03	SR: 5:02	SR: 5:01	SR: 5:01
SS: 19:40	SS: 19:41	SS: 19:42	SS: 19:43	SS: 19:44	SS: 19:45	SS: 19:45
MR: 8:31	MR: 9:42	MR: 10:50	MR: 11:56	MR: 12:58	MR: 13:58	MR: 14:58
MS: None	MS: 0:09	MS: 0:41	MS: 1:08	MS: 1:30	MS: 1:50	MS: 2:09
			FQ: 14:03			
27	28	29	30	31		
SR: 5:00	SR: 5:00	SR: 4:59	SR: 4:59	SR: 4:58		
SS: 19:46	SS: 19:47	SS: 19:48	SS: 19:49	SS: 19:49		
MR: 15:58	MR: 16:59	MR: 18:02	MR: 19:06	MR: 20:09		
MS: 2:28	MS: 2:49	MS: 3:12	MS: 3:40	MS: 4:14		
				FM: 18:05		

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
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June 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
					SR: 4:58	SR: 4:57
					SS: 19:50	SS: 19:51
					MR: 21:09	MR: 22:01
					MS: 4:57	MS: 5:48
3	4	5	6	7	8	9
SR: 4:57	SR: 4:56	SR: 4:56	SR: 4:56	SR: 4:56	SR: 4:55	SR: 4:55
SS: 19:52	SS: 19:52	SS: 19:53	SS: 19:53	SS: 19:54	SS: 19:55	SS: 19:55
MR: 22:46	MR: 23:23	MR: 23:54	MR: None	MR: 0:21	MR: 0:45	MR: 1:08
MS: 6:48	MS: 7:55	MS: 9:05	MS: 10:17	MS: 11:28	MS: 12:39	MS: 13:51
					LQ: 4:44	
10	11	12	13	14	15	16
SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55
SS: 19:56	SS: 19:56	SS: 19:57	SS: 19:57	SS: 19:58	SS: 19:58	SS: 19:58
MR: 1:32	MR: 1:59	MR: 2:31	MR: 3:10	MR: 3:59	MR: 5:00	MR: 6:08
MS: 15:06	MS: 16:23	MS: 17:43	MS: 19:01	MS: 20:13	MS: 21:13	MS: 22:01
				NM: 20:15		
17	18	19	20	21	22	23
SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:55	SR: 4:56	SR: 4:56
SS: 19:59	SS: 19:59	SS: 19:59	SS: 20:00	SS: 20:00	SS: 20:00	SS: 20:00
MR: 7:21	MR: 8:32	MR: 9:41	MR: 10:45	MR: 11:47	MR: 12:48	MR: 13:48
MS: 22:38	MS: 23:08	MS: 23:32	MS: 23:53	MS: None	MS: 0:12	MS: 0:32
					FQ: 6:15	
				JSO:11:08		
24	25	26	27	28	29	30
SR: 4:56	SR: 4:56	SR: 4:57	SR: 4:57	SR: 4:58	SR: 4:58	SR: 4:58
SS: 20:00	SS: 20:00	SS: 20:00	SS: 20:01	SS: 20:00	SS: 20:00	SS: 20:00
MR: 14:48	MR: 15:51	MR: 16:54	MR: 17:58	MR: 19:00	MR: 19:55	MR: 20:44
MS: 0:52	MS: 1:14	MS: 1:41	MS: 2:12	MS: 2:52	MS: 3:40	MS: 4:39
						FM: 6:50

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
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July 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
SR: 4:59	SR: 4:59	SR: 5:00	SR: 5:00	SR: 5:01	SR: 5:02	SR: 5:02
SS: 20:00	SS: 20:00	SS: 20:00	SS: 20:00	SS: 20:00	SS: 19:59	SS: 19:59
MR: 21:24	MR: 21:57	MR: 22:25	MR: 22:49	MR: 23:13	MR: 23:36	MR: None
MS: 5:45	MS: 6:55	MS: 8:08	MS: 9:19	MS: 10:31	MS: 11:42	MS: 12:55
						LQ: 9:55
8	9	10	11	12	13	14
SR: 5:03	SR: 5:04	SR: 5:04	SR: 5:05	SR: 5:06	SR: 5:06	SR: 5:07
SS: 19:59	SS: 19:58	SS: 19:58	SS: 19:57	SS: 19:57	SS: 19:56	SS: 19:56
MR: 0:01	MR: 0:30	MR: 1:05	MR: 1:49	MR: 2:44	MR: 3:49	MR: 5:00
MS: 14:09	MS: 15:26	MS: 16:43	MS: 17:56	MS: 19:00	MS: 19:53	MS: 20:34
						NM: 5:05
15	16	17	18	19	20	21
SR: 5:08	SR: 5:09	SR: 5:09	SR: 5:10	SR: 5:11	SR: 5:12	SR: 5:13
SS: 19:55	SS: 19:55	SS: 19:54	SS: 19:53	SS: 19:53	SS: 19:52	SS: 19:51
MR: 6:12	MR: 7:23	MR: 8:30	MR: 9:34	MR: 10:35	MR: 11:36	MR: 12:36
MS: 21:06	MS: 21:33	MS: 21:55	MS: 22:15	MS: 22:35	MS: 22:55	MS: 23:16
						FQ: 23:29
22	23	24	25	26	27	28
SR: 5:14	SR: 5:15	SR: 5:15	SR: 5:16	SR: 5:17	SR: 5:18	SR: 5:19
SS: 19:50	SS: 19:50	SS: 19:49	SS: 19:48	SS: 19:47	SS: 19:46	SS: 19:45
MR: 13:38	MR: 14:41	MR: 15:45	MR: 16:47	MR: 17:46	MR: 18:37	MR: 19:20
MS: 23:41	MS: None	MS: 0:10	MS: 0:46	MS: 1:30	MS: 2:25	MS: 3:29
29	30	31				
SR: 5:20	SR: 5:21	SR: 5:22				
SS: 19:44	SS: 19:43	SS: 19:42				
MR: 19:57	MR: 20:27	MR: 20:53				
MS: 4:39	MS: 5:52	MS: 7:06				
FM: 17:50						

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 Local Time = UT - 7.00 hours Elevation: 1707 meters

November 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
				SR: 6:56	SR: 6:57	SR: 6:58
				SS: 17:23	SS: 17:22	SS: 17:20
				MR: 23:45	MR: None	MR: 0:52
				MS: 13:43	MS: 14:11	MS: 14:34
				LQ: 14:20		
4	5	6	7	8	9	10
SR: 6:59	SR: 7:00	SR: 7:01	SR: 7:03	SR: 7:04	SR: 7:05	SR: 7:06
SS: 17:19	SS: 17:18	SS: 17:17	SS: 17:16	SS: 17:15	SS: 17:14	SS: 17:13
MR: 1:56	MR: 2:57	MR: 3:57	MR: 4:58	MR: 5:59	MR: 7:01	MR: 8:03
MS: 14:55	MS: 15:15	MS: 15:34	MS: 15:55	MS: 16:18	MS: 16:45	MS: 17:18
					NM: 16:04	
11	12	13	14	15	16	17
SR: 7:07	SR: 7:08	SR: 7:10	SR: 7:11	SR: 7:12	SR: 7:13	SR: 7:14
SS: 17:12	SS: 17:11	SS: 17:10	SS: 17:09	SS: 17:08	SS: 17:08	SS: 17:07
MR: 9:05	MR: 10:03	MR: 10:55	MR: 11:40	MR: 12:18	MR: 12:50	MR: 13:17
MS: 17:57	MS: 18:44	MS: 19:40	MS: 20:42	MS: 21:48	MS: 22:56	MS: None
						FQ: 15:34
18	19	20	21	22	23	24
SR: 7:15	SR: 7:17	SR: 7:18	SR: 7:19	SR: 7:20	SR: 7:21	SR: 7:22
SS: 17:06	SS: 17:05	SS: 17:05	SS: 17:04	SS: 17:04	SS: 17:03	SS: 17:02
MR: 13:42	MR: 14:06	MR: 14:30	MR: 14:56	MR: 15:27	MR: 16:05	MR: 16:53
MS: 0:05	MS: 1:15	MS: 2:27	MS: 3:41	MS: 5:00	MS: 6:21	MS: 7:44
						FM: 7:31
25	26	27	28	29	30	
SR: 7:23	SR: 7:24	SR: 7:26	SR: 7:27	SR: 7:28	SR: 7:29	
SS: 17:02	SS: 17:01	SS: 17:01	SS: 17:01	SS: 17:00	SS: 17:00	
MR: 17:52	MR: 19:02	MR: 20:16	MR: 21:30	MR: 22:40	MR: 23:46	
MS: 9:01	MS: 10:07	MS: 10:59	MS: 11:40	MS: 12:12	MS: 12:37	

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

December 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						SR: 7:30
						SS: 17:00
						MR: None
						MS: 12:59
						LQ: 5:45
2	3	4	5	6	7	8
SR: 7:31	SR: 7:32	SR: 7:33	SR: 7:34	SR: 7:35	SR: 7:36	SR: 7:36
SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59
MR: 0:49	MR: 1:50	MR: 2:51	MR: 3:51	MR: 4:53	MR: 5:55	MR: 6:57
MS: 13:20	MS: 13:39	MS: 14:00	MS: 14:22	MS: 14:48	MS: 15:19	MS: 15:56
9	10	11	12	13	14	15
SR: 7:37	SR: 7:38	SR: 7:39	SR: 7:40	SR: 7:41	SR: 7:41	SR: 7:42
SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59	SS: 16:59	SS: 17:00	SS: 17:00
MR: 7:57	MR: 8:51	MR: 9:39	MR: 10:19	MR: 10:52	MR: 11:20	MR: 11:45
MS: 16:41	MS: 17:35	MS: 18:35	MS: 19:41	MS: 20:48	MS: 21:56	MS: 23:04
NM: 10:41						
16	17	18	19	20	21	22
SR: 7:43	SR: 7:43	SR: 7:44	SR: 7:45	SR: 7:45	SR: 7:46	SR: 7:46
SS: 17:00	SS: 17:00	SS: 17:01	SS: 17:01	SS: 17:02	SS: 17:02	SS: 17:03
MR: 12:08	MR: 12:31	MR: 12:56	MR: 13:23	MR: 13:56	MR: 14:38	MR: 15:31
MS: None	MS: 0:13	MS: 1:23	MS: 2:37	MS: 3:54	MS: 5:14	MS: 6:33
	FQ: 3:18					
					DSO:23:08	
23	24	25	26	27	28	29
SR: 7:47	SR: 7:47	SR: 7:47	SR: 7:48	SR: 7:48	SR: 7:48	SR: 7:49
SS: 17:03	SS: 17:04	SS: 17:04	SS: 17:05	SS: 17:06	SS: 17:06	SS: 17:07
MR: 16:35	MR: 17:49	MR: 19:05	MR: 20:19	MR: 21:30	MR: 22:36	MR: 23:39
MS: 7:44	MS: 8:44	MS: 9:31	MS: 10:08	MS: 10:37	MS: 11:01	MS: 11:22
FM: 18:17						
30	31					
SR: 7:49	SR: 7:49					
SS: 17:08	SS: 17:09					
MR: None	MR: 0:40					
MS: 11:43	MS: 12:03					
	LQ: 0:51					

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
Local Time = UT - 7.00 hours Elevation: 1707 meters

Seasons Report for 2007

MEQ: 3/20/2007 17:06	Winter Length:	88.99 days
JSO: 6/21/2007 11:08	Spring Length:	92.75 days
SEQ: 9/23/2007 2:52	Summer Length:	93.66 days
DSO: 12/21/2007 23:08	Autumn Length:	89.84 days

Dates of Easter Report for 2007

4/ 8/2007

Lunar Eclipse Report for 2007

Lunar eclipse on 3/ 3/2007
Moon rise: 18:20
Moon set: 6:54
Magnitude: 1.23
Partial phase begins: 14:34
Total phase begins: 15:48
Time of maximum eclipse: 16:24
Total phase ends: 17:00
Partial phase ends: 18:13

Lunar eclipse on 8/28/2007
Moon rise: 19:19
Moon set: 5:59
Magnitude: 1.47
Partial phase begins: 1:51
Total phase begins: 2:52
Time of maximum eclipse: 3:37
Total phase ends: 4:21
Partial phase ends: 5:22

Solar Eclipse Report for 2007

Solar eclipse on 3/18/2007
Sun rise: 6:33
Sun set: 18:36
Time of maximum eclipse: 19:31
Eclipse is partial, maximum magnitude = 0.87
Eclipse is visible in the northern hemisphere

Solar eclipse on 9/11/2007
Sun rise: 6:02
Sun set: 18:42
Time of maximum eclipse: 5:34
Eclipse is partial, maximum magnitude = 0.75
Eclipse is visible in the southern hemisphere

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
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Planet View Info Report for 1/ 1/2007 to 12/31/2007

Mercury

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2007	7:45	16:47	18h28m43s	-24°44'42"	3°56'16"	0.995	1.44037
1/ 8/2007	8:03	17:13	19h18m07s	-24°09'32"	1°58'02"	0.999	1.43111
1/15/2007	8:17	17:43	20h07m54s	-22°20'51"	5°20'27"	0.988	1.39182
1/22/2007	8:26	18:18	20h57m04s	-19°16'31"	9°51'53"	0.950	1.31648
1/29/2007	8:28	18:53	21h43m31s	-15°03'06"	14°28'01"	0.851	1.19640
2/ 5/2007	8:20	19:20	22h22m14s	-10°13'21"	17°50'15"	0.642	1.02762
2/12/2007	7:58	19:21	22h42m45s	-6°16'11"	17°00'48"	0.322	0.83415
2/19/2007	7:18	18:42	22h34m34s	-5°20'13"	8°58'03"	0.057	0.68272
2/26/2007	6:32	17:38	22h07m31s	-7°42'54"	6°53'04"	0.026	0.63248
3/ 5/2007	5:58	16:46	21h49m38s	-10°38'59"	18°12'35"	0.174	0.67501
3/12/2007	5:39	16:20	21h52m28s	-12°07'08"	24°54'52"	0.344	0.76388
3/19/2007	5:30	16:14	22h11m12s	-11°54'24"	27°30'56"	0.482	0.86638
3/26/2007	5:25	16:22	22h39m37s	-10°15'54"	27°24'51"	0.589	0.96864
4/ 2/2007	5:22	16:40	23h13m57s	-7°25'07"	25°27'16"	0.678	1.06590
4/ 9/2007	5:20	17:06	23h52m29s	-3°31'52"	22°01'56"	0.759	1.15605
4/16/2007	5:18	17:38	0h34m53s	1°15'33"	17°16'40"	0.841	1.23604
4/23/2007	5:19	18:18	1h21m46s	6°47'00"	11°10'35"	0.924	1.29864
4/30/2007	5:23	19:05	2h14m14s	12°43'26"	3°44'27"	0.990	1.32861
5/ 7/2007	5:32	19:58	3h12m20s	18°24'01"	4°36'39"	0.982	1.30335
5/14/2007	5:47	20:48	4h12m30s	22°46'15"	12°36'49"	0.858	1.21201
5/21/2007	6:04	21:24	5h08m11s	25°08'19"	18°49'09"	0.670	1.07632
5/28/2007	6:20	21:41	5h54m12s	25°37'35"	22°28'24"	0.492	0.92987
6/ 4/2007	6:29	21:40	6h27m36s	24°46'00"	23°17'00"	0.338	0.79429
6/11/2007	6:27	21:21	6h46m22s	23°07'34"	20°55'34"	0.203	0.68100
6/18/2007	6:09	20:46	6h49m07s	21°13'42"	15°07'16"	0.089	0.59917
6/25/2007	5:35	19:59	6h37m36s	19°34'53"	6°47'13"	0.017	0.55979
7/ 2/2007	4:54	19:11	6h20m26s	18°41'13"	6°46'27"	0.018	0.57336
7/ 9/2007	4:17	18:37	6h10m35s	18°51'18"	14°38'31"	0.101	0.64293
7/16/2007	3:52	18:24	6h16m57s	19°54'45"	19°25'43"	0.249	0.76219
7/23/2007	3:46	18:29	6h42m01s	21°12'18"	20°05'34"	0.449	0.91866
7/30/2007	4:00	18:48	7h24m44s	21°46'06"	16°52'37"	0.687	1.09054
8/ 6/2007	4:34	19:11	8h20m15s	20°36'25"	10°41'41"	0.896	1.24049
8/13/2007	5:19	19:28	9h19m20s	17°23'38"	3°28'45"	0.991	1.33292
8/20/2007	6:04	19:37	10h14m16s	12°44'44"	4°36'13"	0.987	1.36401
8/27/2007	6:44	19:38	11h02m54s	7°28'15"	10°40'50"	0.943	1.35107
9/ 3/2007	7:17	19:34	11h46m04s	2°06'03"	15°50'43"	0.888	1.30959
9/10/2007	7:46	19:28	12h25m00s	-3°03'53"	20°01'58"	0.829	1.24787
9/17/2007	8:10	19:19	13h00m32s	-7°49'47"	23°14'50"	0.763	1.16924
9/24/2007	8:29	19:08	13h32m37s	-12°00'40"	25°21'26"	0.682	1.07463
10/ 1/2007	8:40	18:55	13h59m51s	-15°21'44"	25°56'32"	0.573	0.96491
10/ 8/2007	8:37	18:37	14h18m21s	-17°26'32"	24°00'24"	0.417	0.84438
10/15/2007	8:08	18:10	14h20m24s	-17°22'28"	17°34'44"	0.204	0.72973
10/22/2007	7:05	17:33	13h59m27s	-14°00'43"	4°46'45"	0.016	0.66759
10/29/2007	5:55	16:59	13h32m57s	-9°03'35"	10°21'23"	0.091	0.72394
11/ 5/2007	5:25	16:38	13h32m35s	-7°29'11"	18°06'44"	0.413	0.88790
11/12/2007	5:32	16:29	13h57m48s	-9°40'05"	18°33'07"	0.695	1.07226
11/19/2007	5:56	16:26	14h34m58s	-13°21'34"	15°45'08"	0.856	1.22317
11/26/2007	6:25	16:27	15h16m52s	-17°09'42"	11°59'50"	0.936	1.33129
12/ 3/2007	6:55	16:31	16h01m10s	-20°28'20"	8°05'19"	0.975	1.40164
12/10/2007	7:24	16:40	16h47m15s	-23°00'50"	4°16'17"	0.994	1.43985
12/17/2007	7:51	16:53	17h34m55s	-24°37'05"	1°20'47"	0.999	1.44925
12/24/2007	8:14	17:13	18h23m50s	-25°09'09"	4°03'01"	0.994	1.43063

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

12/31/2007 8:33 17:39 19h13m24s -24°30'19" 8°02'01" 0.974 1.38204

Venus

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2007	8:57	18:22	19h53m20s	-22°14'59"	15°56'38"	0.964	1.62171
1/ 8/2007	8:59	18:39	20h30m13s	-20°29'05"	17°35'05"	0.956	1.60199
1/15/2007	8:58	18:56	21h06m06s	-18°13'59"	19°12'42"	0.948	1.58051
1/22/2007	8:54	19:14	21h40m55s	-15°33'44"	20°49'35"	0.938	1.55719
1/29/2007	8:49	19:31	22h14m41s	-12°32'46"	22°25'54"	0.928	1.53197
2/ 5/2007	8:43	19:48	22h47m32s	-9°15'38"	24°01'35"	0.917	1.50488
2/12/2007	8:35	20:05	23h19m37s	-5°46'45"	25°36'31"	0.904	1.47592
2/19/2007	8:26	20:21	23h51m10s	-2°10'28"	27°10'42"	0.891	1.44501
2/26/2007	8:18	20:37	0h22m24s	1°28'53"	28°44'10"	0.876	1.41203
3/ 5/2007	8:09	20:53	0h53m33s	5°07'02"	30°16'48"	0.861	1.37701
3/12/2007	8:00	21:09	1h24m50s	8°39'51"	31°48'15"	0.844	1.33998
3/19/2007	7:52	21:26	1h56m29s	12°03'14"	33°18'18"	0.826	1.30089
3/26/2007	7:45	21:42	2h28m39s	15°13'02"	34°46'47"	0.806	1.25967
4/ 2/2007	7:39	21:58	3h01m27s	18°05'04"	36°13'17"	0.785	1.21637
4/ 9/2007	7:35	22:14	3h34m57s	20°35'25"	37°37'06"	0.763	1.17108
4/16/2007	7:33	22:30	4h09m06s	22°40'26"	38°57'37"	0.739	1.12389
4/23/2007	7:33	22:44	4h43m46s	24°16'57"	40°14'13"	0.714	1.07482
4/30/2007	7:35	22:56	5h18m42s	25°22'32"	41°25'58"	0.687	1.02396
5/ 7/2007	7:40	23:05	5h53m32s	25°55'49"	42°31'30"	0.659	0.97155
5/14/2007	7:47	23:11	6h27m52s	25°56'37"	43°29'22"	0.628	0.91781
5/21/2007	7:55	23:14	7h01m18s	25°25'57"	44°18'01"	0.596	0.86287
5/28/2007	8:04	23:13	7h33m24s	24°26'08"	44°55'15"	0.562	0.80696
6/ 4/2007	8:14	23:09	8h03m45s	23°00'26"	45°18'00"	0.526	0.75042
6/11/2007	8:22	23:01	8h32m00s	21°12'55"	45°22'34"	0.486	0.69365
6/18/2007	8:28	22:50	8h57m51s	19°08'09"	45°04'28"	0.444	0.63701
6/25/2007	8:33	22:36	9h20m55s	16°51'20"	44°17'32"	0.399	0.58091
7/ 2/2007	8:34	22:19	9h40m44s	14°28'14"	42°53'04"	0.349	0.52602
7/ 9/2007	8:31	21:58	9h56m41s	12°05'10"	40°39'59"	0.295	0.47321
7/16/2007	8:22	21:33	10h08m01s	9°49'19"	37°24'38"	0.236	0.42352
7/23/2007	8:06	21:03	10h13m43s	7°49'42"	32°50'37"	0.173	0.37834
7/30/2007	7:42	20:28	10h12m43s	6°17'23"	26°42'29"	0.110	0.33968
8/ 6/2007	7:09	19:49	10h04m33s	5°24'05"	19°00'47"	0.054	0.31015
8/13/2007	6:27	19:06	9h50m19s	5°17'49"	10°52'10"	0.018	0.29244
8/20/2007	5:40	18:25	9h33m18s	5°56'37"	8°38'05"	0.011	0.28852
8/27/2007	4:54	17:47	9h18m17s	7°05'09"	15°51'47"	0.037	0.29879
9/ 3/2007	4:14	17:16	9h09m18s	8°20'49"	24°05'40"	0.088	0.32171
9/10/2007	3:42	16:52	9h08m05s	9°24'40"	30°58'44"	0.150	0.35454
9/17/2007	3:19	16:34	9h14m13s	10°06'00"	36°15'16"	0.213	0.39447
9/24/2007	3:03	16:20	9h26m30s	10°20'01"	40°06'29"	0.274	0.43936
10/ 1/2007	2:54	16:09	9h43m32s	10°05'02"	42°48'32"	0.329	0.48761
10/ 8/2007	2:49	15:59	10h04m09s	9°21'12"	44°36'37"	0.380	0.53801
10/15/2007	2:49	15:51	10h27m21s	8°10'16"	45°43'26"	0.426	0.58968
10/22/2007	2:53	15:43	10h52m23s	6°34'43"	46°18'23"	0.468	0.64209
10/29/2007	2:58	15:35	11h18m46s	4°37'28"	46°28'05"	0.507	0.69485
11/ 5/2007	3:06	15:27	11h46m11s	2°21'54"	46°17'50"	0.543	0.74760
11/12/2007	3:15	15:19	12h14m26s	-0°08'01"	45°51'54"	0.577	0.79999
11/19/2007	3:26	15:11	12h43m23s	-2°48'03"	45°13'24"	0.608	0.85185
11/26/2007	3:38	15:04	13h13m04s	-5°33'56"	44°24'29"	0.638	0.90307
12/ 3/2007	3:50	14:57	13h43m30s	-8°21'18"	43°26'58"	0.665	0.95346
12/10/2007	4:04	14:51	14h14m48s	-11°05'29"	42°22'37"	0.692	1.00283
12/17/2007	4:18	14:46	14h46m59s	-13°41'46"	41°12'40"	0.716	1.05106
12/24/2007	4:32	14:43	15h20m10s	-16°05'26"	39°57'55"	0.739	1.09815
12/31/2007	4:47	14:42	15h54m22s	-18°11'56"	38°39'06"	0.761	1.14400

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

Mars

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2007	6:17	15:31	17h09m35s	-23°14'28"	21°44'30"	0.985	2.38340
1/ 8/2007	6:13	15:23	17h31m40s	-23°39'44"	23°47'37"	0.982	2.35189
1/15/2007	6:09	15:17	17h54m01s	-23°53'27"	25°48'40"	0.979	2.31913
1/22/2007	6:04	15:12	18h16m33s	-23°55'14"	27°47'32"	0.976	2.28524
1/29/2007	5:58	15:08	18h39m11s	-23°44'52"	29°43'57"	0.972	2.25040
2/ 5/2007	5:51	15:05	19h01m51s	-23°22'17"	31°37'42"	0.968	2.21486
2/12/2007	5:44	15:03	19h24m29s	-22°47'36"	33°28'52"	0.964	2.17877
2/19/2007	5:35	15:01	19h47m01s	-22°01'06"	35°17'28"	0.960	2.14221
2/26/2007	5:26	15:00	20h09m23s	-21°03'15"	37°03'24"	0.955	2.10534
3/ 5/2007	5:16	14:59	20h31m31s	-19°54'38"	38°46'30"	0.951	2.06837
3/12/2007	5:05	14:59	20h53m23s	-18°35'57"	40°26'57"	0.946	2.03143
3/19/2007	4:53	14:58	21h14m59s	-17°08'01"	42°05'00"	0.942	1.99454
3/26/2007	4:41	14:58	21h36m17s	-15°31'46"	43°40'44"	0.937	1.95781
4/ 2/2007	4:28	14:58	21h57m17s	-13°48'12"	45°14'08"	0.932	1.92137
4/ 9/2007	4:14	14:58	22h17m59s	-11°58'17"	46°45'28"	0.927	1.88531
4/16/2007	4:00	14:57	22h38m26s	-10°03'04"	48°15'11"	0.922	1.84958
4/23/2007	3:46	14:57	22h58m37s	-8°03'39"	49°43'36"	0.918	1.81418
4/30/2007	3:31	14:56	23h18m35s	-6°01'09"	51°10'52"	0.913	1.77920
5/ 7/2007	3:16	14:56	23h38m21s	-3°56'34"	52°37'18"	0.908	1.74465
5/14/2007	3:01	14:55	23h57m59s	-1°50'56"	54°03'31"	0.903	1.71041
5/21/2007	2:46	14:54	0h17m29s	0°14'38"	55°30'02"	0.899	1.67640
5/28/2007	2:30	14:53	0h36m52s	2°19'05"	56°57'07"	0.894	1.64262
6/ 4/2007	2:15	14:52	0h56m13s	4°21'30"	58°25'10"	0.890	1.60905
6/11/2007	2:00	14:50	1h15m31s	6°20'58"	59°54'49"	0.886	1.57551
6/18/2007	1:45	14:49	1h34m48s	8°16'29"	61°26'48"	0.882	1.54186
6/25/2007	1:30	14:47	1h54m04s	10°07'11"	63°01'31"	0.878	1.50806
7/ 2/2007	1:15	14:45	2h13m19s	11°52'19"	64°39'20"	0.875	1.47405
7/ 9/2007	1:01	14:42	2h32m34s	13°31'12"	66°20'59"	0.871	1.43966
7/16/2007	0:47	14:40	2h51m48s	15°03'09"	68°07'19"	0.868	1.40471
7/23/2007	0:33	14:37	3h10m57s	16°27'34"	69°58'56"	0.865	1.36913
7/30/2007	0:20	14:33	3h30m01s	17°44'06"	71°56'16"	0.863	1.33291
8/ 6/2007	0:06	14:29	3h48m55s	18°52'29"	74°00'06"	0.861	1.29589
8/13/2007	23:52	14:24	4h07m37s	19°52'32"	76°11'32"	0.859	1.25792
8/20/2007	23:39	14:18	4h26m01s	20°44'13"	78°31'30"	0.858	1.21898
8/27/2007	23:26	14:11	4h44m00s	21°27'46"	81°00'42"	0.858	1.17911
9/ 3/2007	23:14	14:04	5h01m30s	22°03'32"	83°40'11"	0.858	1.13825
9/10/2007	23:01	13:55	5h18m24s	22°32'05"	86°31'31"	0.859	1.09635
9/17/2007	22:48	13:45	5h34m32s	22°54'04"	89°36'21"	0.861	1.05349
9/24/2007	22:34	13:34	5h49m46s	23°10'29"	92°56'05"	0.864	1.00986
10/ 1/2007	22:20	13:21	6h03m56s	23°22'24"	96°32'31"	0.868	0.96560
10/ 8/2007	22:04	13:07	6h16m52s	23°31'07"	100°28'21"	0.873	0.92086
10/15/2007	21:47	12:51	6h28m20s	23°38'03"	104°46'38"	0.880	0.87599
10/22/2007	21:29	12:33	6h38m05s	23°44'47"	109°30'15"	0.889	0.83149
10/29/2007	21:08	12:14	6h45m53s	23°52'52"	114°42'31"	0.900	0.78791
11/ 5/2007	20:45	11:53	6h51m25s	24°03'50"	120°27'44"	0.913	0.74587
11/12/2007	20:18	11:29	6h54m21s	24°18'59"	126°50'25"	0.927	0.70630
11/19/2007	19:49	11:03	6h54m25s	24°39'00"	133°53'47"	0.943	0.67038
11/26/2007	19:16	10:34	6h51m26s	25°03'39"	141°39'22"	0.959	0.63937
12/ 3/2007	18:40	10:02	6h45m21s	25°31'32"	150°06'39"	0.974	0.61461
12/10/2007	18:01	9:28	6h36m25s	25°59'57"	159°10'18"	0.987	0.59762
12/17/2007	17:20	8:51	6h25m19s	26°25'22"	168°33'48"	0.996	0.58980
12/24/2007	16:39	8:13	6h13m07s	26°44'31"	176°28'32"	1.000	0.59204
12/31/2007	15:59	7:34	6h01m04s	26°55'42"	170°39'08"	0.997	0.60467

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

Jupiter

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2007	5:23	14:55	16h26m22s	-20°59'47"	31°57'11"	0.998	6.17280
1/ 8/2007	5:02	14:33	16h32m22s	-21°12'53"	37°40'11"	0.997	6.10645
1/15/2007	4:41	14:10	16h38m09s	-21°24'39"	43°26'22"	0.996	6.03132
1/22/2007	4:20	13:47	16h43m41s	-21°35'08"	49°16'06"	0.995	5.94802
1/29/2007	3:58	13:24	16h48m56s	-21°44'19"	55°09'30"	0.994	5.85735
2/ 5/2007	3:36	13:01	16h53m51s	-21°52'17"	61°06'51"	0.993	5.76023
2/12/2007	3:13	12:37	16h58m22s	-21°59'04"	67°08'47"	0.993	5.65755
2/19/2007	2:50	12:14	17h02m29s	-22°04'44"	73°15'49"	0.992	5.55028
2/26/2007	2:27	11:49	17h06m07s	-22°09'22"	79°28'12"	0.992	5.43962
3/ 5/2007	2:03	11:25	17h09m14s	-22°13'02"	85°46'11"	0.991	5.32685
3/12/2007	1:38	10:59	17h11m48s	-22°15'49"	92°10'24"	0.991	5.21320
3/19/2007	1:12	10:34	17h13m47s	-22°17'48"	98°41'29"	0.991	5.10000
3/26/2007	0:46	10:07	17h15m09s	-22°19'01"	105°19'38"	0.992	4.98876
4/ 2/2007	0:19	9:40	17h15m52s	-22°19'33"	112°04'53"	0.992	4.88102
4/ 9/2007	23:48	9:13	17h15m55s	-22°19'25"	118°57'34"	0.993	4.77824
4/16/2007	23:20	8:45	17h15m19s	-22°18'38"	125°57'59"	0.994	4.68190
4/23/2007	22:51	8:16	17h14m04s	-22°17'12"	133°05'53"	0.995	4.59360
4/30/2007	22:21	7:47	17h12m12s	-22°15'07"	140°20'34"	0.996	4.51483
5/ 7/2007	21:51	7:17	17h09m46s	-22°12'24"	147°41'30"	0.997	4.44687
5/14/2007	21:20	6:47	17h06m51s	-22°09'03"	155°08'05"	0.998	4.39089
5/21/2007	20:49	6:16	17h03m32s	-22°05'05"	162°39'04"	0.999	4.34801
5/28/2007	20:17	5:45	16h59m55s	-22°00'36"	170°12'29"	1.000	4.31904
6/ 4/2007	19:46	5:14	16h56m08s	-21°55'42"	177°42'48"	1.000	4.30440
6/11/2007	19:14	4:43	16h52m19s	-21°50'32"	174°32'44"	1.000	4.30428
6/18/2007	18:42	4:13	16h48m35s	-21°45'18"	167°00'39"	1.000	4.31871
6/25/2007	18:11	3:42	16h45m04s	-21°40'16"	159°31'00"	0.999	4.34728
7/ 2/2007	17:40	3:12	16h41m53s	-21°35'40"	152°06'14"	0.998	4.38923
7/ 9/2007	17:10	2:42	16h39m07s	-21°31'45"	144°47'21"	0.997	4.44367
7/16/2007	16:40	2:12	16h36m52s	-21°28'43"	137°35'16"	0.996	4.50956
7/23/2007	16:11	1:43	16h35m11s	-21°26'46"	130°30'59"	0.995	4.58562
7/30/2007	15:42	1:15	16h34m07s	-21°26'02"	123°35'03"	0.994	4.67038
8/ 6/2007	15:14	0:47	16h33m41s	-21°26'34"	116°47'23"	0.993	4.76242
8/13/2007	14:47	0:19	16h33m53s	-21°28'25"	110°07'44"	0.992	4.86036
8/20/2007	14:21	23:48	16h34m44s	-21°31'33"	103°36'07"	0.991	4.96271
8/27/2007	13:55	23:22	16h36m12s	-21°35'53"	97°12'23"	0.991	5.06794
9/ 3/2007	13:30	22:56	16h38m15s	-21°41'17"	90°55'50"	0.991	5.17469
9/10/2007	13:06	22:31	16h40m54s	-21°47'37"	84°45'44"	0.991	5.28172
9/17/2007	12:42	22:06	16h44m04s	-21°54'43"	78°41'40"	0.991	5.38772
9/24/2007	12:19	21:42	16h47m46s	-22°02'25"	72°43'15"	0.992	5.49142
10/ 1/2007	11:56	21:18	16h51m55s	-22°10'30"	66°49'47"	0.992	5.59173
10/ 8/2007	11:34	20:55	16h56m31s	-22°18'46"	61°00'28"	0.993	5.68769
10/15/2007	11:12	20:32	17h01m30s	-22°27'03"	55°14'48"	0.994	5.77828
10/22/2007	10:50	20:09	17h06m52s	-22°35'09"	49°32'31"	0.995	5.86255
10/29/2007	10:29	19:47	17h12m32s	-22°42'53"	43°53'04"	0.996	5.93974
11/ 5/2007	10:08	19:25	17h18m30s	-22°50'06"	38°15'47"	0.997	6.00918
11/12/2007	9:47	19:03	17h24m43s	-22°56'38"	32°40'13"	0.997	6.07019
11/19/2007	9:26	18:41	17h31m10s	-23°02'21"	27°06'13"	0.998	6.12211
11/26/2007	9:06	18:20	17h37m47s	-23°07'09"	21°33'30"	0.999	6.16452
12/ 3/2007	8:45	17:59	17h44m32s	-23°10'55"	16°01'31"	0.999	6.19710
12/10/2007	8:25	17:38	17h51m25s	-23°13'35"	10°29'53"	1.000	6.21947
12/17/2007	8:04	17:18	17h58m21s	-23°15'07"	4°58'34"	1.000	6.23135
12/24/2007	7:44	16:57	18h05m21s	-23°15'27"	0°34'40"	1.000	6.23265
12/31/2007	7:23	16:36	18h12m20s	-23°14'37"	6°04'41"	1.000	6.22341

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

Saturn

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2007	20:35	10:25	9h49m15s	14°27'49"	135°34'05"	0.999	8.45010
1/ 8/2007	20:06	9:57	9h47m54s	14°36'12"	143°03'12"	0.999	8.37478
1/15/2007	19:36	9:28	9h46m16s	14°45'51"	150°36'18"	0.999	8.31159
1/22/2007	19:06	9:00	9h44m25s	14°56'29"	158°12'22"	1.000	8.26181
1/29/2007	18:35	8:31	9h42m23s	15°07'48"	165°49'41"	1.000	8.22645
2/ 5/2007	18:05	8:02	9h40m14s	15°19'30"	173°24'49"	1.000	8.20609
2/12/2007	17:35	7:33	9h38m01s	15°31'15"	178°13'16"	1.000	8.20110
2/19/2007	17:04	7:04	9h35m48s	15°42'45"	171°03'46"	1.000	8.21163
2/26/2007	16:34	6:35	9h33m39s	15°53'41"	163°30'33"	1.000	8.23746
3/ 5/2007	16:04	6:06	9h31m38s	16°03'45"	155°59'15"	1.000	8.27797
3/12/2007	15:34	5:37	9h29m47s	16°12'45"	148°31'44"	0.999	8.33231
3/19/2007	15:04	5:09	9h28m10s	16°20'29"	141°08'54"	0.999	8.39952
3/26/2007	14:35	4:40	9h26m49s	16°26'45"	133°51'46"	0.998	8.47836
4/ 2/2007	14:06	4:12	9h25m46s	16°31'29"	126°41'03"	0.998	8.56730
4/ 9/2007	13:38	3:44	9h25m03s	16°34'35"	119°36'55"	0.998	8.66483
4/16/2007	13:10	3:16	9h24m40s	16°36'02"	112°39'22"	0.997	8.76944
4/23/2007	12:42	2:48	9h24m38s	16°35'47"	105°48'38"	0.997	8.87946
4/30/2007	12:15	2:21	9h24m57s	16°33'53"	99°04'55"	0.997	8.99318
5/ 7/2007	11:49	1:54	9h25m36s	16°30'22"	92°27'54"	0.997	9.10899
5/14/2007	11:23	1:27	9h26m35s	16°25'17"	85°57'06"	0.997	9.22543
5/21/2007	10:57	1:01	9h27m54s	16°18'40"	79°32'17"	0.997	9.34098
5/28/2007	10:31	0:34	9h29m30s	16°10'37"	73°13'18"	0.997	9.45413
6/ 4/2007	10:06	0:08	9h31m23s	16°01'13"	66°59'40"	0.997	9.56358
6/11/2007	9:42	23:38	9h33m32s	15°50'32"	60°50'40"	0.998	9.66819
6/18/2007	9:17	23:12	9h35m55s	15°38'38"	54°45'49"	0.998	9.76680
6/25/2007	8:53	22:46	9h38m30s	15°25'39"	48°44'50"	0.998	9.85827
7/ 2/2007	8:29	22:21	9h41m17s	15°11'40"	42°47'15"	0.999	9.94173
7/ 9/2007	8:06	21:55	9h44m14s	14°56'46"	36°52'19"	0.999	10.01641
7/16/2007	7:42	21:30	9h47m19s	14°41'03"	30°59'25"	0.999	10.08155
7/23/2007	7:19	21:05	9h50m31s	14°24'39"	25°08'18"	0.999	10.13645
7/30/2007	6:56	20:39	9h53m49s	14°07'39"	19°18'38"	1.000	10.18060
8/ 6/2007	6:33	20:14	9h57m11s	13°50'10"	13°30'01"	1.000	10.21366
8/13/2007	6:10	19:49	10h00m36s	13°32'19"	7°42'56"	1.000	10.23525
8/20/2007	5:47	19:24	10h04m02s	13°14'14"	2°11'07"	1.000	10.24507
8/27/2007	5:24	18:58	10h07m28s	12°56'03"	4°16'59"	1.000	10.24304
9/ 3/2007	5:01	18:33	10h10m53s	12°37'53"	10°02'46"	1.000	10.22922
9/10/2007	4:38	18:08	10h14m15s	12°19'52"	15°55'45"	1.000	10.20364
9/17/2007	4:15	17:43	10h17m34s	12°02'10"	21°52'16"	1.000	10.16644
9/24/2007	3:51	17:17	10h20m46s	11°44'55"	27°51'54"	0.999	10.11798
10/ 1/2007	3:28	16:52	10h23m52s	11°28'17"	33°54'58"	0.999	10.05878
10/ 8/2007	3:04	16:26	10h26m49s	11°12'23"	40°02'03"	0.999	9.98933
10/15/2007	2:40	16:00	10h29m37s	10°57'26"	46°13'31"	0.998	9.91027
10/22/2007	2:16	15:35	10h32m13s	10°43'34"	52°29'31"	0.998	9.82246
10/29/2007	1:52	15:09	10h34m37s	10°30'56"	58°50'20"	0.998	9.72692
11/ 5/2007	1:27	14:43	10h36m47s	10°19'42"	65°16'31"	0.998	9.62468
11/12/2007	1:02	14:17	10h38m42s	10°10'01"	71°48'28"	0.997	9.51686
11/19/2007	0:37	13:50	10h40m19s	10°02'02"	78°26'11"	0.997	9.40489
11/26/2007	0:11	13:24	10h41m39s	9°55'52"	85°09'42"	0.997	9.29027
12/ 3/2007	23:41	12:57	10h42m40s	9°51'37"	91°59'23"	0.997	9.17448
12/10/2007	23:14	12:30	10h43m21s	9°49'21"	98°55'26"	0.997	9.05911
12/17/2007	22:47	12:03	10h43m42s	9°49'09"	105°57'38"	0.997	8.94596
12/24/2007	22:19	11:35	10h43m43s	9°51'00"	113°05'36"	0.998	8.83683
12/31/2007	21:51	11:07	10h43m23s	9°54'51"	120°19'17"	0.998	8.73339

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

Uranus

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2007	10:59	22:09	22h53m03s	-7°56'14"	61°21'51"	1.000	20.54140
1/ 8/2007	10:32	21:43	22h53m59s	-7°50'13"	54°29'11"	1.000	20.64417
1/15/2007	10:05	21:17	22h55m02s	-7°43'31"	47°38'23"	1.000	20.73872
1/22/2007	9:39	20:51	22h56m12s	-7°36'10"	40°49'30"	1.000	20.82373
1/29/2007	9:12	20:25	22h57m27s	-7°28'16"	34°02'46"	1.000	20.89799
2/ 5/2007	8:45	19:59	22h58m47s	-7°19'55"	27°18'12"	1.000	20.96062
2/12/2007	8:19	19:34	23h00m11s	-7°11'11"	20°35'34"	1.000	21.01089
2/19/2007	7:52	19:08	23h01m37s	-7°02'10"	13°54'49"	1.000	21.04814
2/26/2007	7:25	18:42	23h03m05s	-6°52'58"	7°16'36"	1.000	21.07188
3/ 5/2007	6:59	18:17	23h04m35s	-6°43'40"	0°57'35"	1.000	21.08196
3/12/2007	6:32	17:51	23h06m04s	-6°34'23"	6°01'48"	1.000	21.07838
3/19/2007	6:06	17:26	23h07m32s	-6°25'11"	12°35'13"	1.000	21.06117
3/26/2007	5:39	17:00	23h08m59s	-6°16'10"	19°08'26"	1.000	21.03058
4/ 2/2007	5:12	16:35	23h10m23s	-6°07'27"	25°40'43"	1.000	20.98717
4/ 9/2007	4:46	16:09	23h11m44s	-5°59'06"	32°12'20"	1.000	20.93159
4/16/2007	4:19	15:43	23h13m01s	-5°51'12"	38°43'39"	1.000	20.86452
4/23/2007	3:52	15:17	23h14m13s	-5°43'50"	45°14'48"	1.000	20.78683
4/30/2007	3:26	14:51	23h15m18s	-5°37'05"	51°45'46"	1.000	20.69965
5/ 7/2007	2:59	14:25	23h16m18s	-5°31'01"	58°16'55"	1.000	20.60414
5/14/2007	2:32	13:59	23h17m11s	-5°25'41"	64°48'44"	0.999	20.50149
5/21/2007	2:05	13:32	23h17m56s	-5°21'08"	71°21'28"	0.999	20.39301
5/28/2007	1:38	13:05	23h18m34s	-5°17'28"	77°55'05"	0.999	20.28022
6/ 4/2007	1:10	12:38	23h19m03s	-5°14'39"	84°29'50"	0.999	20.16463
6/11/2007	0:43	12:11	23h19m24s	-5°12'45"	91°06'13"	0.999	20.04769
6/18/2007	0:16	11:44	23h19m35s	-5°11'47"	97°44'30"	0.999	19.93096
6/25/2007	23:44	11:17	23h19m39s	-5°11'45"	104°24'36"	0.999	19.81614
7/ 2/2007	23:17	10:49	23h19m33s	-5°12'37"	111°06'36"	0.999	19.70483
7/ 9/2007	22:49	10:21	23h19m19s	-5°14'24"	117°50'53"	0.999	19.59849
7/16/2007	22:21	9:53	23h18m56s	-5°17'02"	124°37'40"	1.000	19.49867
7/23/2007	21:53	9:25	23h18m26s	-5°20'29"	131°26'47"	1.000	19.40691
7/30/2007	21:25	8:56	23h17m49s	-5°24'40"	138°18'05"	1.000	19.32459
8/ 6/2007	20:57	8:28	23h17m05s	-5°29'31"	145°11'45"	1.000	19.25287
8/13/2007	20:29	7:59	23h16m15s	-5°34'56"	152°07'54"	1.000	19.19291
8/20/2007	20:01	7:30	23h15m20s	-5°40'49"	159°06'11"	1.000	19.14577
8/27/2007	19:33	7:02	23h14m22s	-5°47'02"	166°06'07"	1.000	19.11221
9/ 3/2007	19:05	6:33	23h13m22s	-5°53'28"	173°06'53"	1.000	19.09275
9/10/2007	18:37	6:04	23h12m20s	-6°00'00"	179°09'16"	1.000	19.08779
9/17/2007	18:09	5:35	23h11m18s	-6°06'29"	172°37'44"	1.000	19.09759
9/24/2007	17:41	5:06	23h10m17s	-6°12'47"	165°32'23"	1.000	19.12204
10/ 1/2007	17:12	4:37	23h09m19s	-6°18'47"	158°25'22"	1.000	19.16073
10/ 8/2007	16:44	4:08	23h08m24s	-6°24'21"	151°17'20"	1.000	19.21317
10/15/2007	16:16	3:40	23h07m34s	-6°29'22"	144°08'44"	1.000	19.27868
10/22/2007	15:48	3:11	23h06m50s	-6°33'43"	137°00'11"	1.000	19.35622
10/29/2007	15:20	2:43	23h06m13s	-6°37'20"	129°52'00"	1.000	19.44454
11/ 5/2007	14:52	2:15	23h05m44s	-6°40'08"	122°44'11"	1.000	19.54235
11/12/2007	14:25	1:47	23h05m23s	-6°42'02"	115°36'56"	1.000	19.64823
11/19/2007	13:57	1:19	23h05m11s	-6°43'00"	108°30'45"	0.999	19.76049
11/26/2007	13:29	0:51	23h05m08s	-6°43'01"	101°25'58"	0.999	19.87737
12/ 3/2007	13:02	0:24	23h05m14s	-6°42'03"	94°22'32"	0.999	19.99716
12/10/2007	12:35	23:53	23h05m30s	-6°40'07"	87°20'28"	0.999	20.11814
12/17/2007	12:07	23:26	23h05m55s	-6°37'14"	80°20'10"	0.999	20.23843
12/24/2007	11:40	22:59	23h06m29s	-6°33'24"	73°21'55"	0.999	20.35622
12/31/2007	11:13	22:33	23h07m11s	-6°28'43"	66°25'39"	0.999	20.46990

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

Neptune

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2007	9:57	20:11	21h22m32s	-15°36'50"	37°56'54"	1.000	30.81983
1/ 8/2007	9:30	19:45	21h23m26s	-15°32'39"	31°02'39"	1.000	30.88857
1/15/2007	9:03	19:18	21h24m23s	-15°28'14"	24°09'12"	1.000	30.94505
1/22/2007	8:36	18:52	21h25m23s	-15°23'35"	17°16'36"	1.000	30.98841
1/29/2007	8:09	18:26	21h26m24s	-15°18'48"	10°25'10"	1.000	31.01804
2/ 5/2007	7:43	18:00	21h27m27s	-15°13'54"	3°35'09"	1.000	31.03364
2/12/2007	7:16	17:33	21h28m30s	-15°08'58"	3°15'08"	1.000	31.03507
2/19/2007	6:49	17:07	21h29m33s	-15°04'03"	10°03'20"	1.000	31.02228
2/26/2007	6:22	16:41	21h30m34s	-14°59'12"	16°50'44"	1.000	30.99548
3/ 5/2007	5:55	16:15	21h31m34s	-14°54'29"	23°37'03"	1.000	30.95517
3/12/2007	5:28	15:49	21h32m31s	-14°49'57"	30°22'32"	1.000	30.90198
3/19/2007	5:02	15:22	21h33m25s	-14°45'39"	37°07'24"	1.000	30.83660
3/26/2007	4:35	14:56	21h34m16s	-14°41'38"	43°51'34"	1.000	30.75996
4/ 2/2007	4:08	14:29	21h35m02s	-14°37'57"	50°34'57"	1.000	30.67325
4/ 9/2007	3:41	14:03	21h35m44s	-14°34'39"	57°17'49"	1.000	30.57768
4/16/2007	3:14	13:36	21h36m21s	-14°31'45"	64°00'31"	1.000	30.47450
4/23/2007	2:46	13:09	21h36m52s	-14°29'19"	70°43'05"	1.000	30.36515
4/30/2007	2:19	12:42	21h37m18s	-14°27'21"	77°25'24"	1.000	30.25124
5/ 7/2007	1:52	12:15	21h37m37s	-14°25'52"	84°07'42"	1.000	30.13432
5/14/2007	1:24	11:48	21h37m51s	-14°24'55"	90°50'23"	1.000	30.01592
5/21/2007	0:57	11:20	21h37m58s	-14°24'29"	97°33'34"	1.000	29.89769
5/28/2007	0:30	10:53	21h37m58s	-14°24'34"	104°17'05"	1.000	29.78136
6/ 4/2007	0:02	10:25	21h37m53s	-14°25'09"	111°01'05"	1.000	29.66854
6/11/2007	23:30	9:57	21h37m41s	-14°26'15"	117°45'57"	1.000	29.56070
6/18/2007	23:03	9:29	21h37m24s	-14°27'48"	124°31'49"	1.000	29.45940
6/25/2007	22:35	9:01	21h37m01s	-14°29'49"	131°18'31"	1.000	29.36616
7/ 2/2007	22:07	8:33	21h36m34s	-14°32'14"	138°06'01"	1.000	29.28229
7/ 9/2007	21:39	8:05	21h36m02s	-14°35'00"	144°54'39"	1.000	29.20892
7/16/2007	21:11	7:37	21h35m26s	-14°38'05"	151°44'33"	1.000	29.14717
7/23/2007	20:43	7:08	21h34m46s	-14°41'25"	158°35'29"	1.000	29.09805
7/30/2007	20:15	6:40	21h34m05s	-14°44'57"	165°27'17"	1.000	29.06226
8/ 6/2007	19:47	6:11	21h33m21s	-14°48'36"	172°20'05"	1.000	29.04028
8/13/2007	19:19	5:43	21h32m36s	-14°52'19"	179°11'33"	1.000	29.03255
8/20/2007	18:51	5:14	21h31m52s	-14°56'01"	173°49'53"	1.000	29.03928
8/27/2007	18:23	4:46	21h31m08s	-14°59'39"	166°54'11"	1.000	29.06038
9/ 3/2007	17:55	4:17	21h30m25s	-15°03'08"	159°57'34"	1.000	29.09552
9/10/2007	17:27	3:49	21h29m45s	-15°06'25"	152°59'58"	1.000	29.14428
9/17/2007	16:59	3:21	21h29m08s	-15°09'26"	146°01'37"	1.000	29.20605
9/24/2007	16:31	2:52	21h28m34s	-15°12'08"	139°02'52"	1.000	29.27989
10/ 1/2007	16:03	2:24	21h28m06s	-15°14'27"	132°03'46"	1.000	29.36466
10/ 8/2007	15:36	1:56	21h27m42s	-15°16'22"	125°04'09"	1.000	29.45921
10/15/2007	15:08	1:28	21h27m24s	-15°17'50"	118°04'08"	1.000	29.56221
10/22/2007	14:40	1:01	21h27m12s	-15°18'48"	111°04'08"	1.000	29.67207
10/29/2007	14:13	0:33	21h27m06s	-15°19'17"	104°04'15"	1.000	29.78711
11/ 5/2007	13:45	0:05	21h27m06s	-15°19'15"	97°04'19"	1.000	29.90573
11/12/2007	13:18	23:34	21h27m14s	-15°18'41"	90°04'24"	1.000	30.02620
11/19/2007	12:50	23:07	21h27m27s	-15°17'35"	83°04'51"	1.000	30.14667
11/26/2007	12:23	22:40	21h27m48s	-15°15'59"	76°05'52"	1.000	30.26533
12/ 3/2007	11:56	22:13	21h28m14s	-15°13'53"	69°07'19"	1.000	30.38053
12/10/2007	11:29	21:46	21h28m47s	-15°11'18"	62°09'09"	1.000	30.49059
12/17/2007	11:02	21:19	21h29m25s	-15°08'16"	55°11'42"	1.000	30.59384
12/24/2007	10:35	20:53	21h30m08s	-15°04'49"	48°15'11"	1.000	30.68877
12/31/2007	10:08	20:26	21h30m56s	-15°00'59"	41°19'32"	1.000	30.77410

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

Pluto

Date	Rise	Set	RA	Dec	Elongation	Ill Fr	DIST(AU)
1/ 1/2007	6:26	16:33	17h47m41s	-16°32'08"	14°48'28"	1.000	32.17040
1/ 8/2007	5:59	16:07	17h48m44s	-16°32'41"	21°07'40"	1.000	32.13928
1/15/2007	5:33	15:40	17h49m44s	-16°33'02"	27°43'01"	1.000	32.09478
1/22/2007	5:06	15:13	17h50m42s	-16°33'10"	34°25'31"	1.000	32.03750
1/29/2007	4:40	14:47	17h51m36s	-16°33'07"	41°11'35"	1.000	31.96833
2/ 5/2007	4:13	14:20	17h52m26s	-16°32'53"	47°59'40"	1.000	31.88839
2/12/2007	3:46	13:53	17h53m11s	-16°32'30"	54°49'14"	1.000	31.79883
2/19/2007	3:19	13:27	17h53m51s	-16°31'59"	61°39'52"	1.000	31.70091
2/26/2007	2:52	13:00	17h54m26s	-16°31'20"	68°31'02"	1.000	31.59614
3/ 5/2007	2:25	12:33	17h54m54s	-16°30'35"	75°22'24"	1.000	31.48616
3/12/2007	1:58	12:06	17h55m16s	-16°29'46"	82°14'00"	1.000	31.37255
3/19/2007	1:31	11:38	17h55m32s	-16°28'55"	89°05'53"	1.000	31.25693
3/26/2007	1:03	11:11	17h55m41s	-16°28'01"	95°57'42"	1.000	31.14109
4/ 2/2007	0:36	10:44	17h55m43s	-16°27'08"	102°49'11"	1.000	31.02682
4/ 9/2007	0:08	10:16	17h55m39s	-16°26'16"	109°40'19"	1.000	30.91574
4/16/2007	23:36	9:48	17h55m29s	-16°25'28"	116°31'13"	1.000	30.80946
4/23/2007	23:08	9:21	17h55m12s	-16°24'43"	123°21'33"	1.000	30.70963
4/30/2007	22:41	8:53	17h54m50s	-16°24'04"	130°10'47"	1.000	30.61779
5/ 7/2007	22:13	8:25	17h54m22s	-16°23'31"	136°58'36"	1.000	30.53522
5/14/2007	21:44	7:57	17h53m50s	-16°23'06"	143°44'36"	1.000	30.46311
5/21/2007	21:16	7:29	17h53m14s	-16°22'49"	150°27'26"	1.000	30.40262
5/28/2007	20:48	7:00	17h52m34s	-16°22'42"	157°04'07"	1.000	30.35470
6/ 4/2007	20:20	6:32	17h51m52s	-16°22'45"	163°27'49"	1.000	30.31997
6/11/2007	19:52	6:04	17h51m08s	-16°22'58"	169°15'55"	1.000	30.29894
6/18/2007	19:23	5:36	17h50m23s	-16°23'22"	172°51'22"	1.000	30.29202
6/25/2007	18:55	5:07	17h49m38s	-16°23'57"	171°01'11"	1.000	30.29936
7/ 2/2007	18:27	4:39	17h48m53s	-16°24'43"	165°43'44"	1.000	30.32081
7/ 9/2007	17:59	4:11	17h48m10s	-16°25'40"	159°30'36"	1.000	30.35605
7/16/2007	17:31	3:42	17h47m29s	-16°26'49"	153°00'00"	1.000	30.40471
7/23/2007	17:03	3:14	17h46m51s	-16°28'08"	146°22'27"	1.000	30.46612
7/30/2007	16:35	2:46	17h46m17s	-16°29'36"	139°41'47"	1.000	30.53936
8/ 6/2007	16:07	2:18	17h45m47s	-16°31'15"	132°59'22"	1.000	30.62340
8/13/2007	15:39	1:50	17h45m22s	-16°33'02"	126°15'49"	1.000	30.71720
8/20/2007	15:11	1:22	17h45m03s	-16°34'57"	119°31'44"	1.000	30.81945
8/27/2007	14:44	0:54	17h44m49s	-16°36'59"	112°47'32"	1.000	30.92866
9/ 3/2007	14:16	0:26	17h44m41s	-16°39'06"	106°03'14"	1.000	31.04334
9/10/2007	13:49	23:55	17h44m40s	-16°41'18"	99°18'37"	1.000	31.16201
9/17/2007	13:21	23:27	17h44m45s	-16°43'33"	92°33'52"	1.000	31.28302
9/24/2007	12:54	23:00	17h44m57s	-16°45'51"	85°49'12"	1.000	31.40462
10/ 1/2007	12:27	22:32	17h45m15s	-16°48'08"	79°04'35"	1.000	31.52518
10/ 8/2007	12:00	22:05	17h45m40s	-16°50'25"	72°19'44"	1.000	31.64313
10/15/2007	11:33	21:38	17h46m10s	-16°52'40"	65°34'43"	1.000	31.75681
10/22/2007	11:07	21:11	17h46m46s	-16°54'51"	58°49'50"	1.000	31.86459
10/29/2007	10:40	20:44	17h47m28s	-16°56'57"	52°05'14"	1.000	31.96502
11/ 5/2007	10:13	20:17	17h48m15s	-16°58'57"	45°20'51"	1.000	32.05678
11/12/2007	9:47	19:50	17h49m06s	-17°00'49"	38°37'00"	1.000	32.13858
11/19/2007	9:20	19:24	17h50m01s	-17°02'32"	31°54'43"	1.000	32.20921
11/26/2007	8:54	18:57	17h50m59s	-17°04'06"	25°15'39"	1.000	32.26773
12/ 3/2007	8:27	18:30	17h52m00s	-17°05'30"	18°43'24"	1.000	32.31341
12/10/2007	8:01	18:04	17h53m03s	-17°06'43"	12°29'37"	1.000	32.34558
12/17/2007	7:35	17:37	17h54m07s	-17°07'45"	7°25'46"	1.000	32.36373
12/24/2007	7:08	17:11	17h55m12s	-17°08'35"	6°56'29"	1.000	32.36767
12/31/2007	6:42	16:44	17h56m16s	-17°09'13"	11°37'53"	1.000	32.35745

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
Local Time = UT - 7.00 hours Elevation: 1707 meters

Planet Apsides Report for 2007

Earth

1/ 3/2007	Perihelion	Distance from Sun:	0.98 AU
7/ 5/2007	Aphelion	Distance from Sun:	1.02 AU

Mercury

2/ 9/2007	Perihelion	Distance from Sun:	0.31 AU
5/ 8/2007	Perihelion	Distance from Sun:	0.31 AU
8/ 4/2007	Perihelion	Distance from Sun:	0.31 AU
10/31/2007	Perihelion	Distance from Sun:	0.31 AU
3/25/2007	Aphelion	Distance from Sun:	0.47 AU
6/21/2007	Aphelion	Distance from Sun:	0.47 AU
9/17/2007	Aphelion	Distance from Sun:	0.47 AU
12/14/2007	Aphelion	Distance from Sun:	0.47 AU

Venus

4/19/2007	Perihelion	Distance from Sun:	0.72 AU
11/29/2007	Perihelion	Distance from Sun:	0.72 AU
8/ 9/2007	Aphelion	Distance from Sun:	0.73 AU

Mars

6/ 4/2007	Perihelion	Distance from Sun:	1.38 AU
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Jupiter

No Apsis

Saturn

No Apsis

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
Local Time = UT - 7.00 hours Elevation: 1707 meters

Planet Conjunction/Opposition Report for 1/ 1/2007 to 12/31/2007

Mercury

Date	Hour	Event
1/ 6/2007	23	Superior Conjunction
2/22/2007	22	Inferior Conjunction
5/ 2/2007	21	Superior Conjunction (Occultation)
6/28/2007	17	Inferior Conjunction
8/15/2007	17	Superior Conjunction
10/23/2007	17	Inferior Conjunction
12/17/2007	17	Superior Conjunction

Venus

Date	Hour	Event
8/17/2007	20	Inferior Conjunction

Mars

Date	Hour	Event
12/24/2007	17	Opposition

Jupiter

Date	Hour	Event
12/23/2007	0	Conjunction (Occultation)
6/ 5/2007	17	Opposition

Saturn

Date	Hour	Event
8/21/2007	20	Conjunction
2/10/2007	17	Opposition

Uranus

Date	Hour	Event
3/ 5/2007	17	Conjunction
9/ 9/2007	17	Opposition

Neptune

Date	Hour	Event
2/ 8/2007	17	Conjunction
8/13/2007	17	Opposition

Pluto

Date	Hour	Event
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Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

12/20/2007 17 Conjunction
 6/19/2007 0 Opposition

Planet Data Report

Planet	Mean Dist From Sun (AU)	Period of Revolution	Inclination	Equatorial Diameter (km)
Mercury	0.39	88 days	7°	4880
Venus	0.72	224.7 days	3.4°	12100
Earth	1.00	365.24 days	0°	12756
Mars	1.52	687 days	1.9°	6794
Jupiter	5.20	11.86 years	1.3°	143200
Saturn	9.54	29.46 years	2.5°	120000
Uranus	19.18	84 years	0.8°	52290
Neptune	30.06	165 years	1.8°	50450
Pluto	39.44	248 years	17.2°	2200-2300

Moon Apsides Report for 1/ 1/2007 to 12/31/2007

Date	Hour	Apsis	Distance (km)	Diameter
1/10/2007	9	Apogee	404337	0.4926°
1/22/2007	5	Perigee	366932	0.5428°
2/ 7/2007	5	Apogee	404981	0.4918°
2/19/2007	3	Perigee	361443	0.5510°
3/ 6/2007	20	Apogee	405853	0.4907°
3/19/2007	12	Perigee	357824	0.5566°
4/ 3/2007	2	Apogee	406331	0.4901°
4/16/2007	23	Perigee	357145	0.5576°
4/30/2007	4	Apogee	406195	0.4903°
5/15/2007	8	Perigee	359400	0.5541°
5/27/2007	15	Apogee	405465	0.4912°
6/12/2007	10	Perigee	363791	0.5474°
6/24/2007	8	Apogee	404553	0.4923°
7/ 9/2007	15	Perigee	368527	0.5404°
7/22/2007	2	Apogee	404155	0.4928°
8/ 3/2007	17	Perigee	368888	0.5399°
8/18/2007	20	Apogee	404629	0.4922°
8/30/2007	17	Perigee	364171	0.5469°
9/15/2007	14	Apogee	405655	0.4910°
9/27/2007	19	Perigee	359418	0.5541°
10/13/2007	3	Apogee	406497	0.4899°
10/26/2007	5	Perigee	356770	0.5582°
11/ 9/2007	6	Apogee	406672	0.4897°
11/23/2007	17	Perigee	357224	0.5575°
12/ 6/2007	10	Apogee	406220	0.4903°
12/22/2007	3	Perigee	360826	0.5519°

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
 Local Time = UT - 7.00 hours Elevation: 1707 meters

Meteor Showers Report for 1/ 1/2007 to 12/31/2007

Date	Meteor Shower	ZHR	RA	DEC	Illum. Frac.	Longitude
1/ 3/2007	Quadrantids	80	15h28m	50°	1.00	283°
4/11/2007	Virginids	5	14h04m	-9°	0.40	22°
4/22/2007	Lyrids	12	18h08m	32°	0.34	32°
4/28/2007	alpha-Scorpiids	5	16h32m	-24°	0.88	38°
5/ 5/2007	eta-Aquarids	35	22h20m	-1°	0.90	45°
5/12/2007	alpha-Scorpiids	5	16h04m	-24°	0.23	52°
6/ 9/2007	Ophiuchids	5	17h56m	-23°	0.36	79°
6/20/2007	Ophiuchids	5	17h20m	-20°	0.33	89°
7/ 8/2007	Capricornids	5			0.39	106°
7/15/2007	Capricornids	5	20h44m	-15°	0.02	113°
7/20/2007	alpha-Cygnids	5	21h00m	48°	0.35	118°
7/25/2007	Capricornids	5	21h00m	-15°	0.81	123°
7/29/2007	delta-Aquarids	20	22h36m	-17°	1.00	126°
7/31/2007	Piscis Australids	5	22h40m	-30°	0.97	128°
8/ 2/2007	alpha-Capricornids	5	20h36m	-10°	0.84	130°
8/ 6/2007	iota-Aquarids	8	22h10m	-15°	0.41	134°
8/12/2007	Perseids	75	3h04m	58°	0.00	140°
8/21/2007	alpha-Cygnids	5	21h00m	48°	0.57	148°
9/ 8/2007	Piscids	10	0h36m	7°	0.08	166°
9/20/2007	Piscids	5	0h24m	0°	0.60	178°
10/13/2007	Piscids	??	1h44m	14°	0.06	200°
10/22/2007	Orionids	25	6h24m	15°	0.83	209°
11/ 3/2007	Taurids	8	3h44m	14°	0.32	221°
11/17/2007	Leonids	10	10h08m	22°	0.48	235°
12/ 9/2007	Puppids-Velids	15	9h00m	-48°	0.00	257°
12/13/2007	Geminids	75	7h28m	32°	0.15	262°
12/22/2007	Ursids	5	14h28m	78°	0.97	271°
12/25/2007	Puppids-Velids	15	9h20m	-65°	0.96	274°

Twilight Report for 1/ 1/2007 to 12/31/2007

Date	Sun		Astronomical		Nautical		Civil	
	Rise	Set	Begin	End	Begin	End	Begin	End
1/ 1/2007	7:49	17:10	6:06	18:53	6:39	18:20	7:14	17:45
1/ 8/2007	7:49	17:16	6:07	18:58	6:40	18:25	7:14	17:51
1/15/2007	7:47	17:23	6:06	19:05	6:39	18:32	7:12	17:58
1/22/2007	7:44	17:32	6:04	19:11	6:36	18:39	7:09	18:06
1/29/2007	7:38	17:40	6:00	19:19	6:32	18:47	7:05	18:14
2/ 5/2007	7:32	17:49	5:54	19:26	6:26	18:54	6:58	18:22
2/12/2007	7:24	17:57	5:47	19:33	6:19	19:02	6:51	18:30
2/19/2007	7:14	18:06	5:39	19:41	6:10	19:10	6:42	18:38
2/26/2007	7:04	18:14	5:29	19:49	6:01	19:17	6:33	18:46
3/ 5/2007	6:54	18:22	5:19	19:56	5:51	19:25	6:22	18:53
3/12/2007	6:43	18:29	5:08	20:04	5:40	19:32	6:11	19:01
3/19/2007	6:31	18:37	4:56	20:12	5:28	19:40	6:00	19:08
3/26/2007	6:20	18:44	4:43	20:21	5:16	19:48	5:48	19:16
4/ 2/2007	6:08	18:51	4:30	20:29	5:04	19:56	5:36	19:23
4/ 9/2007	5:57	18:59	4:17	20:38	4:52	20:04	5:25	19:31
4/16/2007	5:46	19:06	4:04	20:48	4:40	20:13	5:13	19:39
4/23/2007	5:36	19:13	3:51	20:58	4:28	20:21	5:03	19:47
4/30/2007	5:26	19:20	3:38	21:09	4:17	20:30	4:52	19:54
5/ 7/2007	5:18	19:28	3:26	21:20	4:06	20:39	4:43	20:02

Midway, UT Latitude: 40°31'00" N Longitude: 111°27'30" W
Local Time = UT - 7.00 hours Elevation: 1707 meters

5/14/2007	5:10	19:34	3:15	21:30	3:57	20:48	4:35	20:10
5/21/2007	5:04	19:41	3:05	21:41	3:49	20:57	4:28	20:17
5/28/2007	5:00	19:47	2:56	21:51	3:42	21:04	4:23	20:24
6/ 4/2007	4:56	19:52	2:50	21:59	3:38	21:11	4:19	20:30
6/11/2007	4:55	19:56	2:46	22:05	3:35	21:16	4:17	20:34
6/18/2007	4:55	19:59	2:45	22:09	3:34	21:20	4:17	20:37
6/25/2007	4:56	20:00	2:46	22:11	3:36	21:21	4:18	20:39
7/ 2/2007	4:59	20:00	2:50	22:09	3:39	21:20	4:21	20:38
7/ 9/2007	5:04	19:58	2:57	22:05	3:45	21:17	4:26	20:36
7/16/2007	5:09	19:55	3:05	21:58	3:51	21:12	4:32	20:32
7/23/2007	5:15	19:50	3:15	21:49	3:59	21:05	4:38	20:26
7/30/2007	5:21	19:43	3:25	21:39	4:07	20:57	4:45	20:19
8/ 6/2007	5:28	19:35	3:36	21:27	4:16	20:47	4:53	20:10
8/13/2007	5:34	19:26	3:46	21:15	4:24	20:36	5:00	20:00
8/20/2007	5:41	19:17	3:56	21:02	4:33	20:25	5:08	19:50
8/27/2007	5:48	19:06	4:06	20:48	4:41	20:13	5:15	19:39
9/ 3/2007	5:55	18:55	4:15	20:35	4:49	20:00	5:22	19:27
9/10/2007	6:01	18:43	4:23	20:22	4:57	19:48	5:30	19:15
9/17/2007	6:08	18:32	4:32	20:08	5:05	19:35	5:37	19:03
9/24/2007	6:15	18:20	4:40	19:56	5:12	19:23	5:44	18:51
10/ 1/2007	6:22	18:08	4:47	19:43	5:19	19:11	5:51	18:40
10/ 8/2007	6:29	17:57	4:54	19:32	5:26	19:00	5:58	18:29
10/15/2007	6:37	17:46	5:02	19:21	5:33	18:49	6:05	18:18
10/22/2007	6:44	17:36	5:09	19:11	5:40	18:40	6:12	18:08
10/29/2007	6:52	17:26	5:16	19:03	5:48	18:31	6:20	17:59
11/ 5/2007	7:00	17:18	5:23	18:55	5:55	18:24	6:27	17:51
11/12/2007	7:08	17:11	5:30	18:50	6:02	18:17	6:35	17:45
11/19/2007	7:17	17:05	5:37	18:45	6:09	18:13	6:42	17:40
11/26/2007	7:24	17:01	5:44	18:42	6:16	18:10	6:50	17:36
12/ 3/2007	7:32	16:59	5:50	18:41	6:23	18:08	6:56	17:35
12/10/2007	7:38	16:59	5:55	18:42	6:28	18:09	7:02	17:35
12/17/2007	7:43	17:00	6:00	18:44	6:33	18:11	7:07	17:36
12/24/2007	7:47	17:04	6:04	18:47	6:37	18:14	7:11	17:40
12/31/2007	7:49	17:09	6:06	18:52	6:39	18:19	7:13	17:44