

The Prairie Astronomer

December 2018 Volume 59, Issue #12

Apollo 8's Daring Mission to the Moon



Night Sky Network



The Newsletter of the Prairie Astronomy Club

The Prairie Astronomer

**NEXT PAC MEETING: December 18 at 6:30pm at
Mueller Planetarium**

PROGRAM

**We will meet at Mueller Planetarium for our
annual holiday gathering. Please go to the
west entrance at Morrill Hall.**

FUTURE PROGRAMS (Tentative)

January: How to Use your Telescope

February: Lunar Observing

March: Outreach Tips

April: Binocular Observing

May: Annual Club Dinner

June: Solar Star Party

July: Beginning Astrophotography

August: NSP Review

September: to be determined

October: Club Viewing Night

November: How to Buy a Telescope

December: Club Holiday Gathering

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**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).

EVENTS



PAC Meeting
 Tuesday December 18, 2018, 6:30pm
 Holiday Gathering

PAC Meeting
 Tuesday January 29, 2019, 7:30pm
 Program: How to Use Your Telescope

PAC Meeting
 Tuesday February 26, 2019, 7:30pm
 Program: Lunar Observing

PAC Meeting9
 Tuesday March 26, 2019, 7:30pm
 Program: Outreach Tips

2019 STAR PARTY DATES



Photo by Brian Sivill

	Star Party Date	Star Party Date
January	Dec 28	Jan 4
February	Jan 25	Feb 1
March	Mar 1	Mar 8
April	Mar 29	Apr 5
May	Apr 26	May 31
June	Jun 21	Jun 28
July	Jul 26	Aug 2
NSP	July 28 - Aug 2	
August	Aug 23	Aug 30
September	Sep 20	Sep 27
October	Oct 18	Oct 25
November	Nov 22	Nov 29
December	Dec 20	Dec 27

Dates in **BOLD** are closest to the New Moon.



PAC E-MAIL:

info@prairieastronomyclub.org

PAC-LIST:

Subscribe through [GoogleGroups](#).
 To post messages to the list, send
 to the address:

pac-list@googlegroups.com

ADDRESS

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WEBSITES

- www.prairieastronomyclub.org
- <https://nightsky.jpl.nasa.gov>
- www.hydeobservatory.info
- www.nebraskastarparty.org
- www.OmahaAstro.com
- Panhandleastronomyclub.com
- www.universetoday.com/
- www.planetary.org/home/
- <http://www.darksky.org/>



Night Sky Network

Meeting Minutes

Pac business meeting minutes November 27, 2018

(Refreshments served – cookies and cider)

Welcome approximately 8 visitors in attendance with approximately 14 club members in attendance. President Bob Kacvinsky called meeting to order at 7:32pm. Observing chair Jim Kvasnicka presented the Observing report for upcoming month (December). PAC Star parties were announced – for Friday Nov 30th, and following Friday Dec 7.

December observing to include:

- Evening planets – Saturn, Mars, Neptune (near Mars on Dec 6-7), Uranus. Morning Planets -Venus, Mercury, Jupiter.
- Geminid meteor shower peaks Dec 13th to 14th,
- Comet 46p/Wirtanen (increasing to predicted peak magnitude 3.0, coma diameter 1 to 1.5 degree estimated).
- December Messier list –M2, 15, 29, 31, 32, 39, 110
- NGC objects – 578, 672, 779, 869/884.
- Also anticipating the January 20-21 total Lunar Eclipse

Jim announced the Binocular Messier observing award to be presented to Dan Delzell who completed this year at NSP in August 2018.

On behalf of PAC Bob presented Jim Kvasnicka with a commemorative plaque in appreciation for outstanding leadership and service to PAC over the years as observing chair, and the club's president.

Bob reviewed and summarized the results of the member survey asking for inputs – suggestions included the following:

To have refreshments (thus served at tonight's meeting),

To take a few minutes to talk about current news in astronomy. As such was presented

- the contributions of amateur astronomers Dan Mako (comets) and Giuseppe Donatiello (discovered dwarf galaxy using homemade scope).
- farewell to a few instruments recently have become inactive – Dawn, and Kepler telescopes. New Horizons gathered its first image of an object in the Kepler belt (after Pluto).
- Also we viewed one of the first images from INSIGHT's successful landing on Mars which occurred the day prior to this meeting (Nov 26th 2018).

Bob announced we will begin to collaborate with Branched Oak Observatory to alternate observing sites for the monthly scheduled PAC star parties starting Dec 28th at the Branched Oak Observatory site, followed by Jan 4th at the Cortland farm site. The PAC has provided funding for a cement pad out there for this very purpose. Brian Sivil as representative of Branched Oak Observatory heartily welcomed the idea and extended open invitation for PAC members to observe anytime out there (Aside from regular scheduled star parties) provided notification given prior to going out.

Other announcements – the December meeting schedule was changed because the last Tuesday of December falls on Christmas day, as such the December PAC meeting/Holiday party (for members only) was rescheduled for Tuesday December 18th at Mueller Planetarium on the UNL campus. Announcement/notification to follow.

Bob concluded the meeting with invitation to join the club, explaining dues, benefits, etc. Introduced new and returning club officers and brief explanation of their duties. And with no further club business the meeting was adjourned 7:32pm to the program – “How to buy a telescope”.

PAC board meeting minutes
Hyde Observatory Nov 15, 2018

President Bob Kacvinsky called the meeting to order at 7pm,

Attendees: John Reinert, Mark Dahmke, Christine Parkyn, Rick Brown, Bill Lohrberg, Dan Delzell, (cookies and cider provided).

Bob begins by having each introduce themselves, and each their role in this new PAC board.

Financial Update

John Reinert presents treasurers report and membership count (approx. 55 members at this time) discusses process of notification and collection of overdue membership dues. Bob stresses the need to collect those member dues prior to end of year and will coordinate with John the effort to contact those members and give notice with deadline. Discussion continues regarding various avenues of revenue including amazon smile and how those funds could be utilized going forward. Motion to initiate member notice put forth by John, seconded by Bill, all in favor.

Treasurer's report accepted unanimously.

Membership Survey review

Bob discusses responses to survey questions sent to the membership for suggestions to increase member interest and involvement. One of the common requests was to have snacks for club meetings. Motion to provide refreshments

at some (not all) of the meetings was put forth by Rick, (provisional notice given to 2 board members –President and Treasurer for example tto authorizing such expenditures) – all in favor.

Review of survey continues with suggestions including learning about who won awards, video presentations, slide shows, remote observation from the observatories around other parts of the world (via online connection), communication and coordination with high school science teachers to generate interest in our club and its activities and events.

Membership also would like to see Jim Kvasnicka's observing report to continue Another suggestion is to open up library and have materials available for check out. Discussion diverts to current state of library and the need to maintain and update...according to bylaws, the duty of maintaining library as well as inventory of property (telescopes, equipment etc.) is for the First Vice President (Rick Brown). Rick agrees to start the process of inventory. Mark will include information as to where the club scopes are in the monthly newsletter. Bob stresses the need for this information to be kept current as well as where telescopes are to be stored when not checked out. (Not to be stored at Hyde).

Meeting programs for 2019

To discuss and review meeting programs as scheduled by Christine for 2019. Bob

references back to results of member survey – some suggestions from the few who had responded so far; to have an "Astronomy tip of the month" during meetings, reiterates the desire for refreshments at meetings, other responses included having programs centered around favorite subjects – such as space exploration, theoretical astronomy, observational astronomy.

Christine continues with review of tentative programs scheduled for 2019, open to suggestions for topics or speaker/presenters to fill in any of the 2019 monthly meetings that are not confirmed – July meeting is one possible need for program alternative.

Bob presents options for 3 different speakers available to us by permission - who gave talks at ALCON this year. It is agreed to have available one or more of these presenters (prerecorded video) for future programs, Christine will consider where we could insert these as backups for programs or to substitute for others.

Christine asks for any further suggestions for 2019 programs for the board to consider – some would like to see another program on beginning astro photography, continue with the June solar observing, binocular observing among the already

PAC Board Meeting Minutes, Continued.

scheduled programs for 2019. Any of these may change upon further notice and discussion.

November (2018) meeting & future meeting advertising and event promotion

November meeting program – “how to buy a telescope”, planning ensues. Bob to present with Dan’s help, need members to bring various types of scopes for demonstration, we have Dobs, and SCT’s covered, Mark to bring refractor on eq mount, but Bob would also like to have at least a slide in the presentation showing a cheap refractor on a flimsy alt/az mount for an example. Invites will go out for this event on facebook – Mark encourages everyone to like and share event, ads to be placed in newspaper, community calendar, 2 TV stations, 3 radio, and Hyde home page were

discussed. Other suggestions for generating interest in November meeting (and PAC events in general) to hang flyers/posters at coffee houses, on bulletin board at Hyde – making sure URL is printed on the notices.

December (2018) meeting schedule date and location

Mark states that program location and date for December (2018) meeting and program need to be scheduled, typically December meetings take place at Mueller planetarium – need to coordinate with Zach to see if planetarium is available. Since Christmas is on a Tuesday, it is agreed the meeting should be moved to the week prior – Dec 18. In the December meeting Bob would like to recognize Jim K, for outstanding service – will present a plaque, Mark has this

in the newsletter, but Bob would like to have on agenda for December meeting as well.

General discussion

John Reinert – outreach plug – Mike Kearns.

Observing site(s) and co-op with Branched Oak Observatory.

Mark – Someone from OAS suggests having occasional Saturday club meeting with Hyde open after (to encourage public attendance to meetings) Christine suggests could do this for August meeting or early July.

Mark – Audit to be scheduled and complete by February

Meeting adjourned 8:45pm

Observing Award



Congratulations to Dan Delzell for receiving the Binocular Messier Award. This is Dan’s fourth observing award. Dan has also completed the Messier, Globular Cluster, and Caldwell observing programs. Congratulations again to Dan.



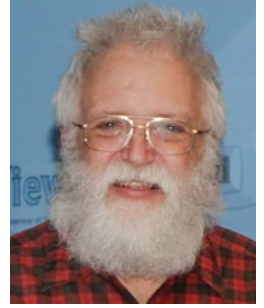
xkcd.com

Barnard 135 is a dark nebula in southern Aquila. On the very left side of the image where a rather bright blue star is located is another darkening. That is Barnard 136. I didn't realize it was there so didn't frame it properly. Barnard's note on B 135 reads: "Dusky spot; diam. 13'; BD -4 4698 (magnitude 9.2) on N border; BD -4 4702" (magnitude 9.2) on SE edge"

His note on B 136 reads: "Dusky spot; diam. 13'; BD -4 4698 (magnitude 9.2) on N border; BD -4 4702." While his note gives no size most catalogs list it's size at 8 minutes. In my image, it isn't nearly as dark as B 135.

However, this was taken through severe smoke which gave me lots of gradient issues. My attempt to compensate may be to blame. I just don't know. I had

a link to some amateur site that listed how dark someone thought they were. I didn't always agree and now the site is gone.



14" LX200R @ f/10. L=4x10' RGB=2x10'. STL-11000XM.

Thanks to all who attended and helped with the November meeting program "How to Buy a Telescope". We had 8-9 guests who attended and the feedback from several highlighted how much they appreciated the one-on-one time with the members and the information shared.

A couple of our guests have shown an interest in joining the club to help with their potential purchase. We have also had follow-up inquiries seeking more details and information. Thank you for your attentiveness to our guests.

Please be sure to mark your calendars for Tuesday, December 18th at 6:30 PM for the date of our Christmas Party at Morrill Hall / Mueller Planetarium on the UNL Campus. We will have a Valentino's meal and Zach has been gracious to offer a planetarium show for everyone. Please leave me a message if you are able to attend and if you're bringing a guest, so we make sure to have enough food for everyone.

If you attended the November meeting you probably noticed a couple of new changes including a "snack / cookies and juice" and the addition of

a brief review of what is new in the Astronomy World in the meeting presentation. Both of these new actions were the result of feedback from the membership survey earlier in November. We really want your ideas and feedback on how to make your meetings more interesting and informative.

If you have not responded to the survey, please take a moment to drop me a brief note. The Board would love to hear your input on a couple areas.

1. How can we improve the monthly meetings to encourage guests, inspire your Astronomical excitement, and reach out to new members?
2. Your thoughts on how to "get the word out" to the public about PAC and Astronomy in general.
3. What can we do to encourage a greater participation in outreach activities and especially club star parties?

Along the last point, one of the suggestions that came forward was to change our monthly star parties by hosting one on the new cement slab at the Branched Oak Observatory and the second party each month at the southern location near



Cortland. This will allow two sky views and during the winter months a use of the easier access cement platform at Branched Oak.

The December 28th Star Party will be at the Branched Oak Observatory west of Raymond, NE.

The January 4th Star Party will be at "The Farm" south of Cortland south of Hwy 41.

We look forward to seeing you at the Christmas Party and upcoming PAC activities.

Happy Holidays and Merry Christmas to you and your families.

Bob Kacvinsky
kacvinskyb@yahoo.com
402-499-1816

January Observing: What to View

Jim Kvasnicka

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

Planets

Mars: Sets around 11:20 pm to start January.

Neptune / Uranus: In Aquarius and Pisces.

Venus: Rises just after 3:30 am at magnitude -4.3.

Jupiter: Rises around 5:00 am at magnitude -1.9.

Mercury: Too low in the twilight to be seen.

Saturn: In conjunction with the Sun and not visible until the third week of the month.

Moon: Total eclipse the night of January 20-21. (Page 18 Sky and Telescope, January)

Meteor Showers

Quadrantids: Short lived shower the night of January 3rd with a four hour peak time.

Messier List

M33: The Pinwheel Galaxy in Triangulum.

M34: Open cluster in Perseus.

M52: Open cluster in Cassiopeia.

M74: Galaxy in Pisces.

M76: The Little Dumbbell in Perseus.

M77: Galaxy in Cetus.

M103: Open cluster in Cassiopeia.

Last Month: M2, M15, M29, M31, M32, M39, M110

Next Month: M1, M35, M36, M37, M38, M42, M43, M45, M78, M79

NGC and other Deep Sky Objects

Collinder 69: Open cluster in Orion.

NGC 1981: Open cluster in Orion.

NGC 2169: The 37 Cluster in Orion.

NGC 2174/2175: Emission nebula and open cluster in Orion.

Double Star Program List

Beta Orionis: Rigel, bright white star with a pale blue secondary.

Delta Orionis: Mintaka, white and pale blue stars.

Struve 747: Equal white stars.

Lambda Orionis: Pair of white stars.

Theta 1 Orionis: The Trapezium.

Iota Orionis: White primary with a blue secondary.

Theta 2 Orionis: Three white stars.

Sigma Orionis: White primary with three pale blue stars.

Zeta Orionis: Alnitak, White star with two white secondary stars.



Challenge Object

B33: The Horsehead Nebula in Orion, use a Hydrogen-Beta filter for best results.



*Above: Canon T7i, Rokinon 10mm T3.1 lens, 10 sec subs, Giza, Egypt
Below: Luxor*



Observe Apollo 8's Lunar Milestones



Courtesy NASA

This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

December marks the 50th anniversary of NASA's Apollo 8 mission, when humans first orbited the Moon in a triumph of human engineering. The mission may be most famous for "Earthrise," the iconic photograph of Earth suspended over the rugged lunar surface. "Earthrise" inspired the imaginations of people around the world and remains one of the most famous photos ever taken. This month also brings a great potential display of the Geminids and a close approach by Comet 46P/Wirtanen

You can take note of Apollo 8's mission milestones while observing the Moon this month. Watch the nearly full Moon rise just before sunset on December 21, exactly 50 years after Apollo 8 launched; it will be near the bright orange star Aldebaran in Taurus. The following evenings watch it pass over the top of Orion and on through Gemini; on those days five decades earlier, astronauts Frank Borman, Jim Lovell, and Bill Anders sped towards the Moon in their fully crewed command module. Notice how the Moon rises later each evening, and how its phase wanes from full on Dec 22 to gibbous through the rest of the week. Can you imagine what phase Earth would appear as if you were standing on the Moon, looking back? The three brave astronauts spent 20 sleepless hours in orbit around the Moon,

starting on Dec 24, 1968. During those ten orbits they became the first humans to see with their own eyes both the far side of the Moon and an Earthrise! The crew telecast a holiday message on December 25 to a record number of Earthbound viewers as they orbited over the lifeless lunar terrain; "Good night, good luck, a merry Christmas and God bless all of you - all of you on the good Earth." 50 years later, spot the Moon on these holiday evenings as it travels through Cancer and Leo. Just two days later the astronauts splashed down into the Pacific Ocean after achieving all the mission's test objectives, paving the way for another giant leap in space exploration the following year.

The Geminids, an excellent annual meteor shower, peaks the evening of December 13 through the morning of the 14th. They get their chance to truly shine after a waxing crescent Moon sets around 10:30 pm on the 13th. Expert Geminid observers can spot around 100 meteors per hour under ideal conditions. You'll spot quite a few meteors by avoiding bad weather and light pollution if you can, and of course make sure to bundle up and take frequent warming breaks. The Geminids have an unusual origin compared to most meteor showers, which generally

spring from icy comets. The tiny particles Earth passes through these evenings come from a strange "rock comet" named asteroid 3200 Phaethon. This dusty asteroid experiences faint outbursts of fine particles of rock instead of ice.

You can also look for comet 46P/Wirtanen while you're out meteor watching. Its closest approach to Earth brings it within 7.1 million miles of us on December 16. That's 30 times the average Earth-Moon distance! While passing near enough to rank as the 10th closest cometary approach in modern times, there is no danger of this object striking our planet. Cometary brightness is hard to predict, and while there is a chance comet 46P/Wirtanen may flare up to naked eye visibility, it will likely remain visible only via binoculars or telescopes. You'll be able to see for yourself how much 46P/Wirtanen actually brightens. Some of the best nights to hunt for it will be December 15 and 16 as it passes between two prominent star clusters in Taurus: the Pleiades and the V-shaped Hyades. Happy hunting!

Catch up on all of NASA's past, current, and future missions at nasa.gov

From the Archives: December, 1968

68
The Prairie Astronomy Club Of Lincoln Nebr.,
A Non-Profit Corporation.

December 1968.

The President Reports.

The past few years I have sent "Photo,s" Christmas Cards to friends and Club Members. This Year it seems that Christmas came too fast and I just didn,t have time to get the job -- done,so instead of a card I will Use the newsletter to wish everyone a MERRY CHRISTMAS and HAPPY NEW YEAR.

We will not have a regular meeting this month. Instead we -- have been invited to a special Program at the Midland College planetarium in Fremont Nebr. Dr Lueninghoener has invited the Omaha and Lincoln Astronomy Clubs to his annual Holiday Special. A few of us went up there last year and I hope More from our Club Can go this year. The date is saturday Dec 21st ---- There will be a special planetarium show in the afternoon---- Then- After the evening meal there will be more entertainment and a sky show at the Observatory.

I expect to have full information about this program by -- the time you receive this newsletter. So for further details-- call me 992-2260 Hickman Nebr or Monte Cole 488 -1652.

So remember No regular meeting this month,but I hope to see you in Fremont on Dec 21st.

Earl Moser.

On dec 17th at Morrell Hall,Uni Of Nebr,The Audibon Society of Lincoln have their meeting .7.30 PM. Our President,Earl Moser,Tres Ricky Johnson,Monty Cole,and Several other of our Members are to give them a Program " Sky Travelogue" Ets Any members wishing to attend this meeting are welcome.

May you all have a Questar in your Stocking for Christmas.

Dont Forget-- No meeting this month--- Merry Christmas .

see you in Jan 1969- Say about Tuesday ,something, I aint got no 1969 Calander. JW.

CLUB MEMBERSHIP INFO

REGULAR MEMBER - \$30.00 per year. Includes club newsletter, and 1 vote at club meetings, plus all other standard club privileges.

FAMILY MEMBER - \$35.00 per year. Same as regular member except gets 2 votes at club meetings.

STUDENT MEMBER - \$10.00 per year with volunteer requirement.

If you renew your membership prior to your annual renewal date, you will receive a 10% discount.

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: David Pennington
10 inch Meade Dobsonian: Lee Taylor
13 inch Truss Dobsonian: Available

CLUB APPAREL



Order club apparel from cafepress.com:



Shop through Amazon Smile to automatically donate to PAC:



CLUB OFFICERS

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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.