



The *Prairie Astronomer*

The Official Newsletter Of The Prairie Astronomy Club, Inc.

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MEETINGS & EVENTS

CLUB STAR PARTIES
FRIDAY DECEMBER 18, 1998, Sunset 'till ?
 Olive Creek SRA (see Page 6 for directions)

PAC MEETING
TUESDAY NOVEMBER 24, 1998, 7:30 PM
 at Hyde Memorial Observatory

UNL STUDENT OBSERVATORY
 Open to the public
FRIDAY NOVEMBER 30, 1998 (sundown-11PM)
 No Open House In December
FRIDAY JANUARY 22, 1999 (sundown-11PM)

PAC MEETING
TUESDAY DECEMBER 29, 1998, 7:30 PM
 at Hyde Memorial Observatory

DECEMBER'S PROGRAM:

Dr. Eugene Rudd, Emeritus Professor of Physics at UNL will give a talk on the Antique Telescope Society (ATS), an international organization of colleagues interested in antique astronomical telescopes, books, binoculars, and related materials. The ATS seeks to promote the interest of its membership in astronomical history and discovery, the history of optics, and in the preservation and use of astronomical instruments through stewardship and education. Dr. Rudd is currently the President of this organization.

NEW PAC OFFICERS

The following individuals were elected as officers of The Prairie Astronomy Club for Nov 1998 - Oct 1999:

President:	Dave Knisely
Vice President:	Larry Hancock
2 nd VP (Program Chair):	Mark Fairchild
Secretary:	Willa Penney
Treasurer:	Liz Bergstrom

CLUB LIBRARY: The Prairie Astronomy Club has a library with scores of astronomy related books, which are available for loan at no cost to it's members. These books are now located in a cabinet at Hyde Observatory, and may be checked out by PAC members at any monthly meeting of the Prairie Astronomy Club. Larry Hancock is our librarian.

PAC SHIRTS & HATS: The club shirts and hats with the PAC logo are in. If you placed an order and haven't picked it up yet, see Larry Hancock at the club meeting. Payment is due upon receipt. T-shirts are \$7, polo shirts are \$14 & hats are \$5.

PAC-LIST: Mark Dahmke maintains an e-mail list server for PAC. If you have an e-mail address and are not on the PAC List, you may subscribe by submitting an e-mail to list@4w.com. Write "Subscribe PAC-List" in the body of the e-mail.

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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 \$20/yr, Family \$22/yr.** Address all new memberships and renewals to: **The Prairie Astronomy Club, Inc., PO Box 80553, Lincoln, NE 68501.** For other club information, please contact one of the club officers listed on the last page of this newsletter. Newsletter comments and articles should be submitted to: **Dave Scherping, 640 S. 30th St., Lincoln, NE 68510 (402) 477-2596** or e-mail dscherp1@aol.com or scherpid@squared.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.

SECRETARY'S REPORT

By: Dave Scherping

The October 27th meeting of The Prairie Astronomy Club was kicked off promptly at 7:30 PM by President Dave Knisely. My count of attendance at that time was 24 people. First, we reviewed recent club activities and astronomical events. Dave talked about the recent solar activity and urged those with properly equipped telescopes to get out and observe the Sun. He also shared his recent experiences observing the planets which have been prominent in the night sky (Jupiter & Saturn). Dave mentioned that there is a nova worth observing. Nova Scorpii, at coordinates RA 17h55m24.99s DEC -31°1'4.5", is currently at 7th magnitude, making it nearly visible to the naked eye and easily visible in binoculars. We also discussed the upcoming Leonid meteor shower, which will be visible from November 15th through 20th. The peak will occur on November 17th. As mentioned in the past couple of newsletters, there is a good possibility of a meteor "storm" this year, however it will only be visible from SE Asia and Australia if it occurs this year. There is also a chance it will occur next year. In preparation for the anticipated great deal of media coverage, Hyde will be open the night of November 17th, from 7:00-11:00 PM.

Dave Knisely briefly updated the group on the status of NSP-6, which will be held August 7-14, 1999 at Merritt Reservoir. Brochures will be made available in December or early January. Planning meetings are held the 2nd Thursday of each month at the lodge at Mahoney State Park (between Lincoln & Omaha). The planning meetings are open to all who are interested in helping out.

Larry Hancock brought the recently ordered PAC hats, t-shirts, and polo shirts. He ordered several extras, so if you'd like to purchase one, see Larry at the November PAC meeting. Erik Hubl mentioned that it's time to order RASC handbooks and Ottwell Calendars once again. A sign-up sheet was passed around. Anyone else interested in purchasing one should sign up at the November meeting. The members in attendance voted to donate an RASC Handbook and an Ottwell Calendar to Hyde Observatory. On behalf of the Hyde staff, I'd like to say thanks. They are great references and will get a lot of use.

The last agenda item was election of PAC Officers for the upcoming year. The first election was for the office of President. Incumbent **Dave Knisely** (R-Beatrice) ran unopposed and therefore won re-election by an overwhelming majority. Dave should be commended for his efforts to control campaign financing. I don't recall seeing a single TV campaign ad nor any "Dave Knisely for President" campaign signs in the days leading up to the election. He should also be commended for running a clean campaign. Not once did he sling mud at himself. Congratulations Dave.

Next under consideration was the office of Vice President. Incumbent **Doug Bell** (Whig) put up a good, but unsuccessful challenge to front-runner **Larry Hancock** (Indep.). I'm sure these results were not due to Doug's track record as VP this past year or as President the year before. He did a great job. It's just that Larry did some incredible campaigning, which included moving the club library to Hyde and spearheading the project of getting club shirts & hats. Little did we know that these were campaign tactics! And he didn't stop there. His latest successful venture is to have coffee and snacks provided at the monthly meetings, which will begin this month! Larry previously served as 2nd VP, and I'm sure he will be a great asset to the club in his new role.

We were all happy when **Mark Fairchild** accepted nomination for the position of 2nd Vice President (Program Chairman). **Erik Hubl** was nominated for re-election, but graciously declined. We think that Mark brought his son to the meeting for that one extra vote, but since he ran un-opposed it was not necessary. We all appreciate the work Erik put into lining up some great programs this past year and anticipate that Mark will do a bang-up job as well.

For the role of Secretary, someone nominated **Dave Scherping** while he was absent from the September meeting. Luckily, **Willa Penney** was also nominated. Dave tried to clumsily decline nomination, but did so too late and had to face a grueling election process. The voters made it clear who their first choice was. Willa Penney walked away victorious, winning by a landslide. Congratulations Willa. Rumor has it, Scherping will seek a cabinet position in the new administration. Just don't make him "Clear Skies Coordinator".

Last, but definitely not least, was the re-election of **Liz Bergstrom** as Treasurer. She ran un-opposed (as usual, everybody else ducked behind their chairs when nominations were taking place). We're lucky to have someone like Liz who is willing to put out the effort required to handle the responsibilities of treasurer. Liz did a great job this past year (as is evident by the fact that PAC still has all of its money!) and I'm sure she'll do a great job in the coming year. Thanks Liz.

At that, the meeting was adjourned and turned over to Erik Hubl for this month's program. Erik showed a video that was supplied by Larry Hancock. The video was about the MIR space station and the recent joint missions with the US space shuttle crews. As a side note, Hyde recently replaced their overhead projector with a new "20th century" model after the bulb in the OLD one burned out in September. The old projector, also known as "Projectosaurus" will be donated to the Smithsonian. So, if you've been dying to do a presentation at an upcoming meeting, see Mark Fairchild. He has a brand-spanking new projector for you to use and it's less than 3 feet tall!

The Prairie Astronomy Club Membership List

Please notify editor of any misprints or updates

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THE LEONID METEOR SHOWER

November 1998

Reports From Members of The Prairie Astronomy Club

Artwork from Sky & Telescope

From Dave Scherping 11/17/98 (Mine gets to go first 'cause I'm the editor!):

I'm sure there will be a lot of Leonid reports today, but nevertheless, here's my experience this morning. Tom & Terry Miller and I began observing at 3:15 am today at Tom's house NE of Lincoln. I tried to keep an accurate count for a while, but quit after about 40 minutes. During that time, I counted 120 meteors, not including all of the faint ones Terry said he saw while lying on the trampoline. I'm guessing there were well over 250 per hour. They really got going from 4:00-4:30 AM during which there were several bursts where we saw 10-20 in about a minute.

From Erik Hubl 11/17/98:

I too enjoyed the show, but from the comfort zone of the backyard which surely limits sky area and magnitude. I awoke at 3:00 AM CST to see the sky over Lincoln, NE very clear. Immediately after the alarm rang, I opened the shade to see a bright Leonid cross the northern sky. A good omen indeed. By 3:15 I was outside and setting up my lawn chair. 10 more occurred during this time and one illuminated the surrounding ground. I made visual counts starting at 3:30 and captured 42 by 4:30. Again I could only see about 40% of the sky so I know I missed many. They were all very bright, 0, 1 and 2 mag. Several were blue-green and I noticed yellow-white in one. They were quite fast and most left nice trains. The longest lasted 7 seconds. The next hour also yielded 42 meteors, but I had noticed more of them were fainter. 10-12 were mag 3 or 4 with the others still very bright. Then I saw 2 side by side coming out of the radiant, and no more than 3 seconds later a bright 1 mag streaks through Gemini and another streaks east from Leo. Several lulls occurred at times but it was well worth the lack of sleep. 5:30 - 6:00 produced an additional 18 with one illuminating the side of the house. By 6:00 a wispy high cirrus started to move in so I snuck off to the warm waterbed for 30 minutes of thaw. I too saw the very old moon cradled in the morning glow. What a night it was. At least as good as any Perseids I have ever seen and the brightness and speed of these guys are amazing. All in all 112 Leonids, 12 sporadics, 8 satellites and 6 planes. I am certain my lower numbers are directly related to my lack of horizon, because my eyes were wide open the entire time! It was fun.

From Dave Knisely 11/17/98:

Del Motycka and I made it out to Olive Creek SRA to do some late-night meteor watching under clear but cool conditions (33 degrees). Well, for those of you who couldn't find the time (or the sleep) to make it out to watch, let me just say this: YOU MISSED THE BEST METEOR SHOWER IN THE PAST 30+ YEARS!! While not a storm, this wonderful Leonid display put out an incredible number of brilliant meteors which put the usual activity levels of the Perseids and Geminids to shame! Meteor per hour rates reached over 150 meteors per hour between 1 and 3 a.m. CST this morning, and all of the meteors were brighter than 3rd magnitude, with many ending in brilliant strobe-like bursts! Activity began to really heat up around midnight as the radiant rose. Rates at that time were between 60 and 80 meteors per hour, but rose rapidly as time went on. A "hot-zone" of activity developed south of the radiant, but quickly spread to all areas of the sky. Indeed, we probably missed a lot of meteors due to the fact that we couldn't look at the entire sky at once. Most of the meteors showed trails, many of which had greenish casts. Some looked a bit like a stellar spectra, with the reddish orange meteor on one end, and the more bluish-green trail towards the back. The trails often remained visible for up to a minute or two, and a number of really brilliant ones had trails which ran for over 30 degrees in length. Several were bright enough to easily light up the surrounding area. Many also came in clusters of from 2 to 7 meteors within the space of less than ten seconds. Just after 1 a.m., the night turned to day, as a stupendous bright bolide slashed its way north of Canis Major into southern Orion. The stars vanished momentarily, and the sky turned a bright daylight blue, as if the sun had come up in the south. We agreed that the meteor was considerably brighter than the full moon, possibly -15 or brighter. The bolide left a trail which remained visible for over 45 minutes! I even had enough time to get my ten inch scope on the trail and view its complicated structure at high power, as upper-level winds distorted the trail into an irregular cloud which dispersed slowly. Several meteors seemed to follow each other, often tracing out nearly the same path through the sky as a previous one. Some occurred in pairs, while others seemed to come as part of clustered groups. At times, the rates seemed near storm level for periods up to ten or 15 seconds before dying down to the usual "dead-zones" between events. There were a number of meteors which "pulsed" a bit, leaving irregular trails. A few head-on meteors were also noted. After 3 a.m., the meteors appeared to be traveling much faster than before, but the total rate began to drop to around 100 to 120 per hour. As I drove home and noticed the crescent moon rising in the east, a final bright meteor pulsed and flew by the moon, marking the end of a spectacular display. I have little doubt that the far-east will see a storm later today.

From Mark Fairchild 11/17/98:

I was able to see a brief flurry of about 5 very bright Leonids (1st magnitude or better) and another 6 of lesser magnitude between 12:30 and 1:00 FROM INSIDE my house in town--looking through a door! Later, between 4:00 and 5:30 our family saw approximately 60 per hour from the front yard (we were able to cover 75% of the sky.) Most of the meteors we saw were blue-white, with most of the first magnitude ones leaving trails that persisted for 1-3 seconds. I only noticed two trails persisting as long as 5 seconds. There were, however several yellowish meteors--I would guess about 20%. Seeing was unusually good. All the stars in the Little Dipper were easily visible as well as the Beehive with the unaided eye. Pretty good for town! At about 5:15 Sirius began to acquire a large halo and the seeing degraded. Definitely a great show! It sounds like activity picked up about 20 or so hours earlier than expected. Has anyone heard about any revised "post-peak" prospects for tomorrow morning?

From Doug Bell 11/17/98:

I counted 72 unambiguous Leonids and several (uncounted) sporadics in 60 minutes. Most were brighter than 4th magnitude leaving distinct trails lasting 1 to 2 seconds. Some were dimmer but I believe most of the very dim ones were washed out by the light pollution. One was about -4 with a trail visible for 30-40 seconds.

Time: 9:30-10:30 UT November 17, 1998 (3:30-4:30 local, CST)
Location: Lincoln Nebraska, USA W 96 N 40
Weather Perfect (clear, calm, 40 degrees (F))
Limiting Magnitude 5-5.5 Suburban (Beehive visible naked eye, Milky Way visible but not distinct)
Coverage I had a clear view of about 1/4 the sky.

About as much as I am able to watch in any case. The sightings seemed to come in clumps of 3 or 4.

I think that this is spectacular showing considering that I was a single observer in a less than perfect location. I can only wonder what's in store for our friends in the Pacific. May everyone have this kind of luck.

From Dan Gresham 11/17/98:

My wife and I set up in the back yard of our place on the north side of Lake Holmes at 3:50 AM on Tuesday morning and counted 43 meteors in the following hour. They were widely dispersed and dissipated quickly. We did see several beautiful, bright yellow trails that lasted 10 to 15 seconds. I wish we have gotten up earlier. Still, all in all an exciting show !

From Martin Gaskell 11/17/98:

Channel 10/11 will be running a special on the Leonids tonight at 10:00 Chris Hunt, the guy doing it, is very interested in astronomy according to one of his fellow workers at the station. I was towards the end of his circuit of local people and he seemed to have got a good run-down on everything. I don't know who'll actually be in the program, but he had interviewed Del Motycka about the -15 fireball Del and Dave K. saw. If he includes the footage he shot of me you'll find "Dowp" as the "backdrop" as they call it! Nobody seems to have heard any news from Asia yet. Chris Hunt did say that they'd not heard of any satellites being damaged yet. He said that they used Hyde as the backdrop last night because it looked good. He also said that as 10/11 was packing up it's stuff the cars began to arrive at Hyde! He explained to the people in the cars that Hyde was not the place to see the shower from.





From John Johnson 11/18/98:

I figured I might as well get my report out here too: I observed from my home in west Omaha (a large open field to the north of my house, which is just south of 156th and Pacific Streets; 41deg15min N, 96deg10min W) from about 0400 CST to about 0505 CST. I counted 57 confirmed Leonids and one sporadic. Many of the Leonids were as bright as Sirius with some rivalling Venus at its brightest. The brighter ones left trails lasting for a few seconds at least. The sky conditions directly over head were pretty good (I could just barely make out the Beehive). However, as you approached the horizons it deteriorated quickly. Too much humidity & haze which amplified the light pollution. I am sure this affected the numbers that I saw. I was particularly impressed with the colors of the trails. Many showed various shades of yellows and greens! I tried to take some pictures with a wide angle (24mm) lens on my slr just mounted on a tripod. I am sure I caught some, will know when I get the film back. This was only the second best shower that I have ever seen. I saw "thee storm" 32 years ago, (Nov 17, 1966) as a kid on my Dad's farm south of Brady, NE. I literally thought it was the end of the world!! Will never forget! I also saw what I can only assume was an Irridium Flare this morn. It occurred at 0505 CST, just about 3-4 degrees east of the hind quarters of Canis Major in the SSW. It burst into my view and reached at least -5 or -6 (At least it seemed much brighter than Venus for a few seconds). Then it gradually faded from view over the next 20 to 25 seconds. I had never seen one before, does this sound like what an Irridium Flare is supposed to do? I checked with the German Web page later in the day that predicts these flares, but I could not find one to match the time and location of what I saw though?? Any thoughts? Looks like we are wipe out up here for tomorrow morning!

From Martin Gaskell 11/18/98:

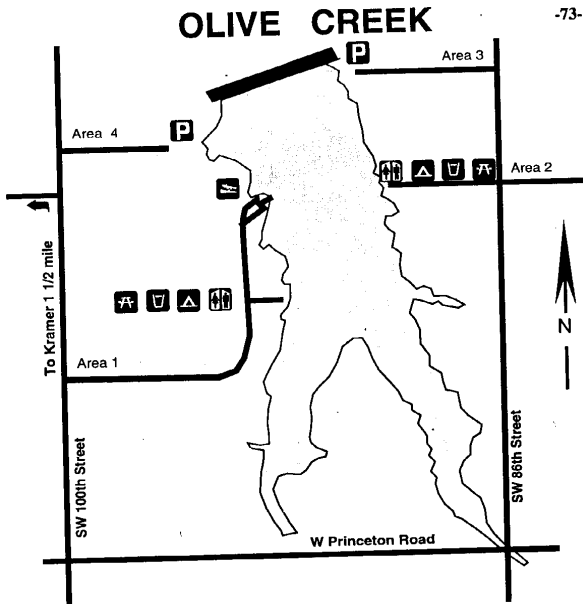
I looked last night through holes in the clouds and didn't see any meteors so the rate was much lower than Tuesday morning. I'm having trouble getting hard numbers from around the world, but it seems that the IAU circulars are correct and that the maximum was over half a day EARLIER than predicted. So on Tuesday morning we were seeing the post-maximum decline. A lot of my students (perhaps 50 of them!) observed all night Monday/Tuesday. Together with PAC observations we should be able to reconstruct a ZHR curve for the night. The most useful observations will be ones where the individual magnitudes were estimated (all of my students will have done this) and the limiting magnitude is known. There is one clear lesson from the earlier maximum time: don't believe predicted times of maxima too much. I knew that the Giacobinids maximum was very uncertain, and hence that we had a chance of seeing it, but I thought that the predicted maximum for the Leonids was going to be pretty accurate. I checked some of the old information myself and I agreed with the published predictions. But then the time comes and it's over half a day off! So one shouldn't be too negative in telling people that a shower will not be seen in Nebraska. We might see something after all. At least the public is very happy with this one. The public in Nebraska that is; the Asians and Australians aren't so happy. The other surprise of the last couple of days is the population index (r). The IMO had been forecasting lots of faint meteors (big value of r). Instead, as we all know, we saw lots of bright ones (small r). It will be interesting to see other people's magnitude distributions.

The **PRAIRIE ASTRONOMY CLUB CALENDAR** for **DECEMBER 1998**

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	4 FULL MOON  OAS Meeting	5 Hyde Observatory open to the public 7 – 10 PM
6	7	8	9	10 NSP Planning meeting 7:30 PM Mahoney State Park Lodge	11 3 RD QUARTER 	12 Hyde Observatory open to the public 7 – 10 PM
13	14	15	16	17	18 Observing at Olive Creek SRA	19 NEW MOON  Hyde open to public 7 – 10 PM
20	21	22	23	24	25 CHRISTMAS	26 1 ST QUARTER  Hyde open to public 7 – 10 PM
27	28	29 PAC Meeting 7:30 PM Hyde Observatory	30	31	1999 MAHONEY STAR PARTY DATES: FRIDAY MAY 21, 1999 FRIDAY JUNE 18, 1999 FRIDAY JULY 16, 1999 FRIDAY SEPTEMBER 10, 1999 FRIDAY OCTOBER 8, 1999	

DIRECTIONS TO OLIVE CREEK SRA

From Lincoln, take Hwy 77 south to Hwy 33. Take Hwy 33 west (toward Crete) for 9 miles to SW 114th St. Take SW 114th Street south 4 miles (almost to Kramer). Go east 1 mile on W. Panama Rd, then south 1.5 miles on SW 100th. We set up in area 1 on the west side of the lake.



OFFICERS OF THE PRAIRIE ASTRONOMY CLUB

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The Prairie Astronomer
c/o The Prairie Astronomy Club, Inc.
P.O. Box 80553
Lincoln, NE 68501

First Class Mail

Next PAC Meeting
November 24, 1998
7:30 PM
Hyde Observatory

