

**OBSERVING HIGHLIGHTS for May 20 to June 2, 2025, a “dark Moon period”  
Black Canyon Astronomical Society (BCAS), western Colorado, USA**

**SUMMARY**

“Dark Moon time” in late spring is “galaxy time”! The dust clouds of the Milky Way are low to the horizon, allowing for unobstructed views of faraway galaxies high in the sky in Constellations Leo, Virgo, and Ursa Major. Using binoculars or a telescope, challenge yourself to spot some of these distant “star cities” from the Western Slope’s dark skies!

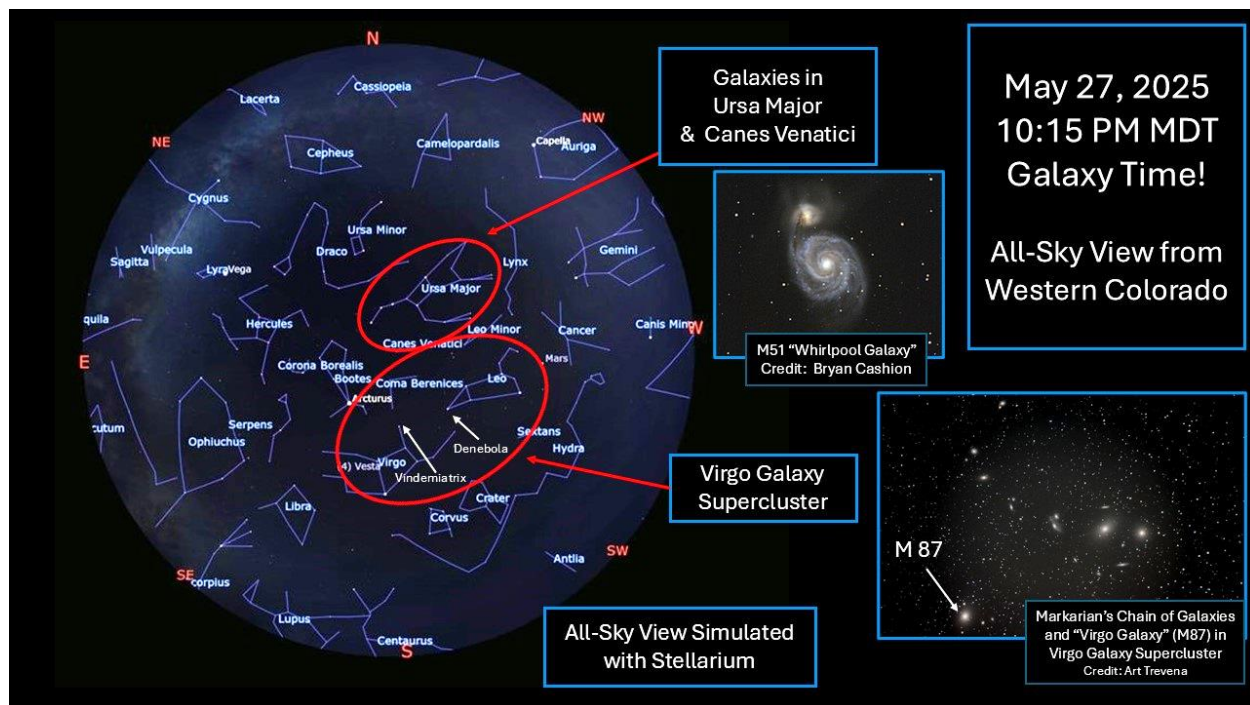
Bright Jupiter is descending toward the west-northwestern horizon during evening twilight. As the sky darkens, ruddy Mars is about 40 degrees above the western horizon and remains visible until after midnight. Using binoculars around midnight, try to spot Vesta, the brightest asteroid, as it moves against the stars of eastern Virgo. Venus is a brilliant “morning star”, rising in a dark sky before 4 AM MDT. Early risers can also view Saturn, the Ringed Planet, which rises before 3:30 AM MDT. With a telescope on May 31, watch the shadow of Titan, the Solar System’s 2<sup>nd</sup> largest Moon, move across Saturn - a rare chance to see a total solar eclipse on Saturn! From the Western Slope, it’s likely best to view this shadow transit between 4:00 AM and 4:45 AM MDT.

The Moon reaches last quarter on May 20, and from May 21 to 25, the crescent Moon wanes in the morning sky. The Moon is new on May 26. Watch the crescent Moon wax during evenings from May 27 to June 1. The Moon reaches first quarter on June 2. On May 22 at about 4:45 AM MDT, look for the waning, 29%-illuminated, crescent Moon about 3 degrees above Saturn. In the predawn sky of May 23, a thinner crescent Moon is between Saturn and brilliant Venus. From a place with an unobstructed west-northwestern horizon on May 27 at 9:25 PM MDT, look for the very skinny (only 1.5% illuminated!), waxing, crescent Moon about 3 degrees above the horizon and 8 degrees below and to the right of bright Jupiter (this could be challenging – use binoculars). On the evening of May 31, the 30%-illuminated crescent Moon is several degrees west of reddish Mars. Enjoy seeing earthshine delicately illuminate the nightside of the crescent Moon, especially on mornings from May 22 to 25 and on evenings from May 27 to May 30 (binoculars can provide eye-catching views!).

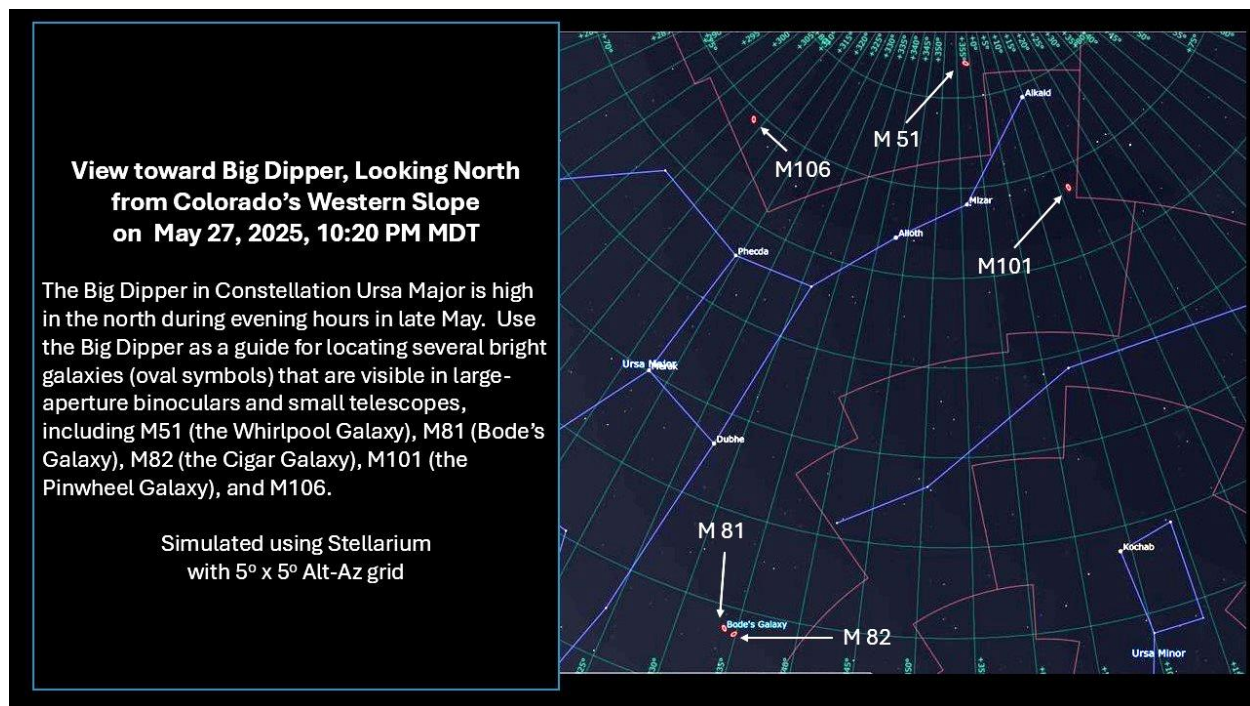
The Sun is still very active. Moderate and even extreme solar flares may occur. There may also be coronal mass ejections (CMEs) that trigger geomagnetic storms and auroras (aka, polar or northern lights). You can monitor the Sun safely on the internet. Do not look at the Sun directly without safe, specialized solar filters. Looking at the Sun can injure your eyes unless you take adequate precautions. Severe eye damage and even blindness can result.

Try to spot the bright International Space Station (ISS) during evening passes from May 19 to May 30. Predawn passes of the almost-as-bright, Tiangong (Chinese) Space Station are predicted for May 20 to 25, and evening passes of Tiangong are predicted from May 25 to June 2.

**A DARK SKY FOR “GALAXY TIME”!** “Dark Moon time” in late spring is “galaxy time”! The dust clouds of the Milky Way are low in the sky, allowing for unobstructed views of distant galaxies in Constellations Leo, Virgo, and Ursa Major. These Constellations are now high in the sky (refer to a planetarium app or the all-sky charts below). In the northern sky, there are several bright galaxies near the Big Dipper that are visible in small telescopes and wide-aperture binoculars. The center of the Virgo Galaxy Supercluster, which contains hundreds of moderately bright galaxies, can be found high in the south, between the stars Denebola in the “tail” of Leo and Vindemiatrix in Virgo.



Try to spot the relatively bright galaxies, M51, M81, M82, M101, and M106 near the Big Dipper with large binoculars (10 x 50 mm or bigger) and/or small telescopes. These are all massive spiral galaxies that contain billions of stars, like our own Milky Way.



Try using a planetarium app or the chart above to find these galaxies:

M 51, the Whirlpool Galaxy, about 27 million light years distant (1 light year = 6 trillion miles)

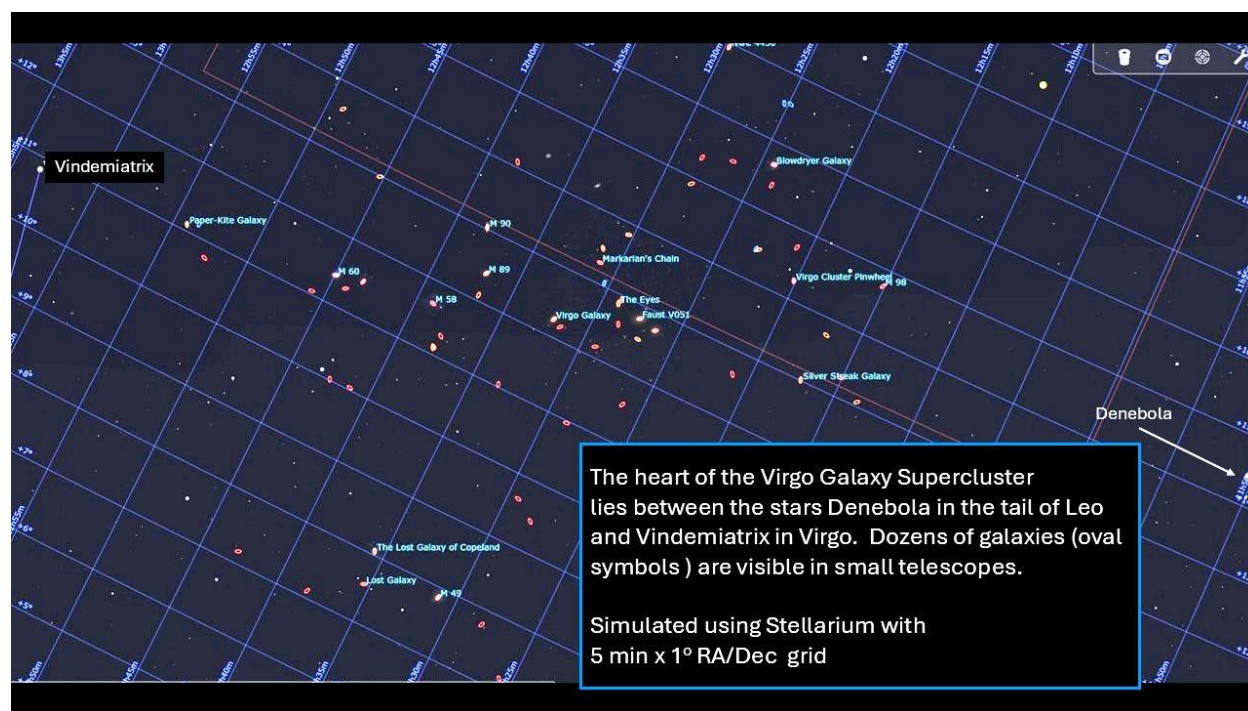
M 81, Bode's Galaxy, 12 million light years distant

M 82, the Cigar Galaxy, 12 million light years distant

M 101, the Pinwheel Galaxy, 21 million light years distant

M 106, about 23 million light years distant

With small telescopes, it's possible to spot dozens of galaxies within the Virgo Galaxy Supercluster. You can use a planetarium app or the chart below to locate some of these galaxies between the stars Denebola in eastern Leo and Vindemiatrix in Virgo. "Markarian's Chain" consists of several galaxies that appear to be arrayed along a curved line, and they share a common motion through space. Galaxies near the center of the Virgo Galaxy Supercluster are about 50 million to 60 million light years distant.



**THE MOON.** The Moon reaches **last quarter on May 20** (exactly at 5:59 AM MDT), and from May 21 to 25 the crescent Moon wanes in the morning sky. The **Moon is new on May 26** (exactly new at 9:02 PM MDT). Watch the crescent Moon wax during evenings from May 27 to June 1. The **Moon reaches first quarter on June 2** (exactly at 9:41 PM MDT). On May 22 at about 4:45 AM MDT, look for the waning, 29%-illuminated, crescent Moon about 3 degrees above Saturn. In the predawn of May 23, a thinner crescent Moon is between Saturn and brilliant Venus. From a place with an unobstructed west-northwestern horizon on May 27 at 9:25 PM MDT, look for the very skinny crescent Moon (only 1.5% illuminated!) about 3 degrees above the horizon and 8 degrees below and to the right of bright Jupiter (this could be challenging – use binoculars). On the evening of May 31, the 30%-illuminated crescent Moon is several degrees west of reddish Mars. Enjoy seeing earthshine delicately illuminate the nightside of the crescent Moon, especially on mornings from May 22 to 25 and on evenings from May 27 to May 30 (binoculars can provide eye-catching views!). 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.**



**BRIGHT JUPITER AND ITS MOONS IN THE EARLY EVENING.** Bright Jupiter now descends toward the west-northwestern horizon during evening twilight. The Giant Planet sets at about 10:20 PM MDT on May 20 and 9:41 PM MDT on June 2. During this period Jupiter fades slightly from magnitude -1.93 to -1.91, but it's still bright. Jupiter is 560 million miles distant on May 20 and 567 million miles distant on June 2. Through telescopes or binoculars, the Giant Planet's apparent equatorial diameter decreases a bit, from 32.7 to 32.3 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](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). Jupiter is now setting early, and during this period only 2 shadow transits, both by Io's shadow, are visible locally.

May 20, 2025, 6:14 PM to 8:30 PM MDT, Io's shadow crosses Jupiter (Locally this event begins in daylight with Jupiter 45 degrees above the western horizon and ends in bright twilight with Jupiter 19 degrees above the horizon and the Sun just 2 degrees below the horizon. A "Go-To" telescope may be necessary for finding Jupiter in a bright sky).

May 27, 2025, 8:10 PM to 10:24 PM MDT, Io's shadow crosses Jupiter (Locally, this event begins in daylight with Jupiter 19 degrees above the west-northwestern horizon and the Sun 2 degrees above the horizon and ends after Jupiter sets at about 10:00 PM MDT).

**MARS.** As the sky darkens, reddish (or butterscotch-tinted?) Mars is about 40 degrees above the western horizon. The Red Planet moves eastward, amidst the stars in Cancer until May 24, and then enters Constellation Leo on May 25. Mars' rapid eastward motion against the stars will keep the Red Planet in our evening sky through the middle of fall. Mars remains visible until after midnight, setting in the west northwest at about 1:34 AM MDT on May 20 and 1:00 AM MDT on June 2.

The Red Planet fades very slightly from magnitude +1.19 on May 20 to magnitude +1.21 on June 2, as its distance from Earth increases from 148 million to 159 million miles. Mars is slightly brighter than the nearby star, Regulus in Constellation Leo. Note the color contrast between ruddy Mars and blue-white Regulus. While Regulus may "twinkle" (or scintillate), Mars is unlikely to twinkle. Through telescopes, Mars' 90%- to 91%-illuminated, gibbous disk decreases from 5.9 to 5.5 arc seconds in diameter during this period. Due to its small apparent size, it's getting 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](https://www.alpo-astronomy.org/jbeish/2025_MARS.htm)

**SPOT VESTA, THE BRIGHTEST ASTEROID, AROUND MIDNIGHT.** This "dark Moon period" is a great time to spot Vesta, the brightest asteroid. As it retrogrades (moves westward) against the stars of eastern Virgo, Vesta is easy to spot in small binoculars, and folks with excellent vision may be able to see Vesta with eyes unaided. Vesta is highest in the sky around midnight. For more info and a finder chart for Vesta, see this link...

<https://skyandtelescope.org/astronomy-news/asteroid-vesta-now-an-easy-catch-in-binoculars/>

**VENUS – A BRILLIANT "MORNING STAR"!** Brilliant Venus rises at about 3:56 AM MDT on May 20 and 3:38 AM MDT on June 2, before the start of morning twilight. Venus appears at its greatest angular separation west of the Sun on May 31. During this period, Venus fades slightly from magnitude -4.54 on May 20 to magnitude -4.40, as its distance from Earth increases from 56.3 million to 66.0 million miles.

As seen through telescopes, Venus' phase waxes from a 43%-illuminated crescent on May 20 to a half-illuminated disk on June 2, as its apparent diameter shrinks from 27.5 to 23.5 arc seconds while our "Sister Planet" speeds ahead of Earth in its faster orbit. **Please do your Venus spotting before sunrise. NEVER chance looking at the Sun without taking proper precautions. Serious eye damage can result.**

**SATURN BEFORE DAWN.** Saturn is visible in the predawn sky, rising at about 3:24 AM MDT on May 20 and 2:36 AM MDT on June 2. Saturn brightens slightly, from magnitude +1.12 on May 20 to magnitude +1.08 on June 2, as its distance from Earth decreases from 934 million to 916 million miles. Through telescopes Saturn's disk appears 17 arc seconds wide, and its rings span 39 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 logging onto this site:

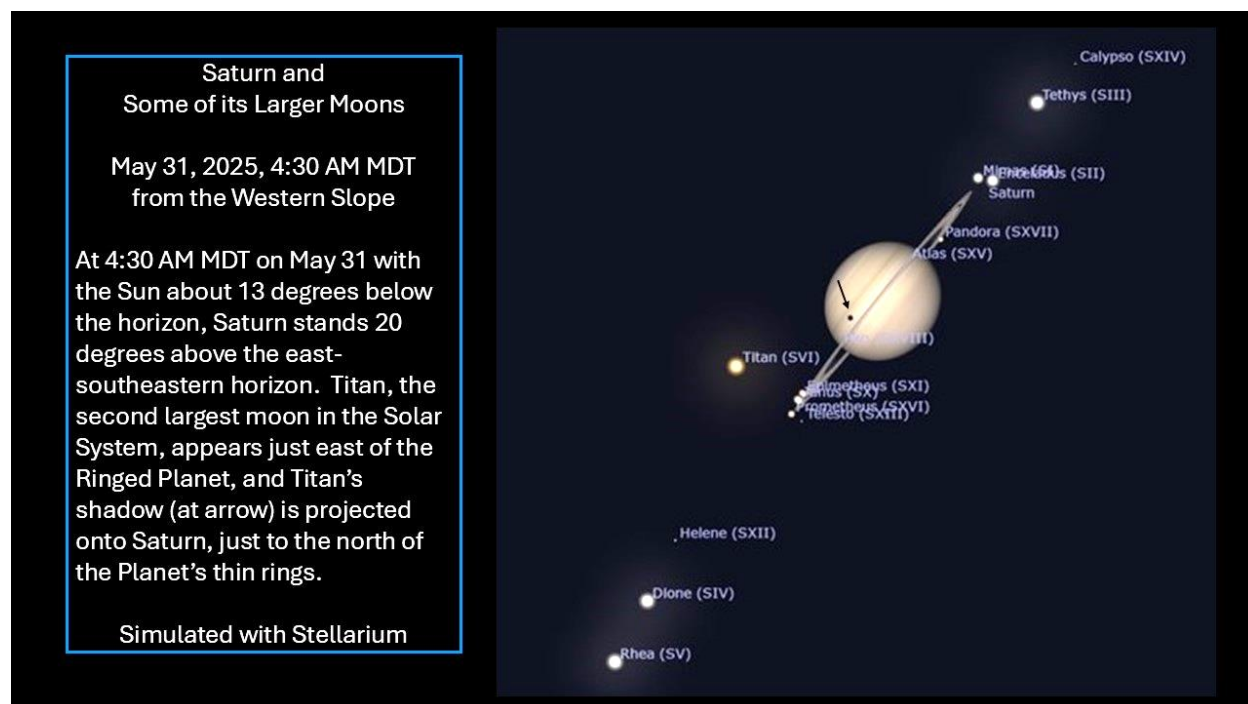
<https://skyandtelescope.org/observing/interactive-sky-watching-tools/saturns-moons-javascript-utility/>

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/>

**TITAN'S SHADOW MOVES ACROSS SATURN – MAY 31 AM!** Use a telescope to watch the rare sight of Titan's shadow moving across the Ringed Planet on the morning of May 31! This is a total solar eclipse on Saturn! Titan is Saturn's largest moon, and the second largest moon in the Solar System. Titan has a larger diameter than the Planet Mercury! Transits of Titan's shadow across Saturn occur in groups about 15 years apart, so we'll have to wait a long time to observe the next series of these events! The May 31 transit begins at 3:05 AM MDT, shortly after Saturn rises on the Western Slope at about 2:43 AM MDT. Locally, you might see Titan's shadow best between 4:00 AM and 4:45 AM MDT, when Saturn is more than 14 degrees above the east-southeastern horizon and before bright twilight starts to interfere. On May 31, Titan's shadow is cast north of Saturn's thin ring system (see simulation, below).

While the shadows of 3 of Jupiter's large moons currently transit Jupiter every several days, transits of Titan's shadow across Saturn are relatively rare. These occur in groups during "transit seasons" around Saturn's equinoxes every 15 years. The current "transit season" began in November 2024, but transits from November 4 to April 13 were not visible from Colorado. That changed on April 29, when the first of 11 shadow transits was visible from the Western Slope. Titan's orbital period of Saturn is just short of 16 Earth days, so transits are now occurring every 16 days. Locally on May 31, Saturn will appear above the east-southeastern horizon in the predawn sky, and the shadow transit will end in daylight, long after sunrise. Local circumstances for viewing Titan's shadow transits improve through the late spring and summer (see table, below), because Saturn will be rising earlier and getting higher in a dark sky. Approximate times for Saturn's rise and sunrise on the Western Slope are shown in the table. 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	Sunrise MDT
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						

Find more info on Titan shadow transits at this link...

<https://skyandtelescope.org/astronomy-news/observing-news/titan-shadow-transit-season-underway/>

**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 high in the east before 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 2<sup>nd</sup> 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 6 AM MDT on May 19, T CrB had not yet erupted. There was a prediction that T CrB 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://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://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](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 during most weeks over the past year, and there have been many X-class (extreme) solar flares, including X-class flares on January 3 and 4, February 23, March 28, and May 13 and 14. Also there have been CMEs that triggered geomagnetic storms that caused auroras. We may experience more M- and possibly X-class 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. As of 6 AM on May 19, there are several active regions with sunspots on the Earth-facing side of the Sun. The safest 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").** 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 more 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. But, during late spring and early summer (in respective hemispheres), it's not possible to see auroras from latitudes above 60 degrees, because it never gets dark there! During this time, the Western Slope may be a good place for spotting strong auroras!

**EARTH SATELLITE HIGHLIGHTS.** The following predictions are for western Colorado, specifically Montrose. Numerous Earth satellites are visible every clear night. During May through July, space above Earth's northern reaches is awash in sunlight, and it's possible to see satellites in reflected sunlight all night long, especially in the northern sky. 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.

**May 19, 2025. International Space Station (ISS). 10:04 to 10:05 to 10:06 PM MDT. 1<sup>st</sup> PM ISS Pass of May 19.** N to NNE to NE. Max altitude 11 deg above NNE, max magnitude -0.8, disappears into Earth's shadow 5 deg above NE (Passing through Perseus, Cassiopeia, Cepheus, and Cygnus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 19, 2025. International Space Station (ISS). 11:39 to 11:41 PM MDT. 2<sup>nd</sup> PM ISS Pass of May 19.** NW to NNW. Disappears into Earth's shadow at max altitude 20 deg above NNW, max magnitude -1.1 (Passing through Auriga and Camelopardalis). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 20, 2025. Tiangong (Chinese Space Station). 3:54 to 3:55 to 3:58 AM MDT.** NW to N to ENE. Appears from Earth's shadow 37 deg above NW, max altitude 45 deg above N, max magnitude -1.2 (Passing through Ursa Major, Draco, Ursa Minor, Cepheus, Cassiopeia, and Andromeda). **Predictions for Tiangong are subject to change due to orbital adjustments. Check for updated predictions.**

**May 20, 2025. International Space Station (ISS). 10:51 to 10:54 PM MDT.** NNW to NNE. Disappears into Earth's shadow at max altitude 23 deg above NNE, max magnitude -1.8 (Passing through Auriga, Camelopardalis, and Cepheus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 21, 2025. Tiangong (Chinese Space Station). 4:28 to 4:31 to 4:34 AM MDT.** WNW to N to E. Appears from Earth's shadow 13 deg above WNW, max altitude 59 deg above N, max magnitude -1.6 (Passing through Coma Berenices/Canes Venatici/Ursa Major, Draco, Cepheus, Lacerta, Pegasus, and Pisces-near Venus). **Predictions for Tiangong are subject to change due to orbital adjustments. Check for updated predictions.**

**May 21, 2025. International Space Station (ISS). 10:04 to 10:06 to 10:08 PM MDT. 1<sup>st</sup> PM ISS Pass of May 21.** NNW to NNE to ENE. Max altitude 17 deg above NNE, max magnitude -1.3, disappears into Earth's shadow 12 deg above ENE (Passing through Perseus, Cassiopeia, Cepheus, and Cygnus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 21, 2025. International Space Station (ISS). 11:40 to 11:41 PM MDT. 2<sup>nd</sup> PM ISS Pass of May 21.** In NW. Disappears into Earth's shadow at max altitude 18 deg above NW, max magnitude -1.0 (Passing



through Gemini). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 22, 2025. Tiangong (Chinese Space Station). 1<sup>st</sup> AM Tiangong Pass of May 22. 3:30 to 3:33 AM MDT.** NNE to E. Appears from Earth's shadow at max altitude 45 deg above NNE, max magnitude -1.1 (Passing through Cepheus, Lacerta, Pegasus, and Pisces). **Predictions for Tiangong are subject to change due to orbital adjustments. Check for updated predictions.**

**May 22, 2025. Tiangong (Chinese Space Station). 2<sup>nd</sup> AM Tiangong Pass of May 22. 5:04 to 5:07 to 5:10 AM MDT.** WNW to SSW to ESE. Max altitude 65 deg above SSW, max magnitude -2.2 (Passing through Boötes-near Arcturus, Hercules, Aquila, and Aquarius). **Predictions for Tiangong are subject to change due to orbital adjustments. Check for updated predictions.**

**May 22, 2025. International Space Station (ISS). 9:16 to 9:18 to 9:20 PM MDT. 1<sup>st</sup> PM ISS Pass of May 22.** NNW to NNE to NE. Max altitude 13 deg above NNE, max magnitude -1.1 (Passing through Perseus, Cassiopeia, Cepheus, and Cygnus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 22, 2025. International Space Station (ISS). 10:52 to 10:55 PM MDT. 2<sup>nd</sup> PM ISS Pass of May 22.** NW to N. Disappears into Earth's shadow at max altitude 45 deg above N, max magnitude -2.7 (Passing through Auriga and Camelopardalis). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 23, 2025. Tiangong (Chinese Space Station). 4:05 to 4:06 to 4:09 AM MDT.** WNW to NNE to ESE. Max altitude 80 deg above NNE, max magnitude -2.1 (Passing through Boötes, Hercules/Draco, Cygnus, Pegasus, and Pisces). **Predictions for Tiangong are subject to change due to orbital adjustments. Check for updated predictions.**

**May 23, 2025. International Space Station (ISS). 10:04 to 10:07 to 10:08 PM MDT. 1<sup>st</sup> PM ISS Pass of May 23.** NW to NNE to ENE. Max altitude 33 deg above NNE, max magnitude -2.5 (Passing through Auriga, Camelopardalis, Draco, and Lyra). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 23, 2025. International Space Station (ISS). 11:40 to 11:41 PM MDT. 2<sup>nd</sup> PM ISS Pass of May 23.** In WNW. Disappears into Earth's shadow at max altitude 11 deg above WNW, max magnitude -0.7 (Passing through Gemini and Cancer). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 24, 2025. Tiangong (Chinese Space Station). 4:40 to 4:42 to 4:45 AM MDT.** W to SSW to SE. Appears from Earth's shadow 18 deg above W, max altitude 39 deg above SSW, max magnitude -1.7 (Passing through Boötes, Serpens, Ophiuchus, Scutum, Sagittarius, Capricornus, and Piscis Austrinus). **Predictions for Tiangong are subject to change due to orbital adjustments. Check for updated predictions.**

**May 24, 2025. International Space Station (ISS). 9:16 to 9:19 to 9:22 PM MDT. 1<sup>st</sup> PM ISS Pass of May 24.** NNW to NNE to E. Max altitude 23 deg above NNE, max magnitude -1.9 (Passing through Perseus, Cassiopeia, Cepheus, Cygnus/Draco, and Lyra-near Vega). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 24, 2025. International Space Station (ISS). 10:52 to 10:55 PM MDT. 2<sup>nd</sup> PM ISS Pass of May 24.** WNW to W. Disappears into Earth's shadow at max altitude 33 deg above W, max magnitude -2.4 (Passing through Gemini, Cancer, and Leo). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**Additional evening passes of the very bright International Space Station (ISS) are predicted from May 25 to May 30. There are additional predawn passes for the almost-as-bright Tiangong (Chinese) Space Station on May 25, and evening passes for Tiangong are predicted from May 25 to June 2. 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, KVN 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 May 23 and 28, Emma Cassidy and Dr. Catherine Whiting of Colorado Mesa University present on the "Auroras of Neptune."

**HAPPY OBSERVING!**