

The Prairie Astronomer

September, 2026 Volume 67, Issue #9



IN THIS ISSUE: CHANDRA UNVEILS MYSTERIOUS X-RAY OBJECTS
JACK HORKHEIMER "STAR GAZER"
CLUB OUTREACH: AUTUMN SKY & UPCOMING EVENTS



***The Prairie
Astronomy
Club***

Night Sky Network



THE NEWSLETTER OF THE PRAIRIE ASTRONOMY CLUB



David Woolf, Kalamazoo, MI at NSP 2018
Photo by Mark Dahmke

Next meeting: Tuesday September 29th 7:30pm at Hyde Observatory

NEXT MEETING

Program: longtime club member Jack Dunn will present via Zoom a personal look at Jack Horkheimer, the colorful host of PBS's "Star Gazer," originally "Star Hustler." Drawing on their friendship and experiences in the planetarium world, Dunn will share stories behind Horkheimer's memorable television persona and his passion for bringing astronomy to the public. The program includes restored video clips from Horkheimer's talk at the 1993 MSRAL convention in Lincoln, offering a glimpse of the writer, producer, and promoter behind the familiar face.

See page 28 for more details.

Cover: Heart Nebula by Brett Boller

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Most of our club meetings are held at Hyde Memorial Observatory in Holmes Park.

The Observatory is owned and maintained by the City of Lincoln Parks and Recreation Department, but is operated by volunteers, many of whom are also members of the Prairie Astronomy Club.

2026 STAR PARTY DATES

	Date	Date
January	9	<u>16</u>
February	13	<u>20</u>
March	13	<u>20</u>
April	10	<u>17</u>
May	8	<u>15</u>
June	5	<u>12</u>
July	10	<u>17</u>
NSP	7/12-7/17	
August	7	<u>14</u>
September	4	<u>11</u>
October	2	<u>9</u>
November	<u>6</u>	13
December	4	<u>11</u>

Underlined dates are closest to the New Moon.

CALENDAR



September Meeting
Tuesday, September 29th, 7:30pm Hyde Observatory
Program: A personal look at Jack Horkheimer

October Meeting
Tuesday, October 27th, 7:30pm Branched Oak Observatory
Program: to be announced
Election of club officers

November Meeting
Tuesday, November 24, 7:30pm Hyde Observatory

December Holiday Gathering
To be announced

PAC Google calendar:
<https://www.prairieastronomyclub.org/event-calendar/>

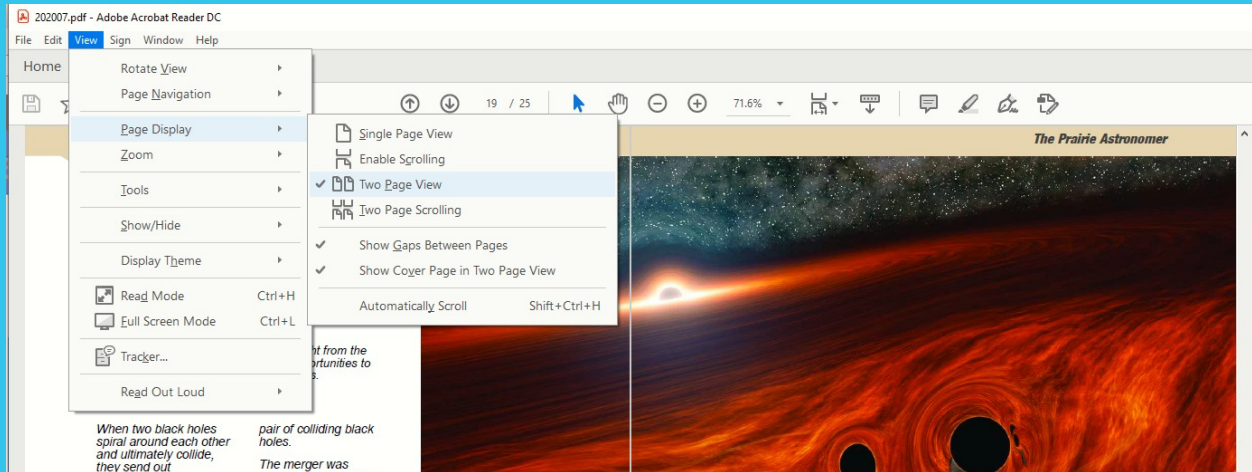
CLUB OFFICERS

President	Jason O'Flaherty jflaher@gmail.com
Vice President	Brett Boller proboller86@yahoo.com
2nd VP (Program Chair)	Open
Secretary	Jim White jrwhite2188@gmail.com
Treasurer	John Reinert jr6@aol.com
Club Observing Chair	Jim Kvasnicka jim.kvasnicka@yahoo.com
Outreach Coordinator	Don Hain dhain00@gmail.com
Website and Newsletter Editor	Mark Dahmke mark@dahmke.com

NOTICES

Newsletter Page View Format

How to Adjust Adobe Acrobat Settings for Two Page View



To view this newsletter in magazine spread format in Acrobat, select View ->Page Display->Two Page View. Acrobat will then show two pages side by side. Also make sure the checkboxes "Show Cover Page in Two Page View" and "Show Gaps Between Pages" are checked. If you have it setup correctly, the cover page will be displayed by itself and subsequent pages will be side by side with the odd numbered pages on the left.

Pay Dues

<https://www.prairieastronomyclub.org/pay-dues-online/>

Pay online using Paypal or a credit card. An individual membership is \$30/year or family membership is \$36/year. Students memberships are only \$12 annually with a small volunteer requirement for our youth members.

PAC-LIST

Subscribe through GoogleGroups or contact Mark Dahmke to be added to the list. You'll need a Google/ gmail account, but if you want to use a different email address, just associate that address with your google account to access Google Groups. Once subscribed, you can view message history through the GoogleGroups website. To post messages to the list, send to this address: pac-list@googlegroups.com

The President's Message

Jason O'Flaherty



Dear PAC Members,

I hope that all of you are well and having a good time during the last days of summer.

Let me begin by thanking Bob Kacvinsky for his excellent presentation on the Nancy Grace Roman Space Telescope at our last meeting. The timing could not have been better, giving us a great foundation for understanding the mission just days before its launch. Speaking of the launch, it was remarkably successful. Because of the fuel savings achieved while getting Roman into its orbit around the L2 point, the mission's original 10-year fuel budget is now expected to last for around 22 years. That's an extra decade of images and

valuable science to look forward to.

I also want to share some news with those who couldn't attend our last meeting. After giving it months of consideration, I have made the difficult decision not to accept a nomination for re-election as President next year. I really enjoy being part of the Prairie Astronomy Club, and I would gladly continue serving as President if I felt I could give the position the time and attention it deserves. However, my responsibilities at work have continued to increase over the past year, and I have found that I am no longer meeting my standards for this role.

I fully intend to remain involved with the club

and will do everything I can to ensure a smooth transition to new leadership. I will make sure whoever takes over has all the information and resources they need to succeed. While I am stepping down for now, I am not ruling out a future role on the board or as president. I would also be happy to continue supporting the online portion of our meetings if the new board would find that helpful.

At our September meeting, we will be filling several vacancies on the board. I encourage everyone to come prepared to nominate and support fellow club members as we welcome the next group of people who will help guide PAC. The

Continued on page 10...

August Meeting Minutes

Jason O'Flaherty, PAC President, started the meeting at 7:40 pm. Tonight's meeting is being held in person at Hyde Memorial Observatory and online via Zoom. Jason asked if we had any new members or guests at tonight's meeting. We have one new member at tonight's meeting, Pedram Nabegh, and a couple of guests, Erik Hubl and Whitney Nichols. Jason announced that tonight's meeting would be brief so that Bob would have time to complete his program for the group.

At 7:43 Jason turned the meeting over to Jim Kvasnicka, PAC Observing Chair, for his monthly observing report. Star parties for the month of September will be on the 4th and the 11th and are held at the Clatonia Recreation Area, approximately 1 ½ miles north of Clatonia, NE. Thursday, August 27th, there will be a

partial lunar eclipse with the moon being 96 percent covered. Saturday, September 19th, is International Observe the Moon Night. Jim announced that Bob Kacvinsky was able to complete the Open Cluster Observing Program while at this year's NSP (Nebraska Star Party). Bob is the first member of PAC to complete the Open Cluster Observing Program and Bob's 12th observing program that he has completed. Jim's complete observing report can be found in the newsletter.

At 7:49 Jim turned the meeting over to John Reinert, PAC Treasurer, for his monthly report. John reported that he has been dealing with some changes in our accounts due to our bank branch of BMO being sold to First Citizens Bank of Raleigh, NC. John shared our club bank account balances and recent financial

activity with me via email prior to tonight's meeting.

The following is what John shared via email;

"Checking (BMO)
\$2,972.45

PayPal
\$74.55

CD1 (UBT) \$32,000.00

CD2 (UBT) \$5,000.00

Grand Total \$40,047.00

Expenses: PAC paid the Astronomical League in July \$514.00, Facebook in July \$49.95 and in June \$15.54, and Jason F \$18.64 for frozen desserts (Earth's Nearest Star Party in June). Secretary of State's office (Nebraska) copies of incorporation records to facilitate the creation of new accounts at Union Bank, \$4.50.

Accounts to be paid or dispositioned in the coming weeks: Hartford General Liability Policy comes due in September

Meeting Minutes, continued

as does our PO Box rental with USPS. Filing the N990 with the IRS occurs before September 15th.

Additional activity with our banking interests: BMO began the process of selling select bank branches to First Citizens Bank of Raleigh, NC in February. This includes those in Nebraska. On the surface only the routing number and bank card numbers change. Our basic checking account number remains the same. Because we are a business account, we will likely reprint checks were we to continue to use them. Checks written with the old routing number will continue to be honored to the end of 2026.

There is no minimum balance required for Non-Profit accounts with minimal activity. My \$3.00 statement printing fee goes away. I think we lucked out.

As I continue to work with Mark Dahmke on Plan A for dues notices, accounting for proration amounts and its impact to websites, scripts, etc., I may have to return to my own Plan B and issue dues notices by whatever means communicates the essentials, paper or electronic?"

John turned the meeting back over to Jason at 7:50 pm.

Jason went over club membership options and benefits. Jason announced that the September meeting is also the meeting where we open nominations for board members and nominations are open until the October meeting when nominations are closed and voting for board members takes place. Jason announced that we will be looking for nominations for at least one open V.P. position and that he will not be

able to continue as club president for the upcoming year due to a hectic work schedule so we will also be looking for nominations for club president. There will be a slide show after Bob's presentation tonight which will have pictures that were taken by members at this years NSP along with other photos taken this summer.

Tonight's meeting adjourned at 7:55 pm.

Bob Kacvinsky is a longtime club member, former club officer in several capacities and is a NASA Solar System Ambassador. Tonight, Bob will be giving us a presentation on the Nancy Grace Roman Space Telescope, which gets launched this coming Sunday, August 30th.

ARP 97

The Mantrap Skies Image Catalog

Arp 97 is classed by Arp as "Spiral galaxies with companion on arms: elliptical galaxy companions". This double galaxy has only a single designation UGC7085A. Oddly UGC 7085 is 22 degrees south of this pair and in no way related. There must be an interesting story here but I don't know it. The pair is about 330 million light years away so getting much detail is rather difficult. The southern galaxy has two bright arms obviously tidally extended and straightened. The north arm extends over the northern galaxy. Its yellow color contrasting to the blue of the overlaying arm. Note though that the lower galaxy seems to have a third arm running nearly due east. Well a tidal feature heads east, sort of toward the very blue galaxy MCG+05-29-012. Its distance is 353 million light years. Close enough that it too may be involved though I found no papers indicating this and it doesn't show any sign of distortion. It may be this "arm" is just an entirely separate object, probably much closer than the two making up Arp 97 but so faint it isn't seen over the galaxy. It shows in the SDSS image so is real.



Rick Johnson

Rick Johnson, a founding member of the Prairie Astronomy Club, passed away in January, 2019. His legacy lives on through his comprehensive catalog of over 1600 images at www.mantrapskies.com.



ARP 97, continued

To the west is SDSS J120531.04+310434.1, another very blue galaxy that seems to have a hole in the middle of it. I wish seeing was better, it could be due to unresolved arms and nothing more. I can find no redshift data for it. To the upper left of Arp 97 over halfway to the upper edge is a rather red disk galaxy. After all the blue ones it stands out. Its red color made me wonder if it was surprisingly far away. Since I was finding little red shift data in this area I didn't hold out much hope but I got a pleasant surprise. It is SDSS J120609.43+311002.8 and is 1.08 billion light years distant. It must be one huge spiral! Between it and a very bright star to its upper right is another very blue galaxy. It is CGO151 at about 400 million light years, too far to be related to Arp 97.

Things get rather interesting toward the NW (upper right). There's a quartet of rather interesting galaxies up there. The big one seen face-on is UGC 07064, an SAB(r) Seyfert galaxy. It is described as "no spiral structure with smooth disk" by one paper I found on it. There seems to be a nice ring around the faint bar and on the east side (left) a faint arm seems to spiral out and around in a clockwise direction ending at a field star. There also appears to be a tidal bulge to the disk on the west side. A faint linear plume appears to extend off the top of it toward the northeast passing just under the double galaxy. It is 353 million light years distant per its red shift the same as MCG+05-29-012 east of Arp 97. Below it is the odd spiral CGCG 158-10 at 373 million light years. A blue field

star at its south end makes determining what is going on here difficult but I do see faint tidal distortions. One on the NE side going up to UGC 07064, the other on the west side going down. North of UGC 07064 is CGCG 158-011 A pair of galaxies. They appear to be interacting but I can find no redshift data on them so can't tell if they are related to either each other or the other two galaxies.

I moved Arp 97 east from center to include these 4 galaxies in the full frame.

The President's Message, continued

strength of our club has always come from the members who are willing to step up and contribute, and I am excited to see who will

take on these roles.

Our presenter for the September meeting will be club member Jack Dunn. Thank you to Jack

for volunteering to share his stories with us. I hope to see everyone there.

Clear skies,
Jason O'Flaherty

Welcome to the
Prairie Astronomy Club

Pedram Nabegh
Whitney Nichols

NEW MEMBERS

Focus on Constellations: Aquarius

Jim Kvasnicka

Aquarius the Water Carrier is a faint constellation representing a man pouring water from an urn. Aquarius is the 11th sign of the Zodiac and covers 980 square degrees. The most prominent star pattern in the constellation is the Y-shaped asterism centered on Zeta Aquarii. Galaxies are the most numerous type of object in Aquarius but most are faint. Since Aquarius lies far from the plane of the Milky Way it is lacking in star clusters

diffuse nebulae. It does contain three globular clusters, two of which are Messier objects M2 and M72. A third Messier object M73 is an asterism. Aquarius does contain two notable planetary nebulae, the Saturn Nebula and the Helix Nebula. The Helix Nebula requires an OIII filter to see. Aquarius is best seen in the month of October.

Showpiece Objects

Globular Clusters: M2, M72

Planetary Nebulae: NGC

(Saturn Nebula), NGC 7293 (Helix Nebula)

Mythology

In most cultures Aquarius is depicted as a man pouring water. This may arise from the fact that the Sun enters Aquarius in early winter, when the rainy season begins in many parts of the world. The Babylonians knew this area of the sky as a celestial sea, and from them the Greeks inherited not only Aquarius but also Pisces, Capricornus, and Eridanus.

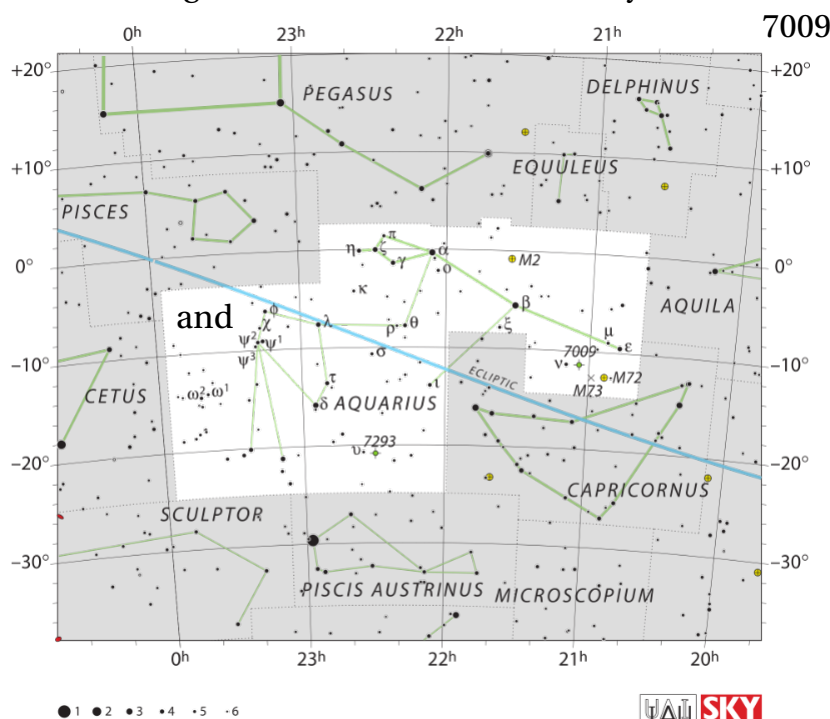
Number of Objects Magnitude 12.0 and Brighter

Galaxies: 13

Open Clusters: 1

Globular Clusters: 3

Planetary Nebulae: 2



By IAU and Sky & Telescope magazine (Roger Sinnott & Rick Fienberg) - imagedownload pageabout, CC BY 3.0, <https://commons.wikimedia.org/w/index.php?curid=15406063>

October Observing

Jim Kvasnicka



This is a partial list of objects visible for the upcoming month.

Planets

Mercury and Venus: Not visible.

Mars: Rises before midnight. Crosses the Beehive Cluster October 10-12.

Jupiter: Morning planet in Leo at magnitude -1.8 with a disk 34.4" wide.

Saturn: In Cetus at magnitude +0.4 with a disk 19.7" wide.

Uranus: In Taurus at magnitude +5.6.

Neptune: In Pisces at magnitude +7.8.

Meteor Showers

Orionids: October 21-22. Up to 20 per hour. The waxing gibbous Moon should not interfere. The shower is the result of Earth traveling through debris from Halley's Comet. The Orionids are known for producing a few fire balls.

Messier List

M11: The Wild Duck Cluster in Scutum.

M16: Open cluster in the Eagle Nebula.

M17: Omega or Swan Nebula in Sagittarius.

M18/M24: Open cluster and Small Sagittarius Star Cloud in Sagittarius.

M25/M26: Open clusters in Sagittarius.

M55/M75: Class XI and I globular clusters in Sagittarius.

Last Month: M13, M14, M22, M28, M54, M69, M70, M92

Next Month: M27, M30, M56, M57, M71, M72, M73

NGC and other Deep Sky Objects

NGC 7009: The Saturn Nebula in Aquarius.

NGC 7293: The Helix Nebula in Aquarius.

NGC 7331: Galaxy in Pegasus.

NGC 7479: Galaxy in Pegasus.

NGC 7510: Bright open cluster in Cepheus.

NGC 7606: Galaxy in Aquarius.

Double Star Program List

8 Lacerta: Four white stars.

Beta Cephei: White and blue stars.

Struve 2816: White primary with 2 blue stars.

Xi Cephei: Pair of yellow stars.

Delta Cephei: Yellow primary with a pale blue secondary.

Eta Persei: Yellow and blue stars.

Struve 331: White primary with a light blue secondary.

Epsilon Pegasi: Yellow primary with a white secondary.

Challenge Object

NGC 7769 / 7770 / 7771: Galaxy NGC 7769 is the brightest in this trio in Pegasus.

Club Offices and Duties

Nominations for next year's officers will begin at the September meeting, and remain open until election at the October meeting.

Club officer nominations are made in September and elections are held in October. The following is a list of responsibilities of each of the officers and what is required to maintain a functioning club.

As stated in the bylaws, the club has five officers: President, Vice President, Secretary, Treasurer and Second Vice President. The business of the Club shall be managed by a Board of Directors, which shall have the power to spend funds from the treasury for any valid purpose.

The Board shall create additional non-elected offices as required and initiate impeachment proceedings against officers who have been negligent in performing their duties.

Each decision of the Board shall require an affirmative vote of a majority of the Board members present, with a minimum of three members present.

The Prairie Astronomy Club has a sixty year

history of service to club members and the community. Potential club officers should have a good understanding of the history of the club, its formation and mission, its relationship with Hyde Observatory and the types of events, activities and outreach that is part of the tradition of the club. The most complete resource is the book *The Prairie Astronomy Club: Fifty Years of Amateur Astronomy*, which is in the club library or available as a PDF document.

President

The President shall organize and direct the regular monthly meetings and all other Club activities, officially represent the Club at meetings of regional and national importance where he/she is in attendance or delegate this authority, call meetings of the Board of Directors, and appoint non-elected officers.

Vice President

The Vice-President shall be responsible for

meetings when the President is absent, mediate in cases of procedural dispute, temporarily assume any duties of any officer at the direction of the President, and maintain control of the current inventory of all club property.

Secretary

The Secretary shall be responsible for taking minutes at each club meeting and shall be in charge of Club publicity.

Treasurer

The Treasurer is responsible for all Club funds, communications with club members regarding the payment of dues, and keeping accurate records of all monetary transactions. In addition, the Treasurer is responsible for:

1. Sending out membership renewal notices.
2. Submitting a written report of the Club's monetary status at the request of the President or giving a verbal report at the request of any

Club Offices and Duties, continued

member during regular meetings.

3. Providing an annual financial summary to the auditing committee. The final audit report is to be completed, and final approval will be submitted to the President and club membership by the end of February.

4. Maintaining an accurate club membership roster.

5. All tax filings and reporting requirements needed to maintain the Club's 501c3 status.

Second Vice President

The 2nd Vice-President shall be responsible for the formation and presentation of monthly Club programs.

Publications Chairperson

The Publications Chairperson (or Newsletter Editor) is responsible for editing and publishing the *Prairie Astronomer*. The newsletter editor should have prior experience with the publication of a newsletter or demonstrated technical skills required for

producing a newsletter.

Site Chairperson

The Site Chairperson (if one is appointed) is responsible for establishing a site committee to oversee the maintenance and security of the Club observing site.

Recording Secretary

The Recording Secretary (often the Club's elected Secretary) is responsible for keeping the minutes of the Club meetings and filing a copy with the Club Secretary. Minutes need to be kept in a systematic fashion as they record the history and life of the Club and must be published in the *Prairie Astronomer* on a monthly basis.

Librarian

The Librarian shall keep the Club library and promote its circulation among the Club members. Dated records of persons to whom books are circulated are to be kept by the Librarian. He/she shall keep a current index of all Club library materials and file updated copies with the Club Treasurer

as necessary. The Club Librarian and Secretary work together to maintain a record of club activities and regularly update the official club history.

Observing Chairperson

The Observing Chairperson presents a monthly report at Club meetings and/or in the *Prairie Astronomer*. The Chairperson keeps members informed of upcoming celestial events, sky objects of special interest, and star parties.

Outreach Chairperson

If the Club has an appointed Outreach Chairperson, the Chairperson takes on some of the roles performed by other officers – organizes outreach events, shares in media communications tasks, puts together flyers, etc.

All elected and non-elected officers must be accessible and responsive to club members via email and telephone or through other means of communication that are in common use. §

Club Outreach

Don Hain

dhain00@gmail.com

402-440-5318

Summer is drawing to a close. Sagittarius and objects close to the teapot asterism have entertained me several nights while at Hyde as I expanded my grasp of the summer nighttime sky beyond just making my way around the stars of the summer triangle. I am now able to talk about a bit more than the Qixi (Chinese) / Tanabata (Japanese) tale of the maiden weaver girl and the boy cow herder (Vega and Altair) separated by the rift of the Milky Way that passes through that portion of our sky. We'll plan to revisit the story where the magpies from Deneb create a bridge over which those friends can see each other on the 7th day of the 7th month sometime next year.

If you are interested in Jupiter events, you may want to get up around 4:40AM in early October on the morning of

October 6th, 2026. On that morning the moon rises a few minutes ahead of 3:00AM CDT. The moon will be a slim crescent of only 18% illumination. What will be different that morning is that hidden behind the moon will be the bright object of Jupiter. Jupiter will remain pretty much hidden from view for about an hour and a half, but by 4:30AM the moon will have traveled far enough in its orbit around us for Jupiter to begin peeking out from behind. The morning side of astronomical twilight will get started at 5:57AM CDT. At 6:29AM the earth will have turned enough for the sun to be only about 12° below the eastern horizon. I.e. "nautical" twilight will kick in at that time. By the time nautical twilight ends on the morning side at 7:01AM the sky should be pretty bright (and Jupiter will be showing above the moon).



If you are on the team Bob Kacvinsky has put together, the Mourning Hope gathering out at Camp Erin will happen in mid-October, providing an event for youth who have lost loved ones lately.

Looking ahead, to Saturday, November 14, 2026, that is when Spring Creek Prairie is planning their fall gathering. It will again be labeled "Nocturnal November". PAC members are invited to set up scopes for viewing the nighttime sky (or even for some solar viewing if you want to come early). We will have moved back to standard time by then, so there will be more darkness available than several years back when the fall gathering was taking place in mid-October. During the

Club Outreach

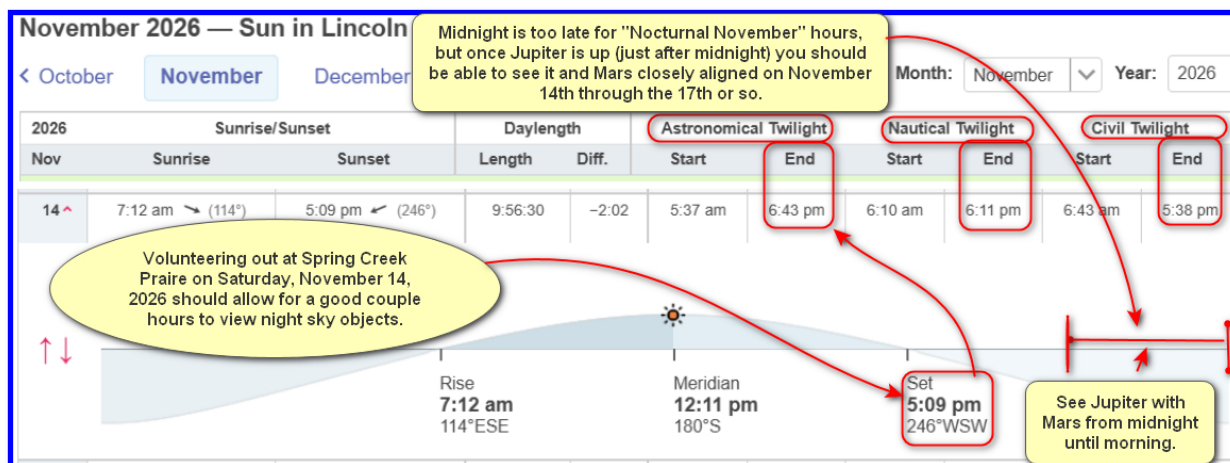
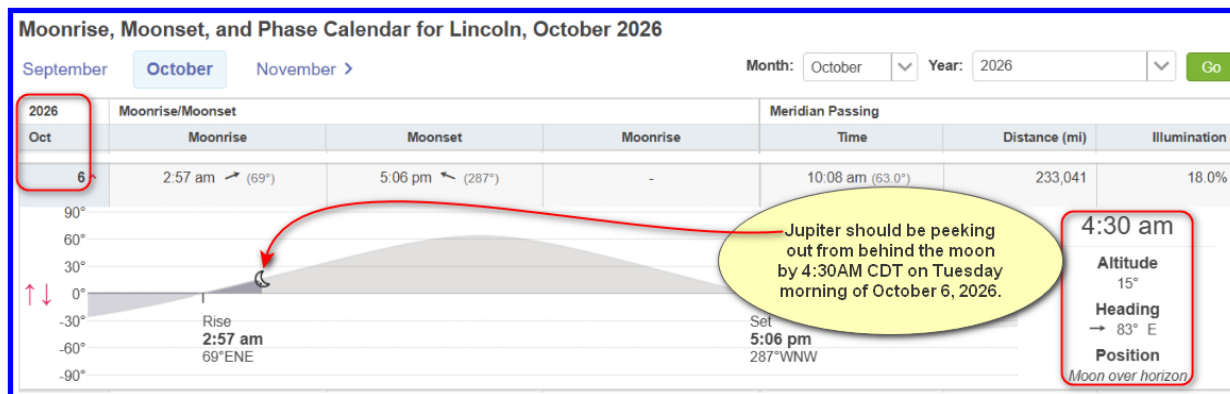
summer, I had begun looking at M6 (Butterfly Cluster) and M7 (Ptolemy's Cluster) down by Sagittarius. However, those will be below the western horizon by the mid November timeframe. The open clusters M22, M23 and M24 should be visible, but will be low in the western horizon. For those of you with good enough scopes / smart telescopes there should be plenty of nebula available as well. A

crescent moon will also be up, as will Saturn (Saturn will be in the southeast).

Jupiter will be closer to being a nighttime object by mid-November than it is in October, but won't be quite there yet. It will be rising shortly after midnight (along with the constellation Leo). We won't therefore be able to show it at Spring Creek, but Jupiter and Mars will align quite closely early on the mornings of the 14th

through the 17th of November. The Jupiter-Mars alignment should be visible as early as just after midnight on those nights, on through when civil twilight starts around 6:45AM CST (about ½ hour prior to sunrise) if you are interested in taking a look.

Some screen shots of timeframes dealing with the dates above are shown below. Enjoy the night skies as we head into fall!



[Time and Date for October 2026](#) and [Time and date for November 2026](#)

Club Outreach

Upcoming event(s):

Nocturnal November

Date: Saturday, November 14th, 2026

Time: TBD (but expect 6:00PM to 9:00PM)

Where: Spring Creek Prairie

Needs: volunteers to provide scopes viewing the night skies and discussing the use of telescopes

Hyde Observatory: OPEN

When: Saturday nights ... and other nights for groups per request

Where: Hyde Observatory

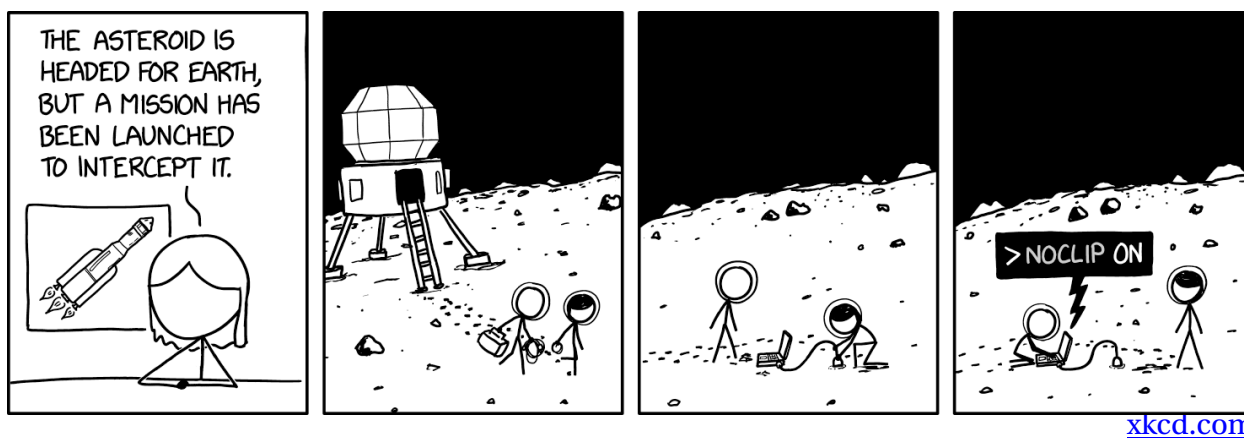
Sponsored by: Lincoln Parks and Rec / Hyde Board of Directors

Special Group nights: per requests to Pioneers Park Nature Center at 4024417895 or naturecenter@lincoln.ne.gov

Needs: volunteers willing to work out on the deck or manage the shows in the classroom about one Saturday per month, or nights scheduled by request of a group

See <https://www.hydeobservatory.info/volunteer/> for more information

See <https://forms.gle/ZKr4ivapvUhfejwL6> for the volunteer form to get paperwork with the city started. Since Hyde offers the activity through city government a background check is needed. Submission of this form will get that going.



NASA's Curiosity Views a Sand-Capped Butte



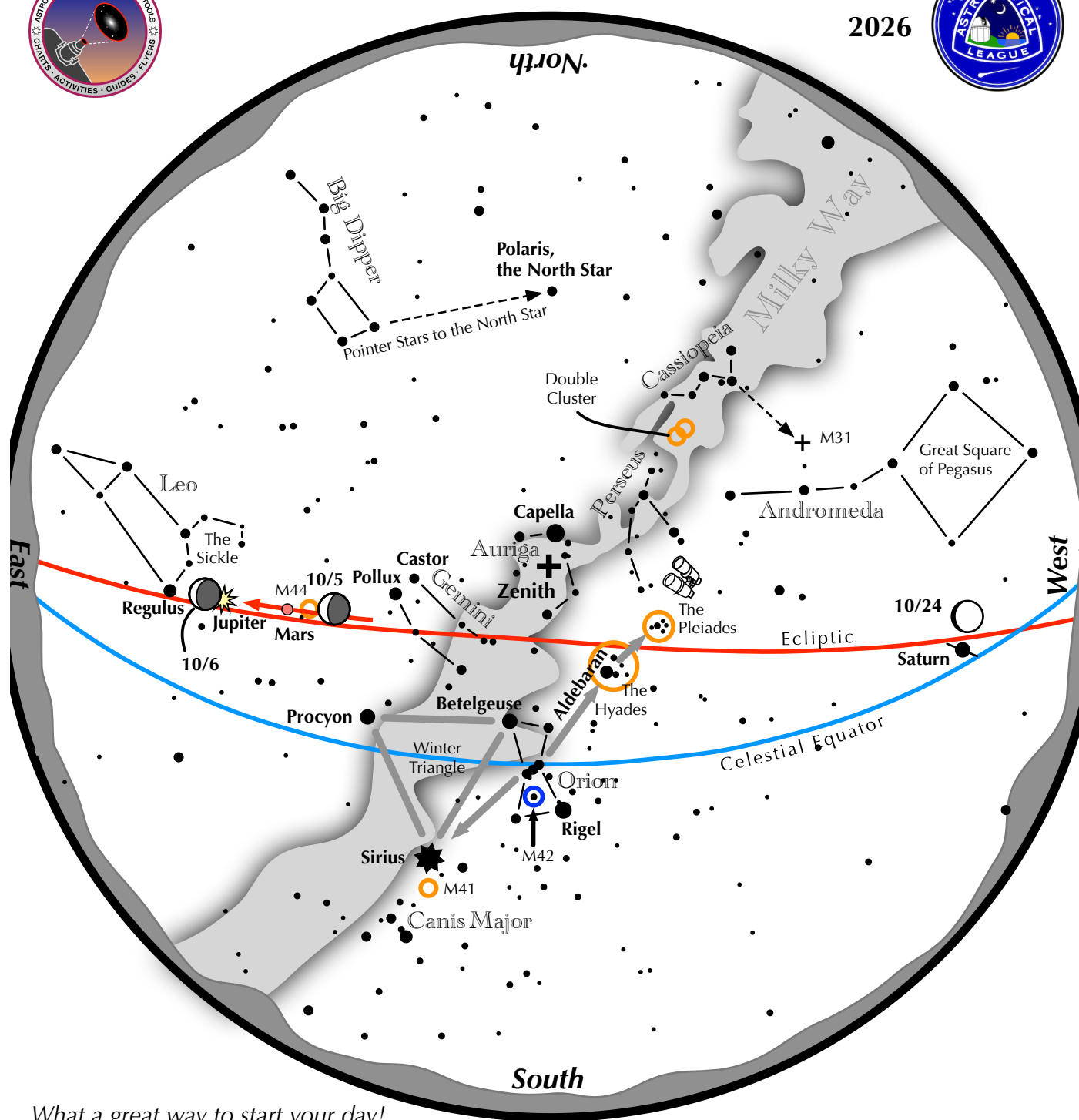
NASA's Curiosity Mars rover captured this sand-capped butte, nicknamed "Miraflores," estimated to be about 20 feet (6 meters) tall, with its Mast Camera, or Mastcam, on June 11, 2026, the 4,923rd Martian day, or sol, of the mission. The butte was left behind as surrounding rock eroded away over time, deepening the broad valley Curiosity is climbing through. The surrounding area includes an expanse of terrain covered in surface features called polygons.

The panorama is made up of 11 individual images that were sent to Earth and stitched together. The color has been adjusted to match lighting conditions as the human eye would see them on Earth. Credit
NASA/JPL-Caltech/MSSS



Navigating the mid October Morning Sky

2026



What a great way to start your day!

For observers in the middle northern latitudes, this chart is suitable for mid October at 5:00 a.m.

Late sunrises in October provide opportunities for early morning skywatching.

- Bright Jupiter shines high in the east.
- Crescent moon lies just west of Mars on October 5.
- The crescent moon glows next to and occults bright Jupiter on October 6.
- The near full moon glows in the west next to Saturn on October 24.
- During the first half of October, gaze high in the south and overhead to see these many celestial features: the Pleiades, the Hyades with Aldebaran, Orion, Capella and Auriga, the Winter Triangle with Sirius and Procyon, Gemini, and, in the east, Jupiter.

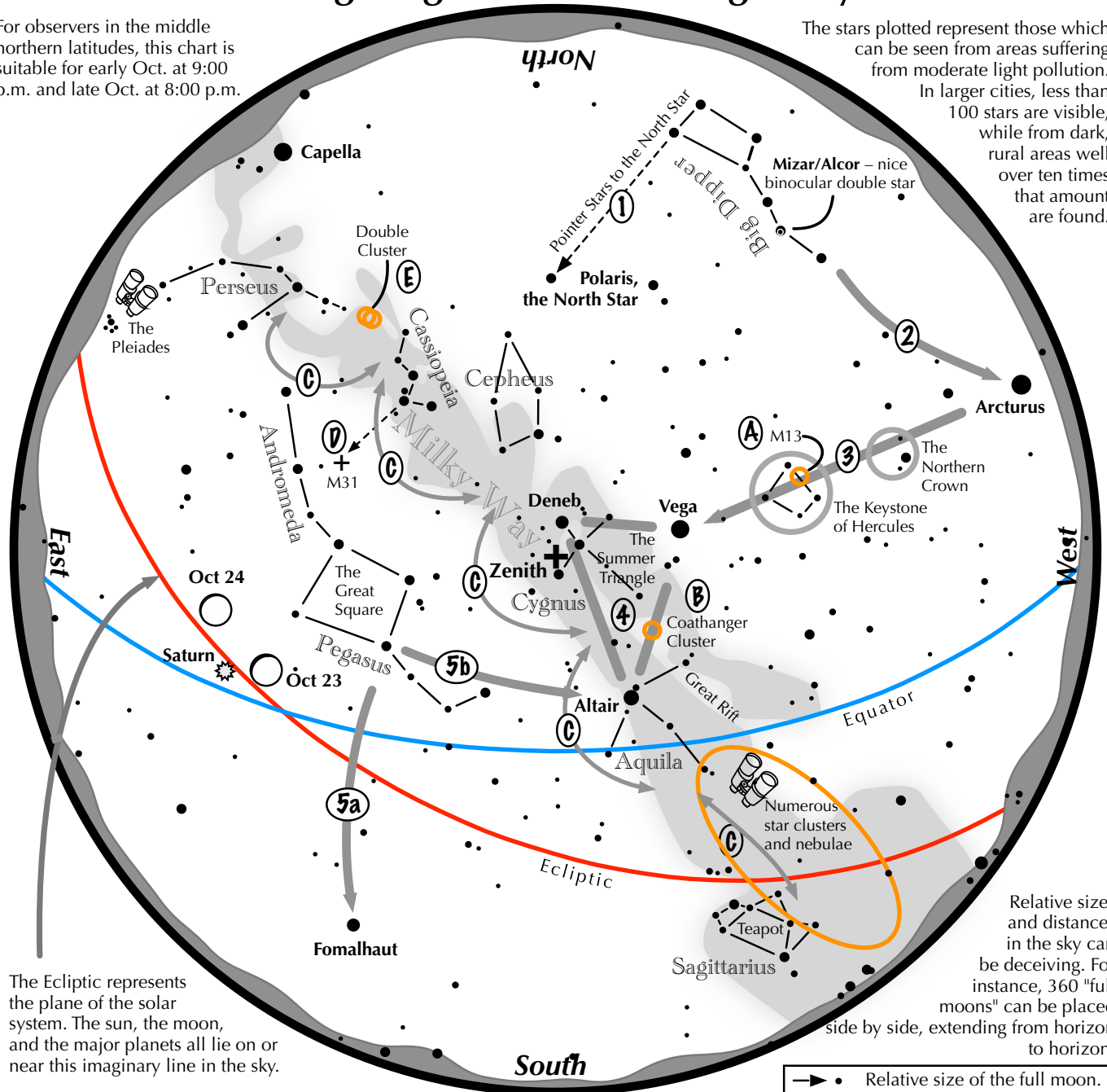
Astronomical League www.astroleague.org; duplication is allowed and encouraged for all free distribution.

Navigating the October Night Sky

2026

For observers in the middle northern latitudes, this chart is suitable for early Oct. at 9:00 p.m. and late Oct. at 8:00 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.



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

- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Follow the arc of the Dipper's handle. It intersects Arcturus, the brightest star in the early October evening sky.
- 3 To the northeast of Arcturus shines another star of the same brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 4 Nearly overhead lie the summer triangle stars of Vega, Altair, and Deneb.
- 5 High in the east are the four moderately bright stars of the Great Square. Its two southern stars point west to Altair. Its two western stars point south to Fomalhaut.

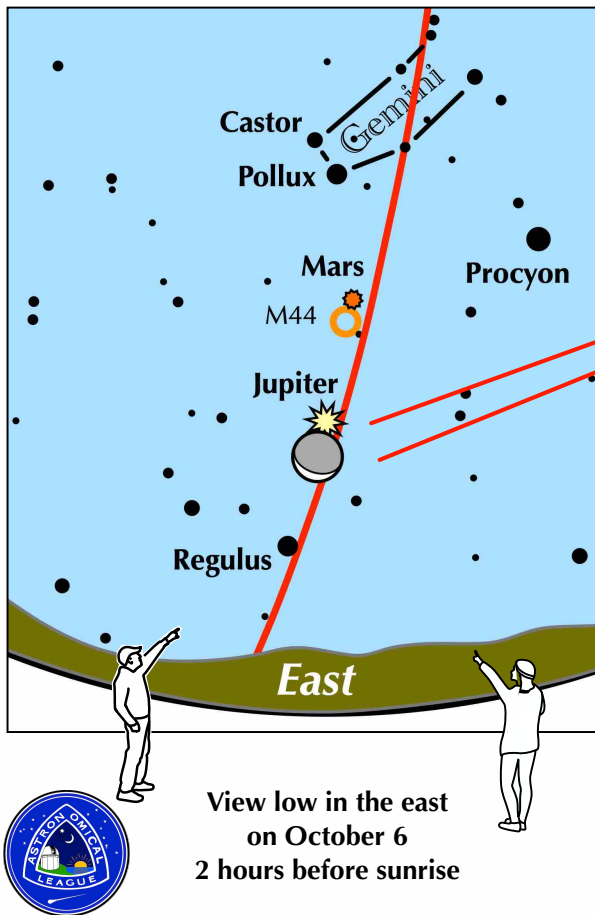
Binocular Highlights

A: On the western side of the Keystone glows the Great Hercules Cluster, a ball of 500,000 stars. **B:** 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger. **C:** Sweep along the Milky Way for an astounding number of fuzzy star clusters and nebulae amid many faint glows and dark bays, including the Great Rift. **D:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **E:** Between the "W" of Cassiopeia and Perseus lies the Double Cluster.

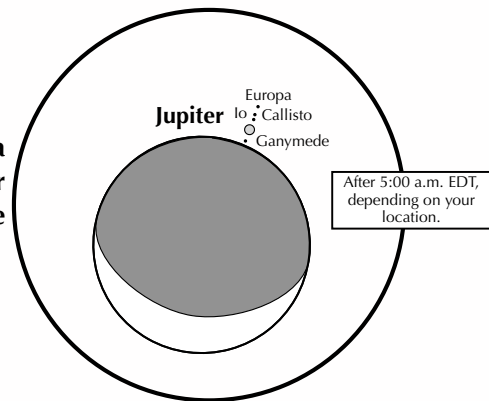


Astronomical League Outreach

In the early morning of October 6, try this challenge:



View through a
very low power
telescope



**Moon occults Jupiter for the eastern US.
For the rest of us, it lies very close to Jupiter**

On the morning of October 6, the moon appears very close to Jupiter.

For those in the eastern half of the US, the planet and its Galilean satellites fully emerge from occultation after 5:00 a.m. The exact time depends on observing location.

Those in the western US see Jupiter immediately next to the dark edge of the crescent moon.

About 5:35 a.m. EDT, Ganymede's shadow begins transiting the planet. It lasts until 9:15 a.m. EDT. Its exit can be seen by west coast telescope users.

And Mars can be found approaching the Beehive star cluster.



View low in the east
on October 6
2 hours before sunrise

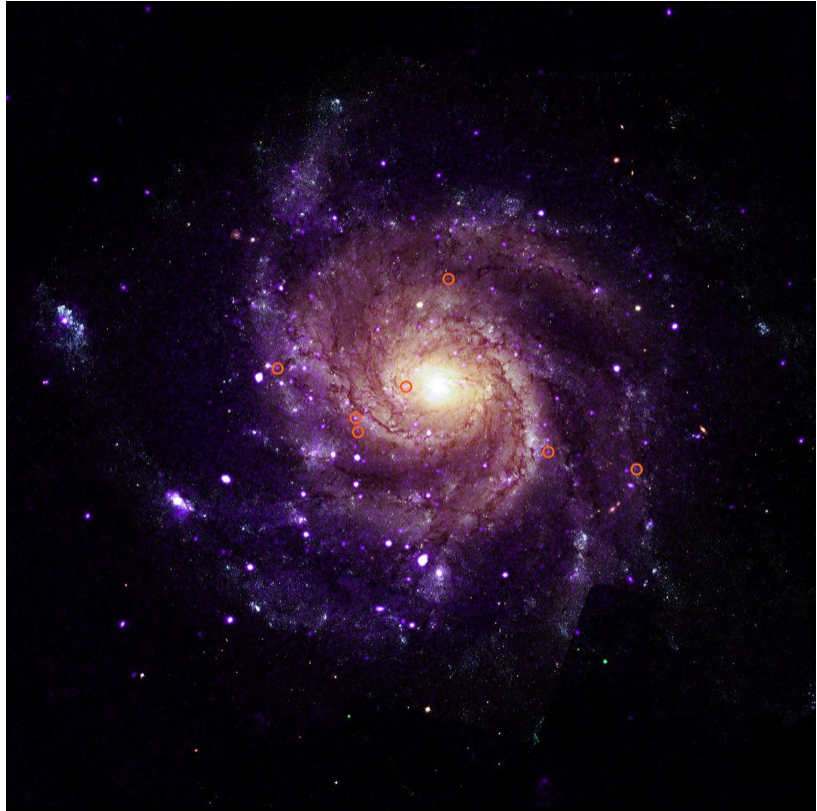
NASA's Chandra Unveils Mysterious X-Ray Objects

Using NASA's Chandra X-ray Observatory, scientists have discovered a new class of objects behaving unlike any they have seen before. Astronomers suggest these newly spotted objects in other galaxies may help solve not one, but two long-standing questions in astrophysics.

These mysterious objects give off unusually low-energy X-rays but intense levels of ultraviolet radiation. This discovery is featured in a paper published Wednesday in *Nature Astronomy*.

"We've never encountered a group of objects that act like this," said Mustafa Muhibullah of the University of Alabama who led the study. "Of course, the next step was to try to figure out what these things are."

The researchers found a total of 84 of these



M101 with illustrated circles calling out seven of the newly-discovered objects.

X-ray: NASA/CXC/Univ. of Alabama/M. Muhibullah et al.; Optical: NASA/ESA/STScI; Image Processing: NASA/CXC/SAO/N. Wolk

"hypersoft X-ray sources" – so named because they give such low-energy X-rays – in the six different galaxies they searched, using data openly available to the public in the Chandra archive. Two of the galaxies are spirals,

M31 (the Andromeda galaxy) and M101 (the Pinwheel galaxy), while the other four are ellipticals. They found hypersoft X-ray sources both in regions of active star formation and areas where there are older stars.

Chandra, continued

The team spotted the sources by finding objects that appeared in Chandra images taken at the lowest X-ray energies but vanished in higher-energy images. That means these objects give off far more low-energy X-rays than high-energy ones. Because low-energy X-rays border energetic ultraviolet radiation on the electromagnetic spectrum, the researchers determined that these sources are producing large amounts of energetic ultraviolet radiation as well.

It is unclear what types of objects are responsible for these low-energy X-rays and intense ultraviolet radiation. The team thinks they most likely involve a black hole, neutron star, or white dwarf pulling material from a companion star. The material pulled from the companion star is heated up to produce X-rays before falling onto the

white dwarf or neutron star, or into the black hole. Such binary systems have been seen before, but not with such bright ultraviolet radiation and low-energy X-rays.

The discovery suggests that there may be large populations of binary systems with energetic ultraviolet radiation that have been undetected until now.

“These clandestine X-ray sources are actually among the most energetic objects in galaxies, and they could be solving two cosmic mysteries at once,” said Muhibullah.

Scientists think that some white dwarf systems pulling material from companion stars may eventually explode as a supernova – known as a Type Ia – that is critical for measuring the expansion of the universe. These supernovae played a key

role in discovering that this expansion is accelerating.

Astronomers have been looking for the stars that turn into Type Ia supernovae for many years, so far without success.

“If we could find a way to spot these Type Ia supernova explosions before they go off, that would be really important,” said co-author Jimmy Irwin, also of the University of Alabama. “Right now, we study them after they’ve exploded, and astronomers have struggled to understand what is actually ignited.”

The other mystery these hypersoft X-ray sources might explain is what strips electrons from gas between the stars in some galaxies. This stripping of electrons is important to probe because it can affect how quickly stars form and influence the life cycles of galaxies. Hot, massive

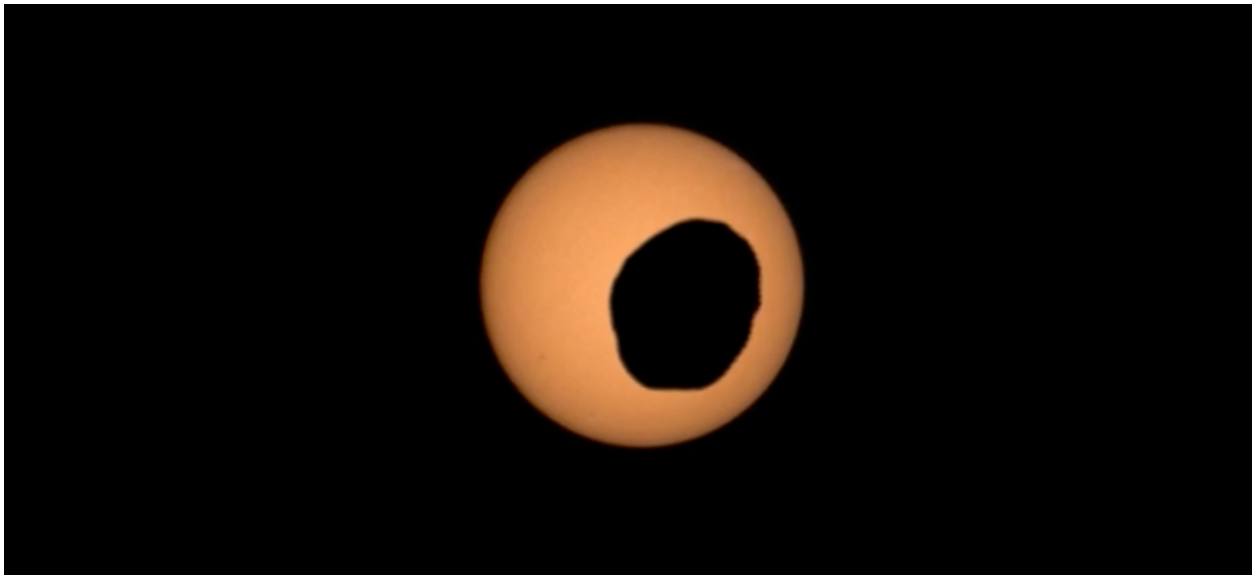
Chandra, continued

stars play a role, but they do not completely explain what is causing this stripping. The intense levels of ultraviolet radiation from the hypersoft X-ray sources may play a vital role.

Why were these hypersoft X-ray sources not found until now? In addition to the low-

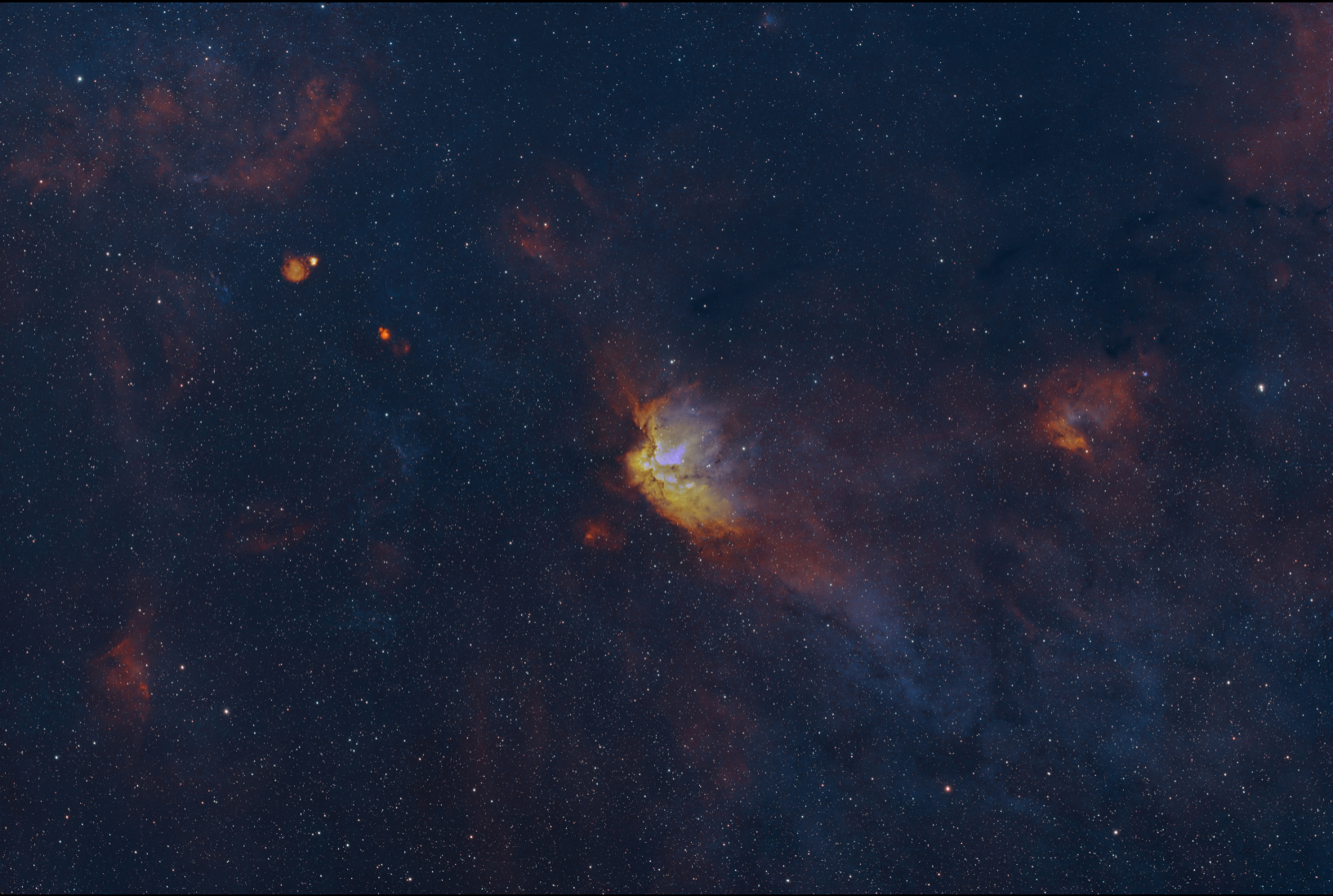
energy X-ray output, which is very difficult for X-ray telescopes to detect, the high-energy ultraviolet radiation is readily absorbed by helium and hydrogen gas that fills the space between the stars, creating a nearly impenetrable barrier to look through.

“By combing through the Chandra archive, we were able to eliminate what used to be a blind spot for telescopes,” said co-author Rosanne Di Stefano of the Center for Astrophysics | Harvard & Smithsonian. “That’s how we found what appears to be a new class of cosmic objects with remarkable qualities.”



NASA's Perseverance Mars rover used its Mastcam-Z camera to capture the silhouette of Phobos, one of the two Martian moons, as it crossed in front of the Sun on Aug. 12, 2026, the 1,948th Martian day, or sol, of the mission. Credit NASA/JPL-Caltech/ASU/MSSS/SSI

Astrophotography



*The Wizard Nebula in narrowband - Brett Boller
Redcat 51mm with Optolong L-Ultimate filter
8 hours (5min subs) Darks, and Flats
9/11/2026*

Astrophotography



*The Heart Nebula in narrowband - Brett Boller
Redcat 51mm with Optolong L-Ultimate filter
14 hours (5min subs) Darks, and Flats
9/3-9/4 2026*

Astrophotography



Recent photos by Mark Dahmke

Upper left: Mauna Kea observatories as seen from Mauna Loa

Upper right: Lunar eclipse, a few minutes after Moonrise

Lower left: Milky Way and Venus from Manua Loa @9000 ft (ISO 1600, f/1, 15 sec)

Lower right: Moonrise, 5:58pm HT 8/25/26



Jack Horkheimer

By Jack Dunn

Jack Horkheimer was the director of the Miami Space Transit Planetarium for over 40 years. But he was most known nationwide as the host and producer of the PBS show "Star Gazer." It ran for years on many PBS stations including the Nebraska network. It was a five minute quick intro into current sky phenomena and space news. Horkheimer passed in 2010 so I realize some people today might not have seen him. But he was a staple of getting Astronomy in front of the public. Some older PAC members will remember his talk at the 1993 MSRAL convention in Lincoln. But I will give you an even deeper look at a guy I knew who was a real character. He was a brilliant writer, producer, promoter and memorable person. I got to know Horkheimer in the late 70s through the

Southeastern Planetarium Association whose conferences I liked to attend. Jack was one of the founders of SEPA. "Star Hustler" as it was originally called was one of the first nation-wide programs of this type. In my talk I'll go into some of its history. I knew him through the planetarium world and brought him to Nebraska to speak in Omaha and Lincoln in the late 80s. When PAC was going to host MSRAL in 1993 I knew he would be a big draw. And the banquet room for MSRAL was overflowing. The late Earl Moser - longtime PAC member - did record video of his talk. I'll use some clips from that recording on which I have done some restoration work.

Horkheimer was one of those really unique individuals. What you saw in "Star Gazer" was a persona he created for



the show. And hope to let you know "the rest of the story." I have videos including one that was created for his memorial gathering. In his talk at MSRAL he let you see more of the background of his show. There's more to the story of his tenure in Miami and his journey with Astronomy. His was a different approach than Sagan. But it was just as profound with his planetarium show "Child of the Universe" and his many writings. His training in college was as a playwright and it showed in his work. But he was also a master

Jack Horkheimer, continued

promoter. He "hustled" his planetarium and his work back when that term wasn't quite so tainted.

Oh and I will explain that "Star Hustler" became "Star Gazer" when the

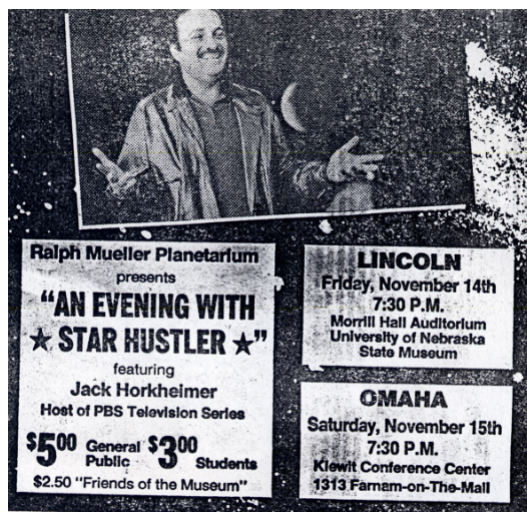
internet started to flourish. PBS realized it would not be good to put the word "Hustler" into a search engine if you were a schoolteacher.

I felt time had passed and wanted to share the amazing character that I

knew who did so much for Astronomy.

Clear Skies,

Jack D.



Hyde Observatory Needs You!



Volunteer at Hyde

Our crew of unpaid volunteers share an interest in Astronomy and they enjoy passing on that interest to the public.



You don't need to be an expert in astronomy or telescopes. We'll teach you what you need to know.



Volunteers start as telescope operators on the observing deck, which involves keeping one of the three telescopes focused on the sky objects we are showing and explaining them to our visitors. Experienced volunteers can become Deck Leaders who determine what objects to train the telescopes on, and answer the really difficult questions.

For more information, [visit our website](#)

From the Archives, September 1976

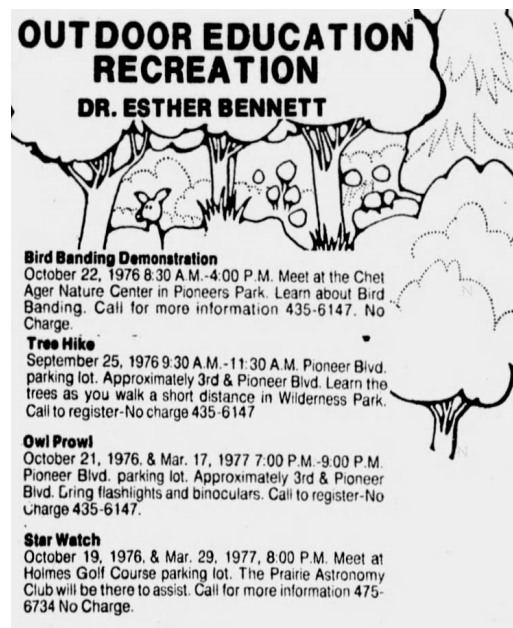
"Star Watch" is New Club Project

Each year, the Lincoln City Parks & Recreation Department sponsors a number of outdoor education-recreation projects- Among them this year is a "Star Watch" was announced to the public in the Parks & Recreation supplement to the Sunday Journal-Star, September 19. Actually, two "Star Watches" are scheduled, the first for Tuesday night, October 19, 1976, and the second for

March 29, 1977. They will begin at 8:00 p.m. at the Holmes Golf Course parking lot. You will notice that the location is very close to the proposed site of the Community Observatory. The idea behind the Star Watches is to get people used to thinking of Holmes Park as a place to look at the Sky, and get a running start on having the Prairie Astronomy Club conducting sessions in

which the public can peer through telescopes. It is a continuation of the Gateway Sky Show idea at a dark(er) sky location. Every member of the club with a telescope is encouraged to bring it to the first Star Watch on Tuesday night, October 19. If nothing else, it will be a chance to satisfy your curiosity about Holmes Park as a good place to build the Community Observatory.

OUTDOOR EDUCATION RECREATION
DR. ESTHER BENNETT



Bird Banding Demonstration
October 22, 1976 8:30 A.M.-4:00 P.M. Meet at the Chet Ager Nature Center in Pioneers Park. Learn about Bird Banding. Call for more information 435-6147. No Charge.

Tree Hike
September 25, 1976 9:30 A.M.-11:30 A.M. Pioneer Blvd. parking lot. Approximately 3rd & Pioneer Blvd. Learn the trees as you walk a short distance in Wilderness Park. Call to register-No charge 435-6147

Owl Prowl
October 21, 1976, & Mar. 17, 1977 7:00 P.M.-9:00 P.M. Pioneer Blvd. parking lot. Approximately 3rd & Pioneer Blvd. Bring flashlights and binoculars. Call to register-No charge 435-6147.

Star Watch
October 19, 1976, & Mar. 29, 1977, 8:00 P.M. Meet at Holmes Golf Course parking lot. The Prairie Astronomy Club will be there to assist. Call for more information 475-6734 No Charge.

Star Watch, Bird Banding, Volleyball Crowd Calendar

The Lincoln Parks and Recreation Department has announced a star watch, a bird banding demonstration and registration information for the 1976-1977 men's and women's volleyball season.

The sky watch will be held on Tuesday from 8 p.m. to 9:30 p.m. at the Holmes Golf Course parking lot. The Prairie Astronomy Club will be there to assist in a study of the fall sky.

The bird banding demonstration will be at the Chet Ager Nature Center in Pioneer Park Oct. 22 from 8:30 a.m. to 4 p.m. A licensed bird bander will explain basic information.

Those interested in forming volleyball teams may pick up information and roster sheets from the Parks and Recreation office, 2740 A. League play will start Nov. 29 and run through March 17.

ADDRESS

The Prairie Astronomer
c/o The Prairie Astronomy Club, Inc.
P.O. Box 5585
Lincoln, NE 68505-0585
info@prairieastronomyclub.org

The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc. Membership expiration date is listed on the mailing label. Membership dues are: Regular \$30/yr, Family \$35/yr. Address all new memberships and renewals to: The Prairie Astronomy Club, Inc., PO Box 5585, Lincoln, NE 68505-0585. For other club information, please contact one of the club officers listed to the right. Newsletter comments and articles should be submitted to: Mark Dahmke, P. O. Box 5585, Lincoln, NE 68505 or mark@dahmke.com, no less than ten days prior to the club meeting. The Prairie Astronomy Club meets the last Tuesday of each month at Hyde Memorial Observatory in Lincoln, NE.

MEMBERSHIP INFO

REGULAR MEMBER - \$30 per year.
Includes club newsletter, and 1 vote at club meetings, plus all other standard club privileges.

FAMILY MEMBER - \$36 per year.
Same as regular member except gets 2 votes at club meetings.

STUDENT MEMBER - \$12 per year
with volunteer requirement.

Club members are also eligible for special subscription discounts on Sky & Telescope Magazine.



CLUB TELESCOPES

To check out one of the club telescopes, please contact a club officer. Scopes can be checked out at a regular club meeting and kept for one month. Checkout can be extended for another month if there are no other requests for the telescope, but you must notify a club officer in advance.

100mm Orion refractor: Available

10 inch Meade Starfinder Dobsonian: Available.

13 inch Truss Dobsonian: Needs repair.

10 inch Zhumell: Needs mount.

Buy the book! The Prairie Astronomy Club: Fifty Years of Amateur Astronomy. Order online from [Amazon](https://www.amazon.com) or [lulu.com](https://www.lulu.com).