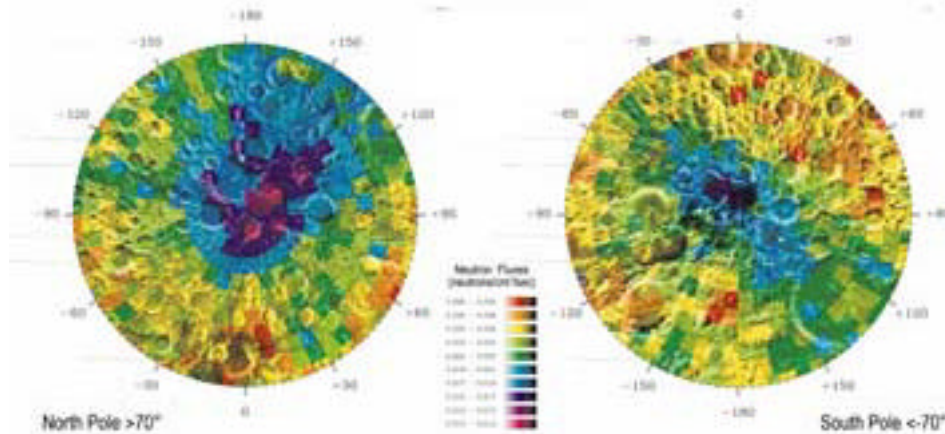




More water found on the Moon, swimming holes to follow...

September 3, 1998
David Morse NASA Ames
Research Center, Moffett
Field, CA (Phone:
650/604-4724)

RELEASE: 98-47AR
LATEST LUNAR
PROSPECTOR FINDINGS
INDICATE LARGER
AMOUNTS OF WATER ICE IN
SPECIFIC LOCATIONS



The north and south poles of the
Moon may contain up to six

billion metric tons of water ice, a more than ten-fold increase over previous estimates, according to scientists working with data from NASA's Lunar Prospector mission.

Growing evidence now suggests that water ice deposits of relatively high concentration are trapped beneath the soil in the permanently shadowed craters of both lunar polar regions. The researchers believe that alternative explanations, such as concentrations of hydrogen from the solar wind, are unlikely.

Mission scientists also report the detection of strong, localized, lunar magnetic fields; delineation of new mass concentrations on the lunar surface; and, the mapping of the global distribution of major rock types, key resources and trace elements. In addition, there are strong suggestions that the Moon has a small, iron-rich core. The new findings are published in the September 4 issue of Science magazine.

"Subsequent analysis, combined with improved lunar models, shows conclusively that there is hydrogen at the Moon's poles," Binder said. "Though other explanations are possible, we interpret the data to mean that significant quantities of water ice are located in permanently shadowed craters in both lunar polar regions.

"The data do not tell us definitively the form of the water ice," Binder added. "However, if the main source is cometary impacts, as most scientists believe, our expectation is that we have areas at both poles with layers of near-pure water ice." In fact, the new analysis "indicates the presence of discrete, confined, near-pure water ice deposits buried beneath as much as 18 inches (40 centimeters) of dry regolith, with the water signature being 15 percent stronger at the Moon's north pole than at the south."

How much water do scientists believe they have found? "It is difficult to develop a numerical estimate," said Dr. William Feldman, co-investigator and spectrometer specialist at the Department of Energy's Los Alamos National Laboratory, NM. "However, we calculate that each polar region may contain as much as three billion metric tons of water ice."

Further information about Lunar Prospector, its science data return, and relevant charts and graphics can be found on the project website at:

<http://lunar.arc.nasa.gov/>



The Centre

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

Newsletter Submission Info: The deadline is the Friday before regular meetings in odd numbered months. The preferred method is E-MAIL, then disk, lastly paper
E-mail: <kell(at)cliff(dot)path(dot)queensu(dot)ca> Fax: 1-613-545-2907 (with cover page to Kevin Kell) Post: Box 2033 Kingston Ontario K7L5J8 Canada
ascii or most major word processors (WP6.1 for windows preferred) via E-mail or 3.5" DOS floppy disk

Our Web page can be found at:
<http://www.rasc.ca/kingston>

Officers and Executive Council

President: Peggy Hurley

Vice President: Bill Broderick

Secretary: Laura Gagné

Treasurer: John Hurley

Editor: Kevin Kell

National Council Rep: Susan Gagnon

Librarian: Brenda Shaw

Honorary President: David Levy

Committee Chairs:

Observing Group: Tom Dean

ATM Group: Tom Dean

Youth Group: Brenda Shaw & Laura Gagné

To Send E-mail to all members of the Kingston Executive, address it to: <rascexec@cliff.path.queensu.ca>

To join the National E-mail List, send a message to:

<listserver@astrotech.stmarys.ca>

In the body of the message put:

subscribe raslist Your Name (Center)

Centre Location: RASC - Kingston Centre, PO Box 1793, Kingston, Ontario K7L 5J6 Canada

Upcoming Meetings



1998

Friday September 11th
Members Night (bring out your slides, displays, etc)

Friday October 2nd*
TBA

Friday November 13th
Annual General Meeting & Elections

Friday December 11th
TBA

* special meeting dates one week early due to holiday Fridays

Regular Meetings of the Kingston Centre are held on the 2nd Friday of each month (unless noted otherwise) at 20:00 local time in **Room B-201, Mackintosh-Corry Hall** at Queen's University (parking available off Union Street at Frontenac).

Regulus is published 6 times per year. Views and opinions expressed herein do not necessarily reflect the official position of the Royal Astronomical Society of Canada or its officers and members.

Subscriptions: Members of the Kingston Centre receive Regulus as a benefit of membership.

Advertisements are free to members of the Centre. Commercial advertising is \$25 per half page, \$50 for full page and must be camera ready copy.

Contributions are more than welcome. Submitted material may be edited for brevity or clarity. Copyright 1998. All rights reserved. Permission is granted to other publications of a similar nature to print material from Regulus provided that full credit is given to the author and to Regulus.



From The Editor

Changes/corrections of address received (I pass any I receive on to the Centre Treasurer who passes them on to UTP) since the master January list was published:

Donald Cropp has moved from Kingston to Peterborough
Paul Winkler has sent in a new email address:

<xxx@xx.xxxx.xxx>

Welcome Paul Bowman, a new member from Arden, On.

What a **busy summer**... August especially with 2 large BBQ events, Starfest, Charleston Lake... phew! It will be nice to sit down and do some serious telescope making (I am working on my 18cm). Membership handling changes are in the works as UTP will be ending it's management contract with us at the end of the year... it can only get better!

Missing members: A *lot* of people tend to move but we haven't received yet through any channel your new address. If you are or know of: Gordon Francis, John Brooks, James Temple, Kinchen Searcy or Martin McConnell, please contact us.

1998 has been a **great year** for the Centre with a *lot* more public activity. I can't say this has yet translated into more than a few members but we will keep working on it. The survey has resulted in 8 returns. Most of these from local folks who I have arm twisted into returning. Such a low return in my opinion doesn't warrant even summarizing the results. Now we will have to come up with another mechanism for gauging preferences and opinions. Membership Renewals have recently arrived from UTP, as well as the Journal and Skynews.

Elections are coming up in November. Please consider serving! Job descriptions are available in the Centre's bylaws, which everyone should have received a copy of when they joined and/or when it was last revised. There is a copy on the web site as well:

<http://www1.kingston.net/~rasc/bylaws97.htm>

Congratulations to Centre member Bob Gent who was elected Vice President of the Astronomical League.

Additions to the Web site now include:

We had a short interruption on the secondary web server as its hard drive died and the data recovery process took longer than first thought. Everything should be back up and running by the time you read this.

From The Secretary

Subject: minutes of July 10, 1998 called to order 8:08pm

Library report

The library bookcase is empty for inventory. Brenda advised everyone to stay away from the empty case as it has a tendency to fall over without the weight of books in it.

Observers' group

The meetings of the observers group are listed in the Regulus. The July meeting is at the home of Tessa Clarke. August will be at the home of Mark Kaye. September will be at the home of Steve Manders.

ATM (amateur telescope makers' group)

Polishing is done on the 8" mirror. The next step will be the figuring (shaping the curve exactly). This will be done each Saturday until Starfest so that the mirror can be taken to Toronto to be silvered. The Fitzgerald scope now has an easy-finder (like a telrad), thanks to Tom Dean.

National Council Rep

Our bylaw amendment was not on the agenda at the GA and Michael Watson was not present at the meeting. Sue will be contacting him personally and she will try to get things moving along. University of Toronto Press no longer wants to handle our memberships. Renewal forms should be coming out soon, but this will be the last time U of T Press does anything with memberships. They will continue to print the Journals and Calendars.

Youth Group

The next meeting of the Youth group will be a trip to Holleford Crater and the Miller Museum of Geology. Leo Enright will give the crater tour. The August meeting will be a mini-starfest held at Rotary Park. All centre members are welcome to join us. We will do some telescope making, games and have a BBQ in the park. After dark we will show the kids the universe through our telescopes. If you and your telescope (or just you) will be available, please contact Laura Gagne.

Grass Creek Park

The centre will have a display at the "Sky is the Limit" festival for the Ontario March of Dimes on Saturday, July 18th. There will be a mirror grinding display as well as telescopes with solar filters.

ATTENTION ATTENTION ATTENTION

Centre member Gerald Moriarty-Schieven in Hawaii was



part of a team that discovered a "Kuiper belt" surrounding the star Epsilon Eridani. For Star Trek fans, this is where the planet Vulcan is supposed to be. We are all VERY excited!!! For more information check the website <http://www.jach.hawaii.edu/-gms/kbelt.html>

Centre Telephone number

Kevin Kell proposed that the centre use one of the phone lines at his home to hook up a centre computer operated phone service. This would enable people to call the centre for information. He also suggested we consider having "business cards" made up with the centre address, phone number and e-mail on them. With all of the recent public education, it would be a good thing to have on hand.

Speaker

Laura Gagne spoke about Black Holes, Wormholes and Timetravel. Since the speaker is yours truly, I will refrain from comment.

Slides

Mark Kaye showed some slides he took at the GA. It looks like it was a good time. He showed some shots of Jack Newton's observatory in Sooke, BC. There are Universities that would love to have his equipment!!!!

Doug showed some slides he had been saving in his camera of the eclipse cruise and the recent (in geological terms) conjunction of the planets and the crescent moon.

meeting adjourned 10:10 pm

August "minutes"

The August meeting of the centre was held at the observatory of member Mark Kaye on the shores of Loughborough Lake. Several members turned out for a wonderful BBQ and social event. Tom Dean showed us a video he had made of the testing of the new mirror for our third club telescope.

Having looked at the test live on the knife edge, I can assure you that taking a video and having it turn out is no small feat! After the telescopes were set up, everyone retired to the basement to see some very impressive slides (as usual). Mark showed interested people his new telescope mount design that keeps the eyepiece at the same level regardless of where the telescope is pointing. For those of us in the petite category this is a bonus with larger aperture Newtonians! Little meetings broke out for the upcoming Youth Group BBQ event and Starfest travel arrangements were made. After dark Mark set up his CCD imaging system and treated us to a look at the ring nebula, as well as a few other neat,

far-away things. There was a haze that turned very quickly into a thunderstorm. Thankfully we managed to get all of the telescopes put away (and Mark's computer) before the rain! See you all at next year's Markfest! Many, many thanks go to Mark and Linda for their outstanding hospitality!!!

Youth Group News

The centre Youth Group meets regularly on the last Saturday of each month. During the summer months our attendance has been down; membership composed mainly of high school or senior elementary school children. In June Martin Duncan talked to us about his work as a planetary scientist and Leo Enright taught us how to observe. We gave every youth their own personal copy of the Beginner's Observing Guide, many of which I have seen returning for observing sessions! In July Leo Enright gave us a guided tour of the Holleford Crater after we visited the Miller Museum of Geology and spoke with geologist Mark Badham. August was an experimental event. We twinned with the centre to hold a huge "funfest" BBQ, astronomy fun day with observing in the evening. We had 50 people sign up at registration, but there were many more who just came to look through the telescopes at the sun, moon and venus in the daytime and many things in the evening. There are many beautiful stories about reaching out to people, but the most touching of all belongs to Hank Bartlett (the master of touching hearts with astronomy). A little boy about 2 years old was looking through Hank's telescope at the moon. Hank saw the image of the moon cross the child's face until it entered his eye. Then the little boy cried "the moooon!". Many, many thanks go out to Gary Hay and Sylvain Gagne who cooked the food, Kim Hay, Kevin Kell, Tom Dean, Hank Bartlett, Peggy and John Hurley, Vic Smida, Doug and Kendra Angle, Mary Shaw, and all who helped make this event a tremendous success. Also a HUGE thank you to Terry Dickinson who generously donated a pre-release copy of his brand new "Night Watch". The next meeting of the youth group will be Saturday, Sept 26th in room 101 of the Forde Building, CFB Kingston. We will be discussing the Search for Extraterrestrial Intelligence. There will be a teleconference with Dr. Jill Tarter of the SETI institute.

Submitted by Laura Gagne

So far, the Youth Astronomy Group has been a roaring success. I'm not sure exactly of the numbers, but we've been averaging around 20 or 30 students at every meeting. Obviously Kingston has a need for this kind of club. I always thought this city had a particularly high percentage of people



with an interest in astronomy-- people who are not active amateur astronomers, but who nevertheless are aware that the science can be enjoyed as a hobby (I attribute this to the fact that one of our local-heroes is a famous astronomy writer). Whatever the reason, it has become clear to me that these people often only need a little push in the right direction to become truly serious about astronomy. The youth group seems to be doing just that, for adults as well as kids, since many of the students bring their parents to meetings with them.

If anyone's wondering exactly what we've been doing on the last Saturday of every month since early Spring, here's a sample. We learned how to recognize constellations and observe sunspots, and looked at how a telescope is put together; we designed a lunar colony complex and landing modules for interplanetary probes; we talked to a university professor, an astrophotographer, a representative from Students for the Exploration and Development of Space (SEDS), and aforementioned famous astronomy writer Terence Dickinson; and we did a lot more than that, more than I can list here.

September's meeting will be all about the ongoing search for extraterrestrial intelligence (SETI). In October we'll be looking at astronomy through the eyes of ancient civilizations. November will feature a trip to the National Museum of Science and Technology in Ottawa. After that, maybe we'll go where no one has gone before, or to infinity and beyond-- but wherever we go, we're going to have fun.
Submitted by Brenda Shaw

Observing Group News

1998 Observing Schedule

1998 Saturday September 19:

Meet at the home of Stephen Manders
From Sydenham Road and Highway
401 Head North on Sydenham Road
past Elginburg and past Loberough
Lake. Xxxx



1998 October TO BE ANNOUNCED

ATM Group News

The 8"(x2.54=20.3 cm) mirror has been declared figured and will be shipped off for coating as we speak.

STARFEST BRING HOME THE BACON AWARD

The Starfest Bring Home the Bacon Award will be awarded to the next Canadian amateur astronomer or group of Canadian amateur astronomers to make an astronomical discovery, such as a near earth asteroid, comet, nova, SUPERNOVA. This discovery must be announced by and authenticated by a recognized authority such as the International Astronomical Union.

In keeping with the spirit of Starfest the award will consist of:

- 500 Loonies
- a pound of back bacon
- a toque

National News

The next National Council Meeting will take place on Saturday, November 7, 1998 in the Meeting Room of the Montreal Planetarium.

The meeting will start at 12:00 pm and run until 5:00 pm. The meeting will reconvene Sunday morning from 9:00 to 12:00 noon. The reason for splitting the meeting into two will allow time for travel to the meeting in the morning for those in the eastern half of the country. In addition, the Montreal Centre is planning a special program for Saturday night.

GA '98 Report (National Rep)

Well, summer is coming to an end but cool, clear, bugless nights that start at a respectable hour are not a bad thing! A major event for me this summer was the GA in B.C. It was my second GA and my first as your national rep. The setting was the southern shore of Vancouver Island on Pedder Bay. The facility was the Lester B. Pearson College of the Pacific and our hosts were the Victoria Centre members. The setting was beautiful, the weather perfect and the GA ran very smoothly.

The paper sessions were varied and well presented with no time or desire to nap. The guest speakers list included:

Helen Sawyer Hogg Memorial Lecture



Dr. David Crampton ("Exploring the Frontiers of the Universe with New Eyes", Earth bound scopes deliver Hubble quality views.). Dr. Crampton is the leader of the Instrumentation Group at the NRC's Dominion Astrophysical Observatory.

Banquet Speaker

Douglas B George ("Adventures in Astronomy", memorable voyages experienced in the pursuit of astronomy.) Doug is our well known Past-President of RASC.

1998 CASCA/RASC Plaskett Gold Medal Winner

Dr. Dean E. McLaughlin ("Star Formation in Molecular Clouds and Globular Clusters"). Dr. McLaughlin is currently the Hubble Fellow at the University of California at Berkeley.

Dr. Geoffrey W. Marcy ("Extra Solar Planets", we were treated to a sneak preview of research paper to be presented the following week which gave evidence of a newly discovered planet). Dr. Marcy is a Professor at SFSU and Berkeley.

Dr. Jeremy Tatum ("Deep Space Tracking Technology and the Near-Earth Object Problem"). Dr. Tatum is a professor at the University of Victoria.

Jack B. Newton ("Astrophotography- The State of the Art." nuff said, you know it was good!) Jack has now retired from his day job and will be working on establishing his and Alice's reputation as B and B hosts with an astronomical twist.

This was heady stuff, but there was business to take care of...as Elvis would want.

The meetings (3) were all interesting(?) and I was ever vigilant to pick out the gems that you would all find most interesting/relevant.

Council Meeting highlights

The contract with the University of Toronto Press is to be terminated by them. Randy Attwood reports that the UTP says they are losing money, RASC members complain too much, and membership turnover is too high. They wanted to raise the fees, but that is contrary to the contract and RASC says no. Complaints about UTP handling, have not been just from the general membership, but they have been from museums trying to get Observer's Handbooks. Who will do membership? It will be done in-house after the contract runs its course. Jobs which the U of T Press

maintain, will be printing of the Journal, the Handbook, and the calendar. Messier certificates: Names include our David Pianosi. Certificate has been sent along to Peggy for signing. Treasurer's Report - Rajiv Gupta Nice surprise! There is a non-profit organization named CanCopy which makes random 8-10 week audit of a handful of schools' photocopying. They charge \$7.00 per copy to the school for Canadian publications photocopied and direct those funds to the copyright owner. This year, we received an unexpected revenue of over \$15,000. Special Project Grant to Niagara Centre There was a motion that a grant \$3,000 be awarded to the Niagara Centre to assist in the completion of its Chippewa Creek Observatory. Details on file.

A motion was presented and carried: That Council commends UTP for its diligent and conscientious printing of the 1998 and 1999 RASC Observer's Calendars and that a letter of commendation be sent to UTP expressing the Society's appreciation.

UTP submitted the 1998 edition of the Calendar in the Ontario Printing and Imaging Association's 1998 competition and this entry won the calendar category.

Rajiv Gupta made great efforts to distinguish between the efforts of UTP's printing and the difficulties experienced with membership. Other Standing Committee Reports Awards The big issue was the Simon Newcomb Award. Proposed revision on file. There has been a problem in the past in deciding who is eligible with regard to previously-published material. The revision opens with this paragraph:

The Simon Newcomb Award is intended to encourage members of the RASC to write on the topic of astronomy for the Society or the general public, and to recognize the best published works through an annual award.

Constitution - Michael Watson

No Report. No Michael Watson! Kingston has an outstanding issue with the constitution committee concerning obtaining the OK for bylaw changes which will allow us to do our own charitable donation receipts. We really need an answer one way or the other. Special Committees Computer Use - David Lane David needs someone to take over the National Website - he does not have the time to maintain it as he feels necessary. Youth Membership Items referred to committee: membership fee, materials to be received, SkyNews/Journal or a youth publication (?), creation of a youth members' handbook. GA 2000 At the University of Manitoba, Winnipeg: Friday-Monday,



inclusive.

National Committees 1998-1999

Executive Committee - Chair: Randy Attwood
 Awards Committee - Chair: Doug George
 Constitution Committee - Chair: Michael Watson
 Finance Committee - Chair: Michael Watson
 Historical Committee - Chair: Andrew Oakes
 Library Committee - Chair: Andrew Oakes
 Membership and Promotion Committee - Chair: Don Hladiuk
 Nominating Committee - Chair: Doug George
 Property Committee - Chair: Bob May
 Publications Committee - Chair: Bob Garrison
 Astronomy Day Committee - Chair: Scott Young
 Special Committees:
 Computer Use Committee - Chair: David Lane
 Light Pollution Abatement Committee - Chair: Rob Dick
 Long Range Planning Committee - defunct
 Observing Certificate Committee - Chair: Richard Wagner

If you have an interest in being involved in any of these committees, you do not have to be a member of national council to contribute or be on a committee.

GA 1998 - GENERAL MEMBERSHIP MEETING

The agenda is on file and many of the reports have been covered in the National Council Meeting Minutes. The only significant addition to this is an item brought up by the Observer's Handbook Editor, Dr. Roy Bishop.

Dr. Bishop feels that everyone should be aware of how much Handbook revenue subsidizes membership fees. He feels that RASC Membership Fees should reflect the cost of being a member. This would mean an increase in fees by \$20-\$25 at the National level. This issue was presented for discussion, not as a motion, and I'm sure it will come up in future meetings. (In a related Banquet discussion, a member of the National Executive suggested that to increase Membership Fees to free up Handbook revenue - only to have it go into surplus - would be unjustified. If, however, there was a definite plan for the use of the money - that would be a different matter).

1999 - Toronto GA will run July 01 to July 04, but will be run in conjunction with the Astronomical Society of the Pacific, and the American Association of Variable Star Observers. That entire event will run from July 01 to July 07. Information on file for those interested. I highly recommend

going to a GA. If you have ever wondered how the society is run, general members can sit in to observe the national council meetings.

BBS News

The following Kingston BBS's are RASC support boards: *Observatory East (Mark Kaye) 613-353-6495 FidoNet 1:249/109 2400-28800 bps 8N1V.34
 * StarStream (Kevin Kell) 613-546-6403 FidoNet 1:249/112 14400-28800 bps 8N1V.34
 * Moonlight Cascade (Kim Hay) 613-353-7369 FidoNet 1:249/133 2400-28800 bps 8N1V.FC

Fireball Group Submitted by Tom Dean

Fireball Report Line: 545-6000 ext xxxx.
 Fireball Web reporting form:
<http://www.astro.queensu.ca/~irwin/fireballs/fbhome.html>

Space Calendar

The Space Calendar covers space-related for the coming months. This Calendar is compiled and maintained by Ron Baalke. Please send any updates or corrections to [<baalke\(at\)kelvin\(dot\)jpl\(dot\)nasa\(dot\)gov>](mailto:baalke(at)kelvin(dot)jpl(dot)nasa(dot)gov) You can find this on the web at:
<http://newproducts.jpl.nasa.gov/calendar>

Last Updated Wednesday, September 02, 1998 at 08:40 AM

September 1998

Sep 11 - Mercury Passes 0.3 Degrees From Venus
 Sep 12 - Moon Occults Aldebaran
 Sep 16 - Jupiter at Opposition
 Sep 16 - Asteroid 2 Pallas at Opposition (8.2 Magnitude)
 Sep 16-20 - Alberta Star Party, Caroline, Canada
 Sep 19 - Moon Occults Venus
 Sep 20 - Moon Occults Mercury
 Sep 27 - Comet Howell Perihelion (1.406 AU)

October 1998

Oct 04 - Moon Occults Jupiter
 Oct 09 - Draconids Meteor Shower Peak
 Oct 10 - Comet McNaught-Hughes Closest Approach to Earth (1.707 AU)
 Oct 15 - Deep Space 1 Delta Launch (Asteroid Flyby Mission)
 Oct 16 - Moon Occults Mars
 Oct 21 - Orionids Meteor Shower Peak



Oct 23 - Saturn at Opposition
 Oct 25 - Daylight Savings - Set Clock Back 1 Hour
 Oct 31 - Moon Occults Jupiter

November 1998

Nov 03 - Taurids Meteor Shower Peak
 Nov 08 - Asteroid 4055 Magellan Closest Approach to Earth (0.983 AU)
 Nov 11 - Mercury Greatest Eastern Elongation (22 Degrees)

Submissions from Members

OBSERVING VARIABLE STARS DOWN UNDER

By Ray Berg, Crown Point, Indiana, <xxx@xxx.xxx>

In addition to the wonderful day-time adventure exploring the Henbury meteor crater site near Alice Springs, Australia (Regulus May/June 1998), much of our month long journey in the southern hemisphere was spent observing the night sky wonders. Telescopes with apertures up to 350 mm were available in both Australia and New Zealand and at times, sweeps with 10X50 binoculars were extremely rewarding. Although my wife, Lois, and I observe all things astronomical, my main passion is monitoring variable stars, and I included this facet in our southern sky exploring. This report describes a few of the more interesting variable stars encountered Down Under during March, 1998.

ETA CARINAE - This bright orange nova-like star has erupted at least twice in the last century but remains more recently at a quiescent magnitude 5.7. I kept a wary eye on it every clear night, hoping to catch a new outburst (that never came) and to enjoy the magnificent diffuse nebula that it is buried in. The Key-Hole nebula is beautiful beyond description, with numerous dark lanes twisting through and around bright luminous islands of glowing nebulosity. Within this immense gaseous complex, I found the two small open clusters Trumpler 14 and Trumpler 16 and a number of delicate double stars. Three other less impressive variable stars are located at the edges of the nebula and these were checked once a week as well.

VW HYDRI - A dwarf nova that is very popular with southern hemisphere observers, this star normally sits quietly at 14th magnitude for a few weeks, then suddenly erupts overnight to the 8th magnitude. This is followed by a slow decline over a week's time. The frequency of these outbursts is roughly 27 days but this period is highly variable and unpredictable. We were fortunate to catch VW Hydri in maximum outburst while observing from Coonabarabran,

Australia towards the end of March.

W MENSAE - Here we had the unusual opportunity of estimating a variable star within another galaxy. Located in the Large Magellanic Cloud, W Mensae is a R CrB-type star that acts just the opposite of a nova. It shines at its maximum brightness for months, even years on end and then suddenly fades to less than magnitude 18 before slowly recovering over a many week period. When we observed it, the star was blissfully shining at its maximum brightness, which at a distance of 50,000 parsecs from our telescope, was magnitude 13.5.

R OCTANTIS - This is a Mira star or long period pulsating variable star that ranges from magnitude 7.9 to 12.4 over a 405 day period. We caught it midway in brightness, at magnitude 9.7. The main point of interest in this circumpolar star was that it is so far south, being at Declination -86 degrees, or only 4 degrees from the South Celestial Pole.

N SGR 98 - This nova had not yet erupted while we were studying deep sky objects in the Sagittarius region in New Zealand. Immediately upon arriving in Australia, we learned of the outburst which had just occurred, and on the first clear night, estimated its brightness at magnitude 9.0. Incidentally, this part of the sky is nearly overhead in that locale, and on a dark evening, the true nature of the Milky Way as a galaxy begins to become quite evident, with spiral arms extending out in two directions from the enlarged hub formed around Sagittarius. This is truly a wonderful location to contemplate the universe!

The Early Eye Catches The Sky

by E. Kliptic

And so it was at Starfest '98, the first representative of the Kingston Centre arrived at 3:00 p.m. Wednesday and claimed the '97 site and then some. As other members arrived tents, tables and vehicles were spread far and wide in anticipation of a large RASC K. C. turn out.

Those who were able to arrive on Wednesday were well rewarded as this was the only CLEAR night and one of the best that yours truly has observed under. Unfortunately by about 1:30 a.m. the long drive and set-up had taken its toll and we hit the sleeping bags early (and gladly as it was a cool 4c).



Thursday morning was back up to 14c and it never looked back all weekend. Registration began at 10:00 a.m., with Rasc's mole working the inside we all went to Kim in hopes of preferential treatment, however we now are even more confused about where her loyalty lay (no free T-shirts). The day was filled with solar observing, tracking Venus and making last minute trips to Mt. Forest for supplies (animal, vegetable, mineral and liquid). As other RASCals arrived we all helped set up, and filled in our boundary gaps with tents. Thursday night was for observing stars of another type, Bond, James Bond, in Tomorrow Never Dies on DVD (courtesy of the K. Kell lawn chair theatre). The clouds stayed and even a few drops fell forcing us to erect a makeshift tent over the computer with tripods and tarps. The movie was interrupted twice, once for the drops and once when there was a hint of clearing skies, both turned out to be only a tease. By midnight it was red flashers off and into the tents for those who could still find them on their own.

Friday, let the games begin! We hit the \$5.00 buffet (all you can eat) breakfast early and prepared our minds for the days talks and commercial exhibits. It was a tough choice, be kind to your friends by showering first, or eat first and endure the 20 - 30 minute wait in the shower line-up. Either way the new breakfast was a great success and was filling enough to forego a formal lunch. Of course there was the standard trip to town for supplies(?). Dinners are quite a pot luck affair ranging from hot dogs to dehydrated shrimp and rice, self heating shepherd's pie, beefaroni, cold salads, assorted bagels, and fries, a real culinary, uh, experience(?) (well, no one got sick). Friday nights observing was plagued with hazy cloud moving in and out and distant lightning. Astrophotography was definitely out of the question. Hoping for a better Saturday we retired shortly after midnight. Rumour has it that two members of the party awoke about 4:00 a.m. to really decent skies and spent an hour and a half laying in their boats waiting for Mars and Venus to rise. This is of course rumour and speculation, as the rest of the crew would lynch anyone who did this and did not wake all others. All I can say is the silence (broken by the occasional snore) was as golden as the stars.

The big day arrived and the usual morning drill of showers and buffet ensued. The day was full of excellent talks and the swap table/commercial exhibits drew a large crowd. There was of course the usual trip to town and the afternoon siesta/rascchat session under the Kell canopy. Before we knew it the line was forming for the banquet dinner, a formal(?) affair for which some of us dressed appropriately. The dinner consisted of the familiar roast beast and chicken parmesan, not forgetting the pecan pie.

An added treat this year was the Cerovalo Food Fight, yours truly was struck by a couple of meteor size peas. In retaliation an asteroid size piece of cucumber (avec oil & vinegar) was launched and Mr. C. was slimed in the neck, just before his own table mates upped the ante (and ended the battle) by impacting him with a piece of SL-9 cream pie. With the dinner and excitement now over, we left the tent to make sacrifices to the sky gods. Meanwhile the seating was rearranged for the draws and our guest speaker Mr. Leif Robinson, editor of Sky and Telescope. The draws consisted of about thirty prizes (my estimate) and one hundred give away posters of Hale-Bopp, out of the almost one thousand names in the draw box, Kingston members (or family) took about five prizes. With the evening sky not looking promising Mr. Robinson went a little longer than planned, but no one seemed to mind, his talk was very enthusiastic and inspiring. It is truly amazing the opportunities that the amateur astronomer has today to work with the professionals and aid them in their research, sometimes even eclipsing their work with meager (in comparison) equipment. The formalities of Starfest '98 had now drawn to a close, all the thankyou's had been said and Andreas announced the surpassing of the 1,000 registration mark. Starfest '99 was announced to be in July due to the August solar eclipse in Europe.

With thick cloud overhead our last night together became a social one (I guess the sacrifices will have to be more than token next year, any volunteers?). The key word by the night end was shhh!, shhh! (sorry inside joke), with a little luck that night will be forgotten and we will be allowed to register next year. Over-all Starfest '98 was the usual success, highlights (besides the scheduled events) included - the opportunity to observe through a 635mm obsession, seeing a wide range of telescope designs (helpful if considering building your own), viewing the sun through a hydrogen-alpha filter and seeing the prominences, and meeting and partying with a wide range of fellow amateur astronomers, from across this country and others.

In closing I would like to give you one bit of advice for Starfest '99, **be there!**

Share the view!



News from the Net

Headlines from The Space Telescope Science Institute at:
<http://opposite.stsci.edu/pubinfo/whats-new.html>

What's New in the Universe of the Hubble Space Telescope as of August 27, 1998

Far-Flung Galaxy Clusters May Reveal Fate of Universe (STScI-PR98-27)

A survey of galaxy clusters by NASA's Hubble Space Telescope has found what could be some of the most distant clusters ever seen. If the distances and masses of the clusters are confirmed by ground-based telescopes, the survey may hold clues to how galaxies quickly formed into massive large-scale structures after the Big Bang, and what that may mean for the eventual fate of the universe.

Distant Heavyweight Galaxy Cluster Clobbers Dense-Universe Theory

A Space Telescope Science Institute astronomer has found the equivalent of the proverbial 900-pound gorilla in deep space. The "gorilla" is an extremely massive cluster of galaxies - the weight of several thousand of our Milky Ways - that existed when the universe was half its present age.

Nearby Massive Star Cluster Yields Insights Into Early Universe

A NASA Hubble Space Telescope "family portrait" of young, ultra-bright stars nested in their embryonic cloud of glowing gases. The celestial maternity ward, called N81, is located 200,000 light-years away in the Small Magellanic Cloud (SMC), a small irregular satellite galaxy of our Milky Way.

Hubble Space Telescope Helps Find Evidence that Neptune's Largest Moon is Warming Up

Observations obtained by NASA's Hubble Space Telescope and ground-based instruments reveal that Neptune's largest moon, Triton, seems to have heated up significantly since the Voyager spacecraft visited it in 1989.

Hubble Uncovers Dust Disk Around a Massive Black Hole

Resembling a gigantic hubcap in space, a 3,700 light-year-diameter dust disk encircles a 300 million solar-mass black hole in the center of the elliptical galaxy NGC 7052.

Mars Global Surveyor Flight Status Report Friday, 28 August 1998

A major milestone was reached on August 18th as the flight team celebrated Surveyor's 500th orbit around Mars. As of today, the spacecraft has completed 520 orbits and continues to transmit nearly 500 megabits of science data per day back to the Earth. Since the beginning of the summer-long science collection period at the end of May, nearly 200 orbits worth of data have been collected by Surveyor's instruments.

September 4, 1998

NASA ACCEPTS "KEYS" TO FIRST U.S.-BUILT STATION COMPONENT

The Unity connecting module, the first U.S.-built component of the International Space Station, moved a step closer to orbit this week when Boeing, the manufacturer of Unity, officially handed over the module's "keys" to NASA.

NASA officially accepted the module after review and certification of Unity's construction by NASA and Boeing station managers at NASA's Kennedy Space Center, FL. Unity is scheduled for launch aboard Space Shuttle Endeavour on the STS-88 mission on Dec. 3. Unity will be launched two weeks after the first station component, the U.S.-funded, Russian-built Zarya module, from the Baikonur Cosmodrome in Kazakstan. Unity will be mated to Zarya by Endeavour's astronauts to begin the five-year orbital assembly of the International Space Station.