

Norfolk Astronomical Society



<http://norfolkastronomical.org>

February 2013

Monthly Sky Calendar
Prepared Specifically For
The Hampton Roads Area

Upcoming Regular Meetings

DATE	Monday, February 25, 2013
TIME	6 - 8 PM EST
WHERE	Chesapeake Public Library, Major Hillard branch Conf. Room
TOPIC	The Planet Jupiter

DATE	Monday, March 25, 2013
TIME	6 - 8 PM EST
WHERE	Chesapeake Public Library, Major Hillard branch Conf. Room
TOPIC	Messier Marathon Month

Red Lithium Cloud Release From NASA Wallops

Photo By Glendon Howell



On January 29, while watching Jeff Lawson deliver the weather, WVEC-13 cut over to a Wallops launch in progress I had not heard about. As I had seen several of these before and knew what to look for I raced outside with high hopes of seeing the rocket climbing in the NE. I did not spot the rocket, however, due to thin clouds, until it had begun the lithium release. I raced back in to grab my DSLR and took many photos.

At first he could see 2 red clouds growing larger, high in the east. The most easterly one eventually was masked-over by clouds while the more westerly one continued to move west, getting brighter and more elongated. Another launch is scheduled for June of this year.



Comet Pan-STARRS 30 minutes after sunset on March 14 as depicted by Starry Night Pro 6.

Get Ready For Comet C/2011 L4 Pan-STARRS Glendon Howell, NAS

Get ready for a show beginning in the western sky in March. A comet discovered the night of June 5-6, 2011 by the Panoramic Survey Telescope & Rapid Response System (Pan-STARRS) in Hawaii has the potential to reach magnitude -1 or better on March 10.

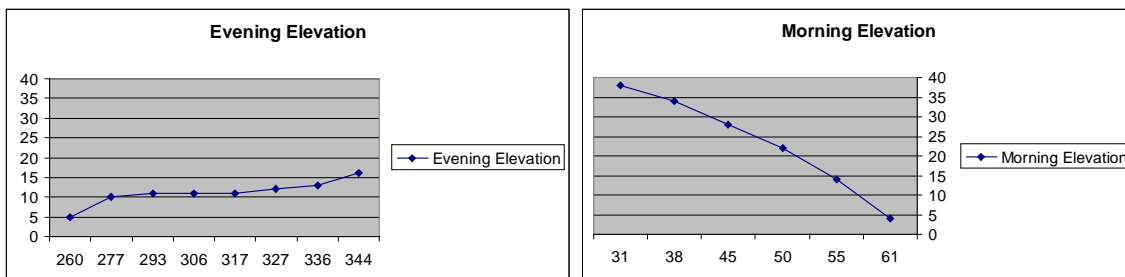
Called *C/2011 L4 Pan-STARRS*, the comet in February is too far south to be observed by northern hemisphere observers. Observations are currently running about 1.5 magnitudes brighter (m_1) than the Central Bureau of Astronomical Telegram (CBAT) predictions (M_1), and photos already show it sporting a tail. While optimistic caution is warranted, with the advent of today's internet we should hear and see what this comet is doing from our southern hemisphere neighbors this month. Hopefully we will not be disappointed. Here is an optimistic synopsis of what to expect.

DATE	TIMETABLE OF EVENTS	M_1	m_1	MOON	VIS
Tue 03/05/2013	Comet closest to Earth at 1.10 AU	1.0	-0.5	LQ+1	
Fri 03/08/2013	Comet makes its evening debut for northern hemisphere	0.6	-0.9	NM-3	E
Sun 03/10/2013	Comet reaches perihelion at 0.30 AU	0.5	-1.0	NM-1	E
Sun 03/10/2013	Greatest brilliancy of mag. -1 (suggested by observations)	0.5	-1.0	NM-1	E
Tue 03/12/2013	Comet and thin crescent moon in evening sky (also 3/13)	0.7	-0.8	NM+1	E
Sun 03/24/2013	Comet makes its morning debut for northern hemisphere	3.0	1.5	FM-3	ME
Thu 04/04/2013	Comet passes very near M31	4.8	3.3	LQ+1	ME
Sun 04/14/2013	Comet at naked-eye threshold (CBAT predictions)	6.0	4.5	NM+4	ME
Tue 04/16/2013	Comet becomes circumpolar (above +53 DEC)	6.2	4.7	FQ-2	CIR
Sun 04/21/2013	Comet passes over galaxy IC10	6.7	5.2	FQ+3	CIR
Tue 05/07/2013	Comet at naked-eye threshold (suggested by observations)	8.0	6.5	NM-2	CIR
Mon 05/27/2013	Comet near Polaris	9.2	7.7	FM+3	CIR
Wed 06/19/2013	Comet near Kochab	10.4	8.9	FQ+3	CIR
Thu 07/25/2013	Comet passes near M101	11.9	10.4	FM+3	CIR
Sun 07/28/2013	Comet no longer circumpolar	12.0	10.5	LQ-1	CIR

The comet reaches its most southerly declination of -45.6 degrees on 2013 February 5 and then begins its journey northward. The comet passes closest to Earth on 2013 March 5 at 1.10 AU while still too far south to observe.

Our first opportunity to see the comet after sunset comes around **March 8**. It reaches perihelion, its closest approach to the Sun and its brightest on **March 10**. Observers will need an unobstructed western horizon to see it and binoculars will probably be the most useful instrument for viewing. The charts below shows azimuth of the comet vs elevation 30 minutes after/before sunset/sunrise.

On **March 12** and **March 13**, the comet will be joined by a thin crescent moon, making perhaps a splendid photo opportunity right after sunset. The Moon will thereafter begin to brighten the evening sky for the next couple of weeks.



Evening Apparition (March 9-April 27): Weekly plot shows the comet climbing in the west (azimuth 270) but remaining very low in the sky. By April 16, the comet becomes circumpolar and up all night.

Morning Apparition (March 24-April 28): Weekly plot shows the comet climbs rapidly up in the northeast (azimuth 45) morning sky but is already 3 magnitudes fainter at the start.

Beginning later in the month around **March 24**, the comet begins its rapid climb into the morning sky while still visible also in the evening, climbing rapidly into the northeastern sky only to be met by the waning moon.

Around **April 4**, the comet passes just 2 degrees west of M31 in the morning sky. Unfortunately, the moon will still be close to Last Quarter, brightening the sky. CBAT predictions put the comet at +6.0 by **April 14**, although it may actually be May before the naked-eye threshold is reached. The comet becomes circumpolar and visible all night from **April 16** to **July 28**.

DATE	SR/SS	+/-30min	MAG	AZ	EL	MOON	CR	CT	CS
Sat 03/09/2013	19:09	19:39	0.5	260	5	NM-2	8:35	14:17	20:04
Sat 03/16/2013	19:16	19:46	1.5	277	10	FQ-3	7:30	14:03	20:41
Sat 03/23/2013	19:22	19:52	3.0	293	11	FM-4	6:17	13:36	20:59
Sat 03/30/2013	19:28	19:58	4.2	306	11	FM+3	5:01	13:06	21:14
Sat 04/06/2013	19:34	20:04	5.2	317	11	LQ+3	3:37	12:35	21:40
Sat 04/13/2013	19:40	20:10	6.0	327	12	NM+3	1:40	12:04	22:47
Sat 04/20/2013	19:46	20:16	6.7	336	13	FQ+2		11:32	
Sat 04/27/2013	19:52	20:22	7.3	344	16	FM+2		10:59	
Sun 03/24/2013	7:05	6:35	3.1	61	4	FM-3	6:07	13:32	21:01
Sun 03/31/2013	6:54	6:24	4.3	55	14	FM+4	4:50	13:01	21:17
Sun 04/07/2013	6:44	6:14	5.3	50	22	LQ+4	3:23	12:30	21:45
Sun 04/14/2013	6:35	6:05	6.1	45	28	NM+4	1:14	12:00	23:15
Sun 04/21/2013	6:25	5:55	6.8	38	34	FQ+3		11:28	
Sun 04/28/2013	6:17	5:47	7.3	31	38	FM+3		10:54	

Norfolk Astronomical Society Astronomical Calendar

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

Calendar

	Start	End	Category	Description
1 Feb 2013	12:47 AM	12:47 AM	Jup Sats	III.Tr.I
	2:47 AM	2:47 AM	Jupiter	Jupiter sets
	5:15 AM	5:15 AM	Iridium Flare	CHES:Iridium 25 Flares at mag. 1.8 (Azm 348 Alt 30)
	5:40 AM	5:40 AM	Twilight	Astronomical Twilight begins
	5:50 AM	5:50 AM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 227.9 Alt 27)
	6:03 AM	6:03 AM	Jup GRS	GRS Transit (CML=189)
	7:08 AM	7:08 AM	Sun	Sunrise
	7:08 AM	7:08 AM	Iridium Flare	CHES:Iridium 32 Flares at mag.-8.4 (Azm 356 Alt 70)
	9:52 AM	9:52 AM	Moon	Moonset
	12:00 PM	12:00 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	12:29 PM	12:29 PM	Jupiter	Jupiter rises
	3:58 PM	3:58 PM	Jup GRS	GRS Transit (CML=189)
	5:34 PM	5:34 PM	Sun	Sunset
	7:01 PM	7:01 PM	Twilight	Astronomical Twilight ends
	8:40 PM	8:40 PM	Jup Sats	I.Ec.R
	9:00 PM	9:00 PM	Diary	Spica 0.3N of Moon Occn
	11:26 PM	11:26 PM	Moon	Moonrise
2 Feb 2013	1:54 AM	1:54 AM	Jup GRS	GRS Transit (CML=189)
	2:43 AM	2:43 AM	Jupiter	Jupiter sets
	5:01 AM	5:01 AM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 150.5 Alt 18)
	5:09 AM	5:09 AM	Iridium Flare	CHES:Iridium 47 Flares at mag. 1.3 (Azm 350 Alt 28)
	5:40 AM	5:40 AM	Twilight	Astronomical Twilight begins
	7:08 AM	7:08 AM	Sun	Sunrise
	10:29 AM	10:29 AM	Moon	Moonset
	11:50 AM	11:50 AM	Jup GRS	GRS Transit (CML=189)
	12:25 PM	12:25 PM	Jupiter	Jupiter rises
	5:04 PM	5:04 PM	Iridium Flare	CHES:Iridium 45 Flares at mag.-6.1 (Azm 220 Alt 27)
	5:35 PM	5:35 PM	Sun	Sunset
	7:02 PM	7:02 PM	Twilight	Astronomical Twilight ends
	9:46 PM	9:46 PM	Jup GRS	GRS Transit (CML=189)
3 Feb 2013	12:31 AM	12:31 AM	Moon	Moonrise
	2:39 AM	2:39 AM	Jupiter	Jupiter sets
	3:00 AM	3:00 AM	Diary	Saturn 3.4N of Moon
	5:03 AM	5:03 AM	Iridium Flare	CHES:Iridium 11 Flares at mag.-1.8 (Azm 351 Alt 27)
	5:39 AM	5:39 AM	Twilight	Astronomical Twilight begins
	7:07 AM	7:07 AM	Sun	Sunrise
	7:41 AM	7:41 AM	Jup GRS	GRS Transit (CML=189)
	9:00 AM	9:00 AM	Diary	LAST QUARTER
	11:12 AM	11:12 AM	Moon	Moonset

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January 2013							February 2013							March 2013																					
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														
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										
							3	4	5	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

Calendar

	Start	End	Category	Description
3 Feb 2013	12:21 PM	12:21 PM	Jupiter	Jupiter rises
	5:36 PM	5:36 PM	Sun	Sunset
	5:37 PM	5:37 PM	Jup GRS	GRS Transit (CML=189)
	6:33 PM	6:33 PM	Iridium Flare	CHES:Iridium 57 Flares at mag.-1.4 (Azm 179 Alt 39)
	7:03 PM	7:03 PM	Twilight	Astronomical Twilight ends
4 Feb 2013	1:37 AM	1:37 AM	Moon	Moonrise
	2:35 AM	2:35 AM	Jupiter	Jupiter sets
	3:33 AM	3:33 AM	Jup GRS	GRS Transit (CML=189)
	4:56 AM	4:56 AM	Iridium Flare	CHES:Iridium 26 Flares at mag.-2.7 (Azm 354 Alt 25)
	4:58 AM	4:58 AM	Iridium Flare	CHES:Iridium 94 Flares at mag.-7.1 (Azm 353 Alt 25)
	4:59 AM	4:59 AM	Iridium Flare	CHES:Iridium 23 Flares at mag. 0.4 (Azm 352 Alt 23)
	5:38 AM	5:38 AM	Twilight	Astronomical Twilight begins
	5:42 AM	5:42 AM	Lunar Occult	Moon occults 6.7 mag. double star ZC2230(r)
	6:32 AM	6:32 AM	Lunar Occult	Moon occults 6.9 mag. double star ZC2236(r)
	7:02 AM	7:02 AM	Lunar Occult	Moon occults 4.8 mag. double star ZC2241(m) Kappa Lib
	7:06 AM	7:06 AM	Sun	Sunrise
	8:55 AM	8:55 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	12:00 PM	12:00 PM	Moon	Moonsset
	12:17 PM	12:17 PM	Jupiter	Jupiter rises
	1:29 PM	1:29 PM	Jup GRS	GRS Transit (CML=189)
	5:00 PM	5:00 PM	Diary	Mars 0.4S of Neptune
	5:37 PM	5:37 PM	Sun	Sunset
	6:27 PM	6:27 PM	Iridium Flare	CHES:Iridium 60 Flares at mag.-7.6 (Azm 180 Alt 40)
	7:04 PM	7:04 PM	Twilight	Astronomical Twilight ends
	7:34 PM	7:34 PM	Jup Sats	III.Ec.D
	9:55 PM	9:55 PM	Jup Sats	III.Ec.R
	11:24 PM	11:24 PM	Jup GRS	GRS Transit (CML=189)
5 Feb 2013	1:07 AM	1:07 AM	Jup Sats	II.Tr.I
	2:32 AM	2:32 AM	Jupiter	Jupiter sets
	2:41 AM	2:41 AM	Moon	Moonrise
	4:52 AM	4:52 AM	Iridium Flare	CHES:Iridium 45 Flares at mag.-1.4 (Azm 354 Alt 20)
	5:37 AM	5:37 AM	Twilight	Astronomical Twilight begins
	7:05 AM	7:05 AM	Sun	Sunrise
	9:20 AM	9:20 AM	Jup GRS	GRS Transit (CML=189)
	12:13 PM	12:13 PM	Jupiter	Jupiter rises
	12:56 PM	12:56 PM	Moon	Moonsset
	5:38 PM	5:38 PM	Sun	Sunset
	6:21 PM	6:21 PM	Iridium Flare	CHES:Iridium 29 Flares at mag. 0.5 (Azm 179 Alt 40)
	7:05 PM	7:05 PM	Twilight	Astronomical Twilight ends

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

Calendar

	Start	End	Category	Description
5 Feb 2013	7:06 PM	7:06 PM	Sat Pass (ISS)	CHES:ISS Passes S to NE (Azm 160.2 Alt 18)
	7:16 PM	7:16 PM	Jup GRS	GRS Transit (CML=189)
6 Feb 2013	2:28 AM	2:28 AM	Jupiter	Jupiter sets
	3:42 AM	3:42 AM	Moon	Moonrise
	5:12 AM	5:12 AM	Jup GRS	GRS Transit (CML=189)
	5:37 AM	5:37 AM	Twilight	Astronomical Twilight begins
	7:04 AM	7:04 AM	Sun	Sunrise
	8:40 AM	8:40 AM	Iridium Flare	CHES:Iridium 19 Flares at mag.-4.5 (Azm 133 Alt 82)
	12:09 PM	12:09 PM	Jupiter	Jupiter rises
	1:57 PM	1:57 PM	Moon	Moonset
	3:07 PM	3:07 PM	Jup GRS	GRS Transit (CML=189)
	5:39 PM	5:39 PM	Sun	Sunset
	7:00 PM	7:00 PM	Diary	Mercury 0.4S of Neptune
	7:06 PM	7:06 PM	Twilight	Astronomical Twilight ends
	7:21 PM	7:21 PM	Jup Sats	II.Oc.D
	7:51 PM	7:51 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 243.4 Alt 22)
7 Feb 2013	9:47 PM	9:47 PM	Jup Sats	II.Oc.R
	9:54 PM	9:54 PM	Jup Sats	II.Ec.D
	12:22 AM	12:22 AM	Jup Sats	II.Ec.R
	12:40 AM	12:40 AM	Jup Sats	I.Oc.D
	1:03 AM	1:03 AM	Jup GRS	GRS Transit (CML=189)
	2:24 AM	2:24 AM	Jupiter	Jupiter sets
	4:38 AM	4:38 AM	Moon	Moonrise
	5:36 AM	5:36 AM	Twilight	Astronomical Twilight begins
	5:44 AM	5:44 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	7:00 AM	7:00 AM	Diary	Moon at perigee
	7:00 AM	7:00 AM	Diary	Pluto 0.5S of Moon Occn
	7:02 AM	7:02 AM	Meteor Shower	alpha-Centaurids meteor peak (zhr=10)
	7:03 AM	7:03 AM	Sun	Sunrise
	10:59 AM	10:59 AM	Jup GRS	GRS Transit (CML=189)
12:06 PM	12:06 PM	Jupiter	Jupiter rises	
2:20 PM	2:20 PM	Iridium Flare	CHES:Iridium 63 Flares at mag.-5.2 (Azm 222 Alt 42)	
3:04 PM	3:04 PM	Moon	Moonset	
5:40 PM	5:40 PM	Sun	Sunset	
7:02 PM	7:02 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 135.7 Alt 63)	
7:06 PM	7:06 PM	Twilight	Astronomical Twilight ends	
8:54 PM	8:54 PM	Jup GRS	GRS Transit (CML=189)	
9:51 PM	9:51 PM	Jup Sats	I.Tr.I	
11:06 PM	11:06 PM	Jup Sats	I.Sh.I	

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

Calendar

	Start	End	Category	Description
8 Feb 2013	12:01 AM	12:01 AM	Jup Sats	I.Tr.E
	1:17 AM	1:17 AM	Jup Sats	I.Sh.E
	2:20 AM	2:20 AM	Jupiter	Jupiter sets
	5:28 AM	5:28 AM	Moon	Moonrise
	5:35 AM	5:35 AM	Twilight	Astronomical Twilight begins
	6:50 AM	6:50 AM	Jup GRS	GRS Transit (CML=189)
	7:02 AM	7:02 AM	Sun	Sunrise
	12:02 PM	12:02 PM	Jupiter	Jupiter rises
	3:00 PM	3:00 PM	Diary	Mercury 0.3N of Mars
	4:12 PM	4:12 PM	Moon	Moonset
	4:46 PM	4:46 PM	Jup GRS	GRS Transit (CML=189)
	5:41 PM	5:41 PM	Sun	Sunset
	6:12 PM	6:12 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 132.5 Alt 30)
	6:12 PM	6:12 PM	Iridium Flare	CHES:Iridium 95 Flares at mag.-0.1 (Azm 191 Alt 40)
	6:38 PM	6:38 PM	Iridium Flare	CHES:Iridium 96 Flares at mag. 1.9 (Azm 184 Alt 40)
	7:00 PM	7:00 PM	Meetings	NAS Observing Session (Gates Co., NC)
	7:07 PM	7:07 PM	Twilight	Astronomical Twilight ends
	7:08 PM	7:08 PM	Jup Sats	I.Oc.D
	7:16 PM	7:16 PM	Jup Sats	II.Sh.E
	7:48 PM	7:48 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (Azm 306.2 Alt 24)
	10:36 PM	10:36 PM	Jup Sats	I.Ec.R
9 Feb 2013	2:16 AM	2:16 AM	Jupiter	Jupiter sets
	2:42 AM	2:42 AM	Jup GRS	GRS Transit (CML=189)
	5:34 AM	5:34 AM	Twilight	Astronomical Twilight begins
	6:00 AM	6:00 AM	Diary	Venus 5.7S of Moon
	6:12 AM	6:12 AM	Moon	Moonrise
	7:01 AM	7:01 AM	Sun	Sunrise
	11:58 AM	11:58 AM	Jupiter	Jupiter rises
	12:38 PM	12:38 PM	Jup GRS	GRS Transit (CML=189)
	5:21 PM	5:21 PM	Moon	Moonset
	5:42 PM	5:42 PM	Sun	Sunset
	6:06 PM	6:06 PM	Iridium Flare	CHES:Iridium 30 Flares at mag.-4.6 (Azm 192 Alt 40)
	6:30 PM	6:30 PM	Jup Sats	I.Tr.E
	6:57 PM	6:57 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 323.3 Alt 44)
	7:08 PM	7:08 PM	Twilight	Astronomical Twilight ends
	7:46 PM	7:46 PM	Jup Sats	I.Sh.E
	10:33 PM	10:33 PM	Jup GRS	GRS Transit (CML=189)
10 Feb 2013	2:13 AM	2:13 AM	Jupiter	Jupiter sets
	2:33 AM	2:33 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)

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

Calendar

	Start	End	Category	Description
10 Feb 2013	3:00 AM	3:00 AM	Diary	NEW MOON
	5:33 AM	5:33 AM	Twilight	Astronomical Twilight begins
	6:44 AM	6:44 AM	Iridium Flare	CHES:Iridium 96 Flares at mag.-5.3 (Azm 358 Alt 63)
	6:51 AM	6:51 AM	Moon	Moonrise
	7:00 AM	7:00 AM	Sun	Sunrise
	8:29 AM	8:29 AM	Jup GRS	GRS Transit (CML=189)
	11:54 AM	11:54 AM	Jupiter	Jupiter rises
	1:57 PM	1:57 PM	Iridium Flare	CHES:Iridium 14 Flares at mag.-4.2 (Azm 215 Alt 44)
	5:43 PM	5:43 PM	Sun	Sunset
	6:07 PM	6:07 PM	Sat Pass (ISS)	CHES:ISS Passes SW to NE (Azm 326.1 Alt 87)
	6:25 PM	6:25 PM	Jup GRS	GRS Transit (CML=189)
	6:29 PM	6:29 PM	Moon	Moonset
	7:09 PM	7:09 PM	Twilight	Astronomical Twilight ends
	9:00 PM	9:00 PM	Diary	Neptune 5.5S of Moon
11 Feb 2013	2:09 AM	2:09 AM	Jupiter	Jupiter sets
	4:21 AM	4:21 AM	Jup GRS	GRS Transit (CML=189)
	5:00 AM	5:00 AM	Diary	Mars 5.8S of Moon
	5:32 AM	5:32 AM	Twilight	Astronomical Twilight begins
	6:59 AM	6:59 AM	Sun	Sunrise
	7:27 AM	7:27 AM	Moon	Moonrise
	9:00 AM	9:00 AM	Diary	Mercury 4.9S of Moon
	11:50 AM	11:50 AM	Jupiter	Jupiter rises
	2:16 PM	2:16 PM	Jup GRS	GRS Transit (CML=189)
	4:37 PM	4:37 PM	Iridium Flare	CHES:Iridium 23 Flares at mag.-4.1 (Azm 237 Alt 17)
	4:45 PM	4:45 PM	Iridium Flare	CHES:Iridium 76 Flares at mag.-4.4 (Azm 253 Alt 18)
	5:44 PM	5:44 PM	Sun	Sunset
	6:22 PM	6:22 PM	Jup Sats	III.Oc.D
	6:53 PM	6:53 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (Azm 330.6 Alt 20)
	7:10 PM	7:10 PM	Twilight	Astronomical Twilight ends
	7:34 PM	7:34 PM	Moon	Moonset
	8:41 PM	8:41 PM	Jup Sats	III.Oc.R
	11:34 PM	11:34 PM	Jup Sats	III.Ec.D
12 Feb 2013	12:12 AM	12:12 AM	Jup GRS	GRS Transit (CML=189)
	2:05 AM	2:05 AM	Jupiter	Jupiter sets
	5:31 AM	5:31 AM	Twilight	Astronomical Twilight begins
	6:11 AM	6:11 AM	Iridium Flare	CHES:Iridium 91 Flares at mag.-0.6 (Azm 354 Alt 52)
	6:58 AM	6:58 AM	Sun	Sunrise
	8:01 AM	8:01 AM	Moon	Moonrise
	10:08 AM	10:08 AM	Jup GRS	GRS Transit (CML=189)

Norfolk Astronomical Society Astronomical Calendar

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

Calendar

	Start	End	Category	Description
12 Feb 2013	11:46 AM	11:46 AM	Jupiter	Jupiter rises
	4:39 PM	4:39 PM	Iridium Flare	CHES:Iridium 46 Flares at mag. -4.4 (Azm 251 Alt 19)
	5:45 PM	5:45 PM	Sun	Sunset
	6:02 PM	6:02 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (Azm 325.6 Alt 32)
	7:11 PM	7:11 PM	Twilight	Astronomical Twilight ends
	7:33 PM	7:33 PM	Iridium Flare	CHES:Iridium 35 Flares at mag. 0.5 (Azm 152 Alt 40)
	8:04 PM	8:04 PM	Jup GRS	GRS Transit (CML=189)
	8:37 PM	8:37 PM	Moon	Moonset
	11:22 PM	11:22 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
13 Feb 2013	2:01 AM	2:01 AM	Jupiter	Jupiter sets
	5:30 AM	5:30 AM	Twilight	Astronomical Twilight begins
	5:59 AM	5:59 AM	Jup GRS	GRS Transit (CML=189)
	6:05 AM	6:05 AM	Iridium Flare	CHES:Iridium 59 Flares at mag. 0.1 (Azm 354 Alt 49)
	6:57 AM	6:57 AM	Sun	Sunrise
	8:00 AM	8:00 AM	Diary	Uranus 4.2S of Moon
	8:34 AM	8:34 AM	Moon	Moonrise
	11:43 AM	11:43 AM	Jupiter	Jupiter rises
	3:55 PM	3:55 PM	Jup GRS	GRS Transit (CML=189)
	5:46 PM	5:46 PM	Sun	Sunset
	7:12 PM	7:12 PM	Twilight	Astronomical Twilight ends
	7:27 PM	7:27 PM	Iridium Flare	CHES:Iridium 6 Flares at mag. -7.6 (Azm 150 Alt 39)
	9:38 PM	9:38 PM	Moon	Moonset
	9:54 PM	9:54 PM	Jup Sats	II.Oc.D
14 Feb 2013	12:21 AM	12:21 AM	Jup Sats	II.Oc.R
	12:33 AM	12:33 AM	Jup Sats	II.Ec.D
	1:51 AM	1:51 AM	Jup GRS	GRS Transit (CML=189)
	1:58 AM	1:58 AM	Jupiter	Jupiter sets
	5:29 AM	5:29 AM	Twilight	Astronomical Twilight begins
	5:58 AM	5:58 AM	Iridium Flare	CHES:Iridium 33 Flares at mag. -8.0 (Azm 357 Alt 48)
	5:59 AM	5:59 AM	Iridium Flare	CHES:Iridium 95 Flares at mag. -1.4 (Azm 355 Alt 48)
	5:59 AM	5:59 AM	Iridium Flare	CHES:Iridium 28 Flares at mag. 1.0 (Azm 353 Alt 47)
	6:56 AM	6:56 AM	Sun	Sunrise
	9:07 AM	9:07 AM	Moon	Moonrise
	9:55 AM	9:55 AM	Iridium Flare	CHES:Iridium 10 Flares at mag. -7.0 (Azm 151 Alt 59)
	11:39 AM	11:39 AM	Jupiter	Jupiter rises
	11:47 AM	11:47 AM	Jup GRS	GRS Transit (CML=189)
	5:47 PM	5:47 PM	Sun	Sunset
	5:57 PM	5:57 PM	Sat Pass (ISS)	CHES:ISS Passes W to NE (Azm 333.7 Alt 17)
	7:13 PM	7:13 PM	Twilight	Astronomical Twilight ends

Norfolk Astronomical Society Astronomical Calendar

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

Calendar

	Start	End	Category	Description
14 Feb 2013	7:23 PM	7:23 PM	Iridium Flare	CHES:Iridium 36 Flares at mag.-2.6 (Azm 153 Alt 41)
	9:42 PM	9:42 PM	Jup GRS	GRS Transit (CML=189)
	10:38 PM	10:38 PM	Moon	Moonset
	11:44 PM	11:44 PM	Jup Sats	I.Tr.I
15 Feb 2013	1:02 AM	1:02 AM	Jup Sats	I.Sh.I
	1:54 AM	1:54 AM	Jupiter	Jupiter sets
	5:28 AM	5:28 AM	Twilight	Astronomical Twilight begins
	5:53 AM	5:53 AM	Iridium Flare	CHES:Iridium 30 Flares at mag.-1.0 (Azm 355 Alt 46)
	6:55 AM	6:55 AM	Sun	Sunrise
	7:38 AM	7:38 AM	Jup GRS	GRS Transit (CML=189)
	9:41 AM	9:41 AM	Moon	Moonrise
	11:35 AM	11:35 AM	Jupiter	Jupiter rises
	4:12 PM	4:12 PM	Iridium Flare	CHES:Iridium 76 Flares at mag.-4.1 (Azm 245 Alt 22)
	5:34 PM	5:34 PM	Jup GRS	GRS Transit (CML=189)
	5:39 PM	5:39 PM	Iridium Flare	CHES:Iridium 33 Flares at mag.-5.6 (Azm 204 Alt 40)
	5:48 PM	5:48 PM	Sun	Sunset
	7:14 PM	7:14 PM	Twilight	Astronomical Twilight ends
	7:15 PM	7:15 PM	Iridium Flare	CHES:Iridium 19 Flares at mag. 1.8 (Azm 150 Alt 39)
	7:18 PM	7:18 PM	Jup Sats	II.Tr.E
	7:27 PM	7:27 PM	Jup Sats	II.Sh.I
	8:11 PM	8:11 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	9:01 PM	9:01 PM	Jup Sats	I.Oc.D
	9:51 PM	9:51 PM	Jup Sats	II.Sh.E
	11:36 PM	11:36 PM	Moon	Moonset
16 Feb 2013	12:31 AM	12:31 AM	Jup Sats	I.Ec.R
	1:50 AM	1:50 AM	Jupiter	Jupiter sets
	3:30 AM	3:30 AM	Jup GRS	GRS Transit (CML=189)
	5:27 AM	5:27 AM	Twilight	Astronomical Twilight begins
	5:47 AM	5:47 AM	Iridium Flare	CHES:Iridium 57 Flares at mag.-4.7 (Azm 357 Alt 44)
	6:54 AM	6:54 AM	Sun	Sunrise
	10:18 AM	10:18 AM	Moon	Moonrise
	11:31 AM	11:31 AM	Jupiter	Jupiter rises
	1:00 PM	1:00 PM	Diary	Mercury greatest elong E(18)
	1:25 PM	1:25 PM	Jup GRS	GRS Transit (CML=189)
	5:49 PM	5:49 PM	Sun	Sunset
	6:13 PM	6:13 PM	Jup Sats	I.Tr.I
	7:15 PM	7:15 PM	Twilight	Astronomical Twilight ends
	7:30 PM	7:30 PM	Jup Sats	I.Sh.I
	8:24 PM	8:24 PM	Jup Sats	I.Tr.E

Norfolk Astronomical Society Astronomical Calendar

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

Calendar

	Start	End	Category	Description
16 Feb 2013	9:42 PM	9:42 PM	Jup Sats	I.Sh.E
	11:21 PM	11:21 PM	Jup GRS	GRS Transit (CML=189)
17 Feb 2013	12:31 AM	12:31 AM	Moon	Moonset
	1:47 AM	1:47 AM	Jupiter	Jupiter sets
	5:26 AM	5:26 AM	Twilight	Astronomical Twilight begins
	5:41 AM	5:41 AM	Iridium Flare	CHES:Iridium 60 Flares at mag.-2.6 (Azm 357 Alt 42)
	6:52 AM	6:52 AM	Sun	Sunrise
	9:17 AM	9:17 AM	Jup GRS	GRS Transit (CML=189)
	10:58 AM	10:58 AM	Moon	Moonrise
	11:28 AM	11:28 AM	Jupiter	Jupiter rises
	4:00 PM	4:00 PM	Diary	FIRST QUARTER
	5:50 PM	5:50 PM	Sun	Sunset
	7:00 PM	7:00 PM	Jup Sats	I.Ec.R
	7:11 PM	7:11 PM	Iridium Flare	CHES:Iridium 4 Flares at mag. 0.3 (Azm 162 Alt 45)
	7:12 PM	7:12 PM	Iridium Flare	CHES:Iridium 8 Flares at mag. 0.9 (Azm 162 Alt 45)
	7:13 PM	7:13 PM	Jup GRS	GRS Transit (CML=189)
7:16 PM	7:16 PM	Twilight	Astronomical Twilight ends	
18 Feb 2013	12:00 AM	12:00 AM	Public Holiday	President's Day holiday
	1:25 AM	1:25 AM	Moon	Moonset
	1:43 AM	1:43 AM	Jupiter	Jupiter sets
	5:09 AM	5:09 AM	Jup GRS	GRS Transit (CML=189)
	5:25 AM	5:25 AM	Twilight	Astronomical Twilight begins
	5:35 AM	5:35 AM	Iridium Flare	CHES:Iridium 29 Flares at mag.-7.7 (Azm 358 Alt 41)
	6:51 AM	6:51 AM	Sun	Sunrise
	7:00 AM	7:00 AM	Diary	Jupiter 0.9N of Moon Occn
	11:24 AM	11:24 AM	Jupiter	Jupiter rises
	11:41 AM	11:41 AM	Moon	Moonrise
	2:00 PM	2:00 PM	Diary	Aldebaran 3.8S of Moon
	3:04 PM	3:04 PM	Jup GRS	GRS Transit (CML=189)
	5:00 PM	5:00 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	5:51 PM	5:51 PM	Sun	Sunset
7:06 PM	7:06 PM	Iridium Flare	CHES:Iridium 61 Flares at mag.-6.5 (Azm 160 Alt 44)	
7:17 PM	7:17 PM	Twilight	Astronomical Twilight ends	
10:16 PM	10:16 PM	Jup Sats	III.Oc.D	
19 Feb 2013	12:36 AM	12:36 AM	Jup Sats	III.Oc.R
	1:00 AM	1:00 AM	Jup GRS	GRS Transit (CML=189)
	1:40 AM	1:40 AM	Jupiter	Jupiter sets
	2:00 AM	2:00 AM	Diary	Moon at apogee
	2:15 AM	2:15 AM	Moon	Moonset

Norfolk Astronomical Society Astronomical Calendar

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

Calendar

	Start	End	Category	Description
19 Feb 2013	5:24 AM	5:24 AM	Twilight	Astronomical Twilight begins
	5:29 AM	5:29 AM	Iridium Flare	CHES:Iridium 32 Flares at mag.-3.8 (Azm 359 Alt 39)
	6:00 AM	6:00 AM	Diary	Saturn stationary
	6:50 AM	6:50 AM	Sun	Sunrise
	10:56 AM	10:56 AM	Jup GRS	GRS Transit (CML=189)
	11:20 AM	11:20 AM	Jupiter	Jupiter rises
	12:28 PM	12:28 PM	Moon	Moonrise
	5:52 PM	5:52 PM	Sun	Sunset
	7:00 PM	7:00 PM	Iridium Flare	CHES:Iridium 35 Flares at mag.-1.5 (Azm 160 Alt 44)
	7:18 PM	7:18 PM	Twilight	Astronomical Twilight ends
	8:52 PM	8:52 PM	Jup GRS	GRS Transit (CML=189)
20 Feb 2013	1:36 AM	1:36 AM	Jupiter	Jupiter sets
	3:03 AM	3:03 AM	Moon	Moonset
	5:23 AM	5:23 AM	Twilight	Astronomical Twilight begins
	5:23 AM	5:23 AM	Iridium Flare	CHES:Iridium 58 Flares at mag. 0.8 (Azm 001 Alt 37)
	6:48 AM	6:48 AM	Jup GRS	GRS Transit (CML=189)
	6:49 AM	6:49 AM	Sun	Sunrise
	11:17 AM	11:17 AM	Jupiter	Jupiter rises
	1:18 PM	1:18 PM	Moon	Moonrise
	4:43 PM	4:43 PM	Jup GRS	GRS Transit (CML=189)
	5:53 PM	5:53 PM	Sun	Sunset
	7:18 PM	7:18 PM	Twilight	Astronomical Twilight ends
21 Feb 2013	12:29 AM	12:29 AM	Jup Sats	II.Oc.D
	1:32 AM	1:32 AM	Jupiter	Jupiter sets
	2:39 AM	2:39 AM	Jup GRS	GRS Transit (CML=189)
	3:00 AM	3:00 AM	Diary	Neptune at conjunction
	3:47 AM	3:47 AM	Moon	Moonset
	5:17 AM	5:17 AM	Iridium Flare	CHES:Iridium 55 Flares at mag.-1.5 (Azm 000 Alt 35)
	5:22 AM	5:22 AM	Twilight	Astronomical Twilight begins
	6:48 AM	6:48 AM	Sun	Sunrise
	11:13 AM	11:13 AM	Jupiter	Jupiter rises
	12:35 PM	12:35 PM	Jup GRS	GRS Transit (CML=189)
	1:49 PM	1:49 PM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	2:12 PM	2:12 PM	Moon	Moonrise
	5:54 PM	5:54 PM	Sun	Sunset
	7:19 PM	7:19 PM	Twilight	Astronomical Twilight ends
	10:30 PM	10:30 PM	Jup GRS	GRS Transit (CML=189)

Norfolk Astronomical Society Astronomical Calendar

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

Calendar

	Start	End	Category	Description
22 Feb 2013	1:29 AM	1:29 AM	Jupiter	Jupiter sets
	4:27 AM	4:27 AM	Moon	Moonset
	5:11 AM	5:11 AM	Iridium Flare	CHES:Iridium 31 Flares at mag. 0.7 (AzM 002 Alt 33)
	5:21 AM	5:21 AM	Twilight	Astronomical Twilight begins
	6:46 AM	6:46 AM	Sun	Sunrise
	8:26 AM	8:26 AM	Jup GRS	GRS Transit (CML=189)
	11:09 AM	11:09 AM	Jupiter	Jupiter rises
	3:00 PM	3:00 PM	Diary	Mercury stationary
	3:08 PM	3:08 PM	Moon	Moonrise
	5:55 PM	5:55 PM	Sun	Sunset
	6:22 PM	6:22 PM	Jup GRS	GRS Transit (CML=189)
	7:17 PM	7:17 PM	Sat Pass (ISS)	CHES:ISS Passes NW to E (AzM 23.7 Alt 20)
	7:20 PM	7:20 PM	Twilight	Astronomical Twilight ends
	7:27 PM	7:27 PM	Jup Sats	II.Tr.I
	8:02 PM	8:02 PM	Jup Sats	III.Sh.E
	9:52 PM	9:52 PM	Jup Sats	II.Tr.E
	10:03 PM	10:03 PM	Jup Sats	II.Sh.I
	10:55 PM	10:55 PM	Jup Sats	I.Oc.D
23 Feb 2013	12:27 AM	12:27 AM	Jup Sats	II.Sh.E
	1:25 AM	1:25 AM	Jupiter	Jupiter sets
	4:18 AM	4:18 AM	Jup GRS	GRS Transit (CML=189)
	5:04 AM	5:04 AM	Moon	Moonset
	5:19 AM	5:19 AM	Twilight	Astronomical Twilight begins
	6:45 AM	6:45 AM	Sun	Sunrise
	11:05 AM	11:05 AM	Jupiter	Jupiter rises
	2:14 PM	2:14 PM	Jup GRS	GRS Transit (CML=189)
	4:07 PM	4:07 PM	Moon	Moonrise
	5:56 PM	5:56 PM	Sun	Sunset
	6:44 PM	6:44 PM	Iridium Flare	CHES:Iridium 5 Flares at mag.-2.3 (AzM 172 Alt 48)
	7:21 PM	7:21 PM	Twilight	Astronomical Twilight ends
	8:01 PM	8:01 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (AzM 313.1 Alt 25)
	8:08 PM	8:08 PM	Jup Sats	I.Tr.I
	9:26 PM	9:26 PM	Jup Sats	I.Sh.I
	10:19 PM	10:19 PM	Jup Sats	I.Tr.E
	11:38 PM	11:38 PM	Jup Sats	I.Sh.E
24 Feb 2013	12:10 AM	12:10 AM	Jup GRS	GRS Transit (CML=189)
	12:14 AM	12:14 AM	Lunar Occult	Moon occults 5.2 mag. double star ZC1359(D) Kappa Cnc
	1:22 AM	1:22 AM	Jupiter	Jupiter sets
	5:18 AM	5:18 AM	Twilight	Astronomical Twilight begins

Norfolk Astronomical Society Astronomical Calendar

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

Calendar

	Start	End	Category	Description
24 Feb 2013	5:39 AM	5:39 AM	Moon	Moonset
	6:44 AM	6:44 AM	Sun	Sunrise
	10:05 AM	10:05 AM	Jup GRS	GRS Transit (CML=189)
	10:38 AM	10:38 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	11:02 AM	11:02 AM	Jupiter	Jupiter rises
	5:06 PM	5:06 PM	Moon	Moonrise
	5:57 PM	5:57 PM	Sun	Sunset
	6:37 PM	6:37 PM	Iridium Flare	CHES:Iridium 4 Flares at mag.-1.3 (Azm 172 Alt 48)
	6:38 PM	6:38 PM	Iridium Flare	CHES:Iridium 8 Flares at mag.-7.9 (Azm 174 Alt 48)
	6:59 PM	6:59 PM	Jup Sats	I.Ec.R
	7:12 PM	7:12 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 36.7 Alt 43)
	7:22 PM	7:22 PM	Twilight	Astronomical Twilight ends
	8:01 PM	8:01 PM	Jup GRS	GRS Transit (CML=189)
	8:55 PM	8:55 PM	Jup Sats	I.Ec.R
25 Feb 2013	1:18 AM	1:18 AM	Jupiter	Jupiter sets
	3:00 AM	3:00 AM	Diary	Regulus 5.4N of Moon
	5:17 AM	5:17 AM	Twilight	Astronomical Twilight begins
	5:57 AM	5:57 AM	Jup GRS	GRS Transit (CML=189)
	6:13 AM	6:13 AM	Moon	Moonset
	6:43 AM	6:43 AM	Sun	Sunrise
	10:58 AM	10:58 AM	Jupiter	Jupiter rises
	3:53 PM	3:53 PM	Jup GRS	GRS Transit (CML=189)
	4:00 PM	4:00 PM	Diary	FULL MOON
	4:56 PM	4:56 PM	Iridium Flare	CHES:Iridium 55 Flares at mag.-6.3 (Azm 225 Alt 35)
	5:58 PM	5:58 PM	Sun	Sunset
	6:00 PM	6:00 PM	Meetings	NAS Regular Meeting at Chesapeake Public Library Major Hillard branch
	6:07 PM	6:07 PM	Moon	Moonrise
	6:20 PM	6:20 PM	Sat Pass (ISS)	CHES:ISS Passes NW to E (Azm 31.6 Alt 25)
	6:32 PM	6:32 PM	Iridium Flare	CHES:Iridium 61 Flares at mag. 0.7 (Azm 172 Alt 48)
	7:23 PM	7:23 PM	Twilight	Astronomical Twilight ends
	7:57 PM	7:57 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (Azm 241.3 Alt 31)
26 Feb 2013	1:15 AM	1:15 AM	Jupiter	Jupiter sets
	1:49 AM	1:49 AM	Jup GRS	GRS Transit (CML=189)
	3:00 AM	3:00 AM	Diary	Mercury 4.1N of Mars
	4:48 AM	4:48 AM	Iridium Flare	CHES:Iridium 30 Flares at mag. 1.7 (Azm 003 Alt 22)
	5:16 AM	5:16 AM	Twilight	Astronomical Twilight begins
	6:41 AM	6:41 AM	Sun	Sunrise
	6:46 AM	6:46 AM	Moon	Moonset
	10:55 AM	10:55 AM	Jupiter	Jupiter rises

Norfolk Astronomical Society Astronomical Calendar

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

Calendar

	Start	End	Category	Description
26 Feb 2013	11:44 AM	11:44 AM	Jup GRS	GRS Transit (CML=189)
	5:59 PM	5:59 PM	Sun	Sunset
	7:06 PM	7:06 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (AzM 223.0 Alt 66)
	7:10 PM	7:10 PM	Moon	Moonrise
	7:24 PM	7:24 PM	Twilight	Astronomical Twilight ends
	9:40 PM	9:40 PM	Jup GRS	GRS Transit (CML=189)
27 Feb 2013	1:06 AM	1:06 AM	Lunar Occult	Moon occults 6.4 mag. double star ZC1688(r)
	1:11 AM	1:11 AM	Jupiter	Jupiter sets
	4:42 AM	4:42 AM	Iridium Flare	CHES:Iridium 57 Flares at mag. 1.7 (AzM 004 Alt 19)
	5:14 AM	5:14 AM	Twilight	Astronomical Twilight begins
	6:40 AM	6:40 AM	Sun	Sunrise
	7:19 AM	7:19 AM	Moon	Moonset
	7:27 AM	7:27 AM	Algol Minima	Algol at mag. +3.4 minimum (+/-5 hours)
	7:36 AM	7:36 AM	Jup GRS	GRS Transit (CML=189)
	10:51 AM	10:51 AM	Jupiter	Jupiter rises
	5:32 PM	5:32 PM	Jup GRS	GRS Transit (CML=189)
	6:00 PM	6:00 PM	Sun	Sunset
	6:15 PM	6:15 PM	Sat Pass (ISS)	CHES:ISS Passes NW to SE (AzM 39.0 Alt 60)
	7:25 PM	7:25 PM	Twilight	Astronomical Twilight ends
	8:13 PM	8:13 PM	Moon	Moonrise
28 Feb 2013	1:08 AM	1:08 AM	Jupiter	Jupiter sets
	3:28 AM	3:28 AM	Jup GRS	GRS Transit (CML=189)
	4:37 AM	4:37 AM	Iridium Flare	CHES:Iridium 60 Flares at mag.-0.7 (AzM 003 Alt 17)
	5:13 AM	5:13 AM	Twilight	Astronomical Twilight begins
	6:39 AM	6:39 AM	Sun	Sunrise
	7:54 AM	7:54 AM	Moon	Moonset
	9:00 AM	9:00 AM	Diary	Venus 0.7S of Neptune
	10:47 AM	10:47 AM	Jupiter	Jupiter rises
	1:23 PM	1:23 PM	Jup GRS	GRS Transit (CML=189)
	6:01 PM	6:01 PM	Sun	Sunset
	7:00 PM	7:00 PM	Sat Pass (ISS)	CHES:ISS Passes NW to S (AzM 228.9 Alt 23)
	7:26 PM	7:26 PM	Twilight	Astronomical Twilight ends
	9:18 PM	9:18 PM	Moon	Moonrise
	11:19 PM	11:19 PM	Jup GRS	GRS Transit (CML=189)