

**OBSERVING HIGHLIGHTS for May 15 to 30, 2024, a “bright Moon” period**  
**Black Canyon Astronomical Society (BCAS), western Colorado, USA**

**SUMMARY.** Saturn, Mars, and Mercury are present in the eastern, predawn sky during this “bright Moon” period. Saturn and Mars are equally bright at magnitude +1 and easy to spot between about 4:30 and 5:00 AM MDT. However, Mercury is a challenging sight (even with binoculars) at about 5:15 AM MDT, when the Innermost Planet is only about 2 degrees above an unobstructed horizon.

The Moon is at first quarter on May 15. From May 16 to 21, watch a gibbous Moon wax. The Moon is full on the night of May 22-23. From May 24 to 29, we can watch a gibbous Moon wane. The Moon reaches last quarter on May 30. After sunset on May 19, look for the 89%-illuminated, gibbous Moon about 3 degrees northwest from the first-magnitude star, Spica. Before the Moon sets on the morning of May 20 at about 3:45 AM MDT, the easterly-moving Moon has closed to within 1.5 degrees of Spica. On May 23 at about 9:20 PM MDT, look for the nearly full Moon rising less than 1 degree below the reddish, first-magnitude star, Antares.

The Sun has been impressively active recently, especially during the last two weeks. Extreme (X-class) solar flares and coronal mass ejections (CMEs) of charged particles occurred on May 3, 5, 6, 8, 9, 10, 11, 12, and 14. Although major active Region 3664 is rotating out of view from Earth, we expect solar flares and CMEs from other active regions. You can monitor solar activity safely in real time on the internet. High solar activity is triggering geomagnetic storms, auroras (aka “northern lights”), and airglow. Auroras and airglow were seen and photographed by people in all 50 states on the night of May 10-11. Keep watch for more of these phenomena!

From western Colorado, there are evening passes of the bright International Space Station (ISS) from May 14 to May 30 and predawn passes of the Tiangong (Chinese) Space Station from May 18 to 30.

**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 15, Phillip Virden tells us about Lake City StarFest, a June 7-to-9 celebration of southwest Colorado’s wonderfully dark night skies. Then on May 24 & 29 we will have a presentation by an astronomy student of Dr. Catherine Whiting from Colorado Mesa University.

**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 is at **first quarter on May 15** (exactly at 5:48 AM MDT). From May 16 to 21, we can watch a gibbous Moon wax. **The Moon is full on the night of May 22-23** (exactly full at 7:53 AM MDT on May 23). From May 24 to 29, we can watch a gibbous Moon wane. The Moon reaches **last quarter on May 30** (exactly at 11:13 AM MDT). After sunset on May 19, look for the 89%-illuminated, gibbous Moon about 3 degrees northwest from the first-magnitude star, Spica. By moonset on the morning of May 20 at about 3:45 AM MDT, the easterly-moving Moon has closed to within 1.5 degrees of Spica. On May 23 at about 9:20 PM MDT, look for the nearly full Moon rising less than 1 degree below the reddish, first-magnitude star, Antares. NASA has published a [stunning visualization of lunar phases for year 2024](#).

**SATURN IN THE MORNING.** Saturn is now rising just south of east well before morning twilight at around 3:14 AM MDT on May 15 and 2:16 AM MDT on May 30. The Ringed Planet is easy to spot low in the east southeast between 4:30 and 5 AM MDT. Saturn is still on the far side of the Sun from our perspective, but it's drawing nearer, from 934 million miles distant on May 15 to 911 million miles distant on May 30. Saturn brightens a bit from magnitude +1.06 on May 15 to magnitude +1.02 on May 30. Through telescopes, the Ringed Planet appears 17 arc seconds wide, and its rings span 39 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/>

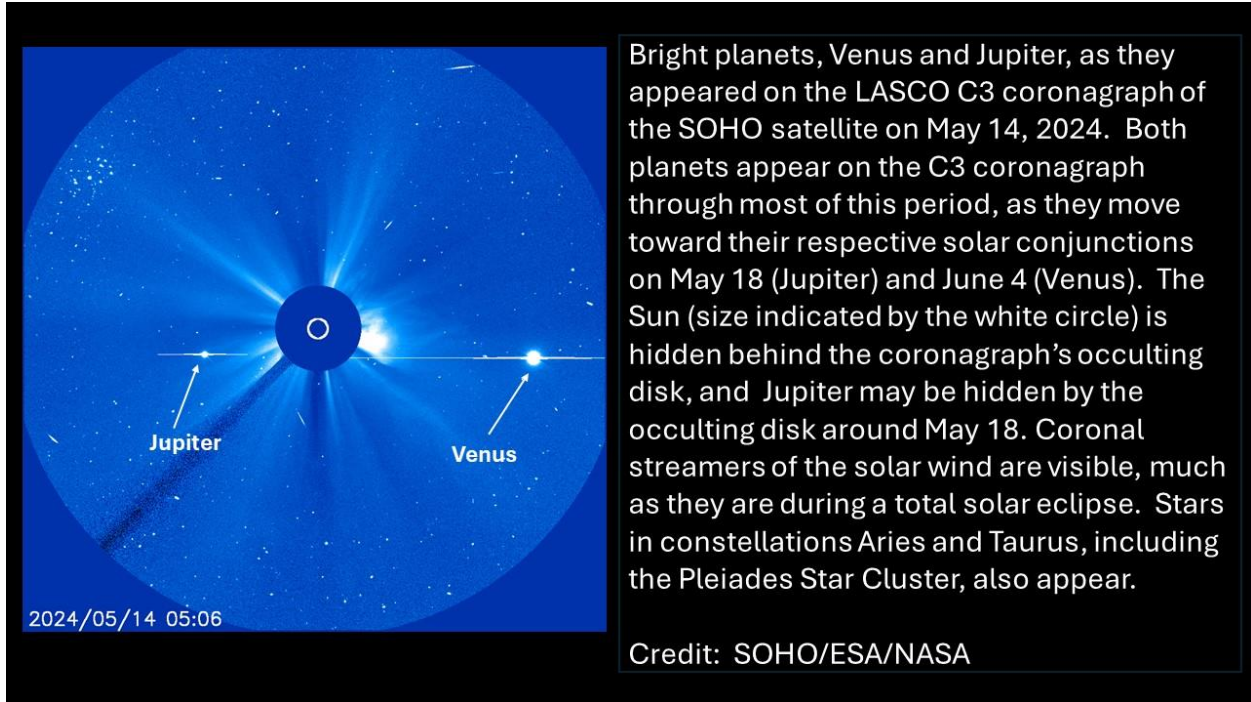
**MARS EMERGES FROM MORNING TWILIGHT.** Reddish Mars rises in the east at about 4:08 AM MDT on May 15 and 3:36 AM MDT on May 30. Look for Mars low in the east between 4:30 and 5 AM MDT. The Red Planet is 179 million miles distant on May 15 and 173 million miles distant on May 30. Between May 15 and 30, Mars brightens a bit from magnitude +1.18 to +1.04. Mars is still on the far side of the Sun from our perspective, and its disk appears tiny, less than 5.02 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 is a challenging predawn sight from Colorado's mid-northern latitudes, because it's currently located well to the south of the Sun. Between May 15 and 30 at about 5:15 AM MDT (using binoculars) it may be possible to spot the Innermost Planet about 2 degrees above an unobstructed eastern horizon. But this could be difficult, and **please do your Mercury spotting before sunrise. NEVER chance looking at the Sun directly; serious eye damage can result.** On May 15 Mercury shines at magnitude +0.24 and then brightens considerably to magnitude -0.71 by May 30. However, Mercury gets immersed in brighter twilight toward the end of May, and it may not get easier to spot. Through telescopes on May 15, Mercury's 7.3-arc second wide disk appears 50% illuminated. By May 30, Mercury has waxed to a 5.7-arc second wide, 79%-illuminated, gibbous disk. It will be easier to spot Mercury during evenings next July.

**A BRIGHTENING COMET IN THE EVENING SKY.** As it enters the inner Solar System next fall, Comet Tsuchinshan-ATLAS (C/2023 A3) may be a spectacular sight, especially during evenings in mid-to-late October. From mid-May through early July, C/2023 A3 is well placed for viewing in the evenings, and it's brightening from magnitude +11 and is growing a tail! If you have a telescope of 6 inches or larger in aperture, this Comet may be worth a look, especially after evening twilight ends and before moonrise from May 24 to 30. You can find images, brightness info, finder charts, and an ephemeris for C/2023 A3 at these links...  
<http://astro.vanbuitenen.nl/comet/2023A3>  
<https://skyandtelescope.org/observing/celestial-objects-to-watch/comets/comet-tsuchinshan-atlas-brightens-grows-a-tail/>

**JUPITER AND VENUS APPEAR TOO CLOSE TO THE SUN TO BE SPOTTED.** Venus and Jupiter, normally the two brightest planets, are nearing conjunctions with the Sun, and they are not observable.

However, as these planets move toward their solar conjunctions, you can “see” both Venus and Jupiter virtually during this period on [“real-time” images from the C3 coronagraph](#) on the SOHO satellite (e.g., see image below). Jupiter reaches its solar conjunction on May 18. Venus will be at its “superior” conjunction on June 4. Both planets are passing on the far side of the Sun from our perspective.



**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 May 14, 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 intensely so from May 3 to 14, when solar active region No. 3664 unleashed numerous flares and coronal mass ejections of charged particles. There have been M-class (moderate) solar flares each week for the past year, and X-class (extreme) solar flares occurred on May 3, May 5 (two X-class flares), May 6 (a powerful X4.5 flare), May 8 (two X-class flares), May 9 (two X-class flares), May 10, May 11 (a powerful X5.4 flare, and another X-class flare), May 12, and May 14 (two X-class flares). There also have been many coronal mass ejections (“CMEs”) of charged particles that have triggered auroras, and many folks in Colorado and elsewhere viewed and photographed these in the past two weeks. Airglow also results from high solar activity, and this

phenomenon has been photographed and observed from Colorado. Now active region No. 3664 is rotating out of view from Earth, but as of May 14, several other active regions containing sunspots are present on the Earth-facing side of the Sun. Moderate (M-class) 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 last week many of us were able to see and photograph some amazing auroras from Colorado! Numerous coronal mass ejections aimed toward our planet were captured by Earth’s magnetic field, energizing the ionosphere, thereby creating auroral displays. Our nights in Colorado are now short, 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 more 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 18. 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 14, 2024. International Space Station (ISS). 9:40 to 9:42 to 9:44 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.**

**May 15, 2024. International Space Station (ISS). 8:49 to 8:52 to 8:55 PM MDT.** W to NNW to NNE. Max altitude 24 deg above NNW, max magnitude -1.2 (Passing through Auriga, Perseus/Camelopardalis, Cepheus, and Cygnus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 16, 2024. International Space Station (ISS). 12:07 to 12:08 AM MDT.** NW to N. Disappears into Earth's shadow at max altitude 11 deg above N, max magnitude -0.3 (Passing through Auriga, Perseus/Camelopardalis, and Cassiopeia). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 16, 2024. International Space Station (ISS). 9:38 to 9:40 to 9:41 PM MDT.** NNW to N. Max altitude 11 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 17, 2024. International Space Station (ISS). 8:48 to 8:50 to 8:51 PM MDT.** NW to NNW to NNE. Max altitude 14 deg above NNW, max magnitude -0.8 (Passing through Taurus/Auriga, Perseus, Cassiopeia, Cepheus, and Cygnus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 18, 2024. International Space Station (ISS). 12:03 to 12:04 AM MDT.** NNW to N. Disappears into Earth's shadow at max altitude 14 deg above N, max magnitude -0.5 (Passing through Auriga and Cassiopeia). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 18, 2024. Tiangong (Chinese Space Station). 5:08 to 5:09 to 5:10 AM MDT.** SSE to SE to E. Max altitude 11 deg above SE, max magnitude +0.5 (Passing through Corona Australis, Sagittarius, Microscopium, and Piscis Austrinus). **Tiangong's orbit may change frequently. Check for updates.**

**May 18, 2024. International Space Station (ISS). 11:14 to 11:15 to 11:16 PM MDT.** N to NNE. Disappears into Earth's shadow near max altitude 11 deg above NNE, max magnitude -0.8 (Passing through Auriga, Perseus, Cassiopeia, and Lacerta/Cepheus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 20, 2024. Tiangong (Chinese Space Station). 4:38 to 4:39 to 4:41 AM MDT.** S to SSE to ESE. Appears from Earth's shadow 14 deg above S, max altitude 17 deg above SSE, max magnitude -0.1 (Passing through Sagittarius, Microscopium, Capricornus/Piscis Austrinus, Aquarius, and Pisces). **Tiangong's orbit may change frequently. Check for updates.**

**May 20, 2024. International Space Station (ISS). 11:10 to 11:11 PM MDT.** NNW to NNE. Disappears into Earth's shadow at max altitude 19 deg above NNE, max magnitude -1.4 (Passing through Auriga, Perseus/Camelopardalis, and Cassiopeia/Cepheus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 21, 2024. Tiangong (Chinese Space Station). 5:10 to 5:12 to 5:15 AM MDT.** SW to SSE to E. Appears from Earth's shadow 12 deg above SW, Max altitude 49 deg above SSE, max magnitude -1.7 (Passing through Scorpius, Ophiuchus, Scutum, Aquila, Equuleus, Pegasus, and Pisces). **Tiangong's orbit may change frequently. Check for updates.**

**May 21, 2024. International Space Station (ISS). 10:21 to 10:22 to 10:24 PM MDT.** NNW to NNE to NE. Max altitude 14 deg above NNE, disappears into Earth's shadow 11 deg above NE, max magnitude -1.1 (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 22, 2024. Tiangong (Chinese Space Station). 4:09 to 4:12 AM MDT.** SSE to E. Appears from Earth's shadow near max altitude at 27 deg above SSE, max magnitude -0.9 (Passing through Capricornus, Aquarius, and Pisces). **Tiangong's orbit may change frequently. Check for updates.**

**May 22, 2024. International Space Station (ISS). 9:31 to 9:32 to 9:33 PM MDT. 1<sup>st</sup> PM pass of ISS of May 22.** N to NNE to ENE. Max altitude 11 deg above NNE, max magnitude -0.9 (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, 2024. International Space Station (ISS). 11:06 to 11:09 PM MDT. 2<sup>nd</sup> PM ISS pass of May 22.** NW to N. Disappears into Earth's shadow at max altitude 31 deg above N, max magnitude -2.0 (Passing through Auriga and Camelopardalis). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 23, 2024. Tiangong (Chinese Space Station). 4:40 to 4:42 to 4:46 AM MDT.** WSW to SSE to ENE. Appears from Earth's 24 deg above WSW, max altitude 76 deg above SSE, max magnitude -2.3 (Passing through Ophiuchus, Cygnus, Pegasus, and Aries). **Tiangong's orbit may change frequently. Check for updates.**

**May 23, 2024. International Space Station (ISS). 10:17 to 10:19 to 10:20PM MDT.** NNW to NNE to ENE. Max altitude 24 deg above NNE, max magnitude -2.0 (Passing through Auriga, Perseus/Camelopardalis, Cepheus, and Cygnus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 24, 2024. Tiangong (Chinese Space Station). 3:40 to 3:42 AM MDT. 1<sup>st</sup> AM Tiangong Pass of May 24.** ESE to E. Appears from Earth's shadow at max altitude 30 deg above ESE, max magnitude -0.7 (Passing through Pegasus and Pisces). **Tiangong's orbit may change frequently. Check for updates.**

**May 24, 2024. Tiangong (Chinese Space Station). 5:13 to 5:16 to 5:19 AM MDT. 2<sup>nd</sup> AM Tiangong pass of May 24.** W to N to ENE. Appears from Earth's shadow 7 deg above W, max altitude 54 deg above N, max magnitude -1.6 (Passing through Boötes/Corona Borealis, Draco, Cepheus, Cassiopeia, Andromeda, Triangulum, and Aries). **Tiangong's orbit may change frequently. Check for updates.**

**May 24, 2024. International Space Station (ISS). 9:27 to 9:29 to 9:31 PM MDT. 1<sup>st</sup> PM ISS pass of May 24.** NNW to NNE to ENE. Max altitude 17 deg above NNE, disappears into Earth's shadow 7 deg above ENE, max magnitude -1.4 (Passing through Perseus, Cassiopeia, Cepheus, and Cygnus/Lyra). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 24, 2024. International Space Station (ISS). 11:03 to 11:05 PM MDT. 2<sup>nd</sup> PM ISS pass of May 24.** NW to WNW. Disappears into Earth's shadow at max altitude 36 deg above WNW, max magnitude -2.3 (Passing through Gemini, Lynx/Ursa Major). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 25, 2024. Tiangong (Chinese Space Station). 4:11 to 4:12 to 4:15 AM MDT.** W to NNW to ENE. Appears from Earth's shadow 45 deg above W, max altitude 77 deg above NNW, max magnitude -2.2 (Passing through Corona Borealis, Hercules, Draco, Cepheus/Cygnus, Andromeda, and Aries). **Tiangong's orbit may change frequently. Check for updates.**

**May 25, 2024. International Space Station (ISS). 10:13 to 10:16 to 10:17 PM MDT.** NW to NE to E. Max altitude 55 deg above NE, disappears into Earth's shadow at 45 deg above E, max magnitude -3.4 (Passing through Auriga, Camelopardalis, Ursa Minor, Draco, and Hercules). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 26, 2024. Tiangong (Chinese Space Station). 4:42 to 4:45 to 4:48 AM MDT.** W to N to ENE. Appears from Earth's shadow 12 deg above W, max altitude 47 deg above N, max magnitude -1.3 (Passing through Boötes, Draco, Ursa Minor, Cepheus, Cassiopeia, Andromeda, Triangulum, and Aries). **Tiangong's orbit may change frequently. Check for updates.**

**May 26, 2024. International Space Station (ISS). 9:23 to 9:26 to 9:28 PM MDT. 1<sup>st</sup> PM ISS pass of May 26.** NW to NNE to E. Max altitude 32 deg above NNE, disappears into Earth's shadow at 13 deg above E, max magnitude -2.5 (Passing through Perseus/Auriga, Camelopardalis, Ursa Minor/Cepheus, Draco, Hercules, and Ophiuchus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 26, 2024. International Space Station (ISS). 11:00 to 11:01 PM MDT. 2<sup>nd</sup> PM ISS pass of May 26.** WNW to W. Disappears into Earth's shadow at max altitude 21 deg above W, max magnitude -1.7 (Passing through Gemini, Cancer, and Leo/Hydra). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 27, 2024. Tiangong (Chinese Space Station). 3:41 to 3:44 AM MDT. 1<sup>st</sup> AM Tiangong pass of May 27.** N to ENE. Appears from Earth's shadow at max altitude 59 deg above N, max magnitude -1.8 (Passing through Draco, Cepheus, Andromeda, and Pisces). **Tiangong's orbit may change frequently. Check for updates.**

**May 27, 2024. Tiangong (Chinese Space Station). 5:15 to 5:18 to 5:21 AM MDT. 2<sup>nd</sup> AM Tiangong pass of May 27.** WNW to N to E. Max altitude 47 deg above N, max magnitude -1.2 (Passing through Boötes, Draco, Ursa Minor, Cepheus, Cassiopeia, Andromeda, Triangulum, and Aries). **Tiangong's orbit may change frequently. Check for updates.**

**May 27, 2024. International Space Station (ISS). 10:09 to 10:12 to 10:13 PM MDT.** WNW to SW to S. Max altitude 50 deg above SW, disappears into Earth's shadow at 42 deg above S, max magnitude -3.4 (Passing through Gemini, Cancer, Leo, Virgo). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 28, 2024. Tiangong (Chinese Space Station). 4:12 to 4:14 to 4:17 AM MDT.** WNW to N to ENE. Appears from Earth's shadow 19 deg above WNW, max altitude 45 deg above N, max magnitude -1.2 (Passing through Coma Berenices, Ursa Major, Draco, Ursa Minor, Cepheus, Cassiopeia, Andromeda, Aries, and Pisces). **Tiangong's orbit may change frequently. Check for updates.**

**May 28, 2024. International Space Station (ISS). 9:19 to 9:22 to 9:25 PM MDT.** NW to NE to SE. Max altitude 81 deg above NE, disappears into Earth's shadow 15 deg above SE, max magnitude -3.8 (Passing through Auriga, Ursa Major, Canes Venatici, Boötes, Serpens/Libra, and Scorpius). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 29, 2024. Tiangong (Chinese Space Station). 4:43 to 4:47 to 4:50 AM MDT.** WNW to N to E. Appears from Earth's shadow 6 deg above WNW, max altitude 54 deg above N, max magnitude -1.5 (Passing through Boötes, Draco, Cepheus, Andromeda, and Pisces). **Tiangong's orbit may change frequently. Check for updates.**

**May 29, 2024. International Space Station (ISS). 10:06 to 10:08 to 10:09 PM MDT.** W to SW to SSW. Max altitude 18 deg above SW, disappears into Earth's shadow 15 deg above SSW, max magnitude -1.7 (Passing through Gemini, Canis Minor, and Hydra). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**May 30, 2024. Tiangong (Chinese Space Station). 3:42 to 3:43 to 3:46 AM MDT.** NW to N to ENE. Appears from Earth's shadow 36 deg above NW, max altitude 45 deg above N, max magnitude -1.2 (Passing through Ursa Major, Draco, Ursa Minor, Cepheus, Cassiopeia, Andromeda, and Pisces). **Tiangong's orbit may change frequently. Check for updates.**

**May 30, 2024. International Space Station (ISS). 9:15 to 9:18 to 9:21 PM MDT.** WNW to SW to SSE. Max altitude 33 deg above SW, disappears into Earth's shadow 10 deg above SSE, max magnitude -2.5 (Passing through Gemini, Canis Minor, Hydra, and Centaurus). **Predictions for the ISS are subject to change due to orbital adjustments. Check for updated predictions.**

**HAPPY OBSERVING!**