BCAS OBSERVING HIGHLIGHTS for January 10 to 25, 2026, a "dark Moon period"
Black Canyon Astronomical Society (BCAS), southwest-central Colorado, USA

DATES & TIMES (MST) FOR REGIONAL EVENTS AND EYE-CATCHING HAPPENINGS IN THE SKY:

January 9 to 19, 7:00 PM to midnight: Enjoy our winter stars under a dark, moonless sky
January 10, 1:30 AM to 6:15 AM: Moon just west of first-magnitude star, Spica, in Virgo
January 10, all night long: Jupiter is opposite the Sun in our sky, and closest to Earth
January 13, 7:00 to 8:00 PM: BCAS meeting – "2026 Astronomy & Observing Preview"
January 14, 5:30 to 6:45 AM: Crescent Moon 3° to right of reddish star, Antares
January 16, 10:00 AM: Western Slope Skies on KVNF radio
January 16 to 25, midnight to 5:30 AM: Enjoy late winter & spring stars under a dark, moonless sky
January 21, 6:00 PM: Western Slope Skies on KVNF radio
January 22, 6 to 9 PM: Crescent Moon 7° west of Saturn

SUMMARY.

It's cold, but January 10 to 25 can be a great time to enjoy the stars under a dark, moonless sky. In the evenings, the Milky Way spans the sky from Constellation Cygnus low in the west northwest, through Cassiopeia and Perseus north of the zenith, to Auriga, Gemini, and Monoceros in the east. The bright stars of our winter are rising higher in the sky, including Capella, Aldebaran, Betelgeuse, Procyon, Rigel, Pollux, and Sirius, the night sky's brightest star. Before dawn, we can preview our "spring stars", including bright Arcturus and Spica, and Vega, rising in the east northeast, portending our coming summer.

The Moon reaches last quarter on January 10, and from January 11 to 17, the crescent Moon wanes. The Moon is new on January 18. Between January 19 and 24, watch the crescent Moon wax in the evening sky. The Moon reaches first quarter on January 25. Enjoy seeing earthshine delicately illuminate the nightside of the crescent Moon, especially on mornings from January 13 to 16 and on evenings from January 20 to 23 (binoculars can provide eye-catching views!).

We can't see Mercury, Venus, and Mars during this period because they are too near the Sun in our sky, but we can view all four giant planets of the outer Solar System. Brilliant Jupiter, the "King of Planets", is at its very best, rising in the east northeast before sunset, culminating more than 70 degrees above the southern horizon between 10:15 PM and midnight, and remaining visible in the west into morning twilight. With a telescope, you can watch solar eclipses on Jupiter, as the shadows of its four largest moons cross the Giant Planet, including a well-time transit of Ganymede's large shadow on January 13-14 from 10:58 PM to 2:18 AM MST. Saturn, the "Ringed Planet", is more than 30 degrees above the southeastern horizon as the sky darkens and remains visible until after 9:30 PM MST. With a telescope, you can view Neptune, now conveniently near Saturn, moving through Constellation Pisces, and Uranus, south of the Pleiades Star Cluster in Constellation Taurus. With a telescope, you may also be able to spot Comet 24P/Schaumasse in the morning sky, moving eastward against the stars and galaxies of Constellation Virgo.

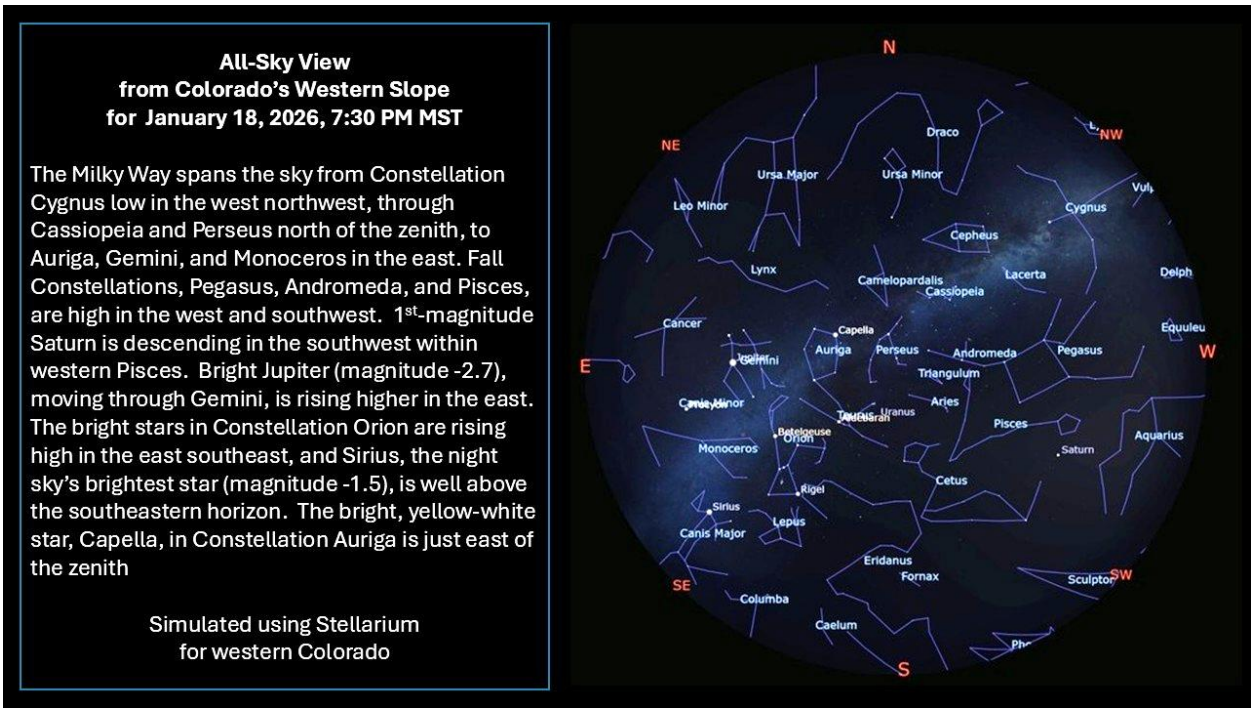
Extreme solar flares have occurred in recent weeks and months, and some of these were associated with coronal mass ejections that caused geomagnetic storms and auroras on Earth. As of January 9, there are two big active regions on the Earth-facing side of the Sun, so it's possible that auroras could be visible again from the Western Slope during this period.

Numerous Earth satellites are visible every clear evening and morning. Find times for local passes of bright satellites, including the International Space Station and Tiangong, the Chinese Space Station, at these links...
https://www.heavens-above.com/

https://www.n2yo.com/passes/?s=25544

Note: The apparent brightness of sky objects is measured in "magnitude" units. Many bright stars are magnitude +1, while the faintest stars easily visible to unaided eyes under dark skies are magnitude +6. Some of the brightest stars are 0 magnitude (e.g., Vega, Arcturus), while the brightest sky objects have negative magnitudes (e.g., Sirius at -1.5, Jupiter at -2 to -3, Venus at -4 to -5, the full Moon at -12 to -13, and the Sun at -26.7 magnitude). Angular distances on the sky are usually cited in degrees of arc (often abbreviated as "°"). Helpful ways to estimate 1, 5, 10, 15, and 25 degrees of arc can be found here: https://www.timeanddate.com/astronomy/measuring-the-sky-by-hand.html

ENJOY A DARK JANUARY SKY. It may be cold, but you owe it to yourself to bundle up and step outside for a few minutes to enjoy the bright stars of our January evening sky! Use a planetarium app or the chart below to navigate.



FIND COMET 24P/SCHAUMASSE WITH A TELESCOPE. Periodic Comet 24P/Schaumasse is moving eastward through the northern part of Constellation Virgo during January. 24P/Schaumasse is a Jupiter family comet with an orbital period of 8 years. This Comet is predicted to be at magnitude +9 or +10 during this period, but it could be as bright as magnitude +8. 24P/Schaumasse was closest to Earth on January 4 (110 million miles distant) and closest to the Sun on January 8 (also 110 million miles distant from the Sun). The Comet is now moving against galaxies of the Virgo Galaxy Cluster, but 24P/Schaumasse is likely to appear brighter than any of these galaxies. 24P/Schaumasse may or may not exhibit a tail. See brightness estimates and finder charts here…
https://astro.vanbuitenen.nl/comet/24

THE MOON. The Moon reaches **last quarter on January 10** (exactly at 8:48 AM MST), and from January 11 to 17, the crescent Moon wanes. The **Moon is new on January 18** (exactly new at 12:52 PM MST).

Between January 19 and 24, watch the crescent Moon wax in the evening sky. **The Moon reaches first quarter on January 25** (exactly at 9:47 PM MST).

On the morning of January 10, the last quarter Moon is about 7 to 5 degrees west of first-magnitude Spica. On January 14 between 5:30 and 6:45 AM MST, look for the 16%-illuminated crescent Moon about 3 degrees to the right of the reddish star, Antares. The waxing crescent Moon is about 7 degrees west of Saturn on the evening of January 22.

Enjoy seeing earthshine delicately illuminate the nightside of the crescent Moon, especially on mornings from January 13 to 16 and on evenings from January 20 to 23 (binoculars can provide eye-catching views!). NASA has published a stunning visualization of lunar phases for year 2026. Another fun site is NASA's daily Moon guide. **Please do your crescent Moon spotting before sunrise and after sunset. NEVER chance looking at the Sun directly; serious eye damage can result.**

SATURN IN THE EVENINGS. As the sky darkens, the Ringed Planet is more than 30 degrees above the southwestern horizon. View Saturn with telescopes while it is still relatively high in the sky, just after the end of bright evening twilight. Saturn sets in the west at about 10:32 PM MST on January 10 and 9:40 PM MST on January 25. During this period, Saturn shines at +1.0, as its distance from Earth increases from 918 million to 938 million miles. Through telescopes, Saturn's disk appears 17 arc seconds wide, and its rings span 39 arc seconds. During early 2026, Saturn's thin rings (150,000 miles wide but only about 1000 ft thick!) appear nearly "edge-on" from our perspective on Earth. These rings are not as striking as they have been in the past few years (and will be a few years from now). Saturn's rings will gradually appear to "open" from Earth's perspective later in 2026. When seen nearly edge-on, Saturn's rings are dimmer than average, making it easier to spot some of Saturn's mid-sized moons, like Tethys, Dione, Rhea, and Enceladus. Titan, Saturn's largest moon, is bright enough to see with just binoculars. You can follow the changing positions of Saturn's moons by using various planetarium apps.

NEPTUNE – NEAR SATURN. Neptune, shining at magnitude +7.8, is about 2.5 degrees northeast of Saturn. Like Saturn, we can observe Neptune best just after the end of evening twilight. You'll need binoculars or a telescope to spot Neptune, moving slowly against the stars of southwestern Pisces during this period. A telescope may reveal Neptune's 2.3 arc second-wide, blue disk. Neptune is 2.80 billion miles distant these days. You can use this link to find Neptune:
https://theskylive.com/neptune-info

URANUS. Uranus is well placed for viewing through much of the night. Uranus is moving slowly against the stars of Constellation Taurus, about 4 degrees south of the Pleiades Star Cluster. You can use this link to find Uranus: https://theskylive.com/uranus-info
At magnitude +5.7, you can see the 7th Planet easily with binoculars, and perhaps even with eyes unaided when the Moon is below the horizon. But you'll need a telescope to resolve Uranus' 3.7 arc second-wide disk and to detect color easily. Most people perceive Uranus as either blue or green. How does it appear to you? The best times to view the 7th Planet may be between 6:30 PM and 9:30 PM MST, when Uranus is more than 60 degrees above the horizon. Uranus is 1.77 billion miles from Earth during this period.

JUPITER AND ITS MOONS AT THEIR BEST! This is a great time to view Jupiter and its four large "Galilean" moons! The Giant Planet now rises before sunset and remains visible all night long into morning twilight. Jupiter is more than 50 degrees high in our sky between 9:30 PM and 2 AM MST, culminating more than 70 degrees above the southern horizon between 10:15 PM and midnight MST. Jupiter is opposite the Sun in our sky and closest to Earth on January 10. Between January 10 and 25, the Giant Planet fades slightly from -2.68 to -2.65, as its distance from Earth increases from 393 million

to 397 million miles, and its apparent diameter decreases from 46.6 to 46.2 arc seconds. That's still large enough for resolving Jupiter's disk with binoculars!

Use a telescope or binoculars to spot Jupiter's four bright "Galilean" moons. You can identify them by their changing positions and referring to various planetarium apps. Use a telescope to view shadows of the Galilean moons crossing the Giant Planet. These are total solar eclipses on Jupiter! Ganymede, the largest moon in the Solar System, casts the largest shadow of Jupiter's moons, and its shadow is usually the easiest to spot. There are two transits of Ganymede's shadow during this period, including a well-timed event on January 13-14 from 10:58 PM to 2:18 AM MST, when Jupiter is more than 56 degrees high in our sky. Due to their smaller diameters, the shadows of Callisto, Io, and Europa are smaller than Ganymede's shadow. But shadows of all 4 Galilean moons can be observed transiting Jupiter with telescopes having apertures as small as 3 inches. Shadow transits of Io and Europa occur frequently, because Io orbits Jupiter every 1.8 Earth days, and Europa every 3.6 days. Ganymede and Callisto have longer orbital periods (around Jupiter), 7.2 and 16.7 Earth days, respectively, so their shadows cross Jupiter less frequently.

January 10, 2026, 12:20 AM to 3:46 AM MST, Callisto's shadow crosses Jupiter. Locally this event begins with Jupiter 73 degrees high in the south and ends with Jupiter 43 degrees high in the west. <u>This transit occurs when Jupiter is exactly opposite the Sun in our sky, and from our perspective Callisto's shadow is projected right behind the disk of Callisto itself. Callisto may contrast poorly with Jupiter's bright disk, and Callisto may mostly block its own dark shadow! Consequently, this rare event could be challenging (but very interesting!) to observe.</u>

January 11, 2026, 2:18 AM to 4:34 AM MST, Io's shadow crosses Jupiter (Locally, this event begins with Jupiter 58 degrees above the southwestern horizon and ends with Jupiter 33 degrees above the western horizon. This transit occurs when Jupiter is nearly opposite the Sun in our sky, and from our perspective, Io partially blocks its own shadow. This may make the event harder to observe).

January 12, 2026, 8:46 PM to 11:02 PM MST, Io's shadow crosses Jupiter (Locally, this event begins with Jupiter 44 degrees above the eastern horizon and ends with Jupiter 68 degrees high in the southeast. Io lies directly west of its own shadow).

January 13 to 14, 2026, 10:58 PM to 2:18 AM MST, Ganymede's shadow crosses Jupiter (Locally, this event begins with Jupiter 69 degrees above the southern horizon and ends when Jupiter is 56 degrees high in the southwestern sky).

January 14, 2026, 3:16 PM to 5:32 PM MST, Io's shadow cross Jupiter (Locally, this event begins in daylight well before Jupiter rises at 4:42 PM MST and ends in bright civil twilight with Jupiter 9 degrees above the east-northeastern horizon).

January 15, 2026, 12:16 AM to 3:04 AM MST, Europa's shadow crosses Jupiter (Locally, this event begins with Jupiter 73 degrees above the southern horizon and ends with Jupiter 47 degrees high in the west).

January 18, 2026, 4:12 AM to 6:28 AM MST, Io's shadow crosses Jupiter (Locally, this event begins with Jupiter 32 degrees above the western horizon and ends with Jupiter 6 degrees above the west-northwestern horizon).

January 19 to 20, 2026, 10:40 PM to 12:58 AM MST, Io's shadow cross Jupiter (Locally, this event begins with Jupiter 70 degrees above the southern horizon and ends with Jupiter 66 degrees above the southern horizon).

January 21, 2026, 2:58 AM to 6:20 AM MST, Ganymede's shadow crosses Jupiter (Locally, this event begins with Jupiter 43 degrees above the western horizon and ends with Jupiter 5 degrees above the west-northwestern horizon).

January 21, 2026, 5:10 PM to 7:26 PM MST, Io's shadow cross Jupiter (Locally, this event begins in daylight, just before sunset, with Jupiter 11 degrees above the east-northeastern horizon and ends with Jupiter 37 degrees high in the east).

January 22, 2026, 2:52 AM to 5:40 AM MST, Europa's shadow crosses Jupiter (Locally, this event begins with Jupiter 43 degrees above the western horizon and ends with Jupiter 11 degrees above the west-northwestern horizon).

January 25, 2026, 6:06 AM to 8:24 AM MST, Io's shadow crosses Jupiter (Locally, this event begins with Jupiter only 4 degrees above the west-northwestern horizon and ends in daylight long after Jupiter sets).

January 25, 2026, 4:10 PM to 6:58 PM MST, Europa's shadow crosses Jupiter (Locally, this event begins in daylight with Jupiter only 3 degrees above the east-northeastern horizon and ends with Jupiter 35 degrees high in the east in a dark sky).

WILL A BRIGHT NOVA ("NEW" STAR) APPEAR SOON? Will there be a bright "new" star in Constellation Corona Borealis sometime soon, at least briefly? Corona Borealis rises above the east-northeastern horizon by 1:30 AM MST, and the Constellation is more than 40 degrees above the eastern horizon by 5 AM MST. T Coronae Borealis (T CrB) is a recurrent nova that (based on past behavior) may rapidly increase in brightness 1500-fold (to second magnitude) to become the brightest star (or 2nd brightest star) in Corona Borealis between now and sometime in 2026. Then this "new star" may fade rapidly below naked-eye visibility in about a week. As of 5 AM (MST) on January 9, T CrB had not yet erupted. Astronomer Jean Schneider of Paris Observatory stated that an eruption is most likely on November 10, 2025 or June 25, 2026. There was no eruption on November 10, 2025, but keep watch - an eruption could happen at any time! You can find additional info at these sites…
https://blogs.nasa.gov/Watch_the_Skies/2024/02/27/view-nova-explosion-new-star-in-northern-crown/
https://www.aanda.org/articles/aa/full_html/2023/12/aa48372-23/aa48372-23.html

THE SUN. The Sun has been very dynamic lately, as solar active regions containing sunspots have unleashed numerous flares and coronal mass ejections (CMEs) of charged particles. There have been many M-class (moderate) solar flares during recent weeks. And there were X-class (extreme) flares on November 4 (two!), 9, 10, and 14 and on December 1 and 8! Also, CMEs have triggered geomagnetic storms that caused auroras. As of January 9, there are two big active regions on the earth-facing side of the Sun, so we may experience more M- and possibly X-class (extreme) flares and powerful CMEs. The best way to monitor sunspots, solar flares, CMEs, and other solar activity safely (and in "real time") is by using the internet. Check out the following sites…
https://sohowww.nascom.nasa.gov/data/realtime-images.html
https://sdo.gsfc.nasa.gov/data/
https://stereo.gsfc.nasa.gov/beacon/

http://halpha.nso.edu/
https://www.swpc.noaa.gov/
http://www.sidc.be/silso/ssngraphics
Do not look at the Sun directly without safe, specialized solar filters. Looking at the Sun can be very dangerous unless you take adequate precautions. Severe eye damage and even blindness can result.

AURORAS (aka "polar lights" or "northern lights"). With continuing high solar activity and associated coronal mass ejections, there may be geomagnetic storms that trigger auroras that could become visible from the Western Slope. Get predictions and updates for auroras, their intensity, and geographic extent from NOAA's Space Weather Prediction Center:
https://www.swpc.noaa.gov/products/aurora-viewline-tonight-and-tomorrow-night-experimental
Auroras are most frequently seen from high latitudes, e.g., from Canada, Alaska, Iceland, northernmost Europe, southern New Zealand, and Antarctica. But many people viewed and photographed auroras from Colorado several times in 2024 and 2025, including a spectacular aurora on November 11, 2025. Also, we can watch auroras in real-time from Yellowknife, Northwest Territories on an all-sky camera at the Canadian Space Agency's AuroraMax website. Like Colorado, Yellowknife is in the Mountain Time Zone. An aurora webcam at the University of Alaska-Fairbanks is two hours behind the Mountain Time Zone…
https://www.youtube.com/watch?v=O52zDyxg5QI
Airglow and SAR arcs also result from high solar activity, and these phenomena have been photographed and/or observed from Colorado.

EARTH SATELLITES. Numerous Earth satellites are visible every clear night. Satellites are visible only when they reflect sunlight during twilight or nighttime hours. We see satellites most often during late evening twilight and for an hour or so afterwards, and before and during early morning twilight. The brightest satellites are the International Space Station (ISS) and Tiangong, the Chinese Space Station. Both space stations can appear brighter than any star in the sky, and at times even brighter than the Planet Jupiter. Predictions for space station passes can change quickly, and it's best to get predictions for passes within 24 hours of when you want to see the satellites. In low Earth orbit, both the ISS and Tiangong are subject to atmospheric drag, and they undergo frequent re-boosting. Re-boosting slightly slows orbital speed, resulting in later passes. Also, both space stations frequently alter their orbits to avoid collisions with other satellites and space debris. Some popular sites for predicting local passes of the space stations are the following (be sure to set applications to your location and time zone):
https://www.heavens-above.com/
https://www.n2yo.com/passes/?s=25544
For ISS passes, you can use NASA's "Spot the Station" app for mobile devices …
https://www.nasa.gov/spot-the-station/
Starlink satellite "trains" can be striking sights for a few days after their launch. For predictions of SpaceX's Starlink satellites, try using this site:
https://findstarlink.com/#5431710;3

HAPPY OBSERVING!