

**ASTROGIES**

ENGLISH / 2027

US East Coast

New York | EST & EDT

Night sky

2027

A year of observing and discovery

12 monthly guides | 365 lunar discs | 12 star charts





January / A stellar nursery in Orion



M42 / Orion Nebula

Optical composite from the VLT Survey Telescope, combining different filters.

Below the three stars of Orion's Belt hangs a small sword. Within it lies the Orion Nebula, a region where gas and dust are forming new stars. Binoculars reveal a soft glow; a telescope shows more structure around the bright center. This photograph reveals far more than the eye can see, because a sensitive camera collects light and combines observations through different filters.

TRY IT YOURSELF

Start with the Belt using your unaided eyes. Find the sword with binoculars and compare the nebula with a nearby star. Choose an evening with little moonlight and describe its shape and variations in brightness. The orange-red color of Betelgeuse and the blue-white light of Rigel offer a separate observation.

The Quadrantids peak around January 3-4. Observe before dawn on nearby mornings and check current forecasts; the short peak may not coincide with a dark local sky.

Image: ESO/G. Beccari. Full credits and sources on pages 57-58.



January 2027

Moon at 12:00 | New York sunrise / sunset | local EST/EDT

MON	TUE	WED	THU	FRI	SAT	SUN
				1 07:20 / 16:39	2 07:20 / 16:40	3 07:20 / 16:41 Quadrantids*
4 07:20 / 16:42	5 07:20 / 16:43	6 07:20 / 16:44	7 07:20 / 16:45 NM 15:24	8 07:20 / 16:46	9 07:20 / 16:47	10 07:20 / 16:48
11 07:19 / 16:49	12 07:19 / 16:50	13 07:19 / 16:51	14 07:18 / 16:52	15 07:18 / 16:53 FQ 15:35	16 07:18 / 16:54	17 07:17 / 16:55
18 07:17 / 16:57	19 07:16 / 16:58	20 07:16 / 16:59	21 07:15 / 17:00	22 07:14 / 17:01 FM 07:17	23 07:14 / 17:02	24 07:13 / 17:04
25 07:12 / 17:05	26 07:11 / 17:06	27 07:11 / 17:07	28 07:10 / 17:09	29 07:09 / 17:10 LQ 05:55	30 07:08 / 17:11	31 07:07 / 17:12

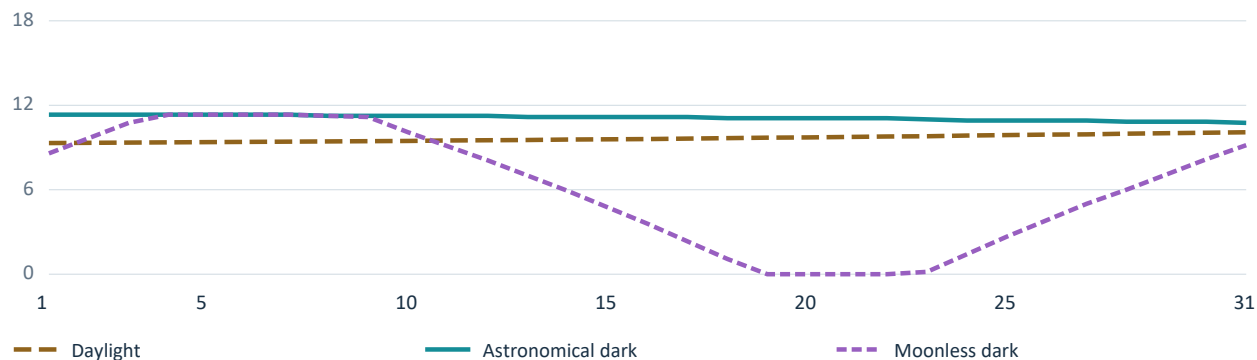
07	New Moon	15:24 EST
15	First Quarter	15:35 EST
22	Full Moon	07:17 EST
29	Last Quarter	05:55 EST

NM new Moon · FQ first quarter

FM full Moon · LQ last quarter

* See the monthly feature and pp. 53-54.

Available hours: daylight and the following night





Star chart / January

15 January 2027, 22:00 EST | New York | limiting magnitude 5.2

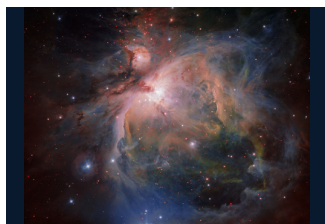
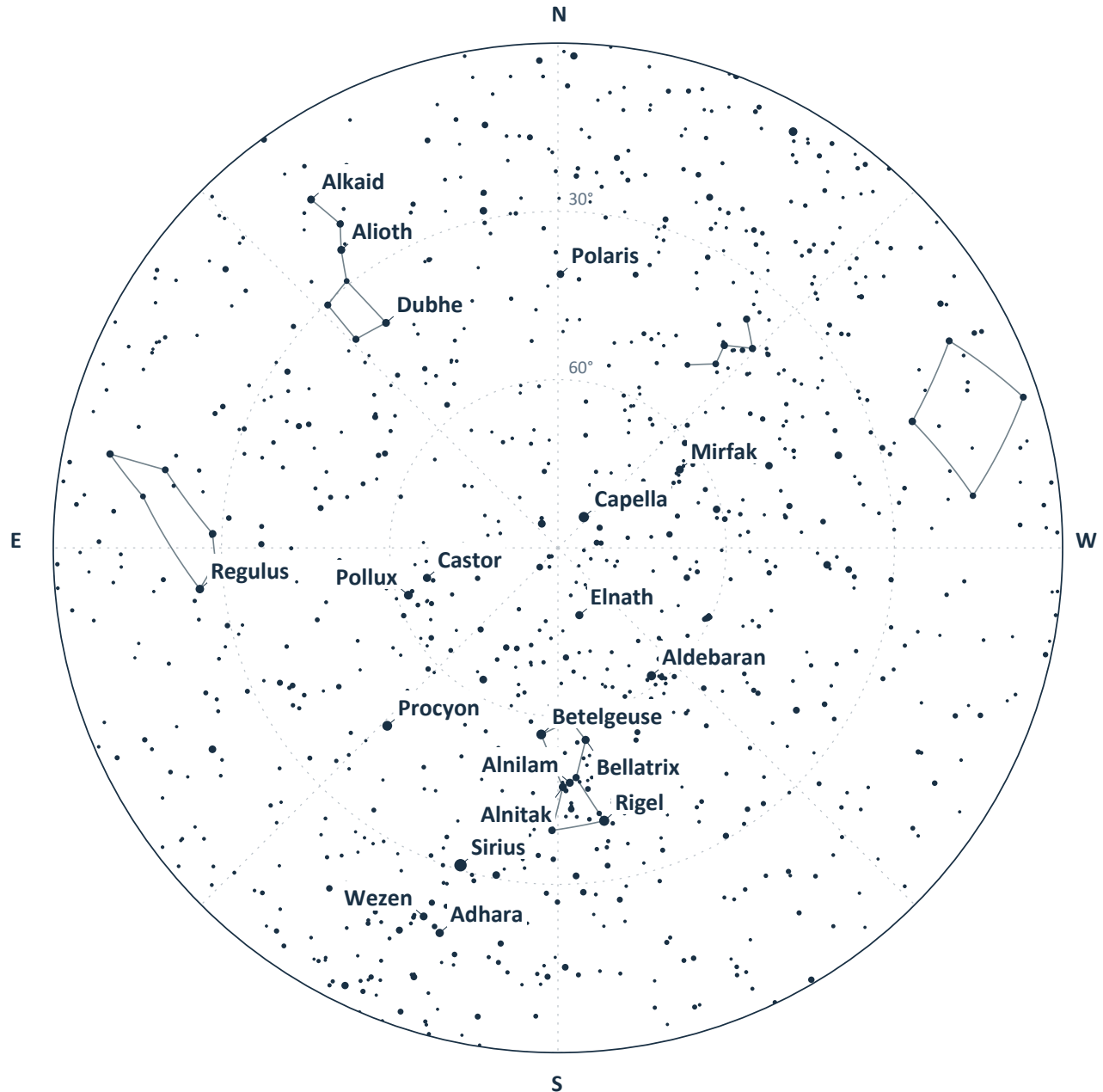


IMAGE OF THE MONTH

M42 / Orion Nebula

Optical composite from the VLT Survey Telescope, combining different filters.

Feature: p. 5. Guidance and planets: next page.

Image credits and sources: p. 58.



Calculations and verification

Calculation basis

Skyfield 1.55 with JPL DE440s. Apparent topocentric positions are calculated for New York; altitude graphs exclude atmospheric refraction. Stars use HYG 4.1 (J2000), with proper motion and precession to 2027. Close multiple-star components are combined at this chart scale. Projection: azimuthal equidistant, centered on the zenith.

Independent comparisons

All 49 lunar phase events were compared with the US Naval Observatory: maximum difference 39 seconds. Comparison with PyEphem gives a maximum of 6.7 seconds. The four seasonal events differ by less than one minute from Fred Espenak's AstroPixels table.

Sun, darkness and precision

Sunrise/set use the Sun's center at -50 arcminutes, a standard approximation for radius and refraction at a level horizon. All 730 solar times were compared with PyEphem; maximum difference 30 seconds from the rounded table. Night duration is sampled every five minutes. A real horizon and variable refraction change rise/set times.

Charts and limits of verification

All 11,772 plotted star positions were checked in altitude and direction against PyEphem: maximum separation 0.041° . That comparison uses J2000 positions without proper motion; the chart calculation includes it. A further 11,759 positions were checked against the original Hipparcos catalogue: maximum 13 arcseconds. Two additional systems were checked with Yale BSC. Atlas reference: IAU / Sky & Telescope. Also checked: all 10,140 planet-curve points (agreement within 0.001°), 365 nightly darkness durations and all daily lunar illumination values.

[NIST / daylight saving time](#)

[USNO / lunar phases 2027](#)

[JPL / DE440 and DE441](#)

[Skyfield / definitions and algorithms](#)

[Fred Espenak / equinoxes and solstices](#)

[NASA / eclipses in 2027](#)

[NASA / eclipse safety](#)

[AMS / meteor showers](#)

[IAU / Sky & Telescope star atlas](#)

[Hipparcos / original catalogue](#)

[Yale / Bright Star Catalogue](#)

Atlas, source and digital print checks: 14 October 2026. US East Coast edition 1.1, based on Dutch edition 1.5. Future time-zone changes or revised meteor forecasts may require updates. No physical printer proof has been made.

PUBLICATION DETAILS



Images, credits and use

January / M42 / Orion Nebula

ESO/G. Beccari. [Source and original image.](#)

February / Tycho / central peak

NASA/Goddard/Arizona State University. [Source and original image.](#)

March / M44 / Praesepe, the Beehive Cluster

NOIRLab/NSF/AURA. [Source and original image.](#)

April / M51 / Whirlpool Galaxy

NASA, ESA, S. Beckwith (STScI), Hubble Heritage Team (STScI/AURA). [Source and original image.](#)

May / M13 / Hercules Globular Cluster

ESA/Hubble and NASA. [Source and original image.](#)

June / M57 / Ring Nebula

NASA, ESA, C. Robert O'Dell (Vanderbilt University). [Source and original image.](#)

July / M27 / Dumbbell Nebula

ESO/I. Appenzeller, W. Seifert, O. Stahl, M. Zamani. [Source and original image.](#)

August / Lunar geometry and local visibility

NASA Scientific Visualization Studio / Ernie Wright; LRO data. [Source and original image.](#)

September / M31 / Andromeda Galaxy

ESO/S. Brunier. [Source and original image.](#)

October / NGC 869 + NGC 884 / Double Cluster

ESO/S. Brunier. [Source and original image.](#)

November / M45 / Pleiades

ESO/S. Brunier. [Source and original image.](#)

December / Full Moon / a world of contrasts

NASA Scientific Visualization Studio / Ernie Wright; LRO data. [Source and original image.](#)

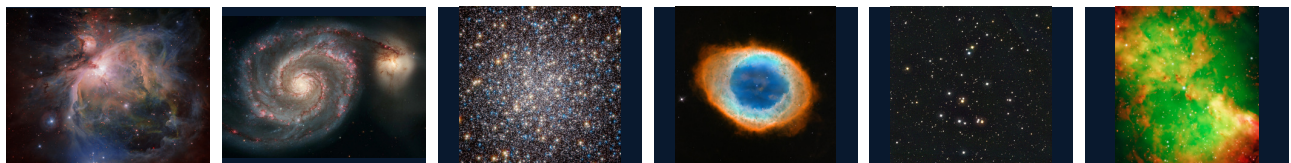
Cover: Orion Nebula, ESO/G. Beccari. Images retain their proportions; no stars or objects have been added. Photographs are historical observations, not exposures from 2027. SVS Moon images are scientific visualizations based on LRO data.

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Pattern connections checked against [Stellarium Western](#). Star charts: AstroGies, derived from HYG 4.1 by David Nash / Astronexus (CC BY-SA 4.0). These twelve derived charts are also offered under [CC BY-SA 4.0](#). Original text, calendar design and other graphs: © 2026 AstroGies. Source-material rights remain with their creators.

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