

THE PRAIRIE ASTRONOMER

The Official Newsletter Of The Prairie Astronomy Club, Inc.

February 2005

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 NEB-STAR www.neb-star.org

PROGRAM

"History of the Prairie Astronomy Club" On November 7, 1960, attendance of Nebraska Wesleyan's Rose Observatory's Open House for Mercury's transit of the sun was very good. This show of interest in astronomy convinced Professor Carroll Moore that the time was right to create a club based on names he had been collecting for several years. At the February PAC meeting, Rick Johnson will share his memories of what the club has done since those early days.

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

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 Mark Dahmke. Mark will 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.

CLUB EVENTS

PAC Meeting 7:30pm
 Tuesday, February 22, 2005
Rick Johnson: History of PAC

Club Star Party
 Friday, March 11, 2005

PAC Meeting 7:30pm
 Tuesday, March 29, 2005
 Program To be announced

Club Star Party
 Friday, April 08, 2005

Astronomy Day
 Sunday, April 17, 2005
 Morrill Hall, UNL

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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,** 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

President Ron Veys called the meeting to order. There were four visitors. Ron discussed upcoming club events:

- The next club star party will be February 11th at Olive Creek.
- The next club meeting will be February 22nd. The topic will be "History of PAC" by Rick Johnson.

Ron reported that the PAC board held a meeting on January 19th. They discussed a number of ideas to improve the club and build membership. These include:

- Focus on getting more young people into the club. Our reduced price for new memberships has technically expired, since it was a one-year program. We should look into renewing it.
- Talk to the high schools to solicit new members.
- Improve our publicity efforts
- Provide a new member packet. Dave Churilla mentioned that he started a new member packet and placed a sign-up sheet at Hyde for people interested in the hobby of astronomy. He followed up by contacting people who signed the sheet and invited them to star parties at Olive Creek. At the star parties Dave and his son Joey provided new members with some one-on-one assistance and encouragement. In this way they helped the club gain two new members.
- Improve the club brochure. Provide more information about the club and about the hobby of amateur astronomy for visitors and other interested parties.
- Have some fun group activities. Ron said that many years ago a group used to meet for observing sessions at Earl Moser's house in Hickman. At that time, several people were working on their Messier certificates and some experienced club members acted as mentors for the others. If anyone is interested in forming such a group please contact Ron.
- Offer a beginning astronomy class through Lincoln Parks and Recreation.
- Allow club members to purchase T-shirts and other goods with the PAC logo through Cafepress.com. Mark Dahmke is pursuing this idea.

Ron would like to have another board meeting before the next regular club meeting to follow up on these ideas.

Ron brought up the idea of acquiring a permanent observing site. At one time the club owned an observing site - an old Atlas missile site south of Lincoln between Firth and Cortland. Encroaching development forced the club to sell the site in the mid 1990's. Now the question is: do we want to buy or lease another site? This would require overwhelming support from the club. There was a short discussion of various ideas. This topic will be brought up again at a future meeting.

Treasurer's Report: Lee Thomas reported that there is \$462.90 in the main club account. Overall, the club has approximately \$32,000. Much of this came from the sale of the PAC observing site.

Mark Dahmke obtained the membership database from Liz Bergstrom and installed it on the club's web site. He provided database access to club officers through the web interface, along with several other administrative functions. In the future, Mark will add a feature to allow club members to update their own account profiles.

Hyde news: Hyde Observatory reopened January 8, 2005 after being closed the previous two Saturdays. The annual Volunteer Appreciation Dinner is coming up. It is tentatively scheduled for the first week in April. The Hyde board will give out the Volunteer of the Year Award at this dinner. If you'd like to help at Hyde, contact volunteer coordinator, Dave Churilla. Volunteers are needed. It is an enjoyable activity and training is provided, so you don't need to be knowledgeable in astronomy to volunteer.

Erik Hubl provided an update on the proposed nighttime outdoor lighting ordinance, which is being considered by the Lincoln Planning Commission. John Carlson introduced the ordinance. The Near South Neighborhood seems to be pushing it. The ordinance is currently being rewritten and appears to be on a fast track for consideration next month (February). The ordinance covers all business districts and office parks. It does not include residential areas. The

Commission may bring in an outside consultant to work on the ordinance. The general plan is to have a taskforce work on lighting standards over the summer, with recommendations in the fall. Erik said that we should circulate a petition and get lots of signatures in support of this ordinance.

Ron Veys mentioned a concern about laser pointers, which have appeared in the news lately. It is unlikely that a laser pointer could blind an airplane pilot, but in the current climate of public attention you could get in a lot of trouble for pointing one at a plane. So we need to be very careful in how we use them at Hyde.

Ron then reviewed some slides with observing highlights – what’s up in the sky in February.

Jack Dunn reported that Astronomy Day will be April 17th. Astronomy Magazine and Meade, Inc. have joined together to provide promotional material and prizes for Astronomy Day at UNL, along with a number of other locations around the country. They are providing fliers and tote bags with an assortment of materials for the attendees. They are also providing a Mead ETX90 computerized telescope, which will be given away to some lucky attendee. Nationally, they are giving away one grand prize – a Meade LX200.

The meeting was adjourned to the program. Brian Sivill presented January’s program, “How To Use Your Telescope”.

Submitted by,
Bob Leavitt

Hyde Observatory Volunteer Schedule

Date	Team Leader	Operators		Supervisor	Events
February					
2/19/05	Bob Leavitt	Josh Machecek	Jim Kvasnicka	Rick Johnson	
2/26/05	Dan Delzell	Dave Brokofsky	Joey Churilla	Dave Churilla	
March					
3/5/05	Bill Wells	Cece Hedrick	Bob Kacvinsky	Jack Dunn	
3/12/05	Jeff King	Erica Block	Josh Machecek	Erik Hubl	
3/19/05	Dan Delzell	Jared Delzell	AJ Benker	Dave Churilla	
3/26/05	Bob Leavitt	Jim Kvasnicka	Dave Brokofsky	Rick Johnson	
April					
4/2/05	Dan Delzell	Jared Delzell	Steve Lloyd		
4/9/05	Bill Wells	Erica Block	Josh Machecek		
4/16/05	Dave Hamilton	Cece Hedrick	AJ Benker		Astronomy Day Kickoff
4/23/05	Bob Leavitt	Jim Kvasnicka	Dave Brokofsky		
4/30/05	Jeff King	Bob Kacvinsky	Joey Churilla	Dave Churilla	
Summer Hours: April through September (Sundown to 11:00 PM)					
Winter Hours: October through March (7:00 PM to 10:00 PM)					

Recent Observations– Dave Knisely

DATE: February 3rd, 2005, 0200 to 0500 hrs UTC.

LOCATION: Beatrice, Nebr. 40.283N, 96.735W, 1325 ft (404m) elevation.

INSTRUMENTS: NexStar 130GT 5.1 inch f/5 Newtonian (on loan from Cloudynights.com for review): 26x, 65x, 102x, 163x, 254x. NexStar 9.25GPS-XLT 9.25 inch f/10 SCT: 78x, 98x, 168x, 235x, 297x, 367x, 479x, 588x.

CONDITIONS: Clear, Temp. 28F (-2.2C), Wind South at 0-5 mi/hr

UNAIDED-EYE ZENITH LIMITING MAGNITUDE: 5.7

SEEING (above 45 deg. altitude): 0.5 to 1.5 arc seconds (Antoniadi II).

OBJECTS OBSERVED: Saturn, M42, M35, M50, NGC 1975, NGC 2022, NGC 2023, NGC 2129, NGC 2158, NGC 2169, NGC 2237-44, NGC 2261, NGC 2264, NGC 2392, NGC 2420, NGC 2371, Comet Machholz.

OBSERVATIONS: The weather people had said "Clear early, then dense fog", so I decided not to pack the whole shooting match in the van and just observe things from my driveway. I was finally able to get the little NexStar 130GT (which has been sitting in my living room for months waiting for a break in the weather) out for some extended evaluation, as the review of the instrument is long overdue. I had intended just to point the darn thing at Polaris and put in the Ronchi grating to test the optics, but once I got the little scope set up, doing a quick alignment and using it for a while was too tempting to resist.

I powered up the scope with its little 12V "AA-Battery" pack, but it was pretty clear that this pack was losing its gusto after only a night or two's worth of viewing, so I put the scope on Polaris and put in the Ronchi. What I saw basically pleased me (fairly straight bands), so I put in an eyepiece and started the alignment procedure. However, the little scope's drive motors were running slower and slower as I worked the alignment process, and the display would dim during slews. I pulled the plug on the "toy" pack and went downstairs to retrieve my 21 amp-hr "X-Power" 12V system. With the change in power supply, the little 130GT screamed to life once again, slewing almost gleefully from target to target. I slewed it to the Pleiades, but the altitude of the cluster meant that the back end of the scope hit the tripod and screwed up the alignment. I aborted and restarted things. I tried Saturn, and the scope did a fairly good job with the ringed planet. The tracking wasn't so hot, but it did manage to keep Saturn in the high-power field most of the time. I kept increasing the power, and the view held up pretty well, with Cassini's Division and the main equatorial belt being easy to see. Even Titan, Rhea, and Dione were easily seen. In fact, before I knew it, I had the scope at 254x and could just glimpse the Crepe ring.

I also put the scope on M42, and with the 25mm eyepiece, I got a good look at the entire sword of Orion in addition to the nebula.

With this good a seeing, I thought it was time to bring my "big gun" out for some fun (the NexStar 9.25 SCT). I had been cooling it down for a couple of hours in the garage, so it was ready to go. I will have to say that I do like my expensive scope a lot better than the little NexStar 130GT, as the SCT is quieter and the tracking is *much* better.

Saturn was very nice, although seeing had gone downhill a bit. I went "moonwatching", and the rich star field where Saturn is currently located, made identifying which point of light was a moon and which was just a star more difficult than usual. After a quick consult with my laptop and DANCE OF THE PLANETS, I managed to identify the usual suspects at only 78x: Titan, Rhea, Dione, Tethys, and Iapetus. I could see the orangish disk of Titan quite easily at 297x. Iapetus was well away from the rest of the moons, so I had to slew Saturn to one edge of the field just to catch it. I noticed that the computer showed Hyperion on the other side of Saturn from Titan but about the same distance away as Titan had been, so I pushed the power to 98x and moved Saturn out of the way. Sure enough, I picked out the 14th magnitude point of light of Hyperion out of a number of similarly faint stars. Seeing was getting better, so I kicked the power to 235x. Then, just off one ring ansa, I glimpsed a very very faint point of light winking on and off as the seeing changed. This was Enceladus, one moon I don't often see with this degree of broad ring tilt. I knew where Mimas should have been, but even after watching for quite a while, I couldn't pick it up. The ring system was glorious, with the Crepe ring looking like a dim charcoal-grey band rather than its more typical diffuse arc on the inner edge of the B-ring. When seeing settled, it was one of those, "You could drive a Mac truck through the Cassini Division" times. However, almost every time I went to my eyepiece box to change eyepieces, the seeing decided it would frustrate me by going bad for a few minutes! I found that 235x provided the best overall view, although I did push things as high as 479x at times. The main equatorial belt was easily seen and showed some interesting interior detail. Several enhancements in the normally diffuse bands were visible, along with at least one other belt in the high temperate zone and the darker polar cap.

As the NexStar 9.25 was slowing in its first slew to Saturn, I noticed a faint open cluster fly by, so I went back to it. It was NGC 2420 in Gemini, and is a very rich group of faint and very faint stars that looked a little like a loose globular cluster. It is about 10' arc across and has a scattering of a few brighter stars (9th to 11th magnitude) over a main mass of very

faint ones. At 98x, I could make out close to 60 members with averted vision. While in the area, I slewed a short distance over to the Eskimo Nebula NGC 2392. The NexStar has always done well with this object, and tonight was no exception. It was so bright that the outer ring of the "hood" tended to almost merge with the glow in the interior of the nebula. This got me to start increasing the power, and the higher I went, the more detail I saw, although none of it was exactly bright by any means. The most startling thing was that at 588x, I could see the diffraction disk of the 10th magnitude central star! The outer ring or hood showed noticeable variations in brightness, while the central region showed a broad patchy oval region that at times almost looked triangular. With this planetary under my belt, I went over to a "double planetary", NGC 2371-2. It appeared as two patches almost in contact encased in a hint of a fainter envelope, with the southwestern patch looking a bit brighter and having a faint star in it.

After this little tour, it was back to open clusters. A quick slew to M35 brought me a field filled with bright strings of stars (98x).

Two very nice strings run through the cluster and curve a bit towards each other. Following the curve direction of one of the strings, I ran into the granular patch of another nice open cluster NGC 2158. This one takes a bit higher power to show many of its stars, but 297x did the job. I could see perhaps 30 very faint stars in the group with others suspected. While looking at my MEGASTAR charting program, I noted another nearby open cluster NGC 2129. In the NexStar 9.25, it wasn't all that rich (15 to 20 stars), but its stars are fairly bright, with the brightest ones outlining a rough triangle. After this, it was a quick slew to M42 for a look at the nebula. Again, it didn't disappoint me, although the view was better with the UHC filter. I manually slewed the scope to "The Running Man Nebula", NGC 1975, located to the north.

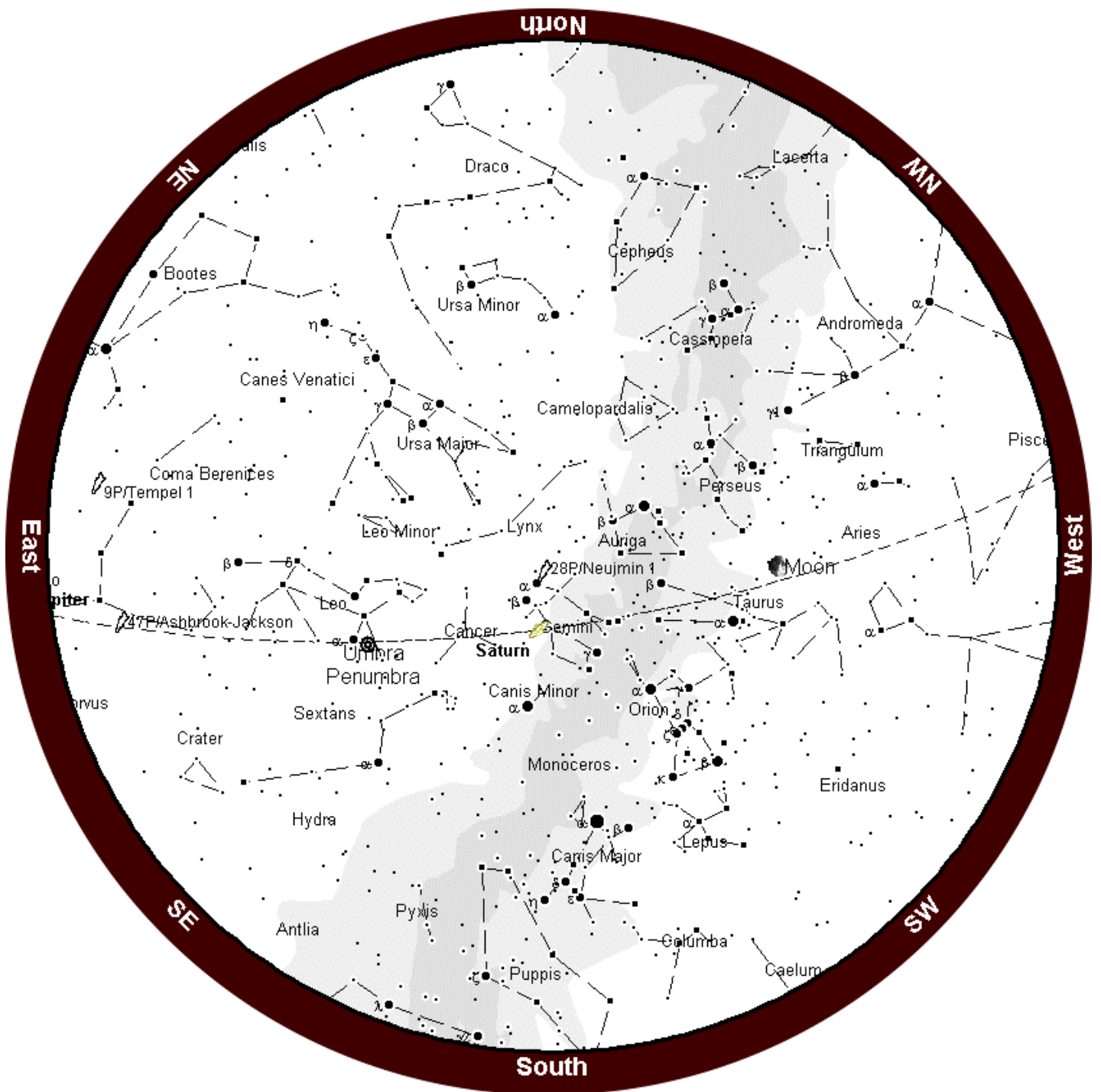
It was visible as a diffuse irregular area of nebulosity in a large sparse open cluster (NGC 1977). With averted vision, the nebula seemed to have a long east-west dark lane down the middle, with a possible split towards the eastern end. I ordered a slew to NGC 2023, and the puff of nebulosity around its magnitude 7.8 central star was visible, but the nearby IC 434 nebulosity was only hinted at. I went up to "The 37 Cluster", NGC 2169 and got a very nice view of triangles of bright bluish stars. The "37" form was backwards of course (using the star diagonal), but I could easily trace the two groups (about 20 stars total) which outline the "two digit" formation. However, the "3" looked more like the capital Greek letter Sigma. I recalled the NGC number of a faint planetary NGC 2022, so I punched that one in. It was difficult to see initially (35" arc across, mag. 12 or so), but with the UHC filter, it was considerably easier to see. Higher power (168x) showed a faint disk with a noticeably darker middle.

I took a quick look at Comet Machholz. It was up in Cassiopeia not far from Iota, and appeared to be about magnitude 4.5 or so. In my 10x50 binoculars, it was a nice small round fuzzy ball brighter at the center, but I could not clearly see any evidence for a tail. I did a manual slew of the NexStar over to it, and saw the comet as a large round fuzzy ball with a brighter core and a star-like nucleus. The nucleus was not quite centered in the faintly bluish coma, and as I moved the scope, I could catch a glimpse of a very faint broad diffuse glow of a tail, perhaps a degree or less in length.

With this success, I recalled a mentioning of M50 in Sky and Telescope, so I sent the NexStar over to it. It was a nice cluster in my 10 inch the last time I saw it, but in the NexStar, 78x was a little high, as it looked a bit on the sparse side (I really have to get that 40mm Mk70 Koenig from University Optics). I slewed over to the Christmas Tree Cluster (NGC 2264) and it was very nice but rather big again due to my moderate power level. I saw the faint diffuse glow around and south of S Monocerotis and also noted a very faint companion right next to the star. Using the UHC filter brought out the nebulosity a bit better. I suddenly started to notice that the nebula was becoming larger and larger, but I quickly realized that I had just breathed on the cold eye lens of the eyepiece! After a little defogging, I moved the scope down to Hubble's Variable Nebula (NGC 2261). It was quite prominent, appearing as a narrow fan-like patch that was diffuse on the north end and sharpened to almost a point on the south end. I went to 98x and put in the Lumicon Deep-Sky filter. The nebula immediately gained contrast over what I had seen without a filter. The edges of the fan seemed much sharper as if one edge was actually a fine filament, and the northern edge extended a bit farther north.

For a last couple of targets, I tried the Rosette Nebula and a large diffuse nebula NGC 2174 in northern Orion. The Rosette is so large that even with the 1.1 degree field of my WideScan III eyepiece, I could only see smaller portions of it. The rectangular central star cluster was quite pretty, but the nebulosity was rather dim from town even in the UHC, although I could trace much of it all around the central "hole" in the nebula. The last object I attempted was NGC 2174. It was larger than I remember, as it nearly filled the 40' arc field of view of my 24mm Panoptic. With the UHC filter, the nebula appeared as a soft roughly circular glow around a 7th magnitude star. Some significant faint detail could be seen, including a little dark lane-like structure and an arc-like arm in one side. In fact, it reminded me a little of a larger and brighter version of the Cocoon Nebula. All in all, it was a pretty successful night on the driveway for me and my NexStar.

March Star Chart



Events Calendar

March 2005						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 	2 	3 	4 	5 
		Sun: 07:00 - 18:16	Sun: 06:58 - 18:18	Sun: 06:57 - 18:19	Sun: 06:55 - 18:20 Venus close to Uranus	Sun: 06:53 - 18:21 Comet C/2004 RG113 at perigee; Hyde Observatory open to the public
6 	7 	8 	9 	10 	11 	12 
Sun: 06:52 - 18:22	Sun: 06:50 - 18:23	Sun: 06:49 - 18:24	Sun: 06:47 - 18:25 Alpha Virginids	Sun: 06:46 - 18:27	Sun: 06:44 - 18:28 Club Star Party	Sun: 06:42 - 18:29 Hyde Observatory open to the public
13 	14 	15 	16 	17 	18 	19 
Sun: 06:41 - 18:30	Sun: 06:39 - 18:31	Sun: 06:37 - 18:32	Sun: 06:36 - 18:33	Sun: 06:35 - 18:34	Sun: 18:33 - 06:36	Sun: 18:32 - 06:37 Hyde Observatory open to the public
20 	21 	22 	23 	24 	25 	26 
Sun: 18:30 - 06:38 Spring Equinox	Sun: 18:28 - 06:39	Sun: 18:27 - 06:40	Sun: 18:25 - 06:41 Pallas Opposition	Sun: 18:23 - 06:42	Sun: 18:22 - 06:43	Sun: 18:20 - 06:44 Hyde Observatory open to the public
27 	28 	29 	30 	31 		
Sun: 18:18 - 06:45	Sun: 18:17 - 06:46	Sun: 18:15 - 06:47 PAC Meeting 7:30pm; Mercury Close to Venus (4.3deg)	Sun: 18:13 - 06:48	Sun: 18:12 - 06:50 Moon Close to SAO 185198 36 OPHIUCHI		

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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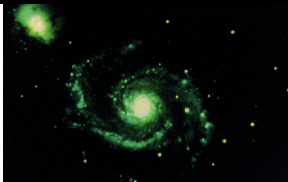
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First Class Mail

Next PAC Meeting
February 22, 2005
7:30 PM
Hyde Observatory

«Title» «FIRSTNAME» «MIDDLENAME» «LASTNAME» «RENEWALDATE»
«CAREOF»
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«City», «State»
«Zip»