OBSERVING HIGHLIGHTS for April 20 to May 4, 2025, a "dark Moon period"
Black Canyon Astronomical Society (BCAS), western Colorado, USA

SUMMARY.
This "dark Moon period" is a great time to enjoy the Western Slope's wonderfully dark night skies, as we celebrate International Dark Sky Week from April 21 to 28, 2025! As twilight fades, take a final glance at winter Constellations Orion, Canis Major, and Taurus, before they descend below the western horizon. The Constellation Leo is high in the south, Boötes is rising in the east, and Virgo is getting higher in the southeastern sky. Our winter Milky Way extends from Constellation Puppis, low in the south southwest, through Gemini in the west, into Auriga and Perseus in the northwest. Bright Jupiter, moving against the stars of Taurus, is low in the west-northwestern evening sky, and reddish Mars, moving against the stars of Cancer, is still high in the west. During the wee hours of April 22, keep watch for Lyrid meteors, both before and after a waning crescent Moon rises at about 3:40 AM MDT. To view meteors, you don't need any fancy equipment, just a dark location, a comfortable reclining chair, and warm clothes and/or a sleeping bag. You may see meteors anywhere in the sky. Try looking at the zenith, or in whichever direction has minimal obstructions and ambient light. When looking for Lyrid meteors during the wee hours, take in the rising summer Constellations, Sagittarius in the southeast and Aquila and Cygnus in the east, in addition to the "summer" Milky Way, spanning the sky from Sagittarius in the southeast through Cassiopeia in the north northeast.

The Moon reaches last quarter on April 20, and from April 21 to 26, we can watch a crescent Moon wane in the morning sky. The Moon is new on April 27. Watch the crescent Moon wax during evenings from April 28 to May 3. The Moon reaches first quarter on May 4. On April 24 at about 5:40 AM MDT, look for the 15%-illuminated crescent Moon about 9 degrees to the right (south) of brilliant Venus. On April 25 at about 5:40 AM MDT, a thinner crescent Moon (8% illuminated) is within a 15-degree-long isosceles triangle formed by Venus (above the Moon), Saturn (to the right of the Moon) and Mercury (below and left of the Moon, near the horizon). At around 9:00 PM MDT on April 28, look low to the west-northwestern horizon for the thin (2.5%-illuminated) lunar crescent about 3 degrees below the Pleiades (aka Seven Sisters or M45) Star Cluster (a nice view in binoculars!).

With a telescope on April 23 from 8:36 to 10:24 PM MDT, watch Ganymede's shadow cross Jupiter, during a Jovian total solar eclipse caused by the largest moon in the Solar System! On April 29 around 5:25 AM MDT, use a telescope to spot the shadow of Titan (the Solar System's 2nd largest moon) projected against the rings and equatorial zone of Saturn.

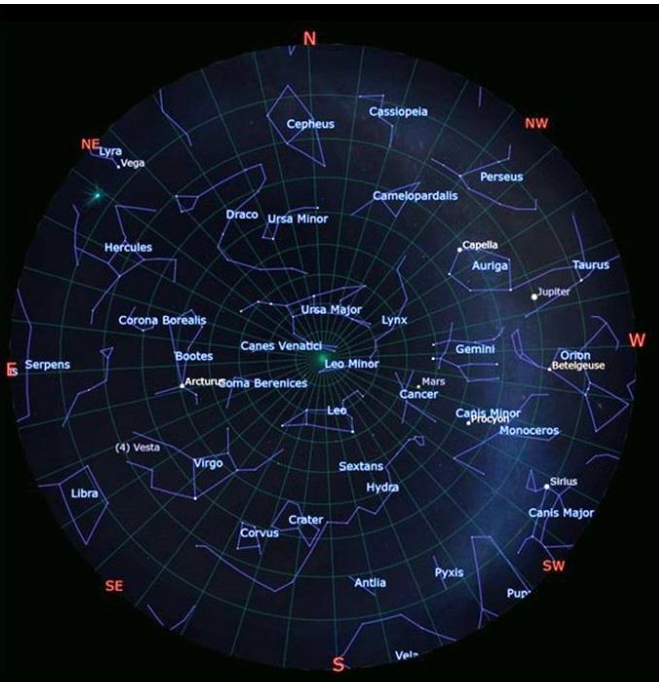
Watch the bright Tiangong (Chinese) Space Station during evening passes on April 19, 20, and 22. There will be predawn passes of the even brighter International Space Station (ISS) from April 20 to May 4.

DARK SKY WEEK – APRIL 21 to 28, 2025! This "dark Moon period" is a great time to enjoy the Western Slope's wonderfully dark night skies, as we celebrate International Dark Sky Week from April 21 to 28, 2025. Use a planetarium app or the charts below to navigate. With the Moon absent from the evening sky between April 20 and 28, take a final glance at winter Constellations Orion, Canis Major, and Taurus, before they descend below the western horizon. The Constellation Leo is high in the south, Boötes is rising in the east, and Virgo is getting higher in the southeastern sky. Our winter Milky way extends from Constellation Puppis, low in the south southwest, through Gemini in the west into Auriga and Perseus in the northwest. Bright Jupiter, moving against the stars of Taurus, is low in the west northwest, and reddish Mars, moving against the stars of Cancer, is still high in the western sky.

All-Sky View from Colorado's Western Slope on April 24, 2025, 9:45 PM MDT

Winter Constellations, Orion, Taurus, and Canis Major, are very low in the west, but spring Constellations Leo, Virgo, Boötes, and Ursa Major are now high in the sky. Bright Jupiter is in Taurus, low in the west. Mars, moving against the stars of Cancer, is still relatively high in the western sky. With the Moon absent, the winter Milky Way spans the western sky from Constellation Puppis, low in the south southwest, through Gemini in the west to Auriga and Perseus in the northwest.

Simulated using Stellarium
with 10° x 10° Alt-Az grid

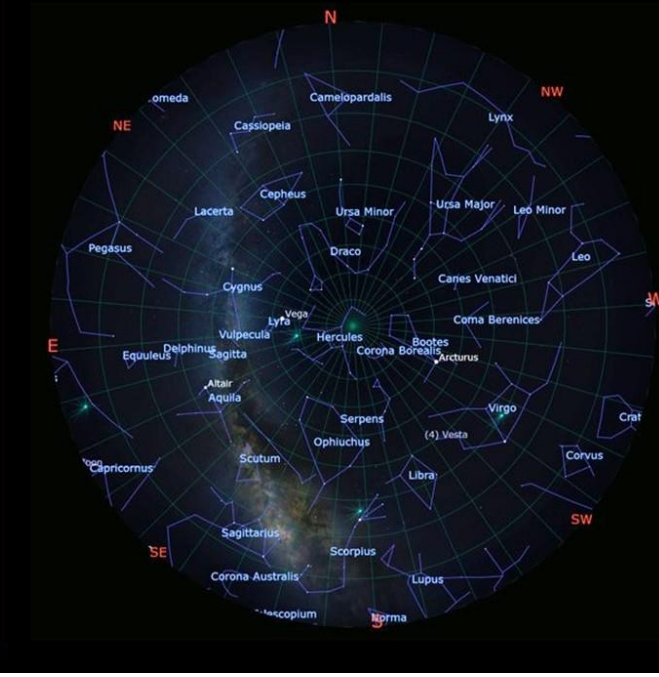


If you rise early to view Lyrid meteors on the morning of April 22 around 3:30 AM MDT (see chart and item below), you'll find that the winter constellations have set and that the spring Constellations, Leo and Virgo are descending toward the western horizon. The constellations of summer are rising higher, including Sagittarius in the southeast and Aquila and Cygnus in the east. Our summer Milky Way spans the eastern sky from Sagittarius in the southeast through Aquila and Cygnus in the east to Cassiopeia in the north northeast.

All-Sky View from Colorado's Western Slope on April 22, 2025, 3:30 AM MDT

Just before moonrise on April 22, the radiant of the Lyrid Meteor Shower (as indicated in chart at right) is high in the eastern sky, between Constellations Hercules and Lyra. Spring Constellations Leo and Virgo are descending toward the western horizon. Scorpius, with red supergiant star, Antares, is prominent in the south, and summer Constellations Sagittarius, Aquila, and Cygnus are rising higher in the east. The "summer" Milky Way is well above the horizon. The Milky Way is brightest in Sagittarius in the southeast and gets a bit less prominent through Aquila and Cygnus in the east, to Cassiopeia low in the north northeast.

Simulated using Stellarium
with 10° x 10° Alt-Az grid



LYRID METEOR SHOWER PEAKS – APRIL 22, EARLY AM. The Lyrid meteor shower is predicted to peak on the morning of April 22. Lyrid meteors are icy and rocky debris from long-period Comet Thatcher (C/1861 G1). The Lyrids are a minor meteor shower with a "typical" zenith hourly rate (ZHR) of only 18. The ZHR corresponds to the number of meteors (aka "shooting stars") an observer would see in one hour, when the radiant (the apparent origin point for the meteors) is at zenith under ideal conditions, i.e., under clear, dark skies with no moonlight. Although a minor shower, it may be worth looking for Lyrids on the morning of April 22, because the radiant will be high in the sky and the crescent Moon rises late. Occasionally, meteor rates can greatly exceed the "typical" ZHR. You might see Lyrid meteors as early as 10:30 PM MDT on April 21, as the shower's radiant, located between Constellations Hercules and Lyra, rises in the northeast. Prospects for seeing Lyrids may improve after midnight, as the Lyrid radiant gains altitude. The 35%-illuminated, crescent Moon rises at about 3:40 AM MDT, and its light may obscure fainter Lyrid meteors. But all is not lost. Meteor rates typically increase toward dawn and the Lyrid maximum is predicted for 7:30 AM MDT on April 22, so it may be worth watching until morning twilight starts interfering around 5:20 AM MDT. To view meteors, you don't need fancy equipment, just a dark location, a comfortable reclining chair, and warm clothes and/or a sleeping bag. You may see meteors anywhere in the sky. Try looking at the zenith, or in whichever direction has minimal obstructions and ambient light.

THE MOON. The Moon reaches **last quarter on April 20** (exactly at 7:35 PM MDT), and from April 21 to 26, we can watch a crescent Moon wane in the morning sky. The **Moon is new on April 27** (exactly new at 1:31 PM MDT). Watch the crescent Moon wax during evenings from April 28 to May 3. The **Moon reaches first quarter on May 4** (exactly at 7:52 AM MDT). On April 24 at about 5:40 AM MDT, look for the 15%-illuminated crescent Moon about 9 degrees to the right (south) of brilliant Venus. On April 25 at about 5:40 AM MDT, a thinner crescent Moon (8% illuminated) is within a 15-degree-long isosceles triangle formed by Venus (above the Moon), Saturn (to the right of the Moon) and Mercury (below and left of the Moon, near the horizon). At around 9:00 PM MDT on April 28, look low to the west-northwestern horizon for the thin (2.5%-illuminated) lunar crescent about 3 degrees below the Pleiades (aka Seven Sisters or M45) Star Cluster (a nice view in binoculars!). On the evening of April 30, the 15%-illuminated crescent Moon is about 7 degrees above Jupiter. On the night of May 3-4, the waxing crescent Moon passes about 2 degrees north of reddish Mars. NASA has published a stunning visualization of lunar phases for year 2025. 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.**

MARS. As the sky darkens, **r**eddish (or butterscotch-tinted?) Mars is more than 60 degrees above the southwestern horizon. The Red Planet is currently moving eastward against the stars of Constellation Cancer. Mars' rapid eastward motion against the stars will keep the Red Planet in our evening sky until early October. Mars remains visible into the wee hours, setting in the west northwest at about 2:51 AM MDT on April 20 and 2:15 AM MDT on May 4.

After Earth's close approach to Mars last January, the Red Planet continues to fade, from magnitude +0.8 on April 20 to magnitude +0.9 on May 4, as its distance from Earth increases from 123 to 135 million miles. From May 3 to 5, Mars passes against the northern part of the famous Beehive Star Cluster (aka M44). This will be a striking sight when viewed through binoculars or wide-field telescopes. Through telescopes Mars' 90%-illuminated, gibbous disk decreases from 7.1 to 6.4 arc seconds in diameter during this period. Due to its small apparent size, it's getting very challenging to spot features on the Red Planet. Find more info on observing Mars here: https://www.alpo-astronomy.org/jbeish/2025_MARS.htm

BRIGHT JUPITER AND ITS MOONS IN THE EVENING. As twilight fades, bright Jupiter is more than 25 degrees above the western horizon. Jupiter is moving against the stars of Taurus, midway between "the horns of the bull." The Giant Planet sets in the west northwest at about 11:50 PM MDT on April 20 and 11:07 PM MDT on May 4. During this period Jupiter fades slightly from magnitude -2.02 to -1.97, but it's still bright. Jupiter is 533 million miles distant on April 20 and 548 million miles distant on May 4. Through telescopes or binoculars, the Giant Planet's apparent equatorial diameter decreases from 34.4 to 33.5 arc seconds.

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 or this website: https://skyandtelescope.org/wp-content/plugins/observing-tools/jupiter_moons/jupiter.html
Use a telescope to view Jupiter's cloud belts and zones and shadow transits (total solar eclipses on Jupiter!) caused by Jupiter's large moons (see details below). 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 crossing the Giant Planet. **There's a "primetime" transit of Ganymede's shadow on April 23 between 8:36 and 10:24 PM MDT.** Io's shadow is larger than Europa's shadow, but smaller than Ganymede's shadow. There are no transits of Callisto's shadow during this period.

April 19 to 20, 2025, 10:26 PM to 1:06 AM MDT, Europa's shadow crosses Jupiter (Locally, this event begins with Jupiter 15 degrees above the west-northwestern horizon and ends after Jupiter sets at 11:54 PM MDT).

April 23, 2025, 8:36 PM to 10:24 PM MDT, Ganymede's shadow crosses Jupiter (Locally, this event begins during evening twilight with Jupiter 34 degrees above the western horizon and the Sun 8 degrees below the horizon and ends with Jupiter 13 degrees above the west-northwestern horizon).

May 4, 7:56 PM to 10:10 PM MDT, Io's shadow cross Jupiter (Locally, this event begins in daylight with Jupiter 35 degrees above the western horizon and the Sun 1 degree above the horizon and ends in a dark sky with Jupiter 10 degrees above the west-northwestern horizon).

VENUS – BRILLIANT BEFORE DAWN! Brilliant Venus is now rising in a dark, predawn sky at about 4:50 AM MDT on April 20 and 4:21 AM MDT on May 4. Between April 20 and 24, Venus shines at its maximum brightness, magnitude -4.78, during its current predawn appearance, and our "Sister Planet" fades only slightly to magnitude -4.71 by May 4. During this period, Venus' crescent waxes from 20% to 32% illuminated. As Venus continues to speed ahead of Earth in its faster orbit, its distance increases from 35.9 million miles on April 20 to 44.9 million miles on May 4, as its apparent diameter decreases from 43.2 to 34.6 arc seconds. Venus is within 5 degrees of fainter Saturn during this entire period. The waning crescent Moon is about 6 degrees below and left from Venus on April 25. **Please do your Venus spotting before sunrise. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

MERCURY IN PREDAWN TWILIGHT. If you can find a place with an unobstructed eastern horizon, Mercury is visible against bright predawn twilight during this entire period. On April 20 at about 5:45 AM MDT with the Sun 9 degrees below the horizon, try to spot Mercury, shining at magnitude +0.46, just 2 degrees above a flat eastern horizon and about 8 degrees below and to the left of brilliant Venus. Mercury attains its maximum angular separation from the Sun on April 21, after which the Innermost Planet starts descending into yet brighter predawn twilight. But all is not lost, because Mercury, morning-by-morning, is brightening. On April 25 at about 5:45 AM MDT, Mercury (at magnitude +0.30), forms the lower tip of a 15-degree-long isosceles triangle with Venus and Saturn, which are higher in the

sky. As a bonus, the 8%-illuminated, crescent Moon is centered within this triangle! By May 4 at about 5:30 AM MDT, Mercury has brightened to magnitude -0.04, but the "Speedster Planet", just 2 degrees above a flat horizon, is immersed in dazzling morning twilight.

Through telescopes between April 20 and May 4, Mercury waxes from a 44%-illuminated crescent to a 65%-illuminated, gibbous disk, as its apparent diameter decreases from 8.1 to 6.4 arc seconds, while its distance from Earth increases from 77 to 97 million miles. **Please do your Mercury spotting before sunrise. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

SATURN BEFORE DAWN. Saturn has reappeared in the predawn sky, and you can use brilliant Venus as a guide for finding the Ringed Planet. Saturn is less than 5 degrees from brilliant Venus during this entire period. Try viewing Saturn and Venus through binoculars, because many binoculars have a field of view that is slightly wider than 5 degrees. On April 20, Saturn, shining at magnitude +1.17, is about 4 degrees below Venus, which at magnitude -4.78, is about 240 times brighter than Saturn. By May 4, you can find Saturn about 5 degrees to the right (south) of Venus. 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 logging onto 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…

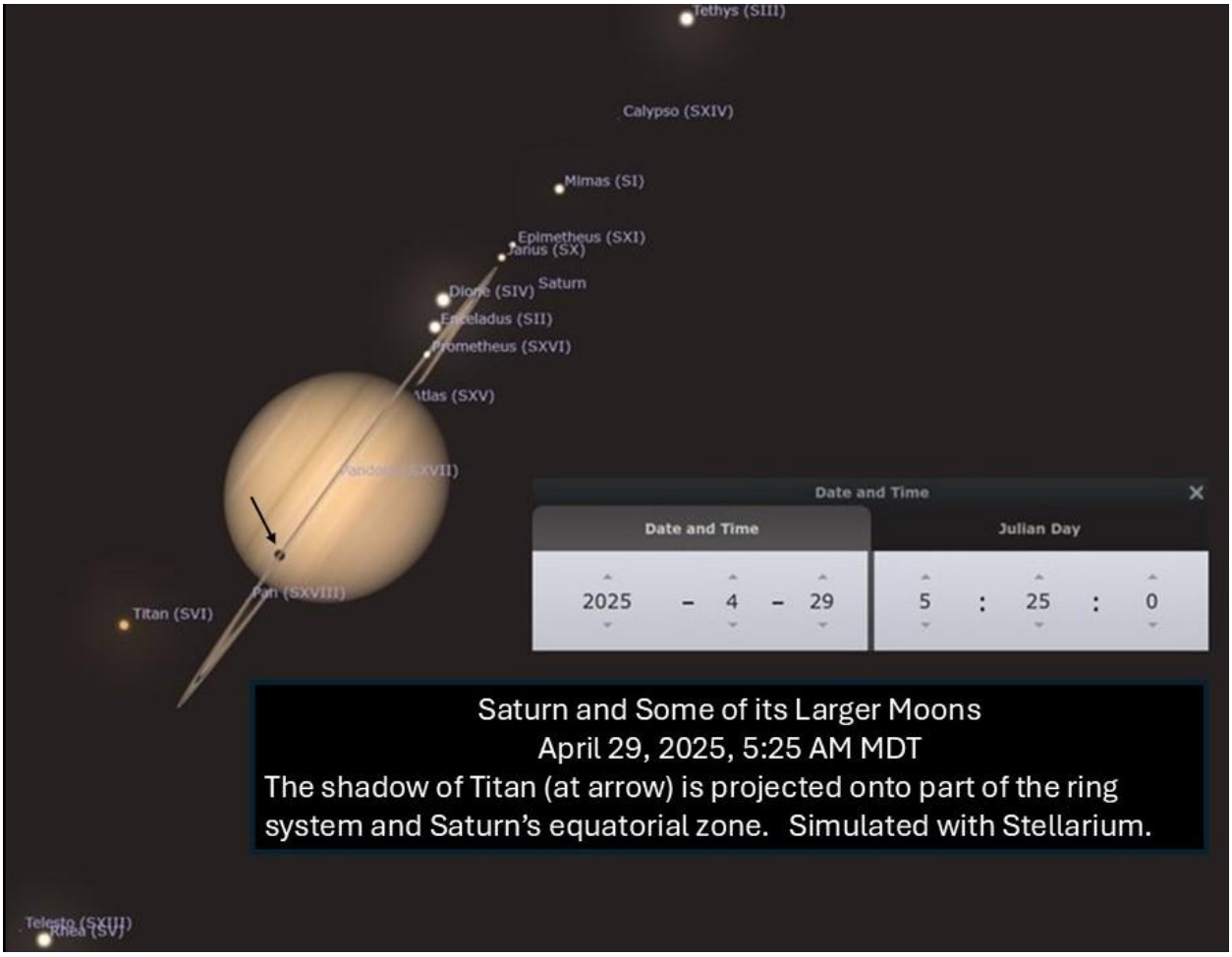
https://skyandtelescope.org/astronomy-news/observing-news/see-mutual-events-close-approaches-of-saturns-moons/

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

TITAN'S SHADOW MOVES ACROSS SATURN – APRIL 29 AM! On the morning of April 29, you may be able to see the shadow of Titan (Saturn's largest moon) moving across the Ringed Planet with the aid of a telescope. The April 29 transit begins at 4:35 AM MDT, shortly before Saturn rises on the Western Slope at about 4:42 AM MDT, and ends at 10:34 AM MDT, long after local sunrise. Try to spot Titan's shadow from just after Saturn rises until brightening morning twilight starts interfering around 5:30 AM MDT. Saturn will be very low in the eastern sky, so spotting Titan's shadow may be challenging. On April 29 Titan's shadow is cast partly on Saturn's narrow rings and on its equatorial zone, potentially a very interesting sight (see simulation, in Stellarium screenshot, below)!

While the shadows of Jupiter's large moons transit Jupiter every several days, transits of Titan's shadow across Saturn are relatively rare, occurring in groups during "transit seasons" that are roughly 15 years apart. Titan's orbital period of Saturn is just short of 16 Earth days, so transits now are occurring every 16 days. Transits of Titan's shadow began in November 2024, but transits from November 4 to April 13 were not visible from Colorado. That changes on April 29, when the first of 11 shadow transits will be visible from the Western Slope. Locally, Saturn will be very low in the eastern, predawn sky (near Venus) on April 29, and the transit will end long after sunrise. Circumstances for viewing these Titan shadow transits generally improve through the late spring and summer (as noted in table below), because Saturn rises earlier. Approximate times for Saturn's rise and sunrise on the Western Slope are also shown in the table. Titan is the second largest moon in the Solar System, and its 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**	**Sunrise MDT**
4/29/2025	4/29/2025	4:35 AM	7:45 AM	10:34 AM	4:42 AM	6:14 AM
5/15/2025	5/15/2025	3:49 AM	6:59 AM	9:44 AM	3:43 AM	5:57 AM
5/31/2025	5/31/2025	3:05 AM	6:12 AM	8:53 AM	2:43 AM	5:46 AM
6/16/2025	6/16/2025	2:21 AM	5:24 AM	8:00 AM	1:43 AM	5:44 AM
7/2/2025	7/2/2025	1:40 AM	4:35 AM	7:03 AM	12:42 AM	5:49 AM
7/18/2025	7/18/2025	1:00 AM	3:44 AM	6:05 AM	17Jul, 11:39 PM	6:03 AM
8/3/2025	8/3/2025	12:25 AM	2:52 AM	5:04 AM	2Aug, 10:36 PM	6:13 AM
8/19/2025	8/18-19/2025	11:52 PM	2:01 AM	4:00 AM	18Aug, 8:26 PM	NA
9/4/2025	9/3-4/2025	11:25 PM	1:09 AM	2:50 AM	3Sep, 8:26 PM	NA
9/20/2025	9/19-20/2025	11:09 PM	12:20 AM	1:34 AM	19Sep, 7:21 PM	NA
10/6/2025	10/5/2025		11:32 PM		NA	NA
transit times from Sky & Telescope (converted to MDT by author)						
times for local Saturn rise and sunrise from Stellarium						

NEW COMET C/2025 F2 (SWAN): OUT-BURSTING OR DISINTEGRATING? In late March three amateur astronomers independently discovered Comet SWAN, formally designated C/2025 F2 (SWAN), on images from Solar Wind Anisotropies Camera (SWAN) aboard the SOHO satellite. During early April, Comet SWAN brightened rapidly and then started fading, possibly indicating its disintegration. The Comet (or its remnants) may still be visible low in the east northeast with binoculars and telescopes during early morning twilight until about April 24, as it moves against the stars of Andromeda, Triangulum, and Aries. On and after April 24, you may be able to spot Comet SWAN (or its remnants) in the west northwest during evening twilight, moving against the stars of Aries and Taurus. This Comet seems prone to outbursts, or it may be disintegrating. So, accurately predicting its brightness is difficult. Comet SWAN was predicted to be closest to the Sun (perihelion) on May 1 at 31 million miles, and closest to Earth (89.5 million miles) on that same date. On May 1 at about 9:07 PM MDT (with the Sun 12 degrees below the horizon), look for Comet SWAN (or its remnants) about 9 degrees above an unobstructed west-northwestern horizon and 2 degrees above the famous Pleiades (aka Seven Sisters or M45) Star Cluster. Comet SWAN will be low in the sky during this entire period, and twilight will interfere with viewing to some degree. For finder charts, an ephemeris, and other information about Comet SWAN, consult these links:
https://earthsky.org/space/new-comet-swan25f-april-2025-how-to-see-it/
https://www.space.com/the-universe/comets/what-to-expect-from-the-newfound-comet-swan-an-observers-guide
https://skyandtelescope.org/astronomy-news/new-comet-swan-now-visible-in-small-scopes/
https://cobs.si/comet/2619/
https://astro.vanbuitenen.nl/comet/2025F2
Please do your comet spotting before sunrise or after sunset. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.

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 rises in the east northeast by the end of evening twilight and remains visible through the rest of the night. 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 2025 or 2026. Then this "new star" may fade rapidly below naked-eye visibility in about a week. As of early on April 19, T CrB had not yet erupted, although there was a prediction that it might erupt around March 27. That did not happen. 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 eruptions are now most likely around November 10, 2025 or June 25, 2026. For more about T CrB, read the article, "Get Ready for a Nova's Bright Return", by astrophysicist Brad Schaefer in the March 2024 issue of Sky & Telescopes Magazine, p. 34-40. 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://en.wikipedia.org/wiki/T_Coronae_Borealis
https://ui.adsabs.harvard.edu/abs/2023ATel16107....1S/abstract
https://www.aanda.org/articles/aa/full_html/2023/12/aa48372-23/aa48372-23.html

THE SUN. The Sun has been very interesting over the past year, when solar active regions have unleashed numerous flares and coronal mass ejections (CMEs) of charged particles. There have been M-class (moderate) solar flares each week for the past year, and there have been many X-class (extreme) solar flares, including X-class flares on January 3 and 4, February 23, and on March 28. There also have been CMEs that have triggered geomagnetic storms that caused auroras. As of April 19, there are several active regions with large sunspots on the Earth-facing side of the Sun. So, we may experience more M- and possibly X-class flares and powerful CMEs. Airglow and SAR arcs also result from high solar activity, and these phenomena have been photographed and/or observed from Colorado. You can monitor sunspots, solar flares, CMEs, and other solar activity safely and in "real time" at 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"). It can be challenging to spot auroras from Colorado's mid-northern latitudes. But on the nights of May 10-11 and October 10-11 in 2024, many people were able to see and/or photograph some amazing auroras from Colorado! Auroras were also observed on April 16, 2025 from parts of the U. S. and Europe. During these events, charged particles from Coronal mass ejections (CMEs) on the Sun reached Earth. These particles were captured by Earth's magnetic field, energizing the ionosphere, thereby triggering geomagnetic storms and widespread auroras. With continuing high solar activity, geomagnetic storms may occur, and we may be able to spot auroras. You can 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. Until the end of April, 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. Until around the end of April, you can also view auroras virtually from a webcam at the University of Alaska-Fairbanks (two hours behind the Mountain Time Zone)…
https://www.youtube.com/watch?v=O52zDyxg5QI

EARTH SATELLITE HIGHLIGHTS. The following predictions are for western Colorado, specifically Montrose. Numerous Earth satellites are visible every clear night. 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 no longer 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.

April 19, 2025. Tiangong (Chinese Space Station). 8:29 to 8:32 to 8:35 PM MDT. WNW to SSW to SE. Max altitude 56 deg above SSW, disappears into Earth's shadow at max altitude 12 deg above SE, max magnitude -1.8 (Passing through Taurus, Gemini, Canis Minor, Hydra, and Corvus). **Predictions for Tiangong are subject to change due to orbital adjustments. Check for updated predictions.**

April 20, 2025. International Space Station (ISS). 4:15 to 4:17 AM MDT. 1st predawn ISS pass of April 20. ESE to E. Appears from Earth's shadow at max altitude 16 deg above ESE. Max magnitude -1.3 (Passing through Aquarius and Pegasus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

April 20, 2025. International Space Station (ISS). 5:48 to 5:51 to 5:54 AM MDT. 2nd predawn ISS pass of April 20. WSW to NW to NE. Appears from Earth's shadow 11 deg above WSW, max altitude 46 deg above NW, max magnitude -3.2 (Passing through Virgo, Boötes, Ursa Major, Draco, Ursa Minor-near Polaris, Cepheus/Camelopardalis, Cassiopeia, and Perseus/Andromeda). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

April 20, 2025. Tiangong (Chinese Space Station). 9:06 to 9:08 to 9:10 PM MDT. W to SSW to S. Maximum altitude 19 deg above SSW, disappears into Earth's shadow 15 deg above S, max magnitude -0.1 (Passing through Taurus, Orion, Canis Major, Puppis, Pyxis, and Antlia). **Predictions for Tiangong are subject to change due to orbital adjustments. Check for updated predictions.**

April 21, 2025. International Space Station (ISS). 5:02 to 5:03 to 5:06 AM MDT. WSW to NW to NE. Appears from Earth's shadow 41 deg above WSW. Max altitude 83 deg above NW, max magnitude -3.9 (Passing through Serpens Caput, Corona Borealis, Hercules, Draco, Cepheus, and Andromeda). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

April 22, 2025. International Space Station (ISS). 4:16 to 4:18 AM MDT. 1st predawn ISS pass of April 22. E to ENE. Appears from Earth's shadow at max altitude 39 deg above E. Max magnitude -2.5 (Passing through Cygnus, Pegasus, and Andromeda). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

April 22, 2025. International Space Station (ISS). 5:49 to 5:52 to 5:54 AM MDT. 2nd predawn ISS pass of April 22. W to NNW to NNE. Appears from Earth's shadow 7 deg above W, max altitude 21 deg above NNW, max magnitude -1.9 (Passing through Coma Berenices, Ursa Major-Big Dipper, Camelopardalis, and Perseus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

April 22, 2025. Tiangong (Chinese Space Station). 8:43 to 8:44 to 8:45 PM MDT. SW to SSW. Maximum altitude 11 deg above SW, max magnitude +0.7 (Passing through Eridanus, Lepus, Canis Major, and Pyxis/Puppis). **Predictions for Tiangong are subject to change due to orbital adjustments. Check for updated predictions.**

April 23, 2025. International Space Station (ISS). 3:29 to 3:30 AM MDT. 1st predawn ISS pass of April 23. In ENE. Appears from Earth's shadow at max altitude 12 deg above ENE. Max magnitude -0.5 (Passing through Pegasus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

April 23, 2025. International Space Station (ISS). 5:02 to 5:03 to 5:06 AM MDT. 2nd predawn ISS pass of April 23. WNW to NNW to NNE. Appears from Earth's shadow 23 deg above WNW, max altitude 30 deg above NNW, max magnitude -2.5 (Passing through Canes Venatici, Ursa Major-Big Dipper, Camelopardalis, and Perseus/Andromeda). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

April 24, 2025. International Space Station (ISS). 4:16 to 4:18 AM MDT. 1st predawn ISS pass of April 24. N to NE. Appears from Earth's shadow at max altitude 41 deg above N. Max magnitude -2.7 (Passing through Ursa Minor, Cepheus, Cassiopeia, and Andromeda). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

April 24, 2025. International Space Station (ISS). 5:51 to 5:52 to 5:54 AM MDT. 2nd predawn ISS pass of April 24. NW to NNW to N. Max altitude 12 deg above NNW, max magnitude -1.2 (Passing through Ursa Major, Camelopardalis, and Perseus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

Additional predawn passes for the very bright International Space Station (ISS) are predicted from April 25 to May 4. These predictions are subject to change. For updates on times, check heavens-above (or other prediction websites) shortly before you want to observe. Be sure to enter your location and time zone info when using prediction websites.

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 April 25 and 30, Jaime Perce of the Western Slope Dark Sky Coalition is scheduled to discuss "Circadian Rhythms in Nature." Dr. Catherine Whiting's WSS feature on "The Phases of Venus", previously scheduled for April 25 and 30, aired on April 11 and 16 (all WSS features are available at hot link, above).

HAPPY OBSERVING!