

Norfolk Astronomical Society



<http://norfolkastronomical.org>

October 2014

Monthly Sky Calendar
Prepared Specifically For
The Hampton Roads Area

Upcoming Regular Meetings

DATE	Monday, October 6, 2014
TIME	6 - 8 PM EDT
WHERE	Chesapeake Public Library, Major Hillard branch Conf. Room
TOPIC	Galileo

DATE	Monday, November 3, 2014
TIME	6 - 8 PM EDT
WHERE	Chesapeake Public Library, Major Hillard branch Conf. Room
TOPIC	Telescopes

The Wizard Nebula (NGC7380/Sh2-142)

Photo By Glendon L. Howell



Glen imaged the Wizard Nebula (NGC7380/Sh2-142) in Cepheus on September 21, 2014. 34 each 4-minute images were acquired through an Orion 80ED refractor with his Starlight-Xpress MX-7C ccd camera, and stacked and processed in AstroArt 4.0 software. Look for more of his work on his website Glen's Universe at <http://www.freewebs.com/howellgl/>.

Total Lunar Eclipse Visible Morning of October 8

A total lunar eclipse will occur just before sunrise on Wednesday, October 8 and set during totality. Partial phase begins at 5:15 AM EDT. Totality begins at 6:25 AM with the moon only 8 degrees above the western horizon and continuing to get lower. Being so low, this should be a great time photographers to include foreground scenery with the "red moon". Sunrise is at 7:11 AM.

Local circumstances calculated by the U.S. Naval Observatory's MICA 2.0 are as follows:

Total Eclipse of the Moon of 2014 Oct. 08

	EDT	Moon's Altitude	Moon's Azimuth	Position Angle
	d h m	°	°	°
Moon enters penumbra	8 04:15.2	32.8	249.9	87.1
Moon enters umbra	8 05:15.6	21.6	260.4	94.9
Moon enters totality	8 06:25.7	8.2	271.0	306.4
Maximum Eclipse	8 06:55.7	2.6	275.4	162.9
Moonset	8 07:15	----	278.3	-----

Penumbral Duration: 2h 59.5m
Umbral Duration: 1h 59.1m
Duration of Totality: 0h 48.9m
Magnitude: 1.172

Partial Solar Eclipse Visible October 23

A partial solar eclipse will be visible from most of North America the afternoon of Thursday, October 23. Locally, the eclipse begins at 5:58 PM EDT with the sun just 3.4 degrees above the west-southwest horizon. Sunset occurs at 6:23 PM, with the eclipse still in progress.

Local circumstances calculated by the U.S. Naval Observatory's MICA 2.0 are as follows:

Solar Eclipse of 2014 Oct. 23

	EDT	Sun's Altitude	Sun's Azimuth	Position Angle	Vertex Angle
	h m s	°	°	°	°
Eclipse Begins	17:58:56.6	3.4	252.9	316.2	264.8
Sunset	18:23	----	256.5	-----	

Duration: 0h 23m 36.8s
Magnitude: 0.412
Obscuration: 29.2%

East Coast Star Party

Kent Blackwell's East Coast Star Party is set to be held October 23-26 at Hampton Lodge Family Campground, Coinjock, NC. For fees and other information, contact Kent by email at kent@exis.net

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September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	5	6	7	8	9	10	11	2	3	4	5	6	7	8
7	8	9	10	11	12	13	12	13	14	15	16	17	18	9	10	11	12	13	14	15
14	15	16	17	18	19	20	19	20	21	22	23	24	25	16	17	18	19	20	21	22
21	22	23	24	25	26	27	26	27	28	29	30	31		23	24	25	26	27	28	29
28	29	30												30						

Calendar

	Start	End	Category	Description
1 Oct 2014	2:48 AM	2:48 AM	Jupiter	Jupiter rises
	3:12 AM	3:12 AM	Jup Sats	I.Tr.E
	5:37 AM	5:37 AM	Twilight	Astronomical Twilight begins
	6:05 AM	6:05 AM	Jup GRS	GRS Transit (CML=212)
	7:02 AM	7:02 AM	Sun	Sunrise
	1:54 PM	1:54 PM	Moon	Moonrise
	4:00 PM	4:00 PM	Diary	FIRST QUARTER
	4:34 PM	4:34 PM	Jupiter	Jupiter sets
	6:51 PM	6:51 PM	Sun	Sunset
	7:03 PM	7:03 PM	Iridium Flare	CHES:Iridium 75 Flares at mag.-5.4 (Azm 005 Alt 58)
8:00 PM	8:00 PM	Diary	Pluto 2.8S of Moon	
8:18 PM	8:18 PM	Twilight	Astronomical Twilight ends	
9:02 PM	9:02 PM	Iridium Flare	CHES:Iridium 25 Flares at mag.-1.2 (Azm 008 Alt 12)	
9:44 PM	9:44 PM	Lunar Occult	Moon occults 6.6 mag. double star ZC2731(d)	
2 Oct 2014	12:27 AM	12:27 AM	Moon	Moonset
	1:56 AM	1:56 AM	Jup GRS	GRS Transit (CML=212)
	2:45 AM	2:45 AM	Jupiter	Jupiter rises
	5:33 AM	5:33 AM	Iridium Flare	CHES:Iridium 80 Flares at mag.-0.1 (Azm 005 Alt 27)
	5:38 AM	5:38 AM	Twilight	Astronomical Twilight begins
	7:03 AM	7:03 AM	Sun	Sunrise
	10:15 AM	10:15 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	2:45 PM	2:45 PM	Moon	Moonrise
	4:30 PM	4:30 PM	Jupiter	Jupiter sets
	5:35 PM	5:35 PM	Iridium Flare	CHES:Iridium 39 Flares at mag.-6.7 (Azm 227 Alt 40)
6:49 PM	6:49 PM	Sun	Sunset	
6:57 PM	6:57 PM	Iridium Flare	CHES:Iridium 14 Flares at mag.-5.1 (Azm 005 Alt 60)	
8:16 PM	8:16 PM	Twilight	Astronomical Twilight ends	
8:55 PM	8:55 PM	Iridium Flare	CHES:Iridium 47 Flares at mag.-3.6 (Azm 009 Alt 16)	
3 Oct 2014	1:30 AM	1:30 AM	Moon	Moonset
	2:42 AM	2:42 AM	Jupiter	Jupiter rises
	5:38 AM	5:38 AM	Twilight	Astronomical Twilight begins
	7:04 AM	7:04 AM	Sun	Sunrise
	7:44 AM	7:44 AM	Jup GRS	GRS Transit (CML=212)
	3:32 PM	3:32 PM	Moon	Moonrise
	4:27 PM	4:27 PM	Jupiter	Jupiter sets
	6:48 PM	6:48 PM	Sun	Sunset
	6:51 PM	6:51 PM	Iridium Flare	CHES:Iridium 66 Flares at mag.-5.2 (Azm 004 Alt 62)
	8:15 PM	8:15 PM	Twilight	Astronomical Twilight ends
8:49 PM	8:49 PM	Iridium Flare	CHES:Iridium 11 Flares at mag.-0.1 (Azm 011 Alt 18)	

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September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	5	6	7	8	9	10	11	2	3	4	5	6	7	8
7	8	9	10	11	12	13	12	13	14	15	16	17	18	9	10	11	12	13	14	15
14	15	16	17	18	19	20	19	20	21	22	23	24	25	16	17	18	19	20	21	22
21	22	23	24	25	26	27	26	27	28	29	30	31	...	23	24	25	26	27	28	29
28	29	30	...	...	...	...	...	...	...	...	...	...	30	...	...	...	...	...	...

Calendar

	Start	End	Category	Description
4 Oct 2014	2:37 AM	2:37 AM	Moon	Moonset
	2:39 AM	2:39 AM	Jupiter	Jupiter rises
	3:35 AM	3:35 AM	Jup GRS	GRS Transit (CML=212)
	4:03 AM	4:03 AM	Jup Sats	II.Ec.D
	5:11 AM	5:11 AM	Iridium Flare	CHES:Iridium 38 Flares at mag.-0.3 (Azm 006 Alt 17)
	5:21 AM	5:21 AM	Iridium Flare	CHES:Iridium 43 Flares at mag.-3.5 (Azm 005 Alt 22)
	5:39 AM	5:39 AM	Twilight	Astronomical Twilight begins
	7:05 AM	7:05 AM	Sun	Sunrise
	11:00 AM	11:00 AM	Diary	Mercury stationary
	4:15 PM	4:15 PM	Moon	Moonrise
	4:23 PM	4:23 PM	Jupiter	Jupiter sets
	6:46 PM	6:46 PM	Sun	Sunset
	7:51 PM	7:51 PM	Sat Pass (ISS)	CHES:ISS Passes S to NE (Azm 142.3 Alt 17)
	8:13 PM	8:13 PM	Twilight	Astronomical Twilight ends
	11:25 PM	11:25 PM	Lunar Occult	Moon occults 6.0 mag. star ZC3187(d)
5 Oct 2014	1:22 AM	1:22 AM	Lunar Occult	Moon occults 6.5 mag. star ZC3199(d)
	2:36 AM	2:36 AM	Jupiter	Jupiter rises
	3:46 AM	3:46 AM	Moon	Moonset
	5:15 AM	5:15 AM	Iridium Flare	CHES:Iridium 40 Flares at mag.-4.0 (Azm 005 Alt 20)
	5:40 AM	5:40 AM	Twilight	Astronomical Twilight begins
	7:00 AM	7:00 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	7:06 AM	7:06 AM	Sun	Sunrise
	2:00 PM	2:00 PM	Diary	Neptune 4.4S of Moon
	4:20 PM	4:20 PM	Jupiter	Jupiter sets
	4:57 PM	4:57 PM	Moon	Moonrise
	6:45 PM	6:45 PM	Sun	Sunset
	8:12 PM	8:12 PM	Twilight	Astronomical Twilight ends
	8:38 PM	8:38 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 242.5 Alt 37)
	10:05 PM	10:05 PM	Lunar Occult	Moon occults 6.4 mag. double star ZC3328(d)
6 Oct 2014	2:33 AM	2:33 AM	Jupiter	Jupiter rises
	3:13 AM	3:13 AM	Jup Sats	II.Tr.E
	4:55 AM	4:55 AM	Moon	Moonset
	5:09 AM	5:09 AM	Iridium Flare	CHES:Iridium 77 Flares at mag.-1.8 (Azm 004 Alt 17)
	5:14 AM	5:14 AM	Jup GRS	GRS Transit (CML=212)
	5:41 AM	5:41 AM	Twilight	Astronomical Twilight begins
	6:16 AM	6:16 AM	Iridium Flare	CHES:Iridium 68 Flares at mag.-7.8 (Azm 175 Alt 44)
	7:00 AM	7:00 AM	Diary	Moon at perigee
	7:07 AM	7:07 AM	Sun	Sunrise
	4:17 PM	4:17 PM	Jupiter	Jupiter sets
	5:37 PM	5:37 PM	Moon	Moonrise

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S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	5	6	7	8	9	10	11	2	3	4	5	6	7	8
7	8	9	10	11	12	13	12	13	14	15	16	17	18	9	10	11	12	13	14	15
14	15	16	17	18	19	20	19	20	21	22	23	24	25	16	17	18	19	20	21	22
21	22	23	24	25	26	27	26	27	28	29	30	31	...	23	24	25	26	27	28	29
28	29	30	...	...	...	...	...	...	...	...	...	...	30	...	...	...	...	...	...

Calendar

	Start	End	Category	Description
6 Oct 2014	6:00 PM	6:00 PM	Meetings	NAS Regular Meeting at Chesapeake Public Library Major Hillard branch
	6:43 PM	6:43 PM	Sun	Sunset
	7:50 PM	7:50 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (AzM 135.8 Alt 55)
	8:10 PM	8:10 PM	Twilight	Astronomical Twilight ends
7 Oct 2014	1:05 AM	1:05 AM	Jup GRS	GRS Transit (CML=212)
	2:29 AM	2:29 AM	Jupiter	Jupiter rises
	3:18 AM	3:18 AM	Jup Sats	III.Ec.R
	4:01 AM	4:01 AM	Jup Sats	III.Oc.D
	4:28 AM	4:28 AM	Jup Sats	I.Ec.D
	5:04 AM	5:04 AM	Iridium Flare	CHES:Iridium 82 Flares at mag.-6.2 (AzM 005 Alt 14)
	5:36 AM	5:36 AM	Jup Sats	IV.Ec.R
	5:42 AM	5:42 AM	Twilight	Astronomical Twilight begins
	6:04 AM	6:04 AM	Moon	Moonset
	7:07 AM	7:07 AM	Sun	Sunrise
	4:13 PM	4:13 PM	Jupiter	Jupiter sets
	5:00 PM	5:00 PM	Diary	Uranus at opposition
	6:16 PM	6:16 PM	Moon	Moonrise
	6:42 PM	6:42 PM	Sun	Sunset
7:01 PM	7:01 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (AzM 132.1 Alt 28)	
8:09 PM	8:09 PM	Twilight	Astronomical Twilight ends	
8:37 PM	8:37 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (AzM 327.5 Alt 27)	
8:37 PM	8:37 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (AzM 327.5 Alt 27)	
8 Oct 2014	2:26 AM	2:26 AM	Jupiter	Jupiter rises
	2:53 AM	2:53 AM	Jup Sats	I.Tr.I
	3:53 AM	3:53 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	4:06 AM	4:06 AM	Jup Sats	I.Sh.E
	4:58 AM	4:58 AM	Iridium Flare	CHES:Iridium 18 Flares at mag.-3.4 (AzM 005 Alt 11)
	5:10 AM	5:10 AM	Jup Sats	I.Tr.E
	5:34 AM	5:34 AM	Lunar Occult	Moon occults 10.0 mag. star SAO109477(D)
	5:43 AM	5:43 AM	Twilight	Astronomical Twilight begins
	6:01 AM	6:01 AM	Lunar Occult	Moon occults 5.8 mag. star X54001(R)
	6:01 AM	6:01 AM	Lunar Occult	Moon occults 5.7 mag. star 104(R)
	6:25 AM	6:25 AM	Lunar Occult	Moon occults 9.4 mag. star SAO109502(D)
	6:32 AM	6:32 AM	Lunar Occult	Moon occults 10.0 mag. star SAO109477(R)
	6:53 AM	6:53 AM	Jup GRS	GRS Transit (CML=212)
	7:00 AM	7:00 AM	Diary	Uranus 1.2S of Moon Occn
7:08 AM	7:08 AM	Sun	Sunrise	
7:13 AM	7:13 AM	Moon	Moonset	
8:00 AM	8:00 AM	Diary	FULL MOON Eclipse	
4:10 PM	4:10 PM	Jupiter	Jupiter sets	

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September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	5	6	7	8	9	10	11	2	3	4	5	6	7	8
7	8	9	10	11	12	13	12	13	14	15	16	17	18	9	10	11	12	13	14	15
14	15	16	17	18	19	20	19	20	21	22	23	24	25	16	17	18	19	20	21	22
21	22	23	24	25	26	27	26	27	28	29	30	31		23	24	25	26	27	28	29
28	29	30												30						

Calendar

	Start	End	Category	Description
8 Oct 2014	6:41 PM	6:41 PM	Sun	Sunset
	6:56 PM	6:56 PM	Moon	Moonrise
	7:48 PM	7:48 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (AzM 322.7 Alt 46)
	8:07 PM	8:07 PM	Twilight	Astronomical Twilight ends
9 Oct 2014	2:23 AM	2:23 AM	Jupiter	Jupiter rises
	2:44 AM	2:44 AM	Jup GRS	GRS Transit (CML=212)
	5:44 AM	5:44 AM	Twilight	Astronomical Twilight begins
	7:09 AM	7:09 AM	Sun	Sunrise
	8:21 AM	8:21 AM	Moon	Moonset
	4:06 PM	4:06 PM	Jupiter	Jupiter sets
	5:06 PM	5:06 PM	Iridium Flare	CHES:Iridium 17 Flares at mag.-4.9 (AzM 237 Alt 28)
	6:39 PM	6:39 PM	Sun	Sunset
	6:59 PM	6:59 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (AzM 326.2 Alt 88)
7:38 PM	7:38 PM	Moon	Moonrise	
8:06 PM	8:06 PM	Twilight	Astronomical Twilight ends	
10 Oct 2014	2:20 AM	2:20 AM	Jupiter	Jupiter rises
	5:44 AM	5:44 AM	Twilight	Astronomical Twilight begins
	7:10 AM	7:10 AM	Sun	Sunrise
	9:26 AM	9:26 AM	Moon	Moonset
	4:03 PM	4:03 PM	Jupiter	Jupiter sets
	6:38 PM	6:38 PM	Sun	Sunset
	7:46 PM	7:46 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (AzM 331.1 Alt 20)
	8:05 PM	8:05 PM	Twilight	Astronomical Twilight ends
	8:21 PM	8:21 PM	Moon	Moonrise
11 Oct 2014	12:42 AM	12:42 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	2:17 AM	2:17 AM	Jupiter	Jupiter rises
	4:23 AM	4:23 AM	Jup GRS	GRS Transit (CML=212)
	5:45 AM	5:45 AM	Twilight	Astronomical Twilight begins
	5:55 AM	5:55 AM	Iridium Flare	CHES:Iridium 62 Flares at mag.-0.2 (AzM 188 Alt 41)
	6:37 AM	6:37 AM	Jup Sats	II.Ec.D
	7:11 AM	7:11 AM	Sun	Sunrise
	10:28 AM	10:28 AM	Moon	Moonset
	3:59 PM	3:59 PM	Jupiter	Jupiter sets
	6:36 PM	6:36 PM	Sun	Sunset
	6:57 PM	6:57 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (AzM 326.3 Alt 31)
8:03 PM	8:03 PM	Twilight	Astronomical Twilight ends	
8:07 PM	8:07 PM	Iridium Flare	CHES:Iridium 94 Flares at mag.-0.4 (AzM 013 Alt 37)	
9:08 PM	9:08 PM	Moon	Moonrise	

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September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6				1	2	3	4	2	3	4	5	6	7	8
7	8	9	10	11	12	13	5	6	7	8	9	10	11	9	10	11	12	13	14	15
14	15	16	17	18	19	20	12	13	14	15	16	17	18	16	17	18	19	20	21	22
21	22	23	24	25	26	27	19	20	21	22	23	24	25	23	24	25	26	27	28	29
28	29	30					26	27	28	29	30	31		30						

Calendar

	Start	End	Category	Description
12 Oct 2014	2:14 AM	2:14 AM	Jupiter	Jupiter rises
	3:43 AM	3:43 AM	Lunar Occult	Moon occults 7.0 mag. star SAO93962(r)
	5:46 AM	5:46 AM	Twilight	Astronomical Twilight begins
	5:49 AM	5:49 AM	Iridium Flare	CHES:Iridium 65 Flares at mag.-7.8 (AzM 188 Alt 40)
	7:00 AM	7:00 AM	Diary	Aldebaran 1.4S of Moon
	7:12 AM	7:12 AM	Sun	Sunrise
	7:25 AM	7:25 AM	Iridium Flare	CHES:Iridium 47 Flares at mag.-6.8 (AzM 140 Alt 34)
	11:26 AM	11:26 AM	Moon	Moonset
	3:56 PM	3:56 PM	Jupiter	Jupiter sets
	5:02 PM	5:02 PM	Iridium Flare	CHES:Iridium 39 Flares at mag.-4.4 (AzM 240 Alt 24)
	6:35 PM	6:35 PM	Sun	Sunset
8:02 PM	8:02 PM	Twilight	Astronomical Twilight ends	
9:57 PM	9:57 PM	Moon	Moonrise	
13 Oct 2014	12:00 AM	12:00 AM	Public Holiday	Columbus Day holiday
	2:11 AM	2:11 AM	Jupiter	Jupiter rises
	3:03 AM	3:03 AM	Jup Sats	II.Tr.I
	3:39 AM	3:39 AM	Jup Sats	II.Sh.E
	5:21 AM	5:21 AM	Lunar Occult	Moon occults 5.4 mag. double star 814(R)
	5:47 AM	5:47 AM	Twilight	Astronomical Twilight begins
	5:56 AM	5:56 AM	Jup Sats	II.Tr.E
	6:01 AM	6:01 AM	Jup GRS	GRS Transit (CML=212)
	7:02 AM	7:02 AM	Lunar Occult	Moon occults 6.7 mag. double star 823(r)
	7:13 AM	7:13 AM	Sun	Sunrise
	12:19 PM	12:19 PM	Moon	Moonset
	3:52 PM	3:52 PM	Jupiter	Jupiter sets
	6:34 PM	6:34 PM	Sun	Sunset
	6:55 PM	6:55 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (AzM 334.6 Alt 15)
7:55 PM	7:55 PM	Iridium Flare	CHES:Iridium 20 Flares at mag.-1.3 (AzM 014 Alt 41)	
8:01 PM	8:01 PM	Twilight	Astronomical Twilight ends	
9:31 PM	9:31 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)	
10:48 PM	10:48 PM	Moon	Moonrise	
14 Oct 2014	1:46 AM	1:46 AM	Lunar Occult	Moon occults 5.9 mag. double star 944(R)
	1:53 AM	1:53 AM	Jup GRS	GRS Transit (CML=212)
	2:07 AM	2:07 AM	Jupiter	Jupiter rises
	3:38 AM	3:38 AM	Jup Sats	III.Ec.D
	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	6:18 AM	6:18 AM	Lunar Occult	Moon occults 6.3 mag. star 970(r)
	6:21 AM	6:21 AM	Jup Sats	I.Ec.D
	7:13 AM	7:13 AM	Sun	Sunrise
1:07 PM	1:07 PM	Moon	Moonset	

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September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	5	6	7	8	9	10	11	2	3	4	5	6	7	8
7	8	9	10	11	12	13	12	13	14	15	16	17	18	9	10	11	12	13	14	15
14	15	16	17	18	19	20	19	20	21	22	23	24	25	16	17	18	19	20	21	22
21	22	23	24	25	26	27	26	27	28	29	30	31		23	24	25	26	27	28	29
28	29	30												30						

Calendar

	Start	End	Category	Description
14 Oct 2014	3:49 PM	3:49 PM	Jupiter	Jupiter sets
	6:32 PM	6:32 PM	Sun	Sunset
	7:49 PM	7:49 PM	Iridium Flare	CHES:Iridium 3 Flares at mag.-3.3 (Azm 017 Alt 42)
	7:58 PM	7:58 PM	Twilight	Astronomical Twilight ends
	11:40 PM	11:40 PM	Moon	Moonrise
15 Oct 2014	2:04 AM	2:04 AM	Jupiter	Jupiter rises
	3:43 AM	3:43 AM	Jup Sats	I.Sh.I
	4:50 AM	4:50 AM	Jup Sats	I.Tr.I
	5:06 AM	5:06 AM	Lunar Occult	Moon occults 6.5 mag. double star ZC1091(r)
	5:49 AM	5:49 AM	Twilight	Astronomical Twilight begins
	5:59 AM	5:59 AM	Jup Sats	I.Sh.E
	7:14 AM	7:14 AM	Sun	Sunrise
	7:40 AM	7:40 AM	Jup GRS	GRS Transit (CML=212)
	9:55 AM	9:55 AM	Lunar Occult	Moon occults 3.6 mag. double star ZC1106(r)
	1:51 PM	1:51 PM	Moon	Moonset
	3:45 PM	3:45 PM	Jupiter	Jupiter sets
	4:00 PM	4:00 PM	Diary	LAST QUARTER
	6:31 PM	6:31 PM	Sun	Sunset
7:43 PM	7:43 PM	Iridium Flare	CHES:Iridium 76 Flares at mag.-3.1 (Azm 018 Alt 44)	
7:57 PM	7:57 PM	Twilight	Astronomical Twilight ends	
16 Oct 2014	12:34 AM	12:34 AM	Moon	Moonrise
	2:01 AM	2:01 AM	Jupiter	Jupiter rises
	2:54 AM	2:54 AM	Jup Sats	IV.Tr.E
	3:32 AM	3:32 AM	Jup GRS	GRS Transit (CML=212)
	4:17 AM	4:17 AM	Jup Sats	I.Oc.R
	5:00 AM	5:00 AM	Diary	Mercury 0.4N of Spica
	5:49 AM	5:49 AM	Twilight	Astronomical Twilight begins
	6:01 AM	6:01 AM	Lunar Occult	Moon occults 7.3 mag. double star ZC1212(r)
	7:15 AM	7:15 AM	Sun	Sunrise
	2:29 PM	2:29 PM	Moon	Moonset
	3:42 PM	3:42 PM	Jupiter	Jupiter sets
	6:00 PM	6:00 PM	Diary	Mercury inferior conjunction
	6:20 PM	6:20 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
6:30 PM	6:30 PM	Sun	Sunset	
7:55 PM	7:55 PM	Twilight	Astronomical Twilight ends	
17 Oct 2014	1:27 AM	1:27 AM	Moon	Moonrise
	1:58 AM	1:58 AM	Jupiter	Jupiter rises
	4:21 AM	4:21 AM	Lunar Occult	Moon occults 6.7 mag. star ZC1320(r)
	5:28 AM	5:28 AM	Iridium Flare	CHES:Iridium 72 Flares at mag.-4.3 (Azm 197 Alt 36)

Norfolk Astronomical Society Astronomical Calendar

September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	5	6	7	8	9	10	11	2	3	4	5	6	7	8
7	8	9	10	11	12	13	12	13	14	15	16	17	18	9	10	11	12	13	14	15
14	15	16	17	18	19	20	19	20	21	22	23	24	25	16	17	18	19	20	21	22
21	22	23	24	25	26	27	26	27	28	29	30	31		23	24	25	26	27	28	29
28	29	30												30						

Calendar

	Start	End	Category	Description
17 Oct 2014	5:50 AM	5:50 AM	Twilight	Astronomical Twilight begins
	7:16 AM	7:16 AM	Sun	Sunrise
	8:38 AM	8:38 AM	Iridium Flare	CHES:Iridium 29 Flares at mag.-5.2 (Azm 103 Alt 27)
	11:20 AM	11:20 AM	Iridium Flare	CHES:Iridium 7 Flares at mag.-4.2 (Azm 149 Alt 43)
	3:00 PM	3:00 PM	Diary	Mercury 2.4S of Venus
	3:05 PM	3:05 PM	Moon	Moonset
	3:38 PM	3:38 PM	Jupiter	Jupiter sets
	5:35 PM	5:35 PM	Iridium Flare	CHES:Iridium 65 Flares at mag.-8.3 (Azm 341 Alt 83)
	6:28 PM	6:28 PM	Sun	Sunset
	7:54 PM	7:54 PM	Twilight	Astronomical Twilight ends
9:00 PM	9:00 PM	Diary	Jupiter 5.2N of Moon	
18 Oct 2014	1:54 AM	1:54 AM	Jupiter	Jupiter rises
	2:21 AM	2:21 AM	Moon	Moonrise
	3:00 AM	3:00 AM	Diary	Moon at apogee
	5:10 AM	5:10 AM	Jup GRS	GRS Transit (CML=212)
	5:22 AM	5:22 AM	Iridium Flare	CHES:Iridium 62 Flares at mag.-0.6 (Azm 196 Alt 36)
	5:51 AM	5:51 AM	Twilight	Astronomical Twilight begins
	7:17 AM	7:17 AM	Sun	Sunrise
	3:35 PM	3:35 PM	Jupiter	Jupiter sets
	3:38 PM	3:38 PM	Moon	Moonset
	6:27 PM	6:27 PM	Sun	Sunset
7:53 PM	7:53 PM	Twilight	Astronomical Twilight ends	
8:00 PM	8:00 PM	Diary	Regulus 4.4N of Moon	
11:00 PM	11:00 PM	Diary	Venus 3.2N of Spica	
19 Oct 2014	1:02 AM	1:02 AM	Jup GRS	GRS Transit (CML=212)
	1:51 AM	1:51 AM	Jupiter	Jupiter rises
	3:16 AM	3:16 AM	Moon	Moonrise
	5:28 AM	5:28 AM	Lunar Occult	Moon occults 6.5 mag. double star ZC1519(R)
	5:52 AM	5:52 AM	Twilight	Astronomical Twilight begins
	7:18 AM	7:18 AM	Sun	Sunrise
	8:27 AM	8:27 AM	Iridium Flare	CHES:Iridium 91 Flares at mag.-5.4 (Azm 100 Alt 26)
	3:00 PM	3:00 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	3:31 PM	3:31 PM	Jupiter	Jupiter sets
	4:10 PM	4:10 PM	Moon	Moonset
6:26 PM	6:26 PM	Sun	Sunset	
7:52 PM	7:52 PM	Twilight	Astronomical Twilight ends	
20 Oct 2014	1:48 AM	1:48 AM	Jupiter	Jupiter rises
	3:23 AM	3:23 AM	Jup Sats	II.Sh.I
	4:10 AM	4:10 AM	Moon	Moonrise

Norfolk Astronomical Society Astronomical Calendar

September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	5	6	7	8	9	10	11	2	3	4	5	6	7	8
7	8	9	10	11	12	13	12	13	14	15	16	17	18	9	10	11	12	13	14	15
14	15	16	17	18	19	20	19	20	21	22	23	24	25	16	17	18	19	20	21	22
21	22	23	24	25	26	27	26	27	28	29	30	31	...	23	24	25	26	27	28	29
28	29	30	...	...	...	...	...	...	...	...	...	...	30	...	...	...	...	...	...

Calendar

	Start	End	Category	Description
20 Oct 2014	5:45 AM	5:45 AM	Jup Sats	II.Tr.I
	5:53 AM	5:53 AM	Twilight	Astronomical Twilight begins
	6:15 AM	6:15 AM	Jup Sats	II.Sh.E
	6:49 AM	6:49 AM	Jup GRS	GRS Transit (CML=212)
	7:19 AM	7:19 AM	Sun	Sunrise
	3:28 PM	3:28 PM	Jupiter	Jupiter sets
	4:41 PM	4:41 PM	Moon	Moonset
	6:24 PM	6:24 PM	Sun	Sunset
7:50 PM	7:50 PM	Twilight	Astronomical Twilight ends	
21 Oct 2014	1:45 AM	1:45 AM	Jupiter	Jupiter rises
	2:40 AM	2:40 AM	Jup GRS	GRS Transit (CML=212)
	5:06 AM	5:06 AM	Moon	Moonrise
	5:54 AM	5:54 AM	Twilight	Astronomical Twilight begins
	7:20 AM	7:20 AM	Sun	Sunrise
	3:24 PM	3:24 PM	Jupiter	Jupiter sets
	5:13 PM	5:13 PM	Moon	Moonset
	6:23 PM	6:23 PM	Sun	Sunset
7:49 PM	7:49 PM	Twilight	Astronomical Twilight ends	
8:23 PM	8:23 PM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azm 339.7 Alt 14)	
22 Oct 2014	1:41 AM	1:41 AM	Jupiter	Jupiter rises
	3:43 AM	3:43 AM	Jup Sats	II.Oc.R
	5:26 AM	5:26 AM	Meteor Shower	Orionids (Halley) meteor peak (zhr=20)
	5:36 AM	5:36 AM	Jup Sats	I.Sh.I
	5:55 AM	5:55 AM	Twilight	Astronomical Twilight begins
	6:02 AM	6:02 AM	Moon	Moonrise
	6:43 AM	6:43 AM	Iridium Flare	CHES:Iridium 46 Flares at mag.-2.8 (Azm 158 Alt 35)
	6:46 AM	6:46 AM	Jup Sats	I.Tr.I
	7:21 AM	7:21 AM	Sun	Sunrise
	11:58 AM	11:58 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	3:21 PM	3:21 PM	Jupiter	Jupiter sets
	5:46 PM	5:46 PM	Moon	Moonset
	6:00 PM	6:00 PM	Diary	Mercury 0.6N of Moon Occn
6:22 PM	6:22 PM	Sun	Sunset	
7:36 PM	7:36 PM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azm 27.0 Alt 17)	
7:48 PM	7:48 PM	Twilight	Astronomical Twilight ends	
23 Oct 2014	1:38 AM	1:38 AM	Jupiter	Jupiter rises
	2:43 AM	2:43 AM	Jup Sats	I.Ec.D
	4:19 AM	4:19 AM	Jup GRS	GRS Transit (CML=212)
	5:55 AM	5:55 AM	Twilight	Astronomical Twilight begins

Norfolk Astronomical Society Astronomical Calendar

September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	5	6	7	8	9	10	11	2	3	4	5	6	7	8
7	8	9	10	11	12	13	12	13	14	15	16	17	18	9	10	11	12	13	14	15
14	15	16	17	18	19	20	19	20	21	22	23	24	25	16	17	18	19	20	21	22
21	22	23	24	25	26	27	26	27	28	29	30	31		23	24	25	26	27	28	29
28	29	30												30						

Calendar

	Start	End	Category	Description
23 Oct 2014	6:00 AM	6:00 AM	Diary	Spica 2.5S of Moon
	6:14 AM	6:14 AM	Jup Sats	I.Oc.R
	6:37 AM	6:37 AM	Iridium Flare	CHES:Iridium 49 Flares at mag.-1.6 (AzM 160 Alt 35)
	7:00 AM	7:00 AM	Moon	Moonrise
	7:22 AM	7:22 AM	Sun	Sunrise
	7:55 AM	7:55 AM	Iridium Flare	CHES:Iridium 91 Flares at mag.-4.3 (AzM 118 Alt 15)
	3:17 PM	3:17 PM	Jupiter	Jupiter sets
	6:00 PM	6:00 PM	Diary	NEW MOON Eclipse
	6:00 PM	6:00 PM	Diary	Venus 0.1N of Moon Occn
	6:21 PM	6:21 PM	Sun	Sunset
	6:21 PM	6:21 PM	Moon	Moonset
24 Oct 2014	7:03 PM	7:03 PM	Iridium Flare	CHES:Iridium 46 Flares at mag.-1.3 (AzM 018 Alt 58)
	7:47 PM	7:47 PM	Twilight	Astronomical Twilight ends
	8:21 PM	8:21 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (AzM 320.9 Alt 24)
	1:35 AM	1:35 AM	Jupiter	Jupiter rises
	2:21 AM	2:21 AM	Jup Sats	I.Sh.E
	3:32 AM	3:32 AM	Jup Sats	I.Tr.E
	5:56 AM	5:56 AM	Twilight	Astronomical Twilight begins
	6:16 AM	6:16 AM	Jup Sats	IV.Oc.D
	7:23 AM	7:23 AM	Sun	Sunrise
	7:47 AM	7:47 AM	Iridium Flare	CHES:Iridium 59 Flares at mag.-5.4 (AzM 089 Alt 22)
	7:59 AM	7:59 AM	Moon	Moonrise
25 Oct 2014	3:14 PM	3:14 PM	Jupiter	Jupiter sets
	3:40 PM	3:40 PM	Iridium Flare	CHES:Iridium 77 Flares at mag.-4.0 (AzM 231 Alt 31)
	6:20 PM	6:20 PM	Sun	Sunset
	6:59 PM	6:59 PM	Moon	Moonset
	7:00 PM	7:00 PM	Meetings	NAS Observing Session (Gates Co., NC)
	7:33 PM	7:33 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (AzM 34.7 Alt 36)
	7:46 PM	7:46 PM	Twilight	Astronomical Twilight ends
	1:32 AM	1:32 AM	Jupiter	Jupiter rises
	2:30 AM	2:30 AM	Jup Sats	III.Tr.I
	4:00 AM	4:00 AM	Diary	Mercury stationary
	4:00 AM	4:00 AM	Diary	Venus superior conjunction
5:57 AM	5:57 AM	Twilight	Astronomical Twilight begins	
5:57 AM	5:57 AM	Jup GRS	GRS Transit (CML=212)	
6:07 AM	6:07 AM	Jup Sats	III.Tr.E	
7:24 AM	7:24 AM	Sun	Sunrise	
8:47 AM	8:47 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)	
8:58 AM	8:58 AM	Moon	Moonrise	
12:00 PM	12:00 PM	Diary	Saturn 0.9S of Moon Occn	

Norfolk Astronomical Society Astronomical Calendar

September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	5	6	7	8	9	10	11	2	3	4	5	6	7	8
7	8	9	10	11	12	13	12	13	14	15	16	17	18	9	10	11	12	13	14	15
14	15	16	17	18	19	20	19	20	21	22	23	24	25	16	17	18	19	20	21	22
21	22	23	24	25	26	27	26	27	28	29	30	31		23	24	25	26	27	28	29
28	29	30												30						

Calendar

	Start	End	Category	Description
25 Oct 2014	3:10 PM	3:10 PM	Jupiter	Jupiter sets
	6:18 PM	6:18 PM	Sun	Sunset
	6:43 PM	6:43 PM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azim 30.6 Alt 23)
	6:50 PM	6:50 PM	Iridium Flare	CHES:Iridium 22 Flares at mag.-2.0 (Azim 024 Alt 60)
	7:42 PM	7:42 PM	Moon	Moonset
	7:45 PM	7:45 PM	Twilight	Astronomical Twilight ends
	8:19 PM	8:19 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azim 258.1 Alt 32)
26 Oct 2014	1:28 AM	1:28 AM	Jupiter	Jupiter rises
	1:49 AM	1:49 AM	Jup GRS	GRS Transit (CML=212)
	5:58 AM	5:58 AM	Twilight	Astronomical Twilight begins
	7:25 AM	7:25 AM	Sun	Sunrise
	9:58 AM	9:58 AM	Moon	Moonrise
	3:07 PM	3:07 PM	Jupiter	Jupiter sets
	6:17 PM	6:17 PM	Sun	Sunset
	6:44 PM	6:44 PM	Iridium Flare	CHES:Iridium 25 Flares at mag.-3.5 (Azim 021 Alt 63)
	7:30 PM	7:30 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azim 221.1 Alt 76)
	7:44 PM	7:44 PM	Twilight	Astronomical Twilight ends
8:30 PM	8:30 PM	Moon	Moonset	
27 Oct 2014	1:25 AM	1:25 AM	Jupiter	Jupiter rises
	5:59 AM	5:59 AM	Twilight	Astronomical Twilight begins
	5:59 AM	5:59 AM	Jup Sats	II.Sh.I
	6:22 AM	6:22 AM	Iridium Flare	CHES:Iridium 3 Flares at mag.-2.7 (Azim 170 Alt 34)
	7:26 AM	7:26 AM	Sun	Sunrise
	7:36 AM	7:36 AM	Jup GRS	GRS Transit (CML=212)
	10:56 AM	10:56 AM	Moon	Moonrise
	3:03 PM	3:03 PM	Jupiter	Jupiter sets
	6:16 PM	6:16 PM	Sun	Sunset
	6:38 PM	6:38 PM	Iridium Flare	CHES:Iridium 47 Flares at mag.-6.3 (Azim 023 Alt 65)
	6:41 PM	6:41 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azim 38.3 Alt 54)
7:43 PM	7:43 PM	Twilight	Astronomical Twilight ends	
9:23 PM	9:23 PM	Moon	Moonset	
28 Oct 2014	1:22 AM	1:22 AM	Jupiter	Jupiter rises
	3:27 AM	3:27 AM	Jup GRS	GRS Transit (CML=212)
	5:36 AM	5:36 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	6:00 AM	6:00 AM	Twilight	Astronomical Twilight begins
	6:16 AM	6:16 AM	Iridium Flare	CHES:Iridium 76 Flares at mag.-4.7 (Azim 171 Alt 33)
	7:26 AM	7:26 AM	Sun	Sunrise
	7:43 AM	7:43 AM	Iridium Flare	CHES:Iridium 95 Flares at mag.-5.2 (Azim 128 Alt 20)
11:51 AM	11:51 AM	Moon	Moonrise	

Norfolk Astronomical Society Astronomical Calendar

September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6	5	6	7	8	9	10	11	2	3	4	5	6	7	8
7	8	9	10	11	12	13	12	13	14	15	16	17	18	9	10	11	12	13	14	15
14	15	16	17	18	19	20	19	20	21	22	23	24	25	16	17	18	19	20	21	22
21	22	23	24	25	26	27	26	27	28	29	30	31		23	24	25	26	27	28	29
28	29	30												30						

Calendar

	Start	End	Category	Description
28 Oct 2014	2:59 PM	2:59 PM	Jupiter	Jupiter sets
	6:15 PM	6:15 PM	Sun	Sunset
	7:17 PM	7:17 PM	Lunar Occult	Moon occults 5.6 mag. double star ZC2680(D)
	7:27 PM	7:27 PM	Sat Pass (ISS)	CHES:ISS Passes NW to S (AzM 228.6 Alt 24)
	7:42 PM	7:42 PM	Twilight	Astronomical Twilight ends
	7:56 PM	7:56 PM	Lunar Occult	Moon occults 6.8 mag. star ZC2685(d)
	10:21 PM	10:21 PM	Moon	Moonset
29 Oct 2014	1:18 AM	1:18 AM	Jupiter	Jupiter rises
	2:00 AM	2:00 AM	Diary	Pluto 2.9S of Moon
	6:01 AM	6:01 AM	Twilight	Astronomical Twilight begins
	6:21 AM	6:21 AM	Jup Sats	II.Oc.R
	6:55 AM	6:55 AM	Iridium Flare	CHES:Iridium 29 Flares at mag.-2.3 (AzM 076 Alt 13)
	6:58 AM	6:58 AM	Iridium Flare	CHES:Iridium 55 Flares at mag.-5.3 (AzM 077 Alt 14)
	7:27 AM	7:27 AM	Sun	Sunrise
	12:42 PM	12:42 PM	Moon	Moonrise
	2:56 PM	2:56 PM	Jupiter	Jupiter sets
	3:15 PM	3:15 PM	Lunar Occult	Moon occults 3.9 mag. double star ZC2826(d)
	6:14 PM	6:14 PM	Sun	Sunset
	6:38 PM	6:38 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (AzM 224.5 Alt 47)
	7:41 PM	7:41 PM	Twilight	Astronomical Twilight ends
11:23 PM	11:23 PM	Moon	Moonset	
30 Oct 2014	1:15 AM	1:15 AM	Jupiter	Jupiter rises
	4:36 AM	4:36 AM	Jup Sats	I.Ec.D
	5:06 AM	5:06 AM	Jup GRS	GRS Transit (CML=212)
	6:01 AM	6:01 AM	Twilight	Astronomical Twilight begins
	6:51 AM	6:51 AM	Iridium Flare	CHES:Iridium 31 Flares at mag.-2.0 (AzM 075 Alt 14)
	7:28 AM	7:28 AM	Sun	Sunrise
	1:30 PM	1:30 PM	Moon	Moonrise
	2:52 PM	2:52 PM	Jupiter	Jupiter sets
	4:24 PM	4:24 PM	Iridium Flare	CHES:Iridium 70 Flares at mag.-4.1 (AzM 202 Alt 76)
	6:13 PM	6:13 PM	Sun	Sunset
7:40 PM	7:40 PM	Twilight	Astronomical Twilight ends	
11:00 PM	11:00 PM	Diary	FIRST QUARTER	
31 Oct 2014	12:27 AM	12:27 AM	Moon	Moonset
	1:12 AM	1:12 AM	Jupiter	Jupiter rises
	1:58 AM	1:58 AM	Jup Sats	I.Sh.I
	2:25 AM	2:25 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	3:10 AM	3:10 AM	Jup Sats	I.Tr.I
4:14 AM	4:14 AM	Jup Sats	I.Sh.E	

Norfolk Astronomical Society Astronomical Calendar

September 2014							October 2014							November 2014						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6			1	2	3	4	2	3	4	5	6	7	8	
7	8	9	10	11	12	13	5	6	7	8	9	10	11	9	10	11	12	13	14	15
14	15	16	17	18	19	20	12	13	14	15	16	17	18	16	17	18	19	20	21	22
21	22	23	24	25	26	27	19	20	21	22	23	24	25	23	24	25	26	27	28	29
28	29	30					26	27	28	29	30	31		30						

Calendar

	Start	End	Category	Description
31 Oct 2014	5:27 AM	5:27 AM	Jup Sats	I.Tr.E
	6:02 AM	6:02 AM	Twilight	Astronomical Twilight begins
	6:35 AM	6:35 AM	Iridium Flare	CHES:Iridium 32 Flares at mag.-4.6 (Azm 071 Alt 11)
	6:41 AM	6:41 AM	Iridium Flare	CHES:Iridium 33 Flares at mag.-0.5 (Azm 072 Alt 12)
	6:45 AM	6:45 AM	Iridium Flare	CHES:Iridium 91 Flares at mag.-1.2 (Azm 073 Alt 13)
	7:29 AM	7:29 AM	Sun	Sunrise
	7:31 AM	7:31 AM	Iridium Flare	CHES:Iridium 29 Flares at mag.-5.7 (Azm 134 Alt 22)
	12:17 PM	12:17 PM	Iridium Flare	CHES:Iridium 83 Flares at mag.-6.0 (Azm 169 Alt 51)
	2:13 PM	2:13 PM	Moon	Moonrise
	2:49 PM	2:49 PM	Jupiter	Jupiter sets
	4:18 PM	4:18 PM	Iridium Flare	CHES:Iridium 64 Flares at mag.-7.9 (Azm 203 Alt 74)
	6:12 PM	6:12 PM	Sun	Sunset
	6:34 PM	6:34 PM	Sat Pass (ISS)	CHES:ISS Passes NW to S (Azm 231.2 Alt 16)
	7:39 PM	7:39 PM	Twilight	Astronomical Twilight ends