

STARLIGHT JOURNAL

MARCH 2025

M-42 (The Orion Nebula) image by DMAS member Heather Johnson

I got one of my cameras (Sony A7III) astro-modified and picked an easy target for the first image - M42. I'd say astro modification is the way to go! Shawn and I ventured out to Ashton to test it out. This image is 54 frames at 60 seconds each (processed in PixInsight & Photoshop). I sent my camera into Spencer's Camera in Alpine, Utah for modification. They had a booth at the NightScaper conference I attended last fall. After attending their presentation, I was sold on the idea! (An astro-modified camera typically has its native IR filter removed. This allows the camera's sensor to receive more of the red wavelengths of a nebula's spectrum to be captured).

SAVE THESE DATES NOW!

Saturday, March 1, Board Meeting 4:00 p.m.

Chili Dinner, 6:00 p.m.

Member Meeting 7:00 p.m.

Thursday, March 13-14 Total Eclipse of the Moon

Saturday, March 15, Observatory Cleanup Day 10:00 a.m.

Defibrillator Training 1:00 p.m. at the Observatory



**March Chili
Potluck supper
& Membership
Meeting
Mark your
calendar now!
Saturday, March 1, 2
at 6:00 P.M.
at Ashton
Observatory.
All members are
welcome and**

encouraged to attend.

Bring a pot of regular chili, non-chili soup, dessert, salad or non-alcoholic drinks. There will be plenty of food, so come and partake whether you bring food or not! Bowls, plates, cups, spoons and napkins will be provided.

March 2025 – President's Report



March is looking to be a busy month as we all look forward to and prepare for Spring!! I know I am eager for warmer evenings and I long to be outside looking at the night sky.

A major event in March is the Total Lunar Eclipse. Time to get our telescopes and cameras ready. How many of you plan to be outside and enjoy the wonders of this eclipse?



We are just one month away from the opening of our Public Viewing Season!! This means spring cleaning of the observatory is on the calendar. Many hands make quicker work, so please consider helping us on March 15th.

Jerry Ratliff, our Ashton-Wildwood Park Ranger, will be providing training on the defibrillator that is mounted on the wall in the lobby of the observatory. This is for any DMAS member who wishes to learn how to use the defibrillator. With the numbers of visitors we have to the observatory on any given night, it is best to be prepared. We may need to consider arranging for a Basic CPR class as well. I will keep you informed about this.

March 1st is our Annual Chili Supper!! I hope many of you plan to attend as everyone enjoys good food and good conversation. This gives us a chance to become better acquainted with newer members as well as

visiting with old friends. There is always a wonderful variety of chili and other goodies!! Bowls, plates, napkins, silverware, glasses and bottles of water will be provided.

Thank You!!

JoAnn



**The Des Moines Astronomical Society
Board of Directors Meeting Agenda
March 1, 2025, at 4:00 P.M.
at Ashton Observatory**

Call to order

- Secretary's Report – Minutes (see attached minutes from September 2024 meeting)
- Treasurer's Report
- Insurance policies – review
 - Need for updated inventory of DMAS equipment
- Observatory Director's Report
- Priorities for 2025
 - Ranking of topics by members
 - Photography Class
- Other Business
 - Spring Cleaning
 - Defibrillator training – scheduled for March 15th at 1 PM (after cleaning, Jerry said it takes about 20 minutes)
 - Bylaws Review

Drake Observatory's Spring Lecture Series

- Begins March 21st
- Continues for 7 weeks
- Schedule of topics to be posted closer to start date
- Lectures begin at 8:00 PM

Bruce – Lobby program for Public Viewing Nights (demonstration)

- Adjourn

**** assist with set-up for chili supper after the Board meeting ****





**The Des Moines Astronomical Society
Monthly Members' Meeting Agenda
March 1, 2025, at 7:00 P.M.
at Ashton Observatory**

- Call to order – Introductions
- Recognitions / Appreciation
- Secretary's Report – Minutes
- Treasurer's Report
- Observatory Director's Report
- Board Meeting Report / Recommendations
 - Priorities for 2025
 - Insurance update
- Other Business
 - Spring Cleaning
 - Defibrillator training – March 15th, 1:00 PM
 - Bylaws Review
 - Globe at Night for March
- Drake Observatory's Spring Lecture Series
 - Begins March 21st, lectures begin at 8:00 PM
- Bruce Mumm – demonstration of Lobby Program for Public Viewing Nights
- Adjourn
- Next Meeting Date: Saturday, April 5th at 6:00 P.M.



Observatory Committee Report March 2025

Greg Woolever, Observatory Director

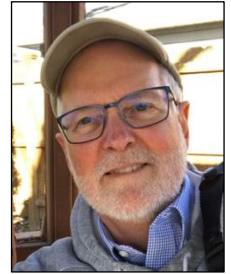
As the calendar moves forward, our hopes may rise for warmer weather. The recent cold snap was a bit of a dent on those hopes, but unless there is some cosmic event – like an asteroid impact – the process of normal seasonal change will continue, and spring will arrive.

Anticipating the start of a new season of Saturday Public Nights at Ashton, we need volunteers for our annual “spring cleaning,” Saturday, March 15, 10:00 a.m. to noon. Just show up. We’ll have cleaning supplies, but bring your own if you wish.

Also needed for the coming season are speakers for classroom programs. In past decades, DMAS members have been robust volunteers for presenting those programs. Our plans are to offer classroom programs on the 2nd and 4th Saturdays of each month.

Your topic does not have to be deeply technical. Most of our public visitors appreciate general knowledge about the night sky and astronomy.

We do have several members who have volunteered to do programs, but not all are locked into dates yet. So that means you still have a wide choice of dates for your program. ☺



Let me know as soon as possible what date and topic you would like to present (gregwoolever@yahoo.com).

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

Sunrise/Sunset with Astronomical Twilight (CST, Des Moines, IA)

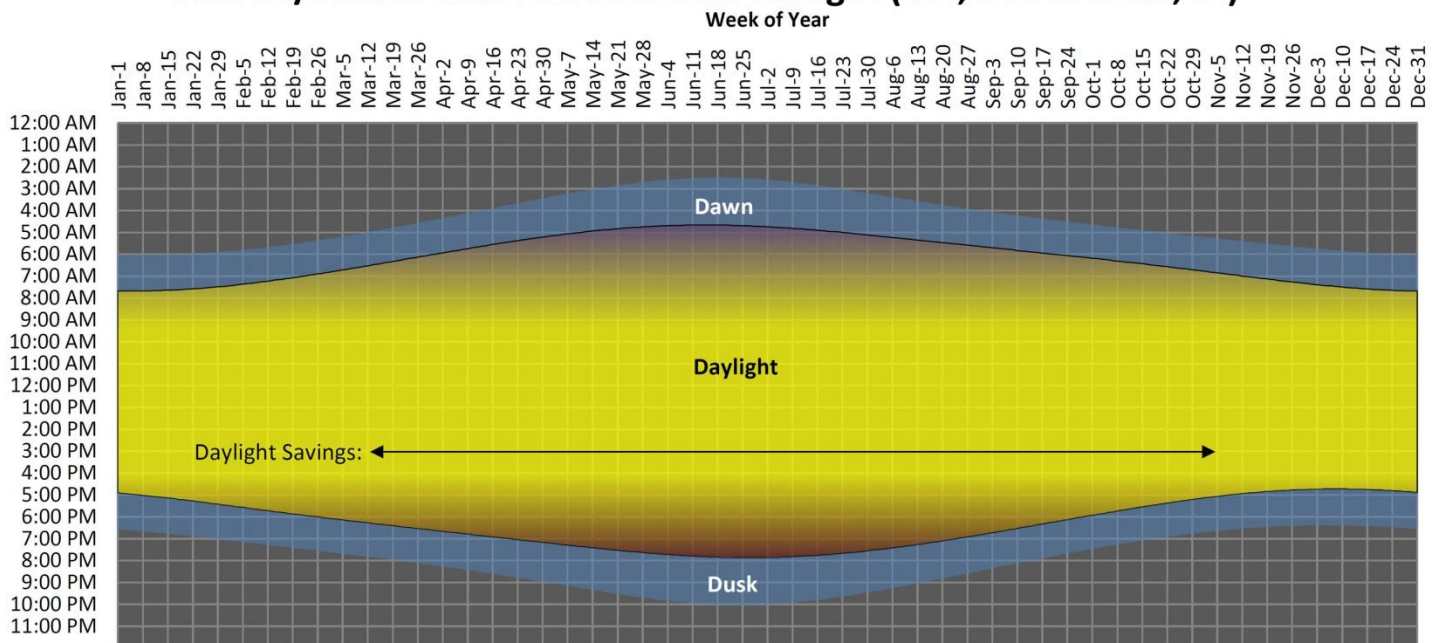


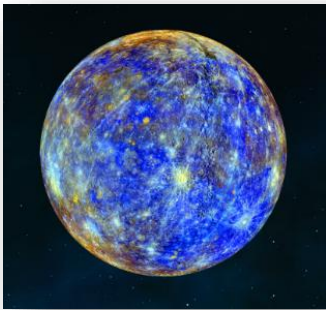
Chart by G. Woolever based on rise/set data (CST) from U.S. Naval Observatory for the Des Moines, Iowa, location.



The Night Sky for March 2025

By JoAnn Cogil

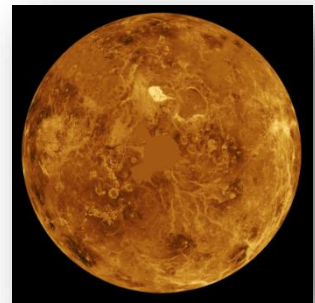
The Moon will be our favorite target this month!!! But don't expect to see the cow jumping over the Moon!! We are anxiously waiting for the total lunar eclipse!!



Mercury – the first week of this month we find the little planet in the western evening sky with the Moon & Venus. Beginning on the 9th, Mercury pairs nicely with Venus right at sunset, very low on the western horizon.

Venus – Continues to be a bright, shining gem in the sky. It has 2 pretty conjunctions this month with the Moon, one at dusk on the 1st and the 2nd one at dawn on the 27th. So, we see that Venus

starts the month in our western evening sky and moves to the eastern morning sky by the month end. On the 23rd, it has an inferior conjunction with the planet between the Sun and our Earth.





Earth – The Vernal Equinox happens on the 20th which signals Spring!! Once again, we have a couple of opportunities to see the Zodiacal Lights. The first week of the month and the last couple of weeks of March provide the best times, but you will need clear, dark horizon skies in the west away from city lights.

Mars – The red planet is visible all night in the eastern sky and look for it in the central portion of Gemini. On the 8th Mars pairs with the Moon, near Castor & Pollux.



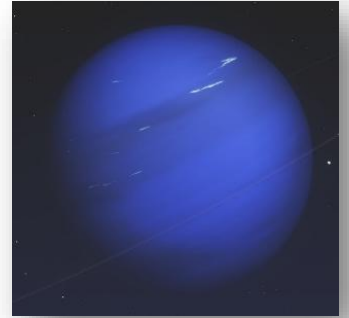
Jupiter – continues to shine brightly in the constellation Taurus the Bull. As it sets after midnight by month end, evening viewing is good so take time to look for the Great Red Spot and the equatorial belts.

Saturn - the ringed planet sets early in the evening, right after sunset and disappears quickly below the horizon. This month the rings are now full edge-on. It reaches superior conjunction on the 12th.



Uranus – this month use the Moon to help find the planet as it stays close by, with the planet resting in Taurus.

Neptune – remains in our western evening sky with Mercury nearby.



March **Moon**

6th – first quarter

14th – FULL Moon at 1:54 AM CST, the last full moon of the winter season.

22nd – third quarter

29th – NEW Moon at 5:57 AM CST

The moon this month is known as the ‘Worm Moon’ as earthworms come out as the soil begins to warm up and provide food for the birds and other animals. Native Americans knew this month to be the awakening of Nature. Other names are the ‘Crow Moon’ for the crows returning to the area and the ‘Sap & Sugar’ moon when the maple sap runs.

For the early morning riser –

Before dawn on the 22nd, enjoy the Moon sitting above the Sagittarius ‘Teapot’ in the S-SW.



(Image courtesy Stellarium)

Best of the Month –

Total Lunar Eclipse on March 13th-14th!! This is the first total lunar eclipse since 2022. This eclipse may provide a great event for Seestar users as they can let it record for a couple hours while they sit back and enjoy the eclipse from their comfy chair. All of America will be able to enjoy this eclipse. What an event!!

The timing of the eclipse for the Des Moines area is:

10:57 PM CST the 13th the eclipse begins

1:26 AM CST on the 14th the TOTAL portion begins

2:00 AM CST is **MAX TOTAL ECLIPSE** moment

2:31 AM CST the total portion ends

5:00 AM CST the eclipse is complete



(Image courtesy Stellarium, March 14 at 2:00 AM CST)

Comet

21P/Giacobini-Zinner – will reach perihelion (when it is closest to the Sun) on March 29th. Binoculars may provide the best view, but don't hold your breath for naked eye viewing. This periodic comet was first recorded in 1900 and is known as the parent body of the Draconid meteor shower which happens in October. The comet's orbit is influenced by Jupiter's gravitational effects. It orbits the Sun every 6.5 years, and the orbit is highly elliptical.

Word – A monthly article by DMAS member Bruce Mumm

Every specialty has a specific jargon to describe unique conditions in the field; Astronomy is no different. This month's word is:

Astronomical Unit (AU) – the approximate average Sun-Earth distance used for describing distances within the solar system. One AU is 93,000,000 miles or 500 light-seconds or 8 1/3 light-minutes. The average distance from the Sun to Mercury is 0.39 AU, to Venus is 0.72 AU, to Earth is 1.00 AU, to Mars is 1.52 AU, to Jupiter is 5.20 AU, to Saturn is 9.54 AU, to Uranus is 19.22 AU, and to Neptune is 30.06 AU.

TOTAL ECLIPSE OF THE MOON

MARCH 13-14, 2025

Eclipse information courtesy DMAS member Dave Lynch

In the very-very early morning hours of Friday, March 14, 2025, the shadow of Earth will completely cover the surface of the Moon resulting in a Total Lunar Eclipse. This rare event, at least for this part of the country, will be visible all across the central United States; weather permitting of course. The next time an event such as this will be visible over Iowa will be June 26, 2029.

<u>DATE</u>	<u>TIME</u>	<u>ANGLE</u>
MAR. 13 Penumbral Eclipse Begins	10:57:28 pm	36.7 Degrees
MAR. 14 Partial Eclipse Begins	12:09:46 am	47.7 Degrees
MAR. 14 Full Eclipse Begins	1:26:06 am	50.7 Degrees
MAR. 14 Maximum Eclipse	1:56:43 am	49.8 Degrees
MAR. 14 Full Eclipse Ends	2:31:28 am	47.6 Degrees
MAR. 14 Partial Eclipse Ends	3:47:02 am	38.9 Degrees
MAR. 14 Penumbral Eclipse Ends	5:00:02 am	27.6 Degrees

PHOTOGRAPHING A PARTIAL/TOTAL LUNAR ECLIPSE**NIKON RECOMMENDATIONS EXPOSURE 200 ASA**

	f/2.8	f/4	f/5.6	f/8	f/11	
Full Moon	1/1000	1/500	1/250	1/125	1/60	
30% Eclipsed	1/250	1/125	1/60	1/30	1/15	
80% Eclipsed	1/60	1/30	1/15	1/8	1/4	
90% Eclipsed	1/30	1/15	1/8	1/4	1/2	
95% Eclipsed	1/15	1/8	1/4	1/2	1 sec	
100% Eclipsed	1/4	1/2	1 sec	2 sec	4 sec	





We are set to enjoy a very, special Total Lunar Eclipse this year on March 13-14. This is the first total lunar eclipse since 2022.

A lunar eclipse occurs when the Sun, Earth, and Moon align so that the Moon passes into Earth's shadow. In a **total lunar eclipse**, the entire Moon falls within the darkest part of Earth's shadow, called the umbra. The color of the Moon we see at this point gives us the name, "Blood Moon", as it appears red-orange. A beautiful phenomenon for one to see.

(All times noted below are for the Des Moines area.)

Penumbral eclipse begins – 10:57 PM CST. The Moon enters the Earth's penumbra, the outer part of the shadow. Look for the subtle effect of the Moon beginning to dim.

Partial eclipse begins – 12:09 AM CST. We now see the Moon beginning to enter Earth's umbra, which signifies the partial eclipse beginning. We see what looks like a bite being taken out of the lunar disk at this point. Notice how dark the part of the Moon inside the umbra appears.

Totality begins – 1:26 AM CST. The entire Moon is now in the Earth's umbra - TOTALITY. The Moon is tinted a coppery red and this could be the best time to use your binoculars for an awesome view.

Totality ends – 2:31 AM CST. The Moon now begins to exit Earth's and we find the color of red fading. The bite of the Moon we saw earlier now shows on the opposite side of the lunar disk.

Partial eclipse ends – 3:47 AM CST. The whole Moon is in Earth's penumbra, but again, the dimming is subtle.

Penumbral eclipse ends – 5:00 AM CST. The eclipse is over.

So what really causes the reddish-orange color of the Moon. The process is actually what makes our sky blue and our sunsets red. Sunlight appears white, although it contains different colors of light. These different colors of light have different physical properties. Blue light scatters relatively easily as it passes through Earth's atmosphere. Reddish light, on the other hand, travels more directly through the air.

When the Sun is high on a clear day, we see blue light scattered throughout the sky overhead. At sunrise and sunset, when the Sun is near the horizon, incoming sunlight travels a longer, low-angle path through Earth's atmosphere for those of us on the ground. The bluer part of the sunlight scatters away in the distance (where it's still daytime), and only the yellow-to-red part of the spectrum reaches our eyes.

During a lunar eclipse, the Moon appears red or orange because any sunlight that's not blocked by our planet is filtered through a thick slice of Earth's atmosphere on its way to the lunar surface. I found this description so appropriate, "It's as if all the world's sunrises and sunsets are projected onto the Moon."

During the eclipse, we may also enjoy nicer views of the night sky such as constellations during this time. Grab your chairs, your telescopes, your cameras, your binoculars, some hot chocolate and enjoy!! – JoAnn Cogil

2025 Conference

**April 25th, 26th, and 27th in
Minneapolis, Minnesota**

We are excited to invite you to the annual NCRAL Convention in Minnetonka, MN! It's a fantastic opportunity to connect with like-minded enthusiasts, share knowledge, and dive into the latest in amateur and professional astronomy. The Twin Cities of Minneapolis/St.

Paul is a great place to visit: <https://www.minneapolis.org/150-things-to-do-in-minneapolis/>. We look forward to seeing you there for a weekend of great talks, camaraderie, and stargazing. Please [register for the conference](#) here.

Subscribe to the NCRAL newsletter and download archived issues at <https://ncral.wordpress.com/newsletter-archive/>

**DES MOINES ASTRONOMICAL SOCIETY
PLEASE WELCOME THESE NEW MEMBERS!**

January – Chris Conmy

February – Cindy Cunningham

February – Peter Steier

February – Teddy Collins (Associate)

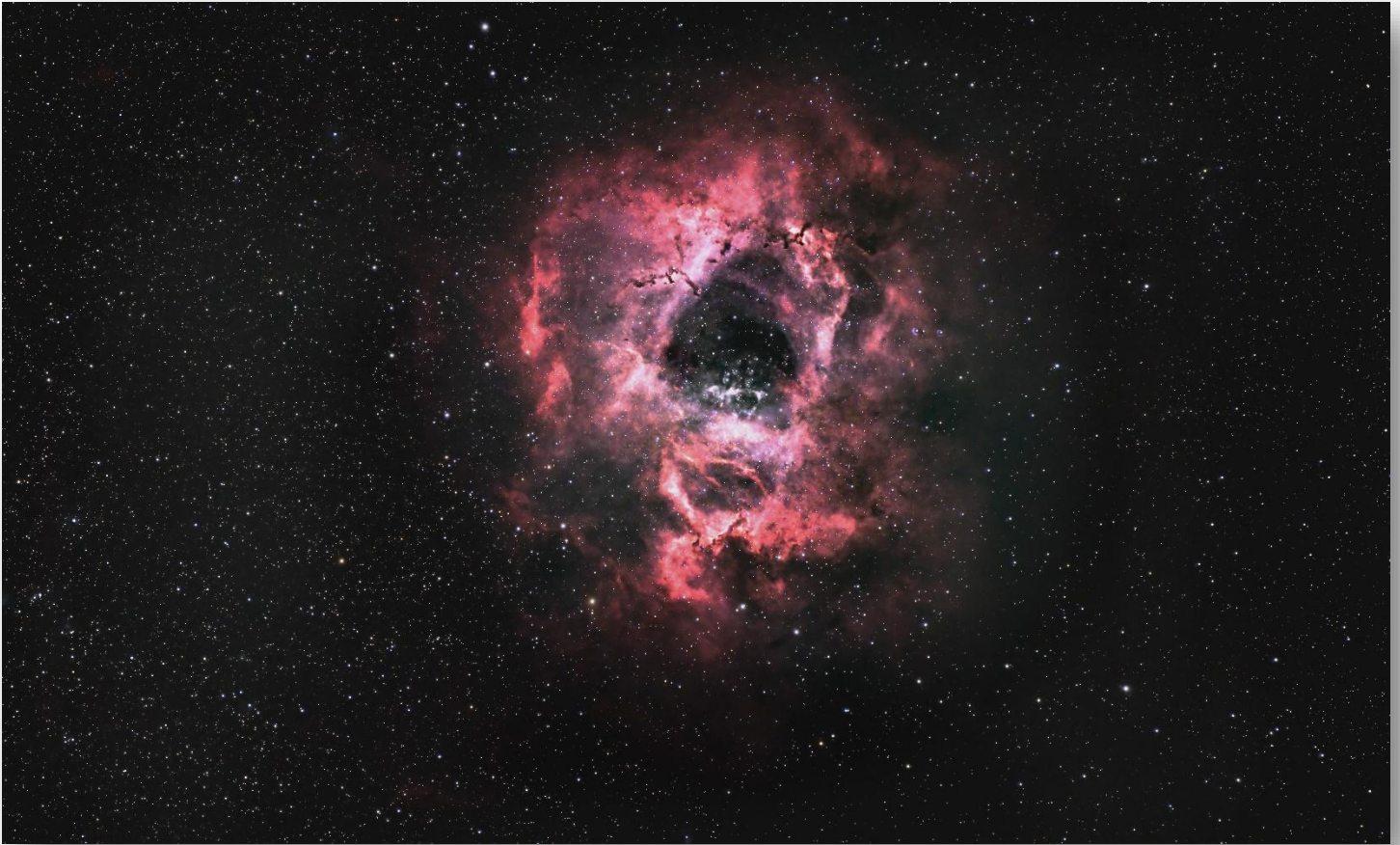


Image of the Rosette Nebula (Caldwell 49) by DMAS member Heather Johnson

Here's another image I captured this week - the Rosette Nebula. I took this with my Sony A7III (astro modified) camera with a 600 mm lens.

(If you are able to view this Nebula image and the page one image on a large screen, you will be rewarded with astonishing details. – Ed.)

Drake Observatory Spring 2025 Lecture Series Schedule

Visitors can expect an Astronomy lesson followed by stargazing with expert guidance. **Lectures begin at 8 PM**, regardless of weather. **Sky Viewing begins at dark if sky conditions are favorable**. Children 15 and younger must be accompanied by an adult. **Admission is free and open to all!**

March 21st Loose Ends and Unexploded Stars

March 28th Via Lattea: Our Island in the Universe

April 4th Are We There Yet: Measuring Distance in Space

April 11th Moons: Worlds Onto Themselves

April 18th History of Astrophotography: Recording the Universe

April 25th Annie Cannon: Harvard Calculator and Astronomer

May 2nd Everything You Always Wanted to Know About * (But Were Afraid to Ask)

May 9th Black Holes: Do They Exist?



This Month in DMAS History

From the StarLight Journal 25 Years Ago, March 2000

This evening at about 9:14, I was out in my backyard here on the eastside of Des Moines, trying to get a look at Jupiter & Saturn before the Moon got too high. As I was sighting in Saturn thru my finder scope, I saw something out of the corner of my eye. I quickly looked to the south and saw a greenish-white meteor moving SSE by Sirius breaking up into about 5 fragments. Did anyone else happen to see it? I wonder if getting the scope out tonight would be worth the effort. Boy was it! - Doug Rudd

Telescope Night January 14th was a great success! The society hosted 26 families who brought approximately 24 telescopes. 15 DMAS members attended to help out and a good time was had by all and lots of positive comments about DMAS were made by the public attending. We will plan on doing this again next year.

From the StarLight Journal 10 Years Ago, March 2015

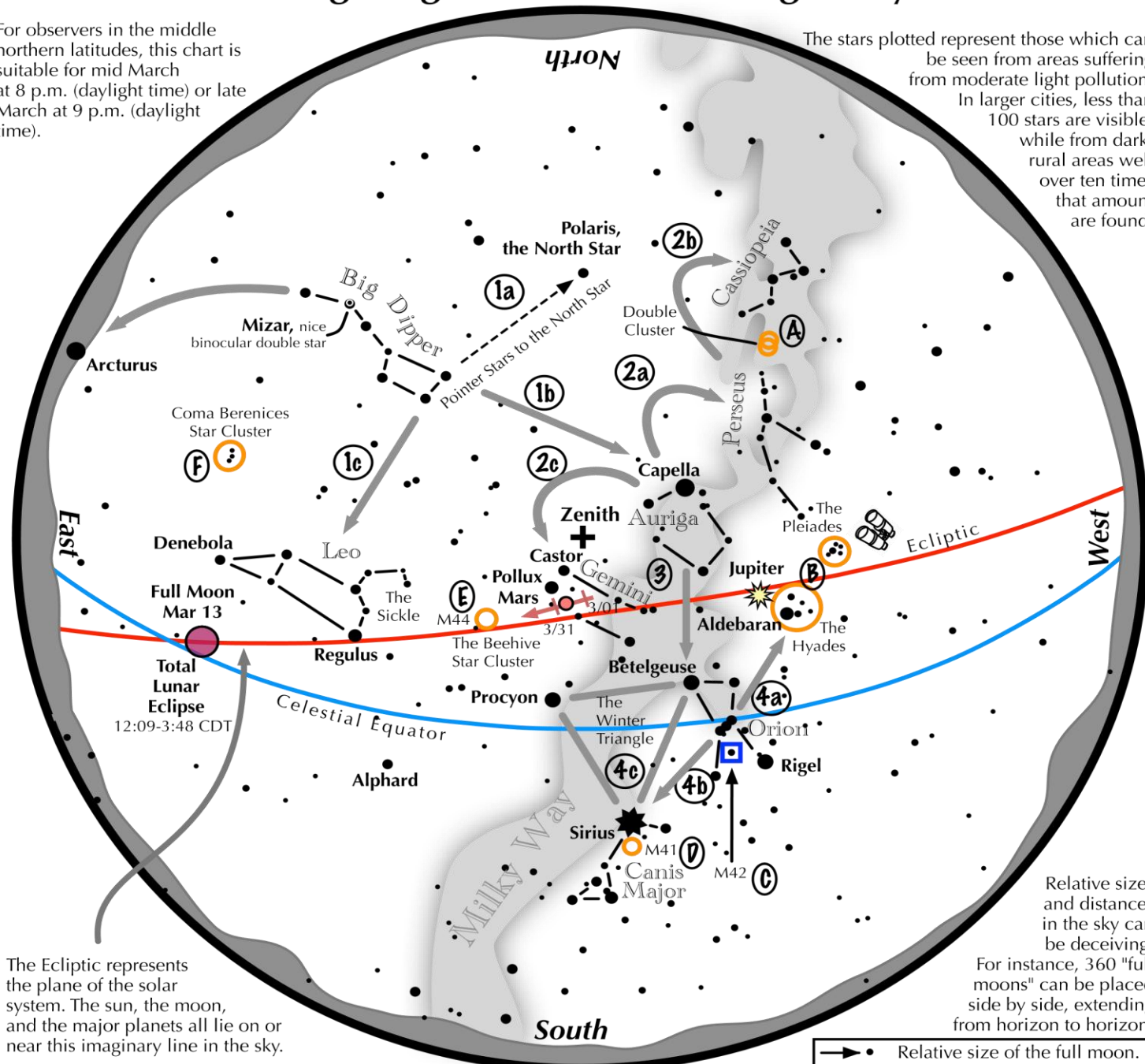
If you haven't joined the DMAS members Yahoo Group, we encourage you to do that. The group offers several benefits. One is the ability to send and receive emails to/from all fellow DMAS members at once. It's a great way to view all astrophotos and club events that members have shared. The Yahoo group is a good way to let everyone know when you plan to be out at Ashton on a non-club night doing personal projects. You may get a few other members out to make it an impromptu star party. A great way to get acquainted.

(We're exploring a replacement for the discontinued Yahoo Groups community hub. Stay tuned! – Ed.)

Navigating the mid March Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid March at 8 p.m. (daylight time) or late March at 9 p.m. (daylight time).

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.

Relative sizes and distances in the sky can be deceiving.

For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

Navigating the March 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. Its top bowl stars point west to Capella in Auriga, nearly overhead. Leo reclines below the Dipper's bowl.
- 2 From Capella jump northwestward along the Milky Way to Perseus, then to the "W" of Cassiopeia. Next jump southeastward from Capella to the twin stars of Castor and Pollux in 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 northwest to the red star Aldebaran and the Hyades star cluster, then to the Pleiades star cluster. Travel southeast from the Belt stars to the brightest star in the night sky, Sirius. It is a member of the Winter Triangle.

Binocular Highlights

A: Between the "W" of Cassiopeia and Perseus lies the Double Cluster. **B:** Examine the stars of the Pleiades and Hyades, two naked eye star clusters. **C:** M42 in Orion is a star forming nebula. **D:** Look south of Sirius for the star cluster M41. **E:** M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux. **F:** Look high in the east for the loose star cluster of Coma Berenices.



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**.

The **Astronomical League (AL)** has almost 90 Observing Programs in which any member may participate. For example, if you are interested in “Bright Nebulas” you can go to the AL website for detailed information on these objects, how to observe them and what you can do to receive an award certificate. Here is a list of almost 90 other Observing Programs. <https://www.astroleague.org/alphabeticobserving/>

Participating in one of the many Observing Programs is a great way to learn about the sky and to earn an award certificate for your efforts.





Supernova Remnant G209.8.8.2 in Orion (aka, "Atlas"). Radio emissions from this area first noted by Marcel Drechsler with this SNR first seen by Bray Falls, while inspecting a faint O-III emission in an image by himself and Curtis Morgan. The image is a 327 hour composite by Bray Falls, Marcel Drechsler, Kaeouach Aziz, Curtis Morgan and Yann Sainty. For more information go to <https://www.astrobin.com/zyam76/>. March 1, 2024. Publication in process (arxiv.org)

IN MEMORIAM

Long-time member, Pam Heinze passed away on December 29, 2024. Pam was previously an active member and spent lots of time at the observatory. She obtained a master's degree in Chemistry, was a weightlifter gold medal winner in the senior Olympics in Columbia, Missouri and raced a Ford Mustang at the Newton speedway.

DMAS founding member Steve Sherrod passed away on December 30, 2024. He was a lifelong learner with a range of hobbies that included music, photography, and astronomy. He led the design and development of the Ashton Observatory in the early 1980's. He served on the original Observatory Committee with Dave Lynch

Your 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, 8717 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 that 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

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