

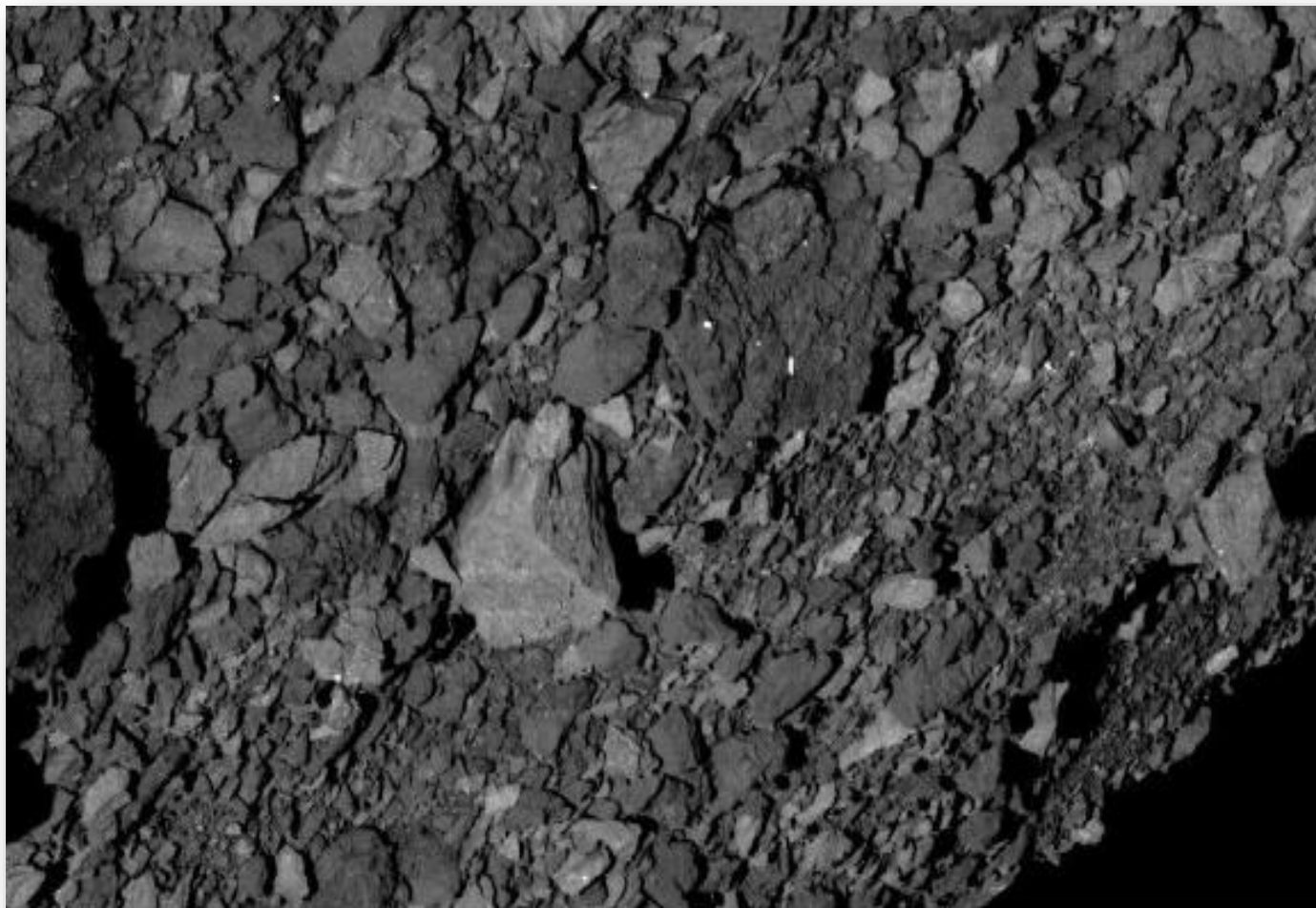
STARLIGHT JOURNAL
JANUARY 2026

SPECIAL ASTEROID
ISSUE



NASA image of Asteroid Bennu

Bennu is a relatively small asteroid (about 1,600 feet in diameter) that passes close to Earth about every six years.



Close-up image of asteroid Bennu

The large, light-colored boulder in the center of the image is about the size of a Volkswagen Beetle. Astronomers studying samples from the asteroid Bennu have found that it contains a remarkable mix of materials — some of which formed long before the sun even existed. Samples were obtained in 2023 when NASA's "**OSIRIS – Rex**" explorer program dropped a sample capsule in the Utah desert.

SAVE THESE DATES NOW!

Saturday, January 3 Next Member Meeting – at Drake Observatory

Saturday, January 31 – Membership Renewals Due

Friday, April 13, 2029 Asteriod Apophis passes between the Moon and Earth



**The Des Moines Astronomical Society
Monthly Members' Meeting
January 3rd at 6:30 P.M.
at Drake Municipal Observatory**

- Call to order – Introductions
- Secretary's Report – November Meeting Minutes (published in December Starlight Journal)
- Treasurer's Report
- Membership Renewal & Dues
- Observatory Director's Report
- Timberline Update
- Committee Reports
- Member comments
- Other Business
 - Priorities for 2026
 - Globe at Night
- Dean Regas – Zoom presentation
- Kalamazoo Astronomical Society – Introduction to Amateur Astronomy course
- NCRA 2026 Conference
- ALCON 2026 Cincinnati Conference
- Adjourn
- Next Meeting Date: February 7th at 6:30 PM at Drake Municipal Observatory
 - Located at 4898 Observatory Rd, Des Moines
 - On the Waveland Golf Course



January 2026 – President's Report

Happy New Year!!

We had a wonderful holiday party in December despite the weather. Members enjoyed door prizes, gift exchanges and an excellent video of the year in review. Many thanks to Jim VandeBerg for coordinating and making the party a success!



Tree harvesting on our Timberline property was ready to go recently but unfortunately, we encountered a delay. The owner of the adjacent property, which will be used by the harvester to access our property and trees, had a death in the family. We agreed a delay was best. Best news though – the trees have been cut!!! The harvester must wait for better conditions to haul them off the property, but progress has been made. We appreciate Norm keeping us informed of the Timberline property status.

Our next two monthly membership meetings, January and February, will be at the Drake Municipal Observatory on the Waveland Golf Course in Des Moines. We appreciate Herb Folsom for facilitating use of the observatory during these wintry months.

As outdoor hobbyists we understand we are at the mercy of Mother Nature and the weather. Last year was no exception as we endured many evenings of cloudy skies, rainy skies, mosquitoes and bugs during our public-viewing nights and scheduled private events. But we know of the old saying, wait 10-20 minutes and the weather will change and it did. There were quite a few evenings when visitors left and as we closed the observatory for the night, clear skies appeared. So, I am keeping my fingers crossed for better, consistent clear skies this year.

But last year was still very successful. We are fortunate to have members generously sharing their astronomy knowledge, whether giving presentations or just talking with visitors. Many of you attend monthly meetings when possible and input during these meetings contributes to the functioning of our society. You can be proud of our Des Moines Astronomical Society and the impact it has.

-JoAnn Cogil



Walnut trees cut at the Timberline property



Cut timber waiting to be transported

Observatory Committee Report

December, 2025, Greg Woolever, Observatory Director

Greetings stargazers. If you have been hoping to get a peek at the night sky recently, you've probably noticed that the sky has often been cloudy. That's long been my general impression of the winter months, but every now and then clear skies do appear. When they do I might be motivated to set up a telescope in my backyard, although cold temperatures can affect my enthusiasm. I have gotten out several times to test views of Saturn with some new eyepieces. Yes, pretty rewarding.

Last month my report mentioned curiosity about the unexpected changes to the tilt of Saturn's rings. We do expect the rings to gradually change their tilt over time, opening and closing as Saturn's 40 year orbit progresses. We had seen the rings close March 2025 (expected), then reopen by July 2025, (expected), then reclose again November 2025 (not expected by me). My comments wondered what was going on with the reclosing changes?

Fortunately, members Jim and Brenda McGraw sent me a link to an explanation

that appeared on Sky & Telescope website that had helpful information.

Jim noted that the article said "Saturn's orbital motion, combined with our changing view from planet Earth, which is tipped 2.5° relative to the Sun-Saturn plane, causes the rings to waver north and south for a time until they fully "commit" to opening. On July 7th, the ring plane fanned open to a maximum of 3.6° , then began slowly closing again. Minimum inclination of 0.37° (south face open) occurs on November 23rd. Thereafter, the rings steadily open until reaching a maximum inclination of 27° in 2032."

See <https://skyandtelescope.org/astronomy-news/see-saturns-rings-at-their-thinnest/> to read for yourself.

Thanks Jim!

Greg Woolever & the Observatory Committee: Dave Heck, Norm Van Klompenburg, Jim VandeBerg, Greg Woolever.



The Night Sky for January 2026

By JoAnn Cogil

"The stars are the landmarks of the universe. "

— Sir John Frederick William Herschel, English mathematician and astronomer



Mercury - is now too near the Sun to see with a superior conjunction on the 21st. But wait until February, it will be back.

Venus –is also near the Sun with a superior conjunction happening on the 6th. In February it returns as our 'Evening Star'.

Earth – it is just COLD outside with the average temperature of 18° in Iowa this month!!!

Mars – has a solar conjunction on the 9th, so it too is not visible this month

Jupiter – can be seen all night in January and will be at opposition on the 10th. This opposition makes the banded planet brighter than any other time this year, which provides good viewing and photography opportunities. Jupiter's opposition happens about every 13 months, so it did not occur in 2025 and won't be this bold again until 2027. The lovely planet rises with the Moon twice this month on the 3rd & the 30th and you will find the pair next to the bright star Pollux in Gemini the Twins constellation.

Saturn – sets in the west early evening. On the evening of the 23rd, the ringed planet will be near the Moon low in the west.



Uranus – look for the Pleiades this month and Uranus sits just south of the lovely star cluster in the constellation Taurus the Bull.

(Image: 01-12-2026 at 11:00 PM, Stellarium)

Neptune – stays near Saturn again this month

Moon

3 – **FULL** moon at 4:03 AM CST and is a **Supermoon** (the 1st of 3 supermoons in 2026)

10 – third/last quarter

18 – **NEW** moon at 2:53 PM CST

25 – first quarter

Full moon this month is known as the “Wolf Moon” as hungry wolves are howling outside. Also known as the “Old Moon” and the “Moon after Yule”.

Fun fact: Scientists report the moon is moving away from our Earth. Each year, the moon steals some of the Earth’s rotational energy and propels itself about 1.5 inches higher in its orbit. This action is actually slowing Earth’s rotation, making days longer by about 1.78 milliseconds per century.



Meteor Showers

Quadrantids – this is an above average meteor shower with rates up to 40 meteors per hour. The shower runs from January 1-5 and peaks on the night of the 3rd. The Quadrantids meteor shower results from dust grains from an extinct comet known as Comet 2003 EH1 which was discovered in 2003. This year the full moon will impact our viewing for these meteors.

Comets

24P / Schaumasse – is a Jupiter-family periodic comet which is a type of periodic comet with a short orbit, usually less than 20 years, and whose path has been significantly influenced and shaped by Jupiter’s intense gravity which can often lead to smaller orbit periods and/or altered trajectories. This comet’s orbit has an orbital period of about 8.25 years, and its



path is influenced by Jupiter's gravity. Comet 24P is expected to reach perihelion in January and may brighten to magnitude of 9 or 10. It is forecasted to reach the brightest point on the 7th and become visible in the morning eastern sky about 1:30 AM CST and reach its highest point about 6:20 AM. Use a telescope and look after midnight towards the sky around Leo and Boötes and you may get to see its tail as it is on its way out of our solar system.

3I/ATLAS – is still visible in January 2026 until about the 27th but you will need to use a telescope, and it probably won't be very spectacular. This comet gets its name because it is the 3rd interstellar object passing through our solar system and was discovered by the ATLAS survey telescope. Observations of its high velocity and its trajectory provided evidence in determining if it was an interstellar object or not. Check out the night sky around the constellations Leo and Virgo. Point your

telescope towards the east morning sky before dawn for a chance to see this rare interstellar traveler.

C/2024 E1 (Wierzchos) – is a hyperbolic comet which means it comes from the Oort cloud and should be at perihelion on January 20th and reach peak brightness on the 26th. But it is not favorable for Northern Hemisphere observers as it will barely be above the horizon, which will provide good viewing for those in the Southern Hemisphere. It is expected to have its closest approach to Earth in February 2026. Because it is a hyperbolic Oort cloud comet, it is on a trajectory that may eject it from our solar system after it passes the Sun.

Want to know even more about Small Objects in the Solar System ?!

Dean Regas is an astronomer, public speaker, author, and podcaster who brings the complicated universe down to Earth for audiences of all ages.

Dean is an honorary member of the Des Moines Astronomical Society.

Watch this program on Asteroids, Trojans, Centaurs, Plutoids, Sedna. It is available for you at:
<https://drive.google.com/file/d/1RLZCznaSvRLdWWo79fpkOKOwm8P5hewl/view>



Visit Dean at his astronomy website: <https://astrodean.com/>



Astronomical League

Explore these Rewarding and Educational Observing Programs

The **Astronomical League** is an umbrella organization of amateur astronomy societies. Currently their membership consists of over 330 organizations across the United States, including the **Des Moines Astronomical Society**.



Congratulations to our DMAS 2025 Member of the Year Bruce Mumm

In recognition for his exceptional service and leadership beyond the call of duty in the Des Moines Astronomical Society, giving time, energy and dedication to the promotion of astronomy to club membership and to the community.

Bruce is a valued member of the Board of Directors and has been Treasurer for the past 9 years. This year he created streaming programs that play in the classroom and lobby during public viewing nights, which include night sky viewing opportunities & Ashton Observatory information. He also created an introductory program that is shared prior to classroom programs. He has assisted with public and private viewing events, sharing his astronomy knowledge and expertise about the night sky and astronomy equipment with club members and visitors. He has regularly contributed astronomy information for submission in the Starlight Journal newsletter.



**Bruce Mumm – Treasurer
and 2025 Member of
the Year!**

DES MOINES ASTRONOMICAL SOCIETY 2025 NEW MEMBERS!

January – Chris Conmy
 January – John Moreland
 February – Cindy Cunningham
 February – Peter Steier
 February – Teddy Collis (Associate)
 April – Doug Duval
 May – Kyle Wright
 June – David Olsgaard
 June – Katie Price
 July – Chris Bailey
 July – John Hawkinson
 August - William Kullander
 August – Stephanie Reynolds
 September – Stephanie Phippen

This Month in DMAS History

From the StarLight Journal 25 Years Ago, January 2001

There are no StarLight Journals in the online archives for January through June of 2001.

From the StarLight Journal 10 Years Ago, January 2016

Observatory Director Greg Woolever spoke briefly about the success of the observatory programs for the year and concluded his presentation with two videos. One was the “Iowa Outdoors” clip that had featured Ashton Observatory in a September broadcast, and the other was the lunar eclipse video made by Vice President Douglas Rudd of the first of the four lunar eclipses that were observable in Central Iowa during 2014 – 2015.

President Jan Winter then summed up the club’s activities and achievements for the year. Several of the accomplishments highlighted were the substantial increase in donations via the “donation jar,” the progress made in work on the radio telescope, the bringing into operation in our new SkyShed of the 14” Meade Schmidt-Cassegrain optical telescope, and the addition of 30 new club members in 2015.

2025 Holiday Gathering at the Altoona Hy-Vee Club Room



The Holiday Gathering was a fun event. The food choices were great. Numerous awards were given out and the weather wasn't the best but for the few hardy souls who made it enjoyed the event (25 people attended). Hopefully, next year's event will turn out better for us weatherwise.

Photos and comments by L. Allen Beers



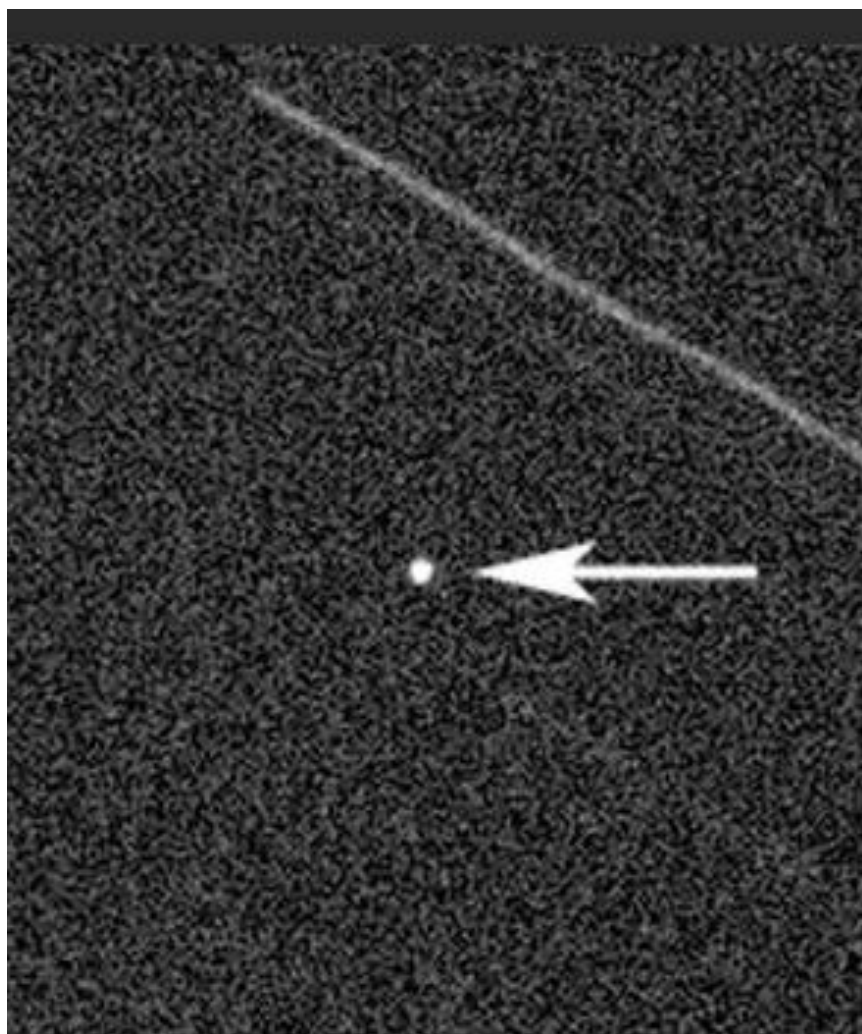
Lots of good food!



Three Dozen Door Prizes



Awards Ceremony by President JoAnn Cogil



Mark Your Calendar Now for a Once-in-a- Lifetime Event!

Friday, April 13, 2029

Asteroid 99942 **Apophis** is predicted to pass the Earth **within** the orbit of the Moon! It may even pass closer than some satellites that are in geosynchronous orbits. It was discovered in 2004.

The Asteroid is believed to be about the size of an aircraft carrier (1,200 feet across). It will pass about 20,000 miles from Earth. For reference, the distance to the Moon is about 238,000 miles.

Astronomers say there is no

chance of the asteroid colliding with the Earth, but the close approach will provide an unprecedented opportunity to study this ancient entity.

Folks in the eastern hemisphere (Europe, Africa and parts of Asia) may be able to see Apophis naked eye. In the western hemisphere binoculars and small telescopes should provide astounding views. The event will most certainly be live streamed worldwide.

This will be a great opportunity for DMAS to provide Astronomy outreach to our community. Gear up DMAS members!



Want to try “Asteroid Hunting?”

The Catalina Sky Survey (CSS) posts nightly imagery for each night's 20 most likely asteroid candidates. Anyone can review these images on the Zooniverse citizen science platform. Log into the Daily Minor Planet Project [The Daily Minor Planet | Zooniverse - People-powered research](#) to see if you can spot a new, undetected asteroid. Since October 2023, citizen scientists have found about 3,500 asteroids from the posted images!



ASTEROIDS

The Basics

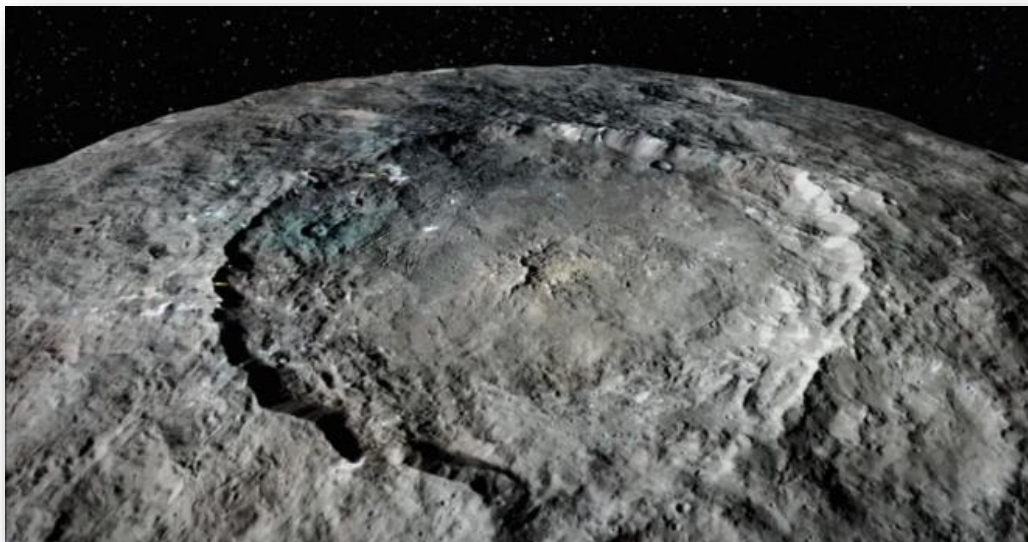
An Asteroid is a minor planet with a diameter larger than 1 meter. Asteroids orbit the inner solar system and consist of rock, ice, and/or metals. There are over a million known asteroids and most orbit the Sun between Mars and Jupiter. Often called the 'Asteroid Belt' the rocks here might have created a planet except for the gravitational disruption of Jupiter. Most asteroids have an orbital period of between 3 and six years. The orbital period of Mars is about 2 years and the orbital period of Jupiter is about 12 years.



Asteroid Belt - NASA Drawing

Most asteroids visible by telescope were found between 1801 (Ceres) and 1910 (Alauda). One of the smallest discovered by telescope, Nemesis, measures only about 100 miles in diameter and Ceres is about 580 miles wide (about the distance from Des Moines to Columbus, Ohio). After the introduction of astrophotography many more asteroids were discovered.

Most Asteroids have a visual magnitude of between 5 and 8. Apophis is projected to reach magnitude 3.1 in 2029 which is similar to Comet Atlas in 2025.



Asteroid Ceres Surface - NASA

The majority of asteroids rotate between once every 2 hours to once every 20 hours, but some rotate as slowly as once every two months. A few rotate very fast, up to once every 16 seconds.

Over 17 asteroids have been visited by spacecrafts, either landing on them or obtaining close-up photographs. Three spacecraft have returned asteroid surface samples to Earth.



Asteroid Ida and its moon Dactyl - NASA/JPL

Some asteroids are 'double' asteroids and some even have their own moons. A few are 'contact-binaries' that are loosely bound together after lightly touching each other in their dance through space.



Asteroid Donald Johnson

Sometimes asteroids get shoved out of the asteroid belt by collisions with other asteroids or the gravitational pull of nearby planets. These wayward asteroids can have new orbits that come close to the Earth.

The likelihood of an asteroid hitting Earth is assessed using the Torino Scale. Zero on the scale means no chance of hitting the Earth and 10 meaning certain collision. Apophis had a rating of 4 for a few days in 2004 until its orbit was more accurately determined. The rating now is zero.



Image of the rubble surface of Asteroid Ryugu - Japanese Space Agency

Best Asteroid to View in January 2026

If you can get out of the city lights with a 3" or larger telescope you can fairly easily find asteroid **Psyche**. It will be about 1° northeast of Aldebaran in the constellation Taurus all of January. You can find the exact location with Stellarium or other astronomy software. Just make a sketch or photo of the area of interest and come back a few days later and make a second one. The object that shifted in your drawing or photo will be the asteroid Psyche. Although it is only about 140 miles wide, it is not difficult to find in your second drawing. It is located in the main asteroid belt, closer to Jupiter than Mars.



The Des Moines Astronomical Society, Inc. Member Application/Renewal Form

PLEASE PRINT LEGIBLY

Renewal memberships are due by January 31.

Prorated dues are only eligible to new members.

Check one: ☐ New member ☐ Renewal

NAME(S): _____

STREET ADDRESS: _____

CITY, STATE, ZIP: _____

PHONE NUMBER: _____

EMAIL ADDRESS: _____

Privacy

None of your contact information is ever shared with the public. You may also restrict it from being shared with fellow members on the member roster if you wish. Check which items you want to keep private:

☐ Address ☐ Phone ☐ Email ☐ Other (explain): _____

Monthly Newsletter Delivery

There are two ways to receive the newsletter – please check one.

☐ Email – recommended (link to PDF file sent by email; copy also available on DMAS website).

☐ Postal delivery (requires printing & postage expenses, plus time by editor).

DMAS Annual Dues Rates - check one.

Type	Votes	Dues
Individual (18 & up):	1.....	\$40.00[]
Family:	2.....	\$60.00[]
Associate:	0.....	\$21.00[]
Lifetime individual	1.....	\$500.00[]
Lifetime family:	2.....	\$600.00[]

New Member Prorated Dues Amounts - check one.

Date	Individual	Family	Associate
Jan-Jun	\$40.00[]	\$60.00[]	\$21.00[]
Jul-Dec.....	\$20.00[]	\$30.00[]	\$10.00[]

My Payment This Year.

Dues: \$ _____

Optional donation: \$ _____

Total: \$ _____

Your payments to DMAS are tax deductible. Thank you!

Fill out this form and return it with your payment to start your member privileges. Make check payable to: DMAS

Mailing address:

Des Moines Astronomical Society PO Box 111

Des Moines IA, 50301

Alternate delivery of membership form:

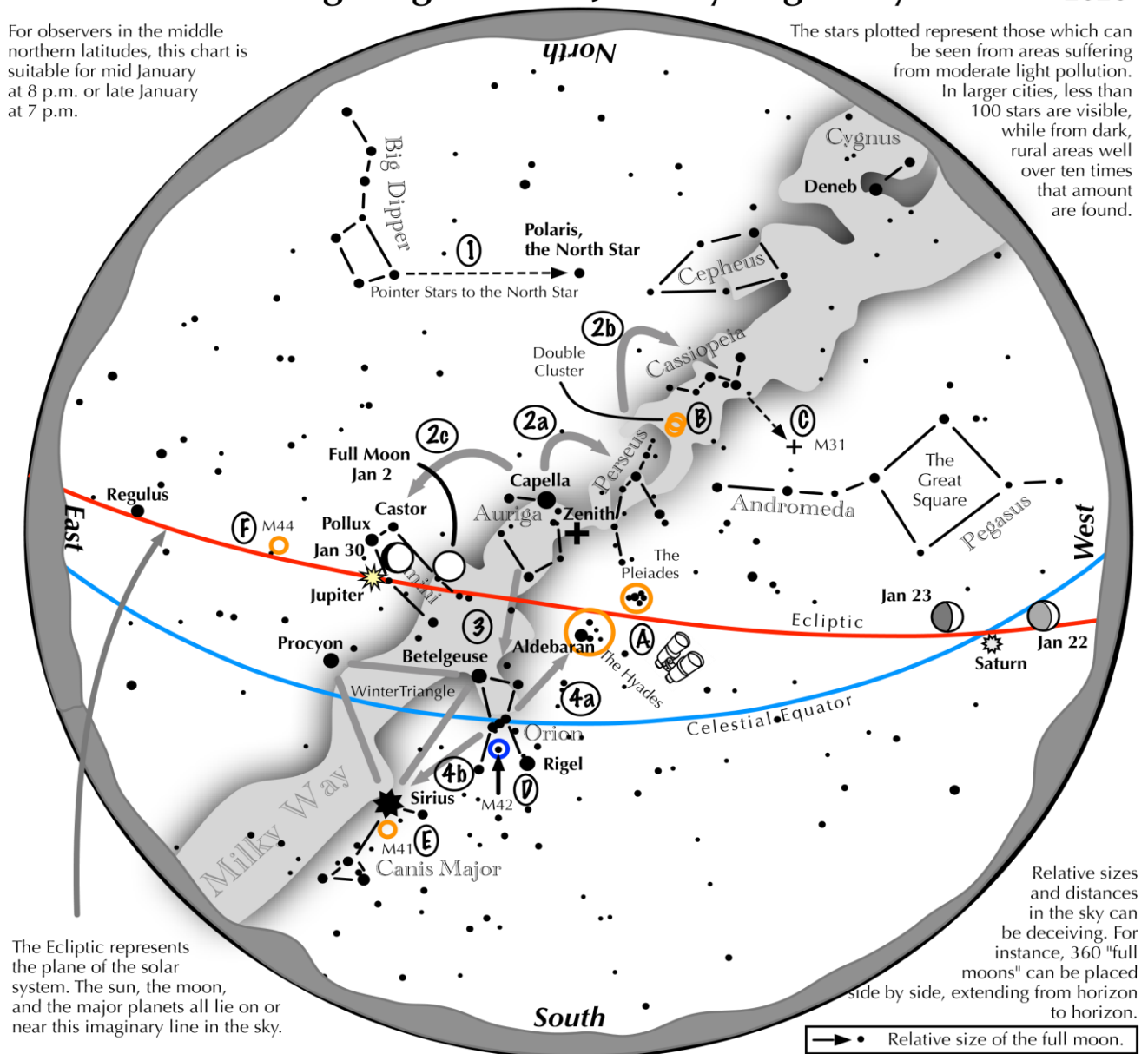
email to info@dmastronomy.com

Navigating the mid January Night Sky

2026

For observers in the middle northern latitudes, this chart is suitable for mid January at 8 p.m. or late January at 7 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Navigating the winter night sky: Simply start with what you know or with what you can easily find.

- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star.
- 2 Face south. Overhead twinkles the bright star Capella in Auriga. Jump northwestward along the Milky Way first to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars Castor and Pollux of Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt Stars, its bright red star Betelgeuse, and its bright blue-white star, Rigel.
- 4 Use Orion's three Belt stars to point to the red star Aldebaran, then to the Hyades, and the Pleiades star clusters. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius.

Binocular Highlights

A: Examine the stars of the Pleiades and Hyades, two naked eye star clusters. B: Between the "W" of Cassiopeia and Perseus lies the Double Cluster. C: The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. D: M42 in Orion is a star forming nebula. E: Look south of Sirius for the star cluster M41, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. F: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux.

Astronomical League www.astroleague.org; duplication is allowed and encouraged for all free distribution.





Our 2025 Des Moines Astronomical Society Officers, Directors & Observatory Committee

President: JoAnn Cogil

Vice-President: Pat Meade

Secretary/ALCor: Jim VandeBerg

Treasurer: Bruce Mumm

Observatory Director: Greg Woolever

At Large Director: Norm Van Klompenburg

At Large Director: Jessica Weinreich

At Large Director: Dave Bailey

Observatory Committee: Greg Woolever, Norm Van Klompenburg, Dave Heck, and Jim VandeBerg

Contact us at:
info@DMastronomy.com

The *Starlight Journal* is the monthly newsletter of the **Des Moines Astronomical Society, Inc.** P.O. Box 111, Des Moines Iowa 50301-0111. Our Observatory is located in Ashton Wildwood Park, 8755 West 122nd Street North. Founded in 1970, we are a non-profit, 501(c)(3) organization. Our website is DMastronomy.com. More information and photos can be found on our Facebook page.

Article Deadline: Before the 21st of the month, please send your articles, photos, sketches, poems, cartoons, and news to Jim VandeBerg (FinePineCabin@gmail.com) Articles may be edited to fit the allotted newsletter space. Copyrighted material must have permission from the copyright holder. Views and opinions expressed within submissions are those of the author and not necessarily those of the Des Moines Astronomical Society, Inc.

The Purpose of our Society

- Secure the pleasure and benefits of an association of persons interested in amateur astronomy
- Promote the science of astronomy
- Encourage and promote activities of an astronomical nature
- Foster observational, computational, technical, and creative skills in various fields of astronomy
- Pursue activities with other amateurs and professionals
- Educate the public

Des Moines Astronomical Society
PO BOX 111
Des Moines, Iowa 50301

