BCAS OBSERVING HIGHLIGHTS for May 23 to June 8, 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:

May 22, 10:00 AM: Western Slope Skies on KVNF radio
May 22-23, 9:30 PM to 1:30 AM: Moon moves to within 1° of Regulus in Constellation Leo
May 23-24, 2:30 AM to 4 AM: Preview our summer & early fall stars under a dark, moonless sky
May 26-27, 9:30 PM to 3:00 AM: Gibbous Moon just west of 1st magnitude star, Spica, in Virgo
May 27, 6:00 PM: Western Slope Skies on KVNF radio
May 30, 8:30 PM to 9:15 PM: full Moon rises in the southeast, west of reddish Antares in Scorpius
May 31, 4:45 AM to 5:30 AM: full Moon sets in the southwest, southeast of reddish Antares
June 5, 10:00 AM: Western Slope Skies on KVNF radio
June 6-8, 10:30 PM to 11:59 PM: Enjoy our spring & summer stars under a dark, moonless sky
June 8, 9:10 PM to 10 PM: Venus/Jupiter 2° apart in west northwest! Mercury 15° below & to right

SUMMARY. With just our eyes, we can spot Venus, Jupiter, and Mercury in the evenings and Saturn and Mars in the predawn during this "bright Moon period." And we can observe Neptune before dawn with telescopes or binoculars. On the evening of June 8, brilliant Venus and bright Jupiter are within two degrees of each other in the west northwest, a dazzling sight, especially in binoculars!

The Moon reaches first quarter on the night of May 22-23, and from May 24 to 29, we can watch the gibbous Moon wax. The Moon is full on the night of May 30-31. This is the second full Moon of May 2026, a so-called "Blue Moon." From June 1 to 7, the gibbous Moon wanes. The Moon reaches last quarter on June 8. On May 30 between 8:30 PM and 9:15 PM MDT, watch the full Moon rise in the southeast. Then on the morning of May 31 between 4:45 and 5:30 AM MDT, early risers can watch the full Moon set in the southwest. The Moon's orbit of Earth is elliptical, and this full Moon occurs near "apogee", when the Moon is farthest from Earth. Does the rising (or setting) Moon appear smaller than usual? Maybe, but maybe not! Even though the full Moon on May 30-31 is more distant than the average full Moon (251,000 miles Vs. 238,000 miles) and does appear about 5% less wide than on average, many of us will perceive the rising (or setting) Moon as very large due to the Moon illusion effect.

As of May 22, there are several active regions 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 from the Sun could trigger auroras 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.

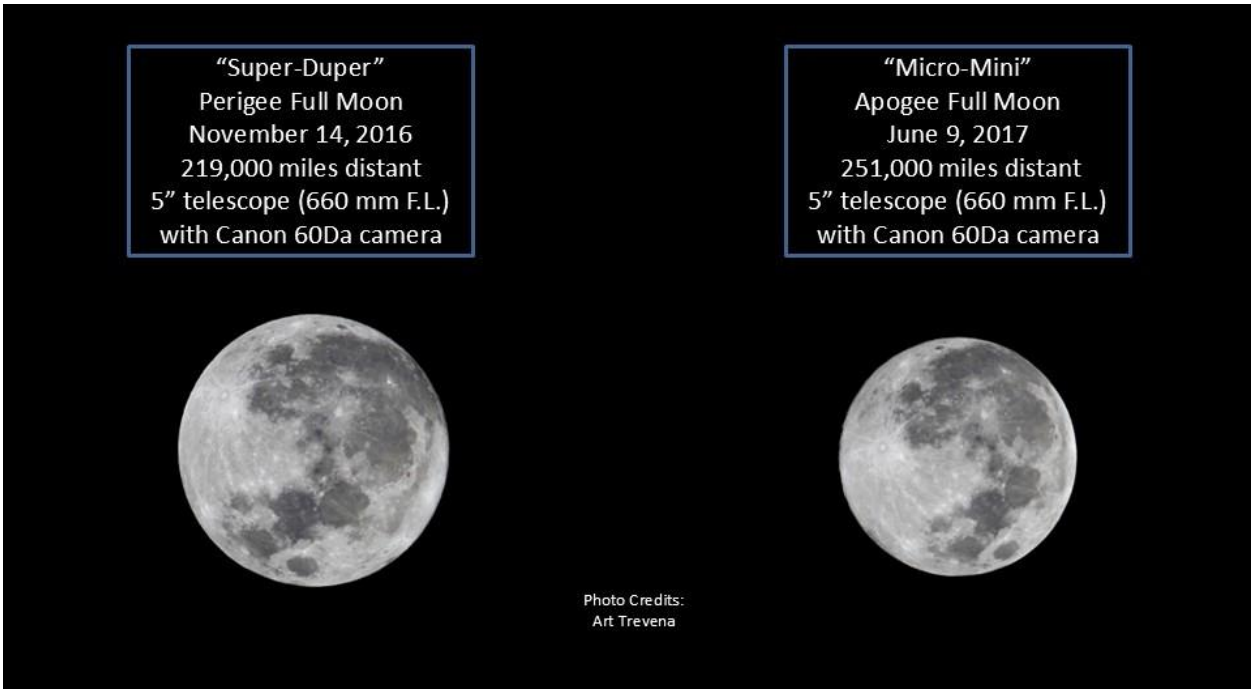
Numerous Earth satellites are visible every clear evening and morning. Evening passes of the International Space Staton (ISS) are predicted from May 22 to 28 and evening passes of Tiangong, the Chinese Space Station, are predicted from May 22 to June 1 (subject to change). Find times for local passes of bright satellites, including the ISS and Tiangong, 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 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

THE MOON. Moon reaches first quarter on the night of May 22-23 (exactly at 5:11 AM MDT on May 23). From May 24 to 29, watch the gibbous Moon wax. **The Moon is full on the night of May 30-31** (exactly full at 2:45 AM MDT on May 31). This is the second full Moon of May 2026, a so-called "Blue Moon." From June 1 to 7, the gibbous Moon wanes. The Moon reaches **last quarter on June 8** (exactly at 4:00 AM MDT). NASA's daily Moon Guide is a fun website for enjoying the Moon, as it moves through its phases.

On the night of May 22-23 from 9:30 PM to 1:30 AM, watch the almost-first quarter Moon move from west to east to within a degree of the 1st magnitude star, Regulus, in Constellation Leo. On the night of May 26-27, the waxing gibbous moon is just west of the 1st magnitude star, Spica, in Constellation Virgo. On May 30-31 the full Moon passes south of 1st magnitude Antares, missing occulting this red supergiant star by only one degree. On May 30 between 8:30 PM and 9:15 PM MDT, watch the full Moon rise in the southeast, just west of Antares. Then on the morning of May 31 between 4:45 AM and 5:30 AM MDT, early risers can watch the full Moon set in the southwest, just southeast of Antares. The Moon's orbit of Earth is elliptical, and this full Moon occurs near "apogee", when the Moon is farthest from Earth. Does the rising (or setting) Moon appear smaller than usual? Maybe, but maybe not! Even though the full Moon on May 30-31 is more distant than the average full Moon (251,000 miles Vs. 238,000 miles) and appears about 5% less wide than on average, many of us perceive the rising (or setting) Moon as very large due to the Moon illusion effect. To compare the apparent sizes of a perigee "super" Moon (when nearest Earth) Vs. an apogee full Moon (when farthest from Earth, similar that of May 30-31), see the photos below. These photos were taken with same telescope/camera system, and they were reproduced at the same scale. A full Moon at perigee appears about 12% larger than a full Moon at apogee.



MERCURY RETURNS TO THE EVENING SKY. During late May and much of June, we in Earth's northern hemisphere enjoy Mercury's best evening appearance of 2026. Near the end of bright, civil twilight on May 22 and 23 between 8:50 PM and 9:05 PM MDT, you may be able to spot Mercury about 2 to 5 degrees above an unobstructed, west-northwestern horizon (binoculars may help). Between June 2 and June 8 around 9:40 PM MDT, Mercury gets easier to spot, because it's 5 degrees or more above the west-northwestern horizon at the end of darker, nautical twilight. Between May 22 and June 8, Mercury's distance from Earth decreases from 116 million to 88 million miles, as its gibbous phase wanes from 91% to 51% illuminated. Even though Mercury fades from magnitude -1.4 on May 22 to magnitude +0.1 on June 8, it will probably be easier to see in early June. That's because Mercury's increasing angular distance from the Sun causes it to remain higher in the sky in less glaring twilight. On June 8 between 9:10 PM and 10:00 PM MDT, look for Mercury about 15 degrees below and to the right of brilliant Venus and bright Jupiter (which are only 2 degrees apart from each other). **Please do your Mercury spotting after sunset. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

VENUS: THAT STRIKING "EVENING STAR"! Dazzling Venus brightens from -3.9 to -4.0 during this period, as its angular distance from the Sun continues to increase. You can spot Earth's "Sister Planet" more than 20 degrees high in the west shortly after sunset in bright twilight, and Venus remains visible for more than two hours afterward. Venus sets well after twilight's end at about 11:02 PM MDT on May 22 and 11:14 PM MDT on June 8. Through telescopes, Venus' gibbous phase wanes from 82% illuminated on May 22 to 77% illuminated on June 8, as its distance from Earth decreases from 122 million to 112 million miles, and its apparent diameter increases from 12.8 to 13.9 arc seconds. Venus will remain a dazzling "evening star" through the late spring and summer of 2026. Venus and Jupiter, the two brightest planets, appear close together during early June. On the evening of June 8 look for brilliant Venus only 2 degrees above and to the right of bright Jupiter (a dazzling sight, especially in binoculars!) with fainter Mercury nearer the horizon (below and to the right). **Please do your Venus spotting after sunset. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

JUPITER AND ITS LARGE MOONS. Bright Jupiter, still moving against the stars of Gemini, is about 20 to 15 degrees high in the west northwest as the sky darkens. Jupiter sets in the west northwest at around 12:07 AM MDT on May 22 and 11:09 PM MDT on June 8. Between May 22 and June 8, the Giant Planet fades slightly from magnitude -1.91 to -1.86, as its distance from Earth increases from 544 million to 562 million miles, and its apparent diameter decreases from 33.6 to 32.6 arc seconds. That's still large enough for resolving Jupiter's disk with binoculars. On the evening of June 8, Jupiter appears just 2 degrees below and left from brilliant Venus and 15 degrees above and left from fainter Mercury.

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. 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. **Please do your Jupiter spotting after sunset. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

May 22-23, 2026, 11:52 PM to 3:28 AM MDT, Ganymede's shadow crosses Jupiter (Locally, this event begins with Jupiter only 2 degrees above the west-northwestern horizon and ends long after Jupiter sets).

May 22-23, 2026, 11:54 PM to 2:48 AM MDT, Europa's shadow crosses Jupiter (Locally, this event begins with Jupiter only 1 degree above the west-northwestern horizon and ends long after Jupiter sets).

May 23, 2026, 9:18 PM to 11:38 PM MDT, Io's shadow crosses Jupiter (Locally, this event begins with Jupiter 30 degrees high in the west and ends with Jupiter only 4 degrees above the west-northwestern horizon).

May 30-31, 2026, 11:14 PM to 1:32 AM MDT, Io's shadow crosses Jupiter (Locally this event begins with Jupiter 4 degrees above the west-northwestern horizon and ends long after Jupiter sets).

SATURN BEFORE DAWN. Saturn is now rising before the onset of morning twilight, at about 3:42 AM MDT on May 23 and at about 2:43 AM MDT on June 8. During this period, Saturn shines at magnitude +0.9, as its distance from Earth decreases from 937 million to 916 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!) appeared nearly "edge-on" from our perspective on Earth. 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. Saturn will be well placed for viewing during the evenings by late summer and fall. **Please do your Saturn spotting before sunrise. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

MARS: A CHALLENGE IN MORNING TWILIGHT. Mars, at magnitude +1.3, can still be challenging to spot in morning twilight. On May 23 between 4:45 AM and 5:00 AM MDT, Mars rises from 3 to 5 degrees above the horizon in nautical twilight (try using binoculars). By June 8, it should be easier to spot Mars about 5 degrees above the horizon in less glaring twilight. With our slightly faster orbital speed (averaging 18.5 miles per second for Earth vs 14.9 miles per second for Mars), we on Earth are racing Mars around the Sun. We are winning, but the race is close, causing Mars to emerge very slowly from predawn twilight. Mars is still on the far side of the Sun from our perspective; the Red Planet is 204.7 million miles distant on May 23 and 201.4 million miles distant on June 8. Through telescopes, Mars' reddish disk appears tiny, only 4.3 arc seconds wide 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. **Please do your Mars spotting before sunrise. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

NEPTUNE BEFORE DAWN. The 8th Planet, Neptune, at magnitude of +7.8, is also visible before dawn, but we need a telescope, or at least binoculars, to see it. On May 23, Neptune is already 16 degrees above the horizon by start of nautical twilight at 4:44 AM MDT. And by June 8, Neptune is 25 degrees above the eastern horizon by 4:30 AM MDT. Neptune's blueish disk appears only 2.3 arc seconds wide. Neptune is 2.82 billion miles from Earth during this period. You can use this link to find Neptune: https://theskylive.com/neptune-info

Please do your Neptune spotting before sunrise. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.

WILL A BRIGHT NOVA ("NEW" STAR) APPEAR SOON? Will there be a bright "new" star in Constellation Corona Borealis sometime soon, if only briefly? Corona Borealis is more than 45 degrees above the eastern horizon as the sky darkens, more than 70 degrees high in the south around midnight, and it remains more than 30 degrees high in the west as morning twilight brightens the sky after about 4:30 AM 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 later this year. Then this "new" star may fade rapidly below naked-eye visibility in about a week. As of 5 AM MDT on May 22, T CrB had not yet erupted. Astronomer Jean Schneider predicted that an eruption is most likely on or about June 25, 2026, or on February 8, 2027. But 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. As of May 22, there are several sunspot groups on the Earth-facing side of the Sun. There have been M-class (moderate) solar flares during recent weeks, and there were X-class (extreme) flares on March 30 and on April 24 (two X-class flares on April 24!). More solar flares may occur during this period. Also, coronal mass ejections (CMEs) have triggered geomagnetic storms that caused auroras during the past few 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…
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://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"). We are still in an active part of the solar cycle, and there may be more geomagnetic storms that trigger auroras that could become visible from the Western Slope (update). 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 this site (times are posted as Universal Time, UT; to convert to MDT, subtract 6 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.

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. From May through July, Earth's northern hemisphere is tilted toward the Sun, and from Colorado it's possible to see satellites in the northern sky through much of the night. 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.

Evening passes of the passes of the International Space Station (ISS) are predicted from May 22 to 28, and evening passes of Tiangong (the Chinese Space Station) are predicted from May 22 to June 1 (passes of both subject to change). Find times for local passes of bright satellites, including the ISS and Tiangong, at these links (be sure to set applications for 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!