

BCAS OBSERVING HIGHLIGHTS for October 18 to November 1, 2026, a “bright Moon” period
Black Canyon Astronomical Society (BCAS), southwest-central Colorado, USA

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

NOTE: Unless the U.S. government mandates permanent Daylight Time before November 1 (and the State of Colorado follows through), we will change from Mountain Daylight Time (MDT) to Mountain Standard Time (MST) at 2 AM MDT on November 1. Remember to set back by one hour all non-internet connected devices.

October 17-20, 6:55 PM: Mercury 4° to 3° above west-southwestern horizon (binoculars)
October 18-22, 4 AM to 5:45 AM: Preview winter stars, Jupiter & Mars under dark, moonless skies
October 21, 2:34 AM to 6:30 AM: Peak of Orionid Meteor Shower under dark, moonless skies
October 23, 10:00 AM: [Western Slope Skies](#) on KVNF radio
October 23-24, 7 PM to 4 AM MDT, gibbous Moon moves from 9° to 7° northeast of Saturn
October 25, 5:50 PM to 6:30 PM MDT: Full “Hunter’s Moon” rises in east northeast
October 27-28, 9 PM to 6 AM MDT: Gibbous Moon just east of Pleiades Star Cluster (binoculars)
October 28, 6:00 PM: [Western Slope Skies](#) on KVNF radio
October 29-November 1, 7:45 PM to 9 PM: Enjoy our fall constellations under dark, moonless skies!
October 30, 10:30 PM to 11:30 PM: Waning Moon rises in Gemini, near stars Pollux and Castor

SUMMARY.

The Moon reaches first quarter on October 18, and from October 19 to 24, we can watch the gibbous Moon wax. The Moon is full on the night of October 25-26. This second full Moon after the September Equinox is often called the “Hunter’s Moon.” After full Moon on October 25-26, a northerly component in the Moon’s generally eastward motion causes it to rise early and illuminate our nighttime landscape. From October 27 to 31, the gibbous Moon wanes, and the Moon reaches last quarter on November 1. [NASA’s daily Moon Guide](#) is a fun website for enjoying the Moon, as it moves through its phases.

Enjoy the peak of the Orionid Meteor Shower under dark skies on October 21 between moonset at about 2:34 AM MDT and the onset bright twilight around 6:30 AM MDT. If it’s cloudy on October 21, it may be worth watching for Orionids before dawn on October 20 and/or October 22. You don’t need any special equipment to spot meteors, just a reclining chair, a warm sleeping bag, and a dark location.

Saturn, now moving through Constellation Cetus (confounding those astrologers!), is the featured planet during this “bright Moon” period. The Ringed Planet, already more than 10 degrees above the eastern horizon as the sky darkens, rises more than 50 degrees high in the south around midnight (MDT), and Saturn remains visible in the west until after 3:30 AM MDT. From October 17 to 20 at around 6:55 PM MDT during bright twilight, challenge yourself to spot Mercury 4 to 3 degrees above an unobstructed west-southwestern horizon, when the Sun is only 6 to 7 degrees below that horizon. With binoculars or telescopes, we can spot Neptune, moving slowly through Constellation Pisces. The 8th Planet is already 20 degrees above the southeastern horizon by 7:30 PM MDT and rises to more than 50 degrees above the southern horizon by midnight (MDT). Uranus, moving slowly through Constellation Taurus, now rises in the early evening and is more than 30 degrees above the horizon by 11 PM MDT. The 7th Planet is easy to spot with binoculars between the Pleiades and Hyades Star clusters.

In the eastern predawn sky, reddish Mars moves through Constellation Cancer and then into Constellation Leo by October 31. Lower in the eastern predawn sky, bright Jupiter is in Constellation Leo, about 7 degrees west of the first magnitude star, Regulus.

As of October 17, two large active regions with sunspots are present on the Earth-facing side of the Sun. We may experience more M-class (moderate) and possibly X-class (extreme) flares and powerful coronal mass ejections (CMEs). It's possible that CMEs and flares from the Sun could trigger auroras and airglow that are visible from the Western Slope. View the Sun safely and in "real-time" via the internet. Please do your planet spotting when the Sun is below the horizon. Never risk viewing the Sun without adequate eye protection, as serious eye damage can result.

Numerous Earth satellites are visible every clear night. Predawn passes of the bright International Space Station (ISS) are predicted from October 18 to 22, on October 25, and from October 27 to November 1. And evening passes of the almost-as-bright, Chinese Tiangong Space Station (aka CSS TIANHE-1) are predicted from October 21 to November 1. Find updated times for local passes of the space stations and other bright satellites at these links (be sure to set applications for your location and time zone, if required):

<https://www.heavens-above.com/>

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

<https://www.nasa.gov/spot-the-station/>

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 magnitude 0 (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 -27 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>

One degree can be subdivided into 60 arc minutes (abbreviated as '), and one arc minute is subdivided into 60 arc seconds (abbreviated as ").

THE "HUNTER'S MOON." The Moon reaches first quarter on October 18 (exactly at 10:12 AM MDT). From October 19 to 24, watch the gibbous Moon wax. **The Moon is full on the night of October 25-26** (exactly full at 10:12 PM MDT on October 26). In North America, this full Moon is popularly called a "Hunter's Moon." From October 27 to 31, the gibbous Moon wanes. The Moon reaches **last quarter on November 1** (exactly at 1:28 PM MST or 2:28 PM MDT). [NASA's daily Moon Guide](#) is a fun website for enjoying the Moon, as it moves through its phases.

In the North America, the first full Moon after the September equinox is often called a "Harvest Moon", and the second full Moon after the equinox is called a "Hunter's Moon." After full Moon on October 25-26, the waning gibbous Moon moves progressively farther northeast in our sky. On average, the Moon rises about 50 minutes later each night. But, due to the northerly component of Moon's motion, our moonrise occurs earlier than typical on the evenings of October 26 and 27. The full Moon rises at 5:50 PM MDT on the evening of October 25. On the evening of October 26, the waning, gibbous Moon rises at 6:25 PM MDT, only 35 minutes later than on October 25. On October 27 the gibbous Moon rises at 7:07 PM MDT, about 42 minutes later than on the previous night. Early rising "Hunter's Moons" allowed Native North Americans to prepare for winter by harvesting game under bright moonlight (explaining the term's origin).

On night of October 23-24 from 7 PM to 4 AM MDT, the waxing gibbous Moon moves from about 9 to 7 degrees northeast of Saturn. On the night of October 27-28, the waning gibbous Moon is a few degrees east of the Pleiades Star Cluster (perhaps an interesting sight in binoculars). On October 30 at around 10:30 PM to 11:30 PM MDT, watch the almost-last-quarter Moon rise in the middle of Constellation Gemini, a few degrees to the right of Gemini's bright, "twin" stars, Pollux and Castor.

MERCURY: A CHALLENGE IN EVENING TWILIGHT. Realistically, the evenings of October 17 to 20 at around 6:55 PM MDT are likely our last chances to spot Mercury in the evening sky this year (even with binoculars). From October 17 to 20, Mercury, fading from magnitude +0.13 to +0.25, appears in bright twilight only 4 to 3 degrees above an unobstructed, west-southwestern horizon (with the Sun 6 to 7 degrees below that horizon). For us in the northern hemisphere, Mercury's October appearance is the least favorable of its 2026 evening appearances. This is because Mercury is positioned south of the Sun, and it sets not long after sunset. Mercury's angular separation from the Sun was maximum on October 14, and the Innermost Planet is now receding into glaring twilight. Making Mercury even more challenging to spot, the "Speedster Planet" is now fading rapidly (from magnitude +0.13 to magnitude +4.1), as its phase wanes from a fat, 49%-illuminated crescent on October 17 to a very skinny, 3%-illuminated crescent on November 1. Mercury is at [inferior solar conjunction](#) on November 4. Mercury's distance from Earth decreases from 84 million miles on October 17 to 63 million miles on November 1, as its apparent diameter increases from 7.5 to 10.0 arc seconds. **Please do your Mercury spotting after sunset. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

SATURN: EARLY EVENING THROUGH THE WEE HOURS. We can view the Ringed Planet through most of the night during this bright Moon period. As twilight fades on October 17, Saturn is more than 10 degrees above the eastern horizon, and by November 1, Saturn is more than 20 degrees above the horizon at the end of bright twilight. The Ringed Planet rises more than 50 degrees high in the southern sky at around midnight (MDT) and remains visible in the west until after 3:30 AM MDT. During this period, Saturn fades slightly from magnitude +0.40 to +0.46, as its distance from Earth increases from 786 million to 795 million miles.

Saturn is currently moving amidst the stars of Cetus, a non-zodiacal Constellation, confounding those astrologers! Saturn will remain in Constellation Cetus until February 22, 2027. How is this possible? It turns out that Saturn's orbit is inclined 2.49 degrees to Earth's orbit, and it's currently appearing more than 2 degrees south of the ecliptic, which is the apparent path of the Sun through the sky and along which the zodiacal constellations reside. The Sun never travels through Cetus. But several planets, including Mercury, Venus, and Saturn, occasionally move through Cetus, due to their relatively high orbital inclinations (of 7.01, 3.39 and 2.49 degrees, respectively).

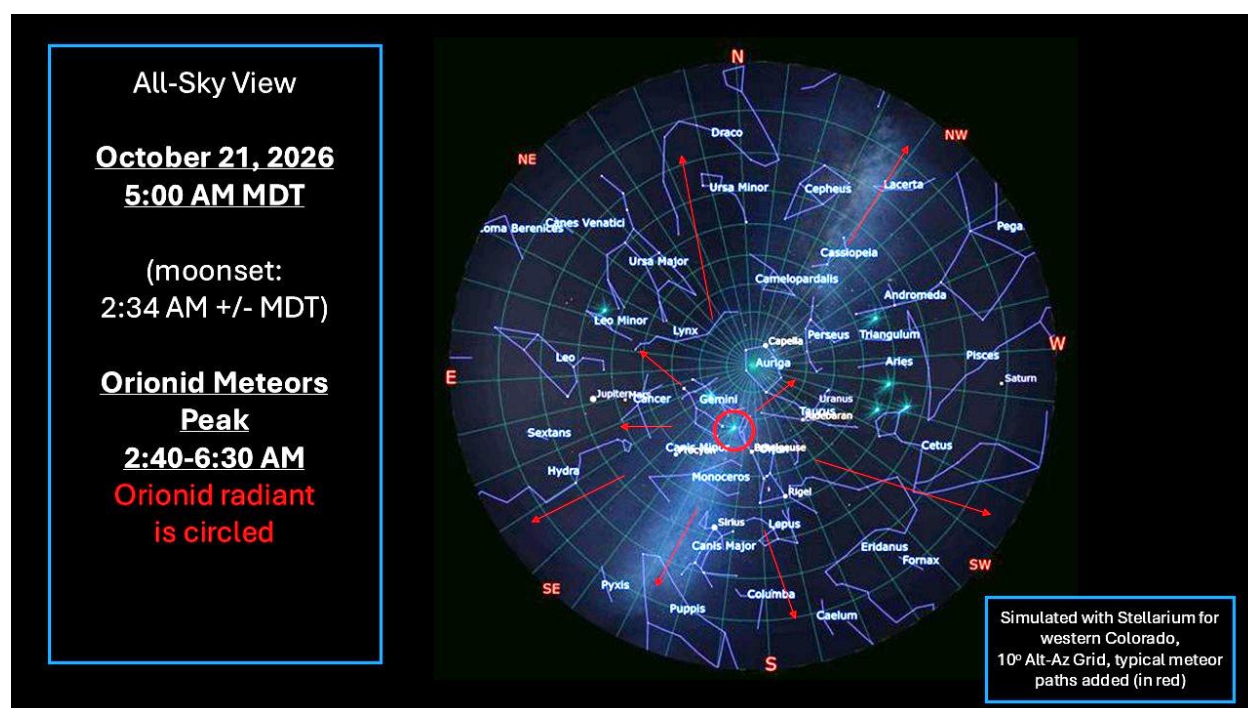
Through telescopes, Saturn's disk appears 19.5 arc seconds wide, and its rings span 46 arc seconds. During early 2026, Saturn's thin rings (150,000 miles wide but only about 1000 ft thick!) appeared nearly "edge-on" from our perspective on Earth, rendering them almost invisible. Saturn's rings are now gradually appearing to "open" from Earth's perspective, and views of the rings are becoming more impressive. You can see Saturn's moons Tethys, Dione, Rhea, and Enceladus through small to mid-size telescopes, and 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: THE 8th PLANET. Neptune, the 8th Planet, is more than 20 degrees above the east-southeastern horizon at 7:30 PM MDT, rises more than 50 degrees above the southern horizon around 11 PM MDT, and remains visible in the west-southwest until around 3:30 AM MDT. Neptune, moving slowly amidst the stars of Constellation Pisces, shines at magnitude +7.7, and we need a telescope (or at least binoculars) to see it. Through telescopes, Neptune's blueish disk appears only 2.4 arc seconds wide. Neptune is 2.70 billion miles from Earth during this period. You can use this link to find Neptune: <https://theskylive.com/neptune-info>

ORIONID METEOR SHOWER – MAXIMUM ON OCTOBER 21, BEFORE DAWN. Did you miss seeing Halley's Comet (1P/Halley) back in 1986? No problem – look skyward during predawn hours October 20,

21, and/or 22. On the morning of October 21, and for one morning or two both before and after October 21, many icy and dusty particles from Halley's Comet enter our atmosphere at 42 miles per second, creating meteors (aka "shooting stars"). The Moon sets at around 2:34 AM MDT on October 21, so our skies will be dark for observing Orionid Meteors from 2:34 AM MDT until the onset of bright twilight at about 6:30 AM MDT. Let's hope for clear skies! Find a reclining chair, a warm sleeping bag, and a dark place away from urban lighting, and then look up! No special equipment is needed. Although the Orionids appear to radiate (originate) from a point in the northern part of Constellation Orion (hence their name), these meteors may be visible all over the sky. The peak of the Orionid Shower is broad, so if it's cloudy on October 21, try to observe during predawn hours for a day or two before and/or after the October 21 peak. Meteor rates tend to increase toward dawn. Under ideal conditions, you may see up to 25 Orionid Meteors per hour between 5:30 AM and 6:30 AM MDT. You can find more information on the Orionids and other meteor showers here:

http://www.meteorastronomie.ch/images/cal2026_e.pdf



WILL A BRIGHT NOVA ("NEW" STAR) ERUPT IN CONSTELLATION CORONA BOREALIS? Will there be a bright "new" star in Constellation Corona Borealis sometime soon, if only briefly? Corona Borealis is more than 25 degrees above the western horizon as the sky darkens and remains visible in the west-northwestern sky until after 8 PM MDT. [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 perhaps sometime next year. Then this "new" star may fade rapidly below naked-eye visibility in about a week. T CrB had not yet erupted, as of October 17 at 6 AM MDT. [Astronomer Jean Schneider predicted that an eruption is most likely on or about June 25, 2026, or on February 8, 2027.](#) An eruption did not happen on June 25, but T CrB could erupt 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

URANUS. Uranus rises above the east-northeastern horizon at about 8:23 PM MDT on October 17 and 6:24 PM MST (7:24 PM MDT) on November 1. The 7th Planet is moving slowly against the stars of Constellation Taurus, between the Pleiades and Hyades Star Clusters. The best times to view the 7th Planet are between 11 PM MDT and the onset of bright twilight at about 6:30 AM MDT, when Uranus is more than 30 degrees above the horizon. You can use this link to find Uranus:

<https://theskylive.com/uranus-info>.

At magnitude +5.6, you can see Uranus easily with binoculars, and perhaps even with eyes unaided when skies are dark. But you'll need a telescope to resolve Uranus' 3.8 arc second-wide disk and to detect color easily. Most people perceive Uranus as either blue or green. How does it appear to you? Uranus is 1.73 billion miles from Earth during this period.

MARS BEFORE DAWN. Mars brightens from magnitude +1.01 to +0.85, as it moves eastward in our predawn sky through Constellation Cancer and then into Constellation Leo on October 31. For several hours before dawn, Reddish Mars shines in the east above brighter Jupiter, and Leo's 1st magnitude star, Regulus. You can distinguish reddish Mars from the reddish stars, Betelgeuse and Aldebaran, by the fact that Mars typically does not scintillate (or "twinkle"). On October 18, Mars rises above the east-northeastern horizon at around 1:16 AM MDT, and on November 1, Mars rises at about 12:57 AM MDT (any official change to MST will not occur until 2 AM MDT on November 1). Mars is still on the far side of the Sun from our perspective; the Red Planet is 143 million miles distant on October 18 and 133 million miles distant on November 1. Through telescopes, Mars' reddish disk is now appearing a little larger, increasing in apparent diameter from 6.1 to 6.6 arc seconds during this period. On February 20, 2027, the Earth-Mars distance will be 63 million miles, the closest during the current Mars apparition, and Mars will appear much brighter (magnitude -1.3) and larger (14 arc seconds wide) than it appears now.

By 5:00 AM MDT, Mars is more than 40 degrees above the eastern horizon, and this may be a good time to start viewing the Red Planet through telescopes, as the Red Planet's apparent diameter now exceeds 6 arc seconds. Can you spot Mars' "north polar hood"? The polar hood consists of light-colored clouds covering all or part of Mars' northern polar ice cap. In coming months, these clouds may dissipate and the polar ice cap may shrink, as summer approaches in Mars' northern hemisphere. Various dark "albedo" features may also become visible as Earth draws nearer to Mars. You can use the [Mars Profiler from Sky & Telescope](#) as a guide to features visible on Mars for any date and time.

JUPITER BEFORE DAWN. Jupiter is the brightest object in the predawn sky, except for the Moon. Jupiter rises in the east at about 2:14 AM MDT on October 18 and at about 1:28 AM MDT on November 1 (any official change to MST will not occur until 2 AM MDT on November 1). Between October 18 and November 1, Jupiter brightens from magnitude -1.94 to -2.00, as its distance from Earth decreases from 530 million to 511 million miles, and its apparent diameter increases from 34.6 to 35.9 arc seconds. That's large enough to resolve with binoculars!

You can use a telescope or binoculars to spot Jupiter's four bright, "Galilean" moons, Io, Europa, Ganymede, and Callisto. You will need a telescope to view shadows of these moons crossing the Giant Planet. These are total solar eclipses on Jupiter! More of these "shadow transits" will become visible as Jupiter starts rising earlier in the coming weeks and months.

October 19, 2026, 6:02 AM to 9:00 AM MDT. Europa's shadow crosses Jupiter (Locally, this event begins in morning twilight with Jupiter 44 degrees above the eastern horizon and the Sun 10 degrees below the horizon, and it ends during daylight).

October 23, 2026, 2:12 AM to 4:32 AM MDT. Io's shadow crosses Jupiter (Locally, this event begins with Jupiter only 2 degrees above the eastern horizon and ends with Jupiter 29 degrees high in the east southeast).

October 30, 2026, 4:06 AM to 6:26 AM MDT. Io's shadow crosses Jupiter (Locally, this event begins with Jupiter 29 degrees high in the east and ends with Jupiter 54 degrees above the east-southeastern during twilight with the Sun 14 degrees below the horizon).

THE SUN. Although [solar cycle No. 25](#) peaked in 2024, the Sun is still active. Two large active regions with sunspots are present on the Earth-facing side of the Sun as of October 17. There have been several M-class (moderate) solar flares during recent weeks, and there were X-class (extreme) as recently as June and July. More solar flares are possible during this period. Ultraviolet light from solar flares can cause a phenomenon called airglow. Striking greenish airglow has been [imaged by BCAS Member, Aaron Watson](#). Coronal mass ejections (CMEs) have triggered geomagnetic storms that caused auroras during past months, some of which were observed and photographed from the Western Slope. The best way to monitor sunspots, solar flares, CMEs, and other solar activity safely (in "real time") is by using the internet. To safely monitor the Sun, check out the following sites (note that some sites may display non-current images).

<https://sohowww.nascom.nasa.gov/data/realtime-images.html>

<https://umbra.nascom.nasa.gov/newsite/images.html>

<https://sdo.gsfc.nasa.gov/data/>

<https://stereo-ssc.nascom.nasa.gov/>

<http://halphi.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"). As the Sun is still active, there may be more 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>

We often see auroras from the Western Slope when the [Planetary Kp Index](#) (a measure of magnetic disturbances around Earth) is above 5 or 6. You can find predicted Kp values for the next 72 hours at the following website (times are posted as Universal Time, UT; to convert to MDT, subtract 6 hours; to convert to MST, subtract 7 hours):

<https://www.swpc.noaa.gov/products/3-day-geomagnetic-forecast>

Auroras are most frequently seen from high latitudes, e.g., from Canada, Alaska, Iceland, northernmost Europe, southern New Zealand, and Antarctica. But many people have viewed and photographed auroras from the Western Slope in the past two years, including a spectacular aurora on November 11, 2025, another aurora on the evening of January 19 and [early morning of January 20, 2026](#), and an ["aurora burst" on March 13](#) (thanks to BCAS member Aaron Watson for posting some of his great aurora images!). [Airglow](#) and [SAR arcs](#) also result from high solar activity, and these phenomena have been photographed and/or observed from Colorado. You can also watch aurora virtually from Yellowknife in the Northwest Territories on the [Canadian Space Agency's Aurora Max](#) live feed (Yellowknife, like the Western Slope, is in the Mountain Time Zone).

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 afterward, 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 due to re-boosting and collision avoidance maneuvers, and it's best to get predictions for passes within 24 hours of when you want to see the satellites.

Predawn passes of the International Space Station (ISS) are predicted from October 18 to 22, on October 25, and from October 27 to November 1. And evening passes of the almost-as-bright, Chinese Tiangong Space Station (aka CSS TIANHE-1) are predicted from October 21 to November 1. Find updated times for local passes of the space stations and other bright satellites at these links (be sure to set applications for your location and time zone, if required):

<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!