



PeGASus

Newsletter of the

Royal Astronomical Society of Canada: Prince George Centre

Published: January to May & September to November.

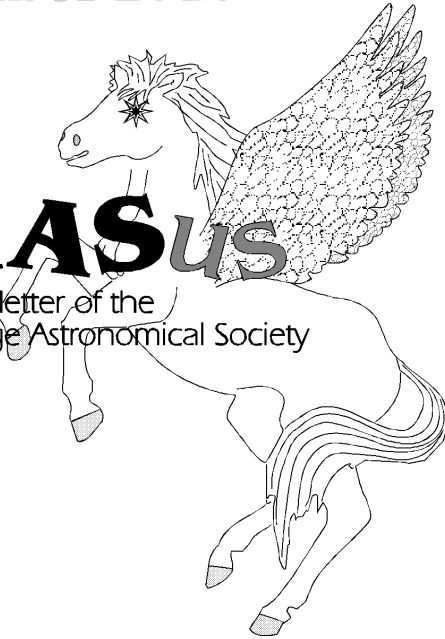
www.rasc.ca/princegeorge

September 2010

*Our pursuits are out of this world.
Our activities are astronomical.
Our aim is the sky.*

PeGASus

Newsletter of the
The Prince George Astronomical Society

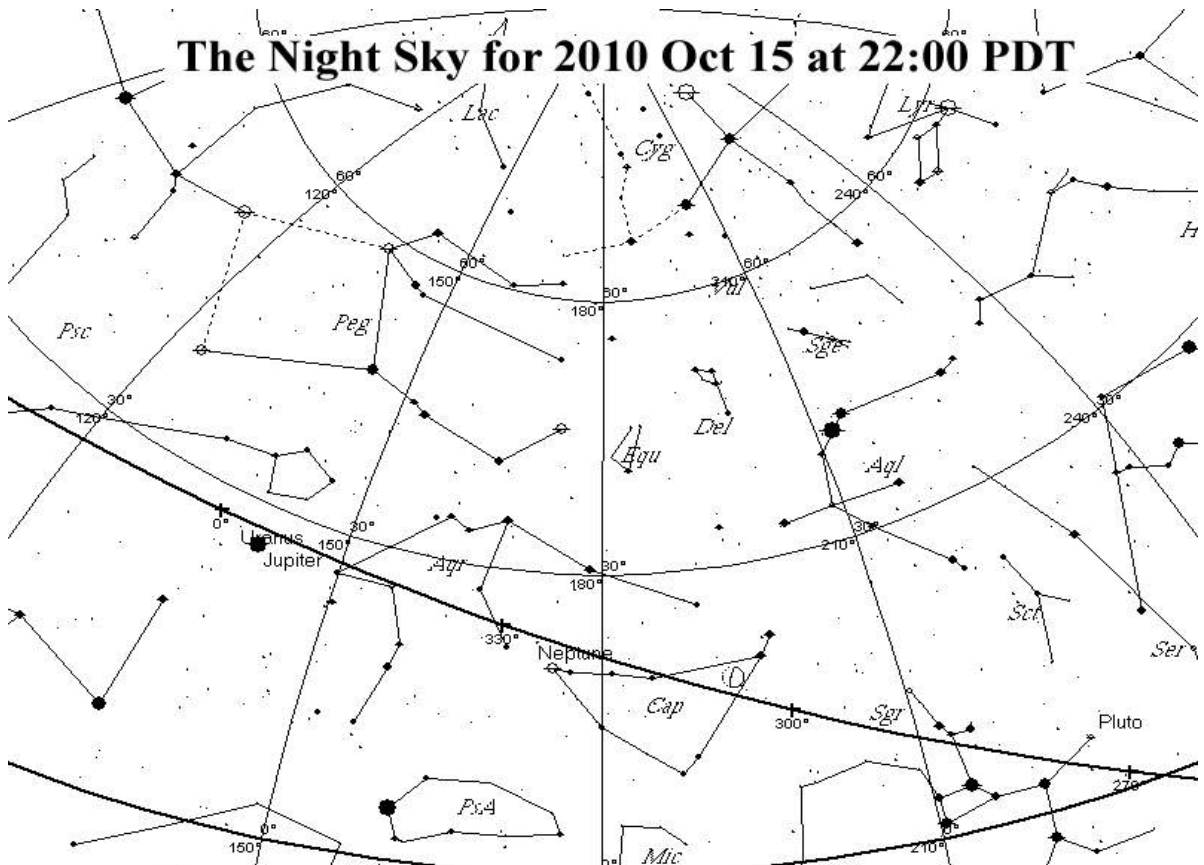


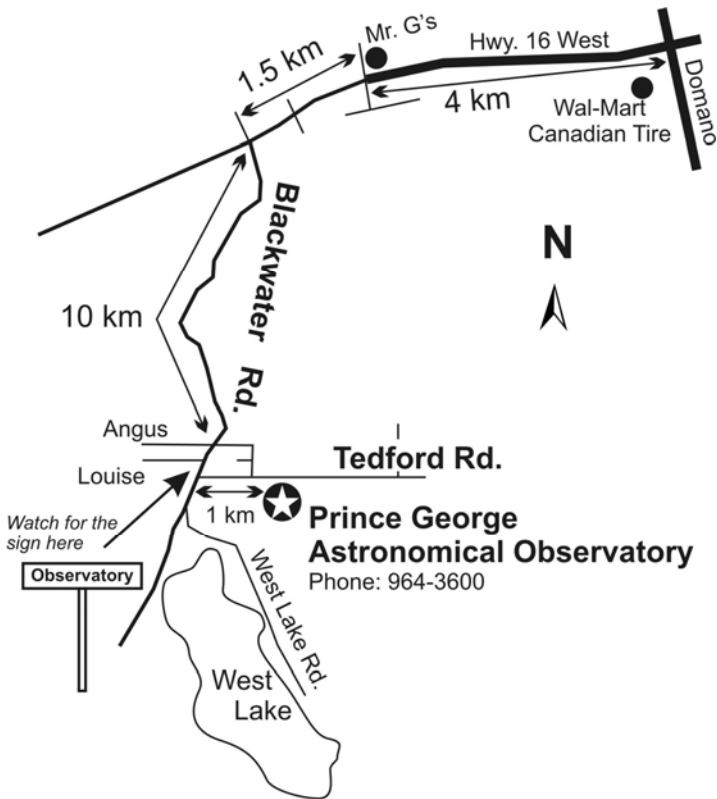
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The RASC: Prince George Centre meets next,
Annual General Meeting Oct. 20th 7:30 pm
at the Observatory

The Night Sky for 2010 Oct 15 at 22:00 PDT





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Contributions to the newsletter are welcome.

***Deadline for the next issue is
 October 16***

PeGASus Editor
Gil Self
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Coming Events

*To Volunteer to help run an event please leave
 A message At the Observatory 250-964-3600*

<i>Date</i>	<i>Event</i>	<i>Time</i>	<i>Place</i>	<i>Volunteers</i>
Sep 24	Open House	7:00pm	Observatory	Everyone welcome
Oct 8	Open House	7:00pm	Observatory	Everyone welcome
Oct 20	AGM	7:30 pm	Observatory	Members welcome
Oct 22	Open House	7:00pm	Observatory	Everyone welcome

October 6th is the next business meeting location TBA check our web site for updates

For an up to date list of the Volunteer Schedule / meetings / classes visit our website in the MEMBERS AREA

www.rasc.ca/princegeorge

Editorial

By Gil Self

As another year draws to a close it is time to consider what you would like to do with the club and what the club can do for you. The fall season is upon us and there are many opening for volunteers for tours and open house. If you have a chance to help out at a tour or an open house , this is the fun part of the club. Guest are usually just bowled over with the clubs facility and with astronomy as a whole, come share in the fun. We will help with whatever training you feel you need, and you will never be the only member present so there is always someone to help out answering questions.

But the real opportunity this month is to help run the club. The executive has always made it a policy to be open to all members. There may be ideas brought to the Exec, that haven't crossed our minds. New people , new ideas. Or maybe you think the club should do more (or less) of any number of activities. For example , you may feel we should hold more social functions, in absence of any suggestions or comment from the membership the exec will feel that the number of events we are holding is correct. Let us know how you want your club to be and we probably can make it happen — It's your club.

Another way to participate is to bring your skills to the club. There are probably many special skills you have that are a snap to you but we struggle to do or end up hiring someone for.

There are many ways to participate but probably the easiest is to write an article for this newsletter. Maybe you were standing on a cruise ship this summer marveling at the night sky, we would love to hear about it. If your in this club you have some interest in astronomy, what ever that is let us all know. The nice thing about writing for the newsletter is you can write whenever it suits you. If you sitting at your computer some evening and your surfed out just open Word or notepad and tell us what interests you. I can make room for you whether your article is large or small.

The Annual General Meeting and election is October 20th, come on out, get involved. You would be very welcome.

Annual General Meeting & 2011 Executive

This Oct. 20th is our Annual General Meeting at the observatory at 7:30pm. We shall be determining the positions on the executive council for the next year.

At this point we will require a person willing to assume the position of Secretary. The Secretary is a critical position that needs to be filled to maintain the records of the society's operation. The Secretary records & distributes the meeting minutes, coordinates correspondence (mail, messages from RASC National), maintains the membership list as well as sending welcome letters and compiles the volunteer hours.

We have a society and facility that is unique in Canada. Volunteering is rewarding, being part of the team that provides guidance and direction so that we can offer the societies benefits to our community.

If you are willing to step forward, please let us know.

Maurice Sluka

The Night Sky for October 2010

by Bob Nelson, PhD

Hi Folks,

This fall marks the start of our 32nd year as a club. (Although we were incorporated in 1980, the first meetings of our fledgling club were held in the fall of 1979.) At that time, we all held out great hope for our club and the observatory that was talked about eagerly. We held some star parties, worked on reconditioning a used silo dome that spring and marvelled at its transformation into an astronomical dome that summer at the hands of Ed Loerke (physics technician) and student (later fellow instructor) Bob Sedlock. Over the next few years we worked on the construction of an observatory building, and I -- with much help -- built the 24" telescope. Opening was in 1984, but the observatory up there lasted only 4 years owing to problems with break-ins and poor winter access.

Today, we have a modern facility on Tedford Road, a core group of 'keeners' that puts on open houses, tours, star parties (like the wonderful one in Fort St. James this summer) and displays. Although the big 'scope has had its problems, we hope to overcome these and -- just maybe -- reach its true potential as a multi-purpose instrument amenable to viewing, imaging and research. Stay tuned! I am determined to make this happen, and soon.

Here is what is happening in the sky this month:

MERCURY is basically lost in the glare of the Sun this month.

VENUS is technically an evening object all month, but just try to find it! On Oct 1 at sunset, it will lie a measly 9° above the SW horizon at sunset and set at about sunset even though the elongation (angular distance) from the Sun is around 30°. How is this possible? Well, it turns out that for observers at our latitude, the ecliptic makes a lower angle with the horizon than does the celestial equator. Therefore, objects to the east (left) of the Sun will lie lower than one would expect. However, it also turns out that Venus' orbit is inclined about 3.4° to the ecliptic, and it so happens that Venus, at this point in its orbit, lies below the ecliptic (plane of the Earth's orbit). There-

fore Venus is even lower in the sky yet, making it set only 18 minutes after the Sun. By month's end (Oct 28), Venus makes inferior conjunction with the Sun and is no longer visible.

MARS, in Libra until October 26, when it passes into Scorpio, is an evening object all month. On Oct 15 at sunset, it will lie about 7° above the SW horizon at sunset when it will be a 4" disk of magnitude 1.4. It will set about an hour later. Owing to the obliquity of the ecliptic (I love that term!) it will be a challenge object for northern observers.

JUPITER, in Pisces until October 12, after which it passes back into Aquarius, is an evening object all month. On Oct 15, it will lie some 13° above the ESE horizon at sunset, crossing the meridian at 22:13 and setting at 04:02. It's a 47" disk of magnitude -2.8.

SATURN, in Virgo until 2012, is a morning object all month. On the 15th, it will rise at 05:28, some 2.5 hours before the Sun), whereas at sunrise, it will lie some 23° above the ESE horizon. Owing to the obliquity of the ecliptic (there is that term again!), it will be a favourable apparition for us northern observers. (If you don't see what I mean, fire up your favourite planetarium program and observe the inclination of the ecliptic to the eastern horizon on October. At this time of the year, it makes a big angle with the horizon, and therefore objects on that great circle lie higher in the sky than if they were just on the celestial equator.)

URANUS, in Pisces until 2012 (May), is an evening object all month. At mid-month at sunset, it will lie some 13° above the ESE horizon at sunset and only 4° east of Jupiter. (The two planets made a conjunction on Sept 18 when they were less than a degree apart.) As usual, it's a 3.6" disk at about magnitude 5.7.

NEPTUNE, in Capricornus until 2011 (Jan), is an evening object all month. At mid-month it will lie some 19° above the SE horizon at sunset, crossing the meridian at about 20:25 and setting at about 01:30. As usual, it's a 2.3" disk at about magnitude 8.0.

CONSTELLATIONS to look for in October (at 21:00 PDT) are Pisces Austrinus, Capricornus, Aquarius, Delphinus, Vulpecula, Equuleus, and Pegasus.

Pisces Austrinus (PsA, “The Southern Fish”), visible only on the extreme southern horizon here in Prince George and lying as it does off the Milky Way, contains only a few galaxies and no star clusters or nebulae. It does contain the well-known star Formalhaut (= Alpha PsA = Al Rischa, “The Cord”), the 18th brightest star in the night sky. It is a fine binary star, discovered by William Herschel in 1779. The galaxies visible are NGC 7172 and 7154 but these are very, very close to the horizon when on the meridian and represent challenge objects from here.

Capricornus (Cap, “The Sea Goat”), lies on the Zodiac but lies out of the Milky Way (to the northwest of PsA) and contains only M30, a fine globular cluster. Of the brighter stars, Delta and Epsilon are both variable stars. Delta is an eclipsing binary of the Algol type (fully detached, with flat regions in the light curve between eclipses); its period of 1.023 days makes it hard to study. Epsilon is a variable of the Gamma Cassiopeia variety. These are young stars that are rapid rotators; in fact, they are rotating so fast that the star’s gravity is only just strong enough to retain the stellar material. With instabilities, material gets ejected every once in a while, resulting in irregular light variations and emission lines in the spectra.

Aquarius (Aqr, “The Water Bearer”), to the north of Cap, lies on the Zodiac and contains a number of variable stars but no deep sky objects (!) -- at least as listed in Norton’s Star Atlas.

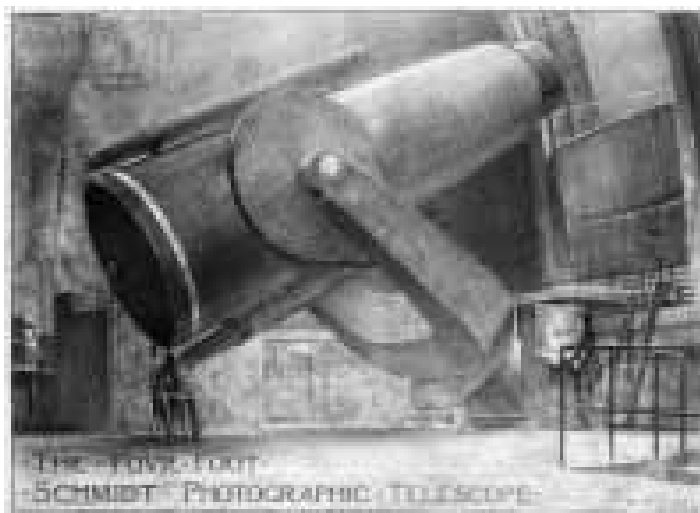
Delphinus (Del, “The Porpoise”), to the northwest of Aqr, is another boring little constellation, containing only two globulars, NGGs 6394 and 7006.

Vulpecula (Vul, “The Fox), in the Milky Way just to the south of Cygnus (and the last constellation in the book), contains M27, the famous “Dumbbell” Nebula (disc’d by Messier in 1764 and lying close to 900 light years from us) -- it’s a wonderful object worthy of close observation or CCD photography (just wait til we have colour filters available).

Equuleus (Equ, “The Little Horse”), a tiny constellation (the second smallest in the sky, after Crux) and contains NO deep sky objects at all. Delta Equulei, however, is a close visual binary. It was discovered by Otto Struve in 1852; it was for many years at period 5.7 years, the shortest known for any visible binary. According to Burnham, the system has made 19 revolutions in the last 112 years. It is, however (as you might expect) a difficult close binary, never separated by more than 0.35 arcseconds.

Pegasus (Peg, “The Winged Horse”, “The Great Square” and our mascot), also lies off the Milky Way. It contains a few faint galaxies, an open cluster, and M15, a fine globular.

Clear Skies to all,
Bob Nelson



British Columbia Meteor Network

The British Columbia Meteor Network is a group of professional and amateur AllSky camera operators whose primary objectives are meteor spectrography and to capture the path of a fireball that impacts Earth. This organization is part of the West Coast Fireball Tracking Network overseen by Dr. Jeremy Tatum, retired Professor of Physics and Astronomy at the University of Victoria who assists with the technical work of triangulating fireballs captured by these AllSky Cameras.

There has been much activity within the BC Meteor Network lately. Locally, upon successful negotiation with School District #27 (Cariboo-Chilcotin), an AllSky camera system was installed at the Tatla Lake Elementary/Jr. Secondary School. School District administration that generously approved the manpower to install the equipment enthusiastically endorsed the camera proposal. The Prince George Astronomical Society provided funding for the Tatla Lake and Mile 108 cameras.



The Tatla Lake School site was selected for several reasons. An online telescope observatory was already in place on the school grounds. The first observatory to be accessible via the Internet in British Columbia, it is used by students of North Island College as part of the Space Science and Astronomy: Introduction to Deep Space Astronomy course. Dark skies (the nearest major urban centre is 150km distant) and an unobstructed view of the skies, North Island College's offer to allow us to share the observatory's monitor, keyboard and mouse, and the donation of internet access by the Tatlayoko Think Tank were the other compelling reasons to choose this site.



Negotiations are well under way with School District #27 to place a camera at the Mile 108 Elementary School. Wayne and I hope to have this camera in service by the end of October. This

site was chosen for its ability to overlap camera coverage with eight other AllSky cameras, thereby increasing the likelihood of meteor captures seen by other cameras.



Mile 108 Elementary School



Proposed Mile 108 camera location

In an effort to expand the AllSky camera network westward from Prince George, School District #91 has been approached with a proposal to place a camera at the Lakes District Secondary School in Burns Lake. Overlapping coverage with Prince George and Tatla Lake cameras in addition to monitoring west to Terrace were the reasons for selecting this location.



Proposed Burns Lake camera location

Elsewhere in the province, cameras have been installed at SFU and RASC Victoria Centre's observatory situated on the Dominion Astrophysical Observatory grounds. College of the Rockies in Cranbrook recently acquired a camera and is in the process of getting it operational. As can be seen on the coverage map, a significant portion of the province is now or soon will be monitored for meteor activity.



British Columbia AllSky Camera coverage



RDL Observatory - Reid Lake



EMO Observatory - Courtney



RASC Prince George Centre



Tatla Lake Observatory

Submitted by Glen Harris



Shane Observatory - Prince George



30 August 2010

Mr. Glen Harris
Prince George Astronomical Society
7365 Tedford Road
Prince George, BC V2N 6S2

Dear Mr. Harris:

Re: Tatla Lake AllSky Camera

On behalf of the Board of Education, School District No. 27 (Cariboo-Chilcotin), I would like to thank the Prince George Astronomical Society for including our School District in the AllSky Camera System project at Tatla Lake to advance knowledge of meteor science. The Board would also consider a further partnership with the Society in systems at either 108 Mile and/or 150 Mile to cover the Cariboo-Chilcotin skies.

The Board is most encouraged by the Society's intent to work with school districts in creating and promoting educational programs to benefit our students.

Yours truly

Bonnie J. Rolier, CGA
Secretary Treasurer

:can

We are bringing science to young people in this province.
Thanks to Glen H. and Wayne S.

I should mention that the entire executive supported this project and voted the funds to make it happen.
Gil

"Learning, Growing and Belonging Together"

2010 NOVA Graduates

Congratulations to our 2010 New Observers to Visual Astronomy graduates. This year's class includes: Lorne Davies, Paul Strickland, Mike Matwyuk, Maurice Sluka, and Jason Jaschinsky. This year's class was a good experience, and we all learned from it.

The 2011 NOVA course is now in planning, and we received several requests from interested people during the Pine Centre Recreation Market. If you want to get involved with helping on any of the classes or take the class yourself, please let us know.

Thanks to Blair, Wayne, Bob and Maurice for teaching this years classes.



Mr. Lorne Davies receives his certificate at the year-end barbecue



Mr. Paul Strickland receives his certificate at the year-end barbecue

By Maurice Sluka

Fort St. James Star Party at the National Historic Site



Courtesy Parks Canada-Fort St James (Kevin Gedling)

Extremely lucky weather conditions

We combined a Star-Party with an Out-each event at a national historic park run and maintained by Parks Canada. Saturday, August 12th the Prince George Center, Parks Canada and the “Friends of Fort St James” held a star party with a telescope workshop and lecture at the “Fort” in Fort Saint James. This fort was established in 1806 by the Hudson Bay Company on the edge of Stuart Lake in central British Columbia.

Being located in an already dark sky region, it was further enhanced by the provincial hydroelectric company turning off the power to the town site/community at 1:00am. This meant the nearest light pollution was from the small community of Vanderhoof (Population 4600), some 54km to the south. The cooperation we received from the Parks Canada people was incredible. All exterior lights at the park and building exteriors were turned off. Any interior lights were switched to red bulbs to allow guest access to the washrooms.

I would have to rate the sky that night 5 out of 5 for both seeing and transparency. I did do a double later in the evening/morning as Arcturus was reflecting on the surface of the lake. At 2:00am it only required a golf shirt due to the warm weather. Any time you only need a golf shirt at: 54° 26'N – 124° 15'W at 2:00am, on the shores of a large lake you count yourself blessed or extremely lucky.

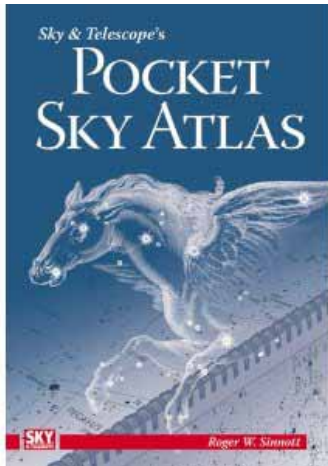
This event was extremely well attended, with line-ups at all the telescopes. Lots of questions were asked, most were answered and everyone enjoyed themselves. It might have become more of an Out-Reach than a Star-Party than was originally planned, everyone wants us back, including Parks Canada.

Blair Stunder
Vice-President

Glovebox Astronomy

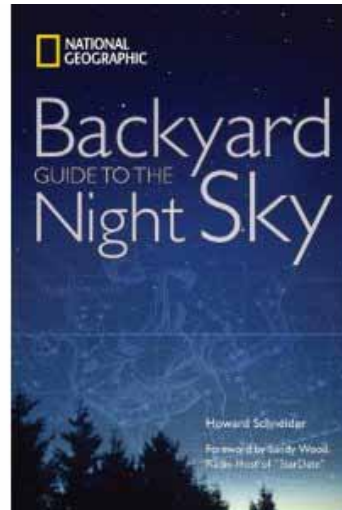
There are two very good books that an amateur astronomer can take with them as a handy reference. Both are both affordable at under \$20.00 each, and have great amount of detail. Both are very compact, and perfect for keeping in one's glovebox, and reading while waiting at the boarder or ferry ride or anytime you want to check on tonight's sky.

Sky & Telescope's Pocket Sky Atlas



The Sky & Telescope Pocket Sky Atlas is nicely laid out with colour charts and a spiral binding. It uses popular names for deep space objects. The 80 charts cover over 30,000 stars to magnitude 7.6. Those who own the Sky Atlas 2000 or are familiar with it will notice the format is similar, you will find it easy to use.

National Geographic Backyard Guide to the Night Sky



The National Geographic Backyard Guide to the Night Sky is a compact and comprehensive book that covers not only charts, but also many astronomical subjects in brief articles, and designed for the northern hemisphere.

By Maurice Sluka

Perseids Meteor shower:

My son Brandon and I arrived about 9:00 PM and the first thing I noticed was all the cars parked along the side of the road, and the Drive way . What a wonderful turnout. It reminded me of the turnouts we had when the two great comets of the century had graced our skies in 1996 and 1997 Hyakutakei and Hale Bopp. The visitors had brought chairs , blankets, and reclining lawn chairs (the experience). Felt like a picnic crowd waiting for the fireworks show to start. We could only stay to 11:00 PM and unfortunately I didn't see a high rate of Meteors and no fireballs. But that's the thing about comets and meteor showers it's like the weather we have no control of how the show will turnout.



Want to join the RASC Prince George Centre?
Fill out the form below and mail it in to the address at the top of the form.



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ASTRONOMICAL
SOCIETY OF CANADA**

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D'ASTRONOMIE
DU CANADA**

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www.rasc.ca E-mail: mempub@rasc.ca

New Membership Application - Canada

Prince George Centre

Name (please print in full) _____

Postal Address _____

City _____ Prov/State _____ Postal/Zip _____

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Country

Telephone (Day) _____ Telephone (Evening) _____

E-mail Address _____

Membership in the RASC includes one issue of the annual *Observer's Handbook*, six issues of the electronic edition of the *Journal* of the RASC and six issues of *SkyNews* along with benefits that your Centre may also offer.

APPLICATION

I hereby apply for membership in the Royal Astronomical Society of Canada (Prince George Centre). I understand that personal information is collected and used according to the Society's Privacy Policy available at www.rasc.ca/privacy.shtml and that my membership is subject to the bylaws of the Society and my Centre if applicable.

I am/was a member of the Society, please, if necessary, reactivate my membership. RASC ID (if available): _____

RASC Membership Dues (Prince George Centre)

Choose one:

- Society Membership (Canada) including a Centre Fee of \$27.00 REG \$74.00
- Society Youth Membership (Canada) including a Centre Fee of \$13.70 YTH \$41.00

Youth memberships are available to applicants who are less than 21 years of age at the time of application. Please provide your birth month and year: ____ / ____ (mm/yyyy).

National Publications (includes member discounts, taxes, shipping and handling)

- Printed and mailed **Journal** (one year subscription, 6 issues, includes GST/HST) \$18.98
- Beginner's Observing Guide** (includes GST, shipping & handling) \$25.67
- Observer's Calendar 2011** (includes shipping & GST/HST as applicable) \$22.34

Note: All members are entitled to receive the *Journal of the RASC* via electronic download (PDF). To receive the print edition, please choose the Printed and Mailed option above.

Membership Options (Prince George Centre)

The Prince George Centre's newsletter PEGASUS is a benefit of membership in the Centre. Please choose your preferred format (electronic or printed and mailed) below:

Pegasus Delivery: ___ Electronic ___ Printed and Mailed

Members of the Prince George Centre can invite members of their family to join them as Associate Members for only \$5.00 per family member. Associate Members enjoy all Centre benefits while sharing one National Membership.

<u>Centre Option(s)</u> (see note above)	<u>Code</u>	<u>Fee</u>	
(Please provide the names of your associate members below separated by commas)		\$5.00	
_____	ASSOC_IND_CA	per person	_____

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- Visa MasterCard Name on Card: _____

Total: \$

**Royal Astronomical Society of Canada
Prince George Centre**

AKA the Prince George Astronomical Society

Phone: 964-3600
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