Image and text by DMAS member JR Paulson

NGC 6559

NGC 6559 is a star-forming region, 5,000 light-years distant, in the constellation of Sagittarius. It is very near the more famous and well-known Lagoon Nebula. It is rarely seen or imaged but has much to offer.

When stars form, pandemonium reigns. A textbook case is NGC 6559. Visible in this image are glowing emission nebulas of hydrogen, blue in this false color imaged with the Hubble narrow-band filters, although appearing red through wide-band filters. Dark snake-like absorption nebulas of dust, and the stars that formed from them are prominent throughout the image. The first massive stars that formed from the dense gas will emit energetic light and winds that erode, fragment, and sculpt their birthplace. And when some of them explode, the resulting morass can be as beautiful as it is complex. After tens of millions of years, the dust boils away, the gas gets swept away, and all that is left is a bare open cluster of stars.

SAVE THESE DATES NOW!

January 1 -5 Quadrantids Meteor Shower
Saturday, January 4, **Membership Meeting** – At the Drake Observatory 6:30 p.m.
(Including PowerPoint Review of 2024)
Saturday, February 1, **Membership Meeting** – At the Drake Observatory 6:30 p.m.

January 2025 – President's Report

A new year, a new club president, that would be me, JoAnn Cogil. Today I share a few thoughts to get us started in 2025.

Once again, our Iowa weather intervened, and we were unable to enjoy our planned Holiday Party in December. Much appreciation to the many members who worked to have everything ready for the evening, including Jim, Bruce, and Greg.

Our January and February member meetings will be held at Drake Municipal Observatory at 6:30 PM both evenings. Many thanks to Herb Folsom at Drake for making this work for our meetings.

The past year has been a busy one for DMAS, with the continued public viewing nights every Saturday evening, many private groups, excellent programming each month, contributions to our newsletter and so much more. There is always continued maintenance on equipment as well as ensuring the classroom is presentable and welcoming. It takes many volunteers and many hours to share the night sky with the public and I appreciate everyone's contributions.

The Timberline property project made great strides last year and we were able to sign a contract for the timber sale. Norm and Jim worked with the DNR and legal folks to make this happen. Now the tree harvesting can move forward.

The Globe at Night constellation for January has not been announced at this time but scheduled for January 21-30, 2025. Stay tuned and be ready to give this a try this month.

Last year members asked that a photography class be offered to DMAS members as a priority. This year we hope to have this class up and running by spring. Additional topics have been considered and we need to narrow this down to a few for this year. Then we could do classes again later in the year or the next year.

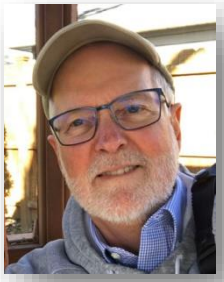
Happy New Year!!
JoAnn

The Des Moines Astronomical Society

Monthly Members' Meeting
January 4, 2025 at 6:30 P.M.
at the Drake Municipal Observatory
4898 Observatory Rd, Des Moines, IA

- Call to order – Introductions
- Secretary's Report – Minutes
- Treasurer's Report
    - Financial Report
    - Membership Renewal
- Timberline Update
- Observatory Director's Report
    - Programs at Ashton
    - Private Groups
- Equipment updates
    - South Dome
    - Electronically Assisted Astronomy
- Committee Reports
    - Member Services
        - Photography class
    - Outreach / Programs
    - Dark Skies
    - Radio Telescope
- Member comments
- Other Business
- Adjourn
- Next Meeting Date: February 1, 2025 at Drake Municipal Observatory

Observatory Committee Report
January 2025
Greg Woolever, Observatory Director



A new year begins again. It was an active year at Ashton, and I've got the numbers to show it.

Events: In 2024, we had 46 separate events hosting public visitors, comprised of 29 weekly Saturday Public Nights (one less due to April 8 solar eclipse) and 17 Private Group events. That does not include DMAS meetings or maintenance activities.

Attendance At Ashton		
Year	**2024**	**2023**
Total – all visitors	1608	1248
Private Groups - Adults	230	170
Private Groups - Children	252	157
Saturday Public Nights	1126	921

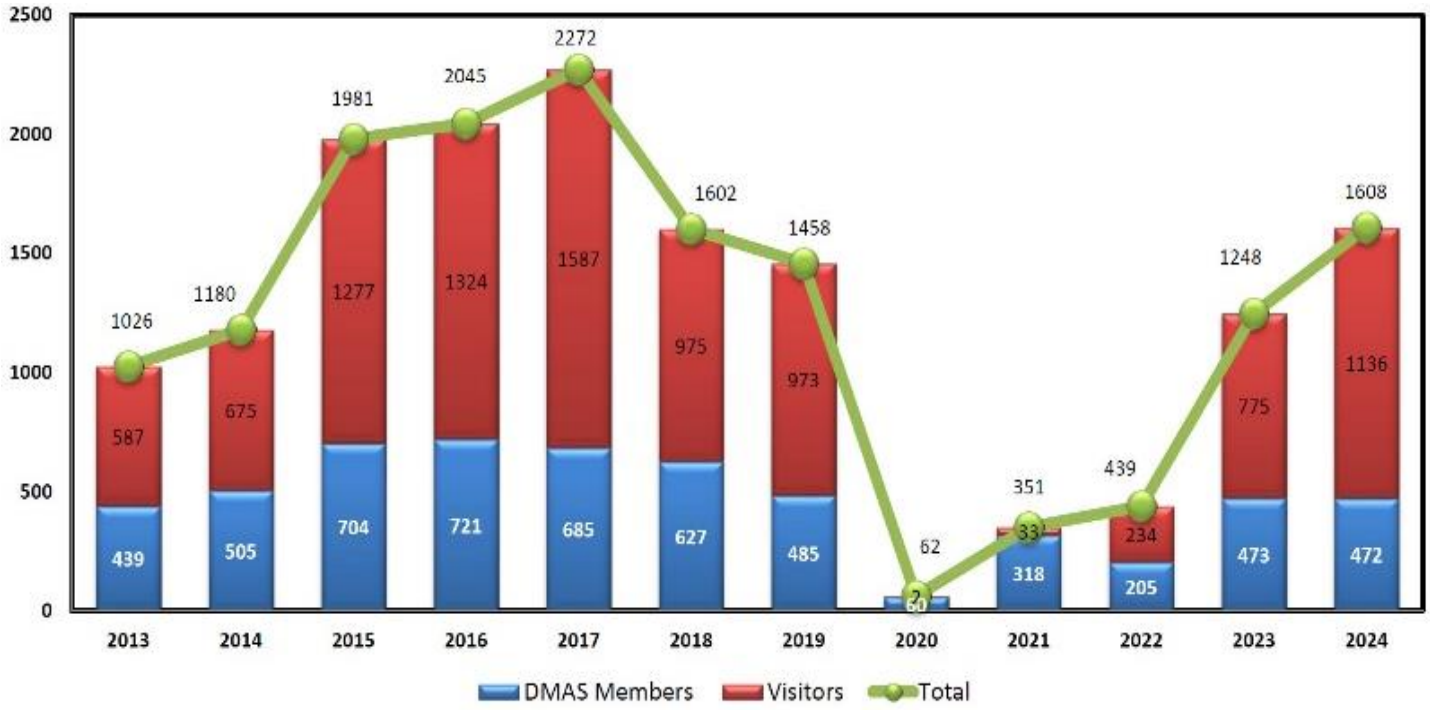
My interpretation is we are building back up after the downturn of the COVID-19 pandemic.

That does include public interest in things like solar eclipses, multiple aurora events, and comets. We also succeeded in providing classroom programs every 2nd and 4th Saturday of each month.

I also note that we have had new members joining DMAS even in November and December. That is very rare, but reflects either a general enthusiasm for astronomy, or an attraction to DMAS and our activities.

Below is a chart that shows attendance at Ashton Observatory since 2013. You can see that 2024 shows continued significant recovery from the effects of COVID-19.

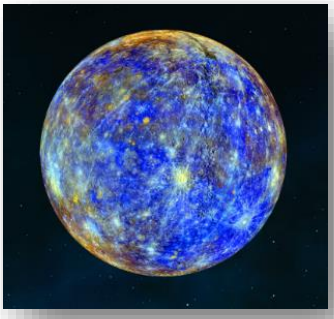
Thanks - Greg Woolever and the Observatory committee: Dave Heck, Norm Van Klompenburg, Jim VandeBerg, Greg Woolever.



The Night Sky for January 2025

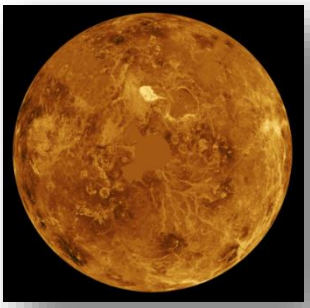
By JoAnn Cogil

Clear, cold winter skies bring out the brightest stars of any season we have. So, bundle up and head outside if you feel adventurous!!



Mercury – the viewing season for this little planet begins at the end of next month.

Venus – remains in our evening sky. On the 3rd at dusk, the moon will be upper left of the planet in the SW sky. On the night of the 9th, Venus is at its greatest eastern elongation (distance from the Sun) and will provide the best time to see the bright planet as it will be at its highest point above the horizon in the evening western sky. This month it sets up to 4 hours after sunset giving us more time to enjoy this bright gem.



Earth – on the 4th, our lovely planet passes through perihelion (closest point to the Sun) at 7:30 AM CST at a distance of 91,405,993 miles. This also creates our latest sunrise of the year.

Mars – the red planet reaches opposition (with the Earth between Mars and the Sun) mid-month and is visible all night. On the 13th, we find a fun line-up of the Moon, Castor, Pollux and Mars in the evening eastern sky. But even better this night **the Moon will eclipse Mars** beginning at 8:07 PM CST. The planet will be completely covered within 29-30 seconds and will reappear about 9:16 PM CST. And I hear the color contrast will be something to see!!

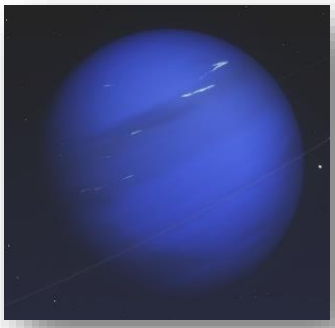
On the 15th-16th, Mars is at opposition, when it is closest to the Earth. It will be as bright as Sirius, and the brightest of any time this year. On the 23rd, Mars pairs with Pollux in the eastern sky, finding Mars to the right of Pollux.

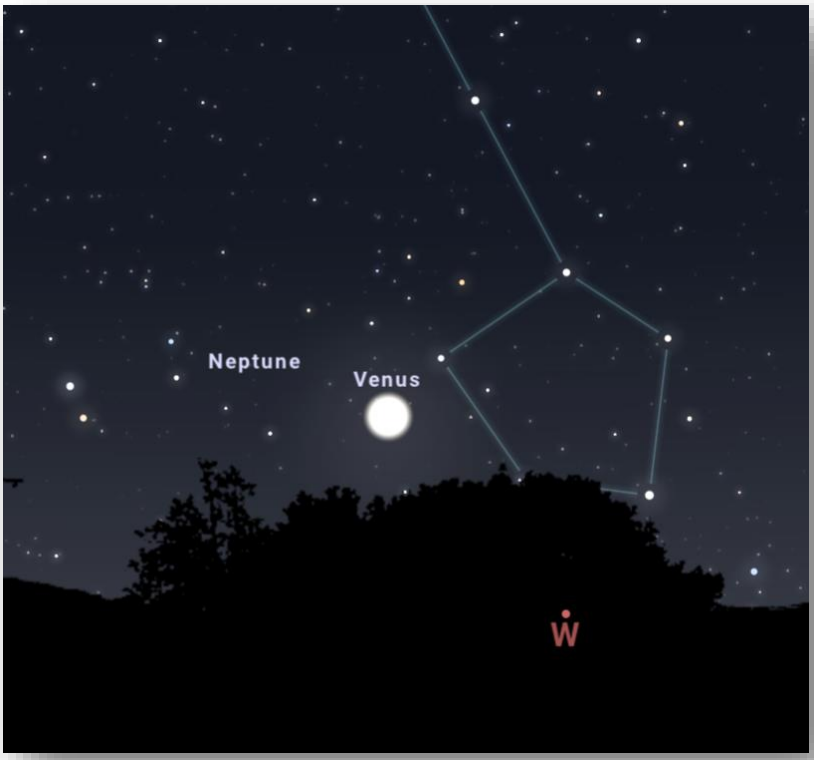
Jupiter – this month provides the best viewing of Jupiter until December 2025!! The planet will be visible all night and by mid-month, telescope viewing should nicely reveal the 2 main bands.

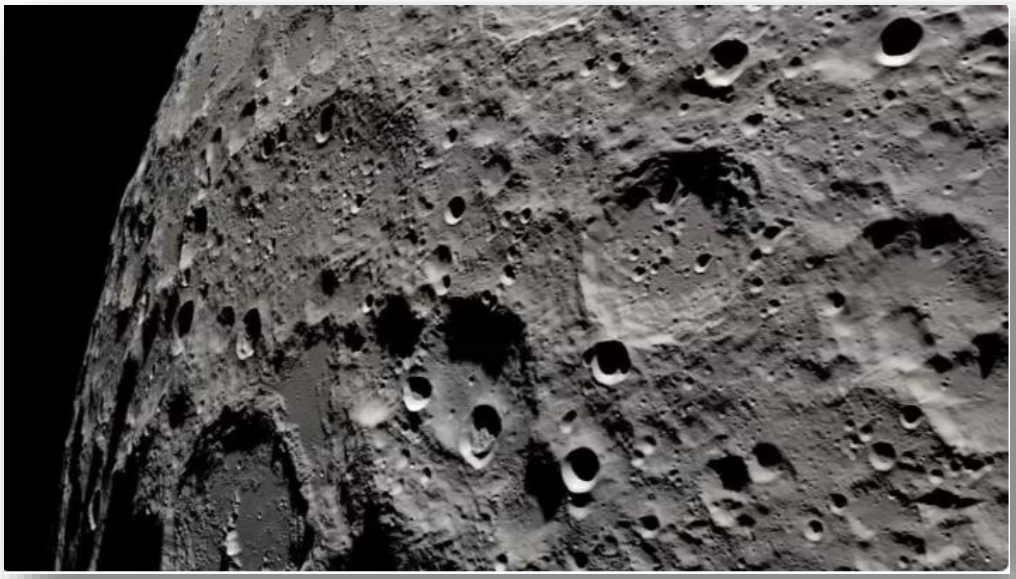
Saturn – the ringed planet meets up with our Moon twice this month, on the 4th and the 31st. On the 4th, look in the S-SW sky at dusk and find the Moon just to the upper left of Saturn. On the night of the 17th, Saturn will be to the lower left of Venus in the SW evening sky, giving us another lovely sight to be seen!! We know the rings will be totally edge-on by March while the first week of January, the rings are the widest we will see them for 2025.

Uranus – this month may provide a nice binocular view of the planet. But as always, best views are with telescopes.

Neptune – sits near Saturn much of January. By month's end, Neptune can be found in the same binocular field as Venus. Use Venus as a starting point to find Neptune in the western evening sky.





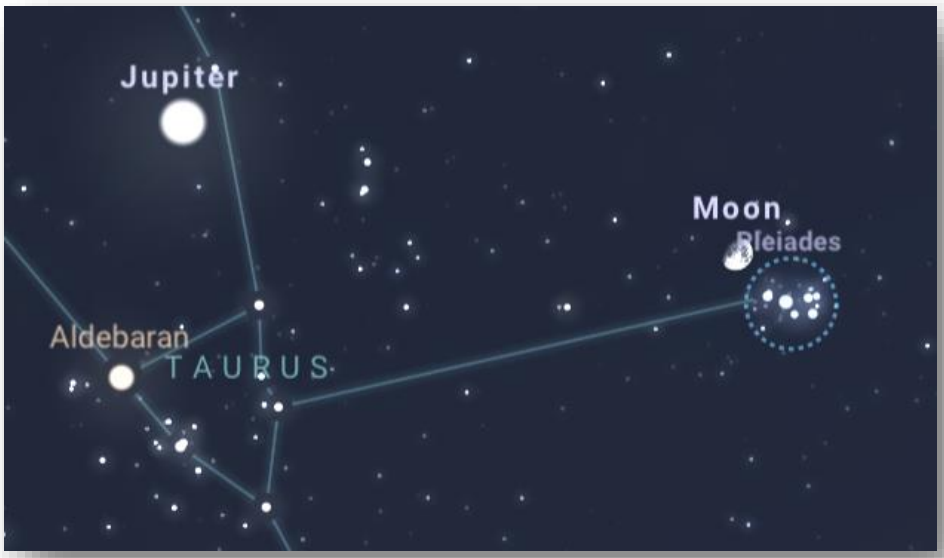


January Moon

6th – 1st quarter
13th – FULL at 4:27 PM CST
21st – last quarter
29th – NEW at 6:36 AM CST

The January moon is known as the "Wolf Moon", for a time when hungry wolf packs howled outside Native American camps. It has also been known as the "Old Moon" and "Moon After Yule".

Moon reaches perigee on the 7th, when it is closest to Earth.
On the 20th, the Moon reached apogee, when it is farthest from the Earth.
A fun event on the 9th – the waxing gibbous moon crosses through the Pleiades, M45.



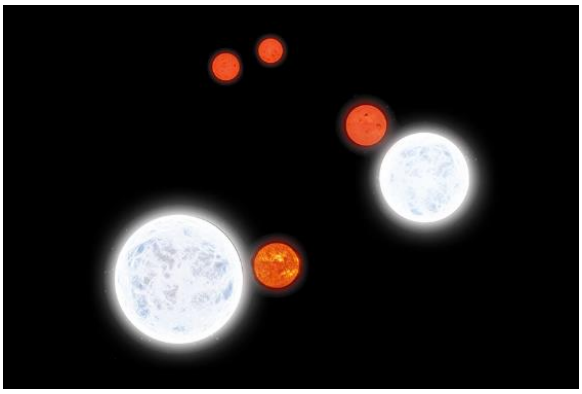
Meteor Showers

Quadrantids – will be active for a very short time in January from the 1st to the 5th. It peaks on the night of the 3rd but may last only 6-10 hours. It can produce anywhere from 25-40 meteors per hour and are usually fast with nice fireballs. As the Moon sets early,

dark skies can provide a nice backdrop for viewing. But this meteor shower will best be seen in Alaska and only iffy for us here in the Plains states. This meteor shower originates from dust grains from an extinct comet known as 2003 EH1, which was discovered in 2003. It radiates from the constellation Boötes but can be seen anywhere in the night sky.

Comet
333P/LINEAR

- Visible in January's evening sky
- Possibly visible with the naked eye
- Discovered in 2007
- Is a periodic comet with an orbital period of 8.7 years. Periodic comets orbit the Sun in closed orbits of less than 200 years



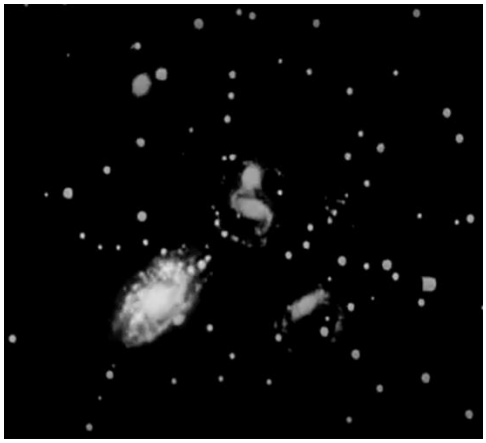
Did you know – ?

Castor is one of the 2 brightest stars in the constellation Gemini with its twin sister star Pollux being the brightest. In our night sky, Castor ranks as the 23rd brightest star and Pollux is 18th brightest. Castor is 51 lightyears away from Earth while Pollux is only 34 lightyears from Earth. Castor shines bright white with Pollux displaying a more golden glow.

Many know that Castor is a binary or multiple star system, but what makes it unique is it is actually a set of 3 pairs of binary stars called Castor A, Castor B and Castor C, for a total of 6 stars. Telescope viewing may show Castor only as a double star. A spectroscope is usually needed to split the starlight into component colors to reveal each of the 3 as binary stars.

December Holiday Gathering Cancelled

Due to unsafe, icy conditions on the roads and in the venue parking lot, our Holiday Gathering in December was cancelled. There was no Secretary's Report or Treasurer's Report in December.



From the Movie

From Hubble Space Telescope

Image from DMAS member JR Paulson

Stephan's Quintet by JR Paulson

This beautiful group of galaxies in the constellation of Pegasus is at the great distance of about 290 million light years. The individual galaxies have an average magnitude of 14.8 and cannot be seen visually with the naked eye. The area of this image is smaller than a thumb tack held at arm's length. It was thought for years that the five central galaxies were interacting with each other. However, red shift recession speeds and recent observations with the Hubble Telescope have shown that the larger, bluish, galaxy in the lower left, NGC 7320, is much closer, at 39 million light years, and is just a coincidental foreground object. The other 4 galaxies interact with each other. Since this image is what the group looked like over a quarter of a billion years ago, by "now" the four have probably merged into one giant elliptical galaxy.

The cluster was discovered in 1877 by Edouard Stephan from the Marseille Observatory in France. It has been photographed with film, imaged by Hubble and the Spitzer space telescopes, and recently by the James Webb.

Galaxy Cluster and a Christmas Movie

I'm willing to bet that *all* of you have seen this great galaxy cluster before, but just don't remember it. In 1946, the first compact galaxy cluster discovered was shown in the classic movie starring Jimmy Stewart, "*It's a Wonderful Life*." In the first few minutes of the movie an angel and God in heaven are discussing what to do about George Bailey. The angels are represented by the galaxies in Stephan's Quintet, blinking on and off as each one speaks in turn. The middle pair is the head angel/God and the other larger galaxy, angel Joseph. They finally decide that a 2nd class angel, without his wings, Clarence Odbody should be summoned to go to Earth and help George Bailey. Clarence is summoned, appears as a star and is given his assignment. Clarence shows George all the lives he touched and what the world would be like if he had not existed. An enduring message that is still relevant today. When you see the movie again this Christmas, be sure to watch for Stephan's !

The Word – A new monthly article by DMAS member Bruce Mumm

(January)

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

Magnitude – the astronomical way of measuring brightness. It was originally an order, from first magnitude down. The magnitude of the brightest stars is around 1 or 0 or even negative. The faintest visible to the naked eye are about 5 or 6. Each magnitude is approximately 2.5 times brighter than the one below it.

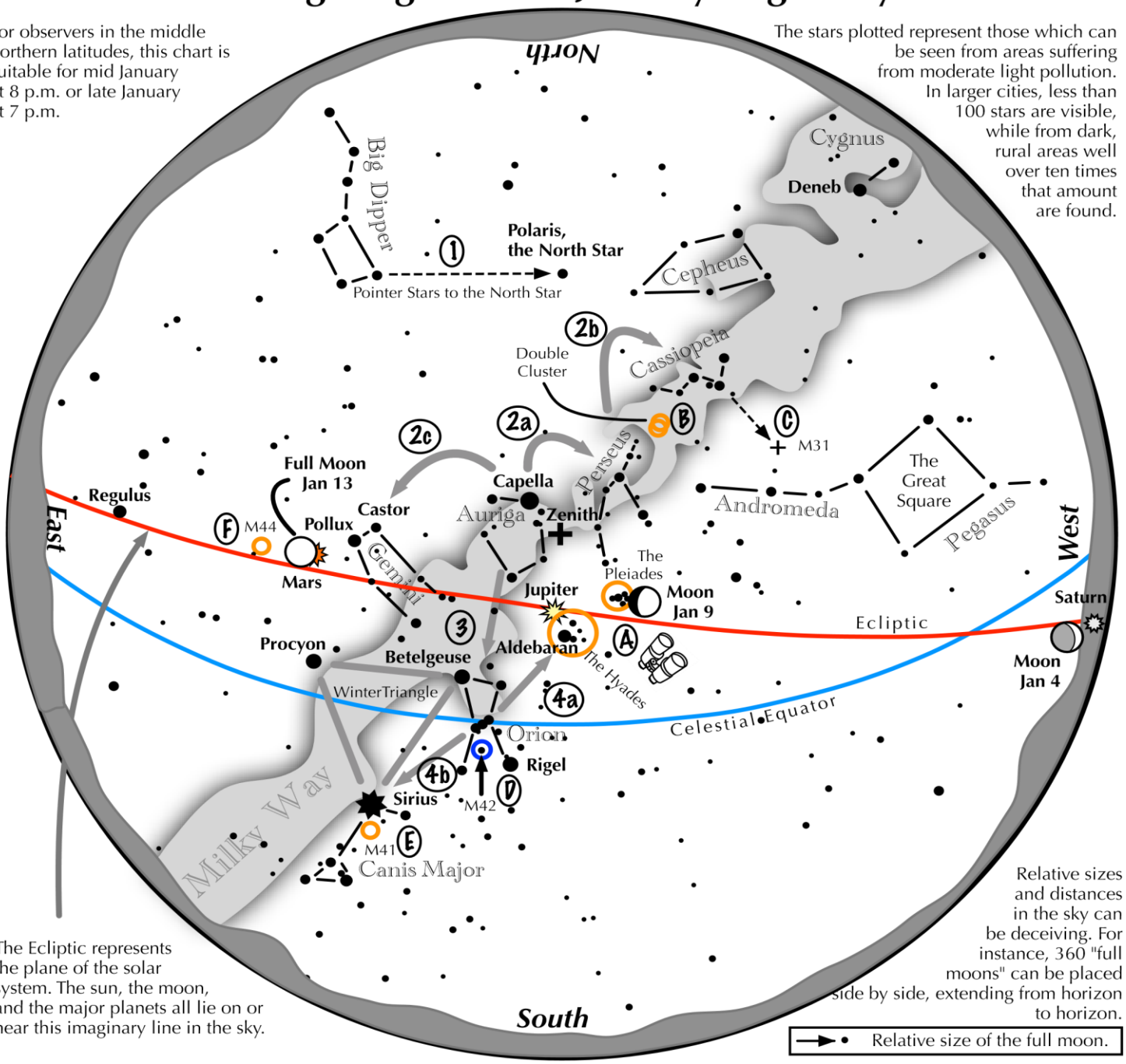
Venus is an example of a magnitude beyond zero. At its brightest it has a magnitude of -4.6.

Although there are billions of stars in our Milky Way Galaxy we can only see about 2 or 3 thousand with the naked eye (magnitude 5 to 6 or brighter)

Navigating the mid January Night Sky

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.

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 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. **F:** M44, a star cluster easily visible to the naked eye, lies to the southeast of Pollux.

This Month in DMAS History

From the StarLight Journal 25 Years Ago, January 2000

We'd like to let you know that DMAS will be hosting a "Get to know your Christmas Telescope" night. The idea is to help people get started in astronomy. Help them learn how to set up their scopes and to use them.

Bryan Butcher will give the talk and then we will break into small groups and give them hands on experience with their telescope. This will take place at Drake Observatory in Des Moines on Friday, January 14th, 7-10 PM. Saturday, January 15th, 7-10 PM will be optional for the participants of Friday night. Saturday will be held just for extra observing time, members will be available to assist them with set up and use of their scopes.

There will be a reservation process, they just need to call Bryan Butcher, Tom Bailey or us (Jim & Jodi Holloway) to reserve a spot. We will be limiting the number to 35 due to space and people available for the small groups. If we find we have an exceptional response, we will plan another night in the near future. Saturday night will not be advertised, but as people call into reserve a spot we will inform them of this optional night.

From the StarLight Journal 10 Years Ago, January 2015

Herb Schwartz announced that attendance numbers for the Drake Observatory Public Nights in 2014 had surpassed that of the public nights presentations by Dr. Daniel Moorehouse in the 1920s and 1930s, and Herb attributed much of this success to the support of DMAS members.

We've passed the Winter Solstice and the days are gradually getting longer!

Springtime skies are on the way!

REMEMBER: Membership dues will increase after January 31. Please print this page and mail with your dues (or bring the form with your dues to the January 4 meeting).

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; download file or read online).
[ ] Postal delivery.

DMAS Annual Dues Rates - check one.

Type	Votes	Dues[1]	
Individual (18 & up):	1	$30.00	[ ]
Family:	2	$45.00	[ ]
Associate:	0	$21.00	[ ]
Lifetime individual	1	$500.00	[ ]
Lifetime family:	2	$600.00	[ ]

1. Note: Dues shown are valid through Jan. 31, 2025. After that they will be $40 for individual, $60 family.

New Member Prorated Dues Amounts - check one.

Date	Individual		Family		Associate	
Feb-Mar	$40.00	[ ]	$60.00	[ ]	$21.00	[ ]
Apr-Jun	$30.00	[ ]	$45.00	[ ]	$14.00	[ ]
Jul-Dep	$20.00	[ ]	$30.00	[ ]	$9.00	[ ]
Oct-Dec	$10.00	[ ]	$15.00	[ ]	$4.00	[ ]

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 payment:
Download Cash App to your cell phone and direct your payment to: $DMASTreasurer

Alternate delivery of membership form:
email to info@dmastronomy.com

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

Des Moines Astronomical Society
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Des Moines, Iowa 50301-0111