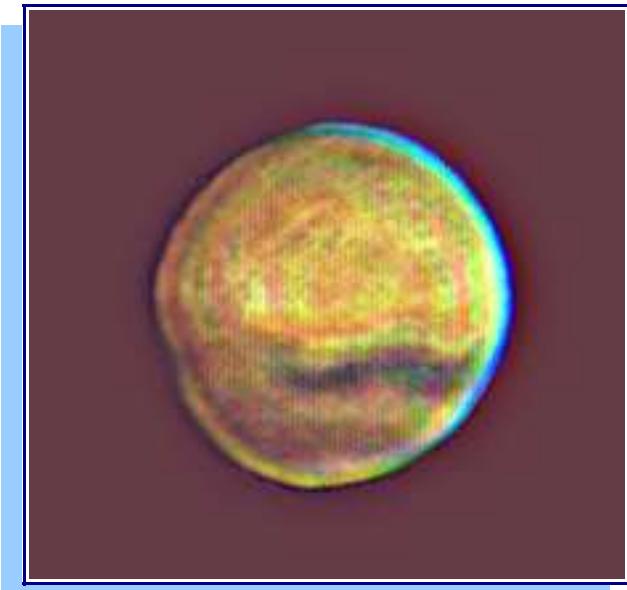


Saskatoon Skies

The Newsletter of the Saskatoon Centre of the Royal Astronomical Society of Canada

Vol. 36, No. 12

December 2005



The big event of the last two months was the opposition of Mars.

Even though Mars was 25% further away at this opposition than at the historical opposition of August 2003, it was 30 degrees higher in the sky making it better for observing for us here in the frozen North.

That, combined with advances in technology such as the webcam, enabled many of us to get much better pictures this time, such as Al Hartridge has done in this picture of Valley Marineris and two of the volcanoes at one end of the valley.

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*Please note the early date of December 12
for the next General Meeting! Be there!*

MEMBERSHIP? IT'S NEVER TOO LATE TO JOIN!

Regular: \$65.00 /year Youth: \$34.25 /year Lifetime: \$1100

The Saskatoon Centre operates on a one-year revolving membership. You will be a member for the next 12 months no matter when in the year you join. If you do not want to join at this time, ask to get onto our FREE 3-month Temporary Membership list. You will receive regular mailings of our Saskatoon Skies newsletter and will be invited to participate in Centre activities. Members are encouraged to renew early to avoid disruption in publications. Renew through the membership coordinator, Mike Clancy, or renew through the National Office and let Mike know that you did!

Benefits of Membership in the Saskatoon Centre

- knowledgeable & friendly amateur astronomers
- use of the Sleaford Observatory
- use of the U of S Observatory (after training)
- Saskatoon Skies Newsletter
- Observer's Handbook
- The Journal of the RASC (bimonthly)
- SkyNews Magazine (bimonthly)

- use of the Centre library
- discounts to Sky & Telescope Magazine*
- free, no-cost, no-obligation, 3-month temporary membership if you don't want to join right now!

* New subscription or renewal of Sky & Telescope? Send new info or renewal notice, plus credit card # to Norma Jensen, 128-4th Street East, Saskatoon, SK S7H 1H8, or fax 306-659-2170.

SASKATOON CENTRE'S MAIN OFFICERS:

President – Ron Waldron, 382-9428

Secretary – Al Hartridge, 373-0034

Vice-President – Garry Stone, 857-4707

Treasurer – Norma Jensen, 244-7360



BOTTLE DRIVE & CANADIAN TIRE \$

by Darrell Chatfield

The total collected to date is \$65.60. Thank you very much. Please bring your bottles and Canadian Tire Money to the General meetings. I will collect them after the meeting concludes. If you cannot make it to the meeting but would like to contribute, please call me at 374-9278.

U OF S OBSERVATORY

The U of S Observatory is open to the general public every Saturday of the year. Admission is free. The observatory is located on campus, one block north of the Wiggins Avenue and College Drive entrance. On clear nights, visitors may look through the vintage 6-inch and tour several displays. Current events are recorded on the Astronomy Information Line at 966-6429.

Observatory Hours:

January-February	7:30-9:30 pm
March	8:30-10:30 pm
April	9:30-11:30 pm
May-July	10:00-11:30 pm
August	9:30-11:30 pm
September	8:30-10:30 pm
October-December	7:30-9:30 pm

About this Newsletter...

Newsletter Editors – Tenho Tuomi, Ken Maher **Copy & Collate**– Rick Huziak **Labels & Temps** – Mike Clancy **Web Posting** – Gord Sarty

Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 100 copies per issue. Saskatoon Skies welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science articles. Articles can be sent by mail in any format to the Centre's mailbox. Submitted materials can be returned upon request. Submissions may also be sent by e-mail – preferred as plain unformatted ASCII text files without line breaks. Images sent by e-mail should be attached .JPGs (.GIFs also accepted). Send e-mail submissions to the editor at <tuomi@sasktel.net>. Please send articles in "generic" formats with simple formatting – one tab at the beginning of paragraphs, one space after commas and periods. A separate by-mail subscription to Saskatoon Skies is available for \$15.00 per year. Saskatoon Skies is also posted on our Saskatoon Centre homepage as a .pdf file and can be downloaded free-of-charge. Members may choose to receive the newsletter by regular mail or via the Internet. Articles may be reprinted from Saskatoon Skies without expressed permission (unless otherwise stated), but source credit is requested. DEADLINE for submissions is the 26th of each month. Saskatoon Skies accepts commercial advertising. Please call the editor for rates. Members can advertise non-commercial items free of charge.

RASC CALENDAR OF EVENTS

Date	Event	Contact	Telephone
Dec. 12	RASC Executive Meeting -- 6:30 p.m., 175 Physics, U of S	Ron Waldron	382-9428
Dec. 12	RASC General Meeting -- 7:30 p.m., 175 Physics, U of S – Home-Made Planetarium Program , by Tenho Tuomi; We Three Kings - The Christmas Star Revisited , Video, by Ron Waldron	Ron Waldron	382-9428
Jan. 3	Quatrantid Meteor Shower	Rick Huziak	665-3392
Jan. 16	RASC Executive Meeting -- 6:30 p.m., 175 Physics, U of S	Ron Waldron	382-9428
Jan. 16	RASC General Meeting -- 7:30 p.m., 175 Physics, U of S	Ron Waldron	382-9428
Mar. 11	Fundraising Dinner	Norma Jensen	244-7360
Apr, /06	George Moore's Astronomy Workshop – Edmonton Centre	tbd	tbd



BOOKS FOR SALE

by Bruce Brandell, Sales Coordinator

Some of the items are left from the Star Party. All will be available at our next meeting. Call 249-1119, or email bruce_brandell@yahoo.com

The following Christmas Sale Prices are in effect until the end of December!

Title	Author	# Avail	Price
Calendars			
RASC 2006	RASC	5	\$11.00
Skywatcher's	Stan Shadick	2	\$16.50
Books			
The Backyard Astronomer's Guide	Dickinson & Dyer	3	\$37.00
The Isabel Williamson Lunar Observer's Guide	RASC	2	10.00
Night Sky Atlas	R. Scagell	3	\$22.00
The Moon Observer's Guide	P. Grego	1	\$12.00
The Sun Observer's Guide	P. Spence	1	\$13.00
Firefly Astronomy Dictionary	Firefly	2	\$12.00
Exploring the Sky by Day	T. Dickinson	1	\$9.00
Skyways – Astronomy Handbook for Teachers	M.L. Whitehorse	3	\$18.50
The Beginner's Observer's Guide	L. Enright	3	\$16.00
Astrophotography	G.N. Patterson	lots	\$3.00
Miscellaneous			
RASC Centennial Mug		4	\$5.00
RASC Stickers, blue or white		lots	\$1.00
SSSP 2001 Pin (Summer Triangle)		17	\$2.00
SSSP 2002 Pin (Comet)		29	\$2.00

SKY BUYS & MIRROR CELLS

The Saskatoon Centre's Swap and Sale Page!

For Loan to Members: Slide set for talks on general astronomy and light pollution. You can borrow this set any time you want to give a talk to your favourite group. Contact Rick Huziak at 665-3392.

For Sale: Used 7 X 50 Bushnell Extra Wide Angle Binoculars. Full 10 degree FOV! In good condition with case. \$40.00 Firm - Ron Waldron

For Sale: 10mm Speers Waler eyepiece for sale, \$75.00. Anyone interested can call Bob Johnson at 955-4618, or email bjohnson53@shaw.ca

For Sale: Complete Telescope Package one year old (\$2400.00 new) Sale Price \$1200.00 obo – phone Guy LeBlanc at 306-665-6085 or 306-222-6883, or email g.leb@sasktel.net

Package as follows:

Sky watcher Maksutovs mak127 • EQ3-2 mount • Dual axis Clock Motor Drive (with gel battery pack & 110 volt charger) • EQ3 polar scope • 9 x 50 finder scope with adjustable mount • Case for scope • Case for EQ3 mount • Hard Case for accessories
Accessories: Sky watcher dual led light • Seven piece stargazers filter set in a case (Skyglow broadband, Variable polarizing filter, Four color filters, Plus Moon filter and Antares ND 13 filter in case) • 2x Barlow lens 1.25 • Antares 2x barlow 1.25 fully multi coated • 6mm ultra wide angle long eye relief m/c • Plossl 10mm multi coated • Plossl 25mm multi coated • Plossl 32mm multi coated • Maxview 40 multi coated eyepiece/camera adapter with Sony 45-52 adapter • 1.25 – 45° diagonal • 1.25 – 45° erect image diagonal • eye piece reliefs Books: Night Watch 3rd edition and Backyard Astronomy Guide



Uncertain what to buy for Aunt Emily or your cousin for Christmas?



Why Not Buy a \$20.00 gift certificate to J.D.Peppercorns restaurant in Saskatoon?

Half the ticket cost goes to RASC.

Certificate sales at Nov. and Dec. meetings. Or e-mail Barb wrightb@sasktel.net

MINUTES OF THE EXECUTIVE MEETING

October 17, 2005

1. Meeting called to order at 6:32 p.m.
2. Minutes of the October executive meeting were approved as distributed – moved by Jim Young seconded by James Gorkoff. Carried
3. Treasurer's report – Norma Jensen reported that we have received \$2695.00 from memberships, \$330.00 from book sales, \$800.00 from fundraisers and earned \$275.00 interest. There is \$7800.00 in the chequing account. The light pollution committee spent \$272.00 and brought in \$217.00.
4. Hobby Show – We gained 7 temporary members, sold \$275.00 worth of books and merchandise. The booth cost \$200.00 minus \$50.00 for a talk. It was decided we should continue with the hobby show and that we should advertise our General meeting at the Hobby Show.
5. Elections Update – We have two positions to fill - Observing Coordinator and Sleaford site Coordinator. The nominations committee will meet by phone and report at the Dec. meeting.
6. Events – Jeff Swick had no events to report.
7. Fundraising – In the absence of Darrell Chatfield, Norma Jensen announced that we have \$20.00 gift certificates for sale from J.D Peppercorns [we get \$10.00].
8. Memberships – Michael Clancy reported [via Jim Young] that we have 77 members as well as 8 temporary members [7 were signed up at the hobby show]. 4 members are in arrears and will be dropped effective Dec.01-05. We have 4 youth members, 2 associate members. 42 members receive the newsletter by email notification. 17 members have keys to the Sleaford facility.
9. There was no Sleaford site observing report.
10. SSSP – We need a new Chairman and volunteers [both for planning and on site] also new ideas – see Les Dickson or Ron Waldron.
11. Light Pollution Abatement Committee – Rick Huziak attended a City presentation – lighting in new subdivisions will be similar to the ones in Hampton Village. We have concerns with the Centennial Plaza Landmark designs since they will in all probability be lit up from below. Rick suggested that everyone write letters to your MLA and city councillors.
12. Newsletter -- Tenho Tuomi reminded us that the deadline for Saskatoon Skies is Nov 21.
13. Adjourned at 7.30 p.m.

Astronomy Day at Dinsmore

by Tenho Tuomi

On November 9 Rick Huziak and I went to the Dinsmore Library to show astronomy slides, and show stars if the sky was clear. We had a great welcome, for the event was announced on the main billboard at the end of Main Street. As we walked into the library the librarian had a table displaying what seemed to be all the astronomy books in the library.



who were arriving.

The slide show that Rick gave was well received. The crowd kept varying but there were up to 20 present at some time. If we felt any lack of numbers it was more than made up by the enthusiasm of some of the younger members of the crowd.

After the slide show we turned our telescopes on Mars which was peeking through the same haze as before. Even if the only objects we could show were the Moon and Mars, everyone seemed very happy to see those, and we were invited back when the skies are a little clearer.



Lighting, Projects and Crime

by Rick Huziak, Saskatchewan Light Pollution Abatement Committee

Last month, I asked members to drive out to the new Hampton Village sub-division to look at the marvelous non-polluting FCO lighting and then to comment, hopefully favourably, to City Council, your Councillor, MLA, MP, or City Engineer. As of this writing, three members have taken up the challenge and have sent letters. I applaud your courage, and if the other 72 members also respond, council will see overwhelming support for these lights. We need your support.

New projects keep popping up. The most recent is the announcement of the six final designs for the Centennial Plaza Landmark sculpture that will be positioned in River Landing - the space between 19th Street and the river downtown. The location of the landmark will be at the intersection of 2nd Avenue South & Spadina Crescent. The most impressive design involves 16 clear poles designed to sway in the wind and catch light from a light well that is at the clear base of the monument. Another design uses spotlights to shine upward, creating "artificial stars that can be enjoyed all night long." The sculpture will be visible from

the Sid Buckwold (Idylwyld) Bridge for tourists to see as they pass through "365 days a year and all 4 seasons". Check out the front page of the November 22nd edition of the Star

Phoenix. Of the six designs all but one use up-shining spotlights or metal halide lights to feature these sculptures. I am all for beautifying downtown, but why does it always have to be at the expense of the sky? Why do we have to create "artificial stars" when the sky abounds with real ones - if we could just see them? Although the committee will send a letter complimenting the city on their good idea of creating a public attraction, we will also berate them for their neglect of the dark sky. It seems to me that if they signed up to a Kyoto Green Plan to begin energy reduction, they should not be choosing which projects can be exempted from energy saving and pollution generation.

Other new projects have come to light. I attended the Roadmap 2020 conference on November 17th where the city unveiled their commitment to use the LEED Gold building standard for all new civic construction. LEED buildings are a new energy-efficient design, and each building must be certified to attain LEED-accepted status. LEED also addresses light pollution, but the IDA is not satisfied that LEED goes far enough, but at least it is a start. The City is also looking at creating or sponsoring a Sustainable Neighbourhood demonstration project, but we have to make sure that light pollution friendly design is a part of the environmental specification.

The times are now ripe for environmental lobbying. There

are many groups and communities that have had enough of high-energy prices and are developing their plans to become sustainable communities. Besides Saskatoon's plan, there is an independent Sustainable Community group here, and the Town of Davidson issued a decree that their whole town will become a sustainable community. All of these centres will have to address their wasteful light pollution as part of their energy reduction plans. It will be up to our committee to do the educational component to make sure LPA is addressed. On the downside, SaskPower owns all of their outdoor lighting, and SaskPower has yet to offer anything that resembles an LPA friendly fixture.

There are no shortages of LPA projects to get involved in, and most require just a letter suggesting that lights need be addressed, then a meeting with the planning committees to provide more guidance. However, all projects become far more work than was initially planned. Light pollution education still has a long way to go until it becomes standard practice in Saskatchewan; a long way from lobbying not having to be done.

Internet Resources:

Learn about the Canada Green Building Council (LEED Canada) here:
http://www.cagbc.org/building_rating_systems/leed_rating_system.php

LEED Sustainable Neighbourhood Standards (Draft)
addresses light pollution on page 99.
http://www.usgbc.org/FileHandling/show_general_file.asp?DocumentID=959

As for the effect of light on crime, I will close with a few incidents that have happened in my Exhibition neighbourhood in the last few months. If you somehow still believe that

light improves safety and security, I hope I will change your mind after reading about these events. In May, my house was broken into, and my laptop, a bottle of booze, a suitcase and some pocket change was taken. The break-in occurred while I was at work. Eighty-five percent of crime happens during daylight hours, so are you willing to light up the city like daylight in the hope of preventing 15% of crime? In August, my brother's car was broken into in the middle of the night. He was parked beside my house under a streetlight. The young thieves could see what was in the car because of the streetlight. Everyone on the block was asleep, so no one saw the break-in. My neighbour's garage was graffitied one month after she painted it white. My other neighbour's garage was graffitied even before it was completely built! The siding wasn't even on. Both garages are under the same streetlight. The streetlight simply provided a nicely lit palette for these amateur artists who struck while we were asleep. In exactly zero of the four incidents did outdoor lighting prevent the crimes. Turning that streetlight (whose job it is to light up my alley!) out would have likely prevented the break-in and graffiti crimes, because what you can't see you won't take, and what you can't see you won't paint. Lighting up the night in effect extends the day - so if more crimes happen in the day, more crimes will happen as the day artificially becomes 24 hours long.

Saskatoon Hobby Show, November 11-12, 2005

by Tenho Tuomi



The Club set up a double booth (actually three booths wide, a prime location) at the Saskatoon Hobby Show. Volunteers showed up early to have everything ready to go by 1 p.m. starting time. Members brought more than enough telescopes for a good display, and the tables were loaded with displays, books for sale, and handouts. A steady stream of visitors came by and picked up many of

the handouts. Seven signed up for temporary memberships in the club. Several stopped to ask questions and to discuss their own telescope experiences, often with department store telescopes. In the afternoon Rick Huziak gave a talk on Buying Your First Telescope.

What was notable about this year's hobby show was the number of volunteers who came from our club, often

exceeding the number of visitors around the table. As we found out later, what our members liked most about the hobby show was the opportunity to meet other members of the club, and to have relaxed, extended opportunities to talk with them and to get to know them. That in itself was seen as reason enough to continue with the hobby show next year.

a Happy New Year!

Merry Christmas, &



U of S LIGHTING A CRYING SHAME!

This photo of Venus was taken by Tenho Tuomi from the National Research Council parking lot just minutes before our November General Meeting. Addressing the glaring lights in the picture is a future project of the LPA committee. **The University and Innovation Place use capped lights that shine all their lighting sideways and produce a lot of glare. They rate about 4 out of 10 for LPA compliance.** These continue to be installed despite the University's commitment to LEED building practices on campus, though some full cut-off lights are now appearing on Campus Drive here and there.

MONDAY, DECEMBER 12, 7:30 PM – ROOM 175, U OF S



We Three Kings - The Christmas Star Revisited, Video

Note: There will be an executive meeting at 6:30 p.m.

HUNT FOR DIM OCTOBER (M93)

by Mike Clancy

Okay, so I've got your attention now, with my flagrant attempt at plagiarizing a popular book title! This all happened 24 Oct. '05 (hence the tie-in) just before dawn, looking south from my veranda at the new Hidden Ridge acreage. According to my copy of the "Backyard Astronomer" software package, it should be evident at that time on that day, weather permitting. Well, the weather was almost perfect, very still, cloudless, with the temperature hovering around 2 °C, and not a wisp of stray light low above the southern horizon. I used the Celestron 114 EQ Newtonian with the 10mm SMA ocular and red dot finder sight, and sighted down from Sirius in Canis Major along a chain of fairly bright stars to magnitude 2.5 Aludra then left to magnitude 3.31

Amidiske in Puppis. My trusty copy of Sky Atlas 2000 (2nd edition) shows M93 sitting just above Amidiske so I centered that star in the red dot, peered somewhat myopically through the ocular and there it was! It took perhaps a minute to locate the magnitude 6.5 open cluster but I was rewarded with rather a decent view. It is somewhat small, compact you might say, and vaguely resembles a

capital "W" in a squashed sort of way with more stars on the left side of the formation (my view). I made a drawing of it, but even Picasso wouldn't recognize it (mostly because I'm a lousy artist!) so I won't include it here!

I also took the liberty of checking out two old friends, the open clusters Cr 132 and Cr 140, both located near Aludra in Canis Major. Being as they're usually so low in the south I rarely see them, but I still remember one frost-bitten

evening out at the Sleaford Observatory when Rick Huziak first showed them to me. I would never have recognized them for star clusters except but for Rick's teaching and (perhaps more importantly) the lesson included the idea that one can find such objects anywhere in the sky. All you have to do is look up and truly observe, not

just "see". Since then I've spent more time actually looking "at" objects as opposed to time spent looking "for" objects. It's a subtle difference, but then again, most of the objects I'm looking "for" now seem to be nothing but subtle wisps anyway!

CROP CIRCLES?

by Kathleen Houston

So, there I was, photographing a "land art" work at a slough near Redberry Lake, on October 27th that I had made two days previous. Though it was 5 to 8 Celsius, I succeeded in walking a spiral in the cold soft mud, and had returned today, in the rain to see and photograph the changes. I was thinking about the spiral at Fajada Butte, New Mexico, where the summer solstice "sun dagger" does its magic. Likely Fajada's spiral was created from the center, outwards. Mine was made in the clockwise direction, in effect from the outside toward the middle. It was curious to see how my exploration with labyrinths had evolved from the Waskesiu stone classic version now under water, to "drawing" in mud.

I was quite involved in my rain photographs, and onlookers were gathering on this rarely used dirt road. Hmm...The water level had risen so that only the mud peeks between my footsteps broke the water surface. The spiral was more visually obvious than when I made it. A number of farmers had stopped their trucks and stood by the side of the road. At first I remained hidden, fiddling with my



video camera on a tripod. They wondered if this was a crop circle, and talked quite animatedly. I finally stood up, and was asked if I see any human footprints. My mind was whirling...I could see the headlines now, "Mud landing at Redberry slough..." I wouldn't want to underestimate alien curiosity. Perhaps they might have been interested in how a dried out slough could become so full of life after so much rain. After all, I had created a labyrinth drawing in the middle of this slough, in full drought last fall. I took photographs of the labyrinth just before sunset...the light was extraordinary. This relationship to the sun brings me back to Fajada, and the sun marker, and my budding analemma project proposal for North Battleford.

After some heated discussion, someone finally asked me if I had made it. I thought that their story was much more interesting than mine, and knew they would be disappointed. I admitted to being the mud walker. "So, why did you do it?" asked one with a disappointed tone of voice. Perhaps explaining my motives might be hard to hear, I simply said, "Just for fun!"

The Planets This Month, November 2005

by Murray D. Paulson, Edmonton Centre

Ah what a lovely Mars apparition! And, it's not over yet! November was a great month with many observing windows and uncharacteristic balmy evenings. The bonus was the number of those warm evenings that had relatively good seeing. Not great, but adequate. It has been a far cry from that crazy 2000/1999? Leonids on Obed summit. -25 C in a snowstorm, and no "storm".

December starts off with a good morning apparition of **Mercury**. At the beginning of the month, Mercury rises an hour and a half before the sun. It shines at magnitude 1.0, and would show you an 8.9" diameter thin crescent in the eyepiece. Nice view! On December 8th, Mercury was at dichotomy and showed a 7", -0.2 magnitude disk. A few days later, on December 12th, Mercury goes through its greatest western elongation where it will shine at magnitude -0.4 and show you a 6.7" slightly gibbous half Moon in the eyepiece. It will fill out and shrink in size over the next few weeks. These December morning apparitions are great, and sustained. If you are lucky, you might even be able to follow it until after Christmas when it rises just over an hour before the sun. Mercury now shows a 5.3" gibbous disk and shines at magnitude -0.4. A year ago we had that spectacular Venus-Mercury conjunction. No dice this time around.

Venus has surprised me at how nice it has been over the November month. I have had many occasions to spot it just before sunset, low on the horizon, and quite striking. On one spectacular evening, Venus was wreathed in a flaming pink sunset. A diamond in a blue and pink setting. At the beginning of December, Venus was a fat, 36.6" crescent which shone at magnitude -4.6. By the end of the month, it will sit 20 degrees from the sun, but still sets 2 hours after the sun. It will be a nice view in the eyepiece, a 57" slim crescent shining at Magnitude -4.4. For those who saw the Venus transit, this brings back how big that planet can be. What a fine way to start off the new year!

As stated earlier, this has been a great apparition, and it is not over. By now, **Mars** is high enough in the early evening sky to enjoy in a telescope. Show the kids, and tell them that because it is red, that must be where Santa comes from. Mars has cruised through Pisces and is now in the constellation of Aries. On December 11th at 09:55pm MST, the Moon and Mars will be only 23' apart. This will be a good photo op. with both planet and moon visible in a high power field. Mars will shine at magnitude -1.2 and displays a 15" disk. In early December, Syrtus Major dominated the visible side of the

planet, just like it was near opposition. By the 15th, the Mare Sirenum region has turned toward us, and we are headed back to the face that lacks in lots of details as we slide into the Winter Solstice with Mare Chimerum. Mars now shows a 13.6" gibbous disk in the eyepiece and has declined in brightness to Magnitude -0.8, no longer the brightest "star" in the night sky. As we slide through Christmas, Solus Lacus turns its eye toward us, and the surface features really start to get more interesting. Hopefully you have some very high power eyepieces to get into the image scale up there where the details are visible. 300 power is about right. With the coming of the new year, we roll into the Mare Acidalium -Elesium region and the Sinus Meridiani club shape is heralding the return of Syrtus Major to our view in the following week. By early January, Mars has shrunk to 10.6" and shines at magnitude -0.2, just a dim ember of the visage we enjoyed. There is still some stuff to see on the planet, so give it a whirl. Serious observers watch it until it retreats below 6 arc seconds.

Saturn is rapidly returning to our evening sky, and you can now observe it before midnight. At the beginning of the month, Saturn shines at 0.0 and shows 19.6" disk in the eyepiece. Saturn rises in the constellation of Cancer at 8:00 pm and is well positioned for observing by 11 pm. I saw it pairing with the moon in late November as I prepared for bed, but this month you don't have to wait up quite so late. On the morning of December 19th, the gibbous moon passes 3.2 degrees above Saturn before sunrise. By New Year's, Saturn rises just before 7 pm and is well above the horizon for late evening viewing. It has increased in size marginally to 20.15", and shines at magnitude 0.0. This is exactly the same size as Mars was at opposition. Note how much the tilt of the pole has declined from last year where it was 23 degrees. The north pole is now tilted 18 degrees away from us, and by next season, it will be down below 14 degrees. Saturn will be the icing on the cake over the holiday season.

Jupiter comes up in the morning hours and was the companion of Mercury in the first half of December. It shines at magnitude -2.1 and will show an early morning observer a 35" disk in the eyepiece. Just the right thing to offer Santa whilst he makes his rounds because on the morning of Boxing day, a thin crescent moon will join Jupiter in the morning hours. It should be a nice view, and a good photo op with the pair so close to the horizon.

Enjoy the Holiday season, and the best to you and your families. Hope there is something special under your tree!

The Messier, H-400 & H-400-II, FNGC, Binoc & EtU Club

**Join the Club! Observe all 110 Messier, 110 Finest NGC, 400 Herschel I or 40 Herschel II
Explore the Universe, or 35 Binocular Objects and earn great OBSERVING CERTIFICATES!**

MESSIER CLUB

Certified at 110 Objects:

R.Huziak, G.Sarty, S.Alexander,
S.Ferguson, D.Jeffrey, D.Chatfield,
B.Christie, K.Noesgaard, M.Stephens,
B.Hydomako, T.Tuomi, L.Scott,
G.Charpentier

<u>Les Dickson</u>	105
<u>Mike Clancy</u>	Up! 101
<u>Brent Burlingham</u>	97
<u>Brent Gratias</u>	96
<u>Mike Oosterlaken</u>	93
<u>Lorne Jensen</u>	89
<u>Ken Maher</u>	87
<u>Margo Miller</u>	77
<u>Wade Selvig</u>	75
<u>Kathleen Houston</u>	72
<u>Garry Stone</u>	57
<u>Ellen Dickson</u>	29
<u>Norma Jensen</u>	Up! 21
<u>Brian Friesen</u>	15
<u>Barb Wright</u>	6

FINEST NGC CLUB

Certified at 110 Objects:

R.Huziak, D.Jeffrey, G.Sarty,
D.Chatfield, T.Tuomi

<u>Scott Alexander</u>	97
<u>Larry Scott</u>	Up! 82
<u>Bill Hydomako</u>	55
<u>Sandy Ferguson</u>	23
<u>Mike Oosterlaken</u>	20
<u>Mike Clancy</u>	Up! 7
<u>George Charpentier</u>	4

Chatfield BINOCULAR CERTIFICATE

Certified at 35 Objects:

M.Stephens, T.Tuomi, M.Clancy,
R.Huziak

<u>Ken Maher</u>	Done! 40
<u>Brent Gratias</u>	36
<u>Mike Oosterlaken</u>	32
<u>Anna Clancy</u>	24

EXPLORE the UNIVERSE

Certified for Certificate:

M.Clancy, T.Tuomi

HERSCHEL 400 CLUB

Certified at 400 Objects:

D.Jeffrey, R.Huziak, D.Chatfield

<u>Gord Sarty</u>	251
<u>Tenho Tuomi</u>	220
<u>Scott Alexander</u>	117
<u>Mike Oosterlaken</u>	68
<u>Sandy Ferguson</u>	18

HERSCHEL 400-II CLUB

Certified at 400 Objects:

<u>Darrell Chatfield</u>	Up! 250
<u>Richard Huziak</u>	211

The Messier & Finest NGC lists can be found in the Observer's Handbook. The Explore the Universe list is available on the National web site. The Herschel 400 list is available at the web site listed below. The Binocular List will be available at each general meeting or can be mailed out on request to distant members.

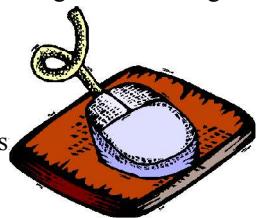
On-line Messier List – For those who'd like an electronic Messier list (with DSS images), check out:

<http://www.seds.org/billa/dssm/messier.html>

On-line Finest NGC List – For those who'd like an electronic FNGC list, check out the Edmonton Centre's vers
<http://www.edmontonrasc.com/catalog.html>

On-line Herschel 400 List – For those who'd like an electronic Herschel 400 list, check out the official site at:

<http://www.astroleague.org/al/obsclubs/herschel/hers400.html>



NEWSLETTERS FROM OTHER CENTRES

Hello all. Here are this month's newsletters. These are all the newsletters that have been received for the past month by your **Central Mailer**. **Darrell** is our librarian and he can arrange a time to go to the library. This is to let you know what is available and what other Centres have been doing. - Ellen Dickson, Central Mailer.

November 2005

Regulus – (Kingston) "Kingston Centre Incorporated"
StarSeeker – (Calgary) "O.G. Reports (Sept/Oct.)" "Asterism Puzzle"

October 2005

Scope – (Toronto) "Algonquin Adventure Report", "Summer Star Party Report"
The StarSeeker – "2005 Alberta Star Party", "Report from Africa"

Sept/Oct 2005

Stardust – (Edmonton) "Intro. Astronomy Programs into Alberta Prov. Parks Campgrounds"

SEPT 2005

Regulus – "Observational Astronomy for the Novice (N.O.V.A.), Program"
The StarSeeker – "Dr. Steven Squyres Interview", "SSSP 2005"

Financial Report for RASC,

Saskatoon Centre

– Fiscal year Oct 04 – Sept 05

by Norma Jensen

Revenue	\$16,652.00
Expenditure	\$13,957.00
Surplus	\$2695.00

There are 3 term deposits each currently at **\$5080.00**

The LPAC and Public Education were able to bring in enough money to support their programs. Way to go!
Bruce's Book and Product sales made a profit of **\$300.00**.
The Star Party had a profit of **\$795.00**.

The fund-raising committee made a profit of **\$2219.00**.
Keep drinking coffee, buying tickets and supporting the bottle drive! Thanks to all RASC Saskatoon members, relatives and friends.

Saskatoon Skies – Index to Volume 36 (2005)

Articles are grouped by subject and are listed according to the page and issue in which they appeared.

Club Activities and Announcements

President's Report	5 Feb
Saskatoon RASC Web Page Relocated	4 Apr
Fund Raising Dinner	4 Apr
The Goals of the Saskatoon Centre, RASC	9 Apr
Astronomy Day	5 May
PA-stronomy Day	6 May
Astronomy Day - Loreburn Central School	7 May
Fund Raising Dinner– April 30/05	4 Jun
RASC-SASKATOON RAFFLE	7 Aug
Renewing Your Subscription	6 Jun
Prince Albert Astro Group Finds Dark Sky Site!	4 Sep
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Upcoming Events – Please help out if you can!	5 Sep
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2005-2006 Election Results	5 Nov
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Saskatoon Hobby Show	6 Dec

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The Presidents	Mar
Path to the Stars	Apr
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SSSP 2005 coming up fast	Jun
Closest Approach of Venus and Mercury	Aug
SSSP 2005: Cypress Hills Interprovincial Park	Sep
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Sleaford Open House, October 9	Nov
Mars	Dec

Light Pollution Abatement

Seeing the Light in Light Pollution	7 Feb
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Land of Living Skies, eh? Well, what about the OTHER 12 hours?	6 Apr
Talking to Parks Helps to Save the Skies!	5 Aug
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Hampton Village - Toward a Light-pollution friendly city?	6 Nov
Lighting, Projects and Crime	5 Dec

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Dominican Republic Star-Gazing	9 Jan
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October Sightings: Prince Albert	8 Nov
A Parting Thought from Years Gone By	10 Nov
Hunt For Dim October	7 Dec
Crop Circles?	7 Dec

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Digitized Sky Survey Photographs	4 Jan
Newsletters from Other Centres	4 Jan
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Education Awards for Our Very Own!	6 Aug
John Dobson turns 90 (Inventor of the Dobsonian)	7 Oct

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Digital Camera ISO Tests	8 Apr
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Grazing Occultation of Eta Virgo {Zaniah}	8 May
Best Power for Observing Faint Galaxies	6 Jun
Mercury-Venus Close Appulse	6 Aug
Meteor Information for July	8 Aug
Mars at Opposition	8 Nov

Product Reviews

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Book: Star Clusters	5 Apr
Book: Solar Astronomy Handbook	7 Nov

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Saskatchewan Summer Star Party

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