Saskatoon Skies

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

Vol. 36, No. 2 **February 2005**

Lowest Object

Not much for the picture of the month but nobody sent anything else, probably due to being too cold and cloudy for observing in January. This picture does represent an accomplishment for me for it is of NGC 2451, the lowest object that I have photographed, with a declination of -37 degrees 59 minutes, never rising more than one degree above the horizon at my latitude of 51 degrees 9 minutes. This 3-degree wide digital picture was taken with an 80-mm refractor through our living room window with the temperature -30 C outside. (Who says you can't do astronomy through a window?). NGC 2451 is a bright open cluster similar to M44 or M45. I have asked Mike Clancy to report what it looks like from the Dominican Republic. Please send YOUR astronomy pictures to Saskatoon Skies. — PHOTO BY TENHO TUOMI

In this issue...

Saskatoon Centre
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Membership? It's never too late to join!

Regular: $58.00/year Youth: $31.25/year Lifetime: $1000

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!

Saskatoon Centre's main officers:

President – Ron Waldron
Vice-President – Garry Stone
Secretary – Al Hartridge
Treasurer – Norma Jensen

Light Pollution Abatement website at:
http://www.ras.sk.ca/lpc/lpc.htm

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...

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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.

Bottle Drive & Canadian Tire $

by Darrell Chatfield

Canadian Tire Money collected to date is $50. Thank you to all who contributed to our fundraising for the Centre. 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.

2005 RASC Calendar of Events

DATE	EVENT	CONTACT	TELEPHONE
Feb. 11	**Observers Group** – Sleaford Observatory	Bill Hydomako	384-4781
Feb. 21	**RASC Executive Meeting** – 6:30 p.m., 175 Physics, U of S	Ron Waldron	382-9428
Feb. 21	**RASC General Meeting** – 7:30 p.m., 175 Physics, U of S – **Suggested Goals for the Saskatoon Centre** by Ron Waldron; **An Introduction to the Electric Universe** by Tyrone Klassen; **A Digital Photography Challenge by Tenho Tuomi and Rick Huziak**	Ron Waldron	382-9428
Feb. 26	**Zodiacal Light** – next two weeks		
Mar. 11	**Observers Group** – Sleaford Observatory	Bill Hydomako	384-4781
Mar. 21	**RASC Executive Meeting** – 6:30 p.m., 175 Physics, U of S	Ron Waldron	382-9428
Mar. 21	**RASC General Meeting** – 7:30 p.m., 175 Physics, U of S – program TBA	Ron Waldron	382-9428
Mar. 28	**Zodiacal Light** – next two weeks		
Apr. 8	**Observers Group** – Sleaford Observatory	Bill Hydomako	384-4781
Apr. 16	**International Astronomy Day**		
Apr. 18	**RASC Executive Meeting** – 6:30 p.m., 175 Physics, U of S	Ron Waldron	382-9428
Apr. 18	**RASC General Meeting** – 7:30 p.m., 175 Physics, U of S – program TBA	Ron Waldron	382-9428
May 6	**Observers Group** – Sleaford Observatory	Bill Hydomako	384-4781
May 20-23	**RASC General Assembly** – Kelowna, BC – http://www.rasc.ca:8080/rasc	Jim Failes	(250) 763-6962
Jul. 30-Aug. 7	**Mt. Kobau Star Party** – Osoyoos, BC	Jim Failes	(250) 763-6962
Aug. 4-7	**Saskatchewan Summer Star Party** (SSSP'05), Cypress Hills Inter-provincial Park	Les Dickson	249-1091

Monday, Feb. 21, 7:30 PM — Room 175 Physics, U of S

Presenting:

Suggested Goals for the Saskatoon Centre *by Ron Waldron*

An Introduction to the Electric Universe *by Tyrone Klassen*

An Digital Photography Challenge *by Tenho Tuomi & Rick Huziak*

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: RASC Royal Centenary coffee mugs. Pick yours up at the next General Meeting – $9 each

For Sale: Meade Starfinder 8" Dobsonian, 2" eyepiece holder, 6 x 30 finder, Meade 26mm Super-Plossl, Meade 9.7mm Super-Plossl, Antares 1.25" - 2x Barlow Lens. 5 years old. Provides crisp images of the night sky. Mount needs a bit of tightening, but otherwise in very good condition. Asking $600, but trades for guitars, amplifiers, cameras, lenses, accessories, >1 GB laptop RAM stick, digital video camera, external USB drive or ??? will be considered. A young enthusiast buying their first scope will get a better price.
Contact Gene Huebner <gdh165@mail.usask.ca> or tel: 260-6963 after 6 pm or before 8 am.

BOOKS FOR SALE

by Bruce Brandell, Sales Coordinator

The following items are left from the Star Party and will be available at our next meeting on February 21/05. Call 249-1119, or email <bruce_brandell@yahoo.com>

Title	Author	No. Avail.	Price Cdn$
Calendar, RASC 2005	Rajiv Gupta, Editor	3	$ 5.00
Calendar, Skywatcher 2005	Stan Shadick	0	
Beginners Observer's Guide	Leo Enright	1	$18.00
RASC Centennial Mug		6	$ 8.00
Messier Cards, laminated	Sky Publishing	4	$ 6.00
Messier Poster, colored	Sky Publishing	2	$27.00
Milkyway Poster	Sky Publishing	2	$32.00
Touring the Universe through Binoculars	Philip S. Harrington	1	$58.00
A Short History of Nearly Everything	Bill Bryson	1	$17.00
The Moon Map	Sky Publishing	1	$20.00
Pins SSSP 2004			$ 5.00
Pins SSSP, other years			$ 4.00

Minutes of the EXECUTIVE MEETING
Jan 17, 2005, 6:30pm – Rm 175 Physics, U of S

1. Meeting called to order at 6:30 p.m.
2. Approval of minutes of last meeting: moved by Mike Clancy and seconded by Jim Young and carried.
3. **Treasurer's Report:** present balance is $18025.60. The financial statement is ready to be sent to National Office. Our insurance has been paid. Our share of Sleaford infrastructure has been paid.
4. **Status of Sleaford Site Insurance Policy.** Rick says our policy does not meet the requirements of the Sleaford agreement. We need to insure for the replacement cost of our buildings and contents.

   A motion was made by Mike Clancy and seconded by Norma Jensen and carried that we increase the amount of our insurance to meet our requirements.
5. **Centre Rep:** Jim Young was nominated and duly elected as our centre representative.
6. **Fundraising:** Darrell will be applying to the Saskatoon Foundation and Sask. Centennial for donations.
7. **Membership:** as of last Sunday there are 85 members paid up.
8. **Sleaford Site and Observing:** the last OG was cancelled due to bad whether.
9. **SSSP:** Last was the latest of the committee. The short list of possible speakers will be contacted shortly.

   It should be noted that the SSSP is our centre's best fund raiser but monies from this event are not intended for day to day expenses of the centre.
10. **Sask. Light Abatement Committee:** Rick stated that the meeting with SaskPower was very disappointing as they are only in the business to sell power.

    Any park in Saskatchewan can apply for dark sky status.
11. **Newsletter:** Tenho is accepting articles up to Jan.31 for the next newsletter.

Minutes of the GENERAL MEETING
Jan 17, 2005, 7:30pm – Rm 175 Physics, U of S

1. Meeting called to order at 7:34 p.m.
2. **Group Activity:** Writing our Centre's goals to help implement the ideas arising from the Planning for the Future workshop. Chaired by Ron Waldron. Members were divided up into five groups to draw up goals. The executive can then decide which goals to work on.
3. **Presentations:**
   - Rick Huziak: The Photometry of Variable Stars
   - Book Talk: Ron Waldron – Bill Bryson's *A Short History of Nearly Everything*
4. Meeting adjourned at 10:00 p.m.

January Gleanings

…from the [rascstoon] Yahoo Group

Re: [rascstoon] Is it just me or…, by Ken Maher revkenmaher@shaw.ca

I had a great session last night! In one glorious hour I pegged eight more of my Messiers, Enjoyed Saturn, Had a good long look at Comet Machholz and lost all feeling in my hands and feet. It was -29 (feeling like -40 with the Wind chill). I would have stayed out longer but after going in for a few minutes to warm up I came out my Binos were frozen. I don't know how to describe it better. I am well acquainted with dew and frost, …this was neither. They were just plain frozen and you couldn't see anything through them any more.

Tonight wasn't so good … too much ice in the air. Although it sure makes the street lights pretty as they merrily beam pillars of light straight up into the sky!

[rascstoon] 2004 in review, by Tenho Tuomi <tuomi@sasktel.net>

Looking over my astronomy log for 2004 it wasn't such a bad year in spite of all my complaints about cloudy skies. I have 150 observing days logged for the year, with March as the most active at 23 days. Not all observations involved telescopes, like my note this morning that I observed Venus and Mercury at 8:20 AM with binoculars. 2004 perhaps was not as good as 2003 where I had 166 observing days logged.

The highlight for the year was my trip to Thunder Bay to observe the transit of Venus. In 2004 I started on the Herschel 400 club list. Toward the end of the year I observed three meteor showers. In October I bought a new digital camera and found that it could be used for photographing Messier and other objects. Some of my best pictures have been uploaded to http://www.lex.sk.ca/astro/pictures.htm

Re: [rascstoon] 2004 in review, by Jeff Swick <jeff_swick@yahoo.com>

This is my first year with a scope. My high lights I suppose are all of my firsts for me. I've really been helter skelter with my observing. The goto is great but I must say my best purchase of the year has been my star atlas. It's all well and good to do everything with the computer on the scope or my starry nite program (tons of fun).

I've been learning to star hop so that when I'm out and run out of battery power it will not end my observing session.

Learning the sky has been rewarding and certainly not the panic it was when I first got the scope. After all one cannot align a goto on a star if one has no idea where that star is in the first place.

One of my observing goals this year will be to put together an observing program. I'll get a start on both Darrel's binocular challenge and also my Messier program.

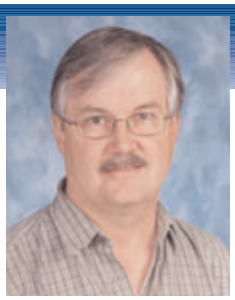
I've become fascinated with many aspects of astronomical objects but I will focus this years on clusters (This purchase started it all) http://www.willbell.com/HANDBOOK/starclusters/index.htm and will include one or two variables in my program as well.

I've started doing preliminary research on the AAVSO web sight (which is packed with info). Here's the link for any one wanting to have a poke around. http://www.aavso.org/

I must say also it's been a real gas watching and listening to you folks at the meetings and at Sleaford and am certainly looking forward to another fun year.

Regards

President's Report *by Ron Waldron*



As the final step to November's Appreciative Inquiry workshop, called ***Planning Our Future***, members were asked in groups to look over the provocative propositions generated and elicit from them, realistic future goals for the Saskatoon Centre. This final step, known in AI circles as ***Realizing the Dream***, members present were divided into color groups and given approximately one half-hour to list these goals. Below are the results generated:

Green Group – Recorder Jim Gorkoff

More public outreach by:

- Increasing public star night occasions by promoting special astronomical events, i.e. comets, Saturn meteor showers, etc.
- More talks

Upgrading our facilities such as:

- Building the 16-inch Observatory
- Building a new clubhouse with an expanded library and overnight facilities

Yellow Group – Recorder Tim May

- Completion of the 16-inch and projects with it like CCD program, other uses and expansion of Sleaford for overnighters
- Sharing knowledge with the public and provide infrastructure and materials for public outreach and educational support for teachers
- Public contact to draw new members (radio, lectures, astronomy day, etc.)
- Reports at the meeting of our member activities
- New membership mentoring program for getting members actively supporting the new members in the activities and infrastructure
- Note: We think that the following statement found in Provocative Proposition #4 could be made into a mission statement for the club

  "We expand on this by observing, by providing resources (Sleaford, library, member's telescopes), educating members and the public, providing public star nights, having social and family participation, and attracting and mentoring new members."
- Continued recognition of the achievements of our members

Red Group – Recorder Gord Sarty

- To finish the construction of the 16-inch telescope and dome
- To provide hands-on teaching of astronomy within our Centre and outside (general public) our Centre.
- To promote astronomy and our Centre through various media outlets like radio, TV, Internet, public Star Nights and Talks.
- To have more fun activities and to make astronomy fun through these activities like SSSP, gastronomy, etc.
- To introduce and promote astronomy to our young people, i.e. children and adolescents
- To provide mentoring for new members
- To build a spot to sleep for a nap or overnight at Sleaford, and other places to rest, i.e. park benches

Pink Group – *Recorder not stated but whoever it was had excellent handwriting*

Sleaford

- work at completing the 16-inch telescope project (housing, etc.)
- develop an overnight facility
- CCD photography, start projects, study, etc.

Teaching – Public Awareness

- Using news media of some sort (radio, newspaper) to speak of astronomy interests or light pollution issues

Dark Sky Initiative

- Increase public awareness of light pollution through news media and lobbying

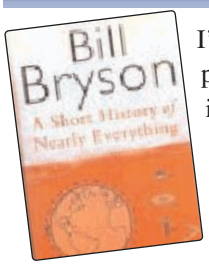
Blue Group – Recorder Darrell Chatfield

- To build and develop the Sleaford site with emphasis on housing and finishing the 16 inch telescope
- Focus on fundraising for the development of Sleaford
- Focus on better promotion of our Centre and activities

First of all, I wish to thank all the members who participated for the seriousness with which they undertook this task. As I moved from group to group, it was obvious that they realized the importance of this final step toward Planning Our Future.

At the February meeting, I will be presenting a slate of Suggested Goals for the Saskatoon Centre to both the executive and if it is approved, to the membership. This should allow us to forge ahead as a Centre with a more definitive direction. It has been a real pleasure for me to plan and execute this workshop on our Centre's behalf and I am looking forward to working with everyone to accomplish the goals and realize our dreams.

Book Review: Bill Bryson's A Short History of Nearly Everything *Reviewed by Ron Waldron*



I'd never heard of Bill Bryson until I purchased this book for myself and placed it into my Christmas stocking as a must-read book for the Christmas holidays. If you're interested in the history of science at all, this is one of the most enjoyable books on the subject that I have ever read. Bryson's history and science is solid, at least as far as I can tell, covering both the history of scientific endeavor and discoveries, and the often very bizarre people who were involved.

In *A Short History of Nearly Everything*, Bryson takes the reader on the ultimate journey into the most intriguing and consequential questions that science seeks to answer. He attempts to understand everything that has transpired from the Big Bang to the rise of civilization. Or, as Bryson, himself puts it, "…how we went from there being nothing at all to there being something, and then how a little of that something turned into us, and also what happened in between and since." This is, in short, a tall order.

This 544-page book covers all aspects of the world of science including atoms, molecules, microbes, comets, dinosaurs, DNA, how the Earth evolved, as well as Darwin's theory and the evolution of man. It's beginning chapters (also known as Part 1) will be of the most interest to amateur astronomers as Bryson describes how to build a universe, welcomes us to the solar system and gives a poignant view of the universe through the eyes of Reverend Robert Evans, a supernova hunter from Australia.

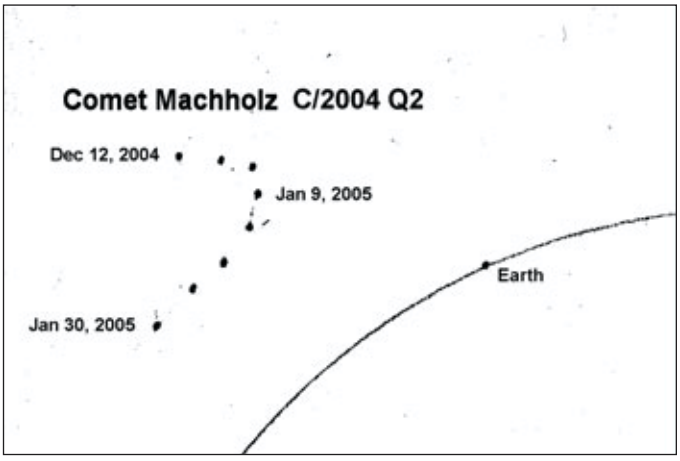
While providing tremendous insight into the history of science and the study of the world at large, Bryson's most interesting observations lie in his fascinating description of famous scientists and their peculiarities and obsessions. Often as I was reading, I would find myself forgetting the distracting details of the atom or the solar system altogether, and focusing on the people who were obsessed with discovering all there was know about what makes our world.

For example, Bryson describes the cosmologist Fred Hoyle, owner of the phrase "Big Bang," who, according to his obituary in *Nature* magazine was "embroiled in controversy for most of his life" and "put his name to much rubbish." There was the renowned and extremely odd Isaac Newton, a brilliant albeit strange character who, for unknown reasons, even "inserted a bodkin – a long needle of the sort used for sewing leather – into his eye socket and rubbed it around … just to see what would happen." There was Henry Cavendish, whose contributions to the physical sciences, including experiments with gases, electricity and heat, were enormous, and who was such a recluse that "even his housekeeper communicated with him by letter." And then there was the wild-haired, pipe-smoking genius Einstein, who, aside from establishing himself as the greatest and most renowned scientist to date, had a child out of wedlock.

Bryson's efforts in *A Short History of Nearly Everything* took three years to write and are, in my opinion, a truly commendable piece of writing. This book deserves a spot on all bookshelves of all amateur astronomers but more than that this is a book that readers of all backgrounds will enjoy. I truly enjoyed this book, even though he continually was reminding me that we are overdue for a massive volcano eruption that will freeze the earth to a ball of ice, a meteor strike that will vaporize us at 60,000 degrees, and a disease that will carry us all off. Still it is a charming book. As it stands, I now have to decide whether to save my money to prepare for a possible end to the world as we know it or buy yet another telescope. Do you see a meteor coming from where you are?

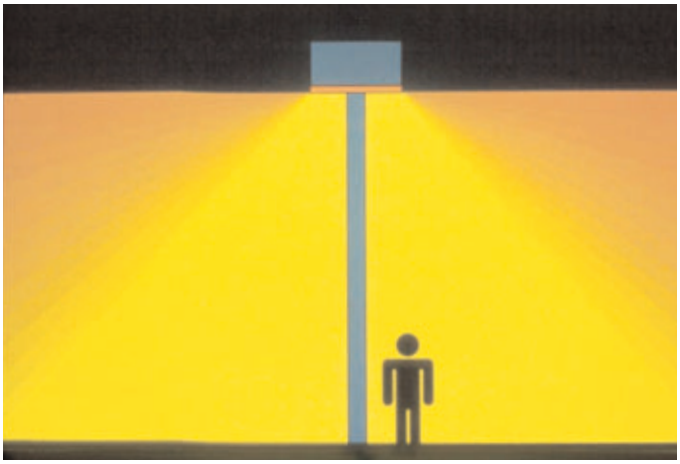
Comet C/2004 Q2 Machholz *by Tenho Tuomi*

For those of you who found enough clear sky over the last couple of months to follow Comet Machholz through Eridanus, Taurus, and Perseus, I drew a chart by hand showing its path at one-week intervals relative to earth. Its closest approach to earth was on January 5 when it was within 0.35 AU. Its closest approach to the sun, or perihelion, was on January 24 when it came within 1.21 AU of the sun.



Seeing the Light in Light Pollution

by Richard Huziak, the Saskatchewan Light Pollution Committee



It's so simple. With GOOD lighting, the majority goes down, with limited horizontal and NO uplight. With BAD lighting, such as this upward light-splaying globe, we all lose!

Have you ever frowned about the neighbor's light in your windows at night, glaring bright streetlights on Idylwyld Drive or the orange dome that covers Saskatoon on most clear nights? These are all manifestations of the same thing – light pollution. For the Saskatoon Centre, increasing city light pollution meant that we had to move our observatory from the Rystrom farm, 5 kilometers south of Saskatoon, to the present location, 60 kilometers east, in order to escape errantly pointed lights. This was the only way to get a decently dark sky. Even so, Saskatoon's light dome still stretches a quarter way up the sky at Sleaford. Light pollution results from a very simple cause – improperly shielded light bulbs for city streetlights, businesses and household lighting. Similarly, light pollution can be almost completely cured by simply placing a shield on top of each light to prevent "uplight" from unnecessarily illuminating the sky.

Light pollution ruins the sky for astronomers. But why should anyone care about a small bunch of hobby astronomers and their silly little observatory? That's pretty simple. Lights are used in our environment to provide safety, security and advertising during nighttime. Historically, power has been pretty cheap, so no one really worried about how much light they used or when they used it. Furthermore, the general perception by the public is that more light means more safety, security and deters crime. This point, however, is not backed up be research nor case studies. In reality, more light only deters crime if the light also increases human activity in the area. This may happen in the evening, such as at a lit and used skating rink, but after everyone goes home, the still bright light then serves to illuminate the canvasses of graffiti artists and allows thieves to steal what they can easily see. The reality is that in the absence of people, light aids crime. No one is suspicious of someone milling around a yard if it looks like he should be there, but if he has to use a flashlight, he is quickly thought of as being out of place. Many studies show that if you reduce light, crime reduces. If you turn lights off, crime stops!

However, this is not completely practical, and is a very tough sell for the public, so turning lights completely off in non-use hours is unlikely to happen. Furthermore, it is not really necessary. Since very few break-ins occur on the 5th floor of an apartment building, and there is rarely crime at 40,000 feet, the simple solution is to place shields on lights to prevent them from shining up! Cutting off the 50% wasted light means that you can often change the bulb to half the wattage; get the same light on the ground and save money! Besides saving money, you also save the environment. Use less power, and less coal and oil are burned – 70% of Saskatchewan's power still relies on hydrocarbon resource burning. With fewer hydrocarbons burned, fewer hydrocarbon emissions – sulfur dioxide, hydrogen sulfide, sulfuric acid, carbon monoxide and a host of other pollutants will not enter the atmosphere, or at least will be slowed. (Each streetlight's energy generation uses enough coal to put 2 tonnes of hydrocarbon gasses into the atmosphere every year). Fewer hydrocarbons mean fewer sore throats, dead trees, water and air pollution reduction, reduced cancer and sleep disorders and fewer migratory bird deaths. We also earn a few Kyoto credits, for those who are keeping track.

Next month, I'll fill you in on the projects the Light Pollution Abatement Committee is currently working on. You may be surprised at the extent and diversity of the problem. In the meantime, visit our LPA website at:

http://www.ras.sk.ca/lpc/lpc.htm

The Planets This Month, February 2005

by Murray D. Paulson, Edmonton Centre

Last month's spectacular Mercury–Venus conjunction was one of the best I have ever seen. Our uncooperative weather only gave me a few mornings to sight the elusive pairing, but it was well worth braving the cold and giving up that extra hours sleep on a Saturday morning to see it. **Mercury** has since dropped out of sight and will be in superior conjunction with the sun on February 14th. Mercury then makes a mad dash to its next elongation on March 11th. This is a greatest eastern elongation, read evening, where Mercury will be 18 degrees from the sun. It's 7.2" half disk shines at magnitude –0.3 and sets just short of 2 hours after the sun. The ecliptic is almost vertical at this time of year, so this will be a favorable evening apparition. On the night of March 11, a two day old moon will join it in the evening sky. Look for the moon about 5 degrees south of Mercury and up a degree. This will make a nice pairing.

Venus has dropped into the twilight, and will be lost to the glare of the sun for the next few months as it heads to its superior conjunction. At the beginning of the month, Venus sits 14 degrees from the sun and shines at magnitude –4.0 showing a 10.5" nearly full disk in the eyepiece. By the beginning of March, Venus will sit only 7 degrees from the sun dimming only slightly to magnitude –3.9 with a 9.9" disk. I am afraid that it has become a daytime object so check out the deck, or sharpen up your skills with your setting circles.

Mars is full of surprises! We now have our first non terrestrial meteorite find located by the Eveready roving bunny on Mars. Man, those rovers are amazing technology! I can't imagine a battery that could take temperature cycling to –100C every night to whatever the daily high would be and surviving this long. Will they make it to a whole Martian year? Keep your set tuned in… Mars is now located in the constellation of Sagittarius and is as about as far south as it gets. It shines at magnitude 1.3 and in the eyepiece it shows a 4.8" disk but not much else. Over the month its disk grows in size to 5.3" and it brightens to Magnitude 1.1 as it moves into eastern Sagittarius. Mars will be too low to get much out of for a while yet.

Jupiter now rises just before 11 pm, and sits in the constellation of Virgo just above Spica. It outshines Spica at magnitude –2.3 and in the eyepiece you will see it's 41" disk with a quartette of moons. By the beginning of March, Jupiter now rises at 8:30 pm and is well placed for late evening observing. It has swollen to 43.5" and brightened slightly to magnitude –2.4. By this time it transits the meridian, at just after 2 am, where you will see that it sits quite far south. It only makes it to 31 degrees altitude above the southern horizon. Last fall it officially dropped into the southern sky, and it will be 6 years before it gets back to this lofty perch. There is one Jovian moon event worth noting, on February 27 just after dark,

Ganymede's shadow will be transiting Jupiter's disk. At 11:35 the shadow slips off Jupiter and 36 minutes later Ganymede's dusky disk comes onto the opposite edge. A little over 4 hours later, Ganymede transits off and the disk is clear again.

Day (UT)		UT	moon	event
28	Feb	5:35	III	Sha end
28	Feb	6:11	III	Tra start
28	Feb	8:24	III	Tra end

Last month was **Saturn's** opposition, and it now dominates the evening sky. It adds a nice dimension to Gemini, and I will miss it when it is gone. The planet shines at magnitude –0.2 and shows a 20.3" disk in the eyepiece. Saturn transits the meridian at 10:38 pm when it stands 58 degrees above the southern horizon and it doesn't set until 7 am the next morning. Over the month it will shrink slightly to 19.5" and it will dim to magnitude 0.0. On February 19th an 11 day old gibbous moon will hover 5 degrees above Saturn. Saturn sits only 4 minutes of arc above the ecliptic, so you get a graphic demonstration of just how much inclination the moons orbit carries it above the ecliptic. Speaking of moons, I am providing a table of extreme positions of Saturn's moons since last month's weather was such a wash.

The following is a table of the times and dates when the moons of Saturn are at an extreme of position, in any of the east/west elongations or when placed directly above or below Saturn. All times are local (MST) time, so make adjustments for time zones east or west of MST. These times are all derived from the orbital periods, and not checked as for visibility (i.e. night vs. day).

Saturn's moons: Elongations and Polar alignments

Titan

west	above	east	below
2/3/05 21:46	2/7/05 21:26	2/11/2005 22:26	2/15/05 20:47
2/19/05 20:27	2/23/05 20:07	2/27/2005 21:07	3/3/05 19:28
3/7/05 19:08	3/11/05 18:49	3/15/2005 19:49	3/19/05 18:09

Rhea

west	above	east	below
2/11/05 17:28	2/12/05 20:34	2/13/2005 23:40	2/15/05 2:47
2/20/05 18:18	2/21/05 21:24	2/23/2005 0:31	2/24/05 3:37
3/1/05 19:09	3/2/05 22:15	3/4/2005 1:21	3/5/05 4:27

Dione

west	above	east	below
2/4/05 23:34	2/5/05 16:00	2/6/2005 8:25	2/7/05 0:50
2/7/05 17:16	2/8/05 9:41	2/9/2005 2:06	2/9/05 18:31
2/10/05 10:57	2/11/05 3:22	2/11/2005 19:47	2/12/05 12:13
2/13/05 4:38	2/13/05 21:03	2/14/2005 13:28	2/15/05 5:54
2/15/05 22:19	2/16/05 14:44	2/17/2005 7:10	2/17/05 23:35
2/18/05 16:00	2/19/05 8:25	2/20/2005 0:51	2/20/05 17:16
2/21/05 9:41	2/22/05 2:07	2/22/2005 18:32	2/23/05 10:57
2/24/05 3:22	2/24/05 19:48	2/25/2005 12:13	2/26/05 4:38
2/26/05 21:04	2/27/05 13:29	2/28/2005 5:54	2/28/05 22:19
3/1/05 14:45	3/2/05 7:10	3/2/2005 23:35	3/3/05 16:01

RASC Saskatoon Centre Financial Report

The Royal Astronomical Society of Canada
Saskatoon Centre Incorporated
Financial Statement
September 30, 2004 and 2003

		2003/4	2002/3
REVENUE			
Membership	Regular membership fees	1,403.80	1,541.39
	Basic surcharge	512.00	536.80
	Life membership	52.80	52.80
	Special surcharge (key fee)		5.00
Donations & Fundraising	Donations	366.13	862.98
	Coffee fund	122.50	83.00
Publication sales	Books & calendars	1,464.86	799.50
	Newsletter	35.00	15.00
Star Party		8,492.57	9,658.81
Interest		3.33	3.33
Equipment rental		65.00	40.00
TOTAL		12,517.99	13,598.27

President _ _ _ _ _ _ _ _ _ _ _ _ Treasurer _ _ _ _ _ _ _ _ _ _ _ _

		2003/4	2002/3
EXPENSES			
Membership fees to National Office		208.00	208.00
Sleaford Observatory		663.42	1,054.05
Publications	Newsletter	324.31	402.82
	Books & calendars	1,727.80	939.17
	Centre brochures	10.51	
Star Party		8,163.12	6,150.64
Educational Activities	Speaker cost	277.01	
	Honorarium	35.00	
	Dark Skies activities	133.34	
	Hobby Show	120.00	
	tot.		472.22
Office Administration	Corporation Branch	10.00	
	PO Box	42.80	
	Supplies	43.27	
	Bank fees	37.50	
	tot.		158.23
Equipment	Coffee cabinet	319.24	
Insurance		429.00	393.00
Depreciation		511.59	511.59
TOTAL		13,055.91	10,289.72
Profit/Loss		(537.92)	3,308.55

	2003/4	2002/3
ASSETS		
Bank account	18,712.94	18,740.82
Telescope fund	2,229.49	2,227.94
Raffle account	310.71	325.71
TOTAL	21,253.14	21,294.47
Book inventory	489.85	388.53
Capital Assets	10,350.86	12,020.14

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 400 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

Mike Clancy		97
Brent Gratias		96
Mike Oosterlaken		93
Lorne Jensen		89
Brent Burlingham		85
Wade Selvig		75
Les Dickson		70
Garry Stone		57
Kathleen Houston		53
Ken Maher	New!	35
Ellen Dickson		23
Brian Friesen		15
Barb Young		6

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Certified at 110 Objects:

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Scott Alexander	97
Bill Hydomako	55
Sandy Ferguson	23
Mike Oosterlaken	20
Larry Scott	15
Mike Clancy	4
George Charpentier	4

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Brent Gratias		36
Mike Oosterlaken		32
Ken Maher	Up!	28
Anna Clancy		24

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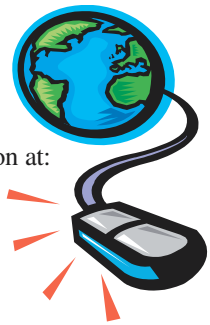
Gord Sarty	251
Tenho Tuomi	152
Scott Alexander	117
Mike Oosterlaken	68
Sandy Ferguson	18

HERSCHEL 400-II CLUB

Certified at 400 Objects:

Richard Huziak	211
Darrell Chatfield	196

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 version at:
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

RASC Observing Group Notes

by Bill Hydomako, Observing Group Coordinator

Well, the February Observing Group session fast approaches. The last session in January was cancelled due to the extreme cold. So the next session on Februaru 11 we'll continue where we left off in November with covering some of the winter constellations and then go into double stars. Also keep in mind in a couple of months the Messier Marathon in around the middle of March. Watch for more on the Messier Marathon next month. One last item. Found at the last observing group session in November an eyepiece. Anyone missing an eyepiece please contact me to claim it.

Bill Hydomako
Observing Group Coordinator