

# THE PRAIRIE ASTRONOMER

The Official Newsletter Of The Prairie Astronomy Club, Inc.

January 2006

Volume 47 Issue #1

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Hyde Observatory [www.hydeobservatory.info](http://www.hydeobservatory.info)  
NEB-STAR [www.neb-star.org](http://www.neb-star.org)

## Club Events

### Club Star Party

Friday, January 27, 2006

### January PAC Club Meeting

Tuesday, January 31, 2006 1/31, 7:30pm

Program: "Learn How to Use Your Telescope."

### Club Star Party

Friday, February 24, 2006

### PAC Club Meeting

Tuesday, February 28, 2006 7:30pm @ Hyde Obsv.

## Program

**January Meeting: "Learn How to Use Your Telescope."** If you got a new scope for Christmas or just want help getting started, bring your telescope to the January PAC meeting.

**PAC-LIST:** You may subscribe to the PAC listserv by sending an e-mail message to: [imailsrv@prairieastronomyclub.org](mailto:imailsrv@prairieastronomyclub.org). In the body of the message, write "Subscribe PAC-List your-email-address@your-domain.com"

For example:

Subscribe pac-list stargazer@myISP.com

To post messages to the list, send to the address [pac-list@prairieastronomyclub.org](mailto:pac-list@prairieastronomyclub.org)

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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 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](mailto: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

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Vice-President Mark Dahmke called the meeting to order. There were 16 visitors. Mark discussed upcoming club events:

- The next club star party will be held December 30th at Jim Kvasnicka's family farm.
- The next club meeting will be Tuesday, January 31st. The program will be "Learn To Use Your Telescope."
- The Beginning Astronomy class will take place in April 2006. The dates are Wednesday, April 5, 12, 19, and 26.

Treasurer's report: Lee Thomas reported that there are adequate funds in the PAC main checking account. Lee mentioned that to receive a discount we need one more order for the Guy Ottewell calendars and two more orders for the RASC Observer's Handbooks.

Hyde Observatory is open Saturdays from sundown to 10:00 pm. If you'd like to help at Hyde, contact volunteer coordinator Dave Churilla

Mark reviewed upcoming observing highlights for the month of January.

The meeting was adjourned to the program. Larry Stepp presented the program "Thirty Meter Telescope Project".

Submitted by,  
Bob Leavitt

## Club Telescopes – Checkout Policy

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To check out one of the club telescopes, contact Mark Dahmke (475-3150) or [mdahmke@4w.com](mailto:mdahmke@4w.com). If you keep a scope for more than a week, please check in with Mark once a week, to verify the location of the telescope and how long you plan to use it. The checkout time limit will be two weeks, but can be extended if no one else has requested use of a club scope.

## Hyde Observatory Volunteer Schedule

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Date	Team Leader	Operators		Supervisor	Events
<b>January</b>					
1/28/2006	Jeff King	Mitch Payne	Dan Delzell	David Brokofsky	
<b>February</b>					
2/4/2006	Bob Leavitt	Bob Kacvinsky	Steve Lloyd	Dan Delzell	
2/11/2006	Jeff King	Jim Kvasnicka	Joey Churilla	Steve Lloyd	
2/18/2006	Dave Churilla	Mitch Paine	David Brokofsky		
2/25/2006	Bill Wells	Josh Machacek	Dave Hamilton		
<b>March</b>					
3/4/2006	Dave Churilla	Jim Kvasnicka	Joey Churilla		
3/11/2006	Bill Wells	Josh Machacek	Bob Kacvinsky		
3/18/2006	Dan Delzell	Steve Lloyd	Mitch Paine		
3/25/2006	Jeff King	Bob Leavitt	David Hamilton	Steve Lloyd	
<b>Summer Hours: April through September (Sundown to 11:00 PM)</b>					
<b>Winter Hours: October through March (7:00 PM to 10:00 PM)</b>					

## January PAC Meeting: Learn How to Use Your Telescope – Jack Dunn

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This month's meeting (January 31st) will be the occasion of our annual program for initiating those who want to learn how to use new telescopes. I want to emphasize that this is a program aimed at the total newbie, which also has the potential to get us some new members.

So, if you have a telescope you can bring for display and demonstration, it would certainly help. We want the right atmosphere for our visitors, so be friendly and ready to help those who may have bought anything from one of those "Galileo" telescopes on home shopping networks to an expensive computerized scope.

## Star Party Dates for 2006 – Bob Leavitt

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The following are the confirmed and tentative dates for PAC star parties in 2006:

JAN. 27, 2006 (Date Confirmed)  
FEB. 24, 2006  
MAR. 31, 2006  
APR. 28, 2006  
MAY 26, 2006  
JUNE 23, 2006  
JULY 21, 2006 (NSP July 23 – 28)  
AUG. 25, 2006  
SEPT. 22, 2006  
OCT. 20, 2006  
NOV. 17, 2006  
DEC. 22, 2006

Notes:

- Star party dates are tentative until confirmed at PAC meetings during the year.
- Star parties will be announced in the PAC List during the week prior to the event.
- Please send a message to the PAC list before going out to a star party to let other club members know of your plans.

The Mahoney Star Parties will be held on these dates:

May 19th  
 June 16th  
 July 14th  
 Aug. 18th  
 Sept. 15<sup>th</sup>

## Recent Observations— David Knisely

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DATE: December 29th, 2005, 0630 to 0930 hrs UTC.

LOCATION: Beatrice, Nebr. USA, 40.283N, 96.736W, Elev. 1325 ft (403.9m)

INSTRUMENTS: NexStar 9.25 inch SCT: 59x, 78x, 98x, 168x, 297x, 479x Lumicon UHC, OIII, H-Beta filters.

CONDITIONS: Mostly clear, Temp. 24F (-4.4C), wind calm.

UNAIDED-EYE ZENITH LIMITING MAGNITUDE: 5.8 SEEING (above 45 deg. altitude): 0.7" to 2.0" arc (Antonaidi II)

OBJECTS OBSERVED: M45 (Pleiades), M42 (Orion Nebula), NGC 2023, IC 434 (Horsehead Nebula), NGC 2024 (Flame Nebula), IC 2177/vDB 93 (Seagull Nebula), NGC 2237-44 (Rosette Nebula), NGC 2264/Sh2-273 (Christmas Tree Cluster/Cone Nebula), NGC 2261 (Hubbles Variable Nebula), NGC 2194, NGC 2169 (the "37" Cluster), Sirius, 145 Canis Majoris, NGC 2363 (Tau Canis Majoris Cluster), Saturn, M1, M35, NGC 2158, Sh2-274 (Medusa Nebula).

OBSERVATIONS: After dinner with part of my family (and some time wasted on watching a football game on TV), I saw the sky was dark and clear (but a little too cold and iffy on some haze to take things out to my dark sky site). I got the NexStar out of the living room and out in the garage cooling down. I discovered to my horror that I had lost one of the long shoulder bolts for my Starizona "Landing Pad". Luckily, the old ones from my original Celestron tripod still had just enough thread on them to act as a halfway decent substitute. I had just purchased a "new" used laptop to replace an older one, which has an RS-232 port for running the NexStar. I had not yet tested it, so tonight would be the night, at least for some time on my driveway. After a number of minutes setting up things, connecting cables and hand controllers, and doing the usual auto alignment, I had the NexStar ready to "go deep".

My first target was good old M45, the Pleiades. I was not disappointed as the field of my 40mm Konig was filled with brilliant stars. Even under the lights of my town, I could see the faint diffuse southward fan of the Merope nebula, as well as the glows around Maia and Alcyone. I should have brought out my 100mm f/6 refractor, but I had a lot to accomplish with getting the computer and telescope talking, so I just stayed working with the Schmidt-Cassegrain. I slewed over to M42 and was dazzled by the view at only 59x. Nebulosity filled the eyepiece with the core region around the Trapezium showing a faint bluish or aqua color, but some of the outer "wings" showing hints of red. I decided to pull out my DGM Optics NPB narrow-band filter, but it was not in the eyepiece box (I have too many boxes for storing accessories), so I used the Lumicon UHC. The view improved immensely, with much more contrast in the now greenish glow of the nebula. However, I could still see hints of red in the narrower arc of the northwestern "arm" of the nebula, which was a little surprising. The OIII filter provided even more contrast, but some of the outermost nebulosity did fade somewhat. I could follow the huge southern loop all the way down to Iota with ease. I slewed up to NGC 2024, and it was visible without a filter as a

very faint large pair of irregular patches with a long irregular dark lane running north to south between them. The UHC filter helped only a little with this object, as it is mostly a reflection nebula.

With the UHC in, I used the NexStar's "named object" database to slew to the Horsehead. Surprisingly enough, even from in town, the faint glow of IC 434 was visible in the UHC filter, and at times, the vague dark inclusion of the Horsehead itself was just visible. I switched to the H-Beta filter and the contrast improved, although the dark nebulosity was still fairly hard to see. Next to it (and a whole lot easier to see) was the rather obvious fuzzy oval of NGC 2023 surrounding its magnitude 7.8 central star.

Once these obvious targets were taken care of, it was time to get down to business. I had wanted to re-visit the large complex of nebulosity known as the "Sea Gull" Nebula (IC 2177 and vdB 93). This area consists of a long (just over 2 degrees) diffuse ribbon of faint nebulosity (2177) with a separate patch (vdB 93) just off to its northwest. With the H-Beta filter, I could see the ribbon dimly, but vdB 93 was a bit more distinct, appearing as an irregular roughly circular patch around a 7th magnitude star with hints of dark detail. When I switched back to the UHC filter, the ribbon suddenly became broader and more diffuse, encased in a very rich field of faint stars, which added to its beauty. Although the contrast was lower in the UHC, I could see just a little more nebulosity than with the H-Beta. Still, the whole thing still didn't look very much like a sea gull, especially in the 1.1 degree field of my 40mm Konig. This entire area is simply a joy to slew through, as the star fields are rich with faint stars and small but quite nice open star clusters.

With time at a premium (and some banks of haze to the west), I slewed the scope over to the Rosette. The view in the UHC was one of the best I have had of that object in the NexStar. The rectangular bright open cluster was encircled by a complex wreath of dim nebulosity that seemed to billow outward from a large dark central "hollow". I had to slew around a bit to take it all in, but I was surprised at the amount of detail I could see. I put in the OIII filter and the detail became noticeably sharper, with interesting light and dark detail now being somewhat easier to see than in the UHC. However, some of the fainter outer nebulosity was now a little less obvious. With this one off my list, I ordered the Nexstar to, "the Christmas Tree Cluster" NGC 2264. Surprisingly, for once, the cluster and the nearby stars did indeed form the rough outline of an upside-down Christmas tree, with the bright magnitude 4.7 star S Monocerotis near the base. The cluster is not extremely rich with maybe 30 to 40 cluster members and most of the brighter ones sitting near the northern end of the "Christmas Tree" formation. In fact, I am not sure that the "top" of the Christmas tree is even really part of the true star cluster! There is considerable faint nebulosity around this cluster, and the portion just south of S Mon was visible without a filter as an elongated diffuse glow. With the UHC and OIII filters, a faint patchy glow was seen encasing almost the entire Christmas Tree formation, although it was a little larger and slightly brighter in the UHC. Near the south end was a patch that had a wide double star with 8th and 9th magnitude components inside. With the UHC, I could just glimpse a vague dark inclusion into the southern part of that patch almost all the way to the wide double which was the famous "Cone Nebula". Surprisingly, the Cone this evening was a little easier to see in the OIII filter in town than it had been with the UHC, probably because the OIII had a greater effect on the town's skyglow. I also slewed the scope without using the Go-To system over to Hubble's Variable Nebula. It appeared as a small dim fan of light which had a faint star-like condensation on the south end. The nebula was fairly easy to see, but the UHC filter helped it only slightly.

I decided to take a short break and hook up the laptop to see if it would talk to the NexStar. Sure enough, after fumbling with a few cables and a cold mouse, Megastar came up and interfaced with the scope. To test it, I clicked on Sirius, and the scope dutifully slewed to the star, putting it Pretty close to the center of the field in my 40mm Konig. With Sirius blazing away (and still not too low), I thought, "What the heck, let's try for the Pup". I put in my 5-8mm Speers Waler, and at 297x, when the seeing briefly settled down, a faint little blip of a star began popping in and out from the shimmering and sparkling edges of the seeing-enlarged image of Sirius. This may have been the first time I have seen that white dwarf star in at least 20 years (and at about 7 arc seconds separation was a real achievement for the NexStar).

For another test of the laptop's program, I clicked on the star Tau Canis Majoris, the center star in the small rich open cluster NGC 2362. The scope went right to it, and in my 14mm Ultrawide eyepiece (168x), it was quite striking. It almost looked like it was triangular, with Tau blazing away in a field almost filled with stars. In addition

to the 40 or so bright stars which make this group stand out at lower powers, I could see a very large number of fairly faint stars mixed in, making the group seem far richer than I ever remember it being.

With Canis Major now clear of the tree to my south, I punched in the double star 145 Canis Majoris (h3945). This one is also known as "the Winter Alberio", and for good reason, as it has a stunning color contrast. The primary is a bright yellowish-orange magnitude 4.8 star with a pale bluish 6th magnitude companion about 27 arc seconds away.

I had wanted to pick up the "37 Cluster", in northern Orion, but I punched in NGC 2194 by mistake (so much for using gloves with the hand controller!). The NexStar slewed to it and what greeted me in the eyepiece wasn't the "37", but was a very interesting group nonetheless. NGC 2194 is a roughly circular and rather misty-looking dim cluster that is not all that large (maybe 8' arc across), but is fairly rich with at least 50 faint stars. At 168x, it showed two almost separate broad N-S bands of stars connected by a string of faint stars about halfway down, reminding me a little of a distorted letter "H" or the Greek letter Theta. Once I went back to the atlas to track down my mistake, I punched in the correct NGC number (2169) and the NexStar hauled it in. The "37" was backwards, so it more resembled the Greek letters small Gamma and capital Sigma (I suppose it was the "Gamma Sigma" cluster with the star diagonal). This little group is a somewhat sparse but rather pretty, with about 17 stars in the 7th to 10th magnitude range forming the letters and just a few more fainter ones scattered in.

Testing the computer program again, I slewed it over to Saturn. Seeing had deteriorated somewhat, but I could still see Cassini's division, four or five moons, and some details on the planet's disk. The equatorial belt was quite easy, but there was only a hint of the weak and narrow temperate band that sits about halfway between the upper end of the equatorial belt and the pole. I then clicked on the large faint planetary known as "the Medusa Nebula" Sh2-275 in southern Gemini. This one isn't in the NexStar's internal database, so usually I have to either find it manually or use Megastar. It was not visible without a filter, but with the OIII, I could see a very dim fuzzy patch of moderate size, which looked roughly "C" shaped. At times, some hints of other detail became visible, almost making that fat dim "C" into a section of a complete circle with a huge gap in one side.

At this point, the laptop abruptly began to power down as the cold was getting to its battery, so I disconnected it and went back to relying on the NexStar's internal database. I changed filters to the UHC and went back over to M1. The Crab showed its usual elongate fuzzy shape with hints of a little tattering around the edges, so I took the UHC out and slewed over to M35. This is always one of my favorite clusters, as its brilliant strings of stars are quite beautiful. Sitting next to it at 59x was the small distant glow of NGC 2158, a rich cluster which requires moderate power. I could see some of its stars at 59x, but when I boosted things to 168x, many of the stars and much of the cluster were gone. I looked up and saw that a hazy cloud had just then overrun that part of Gemini, so I waited a bit before going to my final target of the night, the "Eskimo" Nebula, NGC 2392. This one took all the power I had, as I put in the 5-8mm Speers Waler and went to town. The planetary nebula put on a real show, with the bright central star being surrounded by a distinct oval inner shell. This shell in turn was encased in the "hood" of the Eskimo's parka, a rather patchy outer ring which almost overlaps the outer edges of the inner shell. The more I looked, the more I saw, which made me all the more sorry that with clouds moving in, I had to wrap up things and get back inside. Still, for just doing casual observing from my front yard, it still had been a really decent night under the stars.

## Events Calendar

February 2006						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1  Sun: 07:36 - 17:44	2  Sun: 07:35 - 17:45	3  Sun: 07:34 - 17:46	4  Sun: 07:33 - 17:47  Hyde Observatory Open to the Public
5  Sun: 07:32 - 17:49	6  Sun: 07:31 - 17:50	7  Sun: 07:30 - 17:51	8  Sun: 07:29 - 17:52  Beta Centaurids	9  Sun: 07:28 - 17:54	10  Sun: 07:26 - 17:55	11  Sun: 07:25 - 17:56  Moon close to Saturn; Hyde Observatory Open to the Public
12  Sun: 07:24 - 17:57	13  Sun: 07:23 - 17:58  Beta Leonids	14  Sun: 07:21 - 17:58  Mercury Close to Uranus	15  Sun: 07:20 - 18:00	16  Sun: 07:19 - 18:01	17  Sun: 07:17 - 18:02  Mars Close to Pleiades	18  Sun: 07:16 - 18:03  Hyde Observatory Open to the Public
19  Sun: 07:15 - 18:04	20  Sun: 07:13 - 18:06  Moon Close to Jupiter	21  Sun: 07:12 - 18:07	22  Sun: 07:10 - 18:08	23  Sun: 07:09 - 18:09	24  Sun: 07:08 - 18:10  Club Star Party	25  Sun: 07:06 - 18:12  Hyde Observatory Open to the Public
26  Sun: 07:05 - 18:13	27  Sun: 07:03 - 18:14	28  Sun: 07:02 - 18:15  PAC Club Meeting; Moon Close to Mercury				

Moon phase images by: António Cidadão

**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).

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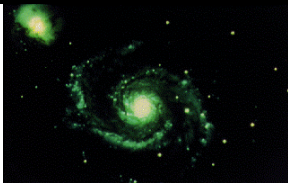
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**The Prairie Astronomer  
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First Class Mail

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**Next PAC Meeting  
January 31, 2006  
7:30 PM  
Hyde Observatory**

«TITLE» «FIRSTNAME» «MIDDLENAME» «LASTNAME» «RENEWALDATE»  
«CAREOF»  
«ADDRESS1»  
«ADDRESS2»  
«CITY», «STATE» «ZIP»