

Snake River Skies

The Monthly Newsletter of the Magic Valley Astronomical Society.

February 2026

Membership Meeting

February 14th at the Herrett Center,
College of Southern Idaho main
campus at 7:00pm

Centennial Observatory

See Inside for Details

Faulkner Planetarium

See Inside for Details

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Magic Valley Astronomical Society
is a member of the Astronomical
League



M-51 imaged by
Rick Widmer & Ken Thomason
Herrett Telescope - Shotwell
Camera

Visit our Website
www.mvastro.org

February's Message

The constellations Orion, Canis Major, Taurus, Perseus, and Auriga dominate the northern sky this month, constellations which harbor some of the best sights the night sky has to offer.

Observers get a chance for a seasonal glimpse the glow of the zodiacal light, the Sun's light reflected off tiny grains of dust left over from the formation of the solar system. Mercury and Venus make for spectacular viewing with a day-old Moon at mid-month. And Jupiter remains in prime viewing position for all observers.

If the sky is clear go outside and observe. Daytime?!? Use a good Solar Filter and view the Coronas and Sunspots.

Highlight's in this issue:

Calendar with useful links. Page: 2
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Occultation observations article by Chris Anderson Pages: 7 - 9
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Telescope Tuesday's are still ongoing. If you'd like to volunteer for this event contact Chris Anderson, Observatory Coordinator.

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Monthly Event Calendar - Feb 2026

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 Full Snow Moon 	2 Groundhog Day 	3 The Moon at aphelion Uranus ends retrograde motion	4	5	6	7
8 NGC 2808 is well placed α-Centaurid meteor shower 2026	9 Moon at Last Quarter 	10 Telescope Tuesday The Moon at apogee Lunar occultation of Antares	11	12 Lincoln's Birthday 	13	14 Valentine's Day MVAS General Mtg. 7:00p at the Herrett Center. Centennial Observatory Star Party
15 National Flag of Canada Day The Moon at perihelion Conjunction of Saturn and Neptune	16 President's Day 	17 New Moon 	18 Conjunction of the Moon and Mercury Lunar occultation of Mercury	19 Mercury at greatest elongation east Conjunction of the Moon and Saturn	20 Mercury at highest altitude in evening sky	21
22 Washington's Birthday 	23 Close approach of the Moon and M45	24 Moon at First Quarter  Telescope Tuesday	25 Lunar occultation of Beta Tauri	26 Conjunction of the Moon and Jupiter	27 Close approach of the Moon and Jupiter Asteroid 7 Iris at opposition	28 Close approach of the Moon and M44

In the 1760s, Captain Jonathan Carver, who had visited the Naudowessie (Dakota) and others, wrote that the name used for this period was the Snow Moon “because more snow commonly falls during this month than any other in the winter.” The Cree called this the **Bald Eagle Moon** or **Eagle Moon**. **Bear Moon** (Ojibwe) and **Black Bear Moon** (Tlingit) refer to the time when bear cubs are born. The Dakota called this the **Raccoon Moon**, and certain Algonquin peoples named it the **Groundhog Moon**. The Haida named it **Goose Moon**.

Be Safe - Go Outside - Explore Your Universe

Night Sky This Month – February 2026



The zodiacal light (above left over the Honda) emerges obliquely from the horizon towards the Pleiades in this image of the northern winter stars from Virginia in 2018.

Here's what to see in the night sky this month...

1 February 2026. Full Moon (the 'Snow Moon'), 22:09 UT.

2-3 Feb. A day past full, the Moon passes close to Regulus, the brightest star in the constellation Leo. Observers in much of Canada and the United States will see the Moon occult the star. [Detailed timing for hundreds of locations at this link.](#)

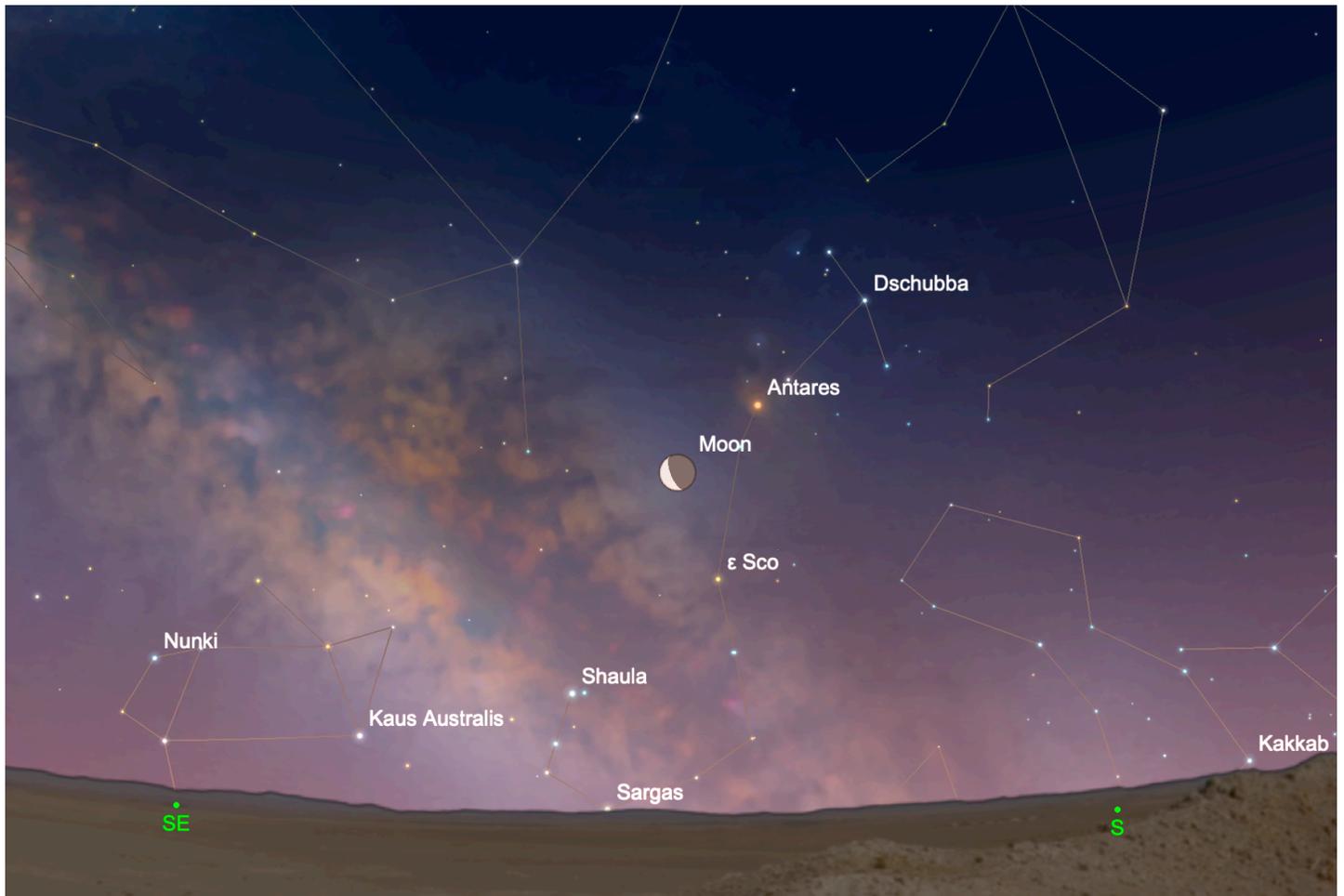
4 Feb. Uranus reaches its second stationary point. It now resumes its eastward prograde motion in the constellation Taurus about 5° south of the Pleiades.

3-17 Feb. As the Moon moves out of the way in the evening sky, northern observers far from city lights can spot the zodiacal light in the western sky after sunset. This whitish wedge-shaped glow emerges at a steep angle to the western horizon this time of year. It's caused by sunlight reflected by fine dust grains along the plane of the solar system. The zodiacal light is brightest closer to the Sun, so look for it about half an hour after the end of evening twilight as it extends up from the horizon towards the constellation Taurus.

6 Feb. The fat waning gibbous Moon passes near the bright star Spica in Virgo low in the southeastern sky in the late evening hours.

9 Feb. Last Quarter Moon, 12:43 UT.

11 Feb. The Moon again passes near a bright star, this time Antares, in the early-morning sky in the southeast. Behind it lies the southern Milky Way now slowly coming into view for northern-hemisphere observers.



A waning crescent Moon lies near Antares in the southeastern early-morning sky on Feb. 11, 2026.

16 Feb. Saturn lies about a degree south of Neptune in the western sky after sunset.

17 Feb. New Moon, 12:01 UT.

18 Feb. Grab a pair of binoculars and head out just after sunset to see Mercury graze a day-old Moon in the western sky with Venus about 7° below. Saturn lies to the upper left of Mercury. Venus returns to the evening sky after a long absence and gets higher each night. It shines tonight at magnitude -3.9 in Aquarius low over the horizon.

19 Feb. Mercury reaches its greatest eastern elongation about 18° from the Sun.

19 Feb. Saturn lies 4° south of a slender crescent moon in the western sky after sunset. Low now and growing distant, the planet offers scant detail in a telescope as it moves closer each night towards the Sun.

24 Feb. First Quarter Moon, 12:28 UT.

26 Feb. The fattening Moon sits 5° northwest of brilliant Jupiter in the evening sky. The big planet shines now at a spectacular magnitude -2.5 and offers a fat disk about $44''$ across in a telescope.

What's Up, Doc? †

February 2026

Dr. Aaron B. Clevenson, Director, Insuperity Observatory

This document tells you what objects are visible this next month for many of the Astronomical League Clubs. If you are working on an advanced club, then I assume that you are tracking where your objects are all the time. I have concentrated on the common and starter level clubs. This information is based on 9:00pm MST for **Twin Falls, Idaho**.

Naked-Eye Clubs

Meteors – any night, any time, anywhere, the darker the sky the better.

<u>Shower</u>	<u>Duration</u>	<u>Maximum</u>	<u>Type</u>
Aurigids	1/31 to 2/23	2/5 to 2/10	Minor
Alpha Centaurids	2/2 to 2/25	2/8 & 2/9	Minor
Beta Centaurids	2/2 to 2/25	2/8 & 2/9	Minor
Delta Leonids	2/5 to 3/19	2/22 & 2/23	Minor
Sigma Leonids	2/9 to 3/13	2/25 & 2/26	Minor
Capricornids-Sagittariids	1/13 to 2/28	1/30 to 2/3	DAYLIGHT
Chi Capricornids	1/29 to 2/28	2/13 & 2/14	DAYLIGHT

Constellations, Northern Skies – any night, any time, anywhere, the darker the sky the better.

Last Chance this cycle: Cepheus, Lacerta, Andromeda, Pisces, Cetus, Fornax. Transit

Camelopardis, Auriga, Taurus, Orion, Lepus, Columba, Caelum.

New arrivals: Ursa Major, Leo Minor, Leo, Sextans, Pyxis, Puppis.

Binocular Clubs

Binocular Messier – Monthly highlights include:

Easy – 3, 34, 35, 36, 37, 38, 41, 42, 44, 45, 46, 47, 48, 50, 67, 93, 103.

Medium – 40, 49, 53, 63, 64, 78, 79, 81, 21, 94.

Hard – 1, 51, 65, 66, 68, 97, 101, 104, 106.

Big Binoculars – 58, 59, 60, 61, 84, 85, 86, 87, 88, 89, 90, 95, 96, 99, 100, 102, 105, 108, 109.

Deep Sky Binocular – Monthly highlights include:

3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42.

Other Clubs

Messier

In addition to those listed under Binocular Messier, check out: 43, 76, 91, 98.

Caldwell

1, 2, 3, 5, 6, 7, 8, 10, 13, 14, 21, 23, 24, 25, 26, 29, 31, 32, 35, 36, 38, 39, 40, 41, 45, 46, 48, 49, 50, 52, 53, 54, 58, 59, 60, 61, 64, 71, 74, 79.

Double Star

5, 8, 11, 14, 16, 17, 18, 20, 23, 25, 27, 28, 29, 32, 34, 35, 39, 40, 42, 43, 45, 51, 52, 53, 54, 55, 56, 57, 59, 65, 67, 68, 69, 70, 71, 73, 74, 75, 76, 78, 79, 80, 81, 82, 83, 85, 92, 95, 98, 99, 100.

Other Clubs (of the Solar System)

Planetary (Planets and Dwarf Planets) – These are the tasks that can be done this month:

Mercury, Venus, and Mars will not be visible during the evening hours. They are morning planets or too close to the sun.

Sun – Any clear day is a good time to get those sunspots, and they are on the rise. The Sun sets at 1731 by mid-month.

Asteroids – Course Plotting and Measuring Movement requirements can be done at any time on any asteroid as long as it is visible in the nighttime sky.

Ceres is in Cetus and sets at 2315 min-month.
Jupiter is in Gemini and is up all evening mid-month.
Saturn is in Aquarius and sets at 2219 mid-month.
Uranus is in Taurus and is up all evening mid-month.
Neptune is in Pisces and sets at 2233 mid-month.
Pluto is in Capricornus and sets at 1742 mid-month.

Lunar

Key timings are indicated below (all times are Eastern Time):

New, 2/17 4 days, 2/21 7 days, 2/24 10 days, 2/27 14 days, 2/1

Old moon in new moons arms – before 0238 on 2/20, ~10 % illuminated. (72 hr > New) New

moon in old moons arms – after 0238 on 2/14, ~10 % illuminated. (72 hr < New)

Waxing Crescent – before 0238 on 2/19 or before 1945 on 3/1, ~4 % illuminated. (48 hr > New) Waning

Crescent – after 0238 on 2/15, ~4 % illuminated. (48 hr < New)

The Maria requirement can be done any time the moon is visible. Look before 2/10 or after 2/24 for the fullest views.

The Highlands requirement can be done at the same time.

The Crater Ages requirement is best done on 2/23 and 2/24.

The Scarps requirement is best done on 2/25.

Occultations occur all the time, the bright ones can be found on the internet.

Objects disappear on the East side of the moon.

Major Astronomical Events:

2/1 – Lunar Perigee

2/4 – Uranus ends Retrograde Motion

2/10 – Lunar Apogee

2/15 – Saturn/Neptune Conjunction (54')

2/15 – Uranus at Eastern Quadrature

2/17 – Annular Solar Eclipse

2/18 – Moon/Mercury Conjunction (8')

2/19 – Mercury Greatest Elongation East

2/24 – Lunar Perigee

2/26 – Mercury begins Retrograde Motion

Although many Astronomical League Observing Programs are not detailed in this “**What’s Up Doc?**” handout, you can get information on many of their objects by using the “**What’s Up Tonight, Doc?**” spreadsheet (version 4.1). To get your copy, talk to the Doc, Aaron Clevenson, by sending an email to aaron@clevenson.org. It is also available on the Astronomical League website: (<https://www.astroleague.org/navigating-the-night-sky-guides/>).

† - “What’s Up Doc?” is used with permission from Warner Bros. Entertainment Inc.

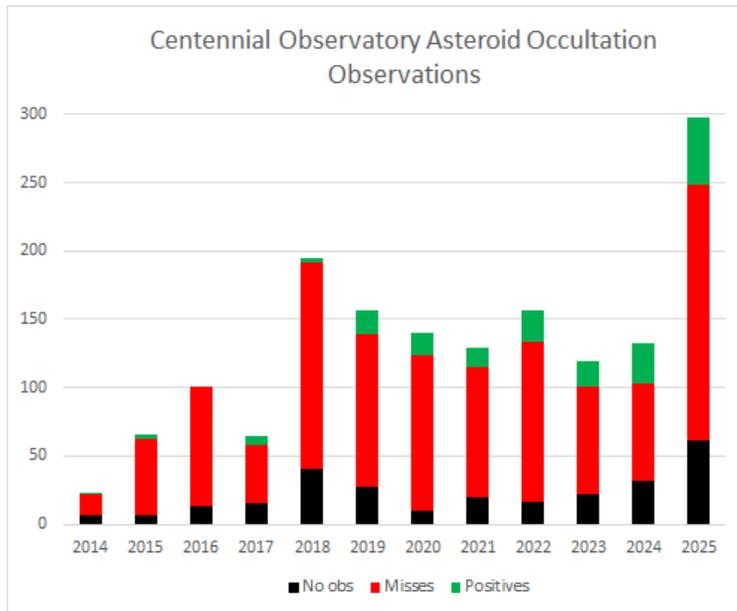
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Insperty Observatory, 2505 S. Houston Avenue, Humble, TX: www.humbleisd.net/observatory

A record year of stellar occultation observations at the Centennial Observatory

by Chris Anderson, Coordinator, Centennial Observatory

In October 2014, during the eleventh year of the Centennial Observatory's operation, we began a campaign of timing stellar occultations by small solar system bodies (mostly Main Belt asteroids, but also including Trans-Neptunian Objects (TNOs), Jupiter Trojans, and planetary moons). Since then the annual number of positives has generally trended upward, with 2025 seeing a dramatic jump to 50 (nearly one per week on average, shattering last year's record total of 29), including 25 which had never been measured via stellar occultation before. These comprised 45 Main Belt asteroids, four Jupiter Trojans, and one Hilda asteroid (in a 3:2 orbital resonance with Jupiter). In total, 4.6% of all occultations observed in North America in 2025 were performed at the Centennial Observatory.



This year's high productivity was attributable to three factors:

First and most significant was the number of attempts: 237 (not counting cloud-outs), exceeding the previous high of 155 in 2018. This was largely due to the participation of Joey Smith, the observatory's first-ever summer research intern, made possible through the NSF grant-funded IDAstro program spearheaded by Boise State University's Dr. Brian Jackson, and Mason DuBois, Buhl High School senior who began his undergraduate matriculation at CalTech in the fall. Like working out at the gym, observing occultations is easier to stick with (especially in the middle of the night) when you have someone counting on you to be there! Over the course of Joey's internship (June through August), we bagged thirteen positives, only one fewer than in all of 2021. And Mason participated in nine positives between January and late July.

Of course, like Babe Ruth, the more home runs you hit, the more times you strike out: we also shattered our previous records for the number of misses (187) and non-observations (61, mostly cloud-outs) in a year, achieving a success rate of 21.1%, second only to 2024's high of 29.0%.

All in all, observers were on-site for 298 events. It bears mentioning that some misses are of scientific value: this year we observed four misses of occultations for which other observers saw positives, meaning the shadow's edge lay between us and them, providing a constraint on the occulting body's size.

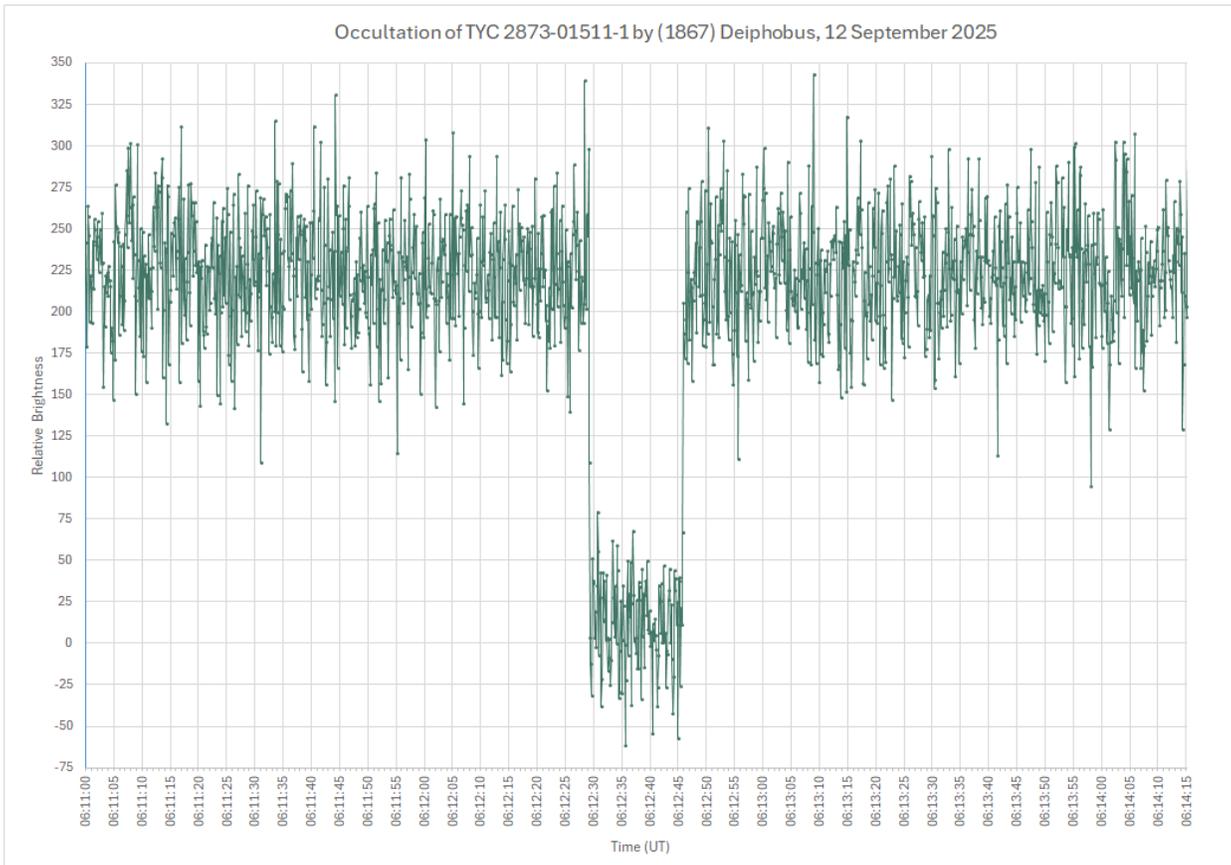
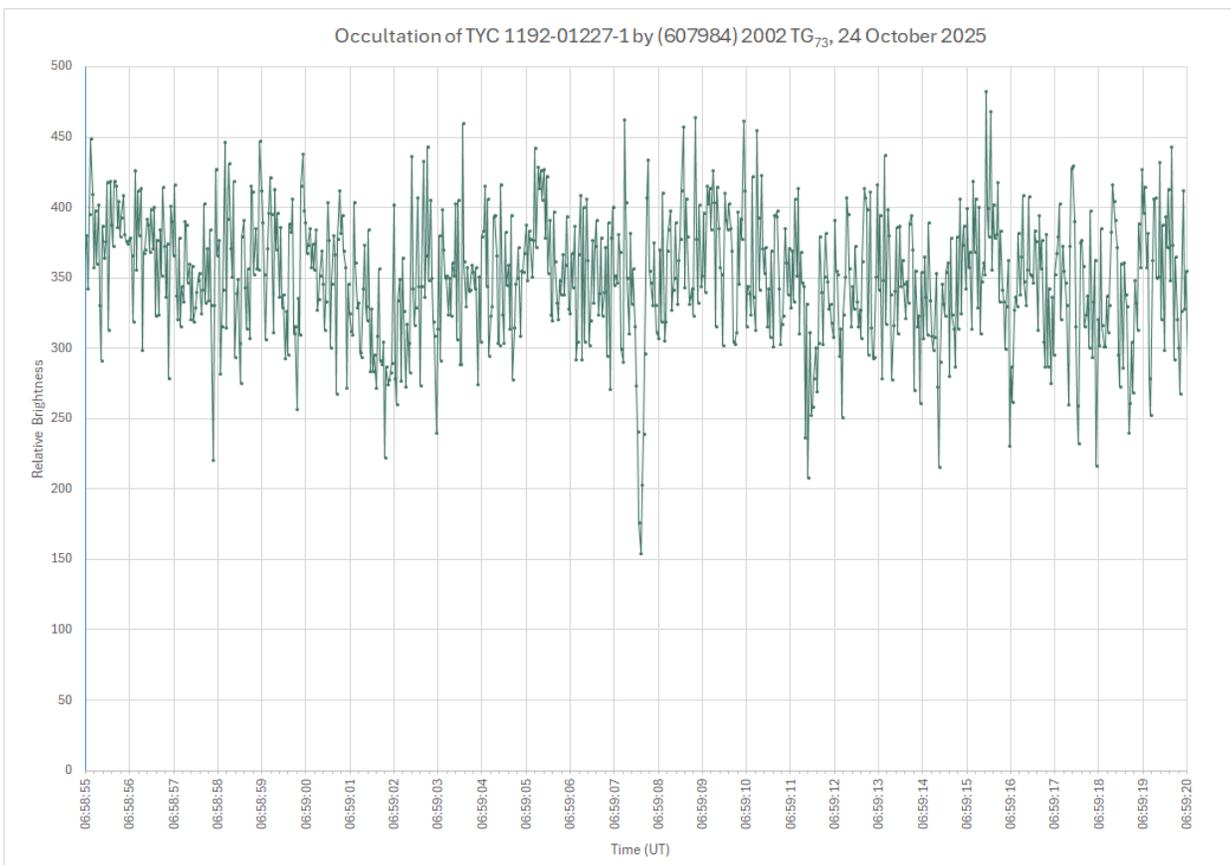


Figure 1: Light curve of the 16.588 second occultation by Jupiter Trojan (1867) Deiphobus on 12 September 2025.

The second factor was the improvement in event forecasting, made possible by the third data release (DR3) of astrometric measurements from the Gaia space telescope. These data significantly reduced the uncertainty in both star positions and asteroid orbital elements, allowing the software we use to forecast events to make better estimates of where asteroid shadow paths fall on Earth.

Figure 2, below: Light curve of the 0.197 second occultation by Main Belt asteroid (607984) 2002 TG₇₃ on 24 October 2025.



Third was the weather. Between the mild winter of 2024-25, low precipitation (40% below average), and the scarcity of summer wildfires, cloud/smoke outs were relatively rare, only comprising around 15% of all events for which we were on-site.

Thus, even though our annual success rate of 21.5% was lower than last year's record of 29.0%, our overall success rate of 14.1% continues to climb year-over-year, a trend that is likely to continue due to a 15-month drought of positives starting in October 2015 (stemming from a bug in the program that provides us with our candidate events that went unidentified and uncorrected until early 2017).

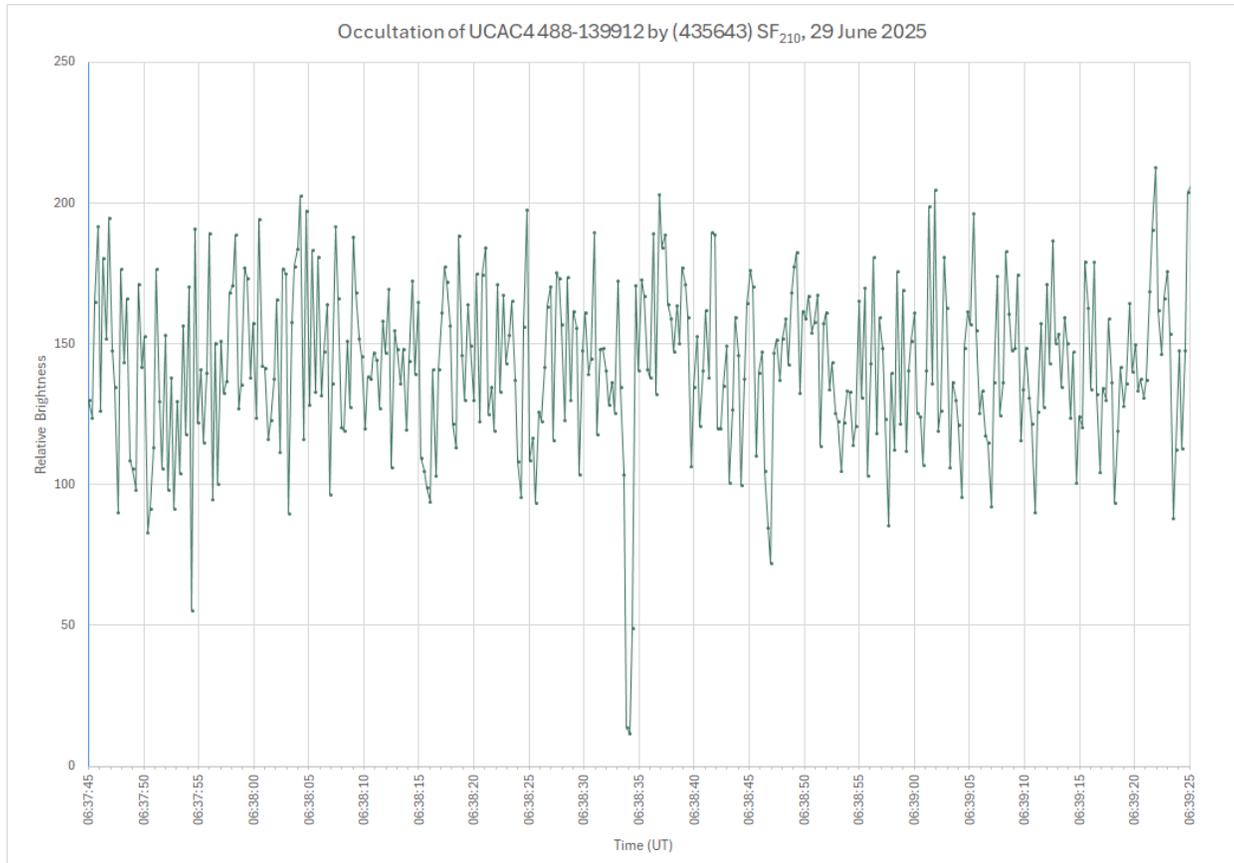


Figure 3: Light curve of the 0.896 second occultation by Main Belt asteroid (435643) 2008 SF₂₁₀ on 29 June 2025.

In addition to the number of positives, several other records for the campaign were broken in 2025, including:

- Highest numbered asteroid: (607984) 2002 TG₇₃. Since asteroids are numbered in the order of their discovery, and technology steadily pushes how faint of an asteroid we can detect, an asteroid number is a crude proxy for its size (the larger the number, the smaller the asteroid). This event also established a new record for shortest occultation duration we've observed to date (0.197 seconds).
- Faintest asteroid: magnitude 21.5; (176871) 2002 UP₃, occulted a magnitude 10.2 star
- Lowest probability positive: 1.2%, (435643) 2008 SF₂₁₀, for which we were forecasted to be 20 miles from the predicted shadow path.

The biggest disappointment of the year was on 7 April. After having been invited to participate in an international consortium of major observatories to observe the brightest star occulted by Uranus and its rings since 1996, we were one of only two sites (both in Idaho) that were clouded out.

These observations brought the grand total number of positives for the campaign to 182, the overall success ratio to 1:7.1, and the average time between positives of 22.7 days. As of this writing (27 January 2026), we already have four additional positives, maintaining the record pace at least for now.

Results, including light curves, shadow path maps, and occulting body profiles can be reviewed at <https://www.csi.edu/astronomy/asteroid-occultation.aspx>.

Phil Harrington's Cosmic Challenge

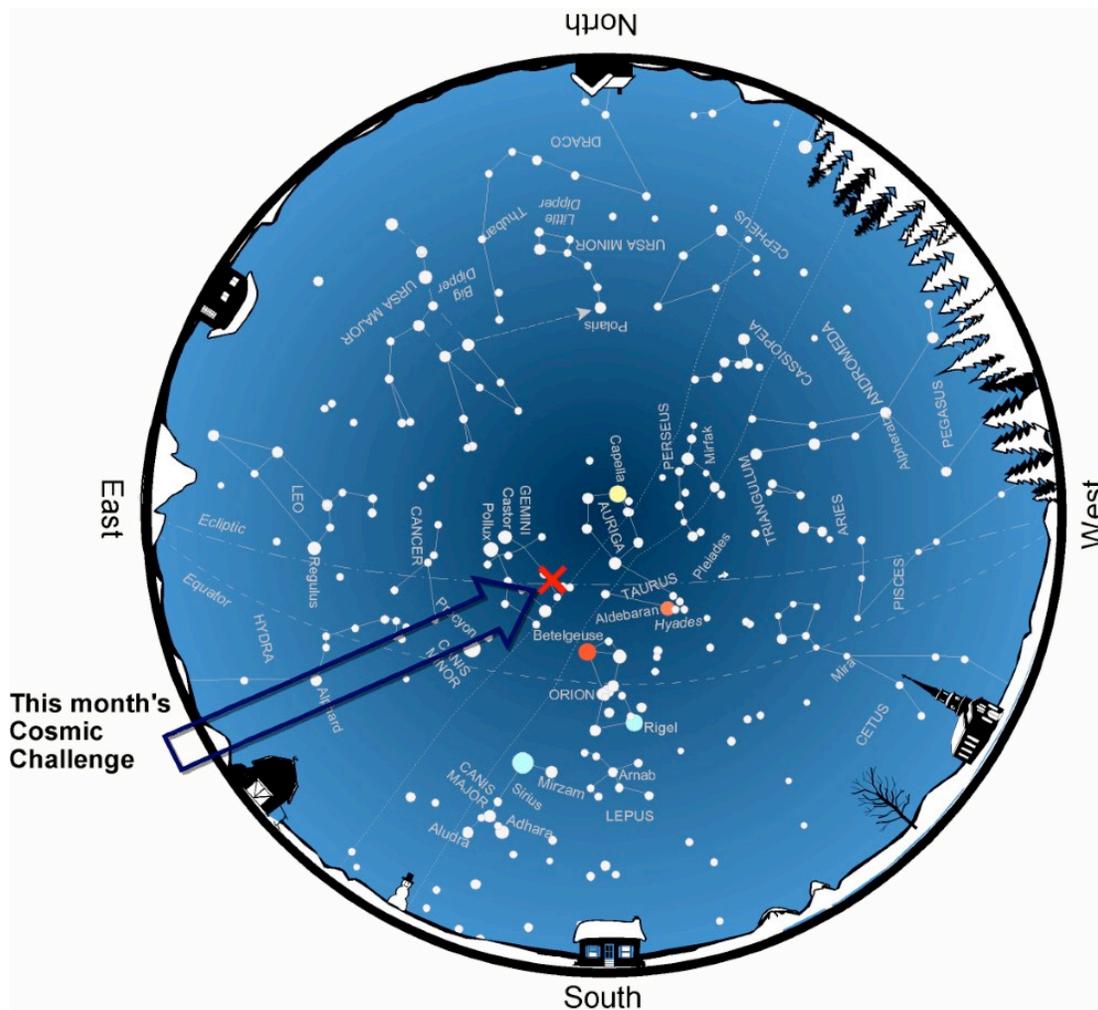
Minkowski 1-7



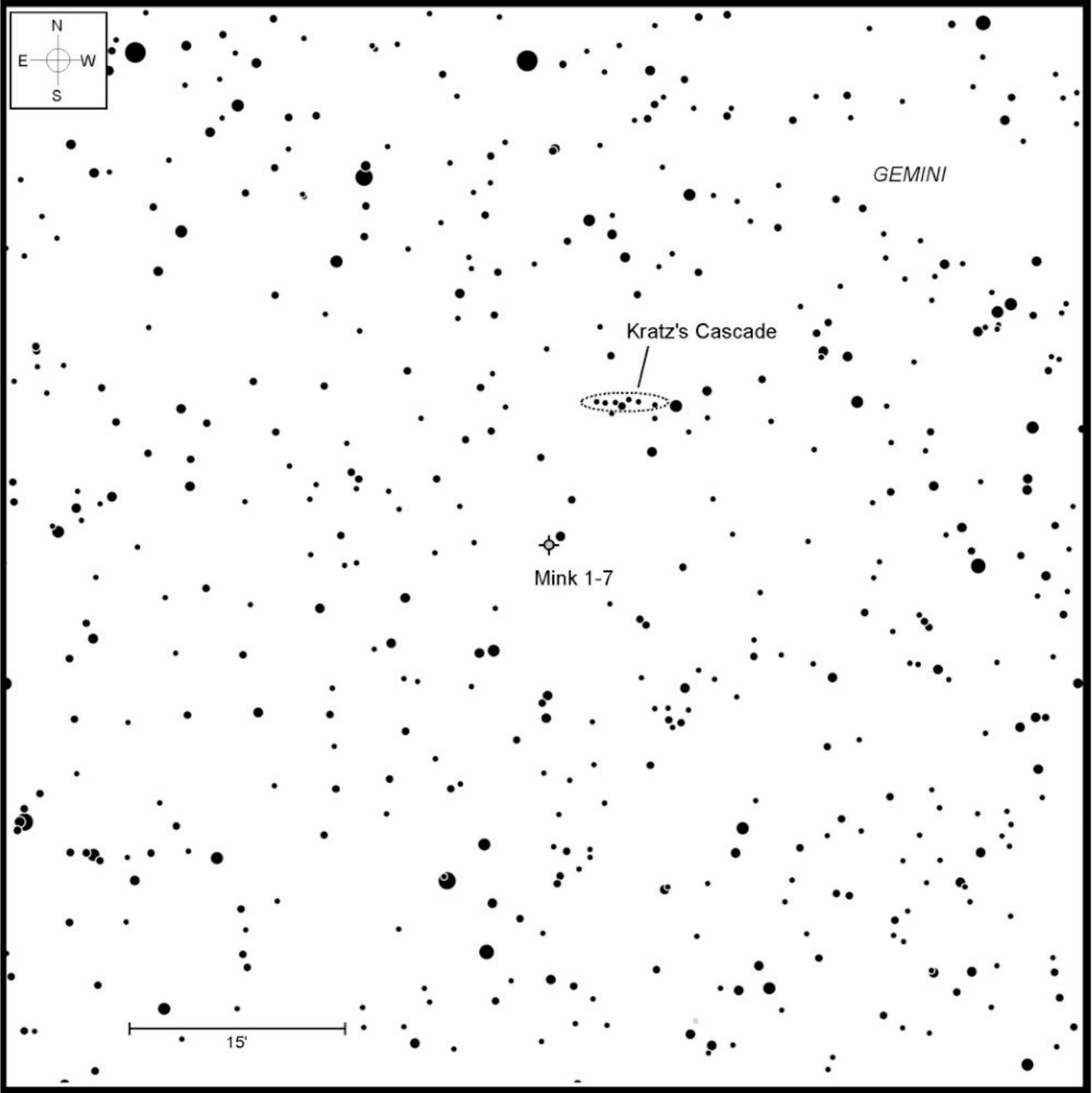
This month's suggested aperture range:
 Giant Binoculars, 6" to 9.25" (15-cm to o 23.5-cm) telescopes
 Featured telescope Celestron Advanced VX 9.25"

Target	Type	RA	DEC	Constellation	Magnitude	Size
Minkowski 1-7	Planetary nebula	06h 37.3m	+24° 00.6 '	Gemini	13.5	32"x15"

With their feet standing firmly on the winter Milky Way, the Gemini twins play host to a wide variety of deep-sky targets. Some, like M35 and NGC 2392, are well known among amateur astronomers, while others go unappreciated by all but the most devout followers. One that often goes unnoticed is this month's challenge, the faint planetary nebula **Minkowski 1-7**.



Above: Evening star map. Credit: Map adapted from [Star Watch](#) by Phil Harrington



Above: Finder chart for this month's Cosmic Challenge.

Minkowski 1-7 (aka PK 189+7.1) was discovered by astronomer Rudolph Leo B. Minkowski (1895-1976). Minkowski was a German-born, later American, astronomer whose observational work strongly influenced twentieth-century astrophysics, especially studies of planetary nebulae and stellar explosions. Born in Strasbourg, then part of the German Empire, he earned a doctorate in physics at the University of Breslau and began his career in Germany before emigrating to the United States in 1935. Minkowski worked at Mount Wilson Observatory and later became a key figure at Palomar Observatory. A master of spectroscopy, he clarified the physical nature and evolution of planetary nebulae and, with Walter Baade, established the Type I-Type II supernova classification system. He also directed the National Geographic Society-Palomar Observatory Sky Survey the first comprehensive photographic atlas of the northern sky. For his work, Minkowski received the Bruce Medal in 1961. He is also commemorated by a lunar crater named jointly for him and his uncle, the mathematician Hermann Minkowski.

Minkowski compiled his research on planetary nebulae into four listings, abbreviated Mink 1-xx to Mink 4-xx, with entries in each listed in order of increasing Right Ascension. Therefore, Mink 1-7 was the seventh item in his first listing, which formed the basis for a 1946 paper entitled [New Emission Nebulae](#) (*Publications of the Astronomical Society of the Pacific*, Vol. 58, No. 344, p. 305). Most of the 80 objects in Minkowski's first catalog were confirmed as planetary nebulae using the historic 60- or 100-inch telescopes at Mount Wilson. Today, many references cross-list this month's challenge object under its [Perek-Kohoutek catalog](#) designation, PK 189+7.1.

Mink 1-7 lies along the leg of the twin brother Castor, a third of the way from Epsilon (ϵ) Geminorum to Mu (μ) Geminorum. Aim about $1\frac{1}{2}^\circ$ southwest of Epsilon for an obtuse triangle of three 6th-magnitude stars, its apex pointing southward. With a low-power eyepiece in place, scan $25'$ southwestward from the apex star for a curious line of 11 faint stars meandering east-to-west. Although these stars are apparently not physically associated with each other, they form an intriguing little asterism that is bound to catch your attention. I call this **Kratz's Cascade**, after Dave Kratz, a veteran deep-sky observer from Poquoson, Virginia, who first noted the group more than three decades ago while viewing Mink 1-7.

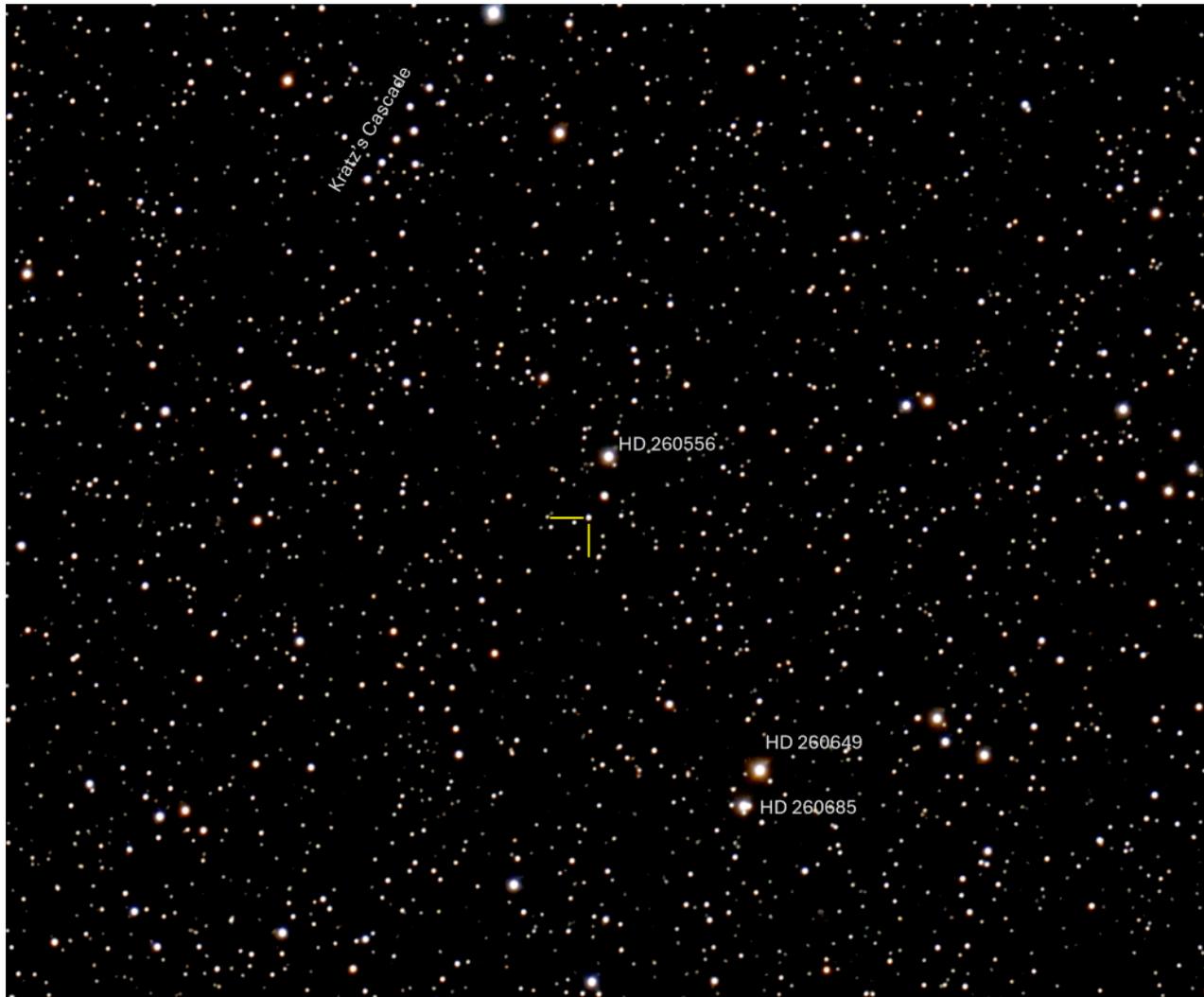
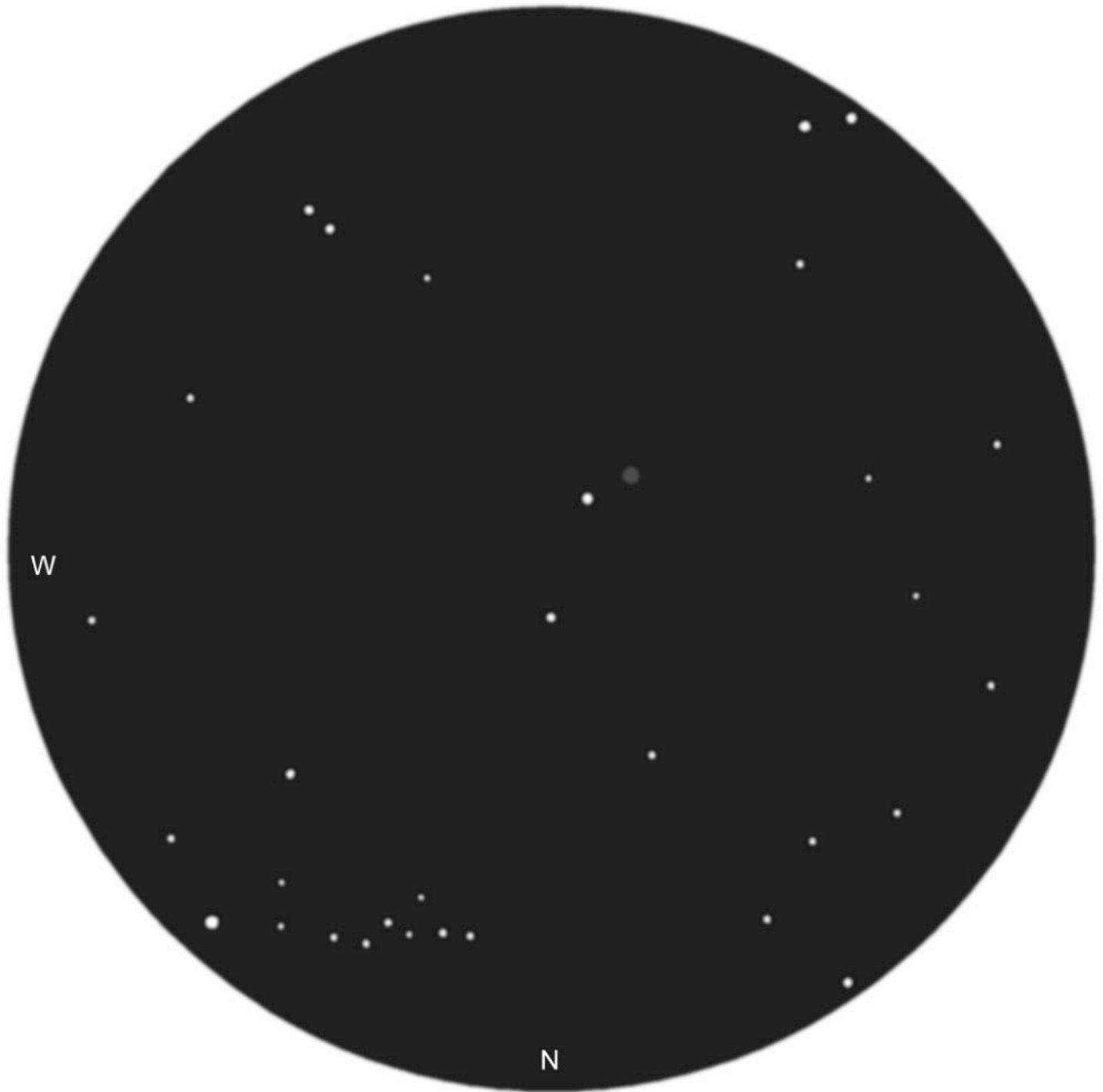


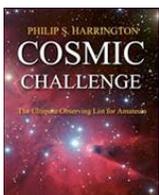
Image: Minkowski 1-7 as taken by the author using a 6-inch (152mm) f/2.2 Celestron Origin Home Observatory. Details can be found on my [Astrobin posting](#).

Mink 1-7 is in the same field as Kratz's Cascade, just 11' to its southeast and next to a 10th-magnitude field star. It looks like a faint star itself at magnifications below about 100x, but above, it is unmistakably non-stellar. Through my 8 inch (20 cm) at 232x, its faint, gray disk appears perfectly round and evenly illuminated, with no hint of the central star that begat the planetary. Since that star glows weakly at 19th-magnitude, it's a good bet that few amateurs have ever seen it.



Above: Mink 1-7 as seen through the author's 8-inch (20-cm) f/7 Newtonian at 158x.

About the Author:



Phil Harrington is a contributing editor to [Astronomy](http://www.astronomy.com) magazine and is the author of 9 books on astronomy. Visit www.philharrington.net to learn more. [Phil Harrington's Cosmic Challenge](http://www.philharrington.net) is copyright 2026 by Philip S. Harrington. All rights reserved. No reproduction, in whole or in part, beyond single copies for use by an individual, is permitted without written permission of the copyright holder. This newsletter editor has received the authors permission to use this article

Herrett Center for Arts and Science

Centennial Observatory



Upcoming Events

All events are weather permitting

Telescope Tuesday	Centennial Observatory	Tuesday, February 10, 2026	6:30-9:00 p.m.	\$1.50, ages 6 & under free, or free with planetarium admission
Monthly Free Star Party	Centennial Observatory	Saturday, February 14, 2026	7:00-9:00 p.m.	Free
Telescope Tuesday	Centennial Observatory	Tuesday, February 24, 2026	7:00-9:00 p.m.	\$1.50, ages 6 & under free, or free with planetarium admission

Faulkner Planetarium



[Now Showing](#)

Find Current Shows following the link above. Admission: Adults (ages 18-59): \$7.50 Seniors (ages 60+): \$6.50 Children (ages 2-17): \$5.50 CSI students (w/ activity card): \$5.50 Children under age 2: FREE. Buy your [tickets](#) online.

*50% discount for Planetary Society members and families.

- Assistive listening devices available upon request.
- Open captioning available upon request for some shows.
- No food, drink, or late entry.
- Dark conditions and audio/visual effects may be too intense for younger children.

Websites and Other Helpful Astronomy Links.

Information on passes of the ISS, the USAF's X-37B, the HST, the BlueWalker 3, and other satellites can be found at <http://www.heavens-above.com/>

Visit <https://saberdoesthe...does-the-stars/> for tips on spotting extreme crescent Moons and <https://curtrenz.com/moon.html> for Full Moon and other lunar data.

Go to <https://skyandtelesc...ads/MoonMap.pdf> and <https://celestron-si...RReeves-web.pdf> and <https://nightsky.jpl...ObserveMoon.pdf> for simple lunar maps. Click on <https://astrostrona.pl/moon-map/> for an excellent online lunar map. Visit <http://www.ap-i.net/avl/en/start> to download the free Virtual Moon Atlas. Consult <http://time.unitariu...moon/where.html> for current information on the Moon and <https://www.fourmila.../lunarform.html> for information on various lunar features. See <https://svs.gsfc.nasa.gov/4955> a lunar phase and libration calculator and <https://svs.gsfc.nasa.gov/5187/>

The Lunar Reconnaissance Orbiter Camera (LROC) quick map. <https://www.universa...ise-and-sunset/>

For more on the planets and how to locate them, browse <http://www.nakedeyeplanets.com/>

Summaries on the planets for each month can be found at <https://earthsky.org/astronomy-essentials/>

The graphic at <https://www.timeandd...lanets/distance> displays the apparent and comparative sizes of the planets, along with their magnitudes and distances, for a given date and time.

The rise and set times and locations of the planets can be determined by clicking on <https://www.timeandd...stronomy/night/>

Click on <https://www.curtrenz.../asteroids.html> for information on asteroid occultations taking place this month.

Visit <http://cometchasing.skyhound.com/> and <http://www.aerith.ne...t/future-n.html> and <https://cobs.si/> for additional information on comets visible this month.

A list of the closest approaches of comets to the Earth is posted at <http://www.cometogra.../nearcomet.html>

A wealth of current information on solar system celestial bodies is posted at <http://www.curtrenz.com/astronomy.html> and <http://nineplanets.org/>

Information on the celestial events transpiring each week can be found at <https://stardate.org/nightsky> and <http://astronomy.com/skythisweek> and <http://www.skyandtel...ky-at-a-glance/>

Free star maps for any month may be downloaded at <http://www.skymaps.com/downloads.html> and <https://www.telescop...thly-Star-Chart> and <http://www.kenpress.com/index.html>

Data on current supernovae can be found at <http://www.rochester...y.org/snimages/>

Finder charts for the Messier objects and other deep-sky objects are posted at <https://freestarcharts.com/messier> and <https://freestarcharts.com/ngc-ic> and http://www.cambridge..._april-june.htm

Telrad finder charts for the Messier Catalog are posted at <http://www.custerobs...cs/messier2.pdf> and <http://www.star-shin...ssierTelrad.htm>

Telrad finder charts for the SAC's 110 Best of the NGC are available at <https://www.saguaroa...k110BestNGC.pdf>

Information pertaining to observing some of the more prominent Messier galaxies can be found at <http://www.cloudynig...ur-astronomers/>

Author Phil Harrington offers an excellent freeware planetarium program for binocular observers known as TUBA (Touring the Universe through Binoculars Atlas), which also includes information on purchasing binoculars, at <http://www.philharrington.net/tuba.htm>

Stellarium and Cartes du Ciel are two excellent freeware planetarium programs that are available at <http://stellarium.org/> and <https://www.ap-i.net/skychart/en/start>

Deep-sky object list generators can be found at <http://www.virtualcolony.com/sac/> and <https://telescopius.com/> and <http://tonightssky.com/MainPage.php>

Freeware sky atlases can be downloaded at <http://www.deepskywa...-atlas-full.pdf> and <https://www.cloudyni...ar-charts-r1021> and <https://allans-stuff.com/triatlas/>

For current sky charts visit the NASA Night Sky Network <https://nightsky.jpl.nasa.gov/news/212/>

McDonald Observatory famous radio program stardate is now a podcast <https://stardate.org/podcast>

Magic Valley Astronomical Society

550 Sparks St.
Twin Falls, ID

The Magic Valley Astronomical Society (MVAS) was founded in 1976. The Society is a non-profit [501(c) 3] educational and scientific organization dedicated to bringing together people with an interest in astronomy.

In partnership with the Centennial Observatory, Herrett Center, College of Southern Idaho - Twin Falls; we hold regularly scheduled monthly meetings and observation sessions, at which we share information on current astronomical events, tools and techniques for observation, astrophotography, astronomical computer software, and other topics concerning general astronomy. Members enthusiastically share their telescopes and knowledge of the night sky with all who are interested. In addition to our monthly public star parties we hold members only star parties at various locations throughout the Magic Valley.

MVAS promotes the education of astronomy and the exploration of the night sky along with safe solar observing through our public outreach programs. We provide two types of outreach; public star parties and events open to anyone interested in astronomy, and outreach programs for individual groups and organizations (e.g. schools, churches, scout troops, company events, etc.), setting up at your location. All of our outreach programs are provided by MVAS volunteers at no cost. However, MVAS will gladly accept donations. Donations enable us to continue and improve our public outreach programs.

Membership is not just about personal benefits. Your membership dues support the work that the Magic Valley Astronomical Society does in the community to promote the enjoyment and science of astronomy. Speakers, public star parties, classes and support for astronomy in schoolrooms, and outreach programs just to name a few of the programs that your membership dues support.

Annual Membership dues will be:

\$20.00 for individuals, families, and \$10.00 for students.

Contact Treasurer Jim Tubbs for dues information via e-mail: jtubbs015@msn.com

Donations to our club are always welcome and are even tax deductible. Please contact a board member for details.

Lending Telescopes: The society currently has three telescopes for loan and would gladly accept others please contact President Robert Mayer, for more information on these and other benefits.



Telescopes are an individual thing and not practical for public use. However, everyone should have the experience of a good look at the Moon for at least 5 minutes in their life time. It is a dimension and feeling that is unexplainable. Pictures or TV can't give this feeling, awareness, or experience of true dimension. A person will not forget seeing our closest neighbor, the Moon.

Norman Herrett in a letter to Dr. J. L. Taylor, president of the College of Southern Idaho