Obsidians ExploraTalk June 18, 2013 John Hartman

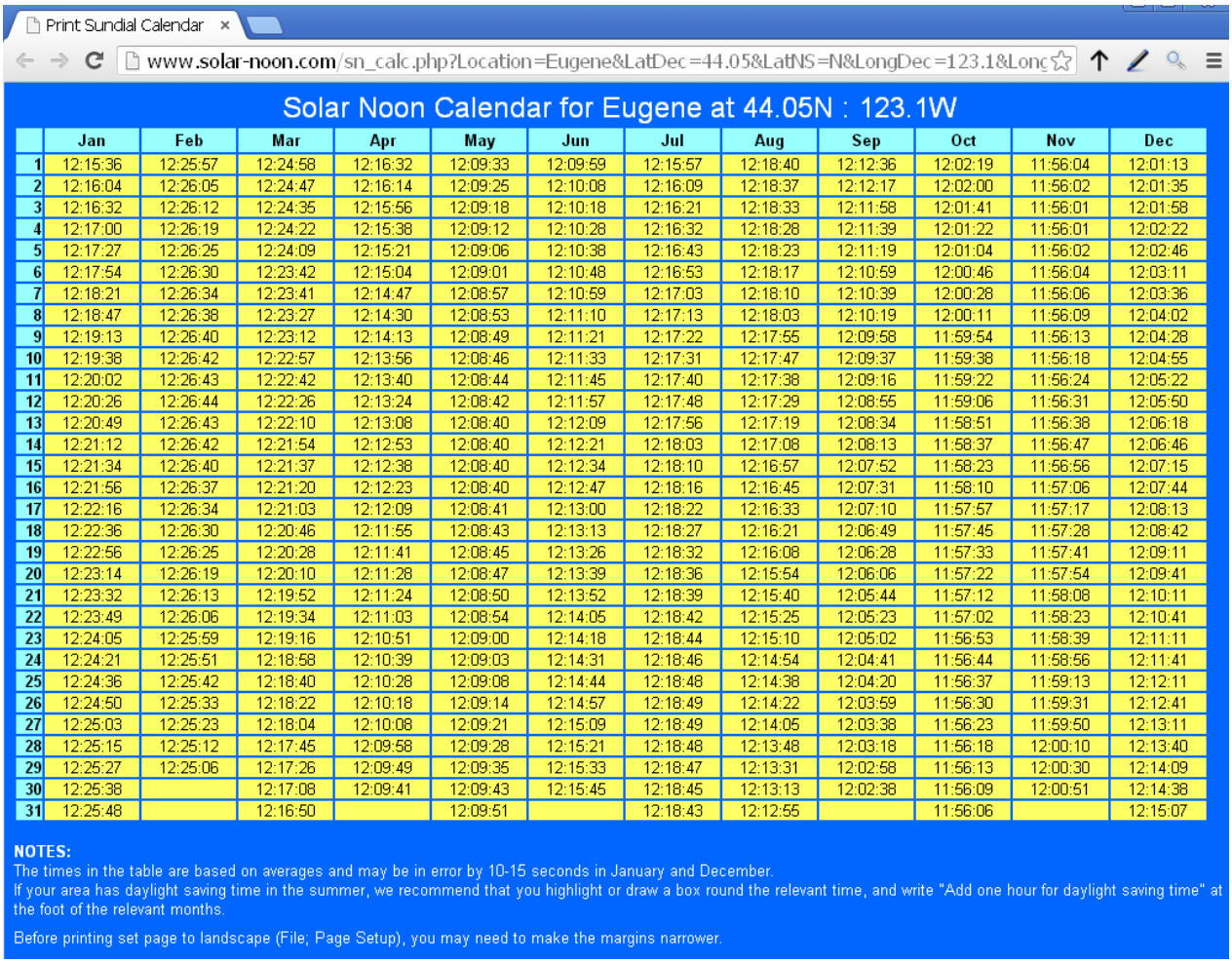
Hiking Astronomy - Using and Enjoying the Sun, Moon, Planets and Stars

http://softwareunderstanding.com/hiking-astronomy - Slides, More Resources...

Sun Azimuth and Altitude Table for Day and Location

aa.usno.navy.mil/data/docs/AltAz.php - set interval to 1 minute

Solar Noon for Day, Longitude of Eugene - Adjust for Daylight Time



Solar Noon Calendar for Eugene at 44.05N : 123.1W

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

NOTES:
The times in the table are based on averages and may be in error by 10-15 seconds in January and December.
If your area has daylight saving time in the summer, we recommend that you highlight or draw a box round the relevant time, and write "Add one hour for daylight saving time" at the foot of the relevant months.

Before printing set page to landscape (File; Page Setup), you may need to make the margins narrower.

Abrams Sky Calendar, $11/year; www.pa.msu.edu/abrams/SkyCalendar/

Sun Motions Demonstrator - astro.unl.edu/classaction/animations/coordsmotion/sunmotions.html

Software - www.skyviewcafe.com/skyview.php (online planetarium, azimuths are W from S), www.heavens-above.com (satellites), www.calsky.com (events), Star Walk app, PC software...

Charts - planispheres; Tirion, Bright Star Atlas 2000; Sinnott, Sky & Telescope's Pocket Sky Atlas

Resources - www.skyandtelescope.com , www.telescope.com (binoculars, telescopes, advice)