



THE ROYAL ASTRONOMICAL
SOCIETY OF CANADA

2018

OBSERVER'S CALENDAR



JANUARY

THE RUNNING MAN He runs through this ethereal reflection nebula located immediately north of the bright Orion Nebula in the Sword hanging from the Belt of Orion. | IMAGE BY RÉMI LECASSE

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY																																																																																																								
<p>Times in the upper half of the daily boxes are in the 24-hour clock; times in the lower half are given in the 12-hour clock.</p> <p>Eastern time is used, except for rise and set events and changes to/from Daylight Saving Time, which are given in local time.</p> <p>Times for events involving planetary satellites refer to the start time.</p> <p>Detailed instructions on adjusting times for location are given in the back pages.</p> <p><i>Please see back pages for photo details and additional information about this Calendar.</i></p>	<p>40°N 50°N Set 6:34 7:07 Rise 16:41 16:08 1</p> <p>Full Moon 21:24</p> <p>NEW YEAR'S DAY Mercury at greatest elongation (23° W) this morning (m=-0.3) Closest lunar perigee of the year ~356565 km 5:56 pm ET Today's full Moon is the Chief Moon</p>	<p>40°N 50°N Set 7:38 8:11 Rise 17:47 17:15 2</p> <p>8 Flora at opposition (m=8.2)</p>	<p>40°N 50°N Set 8:35 9:04 Rise 18:57 18:30 3</p> <p>Earth at perihelion (147,097,233 km) 1:34 am ET Quadrantid meteors (ZHR=120) 4 pm, best seen in predawn hours today</p>	<p>40°N 50°N Set 9:23 9:47 Rise 20:08 19:47 4</p>	<p>40°N 50°N Set 10:04 10:22 Rise 21:18 21:03 5</p> <p>Moon 0.2° N of Regulus this morning</p>	<p>40°N 50°N Set 10:41 10:51 Rise 22:24 22:17 Sunrise 7:22 7:58 Sunset 16:50 16:15 6</p>																																																																																																								
<p>40°N 50°N Set 11:14 11:17 Rise 23:28 23:28 7</p> <p>Follow Arcturus unaided into daylight this week Mars 0.2° below Jupiter this evening</p>	<p>40°N 50°N Set --- --- Rise --- --- 8</p> <p>Last Quarter 17:25</p>	<p>40°N 50°N Rise 0:30 0:36 Set 12:15 12:06 9</p> <p>Venus at superior conjunction</p>	<p>40°N 50°N Rise 1:30 1:42 Set 12:46 12:30 10</p>	<p>40°N 50°N Rise 2:28 2:47 Set 13:18 12:57 11</p> <p>Moon, Jupiter, and Mars within 5° this morning</p>	<p>40°N 50°N Rise 3:25 3:49 Set 13:53 13:27 12</p>	<p>40°N 50°N Rise 4:21 4:49 Set 14:31 14:02 Sunrise 7:21 7:54 Sunset 16:57 16:24 13</p>																																																																																																								
<p>40°N 50°N Rise 5:14 5:46 Set 15:14 14:41 14</p> <p>Furthest lunar apogee of the year ~406,459 km 10:11 pm ET</p>	<p>40°N 50°N Rise 6:05 6:38 Set 16:00 15:27 15</p> <p>MARTIN LUTHER KING JR. DAY (USA)</p>	<p>40°N 50°N Rise 6:51 7:24 Set 16:51 16:19 16</p> <p>New Moon 21:17</p> <p>New Moon – Gegenschein visible from a very dark site – highest in S at midnight</p>	<p>40°N 50°N Rise 7:34 8:04 Set 17:45 17:16 17</p> <p>Young crescent Moon, 19 hours after new in E, 23 hours after new in W, soon after sunset</p>	<p>40°N 50°N Rise 8:13 8:39 Set 18:41 18:17 18</p>	<p>40°N 50°N Rise 8:49 9:10 Set 19:39 19:20 19</p> <p>Two shadows on Jupiter visible in E of N. America 4:43 am</p>	<p>40°N 50°N Rise 9:22 9:37 Set 20:38 20:26 Sunrise 7:18 7:48 Sunset 17:05 16:34 20</p>																																																																																																								
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FEBRUARY

THE BUBBLE NEBULA Resembling a soap-bubble in the constellation Cassiopeia, NGC 7635 is fenced by a giant molecular cloud glowing from the hot, massive central star that is creating the Bubble with its stellar wind. | IMAGE BY LYNN HILBORN

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

THE PLANETS THIS MONTH

Mercury	not observable this month
Venus	very low in W in evening twilight by month end
Mars	rises in ESE near 3 am, in SSE near dawn
Jupiter	rises in ESE near 2 am, high in S near dawn
Saturn	rises in ESE after 4 am, in SE near dawn

JAN	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	20
	21	22	23	24	25	26	27
	28	29	30	31			
MAR	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	20	21	22	23	24
	25	26	27	28	29	30	31

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Detailed instructions on adjusting times for location are given in the back pages.

Please see back pages for photo details and additional information about this Calendar.




40°N 50°N
Set 7:55 8:15
Rise 18:53 18:35

1



40°N 50°N
Set 8:35 8:49
Rise 20:03 19:52


2



40°N 50°N
Set 9:10 9:17
Rise 21:11 21:07
Sunrise 7:07 7:31
Sunset 17:22 16:58

3

Zodiacal light readily visible from a dark site in W after evening twilight for the next 2 weeks



40°N 50°N
Set 9:43 9:43
Rise 22:16 22:19

4




40°N 50°N
Set 10:15 10:08
Rise 23:18 23:28

5



40°N 50°N
Set --- ---
Rise --- ---

6



40°N 50°N
Rise 0:18 0:35
Set 11:18 11:00


7

Last Quarter
10:54



40°N 50°N
Rise 1:17 1:39
Set 11:53 11:29

8



40°N 50°N
Rise 2:14 2:41
Set 12:30 12:01


9



40°N 50°N
Rise 3:08 3:39
Set 13:11 12:39
Sunrise 6:59 7:19
Sunset 17:30 17:10


10

Lunar Curtiss X visible in E of N. America 3 am
Moon 4° left of Mars this morning



40°N 50°N
Rise 4:00 4:32
Set 13:56 13:23

11




40°N 50°N
Rise 4:48 5:20
Set 14:45 14:13

12




40°N 50°N
Rise 5:32 6:03
Set 15:38 15:08

13



40°N 50°N
Rise 6:13 6:40
Set 16:34 16:08

14



40°N 50°N
Rise 6:50 7:12
Set 17:32 17:11


15

New Moon
16:05



40°N 50°N
Rise 7:24 7:41
Set 18:31 18:17

16



40°N 50°N
Rise 7:56 8:07
Set 19:32 19:24
Sunrise 6:50 7:07
Sunset 17:38 17:22

17

Moon 2° N of Saturn this morning
Jean Foucault, known for Foucault pendulum, died 150 years ago

FAMILY DAY (BC)
Winter Star Party, Florida Keys, www.scas.org/wsp.html (through Feb 18)

VALENTINE'S DAY


Partial solar eclipse visible from S South America to the South Pole

CHINESE NEW YEAR (DOG)
Gerard Kuiper discovered Miranda, 5th moon of Uranus, 70 years ago



40°N 50°N
Rise 8:26 8:31
Set 20:33 20:32

18



40°N 50°N
Rise 8:57 8:55
Set 21:36 21:41

19




40°N 50°N
Rise 9:28 9:20
Set 22:40 22:52

20



40°N 50°N
Rise 10:02 9:47
Set 23:45 ---

21




40°N 50°N
Set --- 0:04
Rise 10:39 10:18

22



40°N 50°N
Set 0:51 1:16
Rise 11:21 10:54

23



40°N 50°N
Set 1:57 2:27
Rise 12:10 11:39
Sunrise 6:41 6:53
Sunset 17:46 17:34

24

LOUIS RIEL DAY (MB)
FAMILY DAY (AB, NB, ON, SK)
HERITAGE DAY (NS)
ISLANDER DAY (PE)
PRESIDENTS' DAY (USA)

Lunar Straight Wall this evening



40°N 50°N
Set 3:02 3:34
Rise 13:06 12:33

25



40°N 50°N
Set 4:02 4:34
Rise 14:09 13:37

26



40°N 50°N
Set 4:56 5:25
Rise 15:17 14:49

27



40°N 50°N
Set 5:44 6:08
Rise 16:28 16:06

28

51 Nemausa at opposition (m=9.8)



MARCH

CONTRASTS IN GALAXIES Bode's Galaxy (M81), the massive spiral galaxy in the image, has a dramatic effect on the aptly named Cigar Galaxy (M82), a starburst galaxy whose deformation and increased star formation is caused by the gravitational effects of its larger neighbour. | IMAGE BY KEVIN BLACK

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

THE PLANETS THIS MONTH

Mercury	low in west at mid-month
Venus	very low in W in evening twilight
Mars	rises in ESE near 3 am, in S near dawn
Jupiter	rises in ESE near midnight, in SSW near dawn
Saturn	rises in ESE near 4 am, in SSE near dawn

FEB	S	M	T	W	T	F	S
						1	2
	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			
APR	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	20	21
	22	23	24	25	26	27	28
	29	30					

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Set 40°N 50°N 6:26 6:44
Rise 17:38 17:24

1


Full Moon
19:51

Moon 0.2° N of Regulus early this morning
Today's full Moon is the Snow Blinding Moon



Set 40°N 50°N 7:04 7:14
Rise 18:48 18:41

2



Set 40°N 50°N 7:38 7:42
Rise 19:55 19:55
Sunrise 6:31 6:39
Sunset 17:54 17:46


3



Set 40°N 50°N 8:11 8:07
Rise 21:00 21:08

4

Spot Capella unaided before sunset this week



Set 40°N 50°N 8:43 8:33
Rise 22:03 22:17

5

Zodiacal light readily visible from a dark site in W after evening twilight for the next 2 weeks



Set 40°N 50°N 9:15 8:59
Rise 23:04 23:24

6



Set 40°N 50°N 9:50 9:28
Rise --- ---

7

Moon 4° N of Jupiter this morning



Rise 40°N 50°N 0:03 0:29
Set 10:26 9:59

8



Rise 40°N 50°N 0:59 1:29
Set 11:06 10:36

9

Last Quarter
6:20


Jupiter stationary



Rise 40°N 50°N 1:53 2:25
Set 11:50 11:17
Sunrise 6:20 6:25
Sunset 18:02 17:57

10


Moon, Saturn, and Mars form large triangle this morning



Rise 40°N 50°N 3:42 4:15
Set 13:38 13:05

11

Daylight Saving Time begins 2 am



Rise 40°N 50°N 4:28 5:00
Set 14:29 13:58

12



Rise 40°N 50°N 5:10 5:39
Set 15:24 14:56

13



Rise 40°N 50°N 5:48 6:13
Set 16:21 15:58

14



Rise 40°N 50°N 6:23 6:43
Set 17:21 17:04

15

Mercury at greatest elongation (18° E) this evening (m=-0.5). Best evening apparition of the year



Rise 40°N 50°N 6:56 7:09
Set 18:22 18:11

16




Rise 40°N 50°N 7:27 7:34
Set 19:24 19:20
Sunrise 7:08 7:09
Sunset 19:09 19:08

17

New Moon
9:12


ST. PATRICK'S DAY (NL)



Rise 40°N 50°N 7:58 7:59
Set 20:27 20:30

18

Moon, Venus, and Mercury within 7° N this evening, difficult after sunset
Saturn 1.5° N of M22 this week



Rise 40°N 50°N 8:30 8:23
Set 21:32 21:42

19

Mars between M8 and M20



Rise 40°N 50°N 9:03 8:50
Set 22:38 22:55

20


Spring equinox 12:15 pm ET



Rise 40°N 50°N 9:39 9:20
Set 23:45 ---

21


BAHÁ'Í NEW YEAR (begins at sunset the previous evening)



Set 40°N 50°N --- 0:08
Rise 10:20 9:54

22

Moon 0.4° N of Aldebaran this evening



Set 40°N 50°N 0:51 1:20
Rise 11:06 10:36

23




Set 40°N 50°N 1:55 2:28
Rise 11:59 11:26
Sunrise 6:57 6:54
Sunset 19:16 19:19

24

First Quarter
11:35


Lunar Straight Wall this evening
Earth Hour (8:30-9:30 pm local) www.earthhour.org

Walter Baade, known for stellar populations, was born 125 years ago



Set 40°N 50°N 2:55 3:28
Rise 12:58 12:26

25



Set 40°N 50°N 3:50 4:21
Rise 14:03 13:33

26



Set 40°N 50°N 4:39 5:05
Rise 15:11 14:46


27

Yuri Gagarin, first man in space, died 50 years ago




Set 40°N 50°N 5:21 5:42
Rise 16:20 16:01

28



Set 40°N 50°N 6:00 6:13
Rise 17:28 17:17


29



Set 40°N 50°N 6:34 6:41
Rise 18:36 18:32

30

GOOD FRIDAY



Set 40°N 50°N 7:07 7:07
Rise 19:42 19:46
Sunrise 6:46 6:39
Sunset 19:23 19:30

31

Full Moon
8:37

FIRST DAY OF PASSOVER (begins at sunset the previous evening)

Today's full Moon is the Maple Sugar Moon



APRIL

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY																																																																																																
 <p>40°N 50°N Set 7:39 7:32 Rise 20:46 20:57</p> <p>1</p> <p>EASTER SUNDAY Spot Sirius unaided before sunset this week Follow Vega unaided into daylight this week Mars 0.5° N of M22 very early morning</p>	 <p>40°N 50°N Set 8:11 7:58 Rise 21:49 22:06</p> <p>2</p> <p>Mars 1.3° south of Saturn this morning</p>	 <p>40°N 50°N Set 8:45 8:25 Rise 22:50 23:13</p> <p>3</p>	 <p>40°N 50°N Set 9:21 8:56 Rise 23:48 ---</p> <p>4</p>	 <p>40°N 50°N Rise --- 0:17 Set 10:00 9:30</p> <p>5</p>	 <p>40°N 50°N Rise 0:44 1:16 Set 10:43 10:10</p> <p>6</p>	 <p>40°N 50°N Rise 1:35 2:09 Set 11:29 10:55 Sunrise 6:35 6:24 Sunset 19:30 19:41</p> <p>7</p> <p>Moon, Saturn, and Mars within 4° this morning</p>																																																																																																
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 <p>40°N 50°N Rise 6:29 6:25 Set 19:18 19:25</p> <p>15</p> <p>New Moon 21:57</p> <p>Friedrich G.W. von Struve, founder of Struve dynasty, was born 225 years ago</p>	 <p>40°N 50°N Rise 7:01 6:51 Set 20:25 20:40</p> <p>16</p> <p>Young crescent Moon, 21 hours after new in E, 25 hours after new in W, soon after sunset</p> <p>International Astronomy Week (Spring) (through April 22)</p>	 <p>40°N 50°N Rise 7:37 7:20 Set 21:33 21:55</p> <p>17</p>	 <p>40°N 50°N Rise 8:17 7:53 Set 22:42 23:10</p> <p>18</p> <p>Saturn stationary</p>	 <p>40°N 50°N Rise 9:02 8:33 Set 23:49 ---</p> <p>19</p>	 <p>40°N 50°N Set --- 0:21 Rise 9:54 9:21</p> <p>20</p>	 <p>40°N 50°N Set 0:52 1:25 Rise 10:52 10:18 Sunrise 6:14 5:55 Sunset 19:45 20:03</p> <p>21</p> <p>International Astronomy Day (Spring) www.astroleague.org/al/astroday/ astrodayform.html</p>																																																																																																
 <p>40°N 50°N Set 1:48 2:21 Rise 11:55 11:24</p> <p>22</p> <p>First Quarter 17:46</p> <p>Lunar X near crater Werner visible in all of N. America 5 pm</p> <p>Lyrid meteors (ZHR=18) 1 pm, best seen in predawn hours today</p>	 <p>40°N 50°N Set 2:38 3:07 Rise 13:01 12:34</p> <p>23</p> <p>ST. GEORGE'S DAY (NL) Lunar Straight Wall this evening</p>	 <p>40°N 50°N Set 3:22 3:45 Rise 14:09 13:48</p> <p>24</p>	 <p>40°N 50°N Set 4:00 4:17 Rise 15:16 15:03</p> <p>25</p>	 <p>40°N 50°N Set 4:35 4:45 Rise 16:23 16:16</p> <p>26</p>	 <p>40°N 50°N Set 5:07 5:10 Rise 17:28 17:29</p> <p>27</p> <p>Rolf Meier discovered C/1978 H1, 1st ever from Canada, 40 years ago</p>	 <p>40°N 50°N Set 5:39 5:34 Rise 18:32 18:40 Sunrise 6:04 5:42 Sunset 19:52 20:14</p> <p>28</p>																																																																																																
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MAY

GREAT HERCULES CLUSTER At 25,000 light-years distance, globular cluster M13 in the constellation Hercules is a Northern Hemispheric highlight in summer evenings. Consisting of roughly 400,000 stars, M13 is just visible to the unaided eye. | IMAGE BY BLAIR MACDONALD

SUNDAY

THE PLANETS THIS MONTH

- Mercury** not observable this month
- Venus** low in WNW in evening twilight
- Mars** rises in ESE after 1 am, in S near dawn
- Jupiter** in SE after dark, transits high in S near 1 am
- Saturn** rises in ESE near midnight, transits in S near 4 am

MONDAY


TUESDAY

WEDNESDAY


THURSDAY

FRIDAY

SATURDAY

 Rise 4:03 4:35
Set 11:02 10:30 **6**

Eta Aquariid meteors (ZHR=50) 3 am
Moon 3° N of Mars this morning
Saturn 1.6° N of M22 this week
Texas Star Party, Fort Davis, TX, www.texasstarparty.org (through May 13)
DAO's 1.8 m Plaskett telescope was first used 100 years ago

 Rise 4:43 5:18
Set 11:57 11:29 **7**

Last Quarter 22:09

 Rise 5:20 5:49
Set 12:54 12:31 **8**


15 Eunomia at opposition (m=9.8)


 Rise 6:54 7:26
Set 13:52 13:36 **9**

Jupiter at opposition (m=-2.5)


 Rise 7:44 8:12
Set 14:53 14:42 **10**

 Rise 8:42 8:08
Set 15:55 15:51 **11**

 Rise 9:45 9:12
Set 16:59 17:03 **12**
Sunrise 5:48 5:19
Sunset 20:06 20:35

 Rise 4:58 4:51
Set 18:05 18:17 **13**

MOTHER'S DAY

 Rise 5:32 5:18
Set 19:14 19:33 **14**

 Rise 6:10 5:49
Set 20:25 20:50 **15**

New Moon 7:48


Mars 0.5° S of M75 very early morning
Johannes Kepler discovered third law of planetary motion 400 years ago


 Rise 6:54 6:27
Set 21:35 22:06 **16**


FIRST DAY OF RAMADAN (begins at sunset the previous evening)

 Rise 7:44 7:12
Set 22:42 23:16 **17**

 Rise 8:42 8:08
Set 23:43 --- **18**

 Rise 9:45 9:12
Set --- 0:17 **19**
Sunrise 5:42 5:09
Sunset 20:12 20:45

 Rise 4:37 4:07
Set 10:52 10:23 **20**


 Rise 5:12 4:48
Set 12:01 11:38 **21**

First Quarter 23:49

VICTORIA DAY (CANADA)
Moon 0.6° N of Regulus this evening


 Rise 5:03 4:22
Set 13:08 12:52 **22**

Lunar X near crater Werner visible in extreme W of N. America 3 am
Lunar Straight Wall this evening


 Rise 6:32 5:51
Set 14:15 14:06 **23**


 Rise 7:11 6:36
Set 15:20 15:18 **24**


RTMC Astronomy Expo, Big Bear, CA, www.rtmcastronomyexpo.org (through May 28)
Nicolaus Copernicus died 475 years ago

 Rise 8:42 8:00
Set 16:23 16:28 **25**

Mars Phoenix Lander landed on Mars 10 years ago

 Rise 9:45 9:12
Set 4:12 4:04 **26**
Sunrise 5:37 5:01
Sunset 20:18 20:54

 Rise 4:43 4:28
Set 18:27 18:46 **27**


 Rise 5:16 4:55
Set 19:27 19:52 **28**


MEMORIAL DAY (USA)

 Rise 5:52 5:26
Set 20:25 20:55 **29**

Full Moon 10:20

Today's full Moon is the Frog Croaking Moon

 Rise 6:32 6:01
Set 21:21 21:54 **30**

 Rise 7:15 6:41
Set 22:12 22:47 **31**

APR	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	20	21
	22	23	24	25	26	27	28
	29	30					

JUN	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	20	21	22	23
	24	25	26	27	28	29	30

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JUNE

WAXING GIBBOUS MOON An 8-day-old waxing gibbous Moon provides a wealth of detail for the observer. In the north, highlights include the flat-floored crater Plato on the north side of Mare Imbrium (Sea of Rains), which has numerous high peaks. Further south in Mare Nubium is the Rupes Recta fault (Straight Wall). Even further south is the crater Clavius with its many craterlets, a great test of optics and seeing conditions. | IMAGE BY PAUL GRAY

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

THE PLANETS THIS MONTH

- Mercury** very low in WNW in evening twilight, late this month with difficulty
- Venus** low in WNW in evening twilight
- Mars** rises in ESE near midnight, in S near dawn
- Jupiter** in SSE after dark, transits after 10 pm, sets in WSW after 3 am
- Saturn** rises in ESE at dusk, transits in S near 2 am

MAY	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
	20	21	22	23	24	25	26
	27	28	29	30	31		

JULY	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	20	21
	22	23	24	25	26	27	28
	29	30	31				

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40°N 50°N
Set 8:02 7:28
Rise 22:59 23:33

1

Watch for noctilucent clouds in N sky during twilight this month. Best N of 50° latitude

40°N 50°N
Set 8:53 8:20
Rise 23:42 ---
Sunrise 5:33 4:55
Sunset 20:23 21:01

2

40°N 50°N
Rise --- 0:13
Set 9:47 9:17

3

40°N 50°N
Rise 0:20 0:47
Set 10:43 10:18

4

40°N 50°N
Rise 0:55 1:16
Set 11:41 11:21

5

40°N 50°N
Rise 1:26 1:42
Set 12:39 12:26

6

Last Quarter
14:32

40°N 50°N
Rise 1:56 2:06
Set 13:39 13:32

7

Lunar Curtiss X visible in W of N. America 6 am

40°N 50°N
Rise 2:26 2:29
Set 14:41 14:41

8

40°N 50°N
Rise 2:56 2:52
Set 15:45 15:52
Sunrise 5:31 4:52
Sunset 20:28 21:07

9

40°N 50°N
Rise 3:28 3:17
Set 16:52 17:07

10

4 Vesta unaided eye this week, a challenge (m=5.3)

40°N 50°N
Rise 4:03 3:46
Set 18:01 18:23

11

40°N 50°N
Rise 4:44 4:19
Set 19:12 19:41

12

40°N 50°N
Rise 5:31 5:01
Set 20:22 20:55

13

New Moon
15:43

40°N 50°N
Rise 6:26 5:52
Set 21:28 22:03

14

James Short, telescope maker, died 250 years ago

40°N 50°N
Rise 7:28 6:54
Set 22:28 23:00

15

29 Amphitrite at opposition (m=9.5)
Kouchibouquac Spring Star Fest, Kouchibouquac N.P., NB, www.nb.rasc.ca/ (through Jun 17)

40°N 50°N
Rise 8:36 8:05
Set 23:19 23:47
Sunrise 5:31 4:50
Sunset 20:31 21:11

16

9 Metis at opposition (m=9.7)

40°N 50°N
Rise 9:47 9:21
Set --- ---

17

FATHER'S DAY

40°N 50°N
Set 0:03 0:24
Rise 10:57 10:39

18

40°N 50°N
Set 0:41 0:55
Rise 12:06 11:54

19

4 Vesta at opposition (m=5.3)

40°N 50°N
Set 1:15 1:22
Rise 13:12 13:08

20

First Quarter
6:51

Lunar X near crater Werner visible in E of N. America 4 pm
Pingualuit (Chubb, Nouveau Quebec) crater aerial photographed 75 years ago

40°N 50°N
Set 1:46 1:47
Rise 14:16 14:19

21

NATIONAL ABORIGINAL DAY (NT)
Lunar Straight Wall this evening
Summer solstice 6:07 am ET

40°N 50°N
Set 2:16 2:10
Rise 15:19 15:29

22

Christy & Harrington discover Charon, 1st moon of Pluto, 40 years ago

40°N 50°N
Set 2:47 2:34
Rise 16:20 16:37
Sunrise 5:32 4:52
Sunset 20:33 21:13

23

40°N 50°N
Set 3:19 3:00
Rise 17:20 17:43

24

LA FÊTE NATIONALE (QC)

40°N 50°N
Set 3:53 3:28
Rise 18:18 18:47

25

DISCOVERY DAY (NL)

40°N 50°N
Set 4:31 4:01
Rise 19:15 19:47

26

40°N 50°N
Set 5:12 4:39
Rise 20:07 20:42

27

Saturn at opposition (m=0.0)
Moon 0.9° N of Saturn late this evening

40°N 50°N
Set 5:58 5:23
Rise 20:56 21:31

28

Full Moon 0:53
28 RASC General Assembly hosted by the Calgary Centre www.rasc.ca/ga2018 (through July 1)
Today's full Moon is the Trees Fully Leaved Moon

40°N 50°N
Set 6:48 6:14
Rise 21:41 22:13

29

George Ellery Hale, solar astronomer, was born 150 years ago




























40°N 50°N
Set 7:41 7:09
Rise 22:20 22:49
Sunrise 5:35 4:55
Sunset 20:33 21:13

30



JULY

MILKY WAY OVER MORAINÉ LAKE A late summer Milky Way sets over the peaks enshrining Moraine Lake in Banff National Park; the lake was featured on an earlier version of the Canadian \$20 bill — minus the Milky Way. | IMAGE BY ALAN DYER

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY																																																																																																	
 <p>40°N 50°N Set 8:36 8:09 Rise 22:56 23:20</p> <p>1</p> <p>CANADA DAY Watch for noctilucent clouds in N sky during twilight this month. Best N of 50° latitude</p>	 <p>40°N 50°N Set 9:33 9:11 Rise 23:28 23:47</p> <p>2</p>	 <p>40°N 50°N Set 10:30 10:14 Rise 23:59 ---</p> <p>3</p>	 <p>40°N 50°N Rise --- 0:11 Set 11:29 11:19</p> <p>4</p> <p>INDEPENDENCE DAY (USA)</p>	 <p>40°N 50°N Rise 0:28 0:33 Set 12:28 12:26</p> <p>5</p>	 <p>40°N 50°N Rise 0:56 0:56 Set 13:30 13:34</p> <p>6</p> <p>Last Quarter 3:51</p> <p>Earth at aphelion (152,095,566 km) 1:46 pm ET</p>	 <p>40°N 50°N Rise 1:26 1:19 Set 14:33 14:45 Sunrise 5:38 5:00 Sunset 20:31 21:10</p> <p>7</p>																																																																																																	
 <p>40°N 50°N Rise 1:59 1:45 Set 15:40 15:58</p> <p>8</p> <p>Spot Arcturus unaided before sunset this week</p>	 <p>40°N 50°N Rise 2:36 2:15 Set 16:48 17:14</p> <p>9</p> <p>NUNAVUT DAY (NU)</p>	 <p>40°N 50°N Rise 3:18 2:51 Set 17:58 18:29</p> <p>10</p>	 <p>40°N 50°N Rise 4:08 3:36 Set 19:07 19:41</p> <p>11</p> <p>Jupiter stationary</p>	 <p>40°N 50°N Rise 5:07 4:33 Set 20:10 20:44</p> <p>12</p> <p>New Moon 22:48</p> <p>Pluto at opposition (m=14.5) Mercury at greatest elongation (26° E) this evening. Poor apparition (m=0.4)</p>	 <p>40°N 50°N Rise 6:13 5:40 Set 21:07 21:37</p> <p>13</p> <p>Partial solar eclipse visible from Tasmania and South Australia Mt Carleton Star Party, Mt Carleton P.P., NB, www.nb.rasc.ca/ (through Jul 15)</p>	 <p>40°N 50°N Rise 7:25 6:56 Set 21:56 22:20 Sunrise 5:43 5:07 Sunset 20:28 21:05</p> <p>14</p>																																																																																																	
 <p>40°N 50°N Rise 8:38 8:16 Set 22:38 22:55</p> <p>15</p> <p>Moon 2° right of Venus in evening twilight</p>	 <p>40°N 50°N Rise 9:50 9:35 Set 23:14 23:25</p> <p>16</p>	 <p>40°N 50°N Rise 10:59 10:52 Set 23:48 23:51</p> <p>17</p>	 <p>40°N 50°N Rise 12:06 12:07 Set --- ---</p> <p>18</p>	 <p>40°N 50°N Set 0:19 0:15 Rise 13:11 13:18</p> <p>19</p> <p>First Quarter 15:52</p>	 <p>40°N 50°N Set 0:50 0:39 Rise 14:13 14:28</p> <p>20</p> <p>88 Thisbe at opposition (m=9.7) Lunar X near crater Werner visible in extreme W of N. America 1 am Lunar Straight Wall this evening</p>	 <p>40°N 50°N Set 1:21 1:04 Rise 15:14 15:35 Sunrise 5:49 5:15 Sunset 20:24 20:57</p> <p>21</p> <p>Alan Shepard, first American in space, died 20 years ago</p>																																																																																																	
 <p>40°N 50°N Set 1:55 1:32 Rise 16:13 16:39</p> <p>22</p>	 <p>40°N 50°N Set 2:31 2:03 Rise 17:09 17:40</p> <p>23</p>	 <p>40°N 50°N Set 3:11 2:39 Rise 18:03 18:37</p> <p>24</p> <p>Moon 1.5° N of Saturn late this evening</p>	 <p>40°N 50°N Set 3:55 3:21 Rise 18:53 19:28</p> <p>25</p>	 <p>40°N 50°N Set 4:44 4:09 Rise 19:39 20:12</p> <p>26</p>	 <p>40°N 50°N Set 5:36 5:03 Rise 20:20 20:50</p> <p>27</p> <p>Full Moon 16:20</p> <p>Total lunar eclipse, visible Eastern Hemisphere, NOT visible from N. America Today's full Moon is the Birds Shed Feathers Moon</p>	 <p>40°N 50°N Set 6:30 6:02 Rise 20:57 21:23 Sunrise 5:55 5:24 Sunset 20:18 20:48</p> <p>28</p>																																																																																																	
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AUGUST

PERSEID METEOR SHOWER RADIANT This composite image of the annual Perseid meteor shower pointing to its radiant was captured under the dark, late summer skies of Grasslands National Park in Saskatchewan. Wavy lines of air glow stream across the sky, not to be mistaken for aurora. | IMAGE BY ALAN DYER

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

THE PLANETS THIS MONTH

- Mercury** very low in ENE in morning twilight, late this month
- Venus** very low in W in evening twilight
- Mars** in SE in evening twilight, sets in SW near 4 am
- Jupiter** low in SW during twilight, sets in WSW near midnight
- Saturn** in S at dusk, sets in WSW near 2 am

Times in the upper half of the daily boxes are in the 24-hour clock; times in the lower half are given in the 12-hour clock.

Eastern time is used, except for rise and set events and changes to/from Daylight Saving Time, which are given in local time.

Times for events involving planetary satellites refer to the start time.

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 **1**
 40°N 50°N
 Set 10:21 10:16
 Rise 22:59 23:01

Maria Mitchell, first professional female astronomer in US, was born 200 years ago

 **2**
 40°N 50°N
 Set 11:21 11:23
 Rise 23:28 23:23


 **3**
 40°N 50°N
 Set 12:22 12:31
 Rise 23:59 23:47

 **4**
 40°N 50°N
 Set 13:26 13:41
 Rise --- ---
 Sunrise 6:01 5:34
 Sunset 20:10 20:37
 Last Quarter 14:18

Moon occults Juno, visible from northern and eastern Europe
 Mount Kobau Star Party, Osoyoos, BC (through Aug 12)

 **5**
 40°N 50°N
 Rise 0:32 0:14
 Set 14:31 14:54

Lunar Curtiss X visible in all of N. America 4 am

 **6**
 40°N 50°N
 Rise 1:11 0:46
 Set 15:39 16:07

CIVIC HOLIDAY (AB, BC, MB, NB, NS, NT, NU, ON, PE, SK)

 **7**
 40°N 50°N
 Rise 1:56 1:26
 Set 16:46 17:19

 **8**
 40°N 50°N
 Rise 2:49 2:15
 Set 17:51 18:25


Saskatchewan Summer Star Party, Cypress Hills, SK (through Aug 13)

 **9**
 40°N 50°N
 Rise 3:50 3:16
 Set 18:50 19:23


Stellafane Convention, Springfield, VT (through Aug 12)
 Starfest, Mount Forest, ON, www.nyaa.ca (through Aug 12)

 **10**
 40°N 50°N
 Rise 4:59 4:27
 Set 19:43 20:11

Nova East, Smileys Provincial Park, NS halifax.rasc.ca/ne (through Aug 13)

 **11**
 40°N 50°N
 Rise 6:12 5:46
 Set 20:29 20:50
 Sunrise 6:08 5:44
 Sunset 20:02 20:25
 New Moon 5:58

Partial solar eclipse visible from extreme northern Canada, Greenland, Scandinavia, Russia, and China


 **12**
 40°N 50°N
 Rise 7:26 7:07
 Set 21:09 21:23

Perseid meteors (ZHR=150) 9 pm, best seen in predawn hours today or tomorrow

 **13**
 40°N 50°N
 Rise 8:38 8:28
 Set 21:44 21:51

 **14**
 40°N 50°N
 Rise 9:49 9:46
 Set 22:18 22:17

 **15**
 40°N 50°N
 Rise 10:56 11:01
 Set 22:49 22:42


 **16**
 40°N 50°N
 Rise 12:01 12:13
 Set 23:22 23:07

Two shadows on Jupiter visible in Atlantic Canada 8:08 pm

 **17**
 40°N 50°N
 Rise 13:04 13:23
 Set 23:55 23:34

Venus at greatest elongation (46° E) this evening

Fundy Park Stargaze, Fundy N.P., NB, www.nb.rasc.ca/ (through Aug 19)

 **18**
 40°N 50°N
 Rise 14:05 14:30
 Set --- ---
 Sunrise 6:15 5:54
 Sunset 19:52 20:12
 First Quarter 3:49

Lockyer & Janssen discovered helium in Sun 150 years ago

 **19**
 40°N 50°N
 Set 0:31 0:04
 Rise 15:03 15:33

Lunar Straight Wall this evening
 Cosmologist, George Gamow, died 50 years ago

 **20**
 40°N 50°N
 Set 1:10 0:39
 Rise 15:58 16:31

DISCOVERY DAY (YT)


 **21**
 40°N 50°N
 Set 1:53 1:19
 Rise 16:50 17:24


 **22**
 40°N 50°N
 Set 2:40 2:05
 Rise 17:37 18:11

 **23**
 40°N 50°N
 Set 3:30 2:57
 Rise 18:20 18:51

Two shadows on Jupiter visible in W of N. America 10:35 pm

 **24**
 40°N 50°N
 Set 4:24 3:54
 Rise 18:58 19:25


 **25**
 40°N 50°N
 Set 5:20 4:55
 Rise 19:33 19:55
 Sunrise 6:21 6:05
 Sunset 19:42 19:58

 **26**
 40°N 50°N
 Set 6:18 5:58
 Rise 20:05 20:21

Full Moon 7:56


Mercury at greatest elongation (18° W) this morning (m=-0.2)

Today's full Moon is the Ripening Moon

 **27**
 40°N 50°N
 Set 7:16 7:03
 Rise 20:34 20:44

 **28**
 40°N 50°N
 Set 8:15 8:08
 Rise 21:03 21:06

 **29**
 40°N 50°N
 Set 9:15 9:15
 Rise 21:32 21:29

 **30**
 40°N 50°N
 Set 10:16 10:23
 Rise 22:01 21:52

 **31**
 40°N 50°N
 Set 11:18 11:32
 Rise 22:33 22:17

JULY	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	20	21
	22	23	24	25	26	27	28
	29	30	31				
SEPT	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	20	21	22
	23	24	25	26	27	28	29
	30						



SEPTEMBER

GHOSTLY VEIL NGC 6995 is a relatively bright fragment in the Eastern Veil, part of a supernova remnant in Cygnus known as the Veil Nebula. The Veil is six times the diameter of the full Moon, yet due to its low surface brightness, the use of an OIII (Oxygen 3) filter is needed to clearly observe it. | IMAGE BY STUART HEGGIE

SUNDAY

MONDAY

TUESDAY

WEDNESDAY


THURSDAY

FRIDAY

SATURDAY

THE PLANETS THIS MONTH

- Mercury** very low in ENE in morning twilight, early this month
- Venus** very low in WSW in evening twilight, with difficulty
- Mars** in SSE at dusk, sets in SW near 2 am
- Jupiter** very low in WSW soon after sunset, sets soon after dusk
- Saturn** in SSW at dusk, sets in WSW near 12 am



40°N 50°N
 Set 12:22 12:43
 Rise 23:09 22:47
 Sunrise 6:28 6:15
 Sunset 19:31 19:44

1


115 Thyra at opposition (m=9.9)



40°N 50°N
 Set 13:27 13:54
 Rise 23:50 23:22

2

Last Quarter
22:37



40°N 50°N
 Set 14:33 15:04
 Rise --- ---

3

LABOUR DAY



40°N 50°N
 Rise 0:38 0:06
 Set 15:36 16:11

4

Northern Prairie Star Party, AB,
 edmontonrasc.com/northern-prairie-
 star-party (through Sep 9)




40°N 50°N
 Rise 1:34 1:00
 Set 16:36 17:10

5

Zodiacal light readily visible
 from a dark site in E before morning
 twilight for the next two weeks


27 Euterpe at opposition (m=9.8)



40°N 50°N
 Rise 2:38 2:04
 Set 17:30 18:01

6

Saturn stationary



40°N 50°N
 Rise 3:47 3:18
 Set 18:18 18:43


7

Neptune at opposition (m=7.8)



40°N 50°N
 Rise 5:00 4:37
 Set 19:00 19:18
 Sunrise 6:35 6:26
 Sunset 19:20 19:29


8



40°N 50°N
 Rise 6:13 5:58
 Set 19:38 19:48

9

New Moon
14:01



40°N 50°N
 Rise 7:25 7:18
 Set 20:13 20:15


10

ROSH HASHANAH
 (begins at sunset
 the previous evening)



40°N 50°N
 Rise 8:35 8:37
 Set 20:46 20:41


11



40°N 50°N
 Rise 9:43 9:52
 Set 21:18 21:06


12

ISLAMIC NEW YEAR
 (begins at sunset
 the previous evening)



40°N 50°N
 Rise 10:49 11:05
 Set 21:52 21:33


13



40°N 50°N
 Rise 11:53 12:15
 Set 22:27 22:03


14

Kouchibouquac Fall Star Gaze,
 Kouchibouquac N.P., NB,
 www.nb.rasc.ca/ (through Sep 16)



40°N 50°N
 Rise 12:53 13:22
 Set 23:06 22:36
 Sunrise 6:41 6:36
 Sunset 19:09 19:13

15




40°N 50°N
 Rise 13:51 14:23
 Set 23:48 23:15

16

First Quarter
19:15

Follow Capella unaided
 into daylight this week



40°N 50°N
 Rise 14:44 15:19
 Set --- 23:59


17

Lunar X near crater Werner visible
 in extreme W of N. America 1 am
 Lunar Straight Wall this evening



40°N 50°N
 Set 0:34 ---
 Rise 15:33 16:08

18



40°N 50°N
 Set 1:23 0:49
 Rise 16:18 16:50

19


YOM KIPPUR
 (begins at sunset
 the previous evening)

30 Urania at opposition (m=9.6)



40°N 50°N
 Set 2:16 1:45
 Rise 16:57 17:26

20



40°N 50°N
 Set 3:12 2:44
 Rise 17:33 17:57

21

Venus at greatest illuminated
 extent (m=-4.8) this evening



40°N 50°N
 Set 4:09 3:47
 Rise 18:06 18:24
 Sunrise 6:48 6:47
 Sunset 18:57 18:58

22

Fall equinox 9:52 pm ET



40°N 50°N
 Set 5:08 4:52
 Rise 18:36 18:48

23



40°N 50°N
 Set 6:07 5:58
 Rise 19:05 19:11

24

Full Moon
22:53

Today's full Moon is the
 Moose Calling Moon



40°N 50°N
 Set 7:08 7:05
 Rise 19:34 19:33

25



40°N 50°N
 Set 8:09 8:14
 Rise 20:04 19:56

26



40°N 50°N
 Set 9:12 9:23
 Rise 20:35 20:21

27



40°N 50°N
 Set 10:16 10:34
 Rise 21:10 20:49


28



40°N 50°N
 Set 11:21 11:46
 Rise 21:49 21:22
 Sunrise 6:55 6:57
 Sunset 18:46 18:43

29

Moon 0.9° N of
 Aldebaran this evening



40°N 50°N
 Set 12:26 12:57
 Rise 22:34 22:02

30

Follow Sirius unaided
 into daylight this week

AUG	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	20	21	22	23	24	25
	26	27	28	29	30	31	

OCT	S	M	T	W	T	F	S
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	28	29	30	31			

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OCTOBER

IC 1396 AND THE ELEPHANT'S TRUNK NEBULA A massive triple-star system in the centre of the image ionizes and shapes this region with UV radiation and strong stellar winds. The dark Elephant's Trunk globule shaped by these forces appears to extend inwards from the left. | IMAGE BY RON BRECHER

SUNDAY

Times in the upper half of the daily boxes are in the 24-hour clock; times in the lower half are given in the 12-hour clock.

Eastern time is used, except for rise and set events and changes to/from Daylight Saving Time, which are given in local time.

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MONDAY



Set 40°N 50°N
Rise 13:30 14:04
23:26 22:52 **1**

NASA operational 60 years ago

TUESDAY



Set 40°N 50°N
Rise 14:30 15:04
--- 23:51 **2**

Last Quarter
5:46

WEDNESDAY



Rise 40°N 50°N
Set 0:26 ---
15:24 15:57 **3**

Lunar Curtiss X visible
in E of N. America 4 am

THURSDAY



Rise 40°N 50°N
Set 1:31 1:00
16:13 16:40 **4**

FRIDAY




Rise 40°N 50°N
Set 2:41 2:15
16:55 17:16 **5**


Try to spot Uranus (m=5.7)
unaided this weekend

Venus stationary

SATURDAY




Rise 40°N 50°N
Set 3:52 3:33
17:33 17:47 **6**
Sunrise 7:01 7:08
Sunset 18:34 18:27



Rise 40°N 50°N
Set 5:03 4:52
18:08 18:15 **7**

Spot Vega unaided before
sunset this week




Rise 40°N 50°N
Set 6:13 6:11
18:41 18:40 **8**

New Moon
23:47


THANKSGIVING DAY (CANADA)
COLUMBUS DAY (USA)

Old crescent Moon, 16 hours before
new in E, 12 hours before new in W,
a difficult challenge just before sunrise



Rise 40°N 50°N
Set 7:22 7:28
19:14 19:05 **9**

New Moon – Gegenschein visible
from a very dark site – highest in
S at midnight.




Rise 40°N 50°N
Set 8:30 8:43
19:47 19:31 **10**


S Taurid meteors (ZHR=5)



Rise 40°N 50°N
Set 9:36 9:56
20:22 20:00 **11**



Rise 40°N 50°N
Set 10:39 11:05
20:59 20:32 **12**



Rise 40°N 50°N
Set 11:39 12:11
21:41 21:08 **13**
Sunrise 7:09 7:19
Sunset 18:23 18:13

Zodiacal light readily visible from
a dark site in E before morning
twilight for the next two weeks



Rise 40°N 50°N
Set 12:36 13:10
22:26 21:51 **14**

Moon 2° N of Saturn this evening,
best in western NA



Rise 40°N 50°N
Set 13:27 14:03
23:14 22:39 **15**



Rise 40°N 50°N
Set 14:14 14:48
--- 23:33 **16**

First Quarter
14:02



Set 40°N 50°N
Rise 0:07 ---
14:56 15:26 **17**

Lunar Straight Wall this evening



Set 40°N 50°N
Rise 1:01 0:32
15:33 15:59 **18**



Set 40°N 50°N
Rise 1:58 1:33
16:06 16:27 **19**



Set 40°N 50°N
Rise 2:56 2:37
16:37 16:52 **20**
Sunrise 7:16 7:30
Sunset 18:13 17:59




Set 40°N 50°N
Rise 3:55 3:43
17:06 17:15 **21**

Orionid meteors (ZHR=15) 2 pm,
best seen in predawn hours today



Set 40°N 50°N
Rise 4:55 4:50
17:35 17:37 **22**



Set 40°N 50°N
Rise 5:57 5:58
18:04 17:59 **23**



Set 40°N 50°N
Rise 7:00 7:09
18:35 18:23 **24**


Full Moon
12:45

Uranus at opposition (m=5.7)

Today's full Moon is the
Animal Fattening Moon




Set 40°N 50°N
Rise 8:05 8:21
19:09 18:50 **25**



Set 40°N 50°N
Rise 9:12 9:35
19:47 19:22 **26**

Venus in inferior conjunction



Set 40°N 50°N
Rise 10:19 10:48
20:31 20:00 **27**
Sunrise 7:24 7:42
Sunset 18:04 17:45




Set 40°N 50°N
Rise 11:24 11:58
21:22 20:47 **28**




Set 40°N 50°N
Rise 12:26 13:02
22:19 21:44 **29**

John Glenn, 77, was oldest person
launched into space 20 years ago



Set 40°N 50°N
Rise 13:22 13:56
23:23 22:50 **30**



Set 40°N 50°N
Rise 14:12 14:42
--- --- **31**

Last Quarter
12:41

HALLOWE'EN

THE PLANETS THIS MONTH

Mercury not observable this month

Venus not observable this month

Mars in SSE at dusk, sets in WSW near 1 am

Jupiter very low in WSW soon after sunset, lost in twilight mid-month

Saturn low in SSW at dusk, sets in WSW near 10 pm

SEPT	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	20	21	22
	23	24	25	26	27	28	29
	30						
NOV	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	20	21	22	23	24
	25	26	27	28	29	30	



NOVEMBER

CALIFORNIA NEBULA NGC 1499 is an emission nebula in Perseus resembling the shape of the state of California. By happenstance, NGC 1499 transits in the zenith in central California. | IMAGE BY RON BRECHER

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

THE PLANETS THIS MONTH

Mercury very low in west with extreme difficulty after sunset

Venus very low in ESE in morning twilight

Mars in S at dusk, sets in WSW near midnight

Jupiter not easily visible this month

Saturn very low in SW after sunset, lost in twilight late this month

OCT	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	20
	21	22	23	24	25	26	27
	28	29	30	31			
DEC	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	20	21	22
	23	24	25	26	27	28	29
	30	31					

Times in the upper half of the daily boxes are in the 24-hour clock; times in the lower half are given in the 12-hour clock.

Eastern time is used, except for rise and set events and changes to/from Daylight Saving Time, which are given in local time.

Times for events involving planetary satellites refer to the start time.

Detailed instructions on adjusting times for location are given in the back pages.

Please see back pages for photo details and additional information about this Calendar.



40°N 50°N
Rise 0:30 0:02
Set 14:55 15:19

1



40°N 50°N
Rise 1:39 1:18
Set 15:34 15:50

2



40°N 50°N
Rise 2:49 2:35
Set 16:08 16:18
Sunrise 7:32 7:53
Sunset 17:55 17:33

3

Try to spot Uranus (m=5.7) unaided this weekend



40°N 50°N
Rise 2:57 2:51
Set 15:40 15:42

4



40°N 50°N
Rise 4:05 4:07
Set 16:12 16:07

5



40°N 50°N
Rise 5:12 5:22
Set 16:44 16:31

6



40°N 50°N
Rise 6:18 6:35
Set 17:17 16:58

7

New Moon
11:02

New Moon – Gegenschein visible from a very dark site – highest in S at midnight



40°N 50°N
Rise 7:23 7:47
Set 17:53 17:28

8



40°N 50°N
Rise 8:25 8:55
Set 18:33 18:02

9



40°N 50°N
Rise 9:24 9:58
Set 19:17 18:42
Sunrise 6:40 7:05
Sunset 16:48 16:22

10

Daylight Saving Time ends 2 am



40°N 50°N
Rise 10:19 10:55
Set 20:04 19:28

11



40°N 50°N
Rise 11:09 11:44
Set 20:56 20:21

12



40°N 50°N
Rise 11:52 12:25
Set 21:50 21:18

13



40°N 50°N
Rise 12:31 13:00
Set 22:46 22:18

14

Venus stationary



40°N 50°N
Rise 13:06 13:30
Set 23:43 23:21

15

First Quarter
9:54

Moon 2° S of Mars this evening, best in western NA

National Radio Astronomy Observatory Green Bank, WV, collapsed 30 years ago

AAVSO is legally incorporated 100 years ago



40°N 50°N
Rise 13:37 13:55
Set --- ---

16



40°N 50°N
Set 0:41 0:26
Rise 14:07 14:18
Sunrise 6:48 7:16
Sunset 16:42 16:13

17

3 Juno at opposition (m=7.6)

Leonid meteors (ZHR=15) 5 pm, best seen in predawn hours today

REMEMBRANCE DAY (CANADA)
VETERANS DAY (USA)

N Taurid meteors (ZHR=5)



40°N 50°N
Set 1:40 1:31
Rise 14:35 14:40

18



40°N 50°N
Set 2:40 2:39
Rise 15:04 15:02

19



40°N 50°N
Set 3:43 3:48
Rise 15:33 15:25

20



40°N 50°N
Set 4:47 5:00
Rise 16:06 15:50

21



40°N 50°N
Set 5:54 6:14
Rise 16:42 16:19

22

THANKSGIVING DAY (USA)



40°N 50°N
Set 7:03 7:30
Rise 17:24 16:55

23

Full Moon
0:39

Today's full Moon is the Rivers Freezing Moon



40°N 50°N
Set 8:11 8:44
Rise 18:13 17:39
Sunrise 6:56 7:27
Sunset 16:38 16:06

24



40°N 50°N
Set 9:17 9:53
Rise 19:10 18:34

25

Leedeey meteor fall occurred 75 years ago



40°N 50°N
Set 10:18 10:53
Rise 20:13 19:39

26

Jean-Louis Pons discovered Comet Encke 200 years ago



40°N 50°N
Set 11:11 11:43
Rise 21:21 20:51

27



40°N 50°N
Set 11:57 12:23
Rise 22:31 22:07

28



40°N 50°N
Set 12:37 12:56
Rise 23:40 23:24

29

Last Quarter
19:19

Moon 1.8° N of Regulus this morning



40°N 50°N
Set 13:12 13:24
Rise --- ---

30

Try to spot Uranus (m=5.7) unaided this weekend



DECEMBER

THE FOX FUR Several astronomical objects inhabit NGC 2264 in Monoceros, including the famous Cone Nebula in the lower-centre of the image, the bright, starry Christmas Tree Cluster in the centre of the image, and the lesser-known Fox Fur Nebula just above and right of centre. | IMAGE BY DAN MEEK

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

THE PLANETS THIS MONTH


Mercury very low in SE in morning twilight, near mid-month

Venus low in SE in morning twilight

Mars in S at dusk, sets in W near midnight


Jupiter very low in ESE in morning twilight late this month

Saturn not observable this month



40°N 50°N
Rise 0:48 0:40
Set 13:44 13:48
Sunrise 7:03 7:37
Sunset 16:35 16:01

Lunar Curtiss X visible in E of N. America 6 am
Johann Cysat, first ever telescopic comet observation, 400 years ago



40°N 50°N
Rise 1:55 1:54
Set 14:15 14:12


2

Venus at greatest illuminated extent (m=-4.9) this morning




40°N 50°N
Rise 3:01 3:08
Set 14:45 14:35

3




40°N 50°N
Rise 4:06 4:20
Set 15:17 15:00

4



40°N 50°N
Rise 5:10 5:31
Set 15:51 15:28

5



40°N 50°N
Rise 6:13 6:40
Set 16:28 15:59

6

Old crescent Moon, 20 hours before new in E, 16 hours before new in W, a challenge just before sunrise



40°N 50°N
Rise 7:13 7:45
Set 17:10 16:37

7


New Moon – Gegenschein visible from a very dark site – highest in S at midnight.



40°N 50°N
Rise 8:10 8:45
Set 17:56 17:20
Sunrise 7:09 7:46
Sunset 16:35 15:58

8

40 Harmonia at opposition (m=9.4)




40°N 50°N
Rise 9:02 9:38
Set 18:46 18:10

9




40°N 50°N
Rise 9:48 10:23
Set 19:39 19:06

10



40°N 50°N
Rise 10:29 11:01
Set 20:35 20:05

11




40°N 50°N
Rise 11:06 11:32
Set 21:31 21:07

12



40°N 50°N
Rise 11:38 11:59
Set 22:29 22:10


13



40°N 50°N
Rise 12:08 12:22
Set 23:27 23:15

14

Lunar X near crater Werner visible in all of N. America 5 pm
Geminid meteors (ZHR=120) 8 am, best seen in predawn hours today



40°N 50°N
Rise 12:36 12:44
Set --- ---
Sunrise 7:15 7:52
Sunset 16:36 15:58


15

First Quarter 6:49
Lunar Straight Wall this evening
Mercury at greatest elongation (21° W) this morning (m=0.5). Best morning apparition of the year




40°N 50°N
Set 0:25 0:20
Rise 13:03 13:05

16



40°N 50°N
Set 1:25 1:27
Rise 13:32 13:26


17



40°N 50°N
Set 2:27 2:36
Rise 14:02 13:50

18

433 Eros at opposition (m=9.1)




40°N 50°N
Set 3:32 3:48
Rise 14:35 14:16

19



40°N 50°N
Set 4:39 5:03
Rise 15:14 14:48


20



40°N 50°N
Set 5:49 6:19
Rise 16:00 15:28

21

Winter solstice 5:23 pm ET
Moon 1.1° N of Aldebaran very early morning
Mercury 0.9° N of Jupiter this morning



40°N 50°N
Set 6:58 7:32
Rise 16:54 16:18
Sunrise 7:19 7:57
Sunset 16:38 16:01

22

Full Moon 12:49
Ursid meteors (ZHR=10) 4 pm, best seen in predawn hours today
Today's full Moon is the Chief Moon



40°N 50°N
Set 8:03 8:39
Rise 17:56 17:20


23



40°N 50°N
Set 9:02 9:35
Rise 19:05 18:32

24


Apollo 8 crew made Christmas Eve broadcast 50 years ago



40°N 50°N
Set 9:53 10:21
Rise 20:16 19:50

25


CHRISTMAS DAY



40°N 50°N
Set 10:36 10:58
Rise 21:29 21:09


26

BOXING DAY (CANADA)




40°N 50°N
Set 11:14 11:28
Rise 22:39 22:28

27



40°N 50°N
Set 11:47 11:55
Rise 23:47 23:44


28



40°N 50°N
Set 12:19 12:19
Rise --- ---
Sunrise 7:22 7:59
Sunset 16:43 16:06


29

Last Quarter 4:35
6 Hebe at opposition (m=8.5)



40°N 50°N
Rise 0:54 0:58
Set 12:49 12:42

30



40°N 50°N
Rise 1:59 2:10
Set 13:20 13:06

31

NEW YEAR'S EVE

NOV	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	20	21	22	23	24
	25	26	27	28	29	30	

JAN	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
	20	21	22	23	24	25	26
	27	28	29	30	31		

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Eastern time is used, except for rise and set events and changes to/from Daylight Saving Time, which are given in local time.
Times for events involving planetary satellites refer to the start time.
Detailed instructions on adjusting times for location are given in the back pages.
Please see back pages for photo details and additional information about this Calendar.



How to Use this Calendar

A graphical representation of the Moon's appearance in the late evening is given in each daily box. In addition to the varying phase, the depicted size of the Moon varies, reflecting the change in the apparent size of the Moon in the sky as it moves closer to or farther from Earth. The depicted face of the Moon also changes slightly to reflect lunar libration, the rocking motion of the Moon, which means that over time approximately 59% of the lunar surface can be seen from Earth. A small dot of size proportional to the amount of libration appears near the lunar limb that is librated.

This year's moon names are those of the Mi'kmaq First Nation, indigenous to Canada's Atlantic Provinces and the Gaspé Peninsula of the Province of Québec.

Daily Moon and weekly Sun rise and set times, and the times of Moon phases, are shown in the top portion of the boxes. If no Moon rise or set time is given, this event occurs the next day.

A summary of the naked-eye visibility and position of the planets is given each month. Descriptions are for approximate latitude 45° and, unless otherwise stated, apply to midmonth; rise and set times at the beginning or end of the month may vary by an hour or more from those given. Times and compass directions may also differ somewhat from the given ones at other latitudes.

Special astronomical events are given at the bottom of the daily boxes. Events observable in some part of Canada or the continental United States are listed. Days on which particularly interesting phenomena or events occur are highlighted with a green corner under the date. Detailed information on all events, including their visibility from particular locations, may be determined by consulting the *Observer's Handbook*, which is published annually by the RASC.

Adjustments for Actual Location

When it is in effect, times are adjusted for Daylight Saving Time. Moon phases and special events are given in Eastern time. The user's local time for events other than Moon and Sun rise and set may be determined by converting the given time to the user's time zone (e.g. Pacific time is Eastern time minus 3 hours). For occultations, a further adjustment of an hour or more may be needed for any particular geographical location because of parallax effects. Parallax also means that actual angular separations for events involving the Moon may vary by close to 1° from

those given. Also, the Moon's rapid movement of approximately 0.5° per hour means that separations may be considerably larger at a time that is even a few hours away from the given time.

Two sets of rise and set times are given to accommodate North American observers in midnorthern latitudes. Times are displayed for locations 40°N latitude and 75°W longitude and for 50°N, 75°W. The actual times for a given location must be calculated using the tables at the right.

The tables give (longitude) corrections in minutes to the tabulated rise and set times for selected Canadian and U.S. cities. In the column labelled **Correction**, an entry such as 50°N + 25 means add 25 minutes to the displayed 50°N time. This computed time is an approximation. In the column labelled **Accuracy**, the approximate maximum error in minutes for Moon rise and set using this method is indicated. The error for Sun rise and set is less. These errors can be substantially reduced by interpolating according to latitude, as explained in the following section. Note that the rise and set times calculated using the above method will be local times. It is not necessary to adjust them for time zone.

Other Locations, and Improving Accuracy

For locations not listed in the tables at right, the user should calculate a correction factor. This amount is +4 minutes for each degree that the user's location is west of the central meridian of the user's time zone or -4 minutes for each degree that it is east. This correction factor should be added to the displayed 50°N or 40°N time for the location whose latitude is nearest that of the user's site. The accuracy in minutes for Moon rise and set can be calculated by multiplying the difference between the user's latitude and 50°N/40°N respectively by 4.5, and then adding 0.2 times the difference between the user's longitude and 75°W.

Improvement in accuracy may be obtained for many sites by interpolating or extrapolating the 50°N and 40°N times depending on the user's latitude. For example, the latitude of Ottawa is approximately midway between 50°N and 40°N. An observer in Ottawa can improve accuracy to better than 5 minutes by averaging the given 50°N and 40°N times and then adding the correction factor for Ottawa, which is 3 minutes. Western observers may gain additional accuracy by adding about 10% of the difference between the listed time and the next day's time.

Canadian Locations

City	Correction	Accuracy	Latitude
Calgary	50°N + 36	15	51
Charlottetown	40°N + 12	20	46
Edmonton	50°N + 34	25	54
Halifax	40°N + 14	25	45
Hamilton	40°N + 20	15	43
Kelowna	50°N - 3	10	50
Kingston	40°N + 6	20	44
Kitchener	40°N + 22	15	43
London	40°N + 25	15	43
Moncton	40°N + 19	20	46
Montréal	50°N - 6	20	46
Niagara	40°N + 16	15	43
Ottawa	50°N + 3	20	45
Prince George	50°N + 11	25	54
Québec	50°N - 15	15	47
Regina	50°N + 58*	10	50
St. John's	50°N + 1	20	48
Sarnia	40°N + 30	15	43
Saskatoon	50°N + 67*	15	52
Thunder Bay	50°N + 57	10	48
Toronto	40°N + 18	20	44
Vancouver	50°N + 12	15	49
Victoria	50°N + 13	20	49
Whitehorse	50°N + 60	60	61
Windsor	40°N + 32	15	42
Winnipeg	50°N + 29	5	50

U.S. Locations

City	Correction	Accuracy	Latitude
Atlanta	40°N + 37	30	34
Boston	40°N - 16	10	42
Chicago	40°N - 10	15	42
Cincinnati	40°N + 38	10	39
Denver	40°N + 0	10	40
Flagstaff	40°N + 27*	30	35
Kansas City	40°N + 18	10	39
Los Angeles	40°N - 7	35	34
Minneapolis	40°N + 13	25	45
New York	40°N - 4	5	41
San Francisco	40°N + 10	20	38
Seattle	50°N + 9	20	48
Tucson	40°N + 24*	40	32
Washington	40°N + 8	5	39

*Subtract 60 minutes in the summer.

2018

JAN	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	20
	21	22	23	24	25	26	27
	28	29	30	31			
FEB	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	20	21	22	23	24
	25	26	27	28			
MAR	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	20	21	22	23	24
	25	26	27	28	29	30	31
APR	S	M	T	W	T	F	S
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	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30					
MAY	S	M	T	W	T	F	S
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	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		
JUN	S	M	T	W	T	F	S
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	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
JUL	S	M	T	W	T	F	S
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	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31				
AUG	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	20	21	22	23
	24	25	26	27	28	29	30
SEP	S	M	T	W	T	F	S
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	23	24	25	26	27	28	29
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OCT	S	M	T	W	T	F	S
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	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31		
NOV	S	M	T	W	T	F	S
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	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
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DEC	S	M	T	W	T	F	S
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	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					

2019

JAN	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
	20	21	22	23	24	25	26
	27	28	29	30	31		
FEB	S	M	T	W	T	F	S
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	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	
MAR	S	M	T	W	T	F	S
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	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					
APR	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
	20	21	22	23	24	25	26
	27	28	29	30			
MAY	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	20	21	22	23
	24	25	26	27	28	29	30
JUN	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	20	21	22
	23	24	25	26	27	28	29
	30						
JUL	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	20
	21	22	23	24	25	26	27
	28	29	30	31			
AUG	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	20	21	22	23
	24	25	26	27	28	29	30
SEP	S	M	T	W	T	F	S
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	2	3	4	5	6	7	8
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	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
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OCT	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	20	21	22
	23	24	25	26	27	28	29
	30	31					
NOV	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	20	21	22
	23	24	25	26	27	28	29
	30						
DEC	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	20	21	22
	23	24	25	26	27	28	29
	30	31					

New Moon dates (UT) are displayed in blue.

**January** (*The Running Man*)

A image made from 25 × 5-min R, 25 × 5-min G, 25 × 5-min B, for a total exposure of 6.25 hours. Image was acquired with a 12.5-inch RCOS telescope at *f*/9 and a SBIG STX 16803 camera mounted on a Paramount ME II. Processed with Pixinsight. Image was taken from the Laurentians, north of Montreal, Quebec, by Rémi Lecasse.

**February** (*The Bubble Nebula*)

Image made from 7 × 30-min H α , 6 × 30-min OIII and 6 × 30-min SII for a total exposure of 9 hr 30 min. Image acquired with a TEC 140 *f*/7 and a FLI ML8300 camera using Baader filters. Image was taken from Grafton, Ontario, by Lynn Hilborn.

**March** (*Contrasts in Galaxies*)

Image made from 140-min L, 100-min R, 100-min G and 140-min B for a total exposure of 8 hours. Image acquired with a Williams Optics FLT 132mm at *f*/5.5 and a QSI 6120 camera on a AP1100ae mount. Processed with Pixinsight, imagesPlus, PhotoShop CS6 and Fits Liberator. Image was taken by Kevin Black.

**April** (*Aurora over Desolation Valley*)

A single 2-second exposure at *f*/2 with the Sigma 20-mm Art lens and Nikon D750 at ISO 5000. Image was taken over Desolation Valley at Moraine Lake, Banff National Park, Alberta, Canada. Image by Alan Dyer.

**May** (*Great Hercules Cluster*)

A image made from 10 × 5-min frames for a total exposure of 50 minutes. Image taken with a Sky-Watcher Esprit 120 *f*/7 APO refractor and a Canon 60Da DSLR at ISO 1600. Processed using Images Plus and taken from Marion Bridge, Nova Scotia, by Blair MacDonald.

**June** (*Waxing gibbous Moon*)

A single exposure of 1/160th sec at prime focus of a Sky-watcher 190MN Maksutov Newtonian, FL=1000mm. Sky-watcher HEQ5 mount tracking at lunar rate, with a Canon DSLR T2, and processed in Photoshop CS5. Image taken 2017 March 6 from Greenwood, Nova Scotia, by Paul Gray.

**July** (*Milky Way over Moraine Lake*)

A composite image from 16 images for the ground, mean combined to smooth noise, and one exposure for the sky, untracked, all 15 seconds at *f*/2 with the Sigma 20-mm Art lens and Nikon D750 at ISO 6400. Image taken 2016 August 31 by Alan Dyer.

**August** (*Perseid Meteor Shower Radiant*)

A composite of the Perseid meteor shower, on the peak night, 2016 August 11/12, contains 33 meteors. The ground is a mean combined stack of 4 frames. The sky is a stack of 31 frames, each frame is 30 seconds at *f*/2 with a Sigma 20-mm lens and Nikon D750 at ISO 5000. Image was taken from the Dark-Sky Preserve of Grasslands National Park, Saskatchewan, by Alan Dyer.

**September** (*Ghostly Veil*)

An image made from 9 × 20-min H α , 12 × 20-min OIII for a total exposure of 7 hours. Image was acquired with a Planewave 12.5" CDK telescope and a Apogee U16M camera, using Astrodon GenII H α and OIII filters mounted on a Paramount ME and guided with Astrodon MMOAG and SBIG ST-402ME. Processed with MaximDL, RegiStar, and Photoshop CC. Image by Stuart Heggie.

**October** (*IC 1396 & Elephant's Trunk Nebula*)

An image made from 8 × 10-min R, 8 × 10-min G, 8 × 10-min B, and 11 × 20-min H α , for a total exposure of 7 hr 40 min. Image was taken with a 106mm Tak FSQ-106 at *f*/3.6 and a Moravian G3-16200 EC camera, using Optolong Filters on a Paramount MX. Acquisition with the SkyX and all pre-processing and processing in PixInsight. Taken from Guelph, Ontario, by Ron Brecher.

**November** (*California Nebula*)

An image made from 15 × 5-min R, 10 × 5-min G, 11 × 5-min B and 6 × 15-m H α , for a total exposure of 4 hr 30 min. Image was taken with a 106-mm Tak FSQ-106 at *f*/3.6 and a Moravian G3-16200 EC camera using Optolong Filters on a Paramount MX, guided with a QHY5 guide camera 50-mm f.l. guide scope. Acquisition with the SkyX and all pre-processing and processing in PixInsight. Taken from Guelph, Ontario, by Ron Brecher.

**December** (*The Fox Fur*)

A composite narrowband image from 16 × 900 seconds 5-nm H α , 10 × 900 seconds 5-nm SII and 8 × 900 seconds 3-nm OIII for a total exposure time of 8.5 hours. Imaged with a Tele Vue NP127is on a CGE Pro mount, QSI583wsg CCD camera using a Starlight Lodestar autoguiding. Captured with ImagesPlus with autoguiding through PHD2. Processing done with Pixinsight and Photoshop. Image taken from Calgary, Alberta, by Dan Meek.

Most of the data appearing in the monthly grid was generated using custom software written by David Lane, Alister Ling, and Larry McNish. The Moon images were created using custom software written by Alister Ling. The Moon names were researched and provided by Cathy LeBlanc (Mi'kmaq First Nation) and David Chapman.

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The Royal Astronomical Society of Canada

Since it was founded in 1868, the RASC has filled a special role in both amateur and professional astronomy. Today, it has over 5000 members worldwide who share a passion for the night sky and make contributions to astronomy in many ways.

The RASC has a long tradition of high-quality, volunteer-produced publications. The *Observer's Handbook* has been published since 1907 and is recognized worldwide as the leading

handbook of its type. The *Journal*, also published since 1907, contains articles of interest to amateur astronomers. The *Observer's Calendar* is a forum for astro photography by amateur astronomers, and *Skyways* (available in French as "*Explorons l'Astronomie*") is an astronomy teacher's guide. The RASC now owns and publishes *SkyNews*, Canada's only adult science magazine.


For information on joining the Society, or to order an RASC publication, visit www.rasc.ca or contact the Society Office at:

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 Rise 4:59 4:27
Set 19:43 20:11 **10**

Nova East, Smileys Provincial Park,
NS halifax.rasc.ca/ne
(through Aug 13)

 Rise 6:12 5:46
Set 20:29 20:50 **11**
Sunrise 6:08 5:44
Sunset 20:02 20:25
New Moon
5:58

Partial solar eclipse visible from
extreme northern Canada, Greenland,
Scandinavia, Russia, and China

 Rise 40°N 50°N
13:04 13:23 **17**
Set 23:55 23:34

Venus at greatest elongation
(46° E) this evening
Fundy Park Stargaze, Fundy N.P., NB,
www.nb.rasc.ca/ (through Aug 19)

 Rise 40°N 50°N
14:05 14:30 **18**
Set --- ---
Sunrise 6:15 5:54
Sunset 19:52 20:12
First Quarter
3:49

*Lockyer & Janssen discovered helium
in Sun 150 years ago*

The Royal Astronomical Society of Canada Observer's Calendar 2018

All photos in this unique Calendar were taken by members of The Royal Astronomical Society of Canada (RASC) who are astronomy enthusiasts. It was produced by volunteer members of The Royal Astronomical Society of Canada.

This Calendar includes comprehensive listings of astronomical data, such as lunar and planetary conjunctions, Sun and Moon rise and set times, eclipses, meteor showers, and Moon phases.

Editor
Paul Gray

