



# THE PRAIRIE ASTRONOMER

The Official Newsletter Of The Prairie Astronomy Club, Inc.

December 2005

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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

**December PAC Meeting  
 MOVED TO MONDAY!**  
**Monday, December 26, 2005**  
 7:30pm @ Hyde Observatory  
**Guest speaker will be Larry Stepp.**

**Club Star Party**  
 Friday, December 30, 2005

**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."

## Program

### Larry Stepp will talk about the Thirty Meter Telescope Project

Meeting date moved to Monday 12/26. Guest speaker will be Larry Stepp. Larry will talk about the proposed Thirty Meter Telescope. You won't want to miss this!

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

- The next club star party will be December 2nd at Jim Kvasnicka's family farm.
- The next club meeting will be Monday, December 26th. The meeting was moved to Monday night to accommodate the program speaker, Larry Stepp. Larry will give a talk on his work with the Thirty Meter Telescope project.
- The UNL student observatory will be open to the public on December 16th.
- The January PAC program, scheduled for January 31st, will be "Learn To Use Your Telescope".
- The next 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 is \$330 in the main PAC checking account. A number of people have not paid their membership dues. If you fall in that category please pay your membership dues as soon as possible. Lee announced that we are taking orders for Guy Ottewell calendars and 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 Dahmke announced the availability of the PAC club store on the [cafepress.com](http://cafepress.com) web site. You can now order club apparel, mouse pads, mugs and other items featuring the PAC logo. Mark designed a new PAC logo for this project, which is similar to the existing logo. He passed around a sample t-shirt and mouse pad ordered from [cafepress.com](http://cafepress.com).

Homestead National Monument held their annual Halloween special on Saturday, October 29th. Lee Taylor, Dave Knisely, and John Lammers participated in the event, which was attended by about 425 people. Homestead donated \$100 to the club for its participation, and sent a letter of appreciation to Lee Taylor.

Ron reviewed upcoming observing highlights for the month of December.

The meeting was adjourned to the program. Jack Dunn presented the program "Aeronautics and Astronautics - fun in the sky both ways".

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>December</b>					
12/24/2005	CLOSED				
12/31/2005	CLOSED				
<b>January</b>					
1/7/2006	Dave Hamilton	Dave Brokofsky	Joey Churilla	Dave Churilla	
1/14/2006	Bill Wells	Jim Kvasnicka	Bob Kacvinsky	Jack Dunn	
1/21/2006	Bob Leavitt	Josh Machecek	Steve Lloyd	Ron Veys	
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	Mitch Paine		
2/18/2006	Dave Churilla	Joey Churilla	David Brokofsky		
2/25/2006	Bill Wells	Josh Machacek	Dave Hamilton		
<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>					

## Designer of New Giant Telescope To Speak At December PAC Meeting

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Hear the fascinating inside story of planning and building one of the world's largest telescopes, from a person who has spent his career designing and building giant optical telescopes across the western hemisphere. Larry Stepp grew up in Lincoln and is a UNL graduate. While a college student, he was active in the Prairie Astronomy Club and served as its president.

He returns to Lincoln later this month and will speak at the monthly meeting of the Astronomy Club at Hyde Observatory in Holmes Park. Stepp's presentation at 8 p.m. on Monday December 26th is open to the public and there is no admission fee. Stepp was the Optics Manager for the huge Gemini Observatory telescopes located in Hawaii and Chile. But the new Giant Segmented Mirror Telescope will be almost three times as large as the Gemini telescopes. Stepp is the Telescope Department Manager for the GSMT, which is a project of the Associated Universities for Research in Astronomy New Initiatives Office, Caltech and the University of California. The main mirror of the new telescope will be the size of a baseball diamond!

## NASA's Mars Rovers Continue to Explore and Amaze

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NASA's durable twin Mars rovers have successfully explored the surface of the mysterious red planet for a full Martian year (687 Earth days). Opportunity starts its second Martian year Dec. 11; Spirit started its new year three weeks ago. The rovers' original mission was scheduled for only three months.

"The rovers went through all of the Martian seasons and are back to late summer," said Dr. John Callas of NASA's Jet Propulsion Laboratory, Pasadena, Calif. He is deputy rover project manager. "We're preparing for the challenge of surviving another Martian winter."

Both rovers keep finding new variations of bedrock in areas they are exploring on opposite sides of Mars. The geological information they collect increases evidence about ancient Martian environments including periods of wet, possibly habitable conditions.

Spirit is descending from the top of "Husband Hill" to examine a platform-like structure seen from the summit. It will then hurry south to another hill in time to position itself for maximum solar-cell output during the winter.

"Our speed of travel is driven as much by survival as by discovery, though the geology of Husband Hill continues to fascinate, surprise, puzzle and delight us," said Dr. Steve Squyres of Cornell University, Ithaca, N.Y., principal investigator for the rover's science instruments. "We've got this dramatic topography covered with sand and loose boulders, then, every so often, a little window into the bedrock underneath."

From the composition and texture of more than six different types of rock inspected, scientists deduced what this part of Mars was like long ago. "It was a hot, violent place with volcanic explosions and impacts," Squyres said. "Water was around, perhaps localized hot springs in some cases and trace amounts of water in other cases."

Aided by a good power supply from Spirit's solar cells, researchers have been using the rover at night for astronomical observations. One experiment watched the sky during a meteor shower as Mars passed through the debris trail left by a passage of Halley's comet. "We're taking advantage of a unique opportunity to do some bonus science we never anticipated we would be able to do," said Cornell's Dr. Jim Bell, lead scientist for the rovers' panoramic cameras

Opportunity is examining bedrock exposures along a route between Endurance and Victoria craters. It recently reached what appears to be a younger layer of bedrock than examined inside Endurance. In Endurance, the lowest layers of bedrock were deposited as windblown dunes. Some of the upper layers were deposited as underwater sediments, indicating a change from drier to wetter conditions over time.

The bedrock Opportunity began seeing about two-thirds of the way to Victoria appears to lie higher than the upper layers at Endurance, but its texture is more like the lowest layer, petrified sand dunes. This suggests the change from drier to wetter environmental conditions may have been cyclical.

Iron-rich granules are abundant in all the layers at Endurance but are much smaller in the younger bedrock. These granules were formed by effects of water soaking the rocks. One possibility for why they are smaller is these layers might have spent less time wet. Another is the material in these layers might have had a different chemistry to begin with.

## Events Calendar

January 2006						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 	2 	3 	4 	5 	6 	7 
Sun: 07:50 - 17:09	Sun: 07:50 - 17:10	Sun: 07:50 - 17:11	Sun: 07:50 - 17:12	Sun: 07:50 - 17:13	Sun: 07:50 - 17:14	Sun: 07:50 - 17:15
						Hyde Observatory Open to the Public
8 	9 	10 	11 	12 	13 	14 
Sun: 07:50 - 17:16	Sun: 07:50 - 17:17	Sun: 07:50 - 17:18	Sun: 07:50 - 17:19	Sun: 07:49 - 17:20	Sun: 07:49 - 17:21	Sun: 07:49 - 17:22
January Bootids					Venus closest approach	Hyde Observatory Open to the Public
15 	16 	17 	18 	19 	20 	21 
Sun: 07:48 - 17:23	Sun: 07:48 - 17:24	Sun: 07:47 - 17:26	Sun: 07:47 - 17:27	Sun: 07:46 - 17:28	Sun: 07:46 - 17:29	Sun: 07:45 - 17:30
Moon close to Saturn		Mercury close to Venus				Hyde Observatory Open to the Public
22 	23 	24 	25 	26 	27 	28 
Sun: 07:44 - 17:31	Sun: 07:44 - 17:33	Sun: 07:43 - 17:34	Sun: 07:42 - 17:35	Sun: 07:41 - 17:36	Sun: 07:41 - 17:37	Sun: 07:40 - 17:39
					Club Star Party	Hyde Observatory Open to the Public
29 	30 	31 				
Sun: 07:39 - 17:40	Sun: 07:38 - 17:41	Sun: 07:37 - 17:42				
	Orionids	January PAC Club Meeting				

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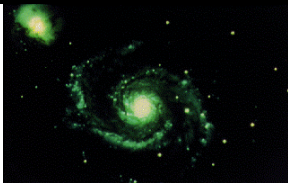
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**The Prairie Astronomer  
c/o The Prairie Astronomy Club, Inc.  
P.O. Box 5585  
Lincoln, NE 68505-0585**

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First Class Mail

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**Next PAC Meeting  
December 26, 2005  
7:30 PM  
Hyde Observatory**

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