



# The Sonora Astronomical Society's SONORAN STARRY NIGHTS

## DECEMBER 2023

### December Meeting Details

**DATE:** Tuesday, December 12th, 2023  
**MEETING TIME:** 7:00 PM  
**PLACE:** La Posada Rec Center & Zoom  
**MEETING SCHEDULE:**  
(6:30 ZOOM Waiting Room Available)  
7:00 Meeting Intro and Welcome  
7:10 Featured Presentation Followed  
by Club Activities/Business

### Next Member Star Parties

**DATE:** Thursday, December 14th, 2023  
**TIME: 5:00 PM**  
**PLACE:** Canoa Preserve Park

**LOOKING AHEAD -  
THE FOLLOWING STAR PARTY WILL BE:**

**DATE:** Thursday, January 11th, 2024  
**TIME: 5:30 PM**  
**PLACE:** Canoa Preserve Park

*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 9th, 2024  
**LOCATION:** La Posada Rec. Center  
**TIME:** 7:00 P.M. (in person + Zoom)  
**Speaker:** T B A  
**Subject:** T B A

### December Presentation

**Speaker:** Bob King

**Subject:** Getting the Most Out of Solar Cycle 25

**Abstract:** An update on where we are in the current solar cycle with tips on observing and studying the sun in both white light and hydrogen alpha.

**Biography:** Bob King fell in love with the night sky and astronomy when he was a kid and loves to share his passion with people of all ages through teaching and public observing. A graduate of the University of Illinois (Champaign-Urbana), he's a long-time member of the American Association of Variable Star Observers (AAVSO), a community educator, writes the monthly Celestial Calendar for Sky & Telescope magazine as well as the Explore the Night blog for their website. Bob also pens the long-time blog called Astro Bob, which he started in 2008. He comes to us tonight via zoom from Duluth, Minnesota, on the north shore of Lake Superior.

# SONORAN STARRY NIGHTS

## PRESIDENTS NOTES

Greetings everyone,

We will continue our live/ZOOM hybrid meetings at the La Posada Rec Center.

We had a little drop in our turnout at our November club star party at Canoa Preserve Park. The skies were great. If you are a club member who needs a little help with your scope, bring it to the club star party and someone will try to assist you.

The Tucson astronomy club is picking up most of the public star parties we used to do, but they can have difficulty getting people this far south. Canoa Ranch will be holding numerous star parties. I would like to know if anyone would like to volunteer to assist TAAA. Please contact me if you think you could contribute.

Public star parties are now beginning. We had a great event last October 21<sup>st</sup> at Historic Canoa Ranch. A big crowd attended (over 50 people). The Moon was at first quarter, but it did not interfere too much with our observing. There are no public star parties currently scheduled for December.

We are still looking for someone to step into the president's position. I won't live forever. To keep this club viable, we need people to step up and help out. Otherwise, it will not last.

**Finally be sure to check out our website. Joe has done a great job to keep it relevant.**

Stay safe,

John Dwyer  
President

## MEMBER EQUIPMENT FOR SALE

### For Sale:

Meade 7" Maksutov telescope f/15 \$700 OBO  
This is an OAT with the following accessories included with the telescope:  
-- Losmandy mounting adapter  
-- Meade electronic focuser  
Pick-up in Green Valley, AZ



Contact Steve @ 520-260-1556  
Email to: stadthaus2005@gmail.com

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**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 on the website Home page yellow banner.**

# SONORAN STARRY NIGHTS

## THE DECEMBER SKY

### SKY HIGHLIGHTS FOR DECEMBER

The two big planets are highlighting the evening sky. **Saturn** is now a little west of south in the evening sky at sunset at a magnitude of about 0.9. **Jupiter** achieved opposition early last month and is well positioned for viewing. It glows brilliantly at a magnitude of just under -3. **Mars** is too close to the Sun for viewing. **Uranus**, still trailing behind Jupiter, also reached opposition last month and is also well positioned for viewing at magnitude 5.6. **Neptune** is about halfway between Jupiter and Saturn at magnitude 7.9. **Venus** will rise between 4:00 and 5:00am. Its diameter continues to shrink (under 20") and its magnitude drops slightly to -4.1 as it moves away from us while its percentage of illumination becomes about 77%. **Mercury** is back in the evening sky. Although it reaches greatest eastern elongation (21°) from the Sun early in the month, it will be fairly low in the southwest sky.

There are two comets under mag 10 now viewable. Comet **62P/Tsuchinshan 1**, now located in Leo at just under mag 10, but it could brighten slightly to about 8<sup>th</sup> magnitude as it reaches perihelion at the end of December.

**Comet C/2024 S3 (PanSTARRS )** will reach perihelion in mid-February. It is about 10<sup>th</sup> mag now and could reach 8<sup>th</sup> magnitude by then. However, it is very low in the southern sky in Centaurus.

## DECEMBER MOON/SUN TIMES

DATE	M-Rise	M-Set	M-Phase	Sun-set	Star Party
Fri 12/01	21:19	11:07		17:20	
Sat 12/02	22:17	11:44		17:20	
Sun 12/03	23:14	12:16		17:19	
Mon 12/04	-----	12:44	3rd Qtr	17:20	
Tue 12/05	0:09	13:10		17:20	
Wed 12/06	1:04	13:35		17:20	
Thu 12/07	1:58	13:59		17:20	
Fri 12/08	2:54	14:26		17:20	
Sat 12/09	3:53	14:55		17:20	
Sun 12/10	4:54	15:30		17:20	
Mon 12/11	6:00	16:11		17:20	
Tue 12/12	7:07	17:01	New	17:21	Meeting
Wed 12/13	8:13	18:01		17:21	
Thu 12/14	9:14	19:08		17:21	S.A.S. SP
Fri 12/15	10:07	20:19		17:22	
Sat 12/16	10:52	21:31		17:22	
Sun 12/17	11:31	22:40		17:22	
Mon 12/18	12:04	23:47		17:23	
Tue 12/19	12:35	-----	1st Qtr	17:23	
Wed 12/20	13:05	0:52		17:24	
Thu 12/21	13:35	1:57		17:24	
Fri 12/22	14:07	3:01		17:25	
Sat 12/23	14:43	4:07		17:25	
Sun 12/24	15:26	5:13		17:26	
Mon 12/25	16:13	6:18		17:26	
Tue 12/26	17:07	7:19	Full	17:27	
Wed 12/27	18:05	8:13		17:27	
Thu 12/28	19:06	9:01		17:28	
Fri 12/29	20:05	9:41		17:29	
Sat 12/30	21:03	10:14		17:29	
Sun 12/31	21:59	10:44		17:30	

(S)=Solar

# SONORAN STARRY NIGHTS

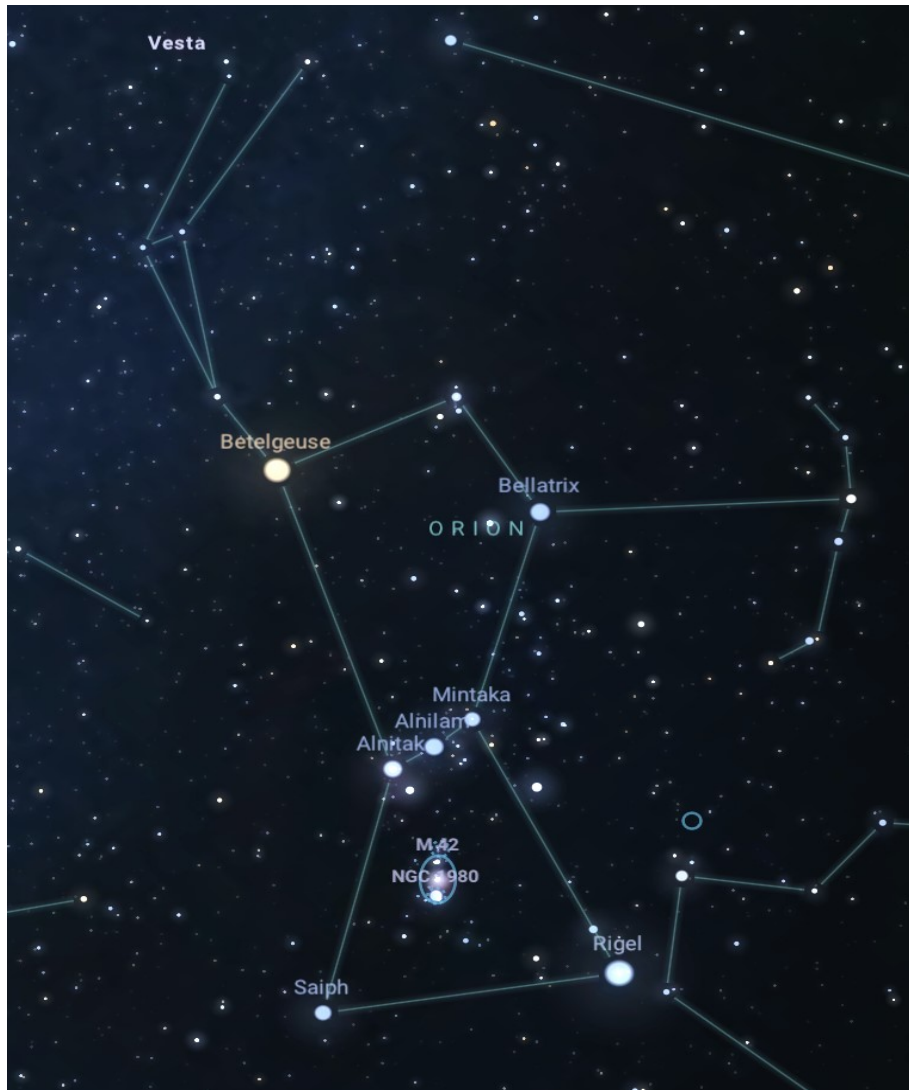
## THE STARGAZER'S CORNER:

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

### A Flame in the Sky – the Orion Nebula

By Kat Troche

It's that time of year again: winter! Here in the Northern Hemisphere, the cold, crisp sky offers spectacular views of various objects, the most famous of all being [Orion the Hunter](#).



*Credit: Stellarium Web*

As we've previously mentioned, Orion is a great way to [test your sky darkness](#). With your naked eye, you can easily spot this hourglass-shaped constellation. Known as an epic hunter in Greco-Roman, Orion and all its parts have had many names and meanings across many cultures. In Egyptian mythology, this constellation represented the god *Sah*. The Babylonians referred to it as *The Heavenly Shepard*. In most cultures, it is Orion's Belt that has many stories: [Shen](#) in Chinese folklore, or [Tayamnicankhu](#) in Lakota storytelling. But the Maya of Mesoamerica believed that part of Orion contained [The Cosmic Hearth](#) – the fire of creation.

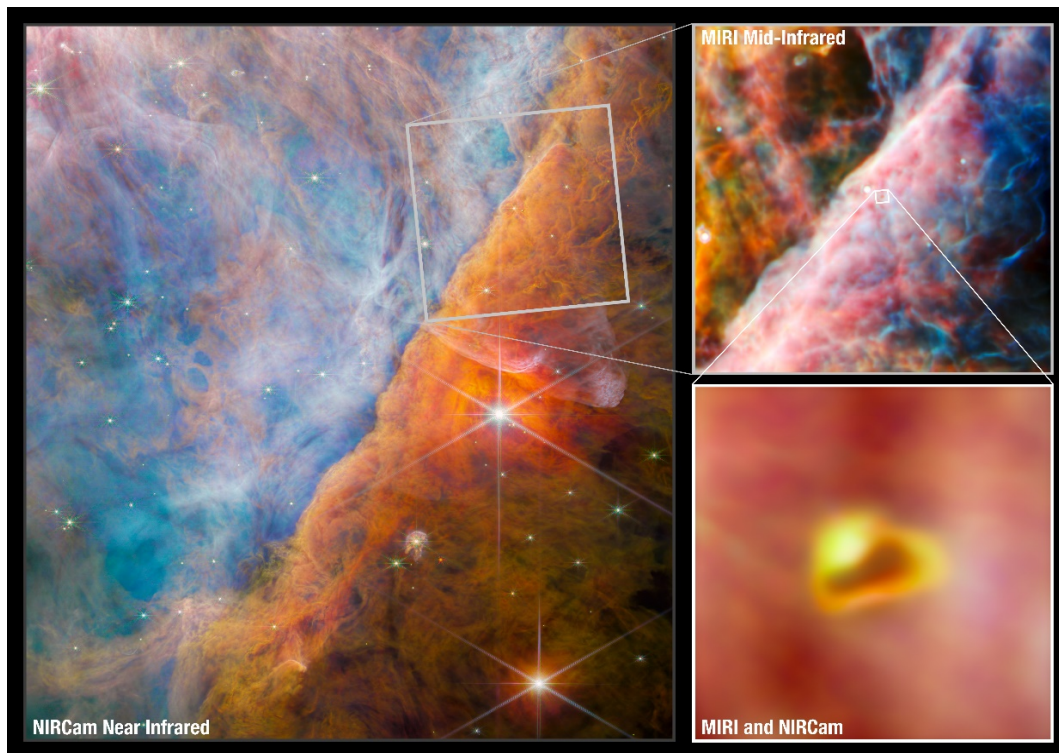
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## THE STARGAZER'S CORNER (CONTINUED):

1,500 light years away from Earth sits the star-forming region and crown jewel of Orion – Messier 42 (M42), the Orion Nebula. Part of the “sword” of Orion, this cloud of dust and gas sits below the first star in Orion’s Belt, Alnitak, and can easily be spotted with the naked eye under moderate dark skies. You may also use binoculars or a telescope to resolve even more details, like the Trapezium: four stars in the shape of a baseball diamond. These young stars make up the core of this magnificent object.

Of course, it’s not just for looking at! M42 is easily one of the most photographed nebulae around, by astrophotographers here on the ground, large ground-based observatories, and space telescopes alike. It has long been a place of interest for the Hubble, Spitzer, and Chandra X-ray Space Telescopes, with James Webb Space Telescope joining the list in February 2023. Earlier this year, NASA and the European Space Agency released [a new photo](#) of the Orion Nebula taken from JWST’s NIRCam (Near-Infrared Camera), allowing scientists to image this early star forming region in both short and long wavelengths.



*ESA/Webb, NASA, CSA, M. Zamani (ESA/Webb), PDRs4ALL ERS Team*

But stars aren’t the only items photographed here. In June 2023, JWST’s NIRCam and MIRI (mid-infrared instrument) imaged a developing star system with a planetary disk forming around it. That’s right – a solar system happening in real time – located within the edges of a section called the [Orion Bar](#). Scientists have named this planet-forming disk **d203-506**, and you can learn more about the chemistry found [here](#). By capturing these objects in multiple wavelengths of light, we now have even greater insight into what other objects may be hiding within these hazy hydrogen regions of our night sky.

In addition to our Dark Sky Wheel, a fun presentation you can share with your astronomy club would be our [Universe Discovery Guide: Orion Nebula, Nursery of Newborn Stars](#) activity. This will allow you to explain to audiences how infrared astronomy, like JWST, helps to reveal the secrets of nebulae. Or, you can use public projects like the NASA-funded [MicroObservatory](#) to capture M42 and other objects.

Learn more about what to spy in the winter sky with our upcoming mid-month article on the [Night Sky Network page](#) through NASA's website!

# 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	Duane Johnson	(520) 303-6920
Newsletter Editor	Joe Castor	(620) 584-4454
Webmaster	Joe Castor	(620) 584-4454
ALCOR* (Currently Inactive)	Burley Packwood	(520) 396-3576
NSN** Representative	Duane Johnson	(520) 303-6920
Past President Emeritus	Open	
*Astronomical League		
**Night Sky Network		

### WHY JOIN SAS

1. SAS Family Membership Fee is only \$15.00 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 \$15 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: 111  
**Total Membership: 112**

Bank Balance as of October 31: \$1,933.21  
 Deposits / (D/Ws): \$75.00 / (\$0.00)  
**Bank Balance as of November 30: \$2,008.21**

# 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?** Please plan to join our monthly meeting of the Sonoran Desert Astro Imagers group. Our meetings focus on improving our skills, helping each other, workshops, and field trips. 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 [llp41astro@cox.net](mailto:llp41astro@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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