Saskatoon Skies

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

Vol. 42, No. 9 September 2011

Star Trails from Saturday Night

The Saskatchewan Summer Star Party was enjoyed by every one this year, after a couple years with less than perfect weather.

Photo by Colin Chatfield

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In This Issue:

To view *Saskatoon Skies* in colour, see our Website:
http://homepage.usask.ca/~ges125/rasc/newsletters.html

MEMBERSHIP? IT'S NEVER TOO LATE TO JOIN!

Regular: $80.00 /year **Youth: $41.00 /year** **Associate: $33 /year**

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, Mark de Jong, or renew through the National Office and let Mark 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 (electronic format)
- SkyNews Magazine (bimonthly)
- use of the Centre library
- rent the Centre's Telescopes http://homepage.usask.ca/ges125/rasc/telescopes.html
- 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 email her at norj@sasktel.net.

SASKATOON CENTRE'S MAIN OFFICERS:

President – Jeff Swick, 373-3902
Secretary – Ron Waldron, 382-9428
Vice-President – James Gorkoff, 644-1343
Treasurer – Norma Jensen, 244-7360

Bottle Drive & Canadian Tire $

By Colin Chatfield

If you cannot make it to a meeting but would like to contribute your Canadian Tire money please call me at 934-7046.

Newsletter Editor – Tenho Tuomi
Copy & **Collate** – Les & Ellen Dickson
Labels & Temps – Mark de Jong
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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 material. **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 to the editor at ttuomi@yourlink.ca – any format, but preferred as plain unformatted ASCII text files without line breaks. Images sent by e-mail should be attached files.

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RASC CALENDAR OF EVENTS

Sep 19	**RASC Executive Meeting** - 6:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
Sep 19	**RASC General Meeting** - 7:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
Sep 24	**Observers Group –** Dusk, Sleaford Observatory	Larry Scott	934-5801
Sep 24-25	**Alberta Star Party** - Starland Recreation Area, AB	http://calgary.rasc.ca/asp.htm	
Sep 27-Oct 2	**Northern Prairie Starfest** – Black Nugget Lake, AB	http://edmontonrasc.com/public/nps.html	
Oct 17	**RASC Executive Meeting** - 6:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
Oct 17	**RASC General Meeting** - 7:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
Oct 24	**Observers Group –** Dusk, Sleaford Observatory	Larry Scott	934-5801
Nov 21	**RASC Executive Meeting** - 6:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
Nov 21	**RASC General Meeting** - 7:30 pm, 175 Physics, U of S	Jeff Swick	373-3902

RASC SASKATOON CENTRE

MONDAY, September 19, 7:30 PM

Room 175, Physics Bldg., U of S

To Be Announced

Note: There will be an Executive Meeting at 6:30 pm.

President's Message

by Jeff Swick

So here we are at the start of another year local center wise. The last year went by so quickly. The highlight for me was SSSP. It was slice and dice as to whether I could attend work wise but it all worked out, even the weatherman cooperated. Kudos to the organizing for keeping everything running so smoothly in light of all the changes this year.

I had a couple of highlights at SSSP, one was the Sat night when a group of total newbie's showed up with their goto scope, I was listening to them call out targets and glancing up to confirm that what they were hunting was still below the horizon. In spite of that, the group was having the time of their lives. It was hard not to let their enthusiasm be contagious. The clumsy kids of today are the astronomers of tomorrow.

Another highlight was seeing the completion of the observatory and classroom in the dark sky campground. You can see what happens when people look for reasons to succeed instead of stopping at roadblocks.

Coming in October will be the election of the new executive. As many of you know, the term of president and vice-president is two years as is the center rep position so three of us will be staying on in those capacities. Anyone is eligible to run for these positions so if you are interested, please send me an email or speak with me at the Sept meeting. Perhaps you have a question pertaining to a certain position's area of responsibilities for no other reason than interest's sake…. just ask.

One final highlight of the summer was viewing comet Garradd in the Coathanger asterism from my back yard overlooking the freeway and exhibition grounds.

See you all in September.

LOONS AND NORTHERN LIGHTS AT ANGLIN LAKE

By Mike Clancy

Photo by Mike Clancy

The last of the astronomy presentations organized by Tenho and I was held 05Aug11 at Anglin Lake Provincial Park. The park had agreed to reserve two non-electrified sites for us as well as waive the usual park entry fee and repay our fuel costs to boot, so I was quite anxious to actually provide this service for them. Besides, this was the 4th time I'd tried to get up there to do precisely this, and all previous attempts were rained, hailed, or snowed out!

We got up there before supper time on 05Aug11 to find Tenho and Velma Tuomi already setting up in their site across from our own. By the time we got our own accommodations set up and cooked our supper it was getting close to 1800hrs and high time we had a chat as this was their first time visiting this park. As we chatted I noticed a large number of ripe blueberries near their site, so the 4 of us spent a happy half-hour or so picking a couple of litres of fresh wild blueberries – just ask Velma for some when next you visit! Our park contact Sonnet McGuire checked in with us and helped us through the small amount of paperwork required, then explained the evenings presentations: she would discuss the importance of Anglin Lake to the local Loon population after which I would give our regular intro and Tenho would discuss "Meteorites and Meteor-wrongs" after which the night sky would be ready for us to lead our group's tour. And this is where our collective memories failed us; I'd left our binoculars at home and Tenho had forgotten his space rocks at the campsite! No matter, I held forth with a longer "Stories" presentation until he returned and nobody was really the wiser!

We were treated to a wonderful evening made special by a family of loons swimming past us with their chick stuck under the females' wings (it was odd to see a leg sticking out of her back at intervals). The tall trees surrounding the beach from which we toured the night sky kept us from views of Saturn's rings and the setting first-quarter moon but no matter as we got rolling with the Summer Triangle and then a stunning aurora display which quite stole the show from time to time! We still covered the main sights one can enjoy in our summer night sky with views of the Hercules Globular cluster in Tenho's 8-inch Newtonian one of the highlights for many of the 30 or so people in attendance. There were a couple of drawbacks to being so close to the waters' edge though; clouds of voracious mosquitoes and a very heavy dew which made my 90mm Maksutov-Cassegrain nearly useless by the end of the evenings entertainment. There was a certain sense of satisfaction in helping some of our guests find troublesome stars or constellations, and I kept my telescope centered on Capella for a good portion of the night as it seemed to captivate many of the teenagers in attendance.

In closing, it was a good thing we got the star night done on Friday as a nasty thunderstorm destroyed all hope of astronomy about 2130hrs Saturday night! One final observation: while I'm enjoying myself giving astronomy presentations 3 weekends in a row, all on nights where the Riders played both at home and abroad I never got to watch a single game and we lost all 3! Coincidence? Perhaps…

Photo by Sonnett McQuire, Park Program Coordinator

Tenho showing his meteorites

SSSP 2011: An Organizer's Perspective

by Richard Huziak, SSSP'11 Chair

SSSP 2011 can be characterized by two main things: we had excellent weather - highs in the high 20's/low 30's and lows around +10C, and the sky was clear, for the most part, including 5 nights before the star party for the early-arrivals. Aug. 24 was clear, Aug. 25 was clear except for 1.5 hours of cloud around midnight and a few very little sprinkles, but clear after that until dawn. Aug. 26 had an edge of a thunderstorm come through that rained for only 5 minutes and ended about an hour before darkness; thus we were clear skies after that and all night. Aug. 27 was clear, and stragglers on Aug. 28 had clear skies. We have now broken the curse of the Saskatchewan Summer *Storm* Party! Seeing was typically spectacular, despite being closer to the red-lit tower, and at times, harvest grain dust in the air was apparent.

Our move to the Ball Diamond from the Meadows for this year worked out better than we figured; our concerns sorted themselves out and our 241 guests seemed sufficiently pleased. Our main guest speakers, Debra Ceravolo, Peter Ceravolo and Aaron Price (AAVSO) were great, and our under-the-stars clinicians, Jack Milliken (sketching) and Chris Beckett (binocular walk), did excellent programs and attracted larger crowds than expected.

We also had a very-public Cypress Observatory opening, a spectacular new interpretive facility featuring a 16-foot Ash Dome on a two-story building and a 60-seat Yurt classroom. Opening speeches included addresses from MP David Anderson, MLA Wayne Elhard, Gerald Gartner, myself and others.

During his speech, SaskPower's Darcy Kozoriz announced a pilot study project involving changing all of the approximately 100 of their park streetlights with full-cut-off (FCO) fixtures and high pressure sodium (HPS) lamps with active controls. *Active controls* mean that lights that were on in seasonal campgrounds will now be turned off when they are not needed. Other lights can be selectively dimmed and turned on and off through a park local area network. SaskPower chose to continue with HPS lights because they are proven technology, and are avoiding LED lighting until they complete their study of them. (The same program was also previously announced for Val Marie, at Grasslands NP DSP, on July 23.) This means that before the start of the 2012 tourist season, all 160 streetlights in the Park will be FCO, as 60 were changed under the existing park budget right after the 2004 DSP signing.

A pleasant surprise was the discovery of bright supernova, SN 2011fe, a day before the star party, which had a lot of people shifting their looks to M101. And a travel journalist from Germany, Birgit Duval, toured both the CHIPP DSP and Grasslands DSP and will write articles on them in European journals. We did a lot of interviews for radio, television and newspapers regarding the observatory opening and functioning of the DSP.

All in all, I think the weekend worked out quite well, and I'd like to thank our 45 volunteers that made the event the success that it was!

Photo by Richard Huziak

Aaron's talk: Aaron Price gives the Living Skies Lecture at the amphitheatre on Thursday evening.

Internet video: http://www.youtube.com/watch?v=V4dlpqLd5N4

Cypress Hills Observatory Now Open for Business!

by Richard Huziak

Despite good media coverage about the observatory's dedication, much of the story behind the observatory was not reported. The hope is that this article will set the record straight. The observatory project was a project initiated by the *Friends of Cypress Hills*, an interest group that raises money and provides labour within the Park simply because they love the park. They proposed the project about 4 years ago, used us (Saskatoon and Regina RASC) for consultation, training and troubleshooting, but did every penny of fundraising and every minute of building construction using volunteer labour and by recruiting volunteer or reduced-cost subcontractors. They worked with the Park all of the way. The Park provided resources under their existing operating budget to level the land, make a pathway and parking lot and prepare the land for the observatory. The observatory project represents more than 2000 hours of direct volunteer labour plus hundreds of hours of planning before that. Currently, no additional provincial or federal money was used in the project. Operation of the observatory will be funded through continued fund-raising by *the Friends.* You can help out by donating through the *Buy-a-Star* program ($35 or more) for which you get a star hung on the Yurt wall-of-fame and receive a certificate signed by *Yours truly*, suitable for framing or wrapping fish.

The observatory facility features a 16-foot Ash Dome on a two-story building and a 60-seat Yurt classroom and now provides a permanent home for the Park's astronomy interpretive program that often attracts 75 to 100 visitors each week. The Yurt classroom also provides space in case of inclement weather or for class visits and projects, and opens up the possibility of overnight stays. The current 14-inch Celestron telescope, which is now functioning properly due to the dedicated troubleshooting efforts of Al Hartridge and Jim Young, will have a video camera attachment that can allow images to be piped down into the Yurt, in case crowds are large. The 14" telescope was donated to the project by Al!

The observatory resides in the new Dark-sky Campground where you can camp in the absolute blackness of the Park. The observatory grounds also feature four ground-level concrete pads just south of the dome intended for guest-user telescopes and eight outdoor plugs for available power. *The Friends* also provided the SSSP with about 60 square feet of permanent indoor storage as part of our donation agreement. This greatly relieves SSSP equipment hauling back and forth from and to Saskatoon.

The Park also announced an *Astronomer-in-Residence* program where a visiting astronomer can have unlimited use of the telescope and free camping for a week or two in exchange for public programming and other activities that will be defined once the program is developed over the next year. And *the Friends* aren't done with this project either: they continue to talk about adding the outdoor planetarium in the near future! The observatory project also attracted outside interest, and nature reporter Peter McMahon will feature the opening and the CHIPP DSP in an article in the *SkyNews* January/February issue.

Photo by Richard Huziak

Obsey&Yurt: The new (unofficially-named) Cypress Observatory and Yurt. Extra event tents were set up for the day.

Observatory project and Buy-a-Star webpage: http://www.friendsofthepark.ca/My_Homepage_Files/Page16.html
Cypress Hills Observatory opens during SSSP (Aug25):
http://www.leaderpost.com/opinion/reader-comments/Observatory+opens+Cypress+Hills/5302520/story.html
Tourism, Parks, Culture and Sport press release (Aug 24): http://www.tpcs.gov.sk.ca/news-releases

The Grasslands DSP Full Moon Perseid "Night on the Prairie"

by Rick Huziak

Only two weeks after our successful new-moon starnights of July 27 – 28, I returned alone to the Grasslands Dark-sky Preserve Belza campground to do a full-moon Perseid starnight on August 13. The night was the culmination of a *Night on the Prairie* event that included other talks and a ferret night-count. A cool thing happened as the ferret research team members were explaining their night-hike/ferret-count part of the program - the orange full moon rose over a hill right behind their heads - over the podium for the whole crowd (about 85 people) to see! The sun had not yet quite set, but thanks to refraction, both the setting sun and full moon were simultaneously visible for a bit.

The starnight went amazingly well, with (wouldn't you know it?) the clear and beautiful sky that existed only a half-hour before my presentation ceding to cirrus that came in from the south. (Darn those Americans with their clouds and stuff!) But the cirrus left the north sky mostly alone and I was able to do a decent starwalk for about an hour to an enthusiast crowd. My talk was also supplemented by about five bright Perseids that drew lots of *ooohs* and *ahhhs*!

Most of the Grasslands bigwigs were there: managers, interpreters, along with their national director (from Montreal) and a *Globe & Mail* reporter that I thought was only vacationing, but he did a story on the event that made the front page of the *G&M Travel* section on August 27. (See the link below). The Grasslands DSP has also attracted other outside interest, and nature reporter Peter McMahon will feature the Grasslands DSP in an article in the *SkyNews* November/December issue and German reporter Birgit Duval will feature it in Europe over the winter and spring.

After the starnight concluded, I had a 1.75 hr drive back to the Eastend (home of *Scotty the T-Rex* and a really cool new mosasaur from the South Saskatchewan River valley) and wouldn't you know it - not a single vehicle on the road for the first 1.5 hours. That's the southern prairie for you!

Information on Grasslands and the ferret reintroduction was also featured on *The Nature of Things* in August, though the DSP is not mentioned. But I would recommend watching the feature, available on their website. The ferrets were released on the same day the DSP was declared and the ferrets rely on total darkness to hunt, so the two go hand-in-hand. There was good interplay with the Park and government linking ferrets and dark skies in co-topic press releases back in October 2009. When I discussed the DSP with the ferret release team, they were all intrigued and excited, but it would have been more useful to have had the conversation months or years before the ferret release, hindsight being what it is!

Photo by Richard Huziak

Ferret-spotting: Ferrets are spotlighted to determine which burrows they are using. Then a pick-up coil is used to read a "chip" on each ferret.

The Nature of Things: http://www.cbc.ca/documentaries/natureofthings/2011/prairiebandit/

Globe and Mail Travel article: http://www.globalheadlinestoday.com/?p=132323

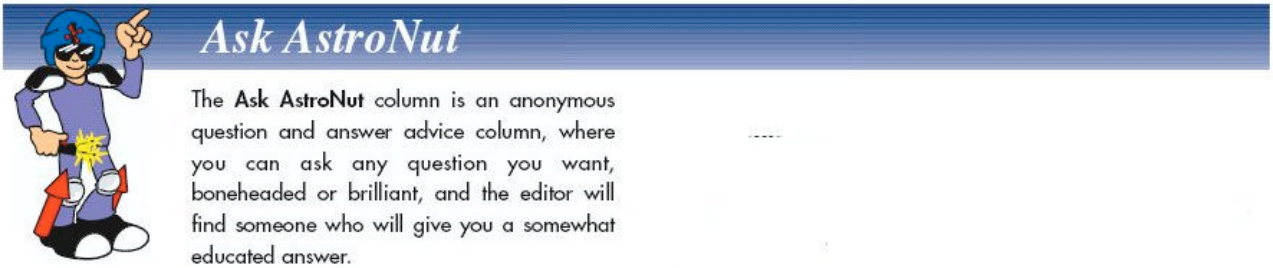
Editor's Corner

by Tenho Tuomi

Eight years has gone by fast. That is how long I have been editor or co-editor of this newsletter, and it is time to move on and let someone else take over. I would like to thank the Centre for this opportunity to serve the members from a distance. It has been a very enjoyable and rewarding job; meeting the members, and being able to create something that one can look on with satisfaction. There have been a few mistakes but nobody has noticed or pointed out.

The job of newsletter editor can be done by one or two people. Most of the time there has been a single editor, but in the last few years the job has been split between collecting the articles and news by one person, and doing the computer layout and producing the pdf file by another person. Splitting the work does make the job lighter, but requires earlier deadlines to get everything done.

There will be elections for editor and other centre positions in October. Start thinking about taking this job, or finding someone with whom you could team to become editors of the Saskatoon Skies newsletter.



Startled Observer asks: I recently saw a very bright fireball and was wondering about its origin. Are there any pointers as to whether or not a fireball is due to the usual extraterrestrial meteoroid or to in-falling rocket or satellite debris?

Astronut answers: Natural fireballs burn big and bright and are often and intense green or red. They usually only last several seconds - maybe 10 seconds of luminous flight time - but usually less. But during that time, they can light up the ground like daylight. Some also produce flaring activity, rare spalling of pieces, detonations and, occasionally, "red fragments" are reported at the end of the luminous flight. They often produce long tails of glowing plasma. Their extreme brightness is a reflection of their high incoming velocity of typically 10- to 70-kilometres per second, depending if they are overtaking the earth or colliding head-on with it.

By contrast, satellites and rocket body burn-ups can last a very long time - minutes - as they fly horizon to horizon, and they often spall a lot of flaming debris as they go. This is because they have far lower energy from being in an earth orbit and enter at a very shallow incident angle at a speed of about five kilometers per second. I would assume they do not produce the intense green colour due to the lower energy, but the pieces can burn as brightly as a welder's torch.

But there are lots of exceptions. The famous Peekskill fireball entered at a very shallow angle and lasted a very long time - 20 seconds, maybe more. Peekskill spalled dozens of fragments as it travelled across 3 or 4 U. S. states, but in the end, only one meteorite was found. Peekskill, like all fireballs, came from the asteroid belt. It is thought that only one in 1000 fireballs actually drops meteorites.

However, my experience (I've seen a few rocket reentries and a dozen or so fireballs) is that Joe Q. Public is usually a poor witness when reporting a startling and quick event. For in-flight times, I've been quoted "a few seconds" to "a minute or so" for the same event and J. Q. P. is also poor at relating precise descriptive details for the event, such that imprecise use of terminology often distorts the basic facts. So from their initial description, it is usually difficult to distinguish whether the observer was seeing a big meteor or a satellite reentry. But when they mention bright colours, the event can be assumed to have been a natural fireball. Small asteroid (meteoroid) impacts on the earth also happen much more frequently than satellite debris reentries. And doing follow-up interviews can clearly distinguish which type of event it was.

The Planets This September, 2011

by Murray D. Paulson, RASC Edmonton Centre

Mercury has a great morning apparition on September 2nd and it will only sit 18 degrees from the sun at this time. Mercury rises 1 hour and 43 minutes before the sun. Over the following week you can observe the disc of mercury as it shrinks and its phase expands. On Sept 5th, it shows a Magnitude -0.5 6.8" half phase 17 degrees from the sun. By the 10th it will shrink to 5.9" and shines at magnitude -1.0. It will be 15 degrees west of the sun at this time. You may get a week or so to watch it as it drops back to the sun.

Venus sits 6 degrees from the sun in early September, and moves slowly out from its conjunction with the sun over the rest of the month. By early October you can find Venus a mere 13 degrees from the sun. It shows a 10" disc and shines at magnitude -3.9. It is of no help that Venus is moving into the evening sky sliding up the very shallow ecliptic. It will be late this year before we see it again in the night sky.

Mars was visible in the late hours of an August night where I saw it teasing M35 in the foot of Gemini. It now has moved past the Beehive in Cancer and is progressing across the morning sky. It shines at magnitude 1.3 and in an eyepiece it is a bit bigger than Uranus at 4.7". By early October it will have gained some and is now above 5.35" and shines at magnitude 1.2. It will rise just before 2 am and is poised to make its big come back to next year's opposition.

The beginning of September sees **Jupiter** rise just before 10 pm. It is back and beautiful in our night skies. You will have to wait up late to see it well, but it shows a 45.4" disk in the eyepiece and shines at magnitude -2.6. Over the month it will grow slightly in size and by early next month it will be 48.8" and shines at magnitude -2.8. By then it will rise just before 8 pm and be at a respectable height of 30 degrees by 11 pm.

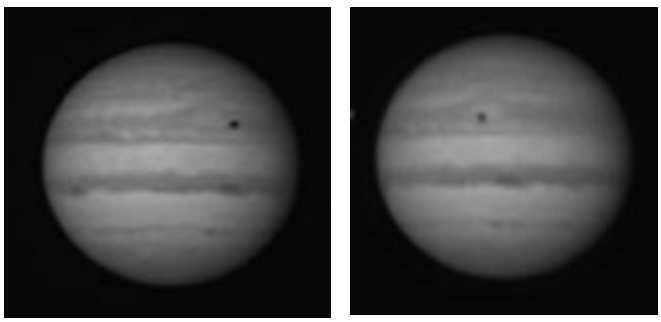
Saturn is in the evening twilight and is not visible this month. It will slide into conjunction with the sun on October 13th.

Uranus will be of prominence in September and rises just after 8:30 pm, and shines at magnitude 5.7. It will show you a lovely blue green 3.7" disc in the eyepiece. It sits 8 degrees east of the circlet of Pisces. Uranus is at opposition on September 25th and will be only 19.13 A.U. from Earth. Its north pole is tilted 14 degrees toward us at this time. Its moon Titania shines at magnitude 13.9 and will be a bit of a challenge for 10 to 12" scopes, but a worth challenge at the fall star parties.

This month marks the first Neptunian anniversary of **Neptune**'s discovery. Neptune was found by Johann Galle at the Berlin Observatory on September 23 of 1846. Le Verrier of France, and John Couch Adams of England, shared credit with the prediction of Neptune's position. Neptune was at opposition last month on August 22. This month it shows a 2.4" blue disc and shines at magnitude 7.8. Neptune has one of the most easily found of the challenging moons. Triton shines at magnitude 13.4 and sits from 11 to 17" from Neptune. Use lots of magnification and get a chart of its position from your favorite software before the hunt. If you check back in 3 hours time, you will see it move with respect to the background stars.

Photos by Murray Paulson

Taken with a DFK21 and a Takahashi 250 Mewlon. Processed in Registax 5. 2011/August/ 02 between 4 and 6 am MDT. at the Mount Kobau Star Party.



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Norma Jensen	108
Kathleen Houston	106
Ron Waldron	105
Wade Selvig	75
Garry Stone	57
Barb Wright	40
Wayne Schlapkohl	36
Ellen Dickson	34
Jeff Swick	24

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George Charpentier		13
Mike Clancy		7

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Wayne Schlapkohl	Done	55
Sharon Dice		31

Isabel Williamson Lunar Observing Certificate

Certified at 140 Objects:

T. Tuomi

Norma Jensen	126
Jeff Swick	29

HERSCHEL 400 CLUB

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Gordon Sarty	251
Scott Alexander	117
Sandy Ferguson	18

HERSCHEL 400-II CLUB

Darrell Chatfield	366
Rick Huziak	240

The Messier & Finest NGC lists can be found in the *Observer's Handbook*.
The Explore the Universe list is available on the National website.
On-line Messier and Finest NGC lists, charts and logbooks – check out:
http://www.rasc.ca/observing
On-line Herschel 400 List – check out the official site at:
http://www.astroloeague.org/al/obsclubs/herschel/hers400.html
The Binocular List will be available at each general meeting or can be mailed out on request to distant members.
Copies of the Isabel Williamson Lunar Observing Program Guide can be purchased at meetings.
Program details can be found at: **http://www.rasc.ca/williamson/index.shtml**

Observers Group

by Larry Scott

Well, that was about everything I could ask for in a star party. I managed to observe seven nights in a row at Cypress Hills starting Monday, August 22nd. Every night there were good skies with several tending towards the exceptional. Highlights included Comet Garradd passing M71, the Veil nebula on Thursday night after it rained, Jupiter at 800+ power in a 20" scope, Neptune, observing stars and thunderstorms on Friday night, did I mention observing seven nights in a row, almost forgot that supernova in M101. A fine reward after three years of not-so-good skies. There was some other cool stuff as well, I heard, such as the Observatory opening and some pretty good talks. Congratulations and thanks to everyone on the organizing committee for a job well done. When can I register for next year's party?

In September the Moon clears the evening sky starting around the 19th and becomes an inconvenience about October 4th. Observers Group is scheduled for September 24th. Hope to see you at Sleaford.