

# Norfolk Astronomical Society



*<http://norfolkastronomical.org>*

January 2014

Monthly Sky Calendar  
Prepared Specifically For  
The Hampton Roads Area

## Upcoming Regular Meetings

<b>DATE</b>	Monday, Jan. 13, 2014
<b>TIME</b>	6 - 8 PM EST
<b>WHERE</b>	Chesapeake Public Library, Major Hillard branch Conf. Room
<b>TOPIC</b>	Earth's Magnetic Field

<b>DATE</b>	Monday, Feb. 10, 2014
<b>TIME</b>	6 - 8 PM EST
<b>WHERE</b>	Chesapeake Public Library, Major Hillard branch Conf. Room
<b>TOPIC</b>	Our Moon

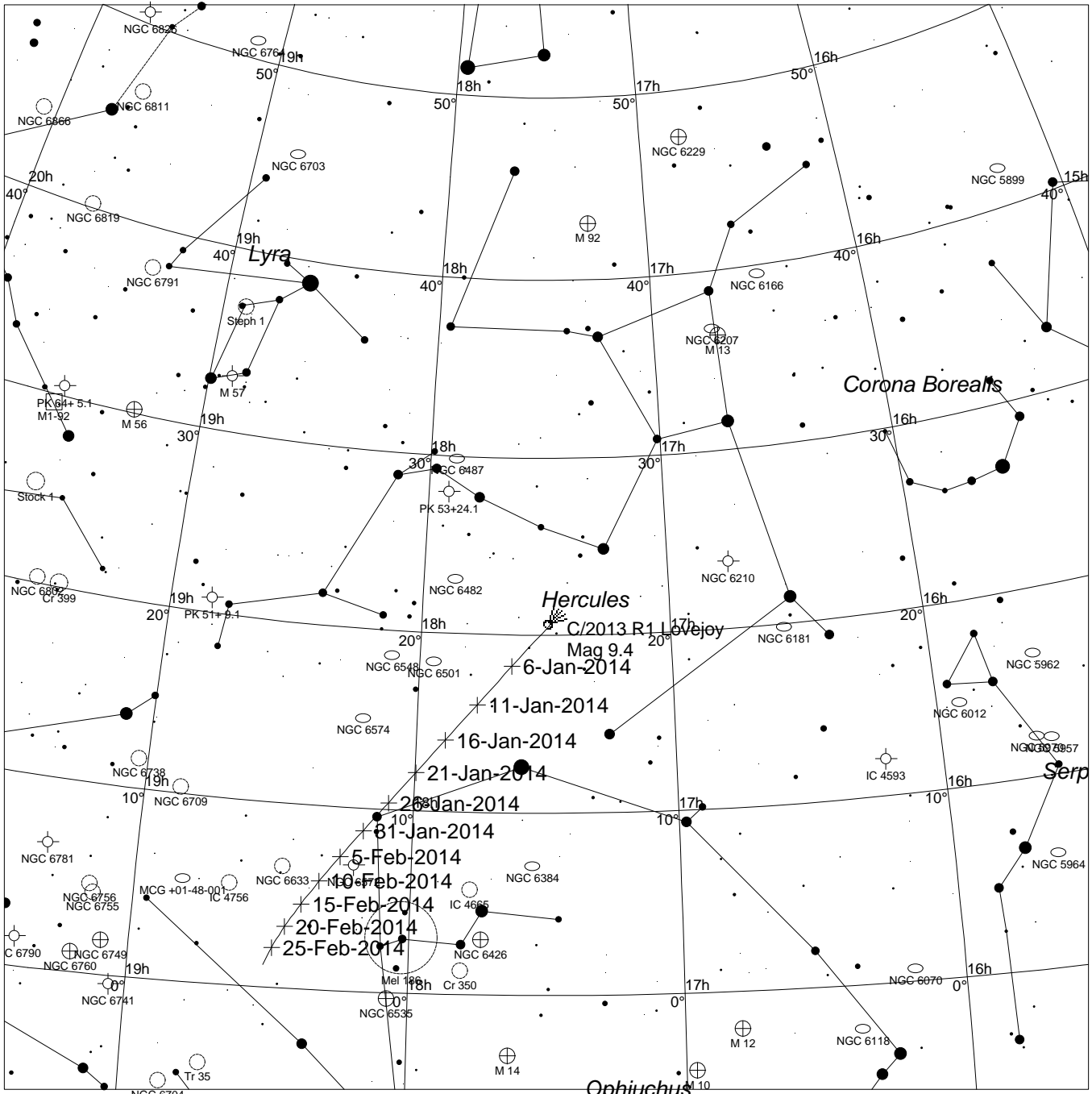
## Comet C/2013 R1 Lovejoy in Morning Sky

Photo By Kent Blackwell



While Comet ISON fizzled, another comet Lovejoy continues to put on a fair display in the morning sky before dawn, shining at the threshold of naked eye visibility. Kent Blackwell took the above 161-second exposure the morning of December 4, 2013. The image was taken using his Canon 20Da set to ISO 1600, coupled to a 66mm f/6 refractor (400mm focal length). A finder chart for the comet appears on the next page of this issue.

# Comet C/2013 R1 Lovejoy In JAN/FEB 2014



<p><b>STARS</b></p> <ul style="list-style-type: none"> <li>● &lt;2    ● 4.5</li> <li>● 2.5    ● 5</li> <li>● 3       ● 5.5</li> <li>● 3.5    ● &gt;6</li> <li>● 4</li> </ul>	<p><b>SYMBOLS</b></p> <ul style="list-style-type: none"> <li>☄ Comet</li> <li>☾ Asteroid</li> <li>☾ Galaxy</li> <li>☾ Open Cluster</li> <li>☐ Bright Nebula</li> <li>⊕ Globular Cluster</li> <li>⊕ Planetary Nebula</li> <li>⊕ Quasar</li> <li>⊕ Other Object</li> </ul>	<p><i>The comet, visible in the morning sky, moves slowly south-eastward, from Hercules into Ophiuchus while continuing to climb in altitude.</i></p>
<p>Local Time: 06:00:00 1-Jan-2014          Location: 36° 49' 48" N 76° 16' 48" W</p>	<p>UTC: 11:00:00 1-Jan-2014          RA: 17h30m00s Dec: +25° 00' Field: 60.0°</p>	<p>Sidereal Time: 12:38:58          Julian Day: 2456658.9583</p>

## NAS Proposed Regular Meetings 2014

<b>WKDAY</b>	<b>DATE</b>	<b>2014 PROPOSED MEETING DATES &amp; TOPICS</b>
<b>MON</b>	<b>13-Jan</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: Earth's Magnetic Field</b>
<b>MON</b>	<b>10-Feb</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: Our Moon</b>
<b>MON</b>	<b>10-Mar</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: The Planet Jupiter</b>
<b>MON</b>	<b>14-Apr</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: Eclipses</b>
<b>MON</b>	<b>12-May</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: The Planet Mars</b>
<b>MON</b>	<b>16-Jun</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: Hubble Repair Mission</b>
<b>MON</b>	<b>14-Jul</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: Our Sun</b>
<b>MON</b>	<b>11-Aug</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: Amateur Astronomy</b>
<b>MON</b>	<b>8-Sep</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: Image Processing</b>
<b>MON</b>	<b>6-Oct</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: Galileo</b>
<b>MON</b>	<b>3-Nov</b>	<b>NAS Regular Meeting, 6 PM at Ches. Public Lib., Major Hillard branch. Topic: Telescopes</b>
<b>MON</b>	<b>8-Dec</b>	<b>NAS Anniversary Dinner Meeting, 6:00 PM, at a restaurant to be arranged.</b>

The above dates are proposed as our regular meeting dates. Dates are chosen to be on a Monday close to Full Moon, with some variances to avoid holidays. Dates are subject to change.

# NAS Proposed Observing Sessions 2014

<b>WKDAY</b>	<b>DATE</b>	<b>2014 OBSERVING SESSION SCHEDULE</b>
<b>FRI</b>	<b>31-Jan</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.
<b>FRI</b>	<b>28-Feb</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.
<b>FRI</b>	<b>28-Mar</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.
<b>FRI</b>	<b>25-Apr</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.
<b>FRI</b>	<b>30-May</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.
<b>FRI</b>	<b>27-Jun</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.
<b>FRI</b>	<b>25-Jul</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.
<b>FRI</b>	<b>22-Aug</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.
<b>FRI</b>	<b>26-Sep</b>	<b>NAS Observing Session at Gates County site.</b> Rain date Saturday.
<b>FRI</b>	<b>24-Oct</b>	<b>NAS Observing Session at Gates County site.</b> Rain date Saturday.
<b>FRI</b>	<b>21-Nov</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.
<b>FRI</b>	<b>19-Dec</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.
<b>FRI</b>	<b>16-Jan</b>	<b>NAS Observing Session</b> at Gates County site. Rain date Saturday.

The above dates are proposed as our monthly observing session dates. Dates are chosen to be on a Friday close to New Moon, with some variances to avoid holidays and align with astronomical events like meteor showers. Dates are subject to change.

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	...	23	24	25	26	27	28	...
29	30	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		

## Calendar

	Start	End	Category	Description
<b>1</b> Jan 2014	12:00 AM	12:00 AM	Public Holiday	New Year's Day
	3:27 AM	3:27 AM	Jup GRS	GRS Transit (CML=207)
	5:47 AM	5:47 AM	Twilight	Astronomical Twilight begins
	7:00 AM	7:00 AM	Diary	NEW MOON
	7:00 AM	7:00 AM	Diary	Pluto 1.8S of Moon
	7:09 AM	7:09 AM	Moon	Moonrise
	7:19 AM	7:19 AM	Sun	Sunrise
	7:47 AM	7:47 AM	Jupiter	Jupiter sets
	1:22 PM	1:22 PM	Jup GRS	GRS Transit (CML=207)
	2:00 PM	2:00 PM	Diary	Pluto at conjunction
	5:00 PM	5:00 PM	Diary	Moon at perigee
	5:03 PM	5:03 PM	Sun	Sunset
	5:16 PM	5:16 PM	Jupiter	Jupiter rises
	5:43 PM	5:43 PM	Moon	Moonsset
5:58 PM	5:58 PM	Iridium Flare	CHES:Iridium 41 Flares at mag.-1.7 (Azm 192 Alt 29)	
6:35 PM	6:35 PM	Twilight	Astronomical Twilight ends	
7:03 PM	7:03 PM	Jup Sats	II.Sh.E	
7:15 PM	7:15 PM	Jup Sats	II.Tr.E	
11:18 PM	11:18 PM	Jup GRS	GRS Transit (CML=207)	
<b>2</b> Jan 2014	5:39 AM	5:39 AM	Iridium Flare	CHES:Iridium 68 Flares at mag.-0.6 (Azm 057 Alt 10)
	5:47 AM	5:47 AM	Twilight	Astronomical Twilight begins
	5:49 AM	5:49 AM	Iridium Flare	CHES:Iridium 21 Flares at mag.-5.8 (Azm 060 Alt 13)
	5:58 AM	5:58 AM	Iridium Flare	CHES:Iridium 72 Flares at mag. 1.2 (Azm 062 Alt 17)
	6:14 AM	6:14 AM	Iridium Flare	CHES:Iridium 77 Flares at mag.-0.5 (Azm 338 Alt 54)
	6:31 AM	6:31 AM	Iridium Flare	CHES:Iridium 62 Flares at mag. 1.4 (Azm 141 Alt 14)
	6:35 AM	6:35 AM	Jup Sats	I.Ec.D
	7:00 AM	7:00 AM	Diary	Venus 1.9S of Moon
	7:19 AM	7:19 AM	Sun	Sunrise
	7:43 AM	7:43 AM	Jupiter	Jupiter sets
	8:02 AM	8:02 AM	Moon	Moonrise
	9:13 AM	9:13 AM	Jup GRS	GRS Transit (CML=207)
	4:23 PM	4:23 PM	Iridium Flare	CHES:Iridium 53 Flares at mag.-6.1 (Azm 262 Alt 29)
	5:04 PM	5:04 PM	Sun	Sunset
	5:11 PM	5:11 PM	Jupiter	Jupiter rises
	5:52 PM	5:52 PM	Iridium Flare	CHES:Iridium 42 Flares at mag.-1.2 (Azm 191 Alt 30)
	6:36 PM	6:36 PM	Twilight	Astronomical Twilight ends
6:55 PM	6:55 PM	Moon	Moonsset	
7:09 PM	7:09 PM	Jup GRS	GRS Transit (CML=207)	
11:39 PM	11:39 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)	

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December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	...	23	24	25	26	27	28	...
29	30	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		

## Calendar

	Start	End	Category	Description
<b>3</b> Jan 2014	3:43 AM	3:43 AM	Jup Sats	I.Sh.I
	3:47 AM	3:47 AM	Jup Sats	I.Tr.I
	5:04 AM	5:04 AM	Jup GRS	GRS Transit (CML=207)
	5:33 AM	5:33 AM	Iridium Flare	CHES:Iridium 75 Flares at mag.-2.5 (Azm 057 Alt 10)
	5:36 AM	5:36 AM	Iridium Flare	CHES:Iridium 74 Flares at mag.-0.2 (Azm 058 Alt 10)
	5:43 AM	5:43 AM	Iridium Flare	CHES:Iridium 70 Flares at mag. 0.1 (Azm 059 Alt 13)
	5:47 AM	5:47 AM	Twilight	Astronomical Twilight begins
	5:59 AM	5:59 AM	Jup Sats	I.Sh.E
	6:03 AM	6:03 AM	Jup Sats	I.Tr.E
	6:08 AM	6:08 AM	Iridium Flare	CHES:Iridium 82 Flares at mag.-2.3 (Azm 343 Alt 54)
	6:25 AM	6:25 AM	Iridium Flare	CHES:Iridium 65 Flares at mag.-2.9 (Azm 142 Alt 13)
	6:26 AM	6:26 AM	Iridium Flare	CHES:Iridium 14 Flares at mag. 0.9 (Azm 141 Alt 12)
	7:19 AM	7:19 AM	Sun	Sunrise
	7:38 AM	7:38 AM	Jupiter	Jupiter sets
	8:49 AM	8:49 AM	Moon	Moonrise
	11:00 AM	11:00 AM	Diary	Earth at perihelion
	3:00 PM	3:00 PM	Jup GRS	GRS Transit (CML=207)
	3:30 PM	3:30 PM	Meteor Shower	Quadrantids meteor peak (zhr=95)
5:04 PM	5:04 PM	Sun	Sunset	
5:07 PM	5:07 PM	Jupiter	Jupiter rises	
6:36 PM	6:36 PM	Twilight	Astronomical Twilight ends	
7:28 PM	7:28 PM	Jup Sats	IV.Sh.E	
7:57 PM	7:57 PM	Jup Sats	IV.Tr.E	
8:06 PM	8:06 PM	Moon	Moonset	
<b>4</b> Jan 2014	12:56 AM	12:56 AM	Jup GRS	GRS Transit (CML=207)
	1:03 AM	1:03 AM	Jup Sats	I.Ec.D
	1:08 AM	1:08 AM	Jup Sats	III.Sh.I
	1:18 AM	1:18 AM	Jup Sats	III.Tr.I
	3:22 AM	3:22 AM	Jup Sats	I.Oc.R
	4:20 AM	4:20 AM	Jup Sats	III.Sh.E
	4:30 AM	4:30 AM	Jup Sats	III.Tr.E
	5:47 AM	5:47 AM	Twilight	Astronomical Twilight begins
	6:02 AM	6:02 AM	Iridium Flare	CHES:Iridium 18 Flares at mag.-0.2 (Azm 344 Alt 53)
	6:19 AM	6:19 AM	Iridium Flare	CHES:Iridium 68 Flares at mag.-0.8 (Azm 142 Alt 12)
	6:28 AM	6:28 AM	Iridium Flare	CHES:Iridium 21 Flares at mag. 1.9 (Azm 145 Alt 17)
	7:09 AM	7:09 AM	Sat Pass (ISS)	CHES:ISS Passes S to NE (Azm 129.0 Alt 17)
	7:19 AM	7:19 AM	Sun	Sunrise
	7:34 AM	7:34 AM	Jupiter	Jupiter sets
	9:30 AM	9:30 AM	Moon	Moonrise
10:51 AM	10:51 AM	Jup GRS	GRS Transit (CML=207)	
5:02 PM	5:02 PM	Jupiter	Jupiter rises	

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December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	...	23	24	25	26	27	28	...
29	30	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

## Calendar

	Start	End	Category	Description
<b>4</b> Jan 2014	5:05 PM	5:05 PM	Sun	Sunset
	6:00 PM	6:00 PM	Diary	Neptune 5.1S of Moon
	6:25 PM	6:25 PM	Lunar Occult	Moon occults 7.6 mag. star SAO145968(d)
	6:36 PM	6:36 PM	Lunar Occult	Moon occults 7.5 mag. star SAO145963(d)
	6:37 PM	6:37 PM	Twilight	Astronomical Twilight ends
	8:47 PM	8:47 PM	Jup GRS	GRS Transit (CML=207)
	9:15 PM	9:15 PM	Moon	Moonset
	10:12 PM	10:12 PM	Jup Sats	I.Sh.I
	10:13 PM	10:13 PM	Jup Sats	I.Tr.I
<b>5</b> Jan 2014	12:28 AM	12:28 AM	Jup Sats	I.Sh.E
	12:29 AM	12:29 AM	Jup Sats	I.Tr.E
	5:38 AM	5:38 AM	Jup Sats	II.Sh.I
	5:40 AM	5:40 AM	Jup Sats	II.Tr.I
	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	5:53 AM	5:53 AM	Iridium Flare	CHES:Iridium 38 Flares at mag.-8.1 (Azm 342 Alt 48)
	5:56 AM	5:56 AM	Iridium Flare	CHES:Iridium 39 Flares at mag. 1.8 (Azm 347 Alt 52)
	6:22 AM	6:22 AM	Iridium Flare	CHES:Iridium 70 Flares at mag.-2.1 (Azm 146 Alt 15)
	6:42 AM	6:42 AM	Jup GRS	GRS Transit (CML=207)
	7:19 AM	7:19 AM	Sun	Sunrise
	7:30 AM	7:30 AM	Jupiter	Jupiter sets
	10:08 AM	10:08 AM	Moon	Moonrise
	4:38 PM	4:38 PM	Jup GRS	GRS Transit (CML=207)
	4:58 PM	4:58 PM	Jupiter	Jupiter rises
	5:00 PM	5:00 PM	Diary	Jupiter at opposition
	5:06 PM	5:06 PM	Sun	Sunset
	5:43 PM	5:43 PM	Iridium Flare	CHES:Iridium 18 Flares at mag.-0.3 (Azm 200 Alt 27)
	6:38 PM	6:38 PM	Twilight	Astronomical Twilight ends
	6:55 PM	6:55 PM	Iridium Flare	CHES:Iridium 72 Flares at mag.-3.3 (Azm 036 Alt 44)
	7:32 PM	7:32 PM	Jup Sats	I.Oc.D
	8:28 PM	8:28 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	9:48 PM	9:48 PM	Jup Sats	I.Ec.R
	10:22 PM	10:22 PM	Moon	Moonset
<b>6</b> Jan 2014	2:34 AM	2:34 AM	Jup GRS	GRS Transit (CML=207)
	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	5:50 AM	5:50 AM	Iridium Flare	CHES:Iridium 15 Flares at mag. 1.4 (Azm 347 Alt 50)
	6:16 AM	6:16 AM	Iridium Flare	CHES:Iridium 64 Flares at mag.-2.7 (Azm 147 Alt 15)
	7:09 AM	7:09 AM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 135.8 Alt 53)
	7:19 AM	7:19 AM	Sun	Sunrise
	7:25 AM	7:25 AM	Jupiter	Jupiter sets
	10:44 AM	10:44 AM	Moon	Moonrise



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December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	...	23	24	25	26	27	28	...
29	30	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

## Calendar

	Start	End	Category	Description
<b>6</b> Jan 2014	12:29 PM	12:29 PM	Jup GRS	GRS Transit (CML=207)
	4:53 PM	4:53 PM	Jupiter	Jupiter rises
	5:07 PM	5:07 PM	Sun	Sunset
	5:37 PM	5:37 PM	Iridium Flare	CHES:Iridium 39 Flares at mag.-2.6 (AzM 199 Alt 28)
	6:39 PM	6:39 PM	Twilight	Astronomical Twilight ends
	6:49 PM	6:49 PM	Iridium Flare	CHES:Iridium 62 Flares at mag.-2.7 (AzM 038 Alt 44)
	6:55 PM	6:55 PM	Jup Sats	I.Tr.E
	6:56 PM	6:56 PM	Jup Sats	I.Sh.E
	10:25 PM	10:25 PM	Jup GRS	GRS Transit (CML=207)
	11:26 PM	11:26 PM	Moon	Moonset
11:46 PM	11:46 PM	Jup Sats	II.Oc.D	
<b>7</b> Jan 2014	2:32 AM	2:32 AM	Jup Sats	II.Ec.R
	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	6:10 AM	6:10 AM	Iridium Flare	CHES:Iridium 67 Flares at mag. 1.3 (AzM 148 Alt 14)
	6:13 AM	6:13 AM	Iridium Flare	CHES:Iridium 74 Flares at mag. 1.1 (AzM 148 Alt 15)
	6:19 AM	6:19 AM	Iridium Flare	CHES:Iridium 68 Flares at mag. 1.1 (AzM 151 Alt 19)
	6:20 AM	6:20 AM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (AzM 132.3 Alt 27)
	7:00 AM	7:00 AM	Diary	Uranus 2.9S of Moon
	7:19 AM	7:19 AM	Sun	Sunrise
	7:21 AM	7:21 AM	Jupiter	Jupiter sets
	8:20 AM	8:20 AM	Jup GRS	GRS Transit (CML=207)
	11:19 AM	11:19 AM	Moon	Moonrise
	4:48 PM	4:48 PM	Jupiter	Jupiter rises
	5:08 PM	5:08 PM	Sun	Sunset
	6:16 PM	6:16 PM	Jup GRS	GRS Transit (CML=207)
	6:22 PM	6:22 PM	Jup Sats	III.Ec.R
6:40 PM	6:40 PM	Twilight	Astronomical Twilight ends	
6:43 PM	6:43 PM	Iridium Flare	CHES:Iridium 65 Flares at mag. 0.3 (AzM 040 Alt 45)	
11:00 PM	11:00 PM	Diary	FIRST QUARTER	
11:49 PM	11:49 PM	Lunar Occult	Moon occults 4.3 mag. double star 146(D)	
<b>8</b> Jan 2014	12:29 AM	12:29 AM	Moon	Moonset
	4:11 AM	4:11 AM	Jup GRS	GRS Transit (CML=207)
	5:32 AM	5:32 AM	Sat Pass (ISS)	CHES:ISS Passes S to E (AzM 128.5 Alt 15)
	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	6:13 AM	6:13 AM	Iridium Flare	CHES:Iridium 75 Flares at mag.-4.5 (AzM 151 Alt 18)
	7:08 AM	7:08 AM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (AzM 322.7 Alt 46)
	7:16 AM	7:16 AM	Jupiter	Jupiter sets
	7:19 AM	7:19 AM	Sun	Sunrise
	11:55 AM	11:55 AM	Moon	Moonrise
	2:07 PM	2:07 PM	Jup GRS	GRS Transit (CML=207)

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	...	23	24	25	26	27	28	...
29	30	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		

## Calendar

	Start	End	Category	Description
<b>8</b> Jan 2014	4:44 PM	4:44 PM	Jupiter	Jupiter rises
	5:09 PM	5:09 PM	Sun	Sunset
	5:17 PM	5:17 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	6:40 PM	6:40 PM	Twilight	Astronomical Twilight ends
	6:47 PM	6:47 PM	Jup Sats	II.Tr.I
	6:57 PM	6:57 PM	Jup Sats	II.Sh.I
	9:30 PM	9:30 PM	Jup Sats	II.Tr.E
	9:39 PM	9:39 PM	Jup Sats	II.Sh.E
<b>9</b> Jan 2014	12:03 AM	12:03 AM	Jup GRS	GRS Transit (CML=207)
	1:29 AM	1:29 AM	Moon	Moonset
	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	6:07 AM	6:07 AM	Iridium Flare	CHES:Iridium 63 Flares at mag.-0.4 (Azm 152 Alt 16)
	6:20 AM	6:20 AM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 325.0 Alt 87)
	7:12 AM	7:12 AM	Jupiter	Jupiter sets
	7:19 AM	7:19 AM	Sun	Sunrise
	9:58 AM	9:58 AM	Jup GRS	GRS Transit (CML=207)
	12:32 PM	12:32 PM	Moon	Moonrise
	3:32 PM	3:32 PM	Iridium Flare	CHES:Iridium 56 Flares at mag.-4.5 (Azm 250 Alt 37)
	4:39 PM	4:39 PM	Jupiter	Jupiter rises
	5:10 PM	5:10 PM	Sun	Sunset
	6:40 PM	6:40 PM	Iridium Flare	CHES:Iridium 70 Flares at mag. 2.0 (Azm 034 Alt 54)
6:41 PM	6:41 PM	Twilight	Astronomical Twilight ends	
7:54 PM	7:54 PM	Jup GRS	GRS Transit (CML=207)	
<b>10</b> Jan 2014	2:27 AM	2:27 AM	Moon	Moonset
	5:31 AM	5:31 AM	Jup Sats	I.Tr.I
	5:31 AM	5:31 AM	Iridium Flare	CHES:Iridium 98 Flares at mag. 1.9 (Azm 348 Alt 43)
	5:31 AM	5:31 AM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 134.7 Alt 47)
	5:36 AM	5:36 AM	Iridium Flare	CHES:Iridium 82 Flares at mag. 0.4 (Azm 342 Alt 39)
	5:38 AM	5:38 AM	Jup Sats	I.Sh.I
	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	5:49 AM	5:49 AM	Jup GRS	GRS Transit (CML=207)
	6:01 AM	6:01 AM	Iridium Flare	CHES:Iridium 66 Flares at mag. 1.7 (Azm 153 Alt 16)
	6:10 AM	6:10 AM	Iridium Flare	CHES:Iridium 67 Flares at mag. 1.7 (Azm 158 Alt 21)
	7:07 AM	7:07 AM	Jupiter	Jupiter sets
	7:19 AM	7:19 AM	Sun	Sunrise
	1:11 PM	1:11 PM	Moon	Moonrise
	3:45 PM	3:45 PM	Jup GRS	GRS Transit (CML=207)
	4:35 PM	4:35 PM	Jupiter	Jupiter rises
	5:11 PM	5:11 PM	Sun	Sunset
	5:22 PM	5:22 PM	Iridium Flare	CHES:Iridium 77 Flares at mag.-4.7 (Azm 209 Alt 25)

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	1	2	3	4			1	2	3	4				
8	9	10	11	12	13	14	5	6	7	8	9	10	11	2	3	4	5	6	7	8
15	16	17	18	19	20	21	12	13	14	15	16	17	18	9	10	11	12	13	14	15
22	23	24	25	26	27	28	19	20	21	22	23	24	25	16	17	18	19	20	21	22
29	30	31					26	27	28	29	30	31		23	24	25	26	27	28	

## Calendar

	Start	End	Category	Description
<b>10</b> Jan 2014	6:34 PM	6:34 PM	Iridium Flare	CHES:Iridium 74 Flares at mag.-0.7 (Azm 037 Alt 54)
	6:34 PM	6:34 PM	Iridium Flare	CHES:Iridium 64 Flares at mag. 1.5 (Azm 035 Alt 55)
	6:42 PM	6:42 PM	Twilight	Astronomical Twilight ends
	8:14 PM	8:14 PM	Lunar Occult	Moon occults 7.0 mag. star 505(d)
	11:00 PM	11:00 PM	Diary	Venus greatest elong W(06)
<b>11</b> Jan 2014	1:41 AM	1:41 AM	Jup GRS	GRS Transit (CML=207)
	2:49 AM	2:49 AM	Jup Sats	I.Oc.D
	3:23 AM	3:23 AM	Moon	Moonset
	4:32 AM	4:32 AM	Jup Sats	III.Tr.I
	4:44 AM	4:44 AM	Sat Pass (ISS)	CHES:ISS Passes S to NE (Azm 85.0 Alt 15)
	5:07 AM	5:07 AM	Jup Sats	III.Sh.I
	5:14 AM	5:14 AM	Jup Sats	I.Ec.R
	5:30 AM	5:30 AM	Iridium Flare	CHES:Iridium 18 Flares at mag.-1.4 (Azm 343 Alt 38)
	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	6:04 AM	6:04 AM	Iridium Flare	CHES:Iridium 72 Flares at mag.-1.6 (Azm 158 Alt 20)
	6:19 AM	6:19 AM	Sat Pass (ISS)	CHES:ISS Passes W to NE (Azm 326.8 Alt 30)
	7:03 AM	7:03 AM	Jupiter	Jupiter sets
	7:19 AM	7:19 AM	Sun	Sunrise
	7:46 AM	7:46 AM	Iridium Flare	CHES:Iridium 23 Flares at mag.-4.1 (Azm 085 Alt 36)
	8:00 AM	8:00 AM	Diary	Venus inferior conjunction
	11:36 AM	11:36 AM	Jup GRS	GRS Transit (CML=207)
	1:53 PM	1:53 PM	Moon	Moonrise
	2:00 PM	2:00 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	4:30 PM	4:30 PM	Jupiter	Jupiter rises
	5:12 PM	5:12 PM	Sun	Sunset
6:28 PM	6:28 PM	Iridium Flare	CHES:Iridium 67 Flares at mag.-0.1 (Azm 037 Alt 56)	
6:43 PM	6:43 PM	Twilight	Astronomical Twilight ends	
7:28 PM	7:28 PM	Sat Pass (HST)	CHES:HST Passes SW to E (Azm 189.7 Alt 15)	
8:32 PM	8:32 PM	Lunar Occult	Moon occults 6.8 mag. star 643(d)	
9:32 PM	9:32 PM	Jup GRS	GRS Transit (CML=207)	
9:34 PM	9:34 PM	Jup Sats	IV.Oc.D	
11:57 PM	11:57 PM	Jup Sats	I.Tr.I	
<b>12</b> Jan 2014	12:06 AM	12:06 AM	Jup Sats	I.Sh.I
	2:12 AM	2:12 AM	Jup Sats	I.Tr.E
	2:22 AM	2:22 AM	Jup Sats	I.Sh.E
	2:44 AM	2:44 AM	Jup Sats	IV.Ec.R
	4:00 AM	4:00 AM	Diary	Aldebaran 2.5S of Moon
	4:16 AM	4:16 AM	Moon	Moonset
	5:24 AM	5:24 AM	Iridium Flare	CHES:Iridium 39 Flares at mag.-7.5 (Azm 345 Alt 37)
	5:31 AM	5:31 AM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 15.7 Alt 36)

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	...	23	24	25	26	27	28	...
29	30	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

## Calendar

	Start	End	Category	Description
<b>12</b> Jan 2014	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	5:58 AM	5:58 AM	Iridium Flare	CHES:Iridium 62 Flares at mag.-2.0 (Azm 158 Alt 19)
	6:03 AM	6:03 AM	Iridium Flare	CHES:Iridium 74 Flares at mag.-0.9 (Azm 161 Alt 22)
	6:58 AM	6:58 AM	Jupiter	Jupiter sets
	7:19 AM	7:19 AM	Sun	Sunrise
	7:27 AM	7:27 AM	Jup GRS	GRS Transit (CML=207)
	2:38 PM	2:38 PM	Moon	Moonrise
	4:26 PM	4:26 PM	Jupiter	Jupiter rises
	5:12 PM	5:12 PM	Sun	Sunset
	5:13 PM	5:13 PM	Iridium Flare	CHES:Iridium 17 Flares at mag.-6.0 (Azm 213 Alt 24)
	5:23 PM	5:23 PM	Jup GRS	GRS Transit (CML=207)
	6:22 PM	6:22 PM	Iridium Flare	CHES:Iridium 72 Flares at mag.-3.6 (Azm 039 Alt 57)
	6:44 PM	6:44 PM	Twilight	Astronomical Twilight ends
	7:23 PM	7:23 PM	Sat Pass (HST)	CHES:HST Passes SW to E (Azm 185.7 Alt 19)
	9:15 PM	9:15 PM	Jup Sats	I.Oc.D
	11:43 PM	11:43 PM	Jup Sats	I.Ec.R
<b>13</b> Jan 2014	3:19 AM	3:19 AM	Jup GRS	GRS Transit (CML=207)
	4:45 AM	4:45 AM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 50.5 Alt 9)
	5:06 AM	5:06 AM	Moon	Moonsset
	5:18 AM	5:18 AM	Iridium Flare	CHES:Iridium 15 Flares at mag.-7.6 (Azm 345 Alt 35)
	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	5:52 AM	5:52 AM	Iridium Flare	CHES:Iridium 65 Flares at mag. 1.5 (Azm 159 Alt 18)
	6:54 AM	6:54 AM	Jupiter	Jupiter sets
	7:19 AM	7:19 AM	Sun	Sunrise
	1:14 PM	1:14 PM	Jup GRS	GRS Transit (CML=207)
	3:26 PM	3:26 PM	Moon	Moonrise
	4:21 PM	4:21 PM	Jupiter	Jupiter rises
	5:13 PM	5:13 PM	Sun	Sunset
	6:00 PM	6:00 PM	Meetings	NAS Regular Meeting at Chesapeake Public Library Major Hillard branch
	6:16 PM	6:16 PM	Iridium Flare	CHES:Iridium 62 Flares at mag.-2.6 (Azm 042 Alt 57)
	6:22 PM	6:22 PM	Jup Sats	I.Tr.I
	6:35 PM	6:35 PM	Jup Sats	I.Sh.I
	6:44 PM	6:44 PM	Twilight	Astronomical Twilight ends
	7:17 PM	7:17 PM	Sat Pass (HST)	CHES:HST Passes SW to E (Azm 180.0 Alt 22)
	8:38 PM	8:38 PM	Jup Sats	I.Tr.E
	8:51 PM	8:51 PM	Jup Sats	I.Sh.E
	11:10 PM	11:10 PM	Jup GRS	GRS Transit (CML=207)
<b>14</b> Jan 2014	2:00 AM	2:00 AM	Jup Sats	II.Oc.D
	5:08 AM	5:08 AM	Jup Sats	II.Ec.R
	5:32 AM	5:32 AM	Sat Pass (ISS)	CHES:ISS Passes W to NE (Azm 11.1 Alt 14)

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	...	23	24	25	26	27	28	...
29	30	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

## Calendar

	Start	End	Category	Description
<b>14</b> Jan 2014	5:48 AM	5:48 AM	Twilight	Astronomical Twilight begins
	5:52 AM	5:52 AM	Moon	Moonset
	5:54 AM	5:54 AM	Iridium Flare	CHES:Iridium 21 Flares at mag. 0.5 (Azm 165 Alt 23)
	6:50 AM	6:50 AM	Jupiter	Jupiter sets
	7:18 AM	7:18 AM	Sun	Sunrise
	9:05 AM	9:05 AM	Jup GRS	GRS Transit (CML=207)
	9:59 AM	9:59 AM	Iridium Flare	CHES:Iridium 32 Flares at mag.-4.5 (Azm 122 Alt 55)
	10:55 AM	10:55 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	4:16 PM	4:16 PM	Jupiter	Jupiter rises
	4:17 PM	4:17 PM	Moon	Moonrise
	5:14 PM	5:14 PM	Sun	Sunset
	5:54 PM	5:54 PM	Iridium Flare	CHES:Iridium 38 Flares at mag.-5.0 (Azm 276 Alt 12)
	5:59 PM	5:59 PM	Iridium Flare	CHES:Iridium 40 Flares at mag. 1.6 (Azm 277 Alt 12)
	6:09 PM	6:09 PM	Iridium Flare	CHES:Iridium 65 Flares at mag. 0.2 (Azm 044 Alt 58)
	6:11 PM	6:11 PM	Jup Sats	I.Ec.R
	6:12 PM	6:12 PM	Jup Sats	III.Oc.D
	6:45 PM	6:45 PM	Twilight	Astronomical Twilight ends
	7:01 PM	7:01 PM	Jup GRS	GRS Transit (CML=207)
	7:12 PM	7:12 PM	Sat Pass (HST)	CHES:HST Passes SW to E (Azm 173.9 Alt 24)
	10:23 PM	10:23 PM	Jup Sats	III.Ec.R
<b>15</b> Jan 2014	1:00 AM	1:00 AM	Diary	Jupiter 4.8N of Moon
	4:57 AM	4:57 AM	Jup GRS	GRS Transit (CML=207)
	5:47 AM	5:47 AM	Twilight	Astronomical Twilight begins
	5:49 AM	5:49 AM	Iridium Flare	CHES:Iridium 70 Flares at mag.-4.2 (Azm 164 Alt 21)
	6:34 AM	6:34 AM	Moon	Moonset
	6:45 AM	6:45 AM	Jupiter	Jupiter sets
	7:18 AM	7:18 AM	Sun	Sunrise
	2:52 PM	2:52 PM	Jup GRS	GRS Transit (CML=207)
	4:12 PM	4:12 PM	Jupiter	Jupiter rises
	5:10 PM	5:10 PM	Moon	Moonrise
	5:15 PM	5:15 PM	Sun	Sunset
	5:25 PM	5:25 PM	Sat Pass (HST)	CHES:HST Passes SW to E (Azm 164.2 Alt 17)
	5:53 PM	5:53 PM	Iridium Flare	CHES:Iridium 77 Flares at mag.-3.7 (Azm 276 Alt 12)
	6:46 PM	6:46 PM	Twilight	Astronomical Twilight ends
	7:06 PM	7:06 PM	Sat Pass (HST)	CHES:HST Passes SW to E (Azm 177.0 Alt 26)
	8:00 PM	8:00 PM	Diary	Moon at apogee
	9:02 PM	9:02 PM	Jup Sats	II.Tr.I
	9:33 PM	9:33 PM	Jup Sats	II.Sh.I
	11:44 PM	11:44 PM	Jup Sats	II.Tr.E

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31		23	24	25	26	27	28	
29	30	31																		

## Calendar

	Start	End	Category	Description
<b>16</b> Jan 2014	12:00 AM	12:00 AM	Diary	FULL MOON
	12:16 AM	12:16 AM	Jup Sats	II.Sh.E
	12:48 AM	12:48 AM	Jup GRS	GRS Transit (CML=207)
	5:43 AM	5:43 AM	Iridium Flare	CHES:Iridium 64 Flares at mag. 0.3 (Azm 165 Alt 20)
	5:47 AM	5:47 AM	Twilight	Astronomical Twilight begins
	6:41 AM	6:41 AM	Jupiter	Jupiter sets
	7:05 AM	7:05 AM	Iridium Flare	CHES:Iridium 45 Flares at mag.-6.4 (Azm 077 Alt 27)
	7:13 AM	7:13 AM	Moon	Moonset
	7:18 AM	7:18 AM	Sun	Sunrise
	10:43 AM	10:43 AM	Jup GRS	GRS Transit (CML=207)
	4:07 PM	4:07 PM	Jupiter	Jupiter rises
	5:16 PM	5:16 PM	Sun	Sunset
	5:19 PM	5:19 PM	Sat Pass (HST)	CHES:HST Passes SW to E (Azm 167.0 Alt 19)
	5:47 PM	5:47 PM	Iridium Flare	CHES:Iridium 82 Flares at mag.-5.0 (Azm 274 Alt 13)
	6:04 PM	6:04 PM	Moon	Moonrise
	6:47 PM	6:47 PM	Twilight	Astronomical Twilight ends
	7:00 PM	7:00 PM	Sat Pass (HST)	CHES:HST Passes W to E (Azm 180.1 Alt 26)
	8:39 PM	8:39 PM	Jup GRS	GRS Transit (CML=207)
	11:02 PM	11:02 PM	Lunar Occult	Moon occults 6.3 mag. double star ZC1281(r)
<b>17</b> Jan 2014	5:47 AM	5:47 AM	Twilight	Astronomical Twilight begins
	6:35 AM	6:35 AM	Jup GRS	GRS Transit (CML=207)
	6:36 AM	6:36 AM	Jupiter	Jupiter sets
	7:17 AM	7:17 AM	Sun	Sunrise
	7:44 AM	7:44 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	7:48 AM	7:48 AM	Moon	Moonset
	4:03 PM	4:03 PM	Jupiter	Jupiter rises
	4:30 PM	4:30 PM	Jup GRS	GRS Transit (CML=207)
	5:16 PM	5:16 PM	Sat Pass (HST)	CHES:HST Passes SW to E (Azm 123.4 Alt 12)
	5:17 PM	5:17 PM	Sun	Sunset
	5:32 PM	5:32 PM	Iridium Flare	CHES:Iridium 43 Flares at mag.-5.1 (Azm 271 Alt 16)
	6:26 PM	6:26 PM	Jup Sats	II.Ec.R
	6:48 PM	6:48 PM	Twilight	Astronomical Twilight ends
	6:54 PM	6:54 PM	Sat Pass (HST)	CHES:HST Passes W to SE (Azm 183.0 Alt 26)
	6:58 PM	6:58 PM	Moon	Moonrise
	8:32 PM	8:32 PM	Sat Pass (HST)	CHES:HST Passes W to SE (Azm 245.2 Alt 6)
<b>18</b> Jan 2014	2:26 AM	2:26 AM	Jup GRS	GRS Transit (CML=207)
	4:33 AM	4:33 AM	Jup Sats	I.Oc.D
	5:39 AM	5:39 AM	Iridium Flare	CHES:Iridium 75 Flares at mag.-0.4 (Azm 172 Alt 23)
	5:47 AM	5:47 AM	Twilight	Astronomical Twilight begins
	6:32 AM	6:32 AM	Jupiter	Jupiter sets

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30	31					29	30	31					29	30	31				

## Calendar

	Start	End	Category	Description
<b>18</b> Jan 2014	6:44 AM	6:44 AM	Iridium Flare	CHES:Iridium 11 Flares at mag. 0.2 (Azm 073 Alt 21)
	7:17 AM	7:17 AM	Sun	Sunrise
	8:21 AM	8:21 AM	Moon	Moonset
	9:35 AM	9:35 AM	Iridium Flare	CHES:Iridium 91 Flares at mag.-6.8 (Azm 114 Alt 51)
	12:21 PM	12:21 PM	Jup GRS	GRS Transit (CML=207)
	3:58 PM	3:58 PM	Jupiter	Jupiter rises
	5:18 PM	5:18 PM	Sun	Sunset
	6:49 PM	6:49 PM	Twilight	Astronomical Twilight ends
	6:49 PM	6:49 PM	Sat Pass (HST)	CHES:HST Passes W to SE (Azm 186.2 Alt 24)
	7:53 PM	7:53 PM	Moon	Moonrise
	9:00 PM	9:00 PM	Diary	Regulus 5.0N of Moon
10:17 PM	10:17 PM	Jup GRS	GRS Transit (CML=207)	
<b>19</b> Jan 2014	12:11 AM	12:11 AM	Lunar Occult	Moon occults 6.6 mag. double star ZC1489(r)
	1:40 AM	1:40 AM	Jup Sats	I.Tr.I
	2:01 AM	2:01 AM	Jup Sats	I.Sh.I
	3:56 AM	3:56 AM	Jup Sats	I.Tr.E
	4:17 AM	4:17 AM	Jup Sats	I.Sh.E
	5:33 AM	5:33 AM	Iridium Flare	CHES:Iridium 63 Flares at mag.-3.3 (Azm 172 Alt 22)
	5:47 AM	5:47 AM	Twilight	Astronomical Twilight begins
	6:27 AM	6:27 AM	Jupiter	Jupiter sets
	6:38 AM	6:38 AM	Iridium Flare	CHES:Iridium 94 Flares at mag.-4.0 (Azm 072 Alt 21)
	6:38 AM	6:38 AM	Iridium Flare	CHES:Iridium 23 Flares at mag.-2.1 (Azm 072 Alt 22)
	7:17 AM	7:17 AM	Sun	Sunrise
	8:13 AM	8:13 AM	Jup GRS	GRS Transit (CML=207)
	8:53 AM	8:53 AM	Moon	Moonset
	3:54 PM	3:54 PM	Jupiter	Jupiter rises
	5:20 PM	5:20 PM	Sun	Sunset
	5:48 PM	5:48 PM	Iridium Flare	CHES:Iridium 72 Flares at mag. 0.5 (Azm 039 Alt 70)
	6:08 PM	6:08 PM	Jup GRS	GRS Transit (CML=207)
6:43 PM	6:43 PM	Sat Pass (HST)	CHES:HST Passes W to SE (Azm 189.0 Alt 23)	
6:50 PM	6:50 PM	Twilight	Astronomical Twilight ends	
8:49 PM	8:49 PM	Moon	Moonrise	
10:59 PM	10:59 PM	Jup Sats	I.Oc.D	
<b>20</b> Jan 2014	12:00 AM	12:00 AM	Public Holiday	Martin Luther King holiday
	1:38 AM	1:38 AM	Jup Sats	I.Ec.R
	4:04 AM	4:04 AM	Jup GRS	GRS Transit (CML=207)
	4:33 AM	4:33 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	5:27 AM	5:27 AM	Iridium Flare	CHES:Iridium 66 Flares at mag. 0.2 (Azm 173 Alt 21)
	5:46 AM	5:46 AM	Twilight	Astronomical Twilight begins
	6:22 AM	6:22 AM	Iridium Flare	CHES:Iridium 25 Flares at mag.-1.3 (Azm 069 Alt 17)

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	...	23	24	25	26	27	28	...
29	30	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

## Calendar

	Start	End	Category	Description
<b>20</b> Jan 2014	6:23 AM	6:23 AM	Jupiter	Jupiter sets
	6:32 AM	6:32 AM	Iridium Flare	CHES:Iridium 45 Flares at mag. 0.7 (Azm 071 Alt 21)
	7:16 AM	7:16 AM	Sun	Sunrise
	9:23 AM	9:23 AM	Moon	Moonset
	2:00 PM	2:00 PM	Jup GRS	GRS Transit (CML=207)
	3:49 PM	3:49 PM	Jupiter	Jupiter rises
	5:21 PM	5:21 PM	Sun	Sunset
	6:37 PM	6:37 PM	Sat Pass (HST)	CHES:HST Passes W to SE (Azm 191.9 Alt 20)
	6:51 PM	6:51 PM	Twilight	Astronomical Twilight ends
	8:07 PM	8:07 PM	Jup Sats	I.Tr.I
	8:29 PM	8:29 PM	Jup Sats	I.Sh.I
	9:45 PM	9:45 PM	Moon	Moonrise
	10:22 PM	10:22 PM	Jup Sats	I.Tr.E
	10:45 PM	10:45 PM	Jup Sats	I.Sh.E
	11:55 PM	11:55 PM	Jup GRS	GRS Transit (CML=207)
<b>21</b> Jan 2014	4:14 AM	4:14 AM	Jup Sats	II.Oc.D
	5:46 AM	5:46 AM	Twilight	Astronomical Twilight begins
	6:07 AM	6:07 AM	Iridium Flare	CHES:Iridium 46 Flares at mag. 1.5 (Azm 065 Alt 13)
	6:16 AM	6:16 AM	Iridium Flare	CHES:Iridium 47 Flares at mag.-1.7 (Azm 068 Alt 17)
	6:19 AM	6:19 AM	Jupiter	Jupiter sets
	7:16 AM	7:16 AM	Sun	Sunrise
	9:51 AM	9:51 AM	Jup GRS	GRS Transit (CML=207)
	9:54 AM	9:54 AM	Moon	Moonset
	3:45 PM	3:45 PM	Jupiter	Jupiter rises
	5:22 PM	5:22 PM	Sun	Sunset
	5:36 PM	5:36 PM	Iridium Flare	CHES:Iridium 65 Flares at mag.-5.4 (Azm 047 Alt 71)
	6:31 PM	6:31 PM	Sat Pass (HST)	CHES:HST Passes W to SE (Azm 195.0 Alt 17)
	6:52 PM	6:52 PM	Twilight	Astronomical Twilight ends
	7:46 PM	7:46 PM	Jup GRS	GRS Transit (CML=207)
	8:06 PM	8:06 PM	Jup Sats	I.Ec.R
	9:29 PM	9:29 PM	Jup Sats	III.Oc.D
	10:42 PM	10:42 PM	Moon	Moonrise
<b>22</b> Jan 2014	2:23 AM	2:23 AM	Jup Sats	III.Ec.R
	5:24 AM	5:24 AM	Iridium Flare	CHES:Iridium 62 Flares at mag. 0.6 (Azm 181 Alt 24)
	5:42 AM	5:42 AM	Jup GRS	GRS Transit (CML=207)
	5:46 AM	5:46 AM	Twilight	Astronomical Twilight begins
	5:51 AM	5:51 AM	Iridium Flare	CHES:Iridium 20 Flares at mag.-1.5 (Azm 062 Alt 10)
	6:01 AM	6:01 AM	Iridium Flare	CHES:Iridium 49 Flares at mag.-3.6 (Azm 064 Alt 13)
	6:10 AM	6:10 AM	Iridium Flare	CHES:Iridium 11 Flares at mag. 1.0 (Azm 067 Alt 16)
	6:14 AM	6:14 AM	Jupiter	Jupiter sets



# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	...	23	24	25	26	27	28	...
29	30	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

## Calendar

	Start	End	Category	Description
<b>22</b> Jan 2014	6:42 AM	6:42 AM	Iridium Flare	CHES:Iridium 94 Flares at mag. 0.2 (Azm 137 Alt 14)
	6:43 AM	6:43 AM	Iridium Flare	CHES:Iridium 23 Flares at mag.-1.6 (Azm 137 Alt 15)
	7:05 AM	7:05 AM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azm 351.0 Alt 14)
	7:15 AM	7:15 AM	Sun	Sunrise
	10:27 AM	10:27 AM	Moon	Moonset
	3:38 PM	3:38 PM	Jup GRS	GRS Transit (CML=207)
	3:40 PM	3:40 PM	Jupiter	Jupiter rises
	5:23 PM	5:23 PM	Sun	Sunset
	6:52 PM	6:52 PM	Twilight	Astronomical Twilight ends
	11:00 PM	11:00 PM	Diary	Mars 3.5N of Moon
	11:17 PM	11:17 PM	Jup Sats	II.Tr.I
11:41 PM	11:41 PM	Moon	Moonrise	
<b>23</b> Jan 2014	12:10 AM	12:10 AM	Jup Sats	II.Sh.I
	1:22 AM	1:22 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	1:33 AM	1:33 AM	Jup GRS	GRS Transit (CML=207)
	1:59 AM	1:59 AM	Jup Sats	II.Tr.E
	2:52 AM	2:52 AM	Jup Sats	II.Sh.E
	5:18 AM	5:18 AM	Iridium Flare	CHES:Iridium 65 Flares at mag.-6.9 (Azm 181 Alt 23)
	5:45 AM	5:45 AM	Twilight	Astronomical Twilight begins
	5:54 AM	5:54 AM	Iridium Flare	CHES:Iridium 22 Flares at mag.-0.3 (Azm 063 Alt 12)
	6:00 AM	6:00 AM	Diary	Spica 1.3S of Moon
	6:10 AM	6:10 AM	Jupiter	Jupiter sets
	7:15 AM	7:15 AM	Sun	Sunrise
	11:01 AM	11:01 AM	Moon	Moonset
	11:29 AM	11:29 AM	Jup GRS	GRS Transit (CML=207)
3:36 PM	3:36 PM	Jupiter	Jupiter rises	
4:38 PM	4:38 PM	Iridium Flare	CHES:Iridium 80 Flares at mag.-5.6 (Azm 259 Alt 25)	
5:24 PM	5:24 PM	Sun	Sunset	
6:53 PM	6:53 PM	Twilight	Astronomical Twilight ends	
9:24 PM	9:24 PM	Jup GRS	GRS Transit (CML=207)	
<b>24</b> Jan 2014	12:41 AM	12:41 AM	Moon	Moonrise
	1:00 AM	1:00 AM	Diary	LAST QUARTER
	5:12 AM	5:12 AM	Iridium Flare	CHES:Iridium 68 Flares at mag. 1.1 (Azm 180 Alt 22)
	5:45 AM	5:45 AM	Twilight	Astronomical Twilight begins
	6:05 AM	6:05 AM	Jupiter	Jupiter sets
	6:39 AM	6:39 AM	Iridium Flare	CHES:Iridium 49 Flares at mag.-2.1 (Azm 141 Alt 18)
	7:04 AM	7:04 AM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 329.8 Alt 20)
	7:14 AM	7:14 AM	Sun	Sunrise
	7:20 AM	7:20 AM	Jup GRS	GRS Transit (CML=207)
11:40 AM	11:40 AM	Moon	Moonset	

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30	31					29	30	31					29	30	31				

## Calendar

	Start	End	Category	Description
<b>24</b> Jan 2014	3:31 PM	3:31 PM	Jupiter	Jupiter rises
	5:16 PM	5:16 PM	Jup GRS	GRS Transit (CML=207)
	5:25 PM	5:25 PM	Sun	Sunset
	6:54 PM	6:54 PM	Twilight	Astronomical Twilight ends
	7:13 PM	7:13 PM	Iridium Flare	CHES:Iridium 47 Flares at mag. 0.0 (Azm 032 Alt 38)
	9:01 PM	9:01 PM	Jup Sats	II.Ec.R
<b>25</b> Jan 2014	1:43 AM	1:43 AM	Moon	Moonrise
	3:11 AM	3:11 AM	Jup GRS	GRS Transit (CML=207)
	5:44 AM	5:44 AM	Twilight	Astronomical Twilight begins
	6:01 AM	6:01 AM	Jupiter	Jupiter sets
	6:17 AM	6:17 AM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azm 32.7 Alt 28)
	7:14 AM	7:14 AM	Sun	Sunrise
	9:00 AM	9:00 AM	Diary	Saturn 0.5N of Moon Occn
	11:14 AM	11:14 AM	Iridium Flare	CHES:Iridium 37 Flares at mag.-4.4 (Azm 155 Alt 58)
	12:24 PM	12:24 PM	Moon	Moonset
	1:07 PM	1:07 PM	Jup GRS	GRS Transit (CML=207)
	3:27 PM	3:27 PM	Jupiter	Jupiter rises
	5:26 PM	5:26 PM	Sun	Sunset
	6:55 PM	6:55 PM	Twilight	Astronomical Twilight ends
	7:13 PM	7:13 PM	Iridium Flare	CHES:Iridium 26 Flares at mag. 0.9 (Azm 028 Alt 44)
10:11 PM	10:11 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)	
11:03 PM	11:03 PM	Jup GRS	GRS Transit (CML=207)	
<b>26</b> Jan 2014	2:47 AM	2:47 AM	Moon	Moonrise
	3:25 AM	3:25 AM	Jup Sats	I.Tr.I
	3:55 AM	3:55 AM	Jup Sats	I.Sh.I
	5:09 AM	5:09 AM	Iridium Flare	CHES:Iridium 64 Flares at mag. 0.8 (Azm 189 Alt 22)
	5:28 AM	5:28 AM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azm 28.2 Alt 19)
	5:41 AM	5:41 AM	Jup Sats	I.Tr.E
	5:44 AM	5:44 AM	Twilight	Astronomical Twilight begins
	5:57 AM	5:57 AM	Jupiter	Jupiter sets
	6:35 AM	6:35 AM	Iridium Flare	CHES:Iridium 45 Flares at mag.-3.3 (Azm 146 Alt 22)
	7:03 AM	7:03 AM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 295.5 Alt 19)
	7:13 AM	7:13 AM	Sun	Sunrise
	8:37 AM	8:37 AM	Iridium Flare	CHES:Iridium 57 Flares at mag.-5.2 (Azm 100 Alt 40)
	8:58 AM	8:58 AM	Jup GRS	GRS Transit (CML=207)
	1:14 PM	1:14 PM	Moon	Moonset
	3:22 PM	3:22 PM	Jupiter	Jupiter rises
	5:27 PM	5:27 PM	Sun	Sunset
6:54 PM	6:54 PM	Jup GRS	GRS Transit (CML=207)	
6:56 PM	6:56 PM	Twilight	Astronomical Twilight ends	

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	...	23	24	25	26	27	28	...
29	30	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		

## Calendar

	Start	End	Category	Description
<b>27</b> Jan 2014	12:44 AM	12:44 AM	Jup Sats	I.Oc.D
	3:32 AM	3:32 AM	Jup Sats	I.Ec.R
	3:49 AM	3:49 AM	Moon	Moonrise
	4:49 AM	4:49 AM	Jup GRS	GRS Transit (CML=207)
	5:03 AM	5:03 AM	Iridium Flare	CHES:Iridium 67 Flares at mag.-6.9 (Azm 188 Alt 22)
	5:43 AM	5:43 AM	Twilight	Astronomical Twilight begins
	5:52 AM	5:52 AM	Jupiter	Jupiter sets
	6:16 AM	6:16 AM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 38.1 Alt 79)
	6:30 AM	6:30 AM	Iridium Flare	CHES:Iridium 20 Flares at mag.-0.7 (Azm 147 Alt 21)
	7:12 AM	7:12 AM	Sun	Sunrise
	2:12 PM	2:12 PM	Moon	Moonset
	2:45 PM	2:45 PM	Jup GRS	GRS Transit (CML=207)
	3:18 PM	3:18 PM	Jupiter	Jupiter rises
	5:28 PM	5:28 PM	Sun	Sunset
	6:57 PM	6:57 PM	Twilight	Astronomical Twilight ends
	7:04 PM	7:04 PM	Iridium Flare	CHES:Iridium 46 Flares at mag.-2.4 (Azm 030 Alt 46)
	9:51 PM	9:51 PM	Jup Sats	I.Tr.I
	10:24 PM	10:24 PM	Jup Sats	I.Sh.I
<b>28</b> Jan 2014	12:07 AM	12:07 AM	Jup Sats	I.Tr.E
	12:40 AM	12:40 AM	Jup Sats	I.Sh.E
	12:41 AM	12:41 AM	Jup GRS	GRS Transit (CML=207)
	4:49 AM	4:49 AM	Moon	Moonrise
	4:57 AM	4:57 AM	Iridium Flare	CHES:Iridium 72 Flares at mag. 0.3 (Azm 188 Alt 22)
	5:27 AM	5:27 AM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 36.6 Alt 42)
	5:43 AM	5:43 AM	Twilight	Astronomical Twilight begins
	5:48 AM	5:48 AM	Jupiter	Jupiter sets
	6:12 AM	6:12 AM	Lunar Occult	Moon occults 7.7 mag. star SAO161265(r)
	6:32 AM	6:32 AM	Iridium Flare	CHES:Iridium 22 Flares at mag. 0.5 (Azm 151 Alt 25)
	7:02 AM	7:02 AM	Sat Pass (ISS)	CHES:ISS Passes NW to S (Azm 271.3 Alt 10)
	7:12 AM	7:12 AM	Sun	Sunrise
	10:36 AM	10:36 AM	Jup GRS	GRS Transit (CML=207)
	3:13 PM	3:13 PM	Jupiter	Jupiter rises
	3:17 PM	3:17 PM	Moon	Moonset
	3:59 PM	3:59 PM	Iridium Flare	CHES:Iridium 81 Flares at mag.-5.1 (Azm 249 Alt 30)
	5:29 PM	5:29 PM	Sun	Sunset
	6:57 PM	6:57 PM	Iridium Flare	CHES:Iridium 49 Flares at mag.-2.6 (Azm 030 Alt 48)
	6:58 PM	6:58 PM	Twilight	Astronomical Twilight ends
	7:00 PM	7:00 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	7:10 PM	7:10 PM	Jup Sats	I.Oc.D
	8:00 PM	8:00 PM	Diary	Pluto 2.0S of Moon
	8:32 PM	8:32 PM	Jup GRS	GRS Transit (CML=207)

## Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	5	6	7	8	9	10	11	2	3	4	5	6	7	8
8	9	10	11	12	13	14	12	13	14	15	16	17	18	9	10	11	12	13	14	15
15	16	17	18	19	20	21	19	20	21	22	23	24	25	16	17	18	19	20	21	22
22	23	24	25	26	27	28	26	27	28	29	30	31	23	24	25	26	27	28		
29	30	31																		

## Calendar

	Start	End	Category	Description
<b>28</b> Jan 2014	8:54 PM	8:54 PM	Jup Sats	IV.Ec.R
	10:00 PM	10:00 PM	Diary	Venus 2.2N of Moon
	10:01 PM	10:01 PM	Jup Sats	I.Ec.R
<b>29</b> Jan 2014	12:48 AM	12:48 AM	Jup Sats	III.Oc.D
	4:40 AM	4:40 AM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Az <sub>m</sub> 79.7 Alt 16)
	5:42 AM	5:42 AM	Twilight	Astronomical Twilight begins
	5:44 AM	5:44 AM	Jupiter	Jupiter sets
	5:45 AM	5:45 AM	Moon	Moonrise
	6:15 AM	6:15 AM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Az <sub>m</sub> 227.3 Alt 30)
	6:26 AM	6:26 AM	Iridium Flare	CHES:Iridium 25 Flares at mag.-1.7 (Az <sub>m</sub> 152 Alt 25)
	6:27 AM	6:27 AM	Jup GRS	GRS Transit (CML=207)
	6:42 AM	6:42 AM	Lunar Occult	Moon occults 3.9 mag. double star ZC2826(R)
	7:11 AM	7:11 AM	Sun	Sunrise
	3:09 PM	3:09 PM	Jupiter	Jupiter rises
	4:23 PM	4:23 PM	Jup GRS	GRS Transit (CML=207)
	4:26 PM	4:26 PM	Moon	Moonsset
	4:56 PM	4:56 PM	Iridium Flare	CHES:Iridium 68 Flares at mag.-6.3 (Az <sub>m</sub> 069 Alt 84)
	5:30 PM	5:30 PM	Sun	Sunset
6:33 PM	6:33 PM	Jup Sats	I.Tr.E	
6:51 PM	6:51 PM	Iridium Flare	CHES:Iridium 22 Flares at mag. 1.0 (Az <sub>m</sub> 034 Alt 46)	
6:59 PM	6:59 PM	Twilight	Astronomical Twilight ends	
7:08 PM	7:08 PM	Jup Sats	I.Sh.E	
<b>30</b> Jan 2014	1:34 AM	1:34 AM	Jup Sats	II.Tr.I
	2:19 AM	2:19 AM	Jup GRS	GRS Transit (CML=207)
	2:46 AM	2:46 AM	Jup Sats	II.Sh.I
	4:00 AM	4:00 AM	Diary	Moon at perigee
	4:16 AM	4:16 AM	Jup Sats	II.Tr.E
	5:27 AM	5:27 AM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Az <sub>m</sub> 183.9 Alt 54)
	5:39 AM	5:39 AM	Jupiter	Jupiter sets
	5:42 AM	5:42 AM	Twilight	Astronomical Twilight begins
	6:20 AM	6:20 AM	Iridium Flare	CHES:Iridium 47 Flares at mag.-2.1 (Az <sub>m</sub> 153 Alt 24)
	6:35 AM	6:35 AM	Moon	Moonrise
	7:10 AM	7:10 AM	Sun	Sunrise
	12:14 PM	12:14 PM	Jup GRS	GRS Transit (CML=207)
	3:04 PM	3:04 PM	Jupiter	Jupiter rises
	5:00 PM	5:00 PM	Diary	NEW MOON
	5:31 PM	5:31 PM	Sun	Sunset
5:38 PM	5:38 PM	Moon	Moonsset	
6:45 PM	6:45 PM	Iridium Flare	CHES:Iridium 25 Flares at mag. 0.4 (Az <sub>m</sub> 033 Alt 49)	
7:00 PM	7:00 PM	Twilight	Astronomical Twilight ends	

# Norfolk Astronomical Society Astronomical Calendar

December 2013							January 2014							February 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	7	1	2	3	4				1						
8	9	10	11	12	13	14	5	6	7	8	9	10	11	2	3	4	5	6	7	8
15	16	17	18	19	20	21	12	13	14	15	16	17	18	9	10	11	12	13	14	15
22	23	24	25	26	27	28	19	20	21	22	23	24	25	16	17	18	19	20	21	22
29	30	31					26	27	28	29	30	31		23	24	25	26	27	28	

## Calendar

	Start	End	Category	Description
<b>30</b> Jan 2014	10:10 PM	10:10 PM	Jup GRS	GRS Transit (CML=207)
<b>31</b> Jan 2014	2:00 AM	2:00 AM	Diary	Mercury greatest elong E(18)
	4:40 AM	4:40 AM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (AzM 122.9 Alt 13)
	5:35 AM	5:35 AM	Jupiter	Jupiter sets
	5:41 AM	5:41 AM	Twilight	Astronomical Twilight begins
	6:18 AM	6:18 AM	Iridium Flare	CHES:Iridium 26 Flares at mag.-6.5 (AzM 156 Alt 26)
	7:09 AM	7:09 AM	Sun	Sunrise
	7:21 AM	7:21 AM	Moon	Moonrise
	8:06 AM	8:06 AM	Jup GRS	GRS Transit (CML=207)
	3:00 PM	3:00 PM	Jupiter	Jupiter rises
	3:49 PM	3:49 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	4:00 PM	4:00 PM	Diary	Venus stationary
	5:32 PM	5:32 PM	Sun	Sunset
	6:01 PM	6:01 PM	Jup GRS	GRS Transit (CML=207)
	6:39 PM	6:39 PM	Iridium Flare	CHES:Iridium 47 Flares at mag. 1.8 (AzM 035 Alt 50)
	6:50 PM	6:50 PM	Moon	Moonsset
	7:00 PM	7:00 PM	Meetings	NAS Observing Session (Gates Co., NC)
	7:00 PM	7:00 PM	Twilight	Astronomical Twilight ends
	7:38 PM	11:59 PM	Jup Sats	II.Oc.D
	11:38 PM	11:59 PM	Jup Sats	II.Ec.R