



# The Sonora Astronomical Society's SONORAN STARRY NIGHTS

## DECEMBER 2024

### December Meeting Details

**DATE:** December 7th, 2024  
**MEETING TIME:** 3:00 PM  
**PLACE:** Sahuarita Library & Zoom  
**MEETING SCHEDULE:**  
(2:45 PM ZOOM Waiting Room Available)  
3:00 Meeting Intro and Welcome  
3:10 Featured Presentation Followed  
by Club Activities/Business

### Next Member Star Parties

**DATE:** Thursday, December 19th, 2024  
**TIME:** 5:15 PM  
**PLACE:** Canoa Preserve Park

- LOOKING AHEAD -  
THE FOLLOWING STAR PARTY WILL BE:

**DATE:** Thursday, January 30th, 2024  
**TIME:** 5:45 PM  
**PLACE:** To be Announced

*NOTE: If you have a telescope that you don't know how to use, or are looking to buy a telescope and want to compare different telescopes, join us at a star party and we can give you some help.*

### UPCOMING EVENTS

#### NEXT CLUB MEETING

**DATE:** January 4th, 2024  
**LOCATION:** Sahuarita Library & Zoom  
**TIME:** 2:30 PM (in person + Zoom)  
**Speaker:** T B A  
**Subject:** T B A

### December Presentation

**Speaker:** Vanessa Gressieux

**Subject:** Reopening at Kitt Peak National Observatory: One Year In

**Abstract:** Vanessa Gressieux presents an exploration of the current public outreach offerings at Kitt Peak National Observatory. Learn about the Observatory's history, its long shut down after Covid-19 and the Kitt Peak Fire, and its new schedule of day and nighttime astronomy tours, and other events. Vanessa will touch on some of the scientific projects being conducted at Kitt Peak, which visitors can learn more about on tours to the telescopes involved. Learn why Kitt Peak is considered one of America's premier tourist attractions, as well as an important astronomical research facility.

**Biography:** Vanessa Gressieux is a University of Arizona alumni with over 12 years of astronomy outreach and education experience. She is also a proud member of the TAAA and volunteers annually at the Grand Canyon Star Party. In addition to her role as the Guide and Docent Coordinator at Kitt Peak National Observatory, she has served as Solar System Ambassador with NASA and JPL.

# SONORAN STARRY NIGHTS

## PRESIDENTS NOTES

Greetings everyone,

Our December meeting will be held on December 7<sup>th</sup> at the Sahuarita library (670 Sahuarita Rd). There is parking behind the library. The meeting room is just to the left as you enter the front door. The meeting will officially start at 3:00pm this month with ZOOM login available by 2:45pm.

We will no longer have access to Canoa Preserve Park for our club star parties after this month. There is a site on the way up to Madera Canyon which we are looking at as a possible replacement. We will have a map available next month for this location.

Stay safe,

John Dwyer  
President

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## MEMBER EQUIPMENT FOR SALE

**Have a telescope or other astronomy equipment for sale? Contact John Dwyer with your item(s) to get them listed here.**

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The SAS website has a good one-page article from Sky & Telescope that can help get you started. Copy and paste this link:

<https://sonoraastronomicalsociety.org/newsletters/>

**Basic monthly star charts are now available. Look on the website Home page yellow banner.**

**The website also has a list of suggestions of Planetarium Apps for your phone, several FREE!**

# SONORAN STARRY NIGHTS

## THE DECEMBER SKY

### SKY HIGHLIGHTS FOR DECEMBER

The evening night sky will be packed with planets again this month. **Saturn** is in the southeast evening sky at sunset and will be setting from midnight early this month to shortly after 10pm by the end of the month. **Neptune** is about 12° behind Saturn. **Venus** is still very bright in the southwestern evening sky. It will rise higher as the month goes on and by the end of the month Venus will be within 16° of Saturn. **Jupiter** will reach opposition on the 7<sup>th</sup> and will be visible all evening. **Mars** will rise before midnight as it approaches opposition in mid-January. **Uranus** reached opposition last month and will be visible most of evening. **Mercury** returns to the morning sky by mid-month and will reach greatest western elongation on the 25<sup>th</sup>.

Comet viewing will be declining now. Comet **C/2023 A3 (Tsuchinshan-ATLAS)** is still fading as it moves quickly from the Earth. It will be just under mag 10 this month. No other comets are worth viewing at this point although one is predicted to reach mag -1 next month if it does not disintegrate.

If you have any solar viewing equipment, the Sun is extremely active now as it has officially reached maximum. As it is getting a little cooler now, break out the solar equipment and take a peek.

## DECEMBER MOON/SUN TIMES

DATE	M-Rise	M-Set	M-Phase	Sun-set	Star Party
Sun 12/01	7:44	17:31		17:18	
Mon 12/02	8:43	18:24		17:18	
Tue 12/03	9:38	19:24		17:18	
Wed 12/04	10:27	20:29		17:18	
Thu 12/05	11:09	21:35		17:19	
Fri 12/06	11:46	22:42		17:19	
Sat 12/07	12:19	23:47		17:19	Meeting
Sun 12/08	12:49	-----	1st Qtr	17:19	
Mon 12/09	13:19	0:53		17:19	
Tue 12/10	13:49	1:59		17:19	
Wed 12/11	14:22	3:07		17:19	
Thu 12/12	15:00	4:18		17:20	
Fri 12/13	15:45	5:31		17:20	
Sat 12/14	16:38	6:43		17:20	
Sun 12/15	17:38	7:51	Full	17:21	
Mon 12/16	18:44	8:52		17:21	
Tue 12/17	19:51	9:42		17:21	
Wed 12/18	20:55	10:23		17:22	
Thu 12/19	21:56	10:57		17:22	S.A.S. SP
Fri 12/20	22:54	11:26		17:23	
Sat 12/21	23:50	11:52		17:23	
Sun 12/22	-----	12:17	3rd Qtr	17:24	
Mon 12/23	0:44	12:41		17:24	
Tue 12/24	1:38	13:06		17:25	
Wed 12/25	2:34	13:33		17:26	
Thu 12/26	3:31	14:04		17:26	
Fri 12/27	4:31	14:40		17:27	
Sat 12/28	5:32	15:23		17:27	
Sun 12/29	6:32	16:15		17:28	
Mon 12/30	7:30	17:14	New	17:29	
Tue 12/31	8:22	18:18		17:30	

(S)=Solar

# SONORAN STARRY NIGHTS

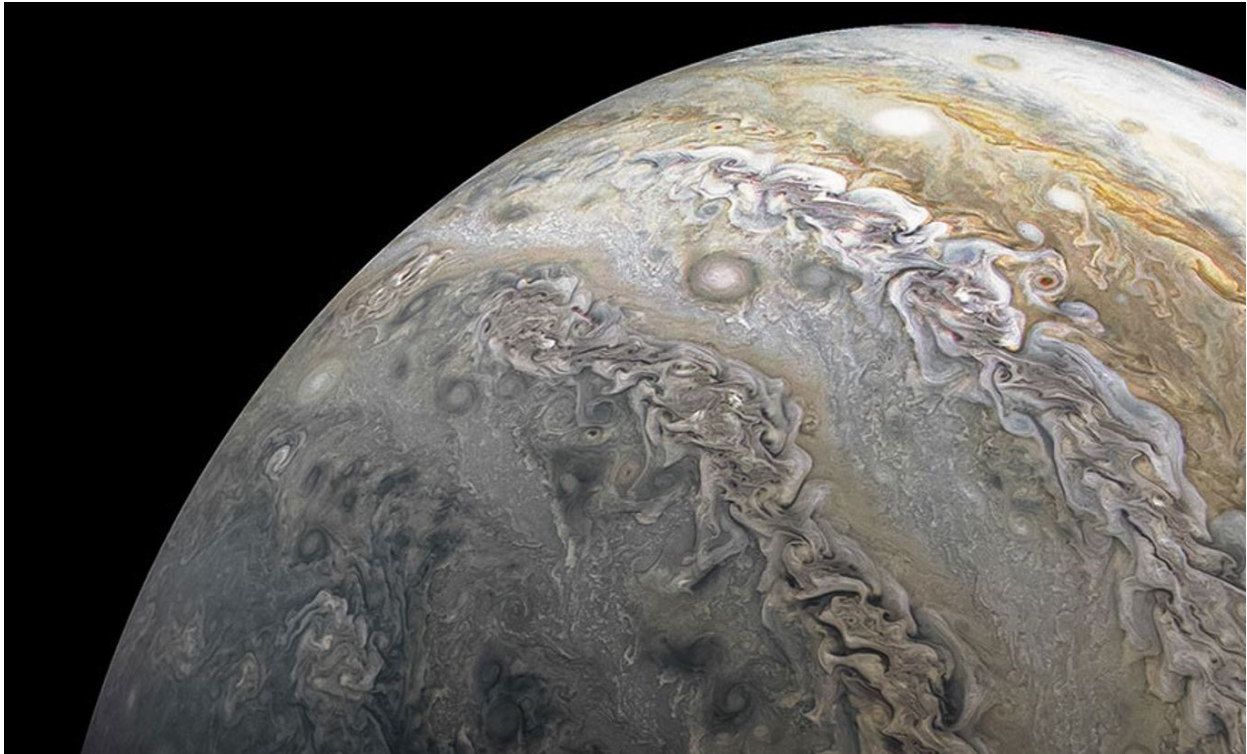
## THE STARGAZER'S CORNER:

This article is distributed by NASA's Night Sky Network (NSN).

### December's Night Sky Notes: Spot the King of Planets

By Dave Prosper, Updated by Kat Troche

Jupiter is our solar system's undisputed king of the planets! Jupiter is bright and easy to spot from our vantage point on Earth, helped by its massive size and banded, reflective cloud tops. Jupiter even possesses moons the size of planets: Ganymede, its largest, is bigger than the planet Mercury. What's more, you can easily observe Jupiter and its moons with a modest instrument, just like Galileo did over 400 years ago.



NASA's Juno mission captured this look at the southern hemisphere of Jupiter on Feb. 17, 2020, during one of the spacecraft's close approaches to the giant planet. This high-resolution view is a composite of four images captured by the JunoCam imager and assembled by citizen scientist Kevin M. Gill. Credit: NASA, JPL-Caltech, SwRI, MSSS | Image processing by Kevin M. Gill, © CC BY

Jupiter's position as our solar system's largest planet is truly earned; you could fit 11 Earths along Jupiter's diameter, and in case you were looking to fill up Jupiter with some Earth-size marbles, you would need over 1300 Earths to fill it up – and that would still not be quite enough! However, despite its formidable size, Jupiter's true rule over the outer solar system comes from its enormous mass. If you took all of the planets in our solar system and put them together, they would still only be half as massive as Jupiter all by itself. Jupiter's mighty mass has shaped the orbits of countless comets and asteroids. Its gravity can fling these tiny objects towards our inner solar system and also draw them into itself, as famously observed in 1994 when Comet Shoemaker-Levy 9, drawn towards Jupiter in previous orbits, smashed into the gas giant's atmosphere. Its multiple fragments slammed into Jupiter's cloud tops with such violence that the fireballs and dark impact spots were not only seen by NASA's orbiting Galileo probe but also by observers back on Earth!

Jupiter is easy to observe at night with our unaided eyes, as well-documented by the ancient astronomers who carefully recorded its slow movements from night to night. It can be one of the brightest objects in our nighttime skies, bested only by the Moon, Venus, and occasionally Mars, when the red planet is at opposition. That's impressive for a planet that, at its closest to Earth, is still over 365 million miles (587 million km) away.

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## THE STARGAZER'S CORNER (CONTINUED):



Look for Jupiter near the Eye of the Bull, Aldebaran, in the Taurus constellation on the evening of December 15, 2024. Binoculars may help you spot Jupiter's moons as small bright star-like objects on either side of the planet. A small telescope will show them easily, along with Jupiter's famed cloud bands. How many can you count? Credit: Stellarium Web

It's even more impressive that the giant world remains very bright to Earthbound observers at its furthest distance: 600 million miles (968 million km)! While the King of Planets has a coterie of 95 known moons, only the four large moons that Galileo originally observed in 1610 – Io, Europa, Ganymede, and Calisto – can be easily observed by Earth-based observers with very modest equipment. These are called, appropriately enough, the Galilean moons. Most telescopes will show the moons as faint star-like objects neatly lined up close to bright Jupiter. Most binoculars will show at least one or two moons orbiting the planet. Small telescopes will show all four of the Galilean moons if they are all visible, but sometimes they can pass behind or in front of Jupiter or even each other. Telescopes will also show details like Jupiter's cloud bands and, if powerful enough, large storms like its famous Great Red Spot, and the shadows of the Galilean moons passing between the Sun and Jupiter. Sketching the positions of Jupiter's moons during the course of an evening – and night to night – can be a rewarding project! You can download an activity guide from the Astronomical Society of the Pacific at [bit.ly/drawjupitermoons](https://bit.ly/drawjupitermoons)

Now in its eighth year, NASA's Juno mission is one of just nine spacecraft to have visited this impressive world. Juno entered Jupiter's orbit in 2016 to begin its initial mission to study this giant world's mysterious interior. The years have proven Juno's mission a success, with data from the probe revolutionizing our understanding of this gassy world's guts. Juno's mission has since been extended to include the study of its large moons, and since 2021 the plucky probe, increasingly battered by Jupiter's powerful radiation belts, has made close flybys of the icy moons Ganymede and Europa, along with volcanic Io. What else will we potentially learn in 2030 with the Europa Clipper mission?

Find the latest discoveries from Juno and NASA's missions to Jupiter at [science.nasa.gov/jupiter/](https://science.nasa.gov/jupiter/)

# SONORAN STARRY NIGHTS

## S.A.S. CLUB OFFICERS

OFFICE/POSITION	NAME	PHONE NO.
Chairman of the Board	Open	
President	John Dwyer	(520) 393-3680
Secretary	Michael Moraghan	(520) 399-3352
Treasurer	John McGee	(520) 207-6188
Star party Coordinator	Open	(520) 303-6920
Newsletter Editor	Joe Castor	(620) 584-4454
Webmaster	Joe Castor	(620) 584-4454
ALCOR* (Currently Inactive)	Inactive	(520) 396-3576
NSN** Representative	Open	(520) 303-6920
Past President Emeritus	Open	
*Astronomical League		
**Night Sky Network		

### WHY JOIN SAS

1. SAS Family Membership Fee is only \$25.00 per year.
2. SAS monthly newsletter "The Sonoran Starry Nights."
3. Top-quality astronomy lectures by local astronomers!
4. SAS Discount for Astronomy Magazine \$34.00 for 1yr or \$60.00 for 2 yr renewed through our treasurer.
5. SAS Discount subscription rate for Sky & Telescope Magazine — self-renewed.
6. RASC Observer's Handbook at a discount, \$30.00.
7. SAS T-Shirts for sale for \$10.00—M, L, XL.
8. Member of International Dark-sky Association (IDA).
9. SAS Discount for Astronomy 2020 Calendar \$10.00
10. SAS monthly Member Star Parties.
11. SAS Telescope and astronomy book loan programs.
12. SAS outreach to astronomy education in schools.
13. SAS fellowship with other amateur astronomers!

### CLUB DUES

Dues (family or individual) are \$25 annually, payable each year in the month you initially joined the club. You will receive a reminder in the monthly newsletter e-mail of your due date. You can either pay at the club meeting or mail it to the club's address (S.A.S., P.O. Box 1081, Green Valley, AZ, 85622).

### SAS WEBSITE

If you want to keep up-to-date with club activities, such as star parties, etc., check out our website (and Calendar) at:

**[HTTPS://sonoraastronomicalsociety.org](https://sonoraastronomicalsociety.org)**

## SAS STATISTICS & FINANCES

Lifetime Members: 1  
 Individual & Family Members: 101  
**Total Membership: 102**

Bank Balance as of Oct. 31: \$ 967.61  
 Deposits / (D/Ws): \$275.00/ ( \$.00)  
**Bank Balance as of Nov. 30: \$ 1,242.61**

# SONORAN STARRY NIGHTS

**LOCAL ASTRO-IMAGING GROUP: Sonoran Desert Astro Imagers (SDAI), Larry Phillips, Coordinator**

**Are you interested in Astrophotography or are you currently involved in imaging the skies?** If so, you are invited to join the Sonoran Desert Astro Imagers group. Our meetings focus on improving our skills, helping each other, workshops, and field trips. We meet on Thursdays at 9 AM. The meetings are on Zoom, except once-a-month we get together in-person at the Quail Creek Conference Center. Email notifications are sent to members before each meeting.

Please send your Name and E-mail address to my address below and we'll include you in the emailing notices of monthly meetings; "the when and where meeting notice." Do you have any questions? If so, call me (Larry Phillips) at (520) 777-8027 or email to [lp41astro@cox.net](mailto:lp41astro@cox.net). Clear Skies! Larry Phillips

## ABOUT THE ASTRONOMICAL LEAGUE



While SAS is no longer an active member of the Astronomical League, a SAS member may join the Astronomical League as an at-large member. What are the advantages to joining the AL?

1. You can receive various observing awards by joining an "observing club" and observing the required number of objects. There are all levels of clubs from beginner to advanced, viewing constellations to deep-sky objects and using either your naked eyes, binoculars, or a telescope. Contact our ALCOR rep Burley Packwood for details.

2. You can get a 10% discount on books purchased through the AL Book Service.

3. You will receive the AL's quarterly "Reflector" magazine which keeps you up to date on all the AL activities.

More info at [www.astroleague.org](http://www.astroleague.org)

## SAS IS A MEMBER OF IDA



SAS is proud to be a member of the International Dark-Sky Association, supporting the reduction in light pollution around the U.S. and the world.

More info at [www.darksky.org](http://www.darksky.org)

## SAS NON-PROFIT STATUS

The Sonora Astronomical Society is a 501 (c) (3) nonprofit charitable organization! SAS has a CERTIFICATE OF GOOD STANDING from the State of Arizona Corporation Commission!

## MAGAZINE SUBSCRIPTIONS

To renew your Sky and Telescope Magazine at the Club Rate, you can go directly to their website, or to order it new, or to order or renew Astronomy Magazine, contact the Club Treasurer.

## OUR SPONSORS

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