

**OBSERVING HIGHLIGHTS for May 1 to 15, 2024, a “dark Moon” period  
Black Canyon Astronomical Society (BCAS), western Colorado, USA**

**SUMMARY.**

During moonless evenings in early May, challenge yourself to find the constellations of spring, including Hydra, Leo, Virgo, Boötes, Corona Borealis, Coma Berenices, Canes Venatici, and Ursa Major. These constellations feature very little light-absorbing dust from our own Milky Way Galaxy, so it's possible to spot dozens of distant galaxies within them while using a telescope.

Look for Eta Aquariid Meteors on May 5 between 3:20 and 5 AM MDT, and perhaps also for a few mornings before and after that date.

The Moon is at last quarter on May 1. On mornings from May 2 to 7, the crescent Moon wanes. On the morning of May 3 at 4:30 to 5 AM MDT, the crescent Moon is about 8 degrees west of Saturn. On May 4 at about 5 AM MDT, look for the crescent Moon between Saturn and Mars in the southeastern sky. Then on May 6 at about 5:20 AM MDT, a thin crescent Moon, just above the horizon, is about 5 degrees left of Mercury (this is a challenging sight, requiring a flat horizon and binoculars). The Moon is new on May 7. On evenings from May 8 to 14, we can watch a crescent Moon wax. The Moon reaches first quarter on May 15. Enjoy seeing earthshine on the dark part of the crescent Moon, especially on mornings from May 2 to 6 and evenings from May 8 to 12 (binoculars will enhance your view).

On May 1 at about 8:40 PM MDT, you might spot Jupiter only 3 degrees above an unobstructed west-northwestern horizon. But thereafter, the Giant Planet rapidly disappears into glaring twilight before its solar conjunction on May 18.

Saturn now rises in the east southeast before morning twilight, at about 4:06 AM MDT on May 1 and 3:14 AM MDT on May 15. Following Saturn, reddish Mars rises at around 4:37 AM MDT on May 1 and 4:08 AM MDT on May 15. Find a place with an unobstructed eastern horizon, and you may be able to spot Mercury with binoculars between May 6 at about 5:20 AM MDT (when it's 5 degrees to the right of a thin crescent Moon) and May 15 at around 5:10 AM MDT.

The Sun has been very active recently. Moderate and even extreme solar flares are likely during this period. You can monitor solar activity safely in real time on the internet. High solar activity is triggering auroras (aka “northern lights”) and airglow, which have been photographed and seen from Colorado recently. So, keep watch for more of these phenomena!

From western Colorado, try to spot the bright International Space Station (ISS) before dawn from May 2 to 12 and on evenings from May 9 to 14. On the nights of May 9-10, 10-11, 11-12, it's possible to watch 4 passes of the ISS on each night!

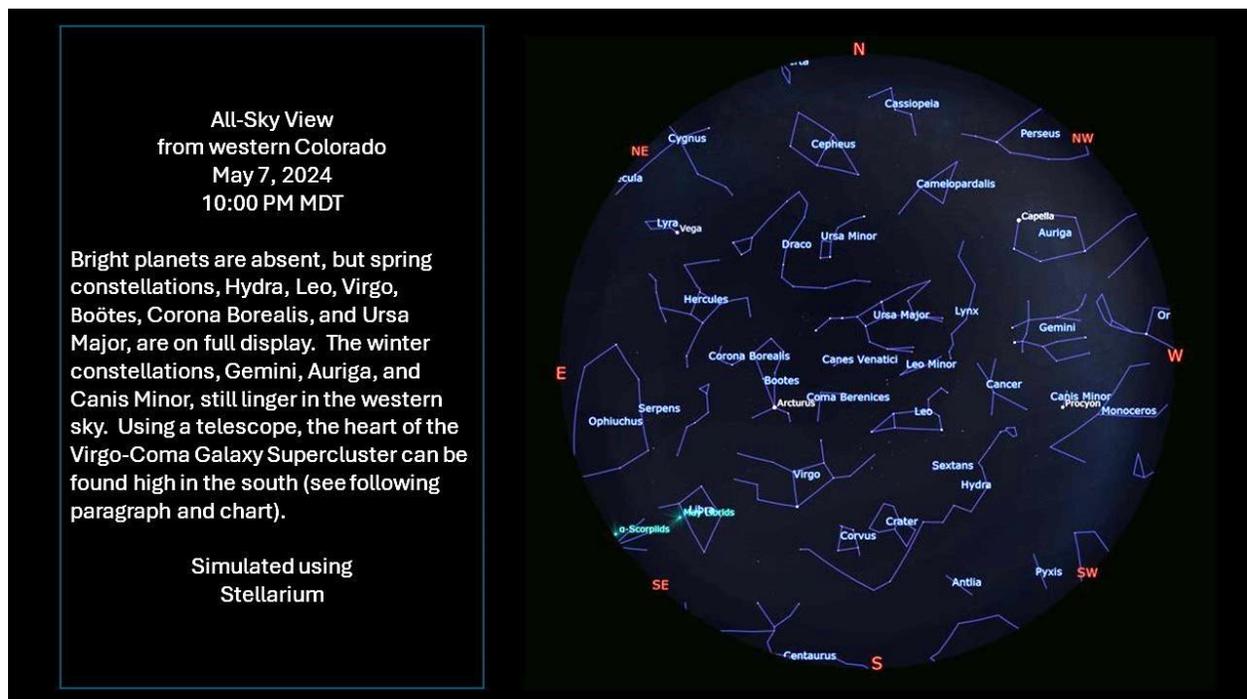
**WESTERN SLOPE SKIES.** Since 2011, BCAS and KVNF Community Radio have been producing [Western Slope Skies](#) (WSS), a biweekly astronomy feature, which airs every two weeks at about 8:10 AM on Fridays and 7:00 PM on Wednesdays. On May 1 Michael Williams discusses the “The Exotic Afterlife of Stars.” Then on May 15 and 20, Phillip Virden tells us about the June 7 to 9 Lake City StarFest, a celebration of southwest Colorado's wonderfully dark night skies.

**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>

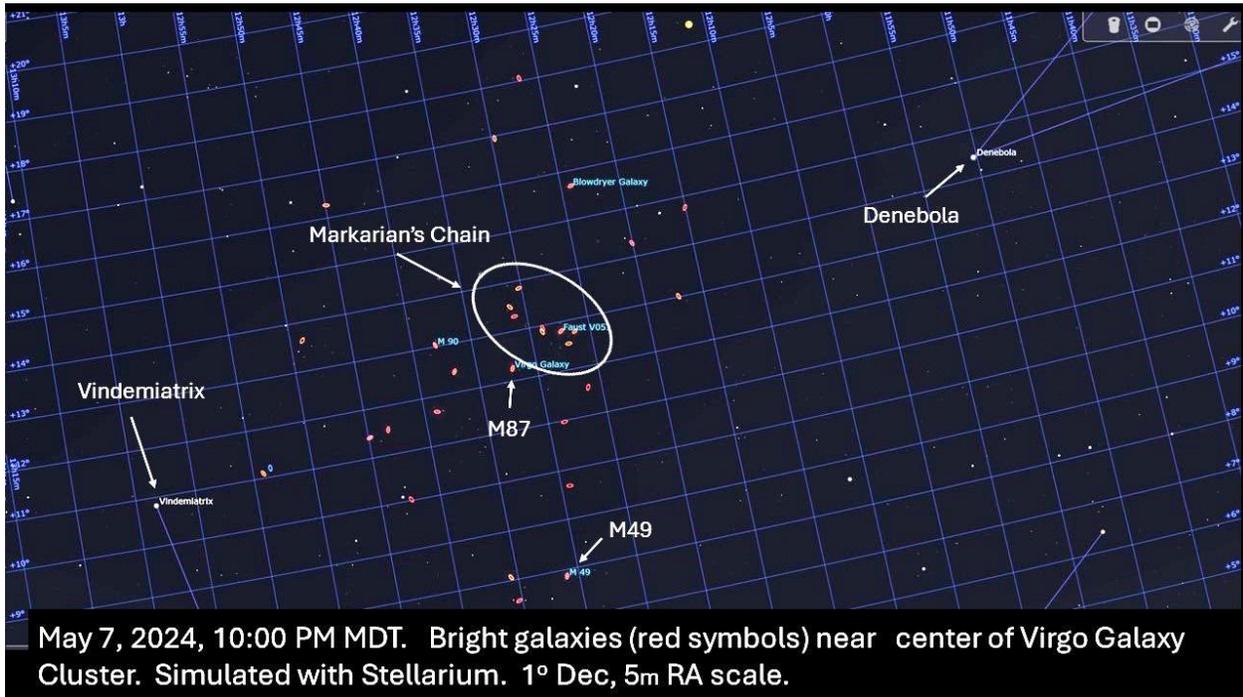
**THE MOON.** The Moon reaches **last quarter on May 1** (exactly at 6:27 AM MDT). On mornings from May 2 to 7, the crescent Moon wanes. On the morning of May 3, the 28%-illuminated, crescent Moon is about 8 degrees west of Saturn. On May 4 between 5 and 5:30 AM MDT, look for the 18%-illuminated crescent Moon between Saturn and Mars in the east-southeastern sky. Then on the morning of May 6 at about 5:20 AM MDT, the 4%-illuminated crescent Moon is about 5 degrees left from Mercury (it will be challenging to spot the pair, only 1 to 2 degrees above an unobstructed eastern horizon with the Sun about 9 degrees below the horizon - binoculars may help). **The Moon is new on May 7** (exactly new at 9:22 PM MDT). On evenings from May 8 to 14 we can watch a crescent Moon wax. The Moon reaches **first quarter on May 15** (at exactly 5:48 AM MDT). Enjoy seeing earthshine on the dark part of the crescent Moon, especially on mornings from May 2 to 6, and evenings from May 8 to 12 (binoculars can provide stunning views of earthshine). NASA has published a [stunning visualization of lunar phases for year 2024](#). **Please do your crescent Moon spotting before sunrise and after sunset. NEVER chance looking at the Sun directly; serious eye damage can result.**

**A DARK SKY, SPRING CONSTELLATIONS, AND DISTANT GALAXIES.** Moonless evenings in May can be very dark, as often indicated by sky quality meters, because the brightest star clouds of the Milky Way are below our horizon. Constellations Hydra, Leo (with bright star, Regulus), Virgo (with bright Spica), Boötes (with bright Arcturus), Corona Borealis, Coma Berenices, Canes Venatici, and Ursa Major (including the Big Dipper) are prominent. Use a planetarium app or the chart below to help find them.



On evenings in early May, we have unobstructed views of many distant galaxies, because the light-absorbing dust clouds of our own Milky Way Galaxy are below the horizon (or low in the sky). With a telescope of 5 inches or larger aperture, we can see dozens of these distant star cities in constellations Virgo, Leo, Coma Berenices, Canes Venatici, Ursa Major, and Hydra. The [Virgo Galaxy Cluster](#) (sometimes called the “Virgo-Coma Supercluster”) is centered in the westernmost part of Constellation Virgo, between stars Denebola (aka Beta Leonis, magnitude +2.1) in Leo’s “tail” and Vindemiatrix (aka

Epsilon Virginis, magnitude +2.85) in Virgo. Can you spot some of these galaxies with a telescope? Visually, they appear as fuzzy patches of light. Use a star chart, planetarium app, and/or the finder chart below and try to locate some of these distant star systems. The brightest galaxies on the chart below are M49 and M87. M87, a massive elliptical galaxy, is famous, because it contains a 6.5-billion solar mass black hole, the shadow of which in 2019 was imaged by the [Event Horizon Collaboration](#). A “string” of Virgo Cluster galaxies that share a common motion through space is called “[Markarian’s Chain](#).”



Two other bright galaxies visible on dark May evenings are Bode’s Galaxy (M81) and the Cigar Galaxy (M82), located in Ursa Major near the Big Dipper. Bode’s Galaxy is bright enough to be visible in most binoculars. For a finder chart, images, and other info about M81 and M82, click on this link (thanks to Bryan Cashion for finding link)...

<https://www.skyatnightmagazine.com/astrophotography/galaxies/bodes-galaxy-cigar-galaxy>

**FAREWELL TO JUPITER IN THE EVENING.** On May 1 at about 8:40 PM MDT, Jupiter, 557 million miles from Earth, stands only about 3 degrees above an unobstructed west-northwestern horizon in [nautical twilight](#), and locally the Giant Planet sets at about 9:03 PM MDT. On the following evenings, Jupiter gets increasingly difficult and then impossible to spot, as it approaches solar conjunction on May 18. Jupiter will reappear in the morning sky by the middle of June. **Please do your Jupiter spotting after sunset. NEVER chance looking at the Sun directly; serious eye damage can result.**

**ETA AQUARIID METEORS PEAK ON THE MORNING OF MAY 5.** The Eta Aquariid Meteor Shower is predicted to reach its peak on the morning of May 5. On May 5, the waning crescent Moon (only 10% illuminated, rising at about 4:38 AM MDT) will not interfere much, and the sky will remain dark enough to spot meteors until nautical twilight begins at about 5:03 AM MDT. Eta Aquariid Meteors (sometimes called “shooting stars”) are pieces of Comet 1P/Halley that enter our atmosphere at about 41 miles per second (almost 150,000 miles per hour!). If you missed Halley’s Comet in 1986, here’s another way to

experience this famous comet! If skies are clear, you might see just a few to perhaps as many as 50 Eta Aquariid Meteors per hour from dark locations **on May 5 between about 3:20 and 5:00 AM MDT**. Expect to see lesser numbers of these meteors before dawn on May 2 to 4 and from May 6 until mid-May. Eta Aquariid meteors appear to emanate (or “radiate”) from a point in Constellation Aquarius, hence the name. After their radiant in Aquarius rises at about 3:20 AM MDT, these meteors may be seen all over the sky with eyes unaided; no optics are required. Find more information about the Eta Aquariids and other meteor showers at this link...  
<https://www.imo.net/files/meteor-shower/cal2024.pdf>

**SATURN IN THE MORNING.** Saturn is now rising before morning twilight, at around 4:06 AM MDT on May 1 and 3:14 AM MDT on May 15. Saturn is still on the far side of the Sun from our perspective, but it’s drawing nearer, from 952 million miles on May 1 to 934 million miles distant on May 15. Saturn shines at magnitude +1.1. Through telescopes, the Ringed Planet appears 16 arc seconds wide, and its rings span 38 arc seconds. With a telescope or high-magnification binoculars, it’s possible to spot Titan, Saturn’s largest moon. Telescopes with apertures 6 inches or larger may reveal several other moons of the Ringed Planet. From Earth’s perspective during 2024, Saturn’s rings are less inclined than they have been during the past several years, so they may appear less impressive in telescopes. These thin rings will appear nearly edge-on and almost disappear during 2025, so view Saturn telescopically soon. Because Saturn’s rings now appear less inclined, and therefore dimmer than in past years, it may be easier to spot some of Saturn’s mid-sized moons through telescopes. You can follow the changing positions of Saturn’s moons by referring to various planetarium apps and/or this site:  
<https://skyandtelescope.org/observing/interactive-sky-watching-tools/saturns-moons-javascript-utility/>

**MARS EMERGES FROM MORNING TWILIGHT.** Reddish Mars rises in the east during [astronomical twilight](#) on May 1 and in a dark sky at about 4:08 AM MDT on May 15. The Red Planet is 184 million miles distant on May 1 and 179 million miles distant on May 15. Mars is still on the far side of the Sun from our perspective, shining at an anemic magnitude of +1.1. Through telescopes, its disk appears tiny, less than 5 arc seconds wide. **Please do your Mars spotting before sunrise. NEVER chance looking at the Sun directly; serious eye damage can result.**

**MERCURY – A PREDAWN CHALLENGE.** Mercury reaches its greatest angular distance west of the Sun on May 9, but the Innermost Planet is currently well south of the Sun in our sky, making it challenging to spot from Colorado’s mid-northern latitudes. From a place with an unobstructed eastern horizon, you might try to spot Mercury between May 6 at around 5:20 AM MDT (when it’s just to the right of a thin crescent Moon) and May 15 at 5:10 AM MDT. This will be challenging; binoculars may help. On May 6 Mercury shines at magnitude +0.65, when through telescopes it appears as a 36%-illuminated crescent that is 8.7 arc seconds wide. By May 15, Mercury has brightened to magnitude +0.24, and its 7.3 arc second-wide disk is 50% illuminated. Between May 6 and May 15, Mercury’s distance from Earth increases from 72 to 85 million miles. It will be easier to spot Mercury during evenings next July. **Please do your Mercury spotting before sunrise. NEVER chance looking at the Sun directly; serious eye damage can result.**

**KEEP WATCHING THE NORTHERN CROWN!** Will there soon be a bright “new” star in Constellation Corona Borealis (the “Northern Crown”), at least briefly? T Coronae Borealis (T CrB) is a recurrent nova that may rapidly increase in brightness 1500-fold (to second magnitude) to become the brightest star in Corona Borealis sometime between now and next September. Then it may fade rapidly below naked-eye visibility in about a week. As of 6 AM MDT on April 30, T CrB had not yet detonated. 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://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)

<https://skyandtelescope.org/observing/whats-up-with-t-crb04202016/>

**THE SUN.** The Sun has been very active over the past year and a half. There have been M-class (moderate) solar flares each week, and even X-class (extreme) solar flares, as recently as March 23 and March 28. There also have been many coronal mass ejections (“CMEs”) of charged particles that have triggered auroras. [Airglow](#) also results from [high solar activity](#), and this phenomenon has been photographed and observed from Colorado. As of April 30, a large active region with many sunspots soon will be rotating out of view, but other active regions are rotating onto the Earth-facing side of the Sun. M-class (moderate) and even X-class (extreme) solar flares are likely during this period. Some flares may be associated with CMEs. 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://halph.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 in the past year auroras were photographed and seen from Colorado and even farther south in Arizona! Solar magnetic storms, when directed toward Earth, can cause auroras. Our nights in Colorado are shortening now, reducing the time when we may spot auroras. But we have an advantage over more northerly locations, which have even fewer hours between evening and morning twilight (or no dark time at all!). With current, high solar activity, chances for spotting auroras from Colorado are good. 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/>

<https://www.swpc.noaa.gov/products/aurora-viewline-tonight-and-tomorrow-night-experimental>

**EARTH SATELLITE HIGHLIGHTS.** The following predictions are for western Colorado, specifically Montrose, in Mountain Daylight Time (MDT). Numerous Earth satellites are visible every clear night. Brighter satellites have smaller magnitude numbers, and the brightest (e.g., the International and 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 can change. These predictions for satellite passes may be inaccurate by up to several minutes, especially after May 3. For more accurate predictions of these 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. During May, June, and July, space above the

**northern hemisphere is awash in sunlight, and we can see many Earth satellites (visible only from sunlight they reflect) through much of the night, especially in the northern sky.**

**May 2, 2024. International Space Station (ISS). 3:34 to 3:35 AM MDT.** NNW to N. Appears from Earth's shadow at max altitude 11 deg above NNW, max magnitude -0.6 (Passing through Camelopardalis, Perseus, and Andromeda). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 4, 2024. International Space Station (ISS). 5:09 to 5:11 to 5:12 AM MDT.** N to NNE to NE. Max altitude 13 deg above NNE, max magnitude -0.7 (Passing through Camelopardalis, Perseus/Andromeda, and Triangulum). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 5, 2024. International Space Station (ISS). 4:21 to 4:22 AM MDT.** N to NNE. Max altitude 10 deg above NNE, max magnitude -0.4 (Passing through Camelopardalis, Perseus, and Andromeda). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 6, 2024. International Space Station (ISS). 5:06 to 5:09 to 5:12 AM MDT.** NNW to NNE to ENE. Max altitude 21 deg above NNE, max magnitude -1.1 (Passing through Ursa Major, Camelopardalis, Perseus/Cassiopeia, Andromeda, and Pisces). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 6, 2024, [BlueWalker 3](#) (Telecommunications prototype). 9:36 to 9:40 to 9:42 PM MDT.** WNW to SW to SSE. Max altitude 51 deg above SW, disappears into Earth's shadow 30 deg above SSE, max magnitude +2.4 (Passing through Auriga, Gemini, Cancer, Leo/Hydra, Sextans, and Corvus).

**May 7, 2024. International Space Station (ISS). 4:18 to 4:20 to 4:22 AM MDT.** NNW to NNE to ENE. Max altitude 15 deg above NNE, max magnitude -0.7 (Passing through Ursa Major, Camelopardalis, Perseus/Cassiopeia, and Andromeda). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 8, 2024. International Space Station (ISS). 3:28 to 3:30 to 3:31 AM MDT. 1<sup>st</sup> AM ISS Pass of May 8.** N to NNE to NE. Max altitude 12 deg above NNE, max magnitude -0.4 (Passing through Lynx, Camelopardalis, Perseus/Cassiopeia, and Andromeda). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 8, 2024. International Space Station (ISS). 5:04 to 5:07 to 5:11 AM MDT. 2<sup>nd</sup> AM ISS Pass of May 8.** NW to NE to ESE. Max altitude 44 deg above NE, max magnitude -2.5 (Passing through Ursa Major, Draco, Ursa Minor-near Polaris, Cassiopeia, Pegasus, and Pisces). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 9, 2024. International Space Station (ISS). 4:15 to 4:18 to 4:21 AM MDT.** NNW to NNE to E. Max altitude 27 deg above NNE, max magnitude -1.6 (Passing through Ursa Major, Camelopardalis, Cassiopeia, Andromeda/Pegasus, and Pisces). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**On the night of May 9-10, it's possible to see four passes of the ISS! Details below.**

**May 9, 2024. International Space Station (ISS). 8:57 to 8:59 to 9:01 PM MDT.** S to SE to E. Max altitude 16 deg above SE, max magnitude -2.2 (Passing through Antlia, Hydra, Libra, and Serpens). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 9, 2024. International Space Station (ISS). 10:30 to 10:32 PM MDT.** WSW to WNW. Disappears into Earth's shadow at max altitude 38 deg above WNW. Max magnitude -2.5 (Passing through Canis Minor/Hydra, Cancer, and Leo Minor/Gemini). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 10, 2024. International Space Station (ISS). 3:26 to 3:28 to 3:31 AM MDT. 1<sup>st</sup> AM ISS pass of May 10.** NNW to NNE to ENE. Max altitude 19 deg above NNE, max magnitude -0.9 (Passing through Camelopardalis, Cassiopeia, Andromeda, and Pegasus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 10, 2024. International Space Station (ISS). 5:02 to 5:05 to 5:08 AM MDT. 2<sup>nd</sup> AM ISS pass of May 10.** WNW to SW to SE. Max altitude 64 deg above SW, max magnitude -3.9 (Passing through Canes Venatici, Boötes, Hercules, Aquila, Capricornus, and Piscis Austrinus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**On the night of May 10-11, it's possible to see four passes of the ISS! Details below.**

**May 10, 2024. International Space Station (ISS). 9:42 to 9:46 to 9:49 PM MDT.** SW to NW to NE. Max altitude 87 deg above NWE, max magnitude -3.9 (Passing through Hydra, Leo, Canes Venatici, Ursa Major-Big Dipper, Hercules/Draco, and Lyra-near Vega). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 10, 2024. International Space Station (ISS). 11:21 to 11:23 to 11:25 PM MDT.** WNW to NNW to NNE. Max altitude 16 deg above NNW, max magnitude -0.7 (Passing through Gemini, Auriga, Camelopardalis, and Cassiopeia). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 11, 2024. International Space Station (ISS). 2:37 to 2:38 to 2:40 AM MDT.** N to NNE to NE. Max altitude 14 deg above NNE, max magnitude -0.5 (Passing through Camelopardalis, Cassiopeia, Andromeda, and Pegasus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 11, 2024. International Space Station (ISS). 4:12 to 4:16 to 4:19 AM MDT.** NW to NE to ESE. Max altitude 67 deg above NE, max magnitude -3.5 (Passing through Ursa Major-Big Dipper, Draco, Ursa Minor, Draco again, Cygnus-near Deneb, Pegasus, and Aquarius). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**On the night of May 11-12, it's possible to see four passes of the ISS! Details below.**

**May 11, 2024. International Space Station (ISS). 8:53 to 8:56 to 8:59 PM MDT.** SSW to SE to ENE. Max altitude 47 deg above SE, max magnitude -3.6 (Passing through Pyxis, Hydra, Crater, Virgo, Boötes,

Corona Borealis, and Hercules). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 11, 2024. International Space Station (ISS). 10:30 to 10:33 to 10:36 PM MDT.** W to NNW to NNE. Max altitude 22 deg above NNW, max magnitude -1.2 (Passing through Gemini-near crescent Moon, Auriga, Camelopardalis, Cepheus, and Cygnus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 12, 2024. International Space Station (ISS). 3:27 to 3:29 AM MDT.** E to ESE. Appears from Earth's shadow at max altitude 27 deg above E, max magnitude -1.9 (Passing through Pegasus and Aquarius). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 12, 2024. International Space Station (ISS). 5:00 to 5:03 to 5:05 AM MDT.** W to SW to S. Appears from Earth's shadow 13 deg above W, max altitude 21 deg above SW max magnitude -2.5 (Passing through Boötes/Virgo, Serpens/Libra, Ophiuchus/Scorpius, and Sagittarius/Corona Australis). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 12, 2024. International Space Station (ISS). 9:40 to 9:43 to 9:46 PM MDT. 1<sup>st</sup> PM ISS pass of May 12.** W to NNW to NE. Max altitude 33 deg above NNW max magnitude -1.9 (Passing through Gemini, Camelopardalis, Cepheus, and Cygnus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 12, 2024. International Space Station (ISS). 11:20 to 11:21 to 11:22 PM MDT. 2<sup>nd</sup> PM ISS pass of May 12** WNW to N. Max altitude 11 deg above NNW max magnitude -0.2 (Passing through Auriga, Perseus, Cassiopeia, and Lacerta). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 13, 2024. International Space Station (ISS). 8:50 to 8:54 to 8:57 PM MDT. 1<sup>st</sup> PM ISS pass of May 13.** WSW to NW to NE. Max altitude 57 deg above NW max magnitude -3.0 (Passing through Canis Major-near Sirius, Canis Minor, Gemini, Lynx, Ursa Major, Draco/Ursa Minor, Draco again and Lyra). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 13, 2024. International Space Station (ISS). 10:29 to 10:31 to 10:33 PM MDT. 2<sup>nd</sup> PM ISS pass of May 13.** NW to NNW to NNE. Max altitude 13 deg above NNW, max magnitude -0.5 (Passing through Auriga, Perseus, Cassiopeia, Cepheus, and Cygnus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 14, 2024. International Space Station (ISS). 9:39 to 9:41 to 9:43 PM MDT.** WNW to NNW to NNE. Max altitude 17 deg above NNW, max magnitude -0.7 (Passing through Auriga, Perseus/Camelopardalis, Cassiopeia, Cepheus, and Cygnus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**HAPPY OBSERVING!**