

# Norfolk Astronomical Society



*<http://norfolkastronomical.org>*

August 2014

Monthly Sky Calendar  
Prepared Specifically For  
The Hampton Roads Area

## Upcoming Regular Meetings

<b>DATE</b>	Monday, August 18, 2014
<b>TIME</b>	6 - 8 PM EDT
<b>WHERE</b>	Chesapeake Public Library, Major Hillard branch Conf. Room
<b>TOPIC</b>	Amateur Astronomy

<b>DATE</b>	Monday, September 8, 2014
<b>TIME</b>	6 - 8 PM EDT
<b>WHERE</b>	Chesapeake Public Library, Major Hillard branch Conf. Room
<b>TOPIC</b>	Image Processing

### M107 - Globular Cluster in Ophiuchus

Photo By Glendon L. Howell



Glen imaged the globular cluster M107 in Ophiuchus on March 10, 2013. 19 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/>.

# Norfolk Astronomical Society Astronomical Calendar

July 2014							August 2014							September 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	3	4	5	6	7	8	9	7	8	9	10	11	12	13
6	7	8	9	10	11	12	10	11	12	13	14	15	16	14	15	16	17	18	19	20	
13	14	15	16	17	18	19	17	18	19	20	21	22	23	21	22	23	24	25	26	27	
20	21	22	23	24	25	26	24	25	26	27	28	29	30	28	29	30					
27	28	29	30	31			31														

## Calendar

	Start	End	Category	Description
<b>1</b> Aug 2014	3:52 AM	3:52 AM	Iridium Flare	CHES:Iridium 59 Flares at mag.-1.3 (Azm 112 Alt 15)
	4:02 AM	4:02 AM	Iridium Flare	CHES:Iridium 60 Flares at mag.-0.4 (Azm 113 Alt 20)
	4:33 AM	4:33 AM	Twilight	Astronomical Twilight begins
	5:47 AM	5:47 AM	Jupiter	Jupiter rises
	6:14 AM	6:14 AM	Sun	Sunrise
	11:25 AM	11:25 AM	Moon	Moonrise
	7:54 PM	7:54 PM	Jupiter	Jupiter sets
	8:14 PM	8:14 PM	Sun	Sunset
	9:54 PM	9:54 PM	Twilight	Astronomical Twilight ends
	10:18 PM	10:18 PM	Iridium Flare	CHES:Iridium 77 Flares at mag.-5.9 (Azm 072 Alt 39)
11:07 PM	11:07 PM	Moon	Moonset	
<b>2</b> Aug 2014	3:44 AM	3:44 AM	Iridium Flare	CHES:Iridium 29 Flares at mag.-0.3 (Azm 115 Alt 13)
	3:46 AM	3:46 AM	Iridium Flare	CHES:Iridium 95 Flares at mag.-0.7 (Azm 114 Alt 14)
	4:34 AM	4:34 AM	Twilight	Astronomical Twilight begins
	5:44 AM	5:44 AM	Jupiter	Jupiter rises
	6:14 AM	6:14 AM	Sun	Sunrise
	12:00 PM	12:00 PM	Diary	Spica 2.2S of Moon
	12:22 PM	12:22 PM	Moon	Moonrise
	4:00 PM	4:00 PM	Diary	Mercury 0.9N of Jupiter
	7:51 PM	7:51 PM	Jupiter	Jupiter sets
	8:13 PM	8:13 PM	Sun	Sunset
9:53 PM	9:53 PM	Twilight	Astronomical Twilight ends	
10:12 PM	10:12 PM	Iridium Flare	CHES:Iridium 82 Flares at mag.-0.1 (Azm 074 Alt 37)	
11:41 PM	11:41 PM	Moon	Moonset	
<b>3</b> Aug 2014	3:40 AM	3:40 AM	Iridium Flare	CHES:Iridium 30 Flares at mag.-0.7 (Azm 116 Alt 13)
	3:49 AM	3:49 AM	Iridium Flare	CHES:Iridium 32 Flares at mag.-3.0 (Azm 117 Alt 18)
	3:51 AM	3:51 AM	Iridium Flare	CHES:Iridium 28 Flares at mag.-1.1 (Azm 117 Alt 19)
	4:36 AM	4:36 AM	Twilight	Astronomical Twilight begins
	5:00 AM	5:00 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	5:41 AM	5:41 AM	Jupiter	Jupiter rises
	6:15 AM	6:15 AM	Sun	Sunrise
	8:00 AM	8:00 AM	Diary	Mars 2.1S of Moon
	1:20 PM	1:20 PM	Moon	Moonrise
	7:48 PM	7:48 PM	Jupiter	Jupiter sets
8:12 PM	8:12 PM	Sun	Sunset	
9:00 PM	9:00 PM	Diary	FIRST QUARTER	
9:52 PM	9:52 PM	Twilight	Astronomical Twilight ends	
10:09 PM	10:09 PM	Iridium Flare	CHES:Iridium 17 Flares at mag.-1.3 (Azm 076 Alt 43)	

# Norfolk Astronomical Society Astronomical Calendar

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

## Calendar

	Start	End	Category	Description
<b>4</b> Aug 2014	12:20 AM	12:20 AM	Moon	Moonset
	3:34 AM	3:34 AM	Iridium Flare	CHES:Iridium 57 Flares at mag.-0.6 (Azm 118 Alt 12)
	3:43 AM	3:43 AM	Iridium Flare	CHES:Iridium 58 Flares at mag.-6.4 (Azm 118 Alt 16)
	4:37 AM	4:37 AM	Twilight	Astronomical Twilight begins
	5:38 AM	5:38 AM	Jupiter	Jupiter rises
	6:16 AM	6:16 AM	Sun	Sunrise
	7:00 AM	7:00 AM	Diary	Saturn 0.1N of Moon Occn
	2:20 PM	2:20 PM	Moon	Moonrise
	7:44 PM	7:44 PM	Jupiter	Jupiter sets
	8:11 PM	8:11 PM	Sun	Sunset
	8:27 PM	8:27 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 133.1 Alt 33)
	9:50 PM	9:50 PM	Twilight	Astronomical Twilight ends
	10:04 PM	10:04 PM	Lunar Occult	Moon occults 5.5 mag. double star ZC2218(D)
	10:04 PM	10:04 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (Azm 328.5 Alt 24)
<b>5</b> Aug 2014	1:03 AM	1:03 AM	Moon	Moonset
	3:27 AM	3:27 AM	Iridium Flare	CHES:Iridium 60 Flares at mag.-1.2 (Azm 121 Alt 12)
	3:37 AM	3:37 AM	Iridium Flare	CHES:Iridium 55 Flares at mag.-6.3 (Azm 121 Alt 16)
	4:36 AM	4:36 AM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 170.4 Alt 28)
	4:38 AM	4:38 AM	Twilight	Astronomical Twilight begins
	5:35 AM	5:35 AM	Jupiter	Jupiter rises
	6:17 AM	6:17 AM	Sun	Sunrise
	3:21 PM	3:21 PM	Moon	Moonrise
	6:33 PM	6:33 PM	Iridium Flare	CHES:Iridium 51 Flares at mag.-7.8 (Azm 237 Alt 67)
	6:33 PM	6:33 PM	Iridium Flare	CHES:Iridium 7 Flares at mag.-5.4 (Azm 238 Alt 67)
	7:41 PM	7:41 PM	Jupiter	Jupiter sets
	8:10 PM	8:10 PM	Sun	Sunset
	8:18 PM	8:18 PM	Iridium Flare	CHES:Iridium 12 Flares at mag.-8.5 (Azm 118 Alt 73)
	9:15 PM	9:15 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 324.6 Alt 39)
	9:49 PM	9:49 PM	Twilight	Astronomical Twilight ends
<b>6</b> Aug 2014	1:52 AM	1:52 AM	Moon	Moonset
	1:55 AM	1:55 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	3:31 AM	3:31 AM	Iridium Flare	CHES:Iridium 31 Flares at mag.-6.4 (Azm 123 Alt 15)
	4:39 AM	4:39 AM	Twilight	Astronomical Twilight begins
	5:32 AM	5:32 AM	Jupiter	Jupiter rises
	5:53 AM	5:53 AM	Jup Sats	I.Ec.D
	6:18 AM	6:18 AM	Sun	Sunrise
	4:21 PM	4:21 PM	Moon	Moonrise
	7:38 PM	7:38 PM	Jupiter	Jupiter sets
	8:09 PM	8:09 PM	Sun	Sunset
	8:26 PM	8:26 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 320.4 Alt 73)

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

## Calendar

	Start	End	Category	Description
<b>6</b> Aug 2014	9:47 PM	9:47 PM	Twilight	Astronomical Twilight ends
	9:57 PM	9:57 PM	Iridium Flare	CHES:Iridium 43 Flares at mag.-8.0 (Azm 080 Alt 44)
<b>7</b> Aug 2014	2:48 AM	2:48 AM	Moon	Moonset
	3:24 AM	3:24 AM	Iridium Flare	CHES:Iridium 91 Flares at mag.-6.3 (Azm 124 Alt 13)
	3:33 AM	3:33 AM	Iridium Flare	CHES:Iridium 33 Flares at mag.-0.4 (Azm 125 Alt 18)
	4:40 AM	4:40 AM	Twilight	Astronomical Twilight begins
	5:30 AM	5:30 AM	Jupiter	Jupiter rises
	5:44 AM	5:44 AM	Jup Sats	I.Tr.E
	6:18 AM	6:18 AM	Sun	Sunrise
	5:20 PM	5:20 PM	Moon	Moonrise
	7:35 PM	7:35 PM	Jupiter	Jupiter sets
	8:08 PM	8:08 PM	Sun	Sunset
	9:14 PM	9:14 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (Azm 332.3 Alt 18)
	9:41 PM	9:41 PM	Lunar Occult	Moon occults 6.6 mag. double star ZC2687(d)
9:46 PM	9:46 PM	Twilight	Astronomical Twilight ends	
9:51 PM	9:51 PM	Iridium Flare	CHES:Iridium 40 Flares at mag.-2.0 (Azm 081 Alt 44)	
<b>8</b> Aug 2014	3:50 AM	3:50 AM	Moon	Moonset
	4:42 AM	4:42 AM	Twilight	Astronomical Twilight begins
	5:00 AM	5:00 AM	Diary	Pluto 2.4S of Moon
	5:27 AM	5:27 AM	Jupiter	Jupiter rises
	6:04 AM	6:04 AM	Iridium Flare	CHES:Iridium 5 Flares at mag.-6.4 (Azm 029 Alt 27)
	6:19 AM	6:19 AM	Sun	Sunrise
	1:00 PM	1:00 PM	Diary	Mercury superior conjunction
	6:15 PM	6:15 PM	Moon	Moonrise
	7:32 PM	7:32 PM	Jupiter	Jupiter sets
	8:07 PM	8:07 PM	Sun	Sunset
	8:25 PM	8:25 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (Azm 327.8 Alt 27)
9:45 PM	9:45 PM	Twilight	Astronomical Twilight ends	
10:44 PM	10:44 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)	
<b>9</b> Aug 2014	4:43 AM	4:43 AM	Twilight	Astronomical Twilight begins
	4:58 AM	4:58 AM	Moon	Moonset
	5:24 AM	5:24 AM	Jupiter	Jupiter rises
	6:20 AM	6:20 AM	Sun	Sunrise
	7:05 PM	7:05 PM	Moon	Moonrise
	7:28 PM	7:28 PM	Jupiter	Jupiter sets
	8:06 PM	8:06 PM	Sun	Sunset
	9:43 PM	9:43 PM	Twilight	Astronomical Twilight ends

# Norfolk Astronomical Society Astronomical Calendar

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

## Calendar

	Start	End	Category	Description
<b>10</b> Aug 2014	4:44 AM	4:44 AM	Twilight	Astronomical Twilight begins
	5:21 AM	5:21 AM	Jupiter	Jupiter rises
	5:52 AM	5:52 AM	Iridium Flare	CHES:Iridium 61 Flares at mag.-4.4 (Azm 027 Alt 24)
	6:10 AM	6:10 AM	Moon	Moonset
	6:21 AM	6:21 AM	Sun	Sunrise
	3:00 PM	3:00 PM	Diary	FULL MOON
	3:00 PM	3:00 PM	Diary	Moon at perigee
	7:25 PM	7:25 PM	Jupiter	Jupiter sets
	7:51 PM	7:51 PM	Moon	Moonrise
	8:05 PM	8:05 PM	Sun	Sunset
9:42 PM	9:42 PM	Twilight	Astronomical Twilight ends	
<b>11</b> Aug 2014	4:45 AM	4:45 AM	Twilight	Astronomical Twilight begins
	5:18 AM	5:18 AM	Jupiter	Jupiter rises
	5:46 AM	5:46 AM	Iridium Flare	CHES:Iridium 35 Flares at mag.-1.9 (Azm 026 Alt 23)
	6:22 AM	6:22 AM	Sun	Sunrise
	7:22 AM	7:22 AM	Moon	Moonset
	7:22 PM	7:22 PM	Jupiter	Jupiter sets
	7:33 PM	7:33 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	8:00 PM	8:00 PM	Diary	Neptune 4.3S of Moon
	8:04 PM	8:04 PM	Sun	Sunset
	8:34 PM	8:34 PM	Moon	Moonrise
9:36 PM	9:36 PM	Iridium Flare	CHES:Iridium 80 Flares at mag.-1.5 (Azm 088 Alt 52)	
9:40 PM	9:40 PM	Twilight	Astronomical Twilight ends	
<b>12</b> Aug 2014	4:46 AM	4:46 AM	Twilight	Astronomical Twilight begins
	5:15 AM	5:15 AM	Jupiter	Jupiter rises
	5:40 AM	5:40 AM	Iridium Flare	CHES:Iridium 6 Flares at mag.-3.7 (Azm 025 Alt 22)
	6:22 AM	6:22 AM	Sun	Sunrise
	8:33 AM	8:33 AM	Moon	Moonset
	12:41 PM	12:41 PM	Meteor Shower	N delta-Aquarids meteor peak (zhr=20)
	7:19 PM	7:19 PM	Jupiter	Jupiter sets
	8:02 PM	8:02 PM	Sun	Sunset
	9:14 PM	9:14 PM	Moon	Moonrise
	9:30 PM	9:30 PM	Iridium Flare	CHES:Iridium 81 Flares at mag.-4.1 (Azm 090 Alt 53)
9:39 PM	9:39 PM	Twilight	Astronomical Twilight ends	
10:32 PM	10:32 PM	Lunar Occult	Moon occults 5.9 mag. star ZC3474(r)	
<b>13</b> Aug 2014	4:48 AM	4:48 AM	Twilight	Astronomical Twilight begins
	5:12 AM	5:12 AM	Jupiter	Jupiter rises
	5:34 AM	5:34 AM	Iridium Flare	CHES:Iridium 96 Flares at mag.-1.9 (Azm 024 Alt 20)
	6:23 AM	6:23 AM	Sun	Sunrise

# Norfolk Astronomical Society Astronomical Calendar

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

## Calendar

	Start	End	Category	Description
<b>13</b> Aug 2014	9:43 AM	9:43 AM	Moon	Moonset
	7:16 PM	7:16 PM	Jupiter	Jupiter sets
	7:39 PM	7:39 PM	Iridium Flare	CHES:Iridium 86 Flares at mag.-8.4 (Azm 165 Alt 76)
	8:01 PM	8:01 PM	Sun	Sunset
	8:11 PM	8:11 PM	Meteor Shower	Perseids (Swift-Tut) meteor peak (zhr=95)
	9:24 PM	9:24 PM	Iridium Flare	CHES:Iridium 43 Flares at mag.-0.9 (Azm 091 Alt 51)
	9:37 PM	9:37 PM	Twilight	Astronomical Twilight ends
	9:53 PM	9:53 PM	Moon	Moonrise
<b>14</b> Aug 2014	4:49 AM	4:49 AM	Twilight	Astronomical Twilight begins
	5:10 AM	5:10 AM	Jupiter	Jupiter rises
	5:27 AM	5:27 AM	Jup Sats	I.Tr.I
	5:56 AM	5:56 AM	Jup Sats	III.Sh.I
	6:24 AM	6:24 AM	Sun	Sunrise
	7:39 AM	7:39 AM	Iridium Flare	CHES:Iridium 84 Flares at mag.-7.1 (Azm 049 Alt 47)
	10:50 AM	10:50 AM	Moon	Moonset
	1:00 PM	1:00 PM	Diary	Uranus 1.2S of Moon Occn
	4:22 PM	4:22 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	7:12 PM	7:12 PM	Jupiter	Jupiter sets
	8:00 PM	8:00 PM	Sun	Sunset
9:36 PM	9:36 PM	Twilight	Astronomical Twilight ends	
	10:31 PM	10:31 PM	Moon	Moonrise
<b>15</b> Aug 2014	12:10 AM	12:10 AM	Lunar Occult	Moon occults 6.2 mag. double star 214(r)
	4:50 AM	4:50 AM	Twilight	Astronomical Twilight begins
	5:07 AM	5:07 AM	Jupiter	Jupiter rises
	5:16 AM	5:16 AM	Iridium Flare	CHES:Iridium 4 Flares at mag.-5.3 (Azm 023 Alt 15)
	5:23 AM	5:23 AM	Iridium Flare	CHES:Iridium 97 Flares at mag.-0.1 (Azm 022 Alt 18)
	6:25 AM	6:25 AM	Sun	Sunrise
	11:55 AM	11:55 AM	Moon	Moonset
	2:00 PM	2:00 PM	Diary	Mercury 1.2N of Regulus
	7:09 PM	7:09 PM	Jupiter	Jupiter sets
	7:58 PM	7:58 PM	Sun	Sunset
	9:34 PM	9:34 PM	Twilight	Astronomical Twilight ends
	10:47 PM	10:47 PM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azm 346.8 Alt 15)
	11:11 PM	11:11 PM	Moon	Moonrise
<b>16</b> Aug 2014	4:51 AM	4:51 AM	Twilight	Astronomical Twilight begins
	5:04 AM	5:04 AM	Jupiter	Jupiter rises
	6:26 AM	6:26 AM	Sun	Sunrise
	12:58 PM	12:58 PM	Moon	Moonset
	7:06 PM	7:06 PM	Jupiter	Jupiter sets

# Norfolk Astronomical Society Astronomical Calendar

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

## Calendar

	Start	End	Category	Description
<b>16</b> Aug 2014	7:57 PM	7:57 PM	Sun	Sunset
	9:33 PM	9:33 PM	Twilight	Astronomical Twilight ends
	10:00 PM	10:00 PM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azim 26.0 Alt 16)
	11:52 PM	11:52 PM	Moon	Moonrise
<b>17</b> Aug 2014	4:52 AM	4:52 AM	Twilight	Astronomical Twilight begins
	5:01 AM	5:01 AM	Jupiter	Jupiter rises
	5:02 AM	5:02 AM	Iridium Flare	CHES:Iridium 96 Flares at mag.-5.0 (Azim 021 Alt 10)
	6:27 AM	6:27 AM	Sun	Sunrise
	9:00 AM	9:00 AM	Diary	LAST QUARTER
	1:11 PM	1:11 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	1:57 PM	1:57 PM	Moon	Moonset
	7:03 PM	7:03 PM	Jupiter	Jupiter sets
	7:55 PM	7:55 PM	Sun	Sunset
	9:31 PM	9:31 PM	Twilight	Astronomical Twilight ends
10:45 PM	10:45 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azim 321.4 Alt 17)	
<b>18</b> Aug 2014	12:35 AM	12:35 AM	Moon	Moonrise
	2:00 AM	2:00 AM	Diary	Venus 0.2N of Jupiter
	4:53 AM	4:53 AM	Twilight	Astronomical Twilight begins
	4:58 AM	4:58 AM	Jupiter	Jupiter rises
	6:27 AM	6:27 AM	Sun	Sunrise
	9:16 AM	9:16 AM	Lunar Occult	Moon occults 3.8 mag. double star 648(r)
	2:00 PM	2:00 PM	Diary	Aldebaran 1.6S of Moon
	2:53 PM	2:53 PM	Moon	Moonset
	6:00 PM	6:00 PM	Meetings	NAS Regular Meeting at Chesapeake Public Library Major Hillard branch (moved from 8/11)
	6:59 PM	6:59 PM	Jupiter	Jupiter sets
	7:54 PM	7:54 PM	Sun	Sunset
	9:03 PM	9:03 PM	Iridium Flare	CHES:Iridium 80 Flares at mag.-4.1 (Azim 102 Alt 59)
	9:29 PM	9:29 PM	Twilight	Astronomical Twilight ends
9:58 PM	9:58 PM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azim 11.2 Alt 30)	
<b>19</b> Aug 2014	1:22 AM	1:22 AM	Moon	Moonrise
	4:54 AM	4:54 AM	Twilight	Astronomical Twilight begins
	4:55 AM	4:55 AM	Jupiter	Jupiter rises
	6:28 AM	6:28 AM	Sun	Sunrise
	3:45 PM	3:45 PM	Moon	Moonset
	6:56 PM	6:56 PM	Jupiter	Jupiter sets
	7:53 PM	7:53 PM	Sun	Sunset
	8:57 PM	8:57 PM	Iridium Flare	CHES:Iridium 81 Flares at mag.-8.4 (Azim 104 Alt 59)
	9:09 PM	9:09 PM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azim 29.6 Alt 21)
	9:28 PM	9:28 PM	Twilight	Astronomical Twilight ends



# Norfolk Astronomical Society Astronomical Calendar

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

## Calendar

	Start	End	Category	Description
<b>19</b> Aug 2014	10:43 PM	10:43 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azimuth 294.1 Alt 14)
<b>20</b> Aug 2014	2:10 AM	2:10 AM	Moon	Moonrise
	4:52 AM	4:52 AM	Jupiter	Jupiter rises
	4:56 AM	4:56 AM	Twilight	Astronomical Twilight begins
	6:29 AM	6:29 AM	Sun	Sunrise
	10:00 AM	10:00 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	4:32 PM	4:32 PM	Moon	Moonset
	6:53 PM	6:53 PM	Jupiter	Jupiter sets
	7:06 PM	7:06 PM	Iridium Flare	CHES:Iridium 86 Flares at mag. -5.8 (Azimuth 202 Alt 71)
	7:52 PM	7:52 PM	Sun	Sunset
	9:26 PM	9:26 PM	Twilight	Astronomical Twilight ends
	9:56 PM	9:56 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azimuth 305.2 Alt 49)
<b>21</b> Aug 2014	3:01 AM	3:01 AM	Moon	Moonrise
	4:50 AM	4:50 AM	Jupiter	Jupiter rises
	4:57 AM	4:57 AM	Twilight	Astronomical Twilight begins
	6:30 AM	6:30 AM	Sun	Sunrise
	5:15 PM	5:15 PM	Moon	Moonset
	6:50 PM	6:50 PM	Jupiter	Jupiter sets
	7:50 PM	7:50 PM	Sun	Sunset
	9:08 PM	9:08 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azimuth 38.2 Alt 50)
	9:25 PM	9:25 PM	Twilight	Astronomical Twilight ends
<b>22</b> Aug 2014	3:54 AM	3:54 AM	Moon	Moonrise
	4:47 AM	4:47 AM	Jupiter	Jupiter rises
	4:58 AM	4:58 AM	Twilight	Astronomical Twilight begins
	6:31 AM	6:31 AM	Sun	Sunrise
	5:55 PM	5:55 PM	Moon	Moonset
	6:46 PM	6:46 PM	Jupiter	Jupiter sets
	7:00 PM	7:00 PM	Meetings	NAS Observing Session (Gates Co., NC)
	7:49 PM	7:49 PM	Sun	Sunset
	8:19 PM	8:19 PM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azimuth 33.3 Alt 29)
	9:23 PM	9:23 PM	Twilight	Astronomical Twilight ends
	9:55 PM	9:55 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azimuth 245.0 Alt 24)
<b>23</b> Aug 2014	4:44 AM	4:44 AM	Jupiter	Jupiter rises
	4:47 AM	4:47 AM	Moon	Moonrise
	4:59 AM	4:59 AM	Twilight	Astronomical Twilight begins
	6:31 AM	6:31 AM	Sun	Sunrise
	6:49 AM	6:49 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	10:00 AM	10:00 AM	Diary	Jupiter 5.3N of Moon

# Norfolk Astronomical Society Astronomical Calendar

July 2014							August 2014							September 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	8	9	10	11	12	13	14	15	16	17	18	19
6	7	8	9	10	11	12	3	4	5	6	7	8	9	7	8	9	10	11	12	13	
13	14	15	16	17	18	19	10	11	12	13	14	15	16	14	15	16	17	18	19	20	
20	21	22	23	24	25	26	17	18	19	20	21	22	23	21	22	23	24	25	26	27	
27	28	29	30	31			24	25	26	27	28	29	30	28	29	30					
							31														

## Calendar

	Start	End	Category	Description
<b>23</b> Aug 2014	6:31 PM	6:31 PM	Moon	Moonset
	6:43 PM	6:43 PM	Jupiter	Jupiter sets
	7:48 PM	7:48 PM	Sun	Sunset
	9:06 PM	9:06 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 224.9 Alt 50)
	9:21 PM	9:21 PM	Twilight	Astronomical Twilight ends
	10:00 PM	10:00 PM	Diary	Venus 5.5N of Moon
<b>24</b> Aug 2014	4:41 AM	4:41 AM	Jupiter	Jupiter rises
	5:00 AM	5:00 AM	Twilight	Astronomical Twilight begins
	5:41 AM	5:41 AM	Moon	Moonrise
	6:00 AM	6:00 AM	Diary	Moon at apogee
	6:32 AM	6:32 AM	Sun	Sunrise
	6:48 AM	6:48 AM	Iridium Flare	CHES:Iridium 52 Flares at mag.-7.2 (Azm 032 Alt 41)
	8:50 AM	8:50 AM	Iridium Flare	CHES:Iridium 80 Flares at mag.-4.5 (Azm 079 Alt 55)
	6:40 PM	6:40 PM	Jupiter	Jupiter sets
	7:05 PM	7:05 PM	Moon	Moonset
	7:46 PM	7:46 PM	Sun	Sunset
<b>25</b> Aug 2014	8:17 PM	8:17 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 43.0 Alt 82)
	9:20 PM	9:20 PM	Twilight	Astronomical Twilight ends
	4:38 AM	4:38 AM	Jupiter	Jupiter rises
	5:01 AM	5:01 AM	Twilight	Astronomical Twilight begins
	5:31 AM	5:31 AM	Jup Sats	III.Oc.R
	6:00 AM	6:00 AM	Diary	Regulus 4.4N of Moon
	6:33 AM	6:33 AM	Sun	Sunrise
	6:35 AM	6:35 AM	Moon	Moonrise
	6:42 AM	6:42 AM	Iridium Flare	CHES:Iridium 10 Flares at mag.-5.1 (Azm 030 Alt 40)
	10:00 AM	10:00 AM	Diary	NEW MOON
<b>26</b> Aug 2014	3:00 PM	3:00 PM	Diary	Mars 3.4S of Saturn
	6:37 PM	6:37 PM	Jupiter	Jupiter sets
	7:36 PM	7:36 PM	Moon	Moonset
	7:45 PM	7:45 PM	Sun	Sunset
	8:30 PM	8:30 PM	Iridium Flare	CHES:Iridium 80 Flares at mag.-5.1 (Azm 122 Alt 65)
	9:04 PM	9:04 PM	Sat Pass (ISS)	CHES:ISS Passes NW to S (Azm 230.9 Alt 16)
	9:18 PM	9:18 PM	Twilight	Astronomical Twilight ends
	3:38 AM	3:38 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	4:35 AM	4:35 AM	Jupiter	Jupiter rises
	5:02 AM	5:02 AM	Twilight	Astronomical Twilight begins
5:22 AM	5:22 AM	Jup Sats	IV.Sh.I	
5:46 AM	5:46 AM	Jup Sats	II.Oc.R	
6:34 AM	6:34 AM	Sun	Sunrise	

## Norfolk Astronomical Society Astronomical Calendar

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

## Calendar

	Start	End	Category	Description
<b>26</b> Aug 2014	7:30 AM	7:30 AM	Moon	Moonrise
	6:33 PM	6:33 PM	Jupiter	Jupiter sets
	7:44 PM	7:44 PM	Sun	Sunset
	8:07 PM	8:07 PM	Moon	Moonset
	8:15 PM	8:15 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 227.6 Alt 30)
	8:24 PM	8:24 PM	Iridium Flare	CHES:Iridium 81 Flares at mag.-6.3 (Azm 125 Alt 65)
	9:16 PM	9:16 PM	Twilight	Astronomical Twilight ends
	11:00 PM	11:00 PM	Diary	Mercury 3.3N of Moon
<b>27</b> Aug 2014	4:32 AM	4:32 AM	Jupiter	Jupiter rises
	5:03 AM	5:03 AM	Twilight	Astronomical Twilight begins
	6:35 AM	6:35 AM	Sun	Sunrise
	8:24 AM	8:24 AM	Moon	Moonrise
	6:30 PM	6:30 PM	Jupiter	Jupiter sets
	6:32 PM	6:32 PM	Iridium Flare	CHES:Iridium 86 Flares at mag.-7.9 (Azm 220 Alt 64)
	7:42 PM	7:42 PM	Sun	Sunset
	8:38 PM	8:38 PM	Moon	Moonset
9:15 PM	9:15 PM	Twilight	Astronomical Twilight ends	
<b>28</b> Aug 2014	4:29 AM	4:29 AM	Jupiter	Jupiter rises
	5:04 AM	5:04 AM	Twilight	Astronomical Twilight begins
	6:35 AM	6:35 AM	Sun	Sunrise
	9:20 AM	9:20 AM	Moon	Moonrise
	6:27 PM	6:27 PM	Jupiter	Jupiter sets
	7:41 PM	7:41 PM	Sun	Sunset
	9:10 PM	9:10 PM	Moon	Moonset
	9:13 PM	9:13 PM	Twilight	Astronomical Twilight ends
<b>29</b> Aug 2014	12:27 AM	12:27 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	4:26 AM	4:26 AM	Jupiter	Jupiter rises
	5:05 AM	5:05 AM	Twilight	Astronomical Twilight begins
	6:03 AM	6:03 AM	Jup Sats	I.Ec.D
	6:36 AM	6:36 AM	Sun	Sunrise
	10:16 AM	10:16 AM	Moon	Moonrise
	11:00 AM	11:00 AM	Diary	Neptune at opposition
	6:00 PM	6:00 PM	Diary	Spica 2.4S of Moon
	6:24 PM	6:24 PM	Jupiter	Jupiter sets
	7:39 PM	7:39 PM	Sun	Sunset
	8:28 PM	8:28 PM	Lunar Occult	Moon occults 5.2 mag. star ZC1945(D)
	9:11 PM	9:11 PM	Twilight	Astronomical Twilight ends
	9:44 PM	9:44 PM	Moon	Moonset

# Norfolk Astronomical Society Astronomical Calendar

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

## Calendar

	Start	End	Category	Description
<b>30</b> Aug 2014	4:24 AM	4:24 AM	Jupiter	Jupiter rises
	5:06 AM	5:06 AM	Twilight	Astronomical Twilight begins
	5:41 AM	5:41 AM	Jup Sats	I.Sh.E
	6:16 AM	6:16 AM	Jup Sats	I.Tr.E
	6:37 AM	6:37 AM	Sun	Sunrise
	11:13 AM	11:13 AM	Moon	Moonrise
	6:20 PM	6:20 PM	Jupiter	Jupiter sets
	7:38 PM	7:38 PM	Sun	Sunset
	9:10 PM	9:10 PM	Twilight	Astronomical Twilight ends
	9:48 PM	9:48 PM	Lunar Occult	Moon occults 6.5 mag. double star ZC2065(d)
	10:20 PM	10:20 PM	Moon	Moonset
<b>31</b> Aug 2014	4:21 AM	4:21 AM	Jupiter	Jupiter rises
	5:07 AM	5:07 AM	Twilight	Astronomical Twilight begins
	6:38 AM	6:38 AM	Sun	Sunrise
	12:11 PM	12:11 PM	Moon	Moonrise
	1:12 PM	1:12 PM	Lunar Occult	Moon occults 0.6 mag. star SAOSaturn(D)
	2:07 PM	2:07 PM	Lunar Occult	Moon occults 0.6 mag. star SAOSaturn(R)
	4:00 PM	4:00 PM	Diary	Saturn 0.3S of Moon Occn
	6:17 PM	6:17 PM	Jupiter	Jupiter sets
	7:37 PM	7:37 PM	Sun	Sunset
	9:08 PM	9:08 PM	Twilight	Astronomical Twilight ends
	9:16 PM	9:16 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	10:00 PM	10:00 PM	ERROR	Mars 4.1S of Moon
	11:00 PM	11:59 PM	Moon	Moonset