BCAS OBSERVING HIGHLIGHTS for August 31 to September 14, 2025, a "bright Moon period"
Black Canyon Astronomical Society (BCAS), western Colorado, USA

DATES & TIMES (MDT) FOR REGIONAL EVENTS AND EYE-CATCHING HAPPENINGS IN THE SKY:
August 31, 4:30 AM to 5:30 AM: Spot Venus 1° from Beehive Star Cluster (try viewing with binoculars)
August 31, 5:40 AM to 6:00 AM: Last call for a "parade" of six planets before dawn!
August 31 to September 5, 4:30 AM to 5:30 AM MDT: Preview the bright stars of winter!
September 3, 7:00 PM on KVNF radio: "Why a Coronal Hole isn't really a Hole" by Bryan Cashion, BCAS
September 3-4, 11:25 PM to 2:50 AM: Shadow of Saturn's moon, Titan, crosses Saturn
September 7, 7:40 PM to 8:05 PM: The full Moon rises in the east - does it appear huge?
September 12, 10:00 AM on KVNF radio: "2025 Black Canyon Regional AstroFest" by Dan Wright, NPS
September 12, 13, and 14, around 8:10 PM: See Mars near blue-white star, Spica (use binoculars)
September 13, 11:09 PM: Last quarter Moon rises early, far to northeast near Beta Tauri (Dec = +29°)
September 14, 4:20 AM to 6:54 AM (sunrise): Shadow of Jupiter's moon, Ganymede, crosses Jupiter

SUMMARY. The Moon reaches first quarter on the night of August 30-31, and from September 1 to 6, we can watch the gibbous Moon wax. The full Moon rises on September 7 around 7:40 to 8:05 PM MDT. Does the rising Moon appear especially large to you? The Moon's closer-than-average distance on September 7 plus the infamous "Moon illusion effect" may explain why the rising full Moon looks very big, at least to some of us. From September 8 to 13, the gibbous Moon wanes. The Moon reaches last quarter on the night of September 13-14, when it rises relatively early in the northeast at 11:09 PM MDT.

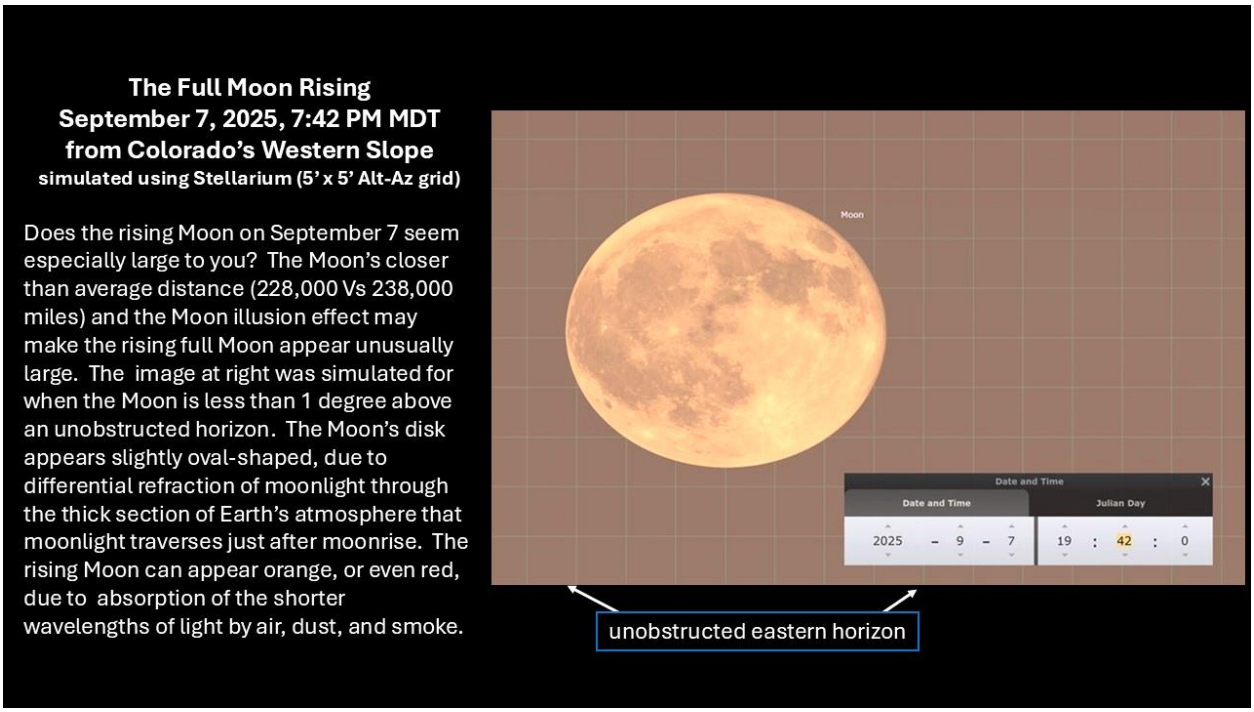
Mars shines rather feebly (at magnitude +1.6) in the west southwest and sets before the end of evening twilight. But Saturn, brightening from magnitude +0.65 to +0.60 and moving against the stars of Constellation Pisces, is visible all night long. Neptune is about 2 degrees north of Saturn. You can spot the 8th Planet, shining at magnitude +7.7, with binoculars, or better yet a telescope, which may reveal Neptune's blue disk. Jupiter, brightening from magnitude -1.99 to -2.04 and moving against the stars of Gemini, rises in the east northeast by 2:30 AM MDT and remains visible into morning twilight. With binoculars or a telescope in the hours before dawn, you may be able to find Uranus, which at magnitude +5.7, is moving slowly through constellation Taurus. Rising in the east northeast before the start of morning twilight, Venus, at magnitude -3.9, is a brilliant morning star. And on August 31, we may be able to catch a parting glimpse of Mercury, low in the east northeast against bright morning twilight, before the Innermost Planet moves rapidly toward a solar conjunction on September 12.

There are active regions containing large sunspots on the Earth-facing side of the Sun, which may produce solar flares and coronal mass ejections. Coronal mass ejections can trigger auroras (aka northern lights), which could become visible from Colorado. Never view the Sun without safe, specialized solar filters. You can monitor solar activity safely on the internet.

There are predicted, predawn passes of the very bright International Space Station (ISS) from September 1 to 7, and there are predicted evening passes of the ISS from September 7 to 14. And predawn passes of the almost-as-bright, Tiangong (Chinese) Space Station are predicted from August 31 to September 3, and there are evening Tiangong passes from September 6 to 14.

THE MOON. The Moon reaches **first quarter on the night of August 30-31** (exactly at 12:25 AM MDT on August 31). From September 1 to 6, watch the gibbous Moon wax. **The Moon is full on September 7** (exactly full just after local noon at 12:09 PM MDT, when there's a total lunar eclipse visible from Earth's eastern hemisphere). Watch the Moon rise in the east from about 7:40 to 8:05 PM MDT on September 7. Does the Moon look especially large to you? On September 7 the full Moon is 228,000 miles distant,

closer than its average distance of 238,000 miles, making it appear a bit larger than usual. And the Moon illusion effect may make the Moon seem even larger when it's near the horizon. During the night of September 7-8, the full Moon moves from 8 to 5 degrees west of Saturn. From September 8 to 13, the gibbous Moon wanes. The Moon reaches **last quarter on the night of September 13-14** (exactly at 4:33 AM MDT on September 14). At 11:09 PM MDT on September 13, watch the last quarter Moon rise in the northeast near the star Elnath, aka Beta Tauri. On September 13-14, the Moon is about 5 degrees north of the ecliptic (the path of the Sun against the background stars) and about as far north as the Moon can ever appear. This causes the last quarter Moon to rise unusually early across the Western Slope of Colorado. NASA has published a stunning visualization of lunar phases for year 2025. Another fun site is NASA's daily Moon guide.



MARS: LOW IN EVENING TWILIGHT. The Red Planet shines somewhat feebly at magnitude +1.6 during this period, and it may be challenging to spot Mars during early evening twilight (binoculars and an unobstructed west-southwestern horizon will help). Mars is now setting during astronomical twilight, at about 9:12 PM MDT on August 31 and 8:39 PM MDT on September 14. Optimal times for spotting Mars when 7 to 5 degrees above an unobstructed, west-southwestern horizon might be: August 31 at about 8:30 PM MDT, September 7 at about 8:20 PM MDT, and especially from September 12 to 14 at about 8:10 PM MDT, when the Red Planet is just 2 degrees above the blue-white star, Spica. At magnitude +0.95, Spica appears brighter than Mars (binoculars may help you spot Mars and Spica in twilight). Enjoy seeing their contrasting colors! Mars' rapid eastward motion, currently against the stars of Virgo, will keep the Red Planet in our evening sky through October. Mars' distance from Earth is still increasing, from 210 million miles on August 31 to 215 million miles on September 14. Through telescopes, Mars' nearly full disk (96%- to 97%-illuminated) appears only 4.1 arc seconds in diameter. Due to Mars' small apparent size and low altitude in the early evening sky, it's now extremely challenging to spot features on the Red Planet. Find more info on observing Mars here: https://www.alpo-astronomy.org/jbeish/2025_MARS.htm

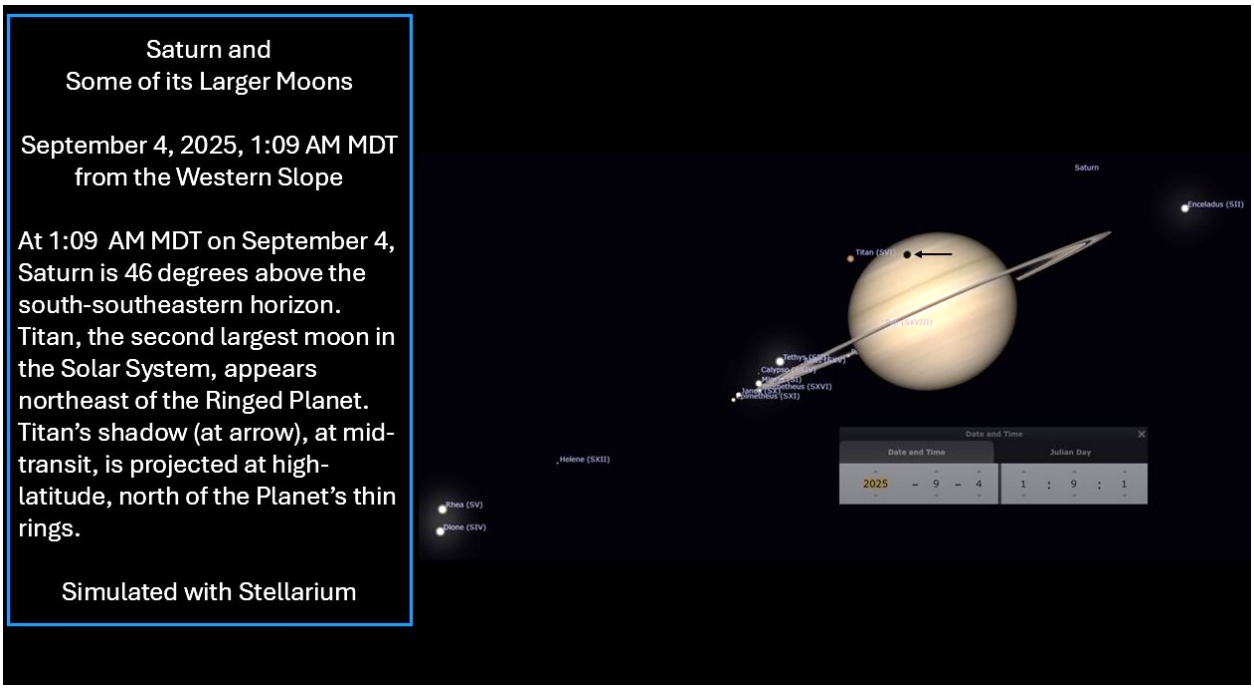
Please do your Mars spotting after sunset. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.

SATURN - ALL NIGHT LONG! Now visible all night long, the Ringed Planet rises above the eastern horizon during nautical twilight on August 31 at about 8:38 PM MDT and during brighter civil twilight on September 14 at 7:41 PM MDT. Saturn brightens from magnitude +0.65 on August 31 to magnitude +0.60 on September 14, as its distance from Earth decreases from 800 million to 795 million miles. Through telescopes Saturn's disk appears 19 arc seconds wide, and its rings span 45 arc seconds. During 2025, Saturn's thin rings (150,000 miles wide but only 1000 ft thick!) are nearly "edge-on" from our perspective on Earth. Saturn's rings are not as striking as they have been in the past few years (and will be a few years from now). When seen nearly edge-on, the rings are dimmer, 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 and/or visiting this site: https://skyandtelescope.org/observing/interactive-sky-watching-tools/saturns-moons-javascript-utility/ For more info on the appearance of Saturn's rings in 2025 and phenomena associated with Saturn's moons, see this article… https://skyandtelescope.org/astronomy-news/observing-news/see-mutual-events-close-approaches-of-saturns-moons/

TITAN'S SHADOW MOVES ACROSS SATURN – SEPTEMBER 3-4! Use a telescope to watch the rare sight of Titan's shadow moving across the Ringed Planet on the night of September 3-4! This is a total solar eclipse on Saturn! Titan is Saturn's largest moon, and the second largest moon in the Solar System. With a diameter of 3193 miles, Titan is larger than the Planet Mercury! On the Western Slope, the September 3-4 transit begins at 11:25 PM MDT, when Saturn is 32 degrees above the east-southeastern horizon. The Ringed Planet rises 46 degrees high in the south southeast by the middle of the transit at 1:09 AM MDT (see chart below). The transit ends at 2:50 AM MDT, when Saturn is 48 degrees high in the south. Titan's orbital period of Saturn is 1.5 hours short of 16 Earth days, so transits are now occurring every 16 days. After September 3-4, there will be only two more transits of Titan's shadow in 2025 (see table, below). Try to view the shadow transit on September 3-4, or next best on September 19-20. Viewing the October 5-6 transit of Titan's shadow may be challenging. On October 5-6, Titan's shadow will transit across Saturn's north polar region for about two hours, and the contrast of the shadow with the darkened limb of Saturn may be poor. After the transit on October 5, we will have to wait 15 years for the next group of Titan shadow transits! Titan's shadow is large. But Saturn is on average about twice the distance of Jupiter. So, the size of Titan's shadow appears roughly the same size as the shadow of Jupiter's moon, Europa, which is smaller than Titan.

Transits of Titan's shadow across Saturn

Date UTC	Date MDT	start MDT	middle MDT	end MDT	Saturn rises MDT
9/4/2025	9/3-4/2025	11:25 PM	1:09 AM	2:50 AM	3Sep, 8:26 PM
9/20/2025	9/19-20/2025	11:09 PM	12:20 AM	1:34 AM	19Sep, 7:21 PM
10/6/2025	10/5-6/2025	10:29 PM	11:32 PM	12:34 AM	5Oct, 6:15 PM
transit times from Sky & Telescope and Stellarium (converted to MDT by author)					
times for local Saturn rise are from Stellarium					



Find more info on Titan shadow transits at this link…
https://skyandtelescope.org/astronomy-news/observing-news/titan-shadow-transit-season-underway/

NEPTUNE ALL NIGHT LONG. Not only can we see Saturn all night long during the August 31 to September 14 period, with telescopes or binoculars we can also spot Neptune, the 8th Planet. Neptune is currently shining at magnitude +7.7 about 2 degrees north of Saturn, and you can use these links to find it:
https://theskylive.com/neptune-info
https://in-the-sky.org/findercharts.php?obj=P8&year=2025&month=9&day=1
You may be able to spot Neptune with binoculars, but you will need a telescope to resolve its 2.4 arc second-wide disk. Can you detect Neptune's blueish tint? The best times to look for Neptune may be around August 31 to September 1 and September 13 to 14, between about 1 and 3 AM MDT, when the 8th Planet is highest in the sky and moonlight interferes less (or not at all).

JUPITER AND ITS MOONS. Jupiter, moving against the stars of Constellation Gemini, rises at about 2:30 AM MDT on August 31 and 1:46 AM MDT on September 14. Between August 31 and September 14, the Giant Planet brightens from magnitude -1.99 to -2.04, as its distance from Earth decreases from 534 million miles to 518 million, and its apparent diameter increases from 34.3 to 35.4 arc seconds. Morning-by-morning, Jupiter is getting easier to observe; by September 14, Jupiter rises 40 degrees above the eastern horizon by the onset of astronomical twilight at 5:22 AM MDT. Use a telescope or binoculars to spot Jupiter's four bright "Galilean" moons. Identify them by their changing positions and referring to various planetarium apps or this website:
https://skyandtelescope.org/wp-content/plugins/observing-tools/jupiter_moons/jupiter.html
Use a telescope to view shadows of Jupiter's large 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. For early risers, there's an optimally timed transit of Ganymede's shadow on the morning of September 14 (see list below). Due to their smaller diameters (see table below), 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 even with small telescopes. Transits of Io's shadow occur frequently, because Io orbits Jupiter every 1.8 Earth days. Europa, Ganymede, and Callisto have orbital periods (around Jupiter) of 3.6, 7.2 and 16.7 Earth days, respectively, so their shadows cross Jupiter less frequently. Shadows of Io, Europa, and Ganymede reliably cross Jupiter once per orbit. Callisto's shadow had not crossed Jupiter since July 2022. But that situation changed this summer, and now Callisto's shadow is once again transiting Jupiter. No Callisto shadow transits are visible from the Western Slope during this period, but some will be observable in future months.

Moon	Diameter (miles)	Orbital Period (Earth days)
Io	2259	1.8
Europa	1936	3.6
Ganymede	3266	7.2
Callisto	2988	16.7

September 2, 2025, 4:18 AM to 6:34 AM MDT, Io's shadow crosses Jupiter (Locally this event begins in a dark sky with Jupiter 20 degrees above the eastern horizon and ends in bright twilight with Jupiter 57 degrees high and the Sun only 2 degrees below the horizon).

September 7, 2025, 12:22 AM to 3:30 AM MDT, Ganymede's shadow crosses the southern hemisphere of Jupiter (Locally this event begins before Jupiter rises and ends with Jupiter 14 degrees above the east-northeastern horizon).

September 9, 2025, 2:20 AM to 5:08 AM MDT, Europa's shadow crosses Jupiter (Locally, this event begins with Jupiter just 3 degrees above the east-northeastern horizon and ends when Jupiter is 34 degrees above the eastern horizon).

September 9, 2025, 6:10 AM to 8:18 AM MDT, Io's shadow crosses Jupiter (Locally this event begins with Jupiter 46 degrees high in bright twilight with the Sun 8 degrees below the horizon, and it ends long after sunrise).

September 11, 2025, 12:40 AM to 2:56 AM MDT, Io's shadow crosses Jupiter (Locally this event begins before Jupiter rises and ends with Jupiter 10 degrees above the east-northeastern horizon).

September 14, 2025, 4:20 AM to 7:30 AM MDT, Ganymede's shadow crosses the southern hemisphere of Jupiter (Locally, this event begins before morning twilight begins with Jupiter 28 degrees above the eastern horizon, and it ends after sunrise, which occurs at about 6:54 AM MDT).

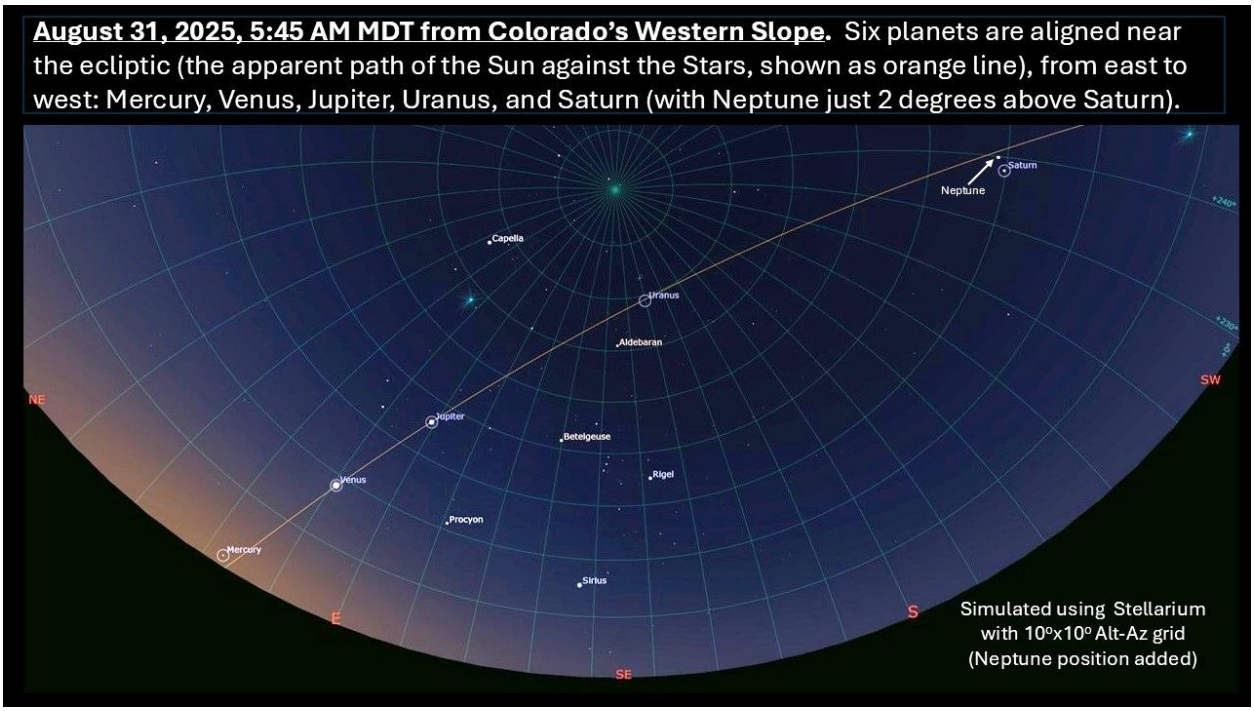
URANUS. Rising in the east northeast at about 11:15 PM MDT on August 31 and 10:19 PM MDT on September 14, Uranus is moving through Taurus, about midway between the Hyades and Pleiades Star Clusters:
Printable finder charts for Uranus - In-The-Sky.org
Uranus: Complete Information & Live Data | TheSkyLive
At magnitude +5.7, you can spot the 7th Planet with binoculars and perhaps even with eyes unaided under dark, transparent skies. However, you'll almost certainly need a telescope to resolve Uranus' 3.7 arc second-wide disk and to detect color. Most people perceive Uranus as either blue or green. How does it appear to you? The best times to look for Uranus may be from August 31 to September 4

between 4 AM MDT and the start of morning twilight, when Uranus is high in the sky and moonlight is absent.

VENUS – STILL A BRILLIANT "MORNING STAR"! Brilliant Venus rises in the east northeast at about 4:03 AM MDT on August 31 and 4:32 AM MDT on September 14, well before the start of morning twilight. Morning-by-morning, Venus rises later, as its angular separation from the Sun continues to decrease. Between August 31 and September 14, Venus fades just slightly, from magnitude -3.92 to -3.91, while its distance from Earth increases from 126 million to 133 million miles. As seen through telescopes, Venus' gibbous phase waxes from 84% illuminated on August 31 to 88% illuminated on September 14, as its apparent diameter shrinks from 12.3 to 11.7 arc seconds. On August 31 between 4:30 and 5:30 AM MDT, use binoculars to spot Venus just 1 degree to the right of the Beehive Star Cluster (M44). **Please do your Venus spotting before sunrise. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

MERCURY DISAPPEARS FROM MORNING TWILIGHT. On August 31 between 5:40 and 6:00 AM MDT, look for Mercury in nautical twilight, shining at magnitude -1.27, rising from 1 to 4 degrees above an unobstructed east-northeastern horizon (binoculars may help). On August 31 Mercury's is 113 million miles distant from Earth, and its 86%-illuminated, gibbous disk appears only 5.6 arc seconds wide. After August 31, the Innermost Planet descends rapidly into glaring twilight prior to its September 12 solar conjunction. On September 12 Mercury will be 128 miles distant and invisible, as it passes on the far side of the Sun from our perspective. **Please do your Mercury spotting before sunrise. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

BEFORE DAWN: PREVIEW THE WINTER STARS & A PARADE OF PLANETS! Between August 31 and September 5 from about 4:30 AM to 5:30 AM MDT, the waxing, gibbous Moon has already set, and skies are dark. This allows us to preview the bright stars of winter as they rise in the eastern sky. These include Capella, Aldebaran, Betelgeuse, Rigel, Procyon, and the night sky's brightest star, Sirius. During the August 31-September 14 period, you can view five planets in the predawn sky, and on August 31 between 5:40 and 6:00 AM MDT, you may be able to add Mercury to that list (use a planetarium app or the chart below to navigate). On August 31 at around 5:45 AM MDT (when the Sun is 11^{o} below the horizon), Mercury (magnitude -1.3) is in the east northeast, only 1 degree above an unobstructed horizon. High above Mercury, brilliant Venus (magnitude -3.9) is unmistakable, and bright Jupiter (magnitude -2.0) is even higher in the eastern sky, amidst the stars of Gemini. With binoculars or a telescope, you may be able to spot Uranus (magnitude +5.7) high in the southeast among the stars of Taurus. Saturn (magnitude +0.6) is 30 degrees high in the southwest among the stars of Pisces. With a telescope, you may be able to spot Neptune (magnitude +7.7), about 2 degrees above Saturn. Note that all 6 planets appear near the ecliptic (indicated by orange line in the chart, below). The ecliptic is the path of the Sun, as it appears to move against background stars, an effect produced by Earth's orbital motion. The continual motion of major planets near the ecliptic proves that the orbits of the planets around the Sun are nearly co-planar. The Solar System is essentially a flat disk.



DON'T GIVE UP! KEEP WATCHING THE NORTHERN CROWN! Better late than never? Will there soon be a bright "new" star in Constellation Corona Borealis (the "Northern Crown"), at least briefly? During this period, Corona Borealis is high in the west at end of evening twilight and sets below the west-northwestern horizon after midnight. 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 early on August 30, T CrB had not yet erupted. Astronomer Jean Schneider of Paris Observatory states that eruptions are most likely every 228 days, a period corresponding with the orbital period of T CrB's red giant and white dwarf components. Schneider suggests that the eruption may be likely around November 10, 2025 or June 25, 2026. 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://skyandtelescope.org/astronomy-news/is-the-blaze-star-about-to-blow-you-may-be-the-first-to-know/
https://www.aanda.org/articles/aa/full_html/2023/12/aa48372-23/aa48372-23.html

THE SUN. The Sun has been very interesting lately, as solar active regions containing sunspots have unleashed numerous flares and coronal mass ejections (CMEs) of charged particles. There have been M-class (moderate) solar flares during recent weeks, and there have been CMEs that have triggered geomagnetic storms that caused auroras. As of 6 AM MDT on August 30, there are several, active regions containing larage sunspots on the Earth-facing side of the Sun. We may experience more M- and possibly X-class (extreme) flares and powerful CMEs during the current period. Airglow and SAR arcs also result from high solar activity, and these phenomena have been photographed and/or observed from Colorado. 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://sdo.gsfc.nasa.gov/data/

https://stereo.gsfc.nasa.gov/beacon/
http://halpha.nso.edu/
https://www.swpc.noaa.gov/
https://sohowww.nascom.nasa.gov/data/realtime-images.html
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"). Auroras are triggered by geomagnetic storms that derive from coronal mass ejections (CME) from active regions on the Sun. With continuing high solar activity, more geomagnetic storms may occur, and we may be able to see auroras, like those seen and photographed from the Western Slope earlier this year and last year. 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 have seen and photographed auroras from Colorado earlier this year and last year. If we are lucky, we may see auroras from the Western Slope during this period.

EARTH SATELLITE HIGHLIGHTS. The following predictions are for western Colorado, specifically Montrose. Numerous Earth satellites are visible every clear night. Satellites are visible only when they reflect sunlight during twilight or nighttime hours. Brighter satellites have smaller magnitude numbers, and the brightest (e.g., the International and Chinese Tiangong Space Stations) may have negative magnitudes. These predictions are for selected passes of some bright and/or interesting satellites (as summarized from heavens-above.com). Satellite orbits change and these predictions may be inaccurate. This is especially true for the International Space Station (ISS) and the Tiangong Space Station, because they undergo frequent orbital changes. We do not show satellite predictions more than 5 days beyond the distribution date of the current "BCAS Observing Highlights" edition. For accurate predictions of the ISS, Tiangong, and other satellites, check heavens-above.com or other satellite prediction sites for updates on the nights you wish to observe. Be sure to set application(s) for your location and time zone. 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

August 31, 2025. Tiangong (Chinese Space Station). 5:13 to 5:14 to 5:17 AM MDT. WNW to NNE to ESE. Appears from Earth's shadow 43 deg above WNW, max altitude 88 deg above NNE, max magnitude -2.2 (Passing through Lacerta, Andromeda, Perseus, Taurus, Orion, and Monoceros). **Predictions for Tiangong are subject to change due to orbital adjustments. Check for updated predictions.**

September 1, 2025. Tiangong (Chinese Space Station). 4:18 to 4:20 AM MDT. 1st AM Tiangong pass of September 1. In the East. Appears from Earth's shadow at max altitude 17 deg above E, max magnitude +0.6 (In Monoceros).

September 1, 2025. International Space Station (ISS). 5:27 to 5:30 to 5:32 AM MDT. NNW to NNE to ENE. Max altitude 16 deg above NNE, max magnitude -0.9 (Passing through Draco, Ursa Major-Big Dipper, Leo Minor, and Leo). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

September 1, 2025. Tiangong (Chinese Space Station). 5:51 to 5:53 to 5:56 AM MDT. 2nd AM Tiangong pass of September 1. W to SSW to SE. Appears from Earth's shadow 15 deg above W, max altitude 33 deg above SSW, max magnitude -1.3 (Passing through Pegasus, Pisces-near Saturn, Cetus, Eridanus, Lepus/Columba, and Canis Major).

September 2, 2025. International Space Station (ISS). 4:39 to 4:41 to 4:42 AM MDT. N to NNE to NE. Max altitude 13 deg above NNE, max magnitude -0.7 (Passing through Draco, Ursa Major-Big Dipper, and Leo Minor). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

September 2, 2025. Tiangong (Chinese Space Station). 4:56 to 4:58 AM MDT. In the Southeast. Appears from Earth's shadow at max altitude 32 deg above SE, max magnitude -0.9 (Passing through Eridanus, Lepus, and Canis Major).

September 3, 2025. International Space Station (ISS). 3:52 to 3:53AM MDT. 1st AM ISS pass of September 3. In NNE. Appears from Earth's shadow at max altitude 10 deg above NNE, max magnitude -0.3 (Passing through Ursa Major. **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

September 3, 2025. International Space Station (ISS). 5:26 to 5:29 to 5:32 AM MDT. 2nnd AM ISS pass of September 3. NNW to NNE to E. Max altitude 30 deg above NNE, max magnitude -1.9 (Passing through Draco, Ursa Minor, Draco again, Ursa Major, Lynx, and Cancer). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

September 3, 2025. Tiangong (Chinese Space Station). 5:35 to 5:37 AM MDT. SSW to S. Appears from Earth's shadow at max altitude 17 deg above SSW, max magnitude -0.3 (Passing through Fornax, Eridanus, Caelum, and Columba).

Additional predawn passes of the very bright International Space Station (ISS) are predicted for September 4 to 7, and evening ISS passes are predicted for September 7 to 14. After the morning passes of the bright Tiangong (Chinese) Space Station from August 31 to September 3 (noted above), evening passes of Tiangong are predicted for September 6 to 14.

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. 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

WESTERN SLOPE SKIES. Since 2011, KVNF Community Radio has aired Western Slope Skies (WSS), a biweekly astronomy feature, every two weeks on Friday mornings and on the following Wednesday evenings. On September 3, BCAS member, Bryan Cashion, lets us know why "A Coronal Hole really isn't a Hole." Then on September 12 and 17, Park Ranger Dan Wright will tell us about 2025 Black Canyon Regional AstroFest, to be held on September 19 and 20.

HAPPY OBSERVING!