

IAAS Monthly Astronomy Newsletter July 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 0100 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.

**The [Colorado Astronomy Net](#) is now on YouTube!!
All are welcome to join us Tuesday evenings!**

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.



"Venus (upper left) shines amid the Hyades star cluster in Taurus, with Aldebaran to its lower right. This scene, captured in 2017, will repeat midmonth." Astronomy Magazine, July 2025, p. 28. - Alan Dyer

In This Newsletter...

The Month At-A-Glance	4
The Moon	4
Phases:	4
Moon/Planet Pairs:	4
The Planets & Dwarf Planets	5
Planetary Highlights for July	5
Mercury	5
Venus	5
Earth	5
Mars	6
Jupiter	6
Saturn	6
Uranus	6
Neptune	6
Dwarf Planets	7
Ceres	7
Pluto	7
Astronomical Events	7
Meteor Showers	7
Comets	8
Eclipses	8
Observational Opportunities	8
Asteroids	8
Occultations	8
Member Meteor Sightings	9
Subscriber Gallery	10
Planetary/Lunar Exploration Missions	11
JPL Latest News	11
James Webb Space Telescope	11
Juno	11
TESS	11
Mars Missions	12
JMARS	12
LASP	13
MAVEN	13
Mars 2020 - Perseverance	13
Mars Science Laboratory - Curiosity	13
Mars Reconnaissance Orbiter Mission	13
Mars Missions Status	13
Astronomy Links and Other Space News	14
Colorado Astronomy Links	14
Radio Astronomy Links	14
More Astronomy Links	14
Acknowledgments and References	14
Subscription Information	14
Keep looking UP!	14

The [Month At-A-Glance](#)

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

The Moon

Phases:

- First Quarter Moon occurs on the 2nd.
- Full Moon occurs on the 10th.
- Last Quarter Moon occurs on the 17th.
- New Moon occurs on the 24th.

- The Moon is at [apogee](#) (251,423 miles from Earth) on the 4th.
- The Moon is at [perigee](#) (228,690 miles from Earth) on the 20th.

Moon/Planet Pairs:

- The Moon passes 0.8° south of Spica on the 3rd.
- Venus passes 2° south of Uranus on the 3rd.
- The Moon passes 0.4° south of Antares on the 7th.
- The Moon passes 0.02° north of Pluto on the 11th.
- Venus passes 3° north of Aldebaran on the 13th.
- The Moon passes 3° north of Neptune on the 16th.
- The Moon passes 4° north of Saturn on the 16th.
- The Moon passes 5° north of Uranus on the 20th.
- The Moon passes 7° north of Venus on the 21st.
- The Moon passes 5° north of Jupiter on the 22nd.
- The Moon passes 1.3° north of Regulus on the 26th.
- The Moon passes 1.3° south of Mars on the 28th.
- The Moon passes 1.0° south of Spica on the 31st.



For reference: The Full Moon subtends an angle of $\sim 0.5^\circ$.

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

Planetary Highlights for July

"Summer nights offer lots of interesting sights this month. Mercury and Mars are on show in the evening twilight. Both Uranus and Neptune stand near brighter beacons: Neptune and Saturn are two Moon-widths apart all month, while the morning sky hosts Venus and Uranus together in Taurus. Saturn also shows off two Titan shadow transits, visible through small telescopes. Jupiter returns late in the month, as Pluto reaches opposition." Astronomy Magazine, July 2025, p. 28.



Mercury

Is at greatest eastern [elongation](#) (26°) on the 4th. Mercury is [stationary](#) on the 17th. Mercury is in [inferior conjunction](#) on the 31st. Mercury sets at 10:03 p.m. on the 1st and about 7:42 p.m. by month's end. Mercury is visible about 30 minutes after sunset just above the western horizon during the first two weeks of the month. Mercury is in the [constellation](#) of [Cancer](#) shining at [magnitude](#) 0.4 on the 1st.



Venus

Rises about 2:59 a.m. on the 1st and about 3:04 a.m. by month's end. Look for Venus to the east about an hour before sunrise. Venus moves from the constellation of [Taurus](#) into [Gemini](#) shining at magnitude -4.1 on the 15th.



Early on the morning of July 4, use Venus and the Pleiades to guide your view to distant Uranus. Visible with a telescope, unless clouds or haze intervene.



Earth

Earth is at [aphelion](#) (94.5 million miles from the Sun), 4 P.M. EDT on the 3rd.



Mars

Sets at 11:34 p.m. on the 1st and about 10:15 p.m. by month's end. Look for Mars to the southwest in the evening. Mars moves from the constellation of [Leo](#) into [Virgo](#) shining at magnitude 1.5.



Jupiter

Rises at 5:16 a.m. on the 1st and about 3:46 a.m. by month's end. Look for Jupiter to the east about an hour before sunrise. Jupiter is in the constellation of [Gemini](#) shining at magnitude -1.9.



Saturn

Is [stationary](#) on the 14th. Saturn rises at 12:33 a.m. on the 1st and about 10:28 p.m. by month's end. Look for Saturn low to the south before sunrise.

Saturn is in the constellation of [Pisces](#) shining at magnitude 0.9.



Saturn's moon Titan throws its shadow onto the planet's disk twice this month. Note that while 13th-magnitude Mimas and its shadow are also transiting at the same time on July 16, they will likely be invisible.



Uranus

Rises at about 2:59 a.m. on the 1st and about 1:01 a.m. by month's end. Look for Uranus to the southeast before sunrise. Uranus is in the constellation [Taurus](#) shining at magnitude 5.8.



Neptune

Is [stationary](#) on the 5th. Neptune rises at 12:30 a.m. on the 1st and about 10:24 p.m. by the month's end. Look for Neptune to the south before sunrise

leading Saturn by just a couple of minutes all month. Neptune is in the constellation of [Pisces](#) shining at magnitude 7.7.



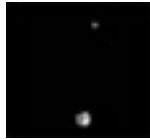
On July 16, Neptune is visible with binoculars or a small telescope between Saturn and the globular cluster M13.

Dwarf Planets



Ceres

Rises at 1:39 a.m. on the 1st and about 11:51 p.m. by month's end. Ceres can be spotted low to the south before sunrise. Ceres is in the constellation of [Cetus](#) shining at magnitude 8.9.



Pluto

Is at [opposition](#) on the 25th, rising as the Sun sets. Pluto rises at 10:01 p.m. on the 1st and about 7:57 p.m. by month's end. Pluto can be spotted before sunrise to the south-southwest. Pluto appears at its best for the year later in the month. Pluto is in the constellation of [Capricornus](#) shining at magnitude

15.1.

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

- **The Southern Delta Aquarids** - This [meteor shower](#) has a duration of July 14 - August 18. Maximum hourly rates of 15-20 occur on July 28/29.

- **The Northern Delta Aquarids** extends from July 16 to September 10. Maximum occurs on August 13. The hourly rates reach a high of 10.

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.



SOUTHERN DELTA AQUARIID METEORS

Active dates: July 12 - Aug. 23

Peak: July 31

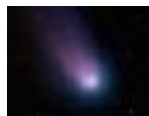
Moon at peak: Waxing crescent

Maximum rate at peak:
25 meteors/hour

July 31, 1 hour before sunrise
Looking southwest

The Southern Delta Aquarids peak on the last day of the month. Although Neptune lies near Saturn, it is not shown here because it is not visible to the naked eye.

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



Comets

- There is no significant [Comet](#) activity this month.

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 Mercury and Mars in the evening to the west.
- Look for Pluto to the south.
- Look for Saturn, Neptune and Ceres in the late evening and early morning to the south-southeast.
- Look for Uranus, Venus and Jupiter in the morning to the east.

Asteroids

(From west to east)

- **Vesta** is in the constellation of [Virgo](#).
- **Pallas** is in the constellation of [Delphinus](#).
- **Hebe** is in the constellation of [Pisces](#).

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.

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.

<u>Event ID</u>	<u>Date/Time</u>	<u>Location</u>	<u>Observer</u>	<u>Link</u>
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
2864-2025	2025-05-19 20:29 PDT	NV	Kenneth T	375753

[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. Anyone wishing to submit their images to the gallery, please send me an email. 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.

LBN 168 - The Tulip Nebula

Courtesy of Roy Murray (KI7PKL)

Image taken October 2024



"The Tulip Nebula is located in the star-rich constellation of [Cygnus](#). Imaged in October 2024 with around 14 hours of exposures, and processed with Siril, GraXpert, and StarNet image processing software. "

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.

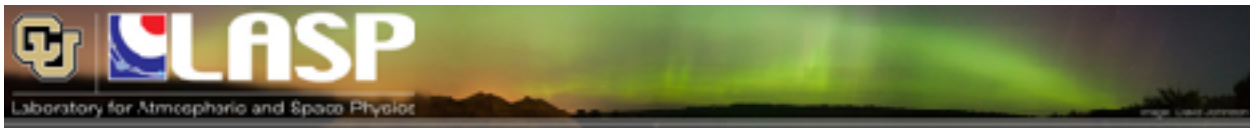
Download on Mobile Devices

[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.



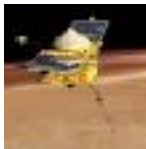
Laboratory for Atmospheric and Space Physics

"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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