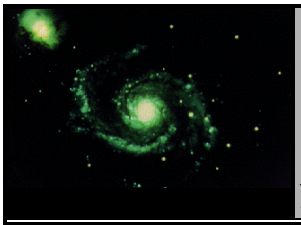


The Prairie Astronomer

The Official Newsletter Of The Prairie Astronomy Club, Inc.

November 2006 **Volume 47 Issue #11**

Internet Addresses

PAC:	www.prairieastronomyclub.org
PAC E-Mail:	info@prairieastronomyclub.org
NSP:	www.nebraskastarparty.org
NSP E-Mail:	info@nebraskastarparty.org
OAS:	www.OmahaAstro.com
Hyde Observatory	www.hydeobservatory.info
NEB-STAR	www.neb-star.org

Club Events

PAC Club Meeting
Tuesday, November 28, 2006 7:30pm.

Club Star Party
Friday, December 22, 2006

PAC Club Meeting
Tuesday, December 26, 2006 7:30pm

Program

Planning for NSP '07

Eric Balcom and John Johnson of the Omaha Astronomical Society will bring us up to date on the planning for next years Nebraska Star Party. A number of changes are being considered due to the situation at Merritt Reservoir and the cabins. Be sure and attend this meeting, as Eric and the rest of the NSP committee would like to get your input and suggestions (from PAC members).

PAC-LIST: You may subscribe to the PAC listserv by sending an e-mail message to: **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**

Contents:

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,** 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

Ron Veys called the meeting to order. There were no visitors. Ron discussed recent and upcoming club events:

- The PAC/OAS annual banquet was a great success. Ninety-four people attended, which is an all-time record.
- Morley elementary school's Family Fun Night was held on Friday Sept. 29. Bob Leavitt, Jim Kvasnicka, and Dave Churilla participated in this event. Bob reported that a large and enthusiastic crowd was on hand. They enjoyed looking through the scopes and at the web cam monitor, even though it was mostly cloudy that evening.
- Homestead National Monument will be having its annual "Howling Homestead" event on Saturday, October 28. Volunteers with scopes are needed. Contact Dave Knisely.
- The next club star party will be held Friday, November 17 at the farm.
- The next club meeting will be Tuesday, November 28.
- Hyde Observatory is open from 7:00 – 10:00 pm on Saturdays (winter hours). Hyde will have a special opening on the afternoon of November 8 for the transit of Mercury.

Treasurer's report: Lee Thomas reported the following account balances:

CD-1 16,400.58
CD-2 3,628.13
CD-3 5000.00
Hyde Observatory Checking 0.00
Hyde Observatory Savings 0.00
PAC Checking 1,596.64
PAC Savings 8,928.64
Total 35,553.88

Nominations were taken for the PAC Board for next year. Nominations were then closed and the elections held. The following individuals were elected:

President: Ron Veys
Vice-President: Brian Sivill
Treasurer: Lee Thomas
Secretary: Bob Leavitt
2nd Vice-President: Jack Dunn

Volunteers are needed for the NSP committee. PAC has had no representation for several years. Several club members expressed interest in getting involved in the committee.

Ron reviewed upcoming observing highlights for the month of November

The meeting was adjourned to the program. Jack Dunn presented the video: "Mars Exploration Rover", a replay of a talk given by Jim Rice at the planetarium conference. This program was rescheduled from last month.

Submitted by,
Bob Leavitt

Club Telescopes – Checkout Policy

To check out one of the club telescopes, contact **Brian Sivill** or nanoamps@windstream.net. If you keep a scope for more than a week, please check in with Brian 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

Date	Team Leader	Operators		Supervisor	Events
November					
11/18/2006	Bill Wells	Jim Kvasnicka	Bob Kacvinsky	Steve Lloyd	
11/25/2006	Dan Delzell	Steve Lloyd	Dave Hamilton	Dave Brokovsky	
December					
12/2/2006	Bill Wells	Jim Kvasniska	Mitch Paine		
12/9/2006	Dave Churilla	Joey Churilla	Josh Machacek		
12/16/2006	Bob Leavitt	Dan Delzell	Bob Kacvinsky		
12/23/2006	Jeff King	Dave Brokofsky	Steve Lloyd		
12/30/2006	Dave Hamilton	Mitch Paine	Bill Wells		
Summer Hours: April through September (Sundown to 11:00 PM)					
Winter Hours: October through March (7:00 PM to 10:00 PM)					

Brownell School Community Night—Bob Leavitt

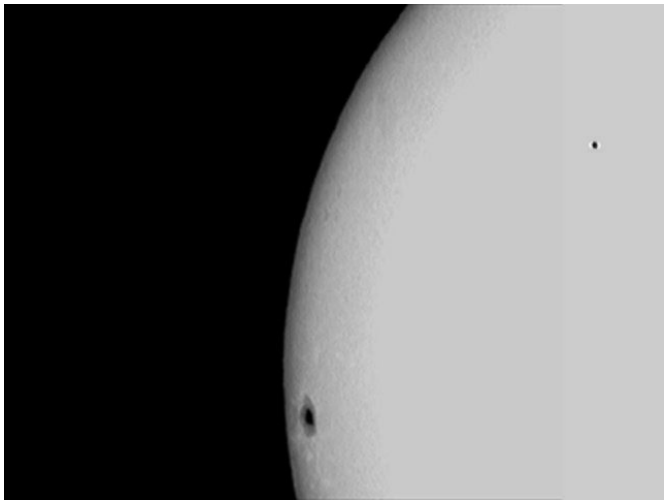
Brownell Elementary School held its Community Night on November 16. In October they had contacted Jack Dunn to find out if PAC could provide some telescopes for the event. Dave Churilla, Bob Kacvinsky, and Bob Leavitt decided to participate. The event was scheduled from 5:30 - 7:30 pm. Prior to sunset there were quite a few clouds around and the prospects for stargazing did not look good. We set up on the playground, as far as possible from the school lights, and hoped for the best.

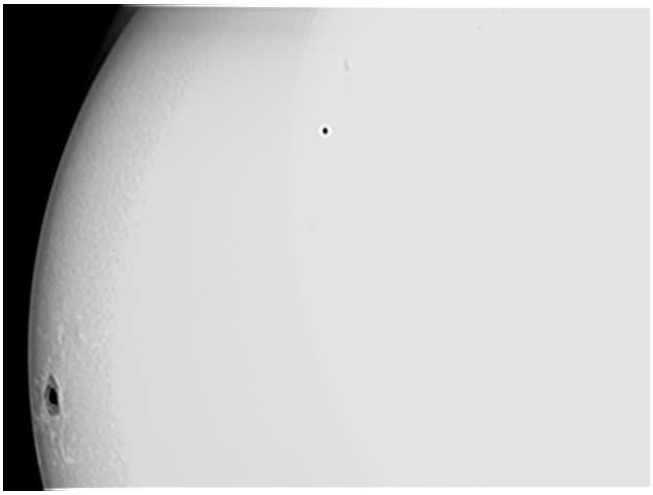
Initially we pointed the scopes at some terrestrial objects like streetlights and school signs as a few students wandered out to the scopes. Then the main crowd showed up (perhaps 50 - 75 people). Luckily there was some open sky and we were able to point the scopes at stars like Albireo and Altair. We also handed out star charts and showed people how to use them. Observing conditions were marginal at best, but the students, parents, and teachers really appreciated the opportunity to look through the scopes. Many people thanked us for coming to their event.

Mercury Transit a Success! —Dave Knisely

Well, for those who missed it, we had a fantastic time showing the public the black dot of little Mercury from about 1:12 p.m. until the sun finally entered the trees above Union College just after 5 p.m.. I estimated that about 250 people got looks through the scopes and all were very pleased at what they saw. We had at least eight telescopes (including three running H-alpha), and conditions were outstanding with temperatures near 80F and perfectly clear blue skies. Dave Churilla was first to arrive, and set up his 10 inch Newtonian with his H-alpha T-Scanner, along with a video display being fed from his Coronado PST. He gave me his Thousand Oaks white light filter to try on Hyde's NexStar 11, so after some judicious use of some spacer tape material, the filter was snugly attached to the front of the scope and we were ready to roll the roof. I had brought my PST for the group out in front of the building, although most of the time, someone else was using it, as I was on the deck running the

NexStar. I had to "cheat" a little to get the Nexstar to point at the sun, since that object is deliberately excluded from the scope's database. Instead, I just ordered it to go to Mercury and all was well! We had Brian Sivill's 6 inch Schmidt-Newtonian, and either Bob or Jim's (can't tell you two apart) 10 inch Dob, both running white light filters. I got to see first contact *before* first contact using one PST, as Mercury began hitting the "spicule fringe" of the Chromosphere moments before it actually moved onto the disk of the sun. From there, it was a very steady stream of public visitors, but none had to wait long for a look. The NexStar 11 was one of the "stars" of the show, as with the white-light filter, the seeing was absolutely perfect much of the time. Even the little kids we had usually had no trouble seeing Mercury in that scope. Granulation was easy even at only 87x, and we could use higher power to show people the clear disk of Mercury rather than the smaller dot shown in some of the other scopes like the PSTs. From the performance of the NexStar, it looks like we will have to buy a full-aperture filter for it as well. The sunspots too showed a lot of finer detail. Dave's 10 inch with the T-Scanner was revealing some disk activity and a few prominences as well. Hyde's solar projection scope did show Mercury (barely), but it was too small to be easily noticed unless you moved the scope. The scopes out in front had a rather large crowd around them much of the time even until a few moments after 5 p.m. when the sun entered the trees. Dave C. got video of much of the transit, including the "transit" of a Lifeflight helicopter across the disk! My little digital camera saturated when I tried to take some images of the transit through the scopes, but I got a lot of pictures of everything else. Here are a few of them. I want to thank all who helped out with this, as without your hard efforts, we could not have done nearly as good a job as we did.





Transit photos by Dave Brokofsky

NASA Sees into the Eye of a Monster Storm on Saturn

NASA's Cassini spacecraft has seen something never before seen on another planet -- a hurricane-like storm at Saturn's south pole with a well-developed eye, ringed by towering clouds.

The "hurricane" spans a dark area inside a thick, brighter ring of clouds. It is approximately 8,000 kilometers (5,000 miles) across, or two thirds the diameter of Earth.

"It looks like a hurricane, but it doesn't behave like a hurricane," said Dr. Andrew Ingersoll, a member of Cassini's imaging team at the California Institute of Technology, Pasadena. "Whatever it is, we're going to focus on the eye of this storm and find out why it's there."

A movie taken by Cassini's camera over a three-hour period reveals winds around Saturn's south pole blowing clockwise at 550 kilometers (350 miles) per hour. The camera also saw the shadow cast by a ring of towering clouds surrounding the pole, and two spiral arms of clouds extending from the central ring. These ring clouds, 30 to 75 kilometers (20 to 45 miles) above those in the center of the storm, are two to five times taller than the clouds of thunderstorms and hurricanes on Earth.

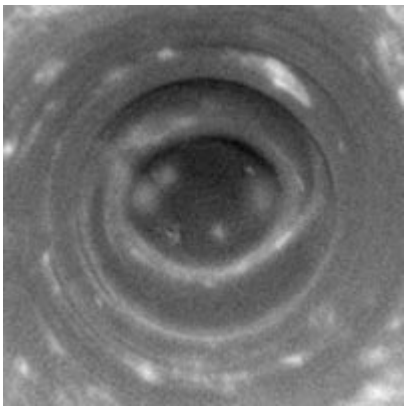
Eye-wall clouds are a distinguishing feature of hurricanes on Earth. They form where moist air flows inward across the ocean's surface, rising vertically and releasing a heavy rain around an interior circle of descending air that is the eye of the storm itself. Though it is uncertain whether such moist convection is driving Saturn's storm, the dark "eye" at the pole, the eye-wall clouds and the spiral arms together indicate a hurricane-like system.

Distinctive eye-wall clouds had not been seen on any planet other than Earth. Even Jupiter's Great Red Spot, much larger than Saturn's polar storm, has no eye or eye-wall and is relatively calm at the center.

This giant Saturnian storm is apparently different fromhurricanes on Earth because it is locked to the pole and does not drift around. Also, since Saturn is a gaseous planet, the storm forms without an ocean at its base.

In the Cassini imagery, the eye looks dark at infrared wavelengths where methane gas absorbs the light and only the highest clouds are visible.

"The clear skies over the eye appear to extend down to a level about twice as deep as the usual cloud level observed on Saturn," said Dr. Kevin H. Baines of Cassini's visual and infrared mapping spectrometer team at NASA's Jet Propulsion Laboratory, Pasadena, Calif. "This gives us the deepest view yet into Saturn over a wide range of wavelengths, and reveals a mysterious set of dark clouds at the bottom of the eye."



Infrared images taken by the Keck I telescope in Mauna Kea, Hawaii, had previously shown Saturn's south pole to be warm. Cassini's composite infrared spectrometer has confirmed this with higher-resolution temperature maps of the area. The spectrometer observed a temperature increase of about 2 Kelvin (4 degrees Fahrenheit) at the pole. The instrument measured high temperatures in the upper troposphere and stratosphere, regions higher in the atmosphere than the clouds seen by the Cassini imaging instruments.

"The winds decrease with height, and the atmosphere is sinking, compressing and heating over the South Pole," said Dr. Richard Achterberg, a member of Cassini's composite infrared spectrometer team at NASA's Goddard Spaceflight Center, Greenbelt, Md.

Observations taken over the next few years, as the south pole season changes from summer to fall, will help scientists understand the role seasons play in driving the dramatic meteorology at the south pole of Saturn.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the Cassini-Huygens mission for NASA’s Science Mission Directorate, Washington. The Cassini orbiter was designed, developed and assembled at JPL. The imaging team is based at the Space Science Institute, Boulder, Colo. The visual and infrared mapping spectrometer team is based at the University of Arizona. The composite infrared spectrometer team is based at Goddard.

Events Calendar

December 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 Sun: 07:31 - 16:59	2 Sun: 07:32 - 16:59 Cygnids; Hyde Observatory Open to the Public
3 Sun: 07:33 - 16:59	4 Sun: 07:34 - 16:59	5 Sun: 07:35 - 16:58 Saturn close to Regulus	6 Sun: 07:36 - 16:58 Geminids	7 Sun: 07:37 - 16:58	8 Sun: 07:38 - 16:58	9 Sun: 07:38 - 16:58 Mercury Conjunction with Mars; Hyde Observatory Open to the Public
10 Sun: 07:39 - 16:58 Moon close to Saturn	11 Sun: 07:40 - 16:58	12 Sun: 07:41 - 16:59	13 Sun: 07:42 - 16:59	14 Sun: 07:42 - 16:59 Mercury close to Antares	15 Sun: 07:43 - 16:59	16 Sun: 07:44 - 17:00 Hyde Observatory Open to the Public
17 Sun: 07:44 - 17:00	18 Sun: 07:45 - 17:00	19 Sun: 07:46 - 17:01 Moon close to Mercury	20 Sun: 07:46 - 17:01	21 Sun: 07:47 - 17:02 Moon close to Venus	22 Sun: 07:47 - 17:02 Club Star Party	23 Sun: 07:48 - 17:03 Hyde Observatory Open to the Public
24 Sun: 07:48 - 17:03	25 Sun: 07:49 - 17:04	26 Sun: 07:49 - 17:05 PAC Club Meeting	27 Sun: 07:49 - 17:05	28 Sun: 07:50 - 17:06	29 Sun: 07:50 - 17:07	30 Sun: 07:50 - 17:07 Hyde Observatory Open to the Public

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).

OFFICERS
OF THE PRAIRIE ASTRONOMY CLUB

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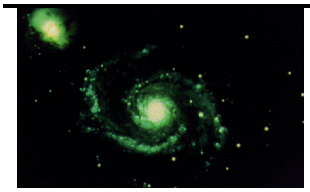

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c/o The Prairie Astronomy Club, Inc.
P.O. Box 5585
Lincoln, NE 68505-0585

First Class Mail

Next PAC Meeting
Nov. 28, 2006
7:30 PM
Hyde Observatory

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