

IAAS Monthly Astronomy Newsletter November 2024



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 K1ØAR](#) - 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.



"This month, Jupiter is making its way through central Taurus, as in this 2013 image. Here, Jupiter is the brightest point at center, with Aldebaran to its lower left." Astronomy Magazine, November 2024, p. 28. - Alan Dyer

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

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

The Moon

Phases:

- New Moon occurs on the 1st.
- First Quarter Moon occurs on the 9th.
- Full Moon occurs on the 15th. ([Supermoon](#))
- Last Quarter Moon occurs on the 22nd.

- The Moon is at [perigee](#) (223,762 miles from Earth) on the 14th.
- The Moon is at [apogee](#) (251,850 miles from Earth) on the 26th.



Moon/Planet Pairs:

- The Moon passes 2° south of Mercury on the 3rd.
- The Moon passes 0.08° south of Antares on the 3rd.
- The Moon passes 3° south of Venus on the 4th.
- Mercury passes 2° north of Antares on the 9th.
- The Moon passes 0.09° north of Saturn on the 10th.
- The Moon passes 0.6° north of Neptune on the 11th.
- The Moon passes 4° north of Uranus on the 15th.
- The Moon passes 6° north of Jupiter on the 17th.
- The Moon passes 2° north of Mars on the 20th.
- The Moon passes 0.4° north of Spica on the 27th.

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

[Experts Pick the Top Stargazing Events for 2024](#)

[Weekly Rocket Report](#)

Courtesy of "The Rocketman" Ed W6RDZ

Updated Weekly on Tuesday evenings

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.)

Note: Due to DST ending for most of the U.S. this month, times on the 1st are MDT, times at the end of the month are MST.

Planetary Highlights for November

"November brings many sights to explore, including Mercury in the early evening, Mars brightening, and the giant planets Jupiter and Saturn adding to the spectacle. Jupiter in particular is reaching its best apparition in a decade for Northern Hemisphere observers." Astronomy Magazine, November 2024, p. 28.



Mercury

Is at greatest eastern [elongation](#) (23°) on the 16th. Mercury is [stationary](#) on the 25th. Mercury sets at 6:43 p.m. on the 1st and about 5:10 p.m. by month's end. Mercury is visible about 30 minutes after sunset just above the southwestern horizon. Mercury moves from the [constellation](#) of [Libra](#) into [Ophiuchus](#) shining at [magnitude](#) -0.3 on the 15th.



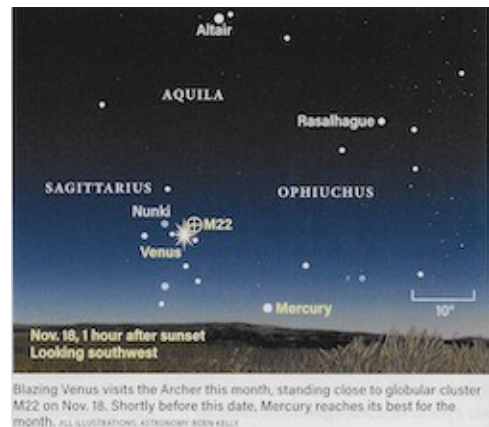
Venus

Sets about 7:55 p.m. on the 1st and about 7:37 p.m. by month's end. Look for Venus low to the southwest about 30 minutes after sunset. Venus moves from the constellation of [Ophiuchus](#) into [Sagittarius](#) shining at magnitude -4.1 on the 15th.



Earth

[Daylight Saving Time](#) ends for most of the U.S. at 2:00 a.m. local on the 3rd.





Mars

Rises at 10:59 p.m. on the 1st and about 8:31 p.m. by month's end. Look for Mars to the southeast in the late evening and southwest before sunrise.

Mars is in the constellation of [Cancer](#) shining at magnitude -0.2.



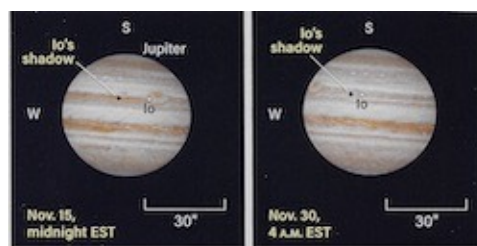
By month's end, Mars stands near M44 in Cancer in the predawn sky. Uranus, below the Pleiades, requires binoculars to spot.



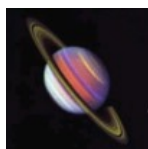
Jupiter

Rises at 8:08 p.m. on the 1st and about 4:56 p.m. by month's end. Jupiter is easy to spot to the east 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 -2.8.

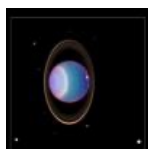


Note the shrinking gap between Jupiter's moon Io and its shadow as they transit the gas giant this month, once in mid-November and once at the end of the month. Although visible, the other Galilean moons are not shown here.



Saturn

Is [stationary](#) on the 16th. Saturn sets at 2:49 a.m. on the 1st and about 11:48 p.m. by month's end. By the time the Sun sets, Saturn is high to the south. Saturn is in the constellation of [Aquarius](#) shining at magnitude 0.8.



Uranus

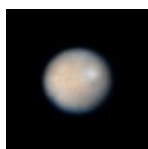
Uranus is at [opposition](#) on the 16th, rising as the Sun sets. Uranus rises at 6:38 p.m. on the 1st and about 3:36 p.m. by month's end. Uranus is at its best viewing for the year. Follow Uranus across the sky for almost all night long. Uranus is in the constellation of [Taurus](#) shining at magnitude 5.6.



Neptune

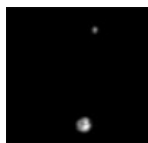
Sets at 4:04 a.m. on the 1st and about 1:04 a.m. by the month's end. Look for Neptune to the south following Saturn by about 90 minutes all month. Neptune is in the constellation of [Pisces](#) shining at magnitude 7.7.

Dwarf Planets



Ceres

Sets at 9:50 p.m. on the 1st and about 7:42 p.m. by month's end. Ceres is visible in the evening sky to the south and southwest. Ceres is in the constellation of [Sagittarius](#) shining at magnitude 9.3.



Pluto

Sets at 11:00 p.m. on the 1st and about 8:05 p.m. by month's end. Pluto is visible in the evening sky to the southwest. Pluto is in the constellation of [Capricornus](#) shining at magnitude 15.3.

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

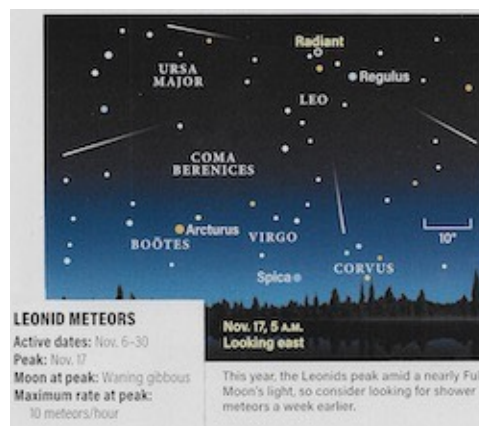
Constellation information provided by [Go Astronomy](#).

Astronomical Events

Meteor Showers



- **The Leonids** - The duration of this [shower](#) covers the period of Nov. 14-20. Maximum occurs on Nov. 17. The maximum hourly rate typically reaches 10-15, but most notable are periods of enhanced activity that occur every 33 years - events that are directly associated with the periodic return of comet Tempel-Tuttle. During these exceptional returns, the Leonids have produced rates of up to several thousand meteors per hour. The Leonids are swift meteors, which are best known for leaving a high percentage of persistent trains.



However, the full Moon on the 15th will interfere with the peak this year. Only the brightest of meteors will be seen.

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).

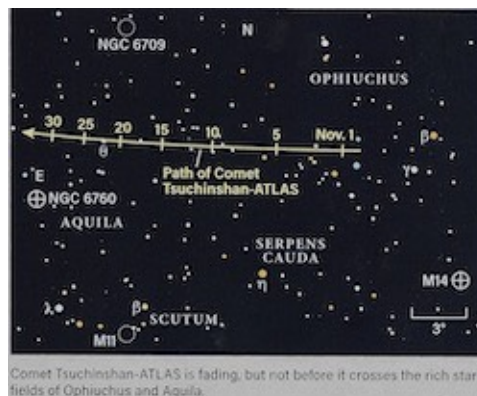


Comets

- [Comet C/2023 A3 \(Tsuchinshan-ATLAS\)](#) has dimmed considerably since last month. It's visible to the west at around 6th magnitude and dims to about 8th magnitude by month's end. However, it still look quite nice in the evening through binoculars or a small telescope moving to the southwest passing from the constellation of [Ophiuchus](#) towards [Aquila](#).

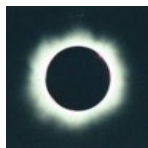
For information, orbital elements and ephemerides on observable comets visit [Observable Comets](#).

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



Comet Tsuchinshan-ATLAS is fading, but not before it crosses the rich star fields of Ophiuchus and Aquila.

Eclipses



- No [solar eclipse](#) activity this month.
- No [lunar eclipse](#) activity this month.

Observational Opportunities

(from evening to morning)

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

Asteroids

(From west to east)



- **Iris** is in the constellation of [Aquarius](#).
- **Laetitia** is in the constellation of [Cetus](#).
- **Eunomia** is in the constellation of [Auriga](#).
- **Vesta** is in the constellation of [Virgo](#).



Fortuna passes close to double-star Zeta Psc just after midmonth, before making a hairpin turn late in November.

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

[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.

The Pleiades ([M45](#)) **Courtesy of Bryan Gunsher (K6SKI)** Images taken October 26, 2024



Planetary/Lunar Exploration Missions

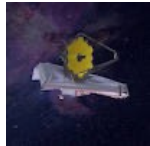
(Excerpts from recent mission updates)



JPL Latest News

The Latest from Space

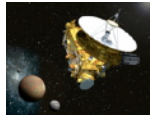
[The Origin of JPL](#) (a Youtube video-1 Hour 29 minutes).



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.

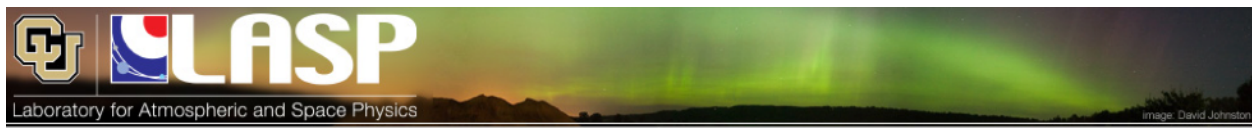
Download on Mobile Devices

[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

COO, Director of Aerospace Technologies, IAAS

JPL Solar System Ambassador, Colorado

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