

# THE PRAIRIE ASTRONOMER

The Official Newsletter Of The Prairie Astronomy Club, Inc.

January 2004

Volume 45 Issue #1

## Internet Addresses

PAC Web Page:	<a href="http://www.prairieastronomyclub.org">www.prairieastronomyclub.org</a>
PAC E-Mail:	<a href="mailto:info@prairieastronomyclub.org">info@prairieastronomyclub.org</a>
NSP Web Page:	<a href="http://www.nebraskastarparty.org">www.nebraskastarparty.org</a>
NSP E-Mail:	<a href="mailto:nsp@4w.com">nsp@4w.com</a>
OAS Web Page:	<a href="http://www.OmahaAstro.com">www.OmahaAstro.com</a>
Hyde Observatory	<a href="http://www.hydeobservatory.info">www.hydeobservatory.info</a>
NEB-STAR	<a href="http://www.neb-star.org">www.neb-star.org</a>

## DECEMBER PROGRAM

January program: Learn How to Use Your Telescope

**Note: changes in email addresses:**

The PAC Email address is now [info@prairieastronomyclub.org](mailto:info@prairieastronomyclub.org) instead of [pac@4w.com](mailto:pac@4w.com).

The PAC-LIST address has also been changed.

**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)

## CLUB EVENTS

### Club Star Party

Friday, January 23, 2004

### PAC Meeting 7:30pm

Tuesday, January 27, 2004  
Program: How to Use your Telescope

### Club Star Party

Friday, February 20, 2004

### PAC Meeting 7:30pm

Tuesday, February 24, 2004

### Astronomy Day

Sunday, April 18, 2004

### Nebraska Star Party

Friday, July 18-23, 2004

## 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.

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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 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 the Meeting of Sunday December 28, 2003

President Dave Knisely called the meeting to order, no new guests

The next club star Party will be Friday January 27, 2004 at Olive Creek. If you're planning to go out some other evening, put a note on the PAC-list and you might get some company.

The dust storm on Mars Dave K warned us about on the PAC list seems to be subsiding just in time for the MER landings

Speaking of the Mars Exploration Rovers, the first one, Spirit drops in late in the evening of January 3, 2004. For the latest, Planetarium director, Jack Dunn promises to put links to the latest news on the PAC-list as soon as he gets it from JPL.

The next PAC meeting will be Tuesday January 27, 2004. Members are asked to bring their telescopes and equipment for the program on how to use your telescope. We need demonstration models as well as tools to help those with new 'scopes to set up. If you'd like to help, contact Brian Sivill at: NanoAmps@aol.com

The next NSP planning meeting will be Thursday January 8, 2004 at Mahoney State Park.

The next UNL student observatory opening is January 16<sup>th</sup>.

Club secretary, Lee Taylor has posted a short survey on members interests in programs for the coming months, if you haven't received one, contact Lee to get one. If you have one and haven't responded to it, please do so so we can get your input on things to do for programs.

Anyone interested in a bite to eat after the meeting are invited to the Southpointe Villiage Inn for good food, and conversation.

The club reflector is currently available. To check it out, contact Dave Brokofsky. The club refractor is currently checked out to Bob Leavitt.

The Hyde board of directors and Mark Dahmke are currently discussing plans for a TV system for use on the telescopes at Hyde.

To sign up for the online PAC newsletter, contact an officer.

Treasurer's report: RASC handbooks and Ottwell Astronomical Calendars are on order. The club audit will take place in January.

Jeff Campbell has enquired about a public outreach program in connection with a program being put together by NASA. Subsequently, Jeff has been appointed outreach coordinator.

Jack Dunn noted the last days of the light pollution exhibit at Mueller and handed out some papers explaining the problems of light pollution and illustrations of good and bad light fixtures.

The Strategic Air and Space Museum is currently displaying a mock-up of the ISS for the next several weeks. If someone is interested in going, put a note on the PAC-list to see if and when someone else might be interested.

Erik Hubl noted the end of the year with some statistics for Hyde's new photovoltaic system, having produced 2300 Kilowatt-hours so far.

Jack Dunn motioned to adjourn, second. Adjourn to Larry Stepp's program.

Respectfully submitted by,

Lee Taylor

## Hyde Observatory Volunteer Schedule

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Date	Team Leader	Operators		Supervisor	Events
<b>January</b>					
1/17/04	Bob Leavitt	Karla Bachman	AJ Benker	Dave Hamiton	
1/24/04	Jeff King	Josh Machecek	Cece Hedrick	Rick Johnson	
1/31/04	Bill Wells	Joey Churilla	Steve Lloyd	Dave Churilla	
<b>February</b>					
2/7/04	Jeff King	Mary Winquest	Jeff Campbell	Brian Sivill	
2/14/04	Bob Leavitt	Joey Churilla	Erica Block	Dave Churilla	
2/21/04	Bill Wells	Karla Bachman	Cece Hedrick	Rick Johnson	
2/28/04	Dan Delzell	Jared Delzell	Josh Machecek	Dave Hamilton	
<b>March</b>					
3/6/04	Bill Wells	Josh Machecek	Karla Bachman	Brian Sivill	
3/13/04	Jeff King	Joey Churilla	Steve Lloyd	Dave Churilla	
3/20/04	Dan Delzell	Jared Delzell	Jeff Campbell	Dave Hamilton	
3/27/04	Bob Leavitt	Mary Winquest	Erica Block	Rick Johnson	
<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>					

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### PAC-LIST Address Change –Mark Dahmke

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The Prairie Astronomy Club website has had its own domain name since March, 2001, but the email addresses for the website and PAC-LIST have remained under the 4w.com domain name, which is owned by my company, Information Analytics. We're now in the process of moving to a new mail server, and I felt it was time to migrate the PAC addresses so they use the same domain as the website.

PAC-LIST is a listserv/discussion group that can broadcast your message to other PAC members. At present, there are 64 subscribers to the list. After you subscribe to the list, any messages you send to **pac-list@prairieastronomyclub.org** will automatically be sent out to all members of the list.

You can subscribe to the list by sending a 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 be removed from the list, send: Unsubscribe pac-list stargazer@myISP.com to imailsrv@prairieastronomyclub.org.

When posting messages to the list, please keep the following suggestions in mind:

- **Stay on topic!** Messages should be related to astronomy or the club. Off-topic messages are strongly discouraged.
- Please participate! Your ideas are important.
- Please include a subject line in each posting
- When replying to another message, try to refrain from quoting entire messages. Paraphrasing or quoting selectively is both kinder to people's eyes and e-mail boxes.
- At the end of your message, include your name and your email address.
- For off-topic conversations (or "me too" messages) please reply in private, NOT to the entire list.
- Think before you post. Do you really want to send the message to everyone on the list? Reread what you wrote. Did you really say what you intended to? Once a message is sent, it can't be cancelled.
- Flames: a "flame" is an emotionally charged posting, and is often directed at someone. Be sure you really want to post it to the list.
- To signal humorous intent, use some sort of "smiley", such as :-). Facetiousness and sarcasm can be misunderstood easily in electronic communication.
- Please proofread your message and look for spelling and grammar errors.
- When replying to a message, pay attention to where the message is going. Remember, the default reply address is the PAC-LIST, and not to the person who wrote the message.
- Please be considerate of others. A private message to the offender from an experienced friend or from the list manager is more appropriate than a public flame.
- Do not send copyrighted material unless you own the copyright or have explicit permission from the author to do so. Instead, write a short description about the item and post the URL or Web address of where the copyrighted material can be found. (For example, postings of press releases from JPL and NASA sources are ok, but not articles copied from the New York Times)
- This list has its own character, just like any "real" grouping of people (such as club meetings). The list functions best when people respect the character of the list. It's also good to respect the differences among list members and have a certain tolerance for our individual eccentricities.
- **DON'T SHOUT**—unless you really mean it. The use of all uppercase letters is considered shouting, and therefore rude. Part of the problem with all caps is that it is harder to read than mixed case. The other problem is that since facial expression and tone of voice are missing from electronic communication, some way to express strong opinions (both positive and negative) is needed, so ALL CAPS has been designated.

## Spirit Flexes Its Arm to Use Microscope on Mars' Soil

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January 16, 2004

NASA's Spirit rover reached out with its versatile robotic arm early today and examined a patch of fine-grained martian soil with a microscope at the end of the arm.

"We made our first use of the arm and took the first microscopic image of the surface of another planet," said Dr. Mark Adler, Spirit mission manager at NASA's Jet Propulsion Laboratory, Pasadena, Calif.

The rover's microscopic imager, one of four tools on a turret at the end of the arm, serves as the functional equivalent of a field geologist's hand lens for examining structural details of rocks and soils.

"I'm elated and relieved at how well things are going. We got some great images in our first day of using the microscopic imager on Mars," said Dr. Ken Herkenhoff of the U.S. Geological Survey Astrogeology Team, Flagstaff, Ariz. Herkenhoff is the lead scientist for the microscopic imagers on Spirit and on Spirit's twin Mars Exploration Rover, Opportunity.

The microscope can show features as small as the width of a human hair. While analysis of today's images from the instrument has barely begun, Herkenhoff said his first impression is that some of the tiny particles appear to be stuck together.

Before driving to a selected rock early next week, Spirit will rotate the turret of tools to use two spectrometer instruments this weekend on the same patch of soil examined by the microscope, said Jessica Collisson, mission flight director. The Mössbauer Spectrometer identifies types of iron-bearing minerals. The Alpha Particle X-ray Spectrometer identifies the elements in rocks and soils.

The rover's arm is about the same size as a human arm, with comparable shoulder, elbow and wrist joints. It is "one of the most dextrous and capable robotic devices ever flown in space," said JPL's Dr. Eric Baumgartner, lead engineer for the robotic arm, which also goes by the name "instrument deployment device."

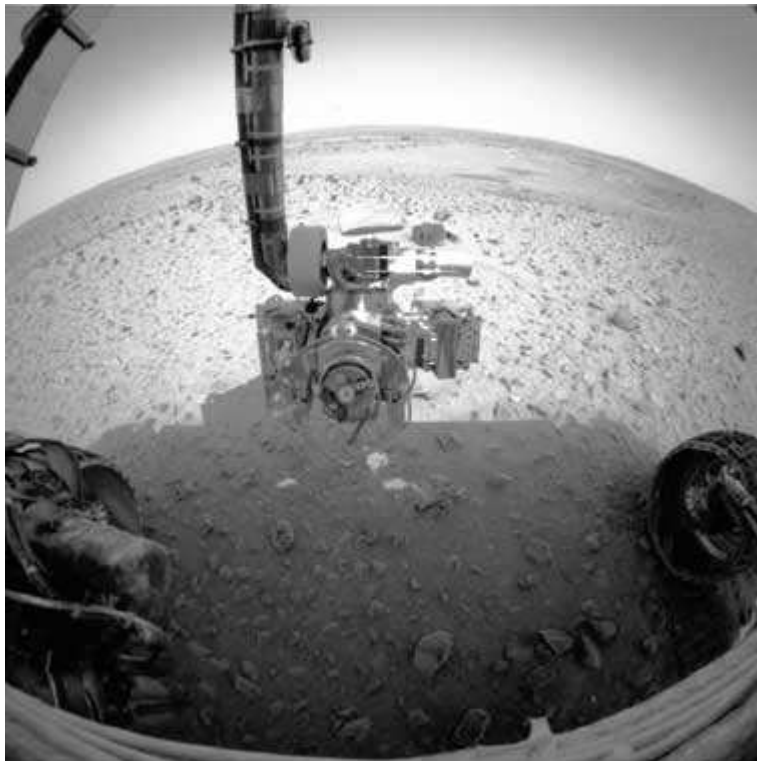
"Best of all," Baumgartner said, "this robotic arm sits on a rover, and a rover is meant to rove. Spirit will take this arm and the tremendous science package along with it, and reach out to investigate the surface."

The wheels Spirit travels on provide other ways to examine Mars' soil. Details visible in images of the wheel tracks from the rover's first drive onto the soil give information about the soil's physical properties.

"Rover tracks are great," said Dr. Rob Sullivan of Cornell University, Ithaca, N.Y., a member of the science team for Spirit and Opportunity. "For one thing, they mean we're on the surface of Mars! We look at them for engineering reasons and for science reasons." The first tracks show that the wheels did not sink too deep for driving and that the soil has very small particles that provide a finely detailed imprint of the wheels, he said.

Opportunity, equipped identically to Spirit, will arrive at Mars Jan. 25 (Universal Time and EST; 9:05 p.m. Jan. 24, PST). The amount of dust in the atmosphere over Opportunity's planned landing site has been declining in recent days, said JPL's Dr. Joy Crisp, project scientist for the Mars Exploration Rover Project.

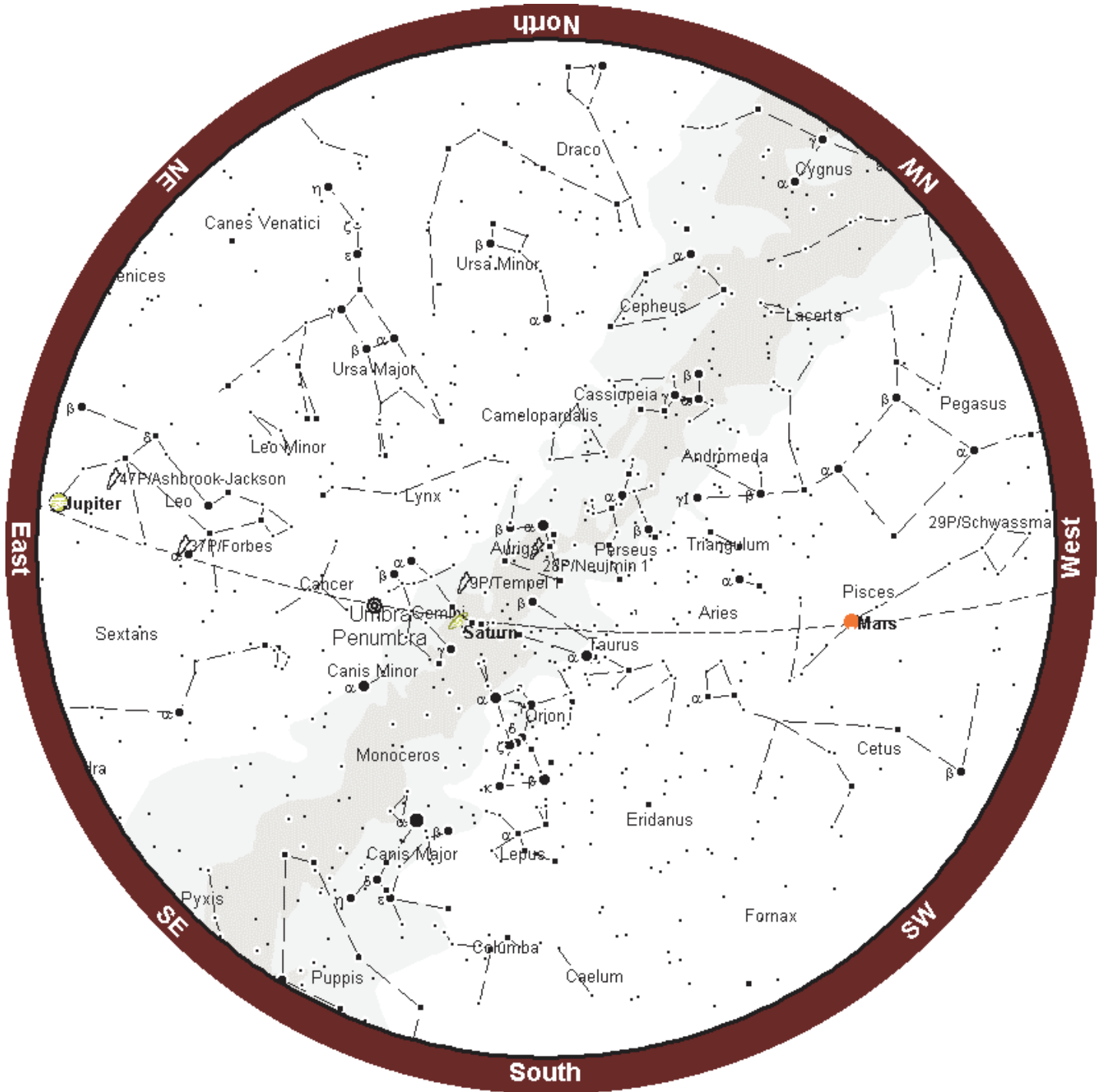
Today, Spirit completes its 13th martian day, or "sol", at its landing site in Gusev Crater. Each sol lasts 39 minutes and 35 seconds longer than an Earth day. The rover project's goal is for Spirit and Opportunity to explore the areas around their landing sites for clues in the rocks and the soil about whether the past environments there were ever watery and possibly suitable for sustaining life.































Spirit's robotic arm

JPL, a division of the California Institute of Technology in Pasadena, manages the Mars Exploration Rover Project for NASA's Office of Space Science, Washington, D.C. Pictures and additional information about the project are available from JPL at <http://marsrovers.jpl.nasa.gov> and from Cornell University, Ithaca, N.Y., at <http://athena.cornell.edu>.

## January Star Chart



# Events Calendar

February 2004						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1  Sun: 07:37 - 17:43	2  Sun: 07:36 - 17:44	3  Sun: 07:35 - 17:45	4  Sun: 07:34 - 17:47	5  Sun: 07:33 - 17:48	6  Sun: 07:32 - 17:49	7  Sun: 07:30 - 17:50  Hyde Observatory open to the public
8  Sun: 07:29 - 17:52	9  Sun: 07:28 - 17:53	10  Sun: 07:27 - 17:54	11  Sun: 07:26 - 17:55	12  Sun: 07:25 - 17:57	13  Sun: 07:23 - 17:58	14  Sun: 07:22 - 17:59  Hyde Observatory open to the public
15  Sun: 07:21 - 17:59  Neptune 2 deg N of Mercury	16  Sun: 07:19 - 18:00	17  Sun: 07:18 - 18:01	18  Sun: 07:17 - 18:03	19  Sun: 07:15 - 18:04	20  Sun: 07:14 - 18:05  Club Star Party	21  Sun: 07:13 - 18:06  Hyde Observatory open to the public
22  Sun: 07:11 - 18:07	23  Sun: 07:10 - 18:09	24  Sun: 07:08 - 18:10  PAC Meeting 7:30pm	25  Sun: 07:07 - 18:11	26  Sun: 07:05 - 18:12	27  Sun: 07:04 - 18:13	28  Sun: 07:02 - 18:14  Hyde Observatory open to the public

Moon phase images by: António Cidadão



**Directions to Olive Creek  
Observing Site**

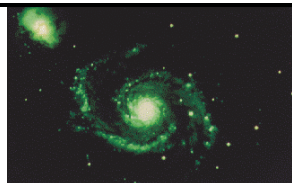
Shorter:

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**

<b>PRESIDENT:</b>	Dave Knisely (402) 223-3968 KA0CZC@navix.net
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<i>Hyde Volunteer Coordinator:</i>	<i>Dave Churilla</i> (402) 467-1514 weber2@inebraska.com



**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  
January 27, 2003  
7:30 PM  
Hyde Observatory**