IAAS Monthly Astronomy Newsletter February 2025

The International Association for Astronomical Studies provides this newsletter as a service for interested persons worldwide.

This newsletter is published on the World Wide Web at The Home of KIØAR - and is received nationally and internationally. Download the PDF formatted version of the newsletter.

An Open Invitation - For amateur radio operators and scanner enthusiasts around the world, please join the Colorado Astronomy Net on the Rocky Mountain Radio League's **K1DUN** repeater on **449.450 MHz** or other digital and analog repeaters, Allstar nodes, Echolinks, DMR and internet links connected to the SKYHUBLINK system. The net meets on Tuesday nights at 7 P.M. Mountain Time (US) (Wednesday at 0200 GMT). Connecting to the SkyHubLink system has expanded our coverage in the U.S., Canada and internationally. All Amateur radio operators worldwide are welcome. Anyone may listen to the net. The RMRL provides a "Live Audio Feed" using Broadcastify.

Obtain your Amateur Radio (Ham) License or your General Radio Operator's License (GROL)! Visit the South Metro VE Team website for more information. The South Metro VE Team provides test sessions by appointment only. Check the website for current information. All others interested in Amateur Radio, check out the Amateur Radio Relay League website to find out more information about becoming an Amateur Radio operator.

The Colorado Astronomy Net and the IAAS are on Facebook page. Be sure to "Like" us.

Donate to the IAAS!
Your contributions are tax deductible.
Thank you for your support!

Excerpts from JPL mission updates are provided as a public service as part of the JPL Solar System Ambassador / NASA Outreach program.

"From our point of view, the Moon and the Pleiades (M45) often "miss" each other in the sky, as shown here. But we are now in a sequence of monthly Pleiades occultations, with one visible from the U.S. this month." Astronomy Magazine, February 2025, p. 28. - Alan Dyer

In This Newsletter...

The Month At-A-Glance

The current month's calendar displaying the daily astronomical events.

The Moon

Phases:

- First Quarter Moon occurs on the 5th.
- Full Moon occurs on the 12th.
- Last Quarter Moon occurs on the 20th.
- New Moon occurs on the 27th.

- The Moon is at perigee (228,327 miles from Earth) on the 1st.
- The Moon is at apogee (251,582 miles from Earth) on the 17th.

Moon/Planet Pairs:

- The Moon passes 1.4° north of Neptune on the 1st.
- Venus passes 4° north of Neptune on the 3rd.
- The Moon passes 5° north of Uranus on the 5th.
- The Moon passes 5° north of Jupiter on the 6th.
- The Moon passes 0.8° north of Mars on the 9th.
- The Moon passes 0.3° south of Spica on the 17th.
- The Moon passes 0.4° south of Antares on the 21st.
- The Moon passes 1.0° south of Pluto on the 25th.
- The Moon passes 0.4° south of Mercury on the 28th.

For reference: The Full Moon subtends an angle of ~0.5°.

Calendar of All Astronomical Events 2025

Weekly Rocket Report

Courtesy of "The Rocketman" Ed W6RDZ
Updated Weekly on Tuesday evenings
prior to the Colorado Astronomy Net

The Planets & Dwarf Planets

Planetary Reports are generated by "TheSkyX" software. These reports provide predicted data for the planets on the first of each month for the current year. The rise and set times for the Sun and the Moon for each day of the month as well as meteor shower radiants are also included in the reports. These reports have been optimized for the Denver, Colorado location, however, the times will be approximate for other locations on Earth.

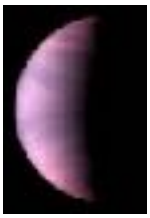
(Times are Mountain Daylight Time (MDT/MST) unless otherwise noted. Times will vary slightly depending on your location.)

Planetary Highlights for February

"We're quickly losing sight of Saturn, but Venus, Jupiter, and Mars dominate the sky. Uranus and Neptune are easy binocular objects. Mars is still at its best, having reached opposition last month. Jupiter has many satellite transits visible in small telescopes. And early in the month, the Moon passes in front of the Pleiades, visible from the western U.S." Astronomy Magazine, February 2025, p. 28.

Mercury

Is in superior conjunction on the 9th. Mercury rises at 7:02 a.m. on the 1st. After conjunction, Mercury returns to the evening sky. Mercury sets about 7:13 p.m. by month's end. Mercury is visible about 30 minutes after sunset just above the western horizon during the last week of February. Mercury moves from the constellation of Capricornus into Pisces shining at magnitude -1.1 on the 28th.



Venus

Is at greatest brilliancy (magnitude -4.9) on the 14th. Venus is stationary on the 27th. Venus sets about 9:07 p.m. on the 1st and about 8:27 p.m. by month's end. Look for Venus to the west about 30 minutes after sunset. Venus is in the constellation of Pisces shining at magnitude -4.9 on the 15th.

Earth

N/A.

Mars

Is stationary on the 24th. Mars rises at 3:01 p.m. on the 1st and about 12:59 p.m. by month's end. Look for Mars to the southeast in the evening. Follow Mars across the sky almost all night long. Mars is the constellation of Gemini shining at magnitude -0.7.

Jupiter

Is stationary on the 4th. Jupiter sets at 3:12 a.m. on the 1st and about 1:27 a.m. by month's end. Jupiter is easy to spot to the south in the evening sky. Follow Jupiter across the sky for the rest of the evening and into the early morning hours. Jupiter is in the constellation of Taurus shining at magnitude -2.4.

Saturn

Sets at 8:07 p.m. on the 1st and about 6:34 p.m. by month's end. By the time the Sun sets, Saturn is low to the west. Saturn is in the constellation of Aquarius shining at magnitude 1.1.

Uranus

Sets at 1:44 a.m. on the 1st and about 11:52 p.m. by month's end. Look for Uranus to the south soon after sunset. Uranus moves from the constellation Aries into Taurus shining at magnitude 5.7.

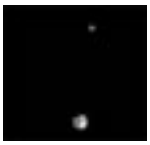
Neptune

Sets at 9:01 p.m. on the 1st and about 7:15 p.m. by the month's end. Look for Neptune to the west following Saturn by less than an hour all month. Neptune is in the constellation of Pisces shining at magnitude 7.8.

Dwarf Planets

Ceres

Is in conjunction with the Sun on the 14th. Ceres sets at 5:43 p.m. on the 1st. After conjunction, Ceres returns to the morning sky, rising about 6:48 a.m. by month's end. Ceres is lost in the evening and morning twilight glow all month and is not visible. Ceres moves from the constellation of Capricornus into Aquarius shining at magnitude 9.0.



Pluto

Rises at 6:50 a.m. on the 1st and about 5:03 a.m. by month's end. Pluto is lost in the morning and twilight glow for most month. Pluto is in the constellation of Capricornus shining at magnitude 15.2.

As always, good luck at spotting Neptune, Ceres and Pluto, a large telescope and dark skies will be needed.

Constellation information provided by Go Astronomy.

Astronomical Events

Meteor Showers

- "FEBRUARY HAS NO major meteor showers. Sporadic meteors can be seen at any time, so it's worth keeping watch for the occasional bright streak while observing the wonders of the night sky.

  As we approach the vernal equinox, the zodiacal light makes an evening appearance on moonless nights. The most favorable time is the second half of the month, when the Moon is in the morning sky. Pick a dark location with a clear view west. Right after dusk, as the sky darkens, watch for a cone-shaped glow, similar to the Milky Way. Whereas twilight is a low, diminishing glow to the west, the zodiacal light is a steeply angled cone aligned with the ecliptic in the east, extending up through Taurus. It lasts over an hour and is caused by sunlight reflecting off billions of meteoritic particles." Astronomy Magazine, February 2025, p. 29.

For more information about Meteor Showers, visit Gary Kronk's Meteor Showers Online web page.

Meteor Shower Radiant Report

Meteor Scatter (or Meteor burst communications) -- "is a radio propagation mode that exploits the ionized trails of meteors during atmospheric entry to establish brief communications paths between radio stations up to 2,250 kilometres (1,400 mi) apart." Tune your shortwave or your HF amateur radio to 54.310 MHz USB CW and see if you can hear any pings. Try other frequencies as well... 6m FT8 digital - 50.313 Mhz & 50.276 Mhz, JP-65 digital mode and the carrier frequencies of the lower VHF bands for TV channels 2, 3 & 4.

Meteor Rx How-To by Terry Bullett (WØASP).

Comets

- Comet **29P/Schwassmann-Wachmann 1** may still have an outburst in brightness from around magnitude 15 to 10.5 this month, but will be a challenge for most observers. The comet is passing just south of Regulus in the constellation of Leo.
- Comet **C/2024 G3 (ATLAS)** is visible in the southern hemisphere in the constellation of Piscis Austrinus, shining around magnitude 4.9, making it a just visible to the naked eye observer under dark sky conditions.

For information, orbital elements and ephemerides on observable comets visit Observable Comets.

For more information about Comets, check out Gary Kronk's 6-volume series of books on Cometography.

Eclipses

- No solar eclipse activity this month.
- No lunar eclipse activity this month.

Observational Opportunities

(from evening to morning)

- Look for Saturn, Neptune, Venus, Uranus and Jupiter and Mars in the evening from the west to south.
- Look for Mercury in the early evening to the west late in the month.

Asteroids

(From west to east)

- **Eunomia** is in the constellation of Taurus.
- **Vesta** is in the constellation of Virgo.

Information about the Minor Planets can be found at the MinorPlanet.info web site.

Occultations

Information on various occultations can be found at the International Occultation Timing Association's (IOTA) web site.

The Moon occults the Pleiades (M45) (Electra) on the 5th/6th. The occultation is observable from the western third of the U.S. See the other predictions/ paths for several other stars in the Pleiades: Maia, Alcyone, Atlas.

Member Meteor Sightings

In this section I will post meteor, fireball, etc sightings that have been published on the American Meteor Society's web site. I want to make this an active section of the web pages and newsletter and would like to publish the links to member sightings. If you have any published sightings, please provide me with the links and I will post them here for all to enjoy.

Event ID	Date/Time	Location	Observer	Link
3871-2015	2015-11-13 01:55 MST	CO	Charles N	3871a
3587-2015	2015-11-22 17:38 MST	CO	Kevin S	3587aw
3829-2015	2015-12-05 18:06 MST	CO	Burness A	3829a
986-2020	2020-02-21 22:20 MST	CO	Lukas S	986
3716-2020	2020-07-24 23:22 MDT	CO	Lukas S	3716
4774-2021	2021-08-13 21:57 MDT	UT	Lukas S	4774
7044-2021	2021-10-28 20:37 MDT	CO	Burness A	249058
6763-2022	2022-10-06 05:56 CDT	OK	Mike C	6763
5300-2023	2023-09-11 22:04 MDT	CO	Lukas S	5300
578-2024	2024-01-28 23:05 MST	CO	Lukas S	578

Subscriber Gallery

I have created a web page containing images taken and submitted by subscribers (or special images) to the email newsletter, check-ins to the Colorado Astronomy Net and readers of the online newsletter and some of my own images. Any one wishing to submit their images to the gallery, please let me know. The images must be taken by the submitter and be astronomy related. Please include a description and your information so that I can give proper credit to your work. I will post the most recent submissions here.

IC-434 - The Horsehead Nebula

Courtesy of Roy Murray (KI7PKL)

Images taken November 2024

"The Horsehead Nebula (top-right), is one of my old favorites. Most people, including me, have never seen it through the eyepiece, but we can see it via astrophotography. It consists of a dark nebula that looks like the head of a horse from our viewing angle, silhouetted against a very faint emission nebula. There are two other nebulas in the picture, The Flame Nebula to the left, and NGC-2043 in the middle. The very blown-out star, upper left, is Alnitak, the left-most of three stars in the belt of Orion. I only got six hours of data on this one, as it clouded up some evenings." Astrophotography with the SkyWatcher HEQ-5 and Celestron C6, Roy Murray.

Planetary/Lunar Exploration Missions

(Excerpts from recent mission updates)

JPL Latest News

The Latest from Space

The Origin of JPL (a Youtube video-1 Hour 29 minutes).

James Webb Space Telescope

Information on the James Webb Space Telescope mission is available at The James Webb Space Telescope website.

The public can follow the mission on Facebook, Twitter and YouTube.

Juno

Information on the Juno mission is available at Juno and Mission Juno.
Images from NASA's JunoCam.
The public can follow the mission on Facebook and Twitter.

TESS

Information on the TESS mission can be found on the Latest Tess News page.

Past, Present, Future and Proposed JPL Missions

For special JPL programs and presentations in your area visit the JPL Solar System Ambassador web site.

Mars Missions

Be A Martian

Mars website mobile version is here!
Simply type
http://mars.jpl.nasa.gov
into your mobile browser.

Mars on the Go! NASA Be A Martian Mobile App

If you want the latest news as it happens, try out the "Be A Martian" app.
Download on Mobile Devices
Android | iPhone | Windows Phone

JMARS

JMARS is an acronym that stands for Java Mission-planning and Analysis for Remote Sensing. It is a geospatial information system (GIS) developed by ASU's Mars Space Flight Facility to provide mission planning and data-analysis tools to NASA's orbiters, instrument team members, students of all ages, and the general public.

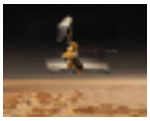
Laboratory for Atmospheric and Space Physics
"The Laboratory for Atmospheric and Space Physics (LASP) at the University of Colorado Boulder (CU) began in 1948, a decade before NASA. We are the world's only research institute to have sent instruments to all eight planets and Pluto.

LASP
Visit the LASP website for latest news and information.

MAVEN
Visit the MAVEN website for latest news and information.

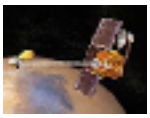
Mars 2020 - Perseverance
Visit the Mars 2020 (Perseverance) mission website for mission information and news updates.

Mars Science Laboratory - Curiosity
Visit the Mars Science Laboratory website for mission information and news updates.



Mars Reconnaissance Orbiter Mission

Mars Reconnaissance Orbiter HIRISE Images
View all of the archived HiRISE images.
More information about the MRO mission is available online.



Mars Odyssey Orbiter
Daily Mars Odyssey THEMIS Images
Thermal Emission Imaging System (THEMIS) web site.
Visit the Mars Odyssey Mission website for mission information and news updates.

Mars Missions Status
New Mars missions are being planned to include several new rover and sample collection missions. Check out the NASA Mars Exploration web page.

Astronomy Links and Other Space News

(If you have a link you would like to recommend to our readers, please feel free to submit it.)

Colorado Astronomy Links

Radio Astronomy Links

More Astronomy Links

Acknowledgments and References

Much of the information in this newsletter is from "Astronomy Magazine" (Kalmbach Publishing), JPL mission status reports, "Meteor Showers - A Descriptive Catalog" by Gary W. Kronk and other astronomical sources that I have stashed on my book shelves.

The author will accept any suggestions, constructive criticisms, and corrections. Please feel free to send me any new links or articles to share as well. I will try to accommodate any reasonable requests. Please feel free to send questions, comments, criticisms, or donations to the email address listed below. Enjoy!

Subscription Information

- Email Newsletter archives.
- Full documentation of the online administration system.
- The latest version of the newsletter.

Keep looking UP!

73 from KIØAR
Created by Burness F. Ansell, III
Email

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JPL Solar System Ambassador, Colorado
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