



The Prairie Astronomer

The Official Newsletter Of The Prairie Astronomy Club, Inc.

June 2002

Volume 43 Issue #6

Internet Addresses

PAC Web Page: www.prairieastronomyclub.org
 PAC E-Mail: pac@4w.com
 NSP Web Page: www.nebraskastarparty.org
 NSP E-Mail: nsp@4w.com
 OAS Web Page: www.OmahaAstro.com
 Astronomy in NE: www.blackstarpress.com/arln
 Hyde Observatory www.hydeobservatory.info
 NEB-STAR www.neb-star.org

JUNE PROGRAM

June program: To be announced

PAC-LIST: 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.

CLUB EVENTS

PAC MEETING

Tuesday, June 25, 2002, 7:30 PM
at Hyde Memorial Observatory

CLUB STAR PARTY

Friday, July 5, 2002
Olive Creek S.R.A.

NSP PLANNING MEETING

Thursday, July 11, 2002
Mahoney State Park

PAC MEETING

Tuesday, July 30, 2002, 7:30 PM
at Hyde Memorial Observatory

Mahoney Star Party Dates

July 12, 2 days after new moon
September 27, 2 days before 3rd quarter.

Nebraska Star Party

August 4-9, 2002
Merritt Resort

READ THIS NEWSLETTER ONLINE

Those who wish to help with publishing and postage costs by receiving only the on-line version of the newsletter should contact Liz Bergstrom at 464-2038. Mark Dahmke or Liz can give you the logon account and password for access. You may receive both the mailed version and the on-line version if you wish.

A printable PDF version of this newsletter is also available through the website.

CONTENTS:

Secretary's Report - By Lee Taylor	Page	2
Hyde Schedule	Page	3
Recent Observations-- By Dave Knisely	Page	3
Partial Solar Eclipse	Page	5
Star Chart	Page	6
Events Calendar	Page	7
Club Viewing Site Directions and List of Club Officers	Page	8

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 5585, Lincoln, NE 68505-0585.** 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: **Mark Dahmke, PO Box 80266, Lincoln, NE 68501 or mdahmke@4w.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 — Lee Taylor

Prairie Astronomy Club Minutes for 5/28/02

President Dave Knisely called the meeting to order.

On May 17th Homestead National Monument held it's "Stars on the Prairie" event with about thirty attendees and the help of several club members. In addition, the National Park Service gave PAC \$100.00.

At the Mahoney Star Party there were 17 'scopes present 2 from PAC and the rest from OAS.

The next Mahoney Star Parties will be June 14, July 12 and Aug 27

The next PAC star party will be Friday June 7.

Hyde Memorial Observatory will be open on June 10th for the partial solar eclipse from 6:30(?) until about 9:00 PM. PAC members are encouraged to attend.

The next NSP planning meeting will be Thursday June 13.

Our observing chair, Jeff King collects and compiles observations for observing awards from the Astronomical League. If you've completed a project, get you observations to him so you can be properly recognized.

Our program chair, Brian Sivill is always looking for program material. If you've done something astronomy related lately and would like to share it, get in touch with Brian, he'd love to hear from you.

Hyde volunteer coordinator Dave Churilla welcomes anyone who's interested in volunteering at Hyde. Get in touch with him to get started.

Mark Dahmke is working on a redesign of the online PAC newsletter and there are PDF files archived of previous issues. See Liz Bergstrom or Mark to start getting the newsletter online.

Hyde and PAC both received donations in memory of Jere Williams.

Several members' dues are due for both May and June. Get your dues to Liz!

Adjourn to program.

Respectfully submitted by

Lee Taylor

Hyde Schedule

Date	Team Leader	Operators		Supervisor	Events
June					
6/22	Dave Hamilton	Justin DeVries	AJ Benker		
6/29	Jeff King	Bob Leavitt	Jeff Campbell	Ron V	
July					
7/6	Bill Wells	Justin DeVries	Lynda Beck		Public Star Party
7/13	Jeff King	Dan Delzell	Jared Delzell		
7/20	Dave Hamilton	Bob Leavitt	AJ Benker		
7/27	Brian Sivill	Jeff Campbell	Joe Babcock		
August (Tentative)					
8/3	Bill Wells	Lynda Beck	AJ Benker		
8/10	Jeff King	Joe Babcock	Steve Lloyd		
8/17	Dave Churilla	Karla Bachman	Joey Churilla		
8/24	Brian Sivill	Justin DeVries	Bob Leavitt		
8/31	Dave Hamilton	Dan Delzell	Jared Delzell		

Recent Observations— Dave Knisely

DATE: June 6th, 2002, 0335 to 0630 hrs UTC.

LOCATION: Rockford Lake SRA, Nebraska 40.227N, 96.580W, 1400 ft (427m) elev.

INSTRUMENTS: 10 inch f/5.6 Newtonian, 59x, 101x, 178x, 288x, 353x, 446x, 583x, 720x. 80mm f/5 Refractor: 17x, 20x, 40x. 10x50 Binoculars.

CONDITIONS: Mostly Clear (slight haze in spots), Temp. 68F. Wind Calm.

UNAIDED EYE LIMITING MAGNITUDE: 6.6.

SEEING: 0.5" to 1.0" arc (Antoniadi II).

OBJECTS SEEN: Gamma Virginis, Epsilon Bootis, NGC 4157, NGC 4026, NGC 4088, NGC 4085, NGC 4051, M106, NGC 4096, NGC 6118, NGC 6543, NGC 6888, The "Pipe" Nebula (LDN 1773).

OBSERVATIONS: Some minor cumulus and stratus clouds were breaking up in the western sky, but other than a few minor patches of heat haze, the sky was nicely clear for an early June observing session on the hill above Rockford Lake. Once the ten-inch had cooled down, it was clear that the seeing was fairly good. Bright stars were showing diffraction patterns, which only occasionally had breakups in the rings. Gamma Virginis was visible as a double at only 178x, but took considerably more power to get a clean split. In fact, I got the ten up to 720x on this double, and could easily see a lane of darkness between the stars' diffraction disks over half the width of the disks in thickness, so the separation was probably close to 1.6 arc seconds or so. I also looked in on Epsilon Bootis, and it split quite well at 288x, with a bright light yellowish primary and a pale blue companion.

Once the sky had gotten nice and dark, my first target was the faint nearly edge-on spiral galaxy NGC 4157 in Ursa Major. I had heard this one talked up on sci.astro.amateur, so I decided to see if it rated inclusion in my "favorites" listing. It was faint but fairly easy to see, appearing at 59x as a moderate sized (7.7') faint streak, slightly broader in the middle with sharp ends. 101x, showed a small slightly brighter core, although the core did not show a highly raised bulge like in NGC 4565. The core was very narrow and highly elongated, with a faint star-like pip or two near its center. 178x showed hints of some vague mottling in the middle, which became more definite at 288x. It was difficult to say clearly whether a dark lane was present or not, but there seemed to be a bit of a more sharp edge along the galaxy's northern side. The core showed some very faint spots of light, but the only time I thought there might be a dark lane was when I tapped the scope. I stopped the ten-inch down to 3.7 inches and could still just barely detect the galaxy at 59x, but only because I knew exactly where it was in the first place. For that reason, I decided that, while it was an interesting target worthy of observation, it was a "near-miss" for my list of favorites.

My next target was one of my favorite edge-on spirals that I like to call "the Compass Needle", NGC 4026. It was a small but nice and fairly bright needle-shaped object with a pronounced nuclear bulge. 101x shows a bright star-like nucleus that was encased in a fairly bright oval nuclear bulge, with the ends of the galaxy looking like narrow spikes of light. Even though it was slightly smaller than NGC 4157, it was significantly more impressive mostly due to its brightness and near-perfect symmetry.

I had decided to take a quick look at M106, so I started my right-angle sweep technique from NGC 4026. As I swept east-southeast, I stopped and blurted out a loud "WOW!", as two fairly interesting galaxies suddenly came into view, NGC's 4088 and 4085. Both were nicely framed in the 49' arc field of my Meade 14mm Ultrawide and make a quite pleasing pair. The brighter and larger of the two was NGC 4088 on the north, appearing as an oval hazy area with irregular edges and some notable faint surface mottling. 178x revealed an almost linear brighter core region or bar with a faint star-like nucleus. Surrounding this was an extended patchy haze with arc-like segments both northwest and southeast of the core region, along with an arc or horn-like patch on the northeast end. About 13' arc to the south was the near edge-on spiral NGC 4085, which appeared as a somewhat smaller and fainter east-west sliver of light with a small oval brighter middle. This is one case where the use of setting circles or GOTO might have missed two fine objects.

Finding these two gems, I continued my trek to the southeast to M106. It was very bright and easy, but the very faint spiral fans in the outermost portions of the galaxy didn't show up as well as I had seen them in previous observations. The inner regions showed the two tight arcs of the inner spiral arms, forming an almost football-shaped bright main mass. My next target was back in Ursa Major: NGC 4051, a faint but nice spiral galaxy, which showed some interesting detail. It was oval and not hard to see, reminding me a little of M81, although its surface brightness isn't all that high. It has a small slightly brighter core and a star-like nucleus, surrounded by a mottled patchy outer haze with hints of arm structure on the northwest and southeastern ends. An 11th magnitude star sits just off its western edge, which made seeing detail on that side more difficult. 178x revealed the brighter oval core diffusing into an elongated lens-shaped area of haze. A very faint patchy arc seemed to sweep out and around the northwestern end of the galaxy curving then to the southwest, while another similar arc seemed to sweep out from the southeastern end, where it broadened and broke up into a dim patchy structure as it curved to the north.

I just got my copies of NIGHT SKY OBSERVER'S GUIDE, so I checked out a few objects which had sketches of them in Volume 2. NGC 4096 was a really pleasant surprise, appearing as a nice fat diffuse cigar-shaped patch with a brighter middle. At 101x, it reminded me a little of NGC 253, as it showed a little mottling, as well as a small oval brighter core. The galaxy seemed to be slightly asymmetric, as the brighter core region seemed to be very slightly offset from the galaxy's geometric center. This one deserves more study, but I could still see it when I stopped the scope down to 3.7 inches, so it will be going into my "favorites" list.

Seeing seemed to be getting better, so I went back up to one of my favorite planetary nebulae NGC 6543 in Draco. This time, it took very high power very well, showing its bluish-green oval form and faint central star. I put the 2.5x Powermate in with my 5-8mm Speers Waler eyepiece and kicked the power *way* up (583x). I could just begin to see the arc-like structure inside the nebula with averted vision, although if the seeing wasn't nice and stable, the arcs tended to vanish along with the central star. I tried 720x and it did work, but 583x seemed a bit better. With this in mind, I went over to M102 (NGC 5866), one of the "added" Messier objects. I kicked the power up to 288x, and noted the galaxy's usual lens-shaped form with the spike-like ends and small brighter core easily, but every once in a while, I saw a little brighter spot in the western spine not far from the core. I thought I saw hints of the galaxy's narrow partial dark lane across the very middle of the galaxy, but I couldn't be certain. I pushed the scope even further to 352x, and when seeing stabilized, I could just barely occasionally glimpse a *very* narrow darker streak along the galaxy's axis from the western "spot" I had noted earlier all the way across the core some distance where it abruptly vanished. It was not visible all the time, but like the central star in M57, it sort of "popped" in and out with the seeing.

There was a thread going on the AMASTRO mailing list about which object is the most difficult on the Herschel 400 listing, with NGC 6118 being mentioned prominently. I decided to take a quick detour there, and after a long look, I have to admit, it will probably be *very* difficult to see for those with apertures smaller than 6 inches. Even in the ten inch, it was a rather dim and diffuse oval with a slightly brighter middle and somewhat irregular edges. When I stopped the scope down to 3.7 inches, the galaxy all but vanished, being only detectable because I knew precisely where it was.

With the Milky Way now high in the east, I spent a little time with my old pair of 10x50 binoculars. I could just see the "Pipe" Nebula, a dark lane-like feature in Ophiuchus with the unaided eye, but in the 10x50s, it was very obvious and showed some interesting detail along its edges. I tried for the "Snake" Nebula with both the 80mm f/5 and my ten-inch, but there was just not enough transparency for them to show up. As a final target, I went up into Cygnus for the Crescent Nebula NGC 6888. In the ten inch with the Lumicon OIII filter, the nebula appeared quite plainly as a larger oval area of very dim nebulosity with one brighter arc along one side and some patchy dark spots in the interior. The whole thing

looked a bit like an ear! Just for a challenge, I found the area with my 80mm f/5, and at 17x, I could just detect this oval haze with the OIII filter in the little scope. Now with all this practice, I should have lots of fun at the Nebraska Star Party coming up the first week of August.

Partial Solar Eclipse— Dave Churilla & Jeff Campbell

Solar Eclipse at Hyde -- Dave Churilla

As Joey and I drove out to Hyde this evening at about 6 PM, it was doubtful that anything would be able to be seen through scopes of the eclipse. But, although our luck didn't last, at least for about an hour and a half over 125 people came out to Hyde and were treated to sunspots while observing the sun (in fact more were showing up, but leaving as we had to tear down). They even got to view the first 20 minutes of the eclipse, until a very large cloudbank moved in front of the sun and we never saw it again.

But the crowd was understanding and appreciative, and many were still coming as we were packing it in to avoid any rain and lightning that was building to the east. It was very festive and great fun (despite the humidity, which helped me sweat off about 20 pounds tonight). 5 telescopes were set up across Hyde's lawn, with Jeff King setting up a video feed to a TV/VCR he'd brought out. Channel 10/11 took video from there, then Jeff directed him toward me for an interview, complete with sweat drenched hair and soaked T-Shirt... unfortunately I'd opted for a cooler light colored one instead of my PAC shirt. Shame on me (slapping myself on my wrist). Along with Jeff, Dave Brokofsky, Brian Sivill and Joey Churilla had their scopes set up for the public to view through. Lee Thomas manned Hyde's projection scope.

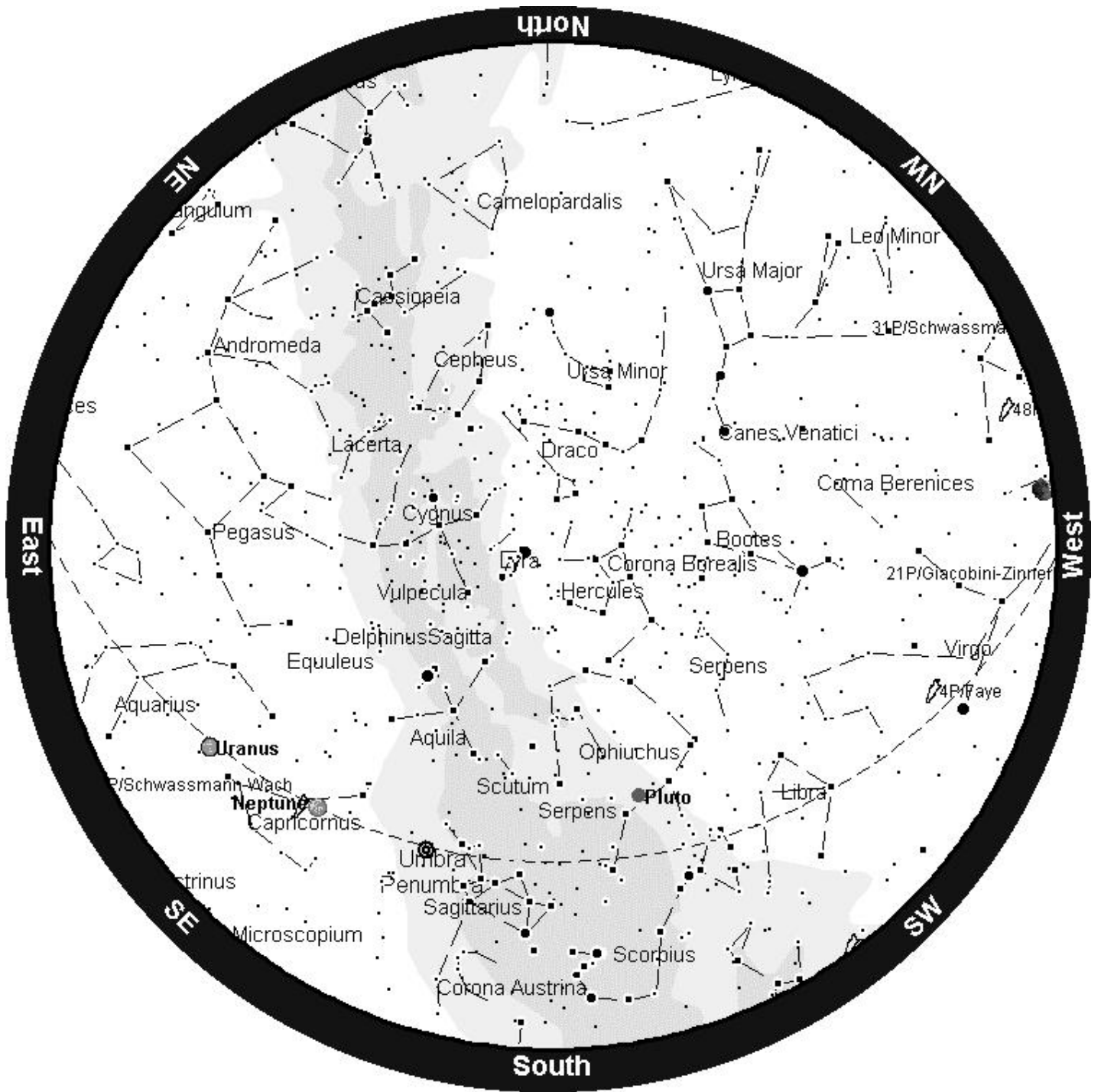
Many, many thanks to Jeff and Aaron King, Dave Brokofsky, Lee Thomas, Josh, Karla Bachman (who was pawning off ... er, I mean offering her cookies to everyone), Joey Churilla, and Doc Manthey for all their hard work and help tonight. I'd have to say the night, despite eventually being clouded out, was a complete success.

Solar Eclipse at Student observatory -- Jeff Campbell

Well, things went pretty much the same downtown as at Hyde, minus the large crowd, and the pawning off err, offering of the cookies. Though Jimmy Johns did make a visit to deliver some food for Rene and me. Liz and I handled things, and for a while, we got to watch sunspots along with Rene (our good luck charm). I taped some of the excess filter material Brian gave me to my binoculars and saw some good views. Two sunspots were visible naked eye (Liz brought some of those eclipse glasses you find in some magazines. Jack showed up, along with a few of his students, and some other friends of ours. It was a small crowd, but nice. Once the clouds came in for good, we began considering starting some riots, and possibly calling some armed bandits to join us. (inside joke) They considered having me standing on top of the observatory to act as a lightning rod, but I wouldn't do that. We enjoyed some stories, and I took some photos both of the eclipse and of people. I wasn't able to get any of the lightning though, as it was too light out to take bulb exposures.



July Star Chart



Events Calendar

July 2002						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1  Sun: 17:59 - 09:01	2  Sun: 17:59 - 09:01	3  Sun: 18:00 - 09:01	4  Sun: 18:00 - 09:01	5  Sun: 18:01 - 09:01 Club Star Party	6  Sun: 18:01 - 09:00 Hyde Observatory open to the public (sunset-11pm)
7  Sun: 18:02 - 09:00	8  Sun: 18:03 - 09:00	9  Sun: 18:03 - 08:59	10  Sun: 18:04 - 08:59	11  Sun: 18:05 - 08:59	12  Sun: 18:06 - 08:58 Mahoney Star Party	13  Sun: 18:06 - 08:58 Hyde Observatory open to the public (sunset-11pm)
14  Sun: 18:07 - 08:57	15  Sun: 18:08 - 08:56	16  Sun: 18:09 - 08:56	17  Sun: 18:09 - 08:55	18  Sun: 18:10 - 08:55	19  Sun: 18:11 - 08:54	20  Sun: 18:12 - 08:53 Hyde Observatory open to the public (sunset-11pm)
21  Sun: 18:13 - 08:52	22  Sun: 18:14 - 08:52	23  Sun: 18:15 - 08:51	24  Sun: 18:15 - 08:50	25  Sun: 18:16 - 08:49	26  Sun: 18:17 - 08:48	27  Sun: 18:18 - 08:47 Hyde Observatory open to the public (sunset-11pm)
28  Sun: 18:19 - 08:46	29  Sun: 18:20 - 08:45	30  Sun: 18:21 - 08:44 PAC Meeting 7:30pm Hyde Observatory	31  Sun: 18:22 - 08:43			

**Directions to Olive Creek
Observing Site**

Shorter:

Take Hwy 77 South out of Lincoln until you get to the Crete corner (junction Hwy 77 and Hwy 33). Go West on Hwy 33 (toward Crete) until you get to SW 72 St. Turn Left (South) on SW 72 St. and go about 5 miles until you get to SW Panama Rd. Turn right (West) until you get to SW 100 St. (SW 100 St does NOT go through to Hwy 33). Turn Left (South) on SW 100 St and go about 1 to 1 1/2 miles until you see the sign and entrance to Olive Creek (this is the West side of the Park). It's on your left (East) side of the road.

More Black Top:

Take Hwy 77 South out of Lincoln until you get to the Crete corner (junction Hwy 77 and Hwy 33). Go West on Hwy 33 (toward Crete) until you get to about SW 114 St. - the first intersection after SW 100 St. (forgot to look at this street sign, sorry - you'll see a sign for Olive Creek though at this road- but don't count on anymore signs after that, I didn't see any). Turn Left (South) on SW 114 St and go about 5 miles or so until you get to SW Panama Rd (you'll see a church and small school on your right). Turn Left (East) and go about a mile to SW 100 St, then turn Right (South) and go 1 to 1 1/2 miles until you see the Olive Creek entrance and sign (on your left hand side of the road).

**OFFICERS
OF THE PRAIRIE ASTRONOMY CLUB**

PRESIDENT: Dave Knisely
(402) 223-3968
KA0CZC@navix.net

VICE PRESIDENT: Dave Brokofsky
(402) 486-3441
dbrokof@msn.com

**2nd VICE PRESIDENT
(PROGRAM CHAIR):** Brian Sivill
(402) 420-1227
nanoamps@aol.com

SECRETARY: Lee Taylor
(402) 327-0804
otaylor89@hotmail.com

TREASURER: Liz Bergstrom
(402) 464-2038

Club Observing Chair: Bill Wells
477-1346

Hyde Volunteer Coordinator: Dave Churilla
(402) 467-1514
weber2@inebraska.com



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

First Class Mail

**Next PAC Meeting
June 25, 2002
7:30 PM
Hyde Observatory**