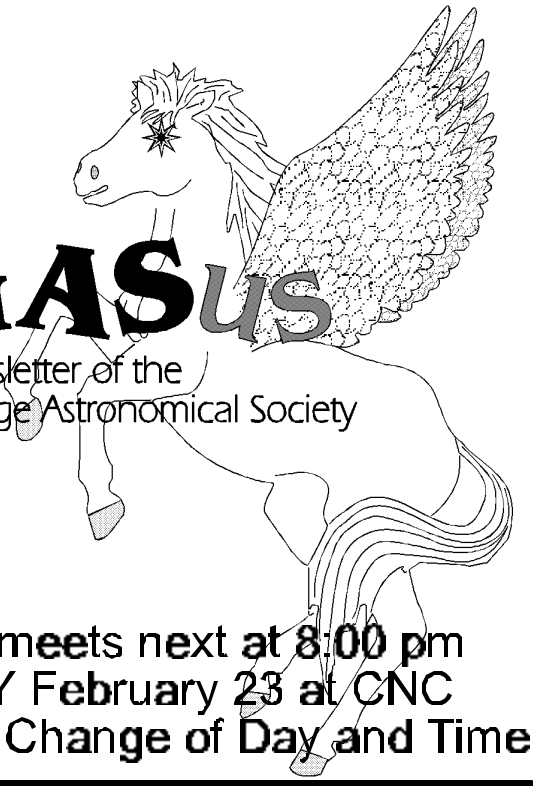
1999 FEBRUARY ISSUE #91

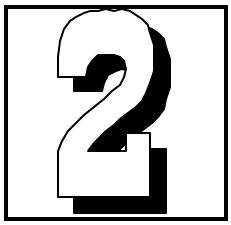
the PeGASus

Newsletter of the
The Prince George Astronomical Society



The pgas meets next at 8:00 pm
TUESDAY February 23 at CNC
Please Note Change of Day and Time

INSIDE :



the PeGASus is published monthly by the *Prince George Astronomical Society*.

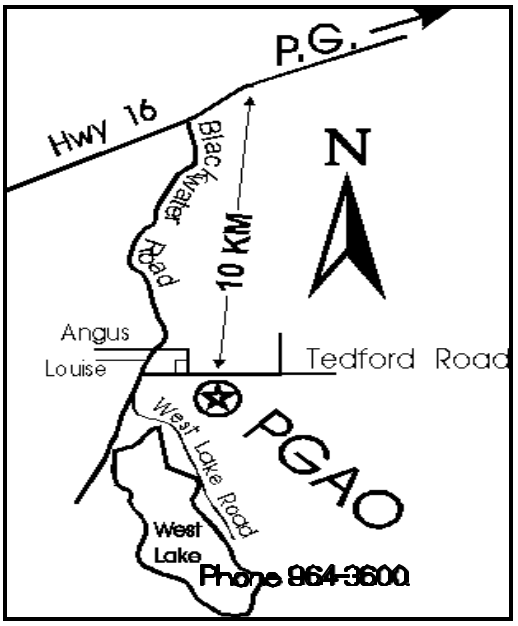
Our pursuits are out of this world.
Our activities are astronomical.
Our aim is the sky.

Contributions to the newsletter are welcome.

Deadline for the next issue is

March 19

Send correspondence to
The PGAS
3330 - 22nd Avenue
Prince George, BC, V2N 1P8
or



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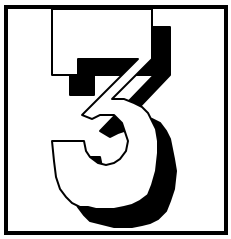


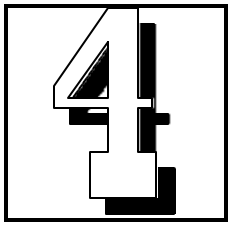
By Gil Self

There is a lot to tell you about this time so I will get right to it . First of all, what happened to the newsletter last month? Apparently our envelopes were too big. We produced, printed,packaged and mailed the newsletter so that it would get to you before the meeting, but they all came back. I understand the envelope was slightly too big and it cost us a total of an extra 45 cents. We had best not tell them we have been using that same size envelope for a least a year or we might have to pay up, the post office would have an extra $4.50 revenue for 1998.

Starting in March we are welcoming back the **NOVA** workshops. This is the very best start a **N**ew **O**bserver to **V**isual **A**stronomy could hope for. The sessions will be held two nights each week (same session twice) and there will be four different sessions. The workshop will be given by Jon Bowen and I can't think of anyone better suited to offer this course. Jon is an excellent visual observer and he has a lot to share with everyone attending NOVA. There is no charge to members so you might want to attend all eight sessions. Non members are very welcome but they must join the PGAS . Call Jon Bowen.

Bob Nelson asked to have the asteroid group mentioned this newsletter. We really must work on a better name for this group! Within a week or two most of the upgrades and refinements will be completed on the main telescope. We will now be able to capture much more accurate, high quality wide field digital images. This now makes it possible for us to contribute to the near earth asteroid search. This should be interesting because we can all work on this when you have the time and the skies. A detailed list of objects will be made up and you can select what you want to image from what's available to you and the seeing. There will be several new windows based program's on the computer which should make it very straight forward to collect the image. More than likely the next step will be to e-mail your images (from the observatory) to the member that is doing the analysis.

And speaking of computers, in late November I recieved a call from Charlie Smith. He told me he had a Pentium computer that needed repair and he was willing to donate it to the PGAS. I passed that along to the executive, and at the time we were just starting our planning for the changes to the telescope and computers so we thought we would just wait until Charlie came to the next meeting and buy the needed parts and fix up the computer. In late January we discovered our main computer could not have it's memory upgaded without spending a lot more than we wanted to spend. When we were discussing our opions someone suggested we should call Charlie and see if his kind offer was still open. I called him the next evening, yes the offer was still open but meanwhile he had fixed up the computer. What I didn't know was Charlie has been ill and I am happy to report is on the mend. While laid up he has taken up computers, but being ill, he felt he was not contributing to the club by helping with work bees and meeting or other projects. So he went out and spent several hundred dollars on the nessesary parts and presented us with a fullt funtioning Pentium computer, exactly what we needed for our new image processing. My hats off to you Charlie! Thank-you from all of us. Clear skies Gil



Coming Events

If you are involved with any astronomical or otherwise scientific activity on behalf of the PGAS, please list the activity here.

February 23 ——PGAS meeting At CNC 8:00pm
March 5——— Spring public open house begins
March 20/27 April 24 May 22 —Shoot the Moon, see Brian Potts

—

The Night Sky for March '99

by Bob Nelson, PhD

Hi Folks,

As winter makes its way out and the first day of spring is coming next month, we look forward to clearer nights and more opportunities to pursue one of our favourite activities. The big telescope is working better than ever for several reasons: As we mentioned last month, the big mirror has been cleaned and the optics critically aligned. Secondly, we have purchased a focal reducer for the CCD camera that should double the linear size of the field of view (quadrupling the area) getting us 6' x 8'. It should be here when you read this (or shortly later). Next, we are working on the pointing accuracy so that the digital readouts are more reliable, allowing us to place objects in the field of view without fail. Lastly, we should soon be able to run The Sky vers 4 on the observatory computer so that it displays the telescope's position right among the stars on the screen (think of the telescope as a large mouse). Soon after, I'd like to get going on our project to measure comet and asteroid positions. Remember, it's your telescope too, so why not get involved?

With March comes the resumption of our Friday night public observing sessions; you'll be asked to help out (see the notice elsewhere in this issue).

Here's what's happening in our skies next month:

MERCURY, reaches greatest eastern elongation on the 3rd -- some 18 from the Sun; it sets almost two hours after the Sun. (The end of June produces a better event at eastern elongation 26 .) However, this is a favourable elongation for northern hemisphere observers (that's us) since, owing to the inclination of the ecliptic, Mercury is as high as it can be in the sky (for this elongation) at sunset. Use binoculars to have a look for it early in the month in the west just after sunset. Fast-moving Mercury, though, reaches inferior conjunction on March 19.

VENUS, continues to grow in evening brilliance. It's a 12" disk at magnitude

-4.0, growing to 13" at month's end (same brightness). Have a look at it with a small telescope if possible and watch it change in size and shape (it's gibbous all month).

MARS, in Libra, rises at about 10:30 PM on the 15th of the month (and almost 5 minutes earlier each day thereafter). It grows from a 10" disk at magnitude -0.2 on March 1 to a 14" disk at magnitude -1.0 at the end of the month. It's worth looking at (but only when it's high in the sky); however, do not expect to see much -- even at opposition next month, it will only reach 16". (Just wait til 2003 for a really good opposition at 25"!)

JUPITER, in Pisces all month, sets two hours after the Sun (i.e., at about 8:00 PM) at the beginning of the month and at sunset at the end. At the beginning of the month, it's a 34" disk at magnitude -2.1, so do your observing then, before it disappears in the glare of the Sun.

SATURN, in Pisces until Mar 29 (when it moves into Aries), sets 3 « hours after the Sun (i.e., at 9:40 PM) at mid-month when it's a 17" disk at magnitude +0.5. It should be a good sight, so keep it in mind. Use Guide 6 on the observatory computer to identify its many satellites.

URANUS, in Capricornus all year, is lost in the glare of the Sun all month.

NEPTUNE is in Capricornus all year. It's a morning object all month rising about an hour before the Sun on the 1st of the month and about 2 hours on the 31st. As usual, it's a 2.3" disk at about magnitude 8.0.

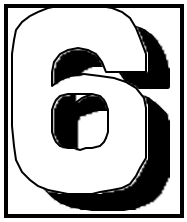
PLUTO, is in Ophiuchus all year, rising just after midnight on the 15th (add or subtract an hour to convert to the beginning or end of the month). As usual, it's a 0.1" disk at magnitude 13.8. Let's go after it later this spring.

March Equinox occurs on Mar 20 at 5:46 PM PST (amaze your friends with this information).

CONSTELLATIONS to look for in March (at 9:00 PM, PST) are Pyxis, Puppis, Western Hydra, Cancer and Lynx.

Pyxis ("the compass on the Argonaut's ship") is visible on the extreme south at 9:30 PM on the 15th. It's just at the edge of the Milky Way but contains little of interest (no open clusters, etc.). It does have the recurrent nova T Pyx. According to Burnham's Celestial Handbook (Hey, Jon, there's a lot of good stuff in here!), it's normally an object of magnitude 14, but in 1890, 1902, 1920, 1944, and 1966, it brightened suddenly to around 7th magnitude dimming only slowly back to its original level. By the above sequence, it's overdue!! Maybe it'll brighten when *you're* watching.

Puppis ("the stern on the Argonaut's ship") is just to the northwest of Pyxis. Straddling the Milky Way, it contains numerous goodies including open clusters M46,



Hydra ("the Sea Serpent") extends all the way up to declination +5 . The western part contains M48, another fine open cluster.

Cancer ("the Crab") is more familiar to us northerners, lying as it does between Gemini and Leo. It contains the famous "Praesepe" or "Beehive" Cluster, M44. This fine open cluster (as indicated in Burnham's, Jon) is one of the largest, brightest and nearest such clusters and is visible to the naked eye. It was known to Hipparchus (in 130 B.C.) who called it the "Little Cloud". Galileo (in 1610) was the first to look at it through a telescope and was astonished to see so many bright stars (he saw 36). Today we know that it lies at a distance of 525 light years (161 parsecs) and contains some 200 stars; the diameter of the cluster is about 13 light years (4.0 pc). Another famous cluster in Cancer is M67, a rich cluster containing some 500 stars and lying at a distance of 2500 light years (767 pc). M67 is one of the oldest "Galactic"or open clusters known, at 10 billion years old.

Lynx ("the Lynx" -- gee!) lies to the north of Cancer, out of the Milky Way and contains only NGC 2419, the famous "Intergalactic Wanderer", the most distant of the globular clusters. It was discovered in 1788 by William Herschel (and rediscovered by his son John in 1833), observed by Lord Rosse in 1861, and finally classified as a globular in 1922 when photos were taken by the 42" reflector at Lowell Observatory. The distance was determined by observing 31 RR Lyrae stars in the cluster; it's some 182,000 light years (55,800 pc) from us (and 210,000 light years = 64,400 pc) from the galactic centre. This distance is comparable to that of the Megallanic Clouds and suggests that this cluster indeed is intergalactic. Let's get a CCD image of it!

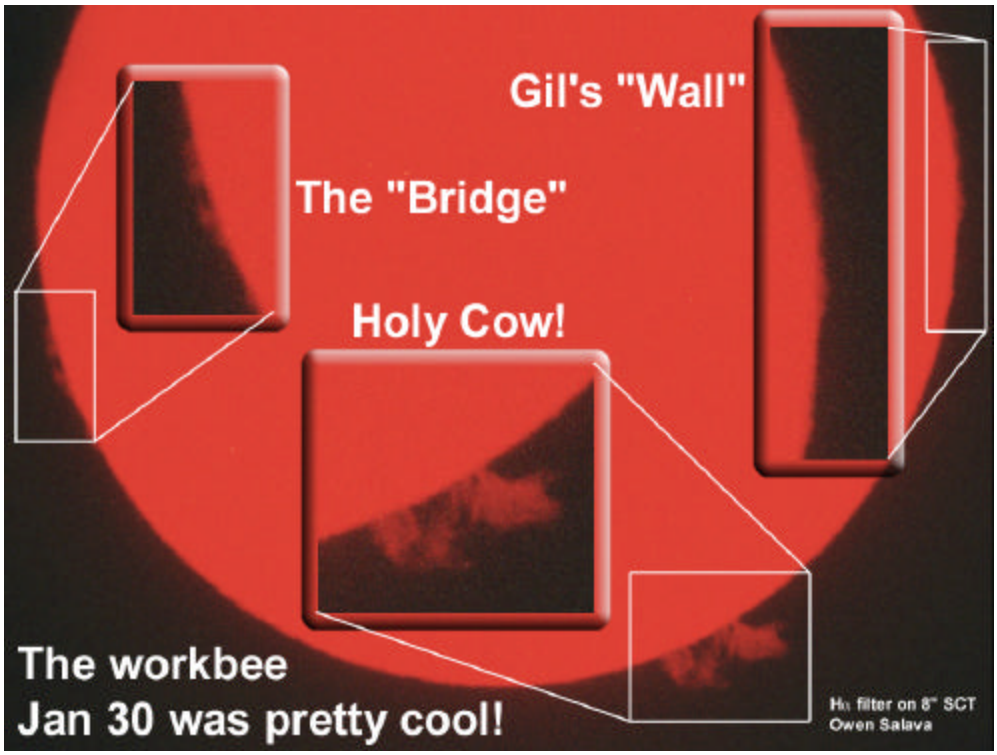
Clear Skies,
Bob

WE NEED **YOU**

Public open house begins Friday March 5th

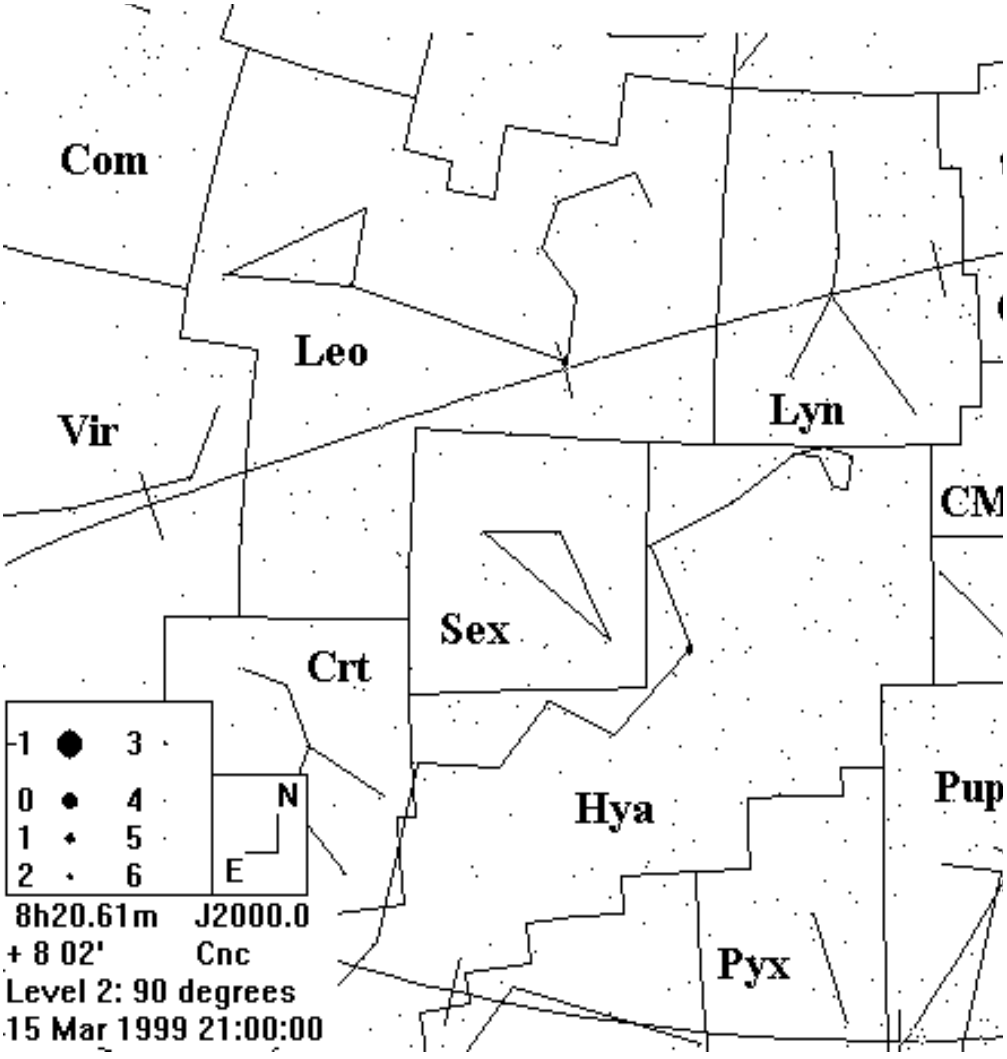
We open the observatory to the public rain or “shine” every Friday evening March through to the end of May. Public observing begins at dusk.

We need volunteers to staff the observatory, you can sign-up at the regular PGAS meeting February 23, 8:00pm, CNC Physic lab. Two members each open house, so in there are 26 slots to volunteer for. Sign up early and get the best nights (dark of the moon, conjunctions, your mother in-laws birthday)

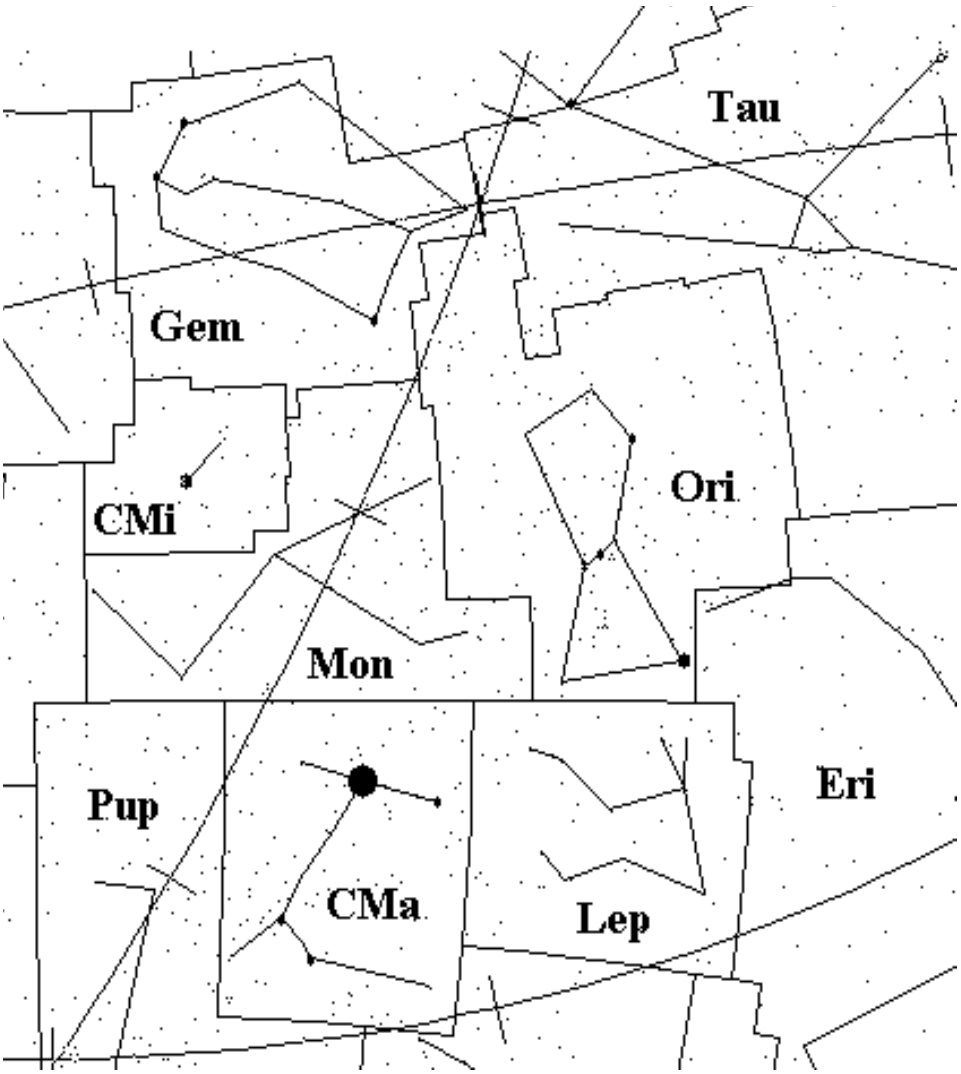


PGAS (HST can't do this)

Hubble



March 15 Skys for Prince George courtesy Dr Bob Nelson



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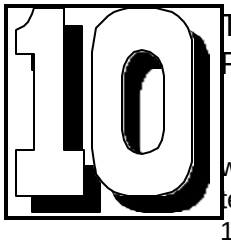


The Royal Astronomical Society of Canada – Prince George Centre?

First, a primer on what the RASC is for those people who don't fully know. This is the national organization of amateur astronomers in Canada. It was started in Ontario in 1890, receiving a Royal charter in 1903. To quote from their web site:

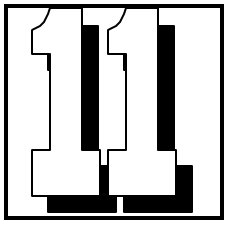
> *The RASC is devoted to the advancement of astronomy and allied sciences, and its members are from many countries and from all walks of life. Members receive the publications of the Society: the OBSERVER'S HANDBOOK (published annually in November); the bimonthly JOURNAL which contains review articles, research papers on historical and contemporary topics, less formal articles, education notes, general notes of astronomical interest, book reviews, news items concerning the society and its centres, and letters; the Society's ANNUAL REPORT; and SkyNews, the Canadian Magazine of Astronomy and Stargazing.*

Presently there are 23 centres of the RASC across Canada, with a membership of around 3300 people. Centres range in size from several hundred people in the Toronto Centre down to 20 or 30 for some of the smaller centres.

For the past 20 years, the Prince George Astronomical Society has happily moved along, enjoying the hobby of astronomy, observing, building an observatory both on Tabor mountain and at our present location. People have come and gone, interest has waxed and waned. A constant has remained our own Dr. Bob Nelson, the man who is largely responsible for the continued success of our society. Throughout this time, we have remained largely centred in Prince George, with little exterior input, or information exchange.

Last summer, Bob and I attended the annual general assembly of the RASC in Victoria. At this gathering we learned much about the RASC. Both of us came away with a positive impression. Last fall I became a member of the RASC. Since we have no centre in Prince George, I became an "Unattached" member. The yearly fee for this is $36. So I am now paying $56 yearly for my society memberships. I would really like to reduce this amount.

To become a Centre, we as a society must first agree that this is where we want to go. There are many issues that the executive has to work out, not least of which is our provincial status as a non-profit society. If the RASC in any way endangers this, all bets are off. Beyond that there are many administrative details that we have to iron out. I am in discussions with Randy Attwood, the National President of the RASC whom you may have seen in astronomy segments on @discovery.ca on the Discovery Channel, regarding these details.



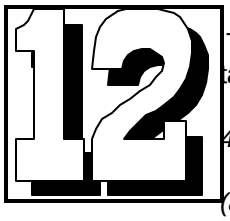
What does the RASC represent to each member personally? Let's start with the quote from the RASC web site. As a member, you receive the "Observer's Handbook", the Journal of the RASC, the Annual Report and the magazine "SkyNews". The "Observer's Handbook" retails for $22.42 (including GST, S&H) while the "SkyNews" is available for $24 per year ($3.95 per issue). A non-advertised benefit is that as a RASC member, you can become part of the online mailing list, where you receive daily email from other members on varying subjects. So, for an unattached member, you get $46 worth of publications, plus the Journal for $36 per year, plus your membership to the PGAS. Members under 21 years of age (proof required) pay $22.50 per year. Life memberships are also available for $720.

If we are to become a centre of the RASC, the above still holds true, except the cost. Presently we are thinking about having to double our present membership dues from $20 per year to $40 per year. This seems like a pretty huge jump, but is it? The individual membership dues for the PGAS have been $20 for 20 years! Presently, my $36 goes directly to the National Office. As a Centre, $20 of the $36 goes to National, with the remainder staying in the centre. This is why we are proposing a membership dues amount of $40, to keep the amount of money that goes into our treasury the same. The same holds true for many of the centres across Canada, with surcharges added to the base membership cost.

The benefits of being a centre vs. having a bunch of people with unattached memberships in our separate society follow. First, comes the speaker exchange. Though we can't expect monthly appearances by different speakers due to the somewhat remote nature of Prince George from the closest centres (Vancouver, Okanogan, Edmonton, and Calgary) we hope that at least once a year we could get a speaker to come to Prince George. In addition, there is the potential for a grant from National to improve our observatory facilities. We may also be able to borrow materials from National Office, as they hold a sizeable library. These are issues that need further investigation, but I hopefully will have some answers by the time February's meeting rolls around.

Other items available to the membership of the RASC include formal observing certificates for completing the Messier list and the NGC list of objects, many awards for various things including contribution to community, writing and so forth. Each member is afforded a vote at the Annual General Assembly, whether in person or by Proxy. Each centre has a National Representative who sits on the National Council and meets thrice yearly at various locations. Alan Whitman is presently the representative for the Okanogan Centre.

Much of my information comes from experiences at last year's GA, the web site of the RASC (www.rasc.ca) and from discussions with other members of the RASC. I have full printouts of the major documents available from the RASC website for any interested parties, which I highly recommend people go over before we make a decision as a society to become a part of the RASC.



The formal requirement for formation of a centre of the RASC is taken from “By-Law Number One” of the RASC:

4.01 Establishment and Continuance of Centres

(a) Any group of persons generally residing within an identifiable geographic region or political division in Canada may request recognition as a “Centre” of the Society. The group should have had an active interest in astronomy for at least one year, and there must be a minimum of twenty persons prepared to be members of the Society. Such a group must present a draft set of by-laws specifying the formal organization of the proposed Centre. A special resolution of the National Council is required to form a new Centre.

The executive is not making this decision for the membership. We want to have as much input as possible and are not going to rush into anything. If you have commentary, either positive or negative please bring it forward either in person or in writing. We will be discussing the RASC at February’s meeting, so please come out. Plans are for an initial vote to be taken at this meeting, so your attendance is anticipated

On a side note, we have one of the largest telescopes of any centre in Canada.

Owen Salava
Member-At-Large
Unattached Member - RASC

" Night of the living Showers "

Steve Senger Nov 20/98

Speaking of meteor showers .... the Lenoid’s best show comes only once every 33 years. This time Nov. 17th 1:00am to 12:00 noon, peaking at around 11 AM.

I wait patiently - finally I am rewarded with showers of the white flaky variety, traveling in slow erratic paths. Someone tells me, that’s called snow.

The next night was quite different. Finally Clear Skies. I felt inspired. I plan an all night vigil, starting at Gil’s place at 11:00 PM.
I decided to take our brand new cool 1987 Grand Marquee. But the stupid doors wouldn't open . Frozen solid. No problem, I'll heat the keys with my hands a few times and all will be well. NOT! No problem, I'll shoot Methyl Hydrate down the key holes..... NOT (again)

It’s starting to get late. Time to use “the lighter on the keys” trick.
Unfortunately I cannot find the old lighter. .But this is good . This gives me an excuse to

use one of my favorite Toys..... " The Propane Torch ". I turn on the torch. I get a definite hiss and squeeze the flint striker....Pooffff A beautiful blue light appears in the night, I can feel the comforting heat.

First I heated the key, then shoved it in the lock and wiggled it,.... no good. So I heated the door handle, key hole and the door.....The Methyl Hydrate inside the key hole caught on fire, so did part of the door where I had accidentally spilt some of this vile alcohol. I watch as I am blessed with more pretty blue colors just like my torch.

Next plan. I turn and focus the “Death Ray” on the door handle, but it started to stink like burnt plastic. There must have been some stupid plastic parts somewhere on the handle. I’m beginning to suspect that the computer programmer who designed my car at the Ford Factory was not a happy worker.

I'm not ready to quit. I love the smell of burnt plastic at night .....It smells like ..... VICTORY!

I have a better Idea. Why not take the key off the key chain, stick it back in the key hole and torch the key for.... lets say....2 minutes. I scored high in physics but I must have been asleep during the 2nd Law of Thermodynamics. I slightly miscalculated the cooling rate of a key inside a lock on a not so very cool night.

After I stopped screaming, I pulled my hand out of the snow and repeated the experiment, this time with... ha ha pliers. I know you are impressed. Pain creates ingenious ideas. I decided if 2 minutes was good ,4 minutes is even better. I stopped at 3 and a half minutes. Now there is smoke inside the car. I dropped the propane tank in the snow and applied the pliers. I must have dozed during Mechanical Physics as well. Pliers can have impressive torque .

So now I have a still frozen lock and a piece of metal worthy of Modern art. It’s midnight, I'm tired, I decide to take my old station wagon to Gils... but ohh its clouding over up above. I guess I could check the weather in another 2 hours, but something happened to my happy go lucky attitude that night.

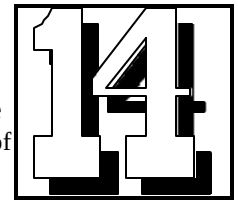
I still felt creative though. I wondered if boot dents on a car door would pass for Modern Art, and bring me fame and fortune.

I was defeated . I mumbled as I slowly walked back to my house. I couldn't phone Gil at this ngodly hour, so I E-Mailed him instead. And went to bed.

Good night

Steve Senger

In the coming year, there are a great number of things to be done around the observatory to both improve it for the use of the members and to present a great face to the community. Donations of time and materials in the coming year will be highly appreciated as we work as a society to improve the capabilities of the equipment, and increase the comfort and usability of the building overall.



PGAS CONTRIBUTORS

The PGAS would like to thank the following individuals, corporations and government agencies who, since 1991, have donated money, goods or services to the construction and operation of the Prince George Astronomical Observatory.

Ministry of Adv. Ed. Training and Tech.	$25,000
BC Science Council	16,000
BC Lotteries	3,900
Helmar Kotsch (Acme Mas.)	1,932
Northwood Pulp and Timber	1,665
Electrical Services Ltd.	1,583
Royal Bank of Canada	1,500
Regional District of Fraser-Fort George	1,000
Prince George Rotary Club	1,000
The Pas Lumber Co	750
Rustad Broth & Co Ltd	750
Canfor Polar Division	744
Bisque Software	500
Xerox Canada	500
Canfor Clear Lake	500

The greatest contributors to the construction and operation of the observatory are from PGAS members who have generously contributed their time to this project. The value of their contribution surpasses all external contributions.

The PGAS is a non-profit organization dedicated to the advancement of astronomy and science in general in Prince George and the neighboring northern communities. Donations of money or materials to the society are greatly

The P.G.A.S Would like to thank

BISQUE SOFTWARE

for their donation of

THE SKY (Level 4 software)

To The Prince George Observatory

The Prince George Astronomical Society's
New home page , is located at
http://www.pgweb.com/astronomical/
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