

The 2024 Solar Eclipse Less Than a Year Away



April 8th, 2024 – Save the date. Start Preparing Now
Photo Courtesy: Astronomy Magazine

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The EAS newsletter, Observer, is published monthly. Anyone wishing to contribute articles or photos may mail them to the club's PO Box: EAS, PO Box 3474, Evansville, IN 47733, or e-mail them to the editor at:

dasiceman@yahoo.com

The **Evansville Astronomical Society (EAS)** is a non-profit organization fully incorporated in the state of Indiana. It has, as its primary goal, the advancement of amateur astronomy. Founded in 1952, the society seeks to:

- 1... maintain adequate facilities for its members and the public in order to extensively study the skies and
- 2... promote an educational program for those who wish to learn more about the science of Astronomy.

Meetings are held the third Friday of each month, except June, when the annual EAS picnic is held. The society also sponsors monthly Open House events during the warmer seasons that afford the public an opportunity to tour the observatory.

EAS 2023 Officers and Contacts

President – Tony Bryan
812.827.3234

evansvilleastro@gmail.com

Vice President – Scott Conner

Secretary – Dave Kube
740.223.6854

Treasurer – Mitch Luman

Counselors
Michael Borman (2021)
Ken Harris (2022)
Kent Bretton (2023)

Webmaster – Michael Borman

Program Director
Chuck Allen

Newsletter editor – Dave Kube
dasiceman@yahoo.com

For more information about the EAS or directions to the Observatory, please visit the club's web page:

www.evansvilleastro.org



Local Events and Information

EAS Update

Please Note: We have a Regular Meeting scheduled for 7:30pm on Friday, April 21st, 2023. This meeting is scheduled to be at the Observatory. Please see our Facebook Group and Webpages for Updates.

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EAS Update

Please Note: We have our Astronomy Day Event scheduled for 12-4pm and 7:30-9:00pm on Saturday, April 29th, 2023. This event is scheduled to be at the Museum. Please see our Facebook Group and Webpages for Updates.

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EAS Update:

Please visit our website <http://www.evansvilleastro.org> and our Facebook Group page to keep yourself up to date for any changes.

Telescopes and accessories for sale...

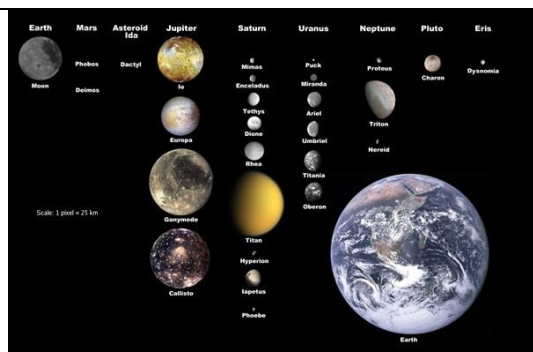
Orion AstroView120ST, Equatorial Refracting Telescope and accessories. 120mm (4.7") aperture and 600mm focal length, includes sturdy adjustable-height tripod, equatorial mount, finder scope and an internal polar alignment scope. Includes two Plossl 1.25" eyepieces (25mm and 10mm), 6x30 finder scope, star diagonal. \$600.

Contact: Karen Caruso 812-629-8089 (cell)

Telescopes and accessories for sale...

As mentioned in last month's issue, Mike Borman still has some excellent telescope equipment and imaging accessories for sale. Some of the gear has already been sold. If interested, go to Mike's web page. Here is the link: <http://www.mborman.org/forsale.htm>

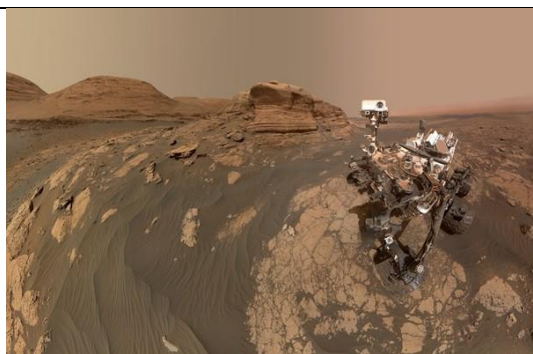
Why do the outer planets have more moons than the inner planets?



The number of moons a planet has depends mostly on where in the solar system the planet formed. While the terrestrial worlds (Mercury, Venus, Earth, and Mars) have a total of three moons, the giant planets (Jupiter, Saturn, Uranus, and Neptune) combined possess more than 200. This graphic shows only a select sampling of some of the solar system's most well-known moons..

Photo Courtesy: NASA

Scanning Mars for microhabitats that could host microbial life.



NASA's Curiosity rover captured this selfie in front of a rock outcropping known as Mont Mercou on March 16, 2021.

Photo Courtesy: NASA/JPL-Caltech/MSSS

The giant planets formed in a drastically different environment from the terrestrial planets. It was much colder in the outer solar system, so water was ice, but in the region near where Earth formed, water turned to steam. Water is one of the most common chemical compounds, and its ice form accretes much more easily. This encouraged the outer planets to grow massive.

Because the giant planets gravitationally dominate a very large area, they also can efficiently capture passing objects as moons, which we call irregular satellites. These irregular moons are relatively small and have orbits with large inclinations, eccentricities, and semimajor axes.

In contrast, the terrestrial planets formed much closer to the Sun with much less material around them. They grew slowly by accreting many small rocky planetesimals and never grew massive enough to capture a disk of gas and dust. Earth's Moon probably formed through a direct collision. Any large object striking a planet would have thrown material off the world into orbit, allowing it to coalesce into a moon.

It may seem counterintuitive, but new research shows that observations taken from a great distance, even from orbit, may allow researchers to zoom in on martian microhabitats for the tiniest forms of life: microbes too small to see with the naked eye.

The new study, published March 6 in *Nature Astronomy*, shows that imagery from a spacecraft orbiting Mars, possibly supplemented by aircraft data, could help scientists pinpoint the best places to search for microorganisms that might be present on the Red Planet today.

A team of scientists from NASA Ames Research Center, the SETI Institute, and other institutions carried out the detailed, years-long study in Chile's Atacama Desert, which is considered to be one of the most Mars-like Scanning Mars for microhabitats that could host microbial life environments on Earth. The team found that a careful analysis of imagery obtained from Earth-orbiting satellites and drone aircraft could narrow down the viable search area by as much as 97 percent, which could help minimize the time astronauts or rovers on Mars spend searching unpromising locations.

This kind of targeted approach, the researchers say, could greatly improve the odds of finding biosignatures — evidence of past or present life — in future explorations of Mars or other terrestrial planets.

May 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19 Reg.Mtg 7:30pm	20 PSW 7:30pm
21	22	23	24	25	26	27
28	29	30	31			

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Up and Coming Events 2023

Please Note we have a Reg. Mtg. scheduled for 7:30pm on Friday April 21st, 2023 @ Observatory.

Please Note we have a PSW scheduled for 7:30pm on Saturday April 22nd, 2023 @ Observatory.

We have our Astronomy Day Event at the Museum scheduled for 12-4pm on Saturday April 29th.

Please Note we have a Reg. Mtg. scheduled for 7:30pm on Friday May 19th, 2023 @ Observatory.

Please Note we have a PSW scheduled for 7:30pm on Saturday May 20th, 2023 @ Observatory.

Please visit our Web Page <http://www.evansvilleastro.org> or our Facebook Group Page for updates
Events may be cancelled due to Covid at time of event

Moon Phases

New Moon	First Quarter	Full Moon	Third Quarter
May 30 th , 2023	May 8 th , 2023	May 16 th , 2023	May 22 nd , 2023
Moon Phases courtesy of Time and Date.com			

News Release - The Newburgh Chandler Public Library Receives a Horkheimer Library Telescope

The Evansville Astronomical Society (EAS) presented a Horkheimer Library Telescope to the Newburgh Chandler Public Library on March 6, 2023. The library is located at 4111 Lakeshore Drive in Newburgh, IN. It is just 26 miles from the EAS's Wahnsiedler Observatory, which is located in Lynnville Park, in Lynnville, IN.

The Library Telescope was made possible by the Horkheimer Charitable Fund through the Astronomical League (www.astroleague.org). The telescope is an Orion Starblast 4.5" reflector on a Dobsonian style tabletop mount. The telescope has been modified to make it slightly more rugged, and it is fitted with a high quality Celestron 8mm - 24mm zoom eyepiece and deluxe red dot LED finder.

With this telescope, library patrons can easily obtain their first views of the moon and its craters, Jupiter and its Galilean satellites, and Saturn and its rings. The brighter deep sky objects can be seen, as well. full zoom (60x) splits the Trapezium stars in the Orion Nebula, while the lowest power (20x) and widest field capture the entire nebula.

The telescope is being added to the library's "Library of Things." Library patrons will simultaneously check the telescope, its associated user manual, simple star charts, and a laminated copy of *Turn Left at Orion: Hundreds of Night Sky Objects to See in a Home Telescope – and How to Find Them* by Guy Consolmagno and Dan M. Davis.

The EAS and Newburgh Chandler Public Library are excited about getting a good quality telescope into the hands of novice astronomers whom otherwise would not have this opportunity.



Presentation of the Horkheimer Library Telescope – Left to right are Daniel Smith (Reference Librarian), Tony Bryan (Evansville Astronomical Society President), and Linda Spillman Bruns (Children's Librarian).

EAS Meeting for March – 2023

Our March meeting at the Observatory was officially called to order @ 7:30pm by president Tony Bryan. Officers in attendance were Tony Bryan, Dave Kube and Scott Conner. There were 15 members present. We had 2 visitors for a total of 17 present.

Reading of minutes from our February meeting was motioned by Bob Flater and Seconded by Donna Bryan to be accepted as printed in the March 2023 EAS Observer Newsletter. Motion was carried by all members present.

We all took a short recess @ 7:35pm for a visual of an ISS fly over.

UPCOMING EAS EVENTS

Scott Conner announced our upcoming events.

Regular Meeting	Friday, Apr 21	7:30 PM @ Observatory
Public Star Watch	Saturday, Apr 22	7:30 PM @ Observatory
Astronomy Day & Moon Watch	Saturday, Apr 29	12:00-4:00 & 7:30-9:00 @ Museum
Regular Meeting	Friday, May 19	7:30 PM @ Observatory
Public Star Watch	Saturday, May 20	7:30 PM @ Observatory

TREASURER'S REPORT

Scott Conner read our financials from a Memo received from Mitch Luman. All is good.

OLD BUSINESS

Special Projects Status – Tony reports that the men's bathroom is now operational, New Carpet has been laid on the front platform and New Vinyl has been laid on the repaired library room floor. Scott reports that the new telescope mounting for the 8" RC and the 7" refractor have been drawn up at about 50% complete.

Library Telescope Status – The library scope was presented to the Chandler Library on March 6th. Library staff was delighted with the instrument and anxious to add it to their new "library of things" which opens in the next couple of weeks.

Lynnville Park Meeting – Mitch & Tony attended the February 21st Lynnville Park meeting. Tony spoke about the history of the EAS and discussed upcoming events at the observatory. Mitch gave a short presentation about preserving the night sky. We invited the Park Board members to visit the observatory on a date TBD, likely in May.

NEW BUSINESS

Girl Scout Overnight – Amanda Scurry requested overnight use of the observatory for a group of girl scouts. This will be a later date with Scott

Office Floor Damage – During tear out of the old vinyl flooring in the office, decayed plywood subfloor was discovered. Removal of a portion of the subfloor revealed extensive rotting of floor joists and a large section of subfloor. The board approved funding to make the repairs. It was estimated that materials would cost approximately \$67.00. Damage was more significant than first believed. Actual materials cost was TDB. Dave Kube assisted with the floor repair and also hauling out of old office equipment and trash. Tony provided labor and various materials to repair the floor, scrub and sanitize everything, prep and paint everything, and lay the new vinyl.

Toyota Grant – Tony submitted a grant application to Toyota on March 9, with the project title: Multimedia Equipment for Public Outreach (Request ID: 87701569). The requested amount was \$4,790.00. If approved and funded, the monies received will be used to purchase multimedia equipment, Wi-Fi equipment, and accessories to provide the public with STEM educational programs related to astronomy. Mike Borman assisted by identifying and providing costs for the Wi-Fi equipment.

First PSW of 2023 – Our first PSW of 2023 will be on April 22. The event will be posted to our Facebook, our website, and the City of Lynnville online event calendar. We hope to have a crowd as large as the PSW's held at the end of 2022. Mitch and Tony will be out of town during the April PSW and April meeting. Request volunteers. Dave Kube said he could make to help but is working that day so need some help.

Astronomy Day & Moon Watch - National Astronomy Day will take place on Saturday April 29 from Noon to 4 PM. There will be solar observing and hands-on activities for children. There will be two showings of the giant screen movie, Big Astronomy playing in the theater. Those in attendance can expect storytelling, staff hosted planetarium show, plus, NASA Solar System Ambassador (SSA) Tony Bryan will be presenting information on NASA Programs. SSA Amanda Scurry cannot attend, but will be providing display items. Following the daytime activities, an evening star watch will take place in front of the Museum beginning at dusk. Volunteers are needed.

2024 Eclipse & LAS –Pat Peak with The Louisville Astronomical Society sent email stating the state of Indiana has contacted them to see if they can assist during the eclipse. The state of Indiana is expecting large crowds at several locations that have lodges and campgrounds but have no people with astronomy experience. They would like astronomy societies in the area around the path of totality to consider helping out. The LAS is going to help out as best it can. Pat is working with Alan Goldstein at the Falls of the Ohio State Park (812-280-9970 and email is AGoldstein@dnr.in.gov) Pat told them that he would put them in contact with the IAS and EAS to gauge interest.

Other New Business – A question was raised that we need a Spring work day. Also raised was the issue of Mitch Luman's retirement from the Treasurer Position later this year.

ANNOUNCEMENTS

Next Monthly Meeting - Our next regular meeting is scheduled for 7:30 PM on April 21st at the Observatory.

Tonight's Program – Chuck Allen will be our presenter for the program this evening.

ADJOURN MEETING

Meeting was adjourned by President Tony Bryan @7:50pm

Respectfully Submitted – Dave Kube – Secretary