

NOVAC

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Observing from Australia: The 9th Annual South Pacific Star Party

By Barry Wolfe

In the February, 1999 issue of *Sky and Telescope* magazine, Greg Bryant published an article entitled "Astronomy Under the Southern Cross". In the article Greg described several activities of his club, The Astronomical Society of New South Wales (ASNSW), based in Sydney, Australia.

The ASNSW is the largest and most active club in the southern hemisphere with several hundred members and two permanent dark sky sites. Since 1993 the ASNSW annually has put on a premiere star party called the South Pacific Star Party (SPSP).

In his article, Greg describes the site, called Wiruna (aboriginal for 'sunset'), at which the annual party is held. Wiruna is a 107 acre site 200 km northwest of Sydney situated at an elevation of 3300 feet. There are several permanent buildings that include a roll-off observatory for a 17-inch Dobsonian telescope, a large room for talks, as well as hot showers and flush toilets to civilize camping. He invited all readers to attend the upcoming SPSP and described some of the showboat objects that can only be seen from southern latitudes such as the Magellenic Clouds, Omega Centauri, 47 Tucanae, the Eta Carinae Nebula, and many others.

Near the end of his article in *Sky and Telescope*, Greg quoted William Liller who wrote "If you don't plan to travel to southern latitudes, I offer you my sincere condolences..." This was the impetus to begin planning my trip to Down Under.

To do justice to the wonderful objects in the southern hemisphere and to have the freedom to observe when and what I wished, I felt the need to bring a good telescope. The project began by calling American Airlines to determine how many frequent flyer miles it takes for a free ticket to Sydney and to find out the size limits of carry-on baggage. The answers were: 60,000 miles and 13x5x23 inches. I calculated that the required miles would be accumulated by summer 2000 and that 12½-inches was the maximum size mirror that could be carried onto the plane. Thus, I determined to go to the SPSP in March 2001 and to construct and bring a 12½-inch Dobsonian reflector with me.

Beginning the project in the spring of 1999 provided enough time to learn many telescope-making techniques and to make numerous mistakes and to go down several blind alleys.

MESSAGE FROM THE PRESIDENT

Lend a hand to new astronomers

By Ed Karch

I am sitting here on a new moon weekend listening to the thunderstorms roll by. We are in a gap between the pleasant spring viewing and the pleasant fall viewing. Summer here is not good for astronomy. When it is not storming it is



President Karch

oppressive with humidity that you can physically see in the daytime and can't see through at night. We can look forward to fall and winter when the air can be clear and crisp. Keep an eye on the weather report and there might be an occasional small break, but I will guarantee it won't be on a weekend.

Last week I was at Mickey with a bunch of other nomads, selfishly trucking through a rather boring batch of NGC open clusters on the deep sky binocular list. There were some less experienced nomads nearby that had discovered Sagittarius. Alan Figgatt went over and gave them a hand in identifying what they were seeing for the first time. There were oohs and aahs as each new treasure was discovered. The excitement was contagious and I left the list to join them on their voyage of discovery through the teapot. If you want to relive the joy of discovery, join up with less experienced observers and give them a hand. If we need some more experience observers in the club, this is how we can get them. Experienced observers aren't born that way it is only through time at the eyepiece that experience is gained. *

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Starting Out Right: Choose a good Sky Atlas

By Rob Lentini

When the gift of a telescope got me started in astronomy, it took me very little time to realize I was lost amongst the stars. I was fortunate enough to begin with a copy of *Turn Left At Orion*, a guide to worthwhile targets for small telescopes that doesn't require that you know stars and constellations. As the brighter stars became familiar sights, a Rand McNally Star Finder was a nice complement to the book, allowing me to investigate how the constellations were arranged across the sky. Mine shows stars down to 4th and 5th magnitude.

At some point I realized I was ready for a star atlas. Finding all of the Messier objects would require a fairly good one. Wil Tirion has had a hand in publishing a variety of popular atlases, including *The Bright Star Atlas*, *The Cambridge Star Atlas*, *Uranometria 2000.0*, and *Sky Atlas 2000.0*.

Just a side note: There was some discussion on the NOVAC listserv about the plural of atlas. Atli or Atlases or Atles? Someone found a reference to the plural of Atlas being Atlantes. Atlas was the name of a Titan who was condemned to hold the sky on his shoulders for all eternity (the ancient Greek answer to why the sky doesn't fall). Greek architects occasionally used sculpted male figures in place of columns for support, and the Latin plural of Atlas is Atlantes. So you could say, "Look at those anatomically correct Atlantes holding up that entablature!" Female figures used for the same purpose are caryatids, by the way. However, if we're just talking about a collection of maps, www.dictionary.com indicates the plural is simply atlases.

Tirion's atlases are oriented for different levels of users. Oriented for the beginner and "as a handy reference for the more advanced amateur," *The Bright Star Atlas* is a wide field atlas of 10 charts showing the 9,096 stars comprising the Yale Bright Star Catalog and including 600 deep sky objects.

Slightly more advanced is *The Cambridge Star Atlas 2000.0* has 20 charts with 9,500 stars down to magnitude 6.5 and 866 non-stellar objects. The charts are arranged by month and have reference pages opposite each chart.

For the experienced amateur, Tirion, Barry Rappaport and George Lovi wrote/compiled *Uranometria 2000.0*, which displays 332,000 stars as faint as magnitude 9.5 on 259 charts, plus 10,300 deep sky objects. Now you are getting into some serious detail!

Club member Bill Burton writes about *Uranometria 2000.0*: "For a number of years, *Uranometria* has been the gold standard for star atlases for those searching for faint deep-sky objects without the benefit of "goto" computer

technology. I only have Volume I, covering the Northern Hemisphere to a declination of -6 degrees, and have never used Volume II (Southern Hemisphere) or owned Volume III (*The Deep-Sky Observer's Companion*), although I have borrowed the latter from the NOVAC library. Volume I begins with a 39-page introduction on the making of the atlas, followed by an outline of the whole history of star atlas-making, or uranography.

"Simply stated, if you're searching for deep-sky objects fainter than about 10th or 11th magnitude, *Uranometria* is a must. To me, the greatest pleasure in deep-sky observing is in searching for and finding these faint objects through star-hopping--the thrill in punching coordinates into a computerized mount, pressing a button, and waiting for the whirring noise to stop before you step up to the eyepiece is lost on me--the object was not "earned." If you're committed to the star-hopping approach, then you need a star atlas with stars at least as faint as those visible in your finder in a dark-sky location. In order to center the target object precisely in the finder, where usually it's not directly visible, you need to hop across and position your finder crosshairs between some pretty faint stars, and only *Uranometria* provides those.

"To achieve this complete coverage each plate covers a pretty small area of sky, and therefore *Uranometria* is overkill if you just want to quickly snag some Messiers and brighter NGC's on an observing night. The biggest complaint with *Uranometria* is that successive plates don't go from left to right across the sky, but rather from right to left, so that two adjoining plates are never shown together in the correct orientation in the opened atlas. This non-intuitive layout makes deep-sky hunting over an area larger than each plate more difficult; consequently the star-chart index to all of the plates is essential for efficient use of the atlas in a night's observing session. So if a decent-sized telescope, faint deep-sky objects, and star-hopping are in your future, consider *Uranometria* for your observing library."

Tirion also produced the *Sky Atlas 2000.0 2nd Edition* with Roger Sinnott, and it has 26 charts and includes about 2,700 deep sky objects amongst 81,312 stars to magnitude 8.5. A good compromise, the *Sky Atlas 2000* is one of the first "serious" sky atlases that a beginner will come across, and is the atlas that I purchased and use on a regular basis. Purchasing it is not as easy as you might expect, however, as there are several editions for various uses. If you have joined NOVAC's email listserv, you have probably witnessed more than one discussion about *Sky Atlas 2000*. I will cover the pros and cons of the various editions (field and desk, laminated and unlaminated, etc) in Starting Out

Right in the next newsletter.

Wil Tirion is not involved in every atlas project, and the classic *Norton's Star Atlas* edited by Ian Ridpath is a very popular atlas now in its nineteenth edition. It plots stars to 6th magnitude. If you aren't delving deeply into the Virgo Cluster, *Norton's* is supposedly a very well-done atlas for exploring the sky.

If you are really serious about your star maps, *Uranometria* is not the most comprehensive collection of maps of the night sky. *The Millennium Star Atlas*, produced by Michael Perryman and Roger Sinnott, Tirion's collaborator on the *Sky Atlas 2000.0*, has 1,548 charts showing tiny sections of the sky, with stars shown as dim as 11th magnitude. That comes to about 120 times as many stars as *Norton's 2000.0*, 13 times as many stars as the *Sky Atlas 2000.0*, and three times as many as *Uranometria 2000.0*! 1,058,332 stars to be exact. Now that is a serious atlas! The price tag is also serious, at about \$250 for the nicely bound set of three volumes.

Pete Johnson, our venerable ex-President and current Trustee, says the following about *The Millennium Star Atlas*: "Volume I covers 0-8 hours (right ascension), with II and III covering 8-16 and 16-24 hours respectively. They are outstanding in the detail and clarity. All galaxies are represented in their true orientation, etc. The only downside is that they are too nice to take into the field. It's like taking three volumes of the Encyclopedia Britannica out in the dew. Yea, right. But they are a definitive reference set."

Wandering around a NOVAC star party, you will notice that people aren't always using the atlases I've mentioned. Below are some reviews of other atlases and star maps used by NOVAC club members.

Will Hopkins, a new NOVAC member, uses *Astrocards*. He writes: "Having returned to astronomy after a 20-year hiatus, I quickly realized that my old Petersen's Guide was not optimized for use with my new Dob. I intended to purchase a traditional star atlas, but followed a suggestion to try *Astrocards*. I'm glad I did - these things are great.

"*Astrocards* are printed on 3x5" laminated stock and come in three sets: The Messier Objects, and two sets of deep sky objects. Each card features a small reference chart and a detailed 12x9 degree chart showing guide star and objects. Most cards highlight three objects, with other objects also shown (including galaxies down to magnitude 13.5). I've found the cards to be accurate and very easy to use with an 8x50 RA finder. The real beauty of the system is that you can take the cards right to the finder and eyepiece. I sort the cards by constellation

and NGC number, and cross-reference them to the Night Sky Observer's Guide. Highlighting key objects in light green or blue helps in navigating under red light."

NOVAC member John Deriso writes about *The Starlore Handbook - An Essential Guide to the Night Sky*: "Not essential, and not a practical field guide because the too-small colored figures will obscure the star positions in dim light. But, if you're into mythology and enjoy artists' renditions of constellations rather than just stick figures, this is a good cloudy-night reading. All the major and minor constellations are covered. It includes modern colored sketches, and a smattering of paintings from antiquity. Worthwhile to have on your bookshelf, if you like interjecting a little storyline and mythology while you're impressing neophyte visitors with your skywatching. Might make a shared observing session a little less clinical."

NOVAC member Steve Johnson uses a 1973 copy of *Atlas of the Heavens* by Antonin Becvar. He describes it as 16 charts bound together in 13" by 16.5" format. Each chart folds out to 23" by 16". The accompanying catalog is a sturdily bound book, about 9" by 12", 360 pages. Both have survived many dew-soakings, etc. very well. The stars are shown down to magnitude 7.75 or so (32,571 stars), so they do not include the entire Henry Draper catalog. The quantity of objects is plenty for me - most or all of the NGC, certainly most or all of the objects that I ever need to try to see with my 8" newtonian."

NOVAC member Michael Hubbard writes about the *Herald-Bobroff AstroAtlas*: "After having a particularly frustrating time finding M1 one night, I decided it was time to buy star charts with sufficient detail to help me find things. The feature that most interested me was its several sets of charts at different scales with increasing levels of detail and decreasing star and object magnitude. There are six series of charts with limiting stellar magnitudes ranging from 4 to 14 and non-stellar magnitudes from 12 to 15. The 94 charts of the "C" series, with stellar limiting magnitude of 9 and non-stellar magnitude of 14, is a good match for the stars visible through typical 7x50 binoculars and 8x50 finder scopes. Stars and objects are printed in black on heavy, but not completely dew-proof, white paper. The cover is laminated to resist dew. The size and weight of the atlas is large and heavy for one-handed reading."

Our distinguished newsletter editor, Mike Mills, provides this review: "Erich Karkoschka's *Observer's Sky Atlas* is a very handy book to have in one's observing library. It is a very good introductory tour guide to the 250 brightest deep sky showpieces, 250 binary stars, and 80 variable stars. It is compact and slender, at only 130 pages, and its simple star charts are accurate and very easy to read.

"Karkoschka has divided the sky into 50 regions, approximately aligned with the major constellations. Each sky region is described on two facing pages. The odd-numbered page contains a large scale constellation finder chart and smaller scale finder charts for the notable deep sky objects in that region, while each even-numbered facing page contains descriptions and data for the interesting objects shown on the charts. The constellation finder chart shows stars as faint as sixth magnitude, while the finder charts go down to ninth magnitude. I have found that the charts make it easy to star-hop to any of the listed objects using a 7x50 finder scope.

"Facing each chart page is a listing of the interesting deep sky objects that are plotted on the charts. Nebulae, galaxies, and star clusters are listed by NGC and Messier designations. Also given for each object are its constellation, visual magnitude, surface brightness, size, shape, type, distance, celestial coordinates, and a brief description of how it appears in a small telescope. Bright stars are listed with their magnitudes (visual, color, and absolute), common names, approximate distance, and celestial coordinates. Binary stars are listed with magnitudes, separations, and phase angle. Some binaries also have miniature charts showing their orbital orientations through 2020. Finally, a few variable stars are listed with brief descriptions. One very handy feature included with each object description is a finder icon: a small rectangular box with a dot placed in it that indicates where to find the object on the opposite chart page.

"The front section of the book introduces and describes many important astronomical concepts, like celestial coordinates, sidereal time, and magnitudes. Its last 12 pages make up an appendix that is full of useful information, including a calendar of astronomical events through 2018.

"Although it is not as complete as *Uranometria* or *The Deep Sky Observer's Guide*, *The Observer's Sky Atlas* contains an impressive amount of information. All 110 Messier objects are listed as well as 140 other notable deep sky objects. Most importantly, it is extremely easy to use. It is small enough to hold with one hand while standing at the eyepiece, yet the charts are detailed enough to easily find each object in a 6 or 8 inch instrument. Highly recommended, particularly for beginners."

Next time you are out observing, take a walk around the site to see what other members are bending over, peering at (without startling them!). Take some time to shop before you buy, whether you are looking for something to complement what you have or if you are looking for a more advanced observing aid. Many thanks to the members who contributed atlas comments and reviews for this article! ✨

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Making a Travel Scope

Two major resources provided the initial ideas of how such a telescope should be constructed: Ray Cash's web site (<http://members.aol.com/radcash/travelscope.htm>) describing his airline portable 13-inch Dobsonian and Dave Kriege and Richard Berry's book "The Dobsonian Telescope" which is the most valuable text anyone could have regarding telescope making. Between these two sources and helpful discussions with several club members, including Pete Johnson (who helped me cut the steel tubing for my mirror cell), I ended up finishing the scope in January 2001, with only one dark sky outing to Mickie Gordon in February before packing it up to go to Sydney in March.

The final product was a melange of compromises dictated mainly by the fact that all components except the mirror and the aluminum tubing had to collapse down into a single box to check on the plane. Thus, the upper tube assembly fits inside the mirror box and the mirror box fits inside the rocker box and the altitude bearings, removed from the mirror box, fit, butterfly-like, into a little space provided inside the rocker box. Finally, the whole thing closes into a cube with a top that mates exactly with the contours of the rocker box.

For anyone interested in construction or in seeing how it comes apart, go to the NOVAC web-site (www.NOVAC.com) and click on ATM Page (at the right) to find a link called Travel Telescopes which goes to (<http://www.angelfire.com/stars2/bwolfe>).

Although I knew that the plywood (Baltic Birch) used for construction was dense and that there was a fair bit of steel and aluminum in the mirror cell, I was shocked at the 72 pounds that the closed cube weighed. American Airlines had indicated that the single bag weight limit was 70 pounds, but I figured they wouldn't notice (mistake #1).

Importantly, during the one night at Mickie Gordon, the scope performed flawlessly and the f/5.2 mirror made by Steve Swazye which I purchased two years earlier appeared to be well-figured and the scope itself provided high contrast (small diagonal, well darkened), sharp images and was well-balanced with smooth but not too (Obsession) smooth bearings. So, on to Australia!

The Bumpy Road to Oz

The free, frequent-flyer ticket was on American/Quantas originating at Reagan National Airport with a small (mistake #2) American Eagle shuttle to JFK in New York to pick up the Quantas 747 that runs daily to Sydney via Los Angeles.

My initial indication that something was going wrong came when I was sitting in the small commuter full of passengers on the tarmac at



The author checks out his homemade 12½ inch travel Dob at Mickie Gordon Park last February.

Reagan looking down at the baggage handler loading bags onto my plane, and seeing my telescope on his truck. He finished loading all the suitcases, grabbed my 72 pound box, looked up the conveyer ramp to his partner in the plane's hold, waved his hands in a 'no' sign and drove off with my telescope on his truck.

So, about 24 hours later (on a Monday morning) disembarking from Quantas in Sydney, I was not surprised to hear my name called. When I checked with the agent she explained that my luggage did not make the plane and that I should check with the Quantas baggage people. I did and was assured that it would be on the next morning's flight into Sydney. As I was planning to spend the next three nights (prior to the beginning of the SPSP) at a farm outside of a (very) small town called Mudgee, 250 km northwest of Sydney, the Quantas baggage people assured me that the box would be flown to the Mudgee airport tomorrow and should arrive by 6 pm (Tuesday). To make a long story short, it arrived at 7 am on Friday, the first day of the SPSP.

At any rate, I drove, in my rented car, from Sydney to a place called Protea Farm near Mudgee on Monday. That was an exciting drive and my oft repeated mantra was "Stay on the left side. Right turns are hard. Left turns are easy". My mantra failed me several times as I found myself looking down the road at oncoming cars.

Somehow I managed to escape Sydney without accident and to make it to Protea Farm. This is a bed and breakfast type place in the wine and honey country about 4 hours from Sydney across the beautiful Blue Mountains and into the lush valleys beyond, filled with vineyards, cattle, sheep, horses, kangaroos, but very few people. The nearest town, Mudgee (pop 7,000),

is 25 km away and behind some hills. I found this spot via the internet (<http://members.ozemail.com.au/~proteafarm/>) and it is a comfortable 3-bedroom fully self-contained cottage that I rented for \$50/night. It was very nice and I highly recommend it.

Arriving at Protea Farm in the late afternoon, I took a nap and awoke at 8:30, after darkness had settled in. I went outside and looked up and nearly fell over!

Skies Worth the Trip

The cloudless sky was devastatingly black and the Milky Way coursed directly overhead from horizon to horizon. It was the only light that could be seen anywhere. There were no light domes in any direction and I could see stars through the trees at every horizon. The constellation Auriga was setting in the northwest and its brightest star Capella was already behind the distant hills. But the winter Milky Way running through this constellation was easily visible right down to the hills. There was no air pollution and no humidity which normally cause haze near the horizon.

The section of the Milky Way near the Southern Cross (Crux) was extremely bright and contrasted mightily with the dark rift nearby called the coalsack (foreground dust). I immediately noticed two 'clouds' to the right (west) of the Milky Way. The larger one (The Large Magellanic Cloud) was very bright and several degrees across. The Small Magellanic Cloud was lower, smaller, and much dimmer, but still quite easily seen. These Clouds are nearby galaxies in orbit around our own Milky Way.

I brought out a chair and sat with a planisphere and my 8x50 right-angle finder (my only telescope at that point), learning the constellations and having a low-power, not so well focused, look at a few show piece objects. I could easily identify, naked-eye, the large and bright globular clusters Omega Centauri and 47 Tucanae. I found them both in my right-angle finder but the quality of the images was not impressive. I tried to locate the large nebula in Carina, but there were so many things passing my view in the finder that I could not be certain what was what so I contented myself with 3 more hours of naked-eye astronomy. To tell you the truth, this time served me well later in the trip as I got a reasonably good handle on all the new constellations and bright stars visible in the southern half of the sky.

In the northern sky, Orion was dipping to the horizon, but was upside down. Gemini, Cancer, Leo, and Virgo, all upside down, crossed the sky low in the north as the night progressed. But I didn't pay much attention to the northern sky except to note that everything was upside down.

Running through the Milky Way overhead and in the south were: Vela, sort of a big, squashed hexagon; Pyxis, three dim stars in a row; Antlia,

three very dim stars making an L; Carina, a mutated pentagon with a long leg ending in the bright star Canopus; Crux, the southern cross and very easily identifiable; Musca (the fly), four stars making a small, Corvus-like squashed rectangle with a fifth star sticking out (the fly's antenna?); Volans, a bigger version of Musca; and Centaurus, a squashed hexagon with legs wrapping around Crux. Alpha and beta Centauri were very bright and are known as the 'pointers' as they point to Crux (which is on the Australian flag). All these easily identified constellations were novel, and overlaid bright regions of the Milky Way which were interrupted frequently with dark, dusty lanes.

As the evening grew late, the constellations of Ara, Lupus, and Norma rose, followed by Scorpius. I went to bed that night feeling as if I had just had a great astronomical night.

Although my telescope didn't arrive the next day (Tuesday) or the next (Wednesday), or the next (Thursday), the clouds did, precluding any further sky watching.

The South Pacific Star Party

On Thursday, I drove 75 km to Wiruna where organizers of the SPSP were beginning to set things up.

I immediately met Don Whiteman, president of the ASNSW. Don and a crew of helpers were busily posting signs directing people to various places on the site for camping, parking, setting up scopes, etc.

Don is your typically friendly, very helpful Australian who works at the Telescope and Binocular Shop in Sydney. He is apparently a wizard at repairing all sorts of scopes. Don quickly warned me at length about all the poisonous spiders and snakes to beware of. As I was to be camping for the next four nights at Wiruna I assumed that meant keeping my tent closed up at all times, stuffing my sleeping bag into its pouch each morning, and checking my boots prior to inserting my feet. As these warnings were being issued he pointed out a Huntsman spider lumbering its way through the grass nearby—nearly two inches in diameter and very hairy. I was impressed and followed all his directions.

Don had arranged to set up one of his tents for me to use for the next four nights. I camped in the trees nearby a large (100-yard diameter), open field where most of the observing was done. Several telescopes were already to be found on this field and I unloaded my stuff into my tent and then drove back to the Mudgee airport to pick up my telescope, which I had been told would be on the afternoon flight from Sydney to Mudgee. Needless to say, it wasn't on the plane (due to being 2 pounds overweight) and,

following my two-hour long harangue, Qantas agreed to drive it up by 7:00 am the next morning. As it was cloudy and due to stay that way that night, I agreed. The drive back to Wiruna was getting familiar.

I checked out several of the very slick scopes set up that evening (pointing at the clouds). The most awesome was a beautiful 12.5" f/6.3 dob that was made from several complementary exotic woods. Additionally, it had custom, hand-cast aluminum bearings with artsy designs cast in. The overall workmanship was art museum quality and it later won the competition for best craftsmanship. I met several interesting and friendly Australian astronomers who included me in their groups and had a great night of drinking fine local wines.

Friday morning dawned with the clouds just clearing up and my telescope actually arriving at 7:00 am with no damage. To ship the scope, I had to pretty much completely disassemble it so I spent the morning re-assembling it under the intense Australian sun. As the day progressed, many more astronomers and scopes arrived and the field began to fill up. In the end there were about 150 scopes and about 400 attendees.

Walking across the field at noon a fellow read my name on my name tag and asked if I had stayed at Protea Farm this week. I acknowledged that I had and he introduced himself as Anthony McFadyen. Anthony and his fiancée, Sarah, had stayed at Protea Farm the night before and had learned from the caretakers about the poor American whose telescope was in limbo. As the afternoon waned and the bright blue sky began to shade towards midnight blue, the excitement amongst those on the field was noticeable; but clouds began appearing in the north.

At dusk, Terry, an Australian from Melbourne who had not brought a scope to the party, gave

me some great pointers as to what to look at first, so Anthony, Sarah, Terry, and I spent the next hour racing through several show piece objects and watching the clouds cover more and more of the sky. Nevertheless, we quickly found and compared the two largest and brightest globular clusters in the sky, 47 Tucanae and Omega Centauri.

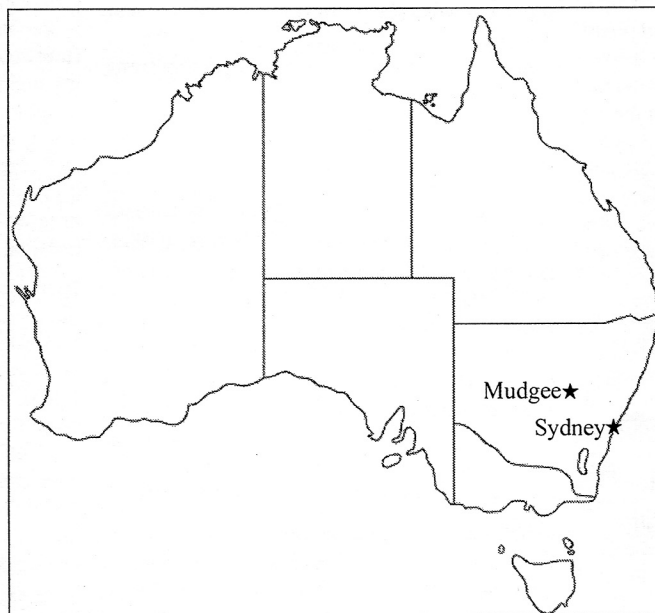
Of the two, Omega was a bit larger and brighter and somewhat more straggly, like M13, but much more impressive (than M13). At 118x the cluster covered nearly the entire 33 arc-minute diameter of the eyepiece. Stars were resolved nearly to the center, but there were so many and they were so bright that it was easy to believe the estimate that there are nearly one million stars in the cluster. Conversely, 47 Tuc was very symmetrical with uniformly less bright stars that seemed to be more compactly arranged. In voting as to which was the most awe-inspiring, all the Australians preferred the latter while I preferred the former.

Terry then directed me to the Carina nebula. !!!!!!!!!!!!!!! Incredible! I hesitate to even voice a comparison to the Orion nebula (M42-43). It was so large that even my widest field eyepiece (32 mm widefield) giving 1.25 degrees of field could not come close to containing it. There was so much detail, so many dust lanes, and bright knots that I could imagine spending a whole night just on this object. A UHC filter increased the contrast, but wasn't really needed. The rapidly impending clouds forced us onward to the Large Magellanic Cloud (1061). This object, spanning several degrees, had so many small but detailed nebulae, open clusters, and globular clusters in it that you could spend the entire star party on it alone.

The most spectacular object in the LMC was the Tarantula Nebula (NGC 2070). Even with no filter it was easy to see where the name comes from. A UHC filter darkened the background and the Tarantula stood out with multiple tendrils spreading from its body.

No time for sight seeing, said Terry, so we moved back to the constellation Centaurus and found NGC 5128 (Centaurus A), an odd galaxy, in that it is spherical but has a decided dust lane bisecting it. The Australians referred to it as the 'hamburger galaxy' and it actually looked much like an edge-on Big Mac. It was big (10') with two bright lobes bisected by the dark dust in the foreground which is thought to be residual debris left following the ingestion of a smaller, probably spiral, galaxy some millions of years ago. Suddenly Terry said "Go quickly to NGC4945 in the south of Centaurus!" A minute later we were looking at a beautiful, large (15x2'), bright (mag 9.5) edge-on spi-

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ral galaxy. Another minute later, the clouds completely obscured the sky. The rest of the evening, till about 2:00 was spent in search of 'sucker holes' which quickly closed before I could identify anything.

Saturday dawned with heavy cloud cover, which got heavier as the day wore on. There were several excellent talks, the best of which was by Dr. Miriam Balter, NASA representative to Australia. She spoke of the relatively new push by NASA designed to search for signs of life on other planets and in other solar systems. She indicated that the search for life is really boiling down to the search for liquid water since this seems to be the only common requirement for life. She spoke of future probes to the moons of Jupiter and Saturn designed to bore down through the mantles of ice to what is hoped to be a (relatively) warm salt-water ocean that may harbor life in any of several forms.

Saturday night found Anthony, Sarah, Terry and I (and 400 others) enjoying a great spit roast and some excellent local wines. Although we saw no great astronomical sights that night, we had a wonderful time and shared stories of each other's culture (I found out what Vegemite is).

Sunday dawned with (you guessed it!) heavy clouds and, following a fun set of model rocket launches culminating in the last one being lost in the delta quadrant, a light drizzle began around noon. Many of the participants, including Anthony and Sarah, decided that they had had enough and began packing up to leave. By dusk, the drizzle was intensifying and only about 20 percent of the attendees remained. I went to bed resolved to get up each hour to check the clouds.

At 2:00 a.m. I poked my head out for the fifth time and was rewarded with a star-filled sky. Elated, I scrambled out to the field and set up my scope. There were only a half-dozen people out to see the magnificently dark sky so bright with objects to be ferreted out. A fellow named Clive came by to help guide me through the sky (even at 2:00 a.m. you can find a friendly Australian). He was extremely knowledgeable and helped me find several dozen objects. We went back and toured some of the showy objects we had found on Friday night and then moved on to somewhat more esoteric objects.

Notably, the 'Eight Burst' planetary nebula (NGC3132) in Antlia was outstanding. It reminded me of a much larger and brighter version of the Eskimo nebula. It was symmetrical with what appeared to be petals surrounding a bright center. A UHC filter increased contrast, but wasn't necessary to see lots of detail.

The Jewel Box Cluster (NGC4755) in Crux deserved its name. Dozens of bright and colorful stars in this open cluster were set on the dark background of the Coal Sack.

NGC3532, in Carina, was another knockout open cluster. More than 100 stars packed together on a dark backdrop.

Besides the whopper globular clusters noted above, there were several other large and bright globulars in the sky. Largest and brightest were NGC3201, 6397, and 6752 and each seemed as if they could give M13 a run for its money.

As the sky began to lighten with the approaching dawn, we moved to double and colored stars. Just below and in the same field as Beta Crux, was a 9th magnitude, blood-red carbon star (very nice!). Alpha Crux was a beautiful pair of white stars separated by about 5", and nearly matched at 2nd magnitude. Alpha Centauri, the star system that is closest to earth, was also a beautiful double. The two bright stars set apart about 20" looked like approaching headlights.

A gibbous Mercury was up in the east as the horizon began to develop a yellowish glow. With a very satisfied feeling, I sat and watched the entire eastern sky lighten while listening to the exotic and jungle-like sounds made by the kookaburra birds in this strange land of Oz. All thoughts of lost telescopes and heavy clouds were gone.

After some breakfast with die-hard Terry, I had a long farewell talk with Don Whiteman. He regaled me with stories of his astronomic travels including the time he went to the Riverside Telescope Makers Convention in Big Bear California and it snowed the whole time. (I guess he was trying to make me feel better about the clouds at the SPSP).

One Last Night

As I had booked one last night at Protea Farm following the star party, I headed back through Mudgee again and reacquainted myself with the caretakers, Elaine and Erol. They were pleased to see that I was now in possession of my telescope and, because the sky was so blue and they were so nice, I invited them and Elaine's 15 year-old grandson to come outside that evening to see some celestial sights.

As evening approached and the sky darkened, Elaine's grandson and I began touring with views of Jupiter and Saturn (always impressive) which were very low in the northwest. He saw the Orion nebula and compared it to the Carina nebula, looked at galaxies in Leo and Centaurus, the Jewel Box, and the big globulars again. Finishing with a couple of planetary nebulae and the Vela supernova remnant allowed me to tell him about the life cycle of stars. He was an interested and engaged student, but when he had to go in to do his homework, I realized that this, my last night in Australia, was perfect and there would be no clouds from dusk till dawn.

Now I could really spend time on the LMC and the Carina nebula and try to find some dim fuzzies. Even though I had a detailed map of the LMC I found it more enjoyable just to

cruise around in the cloud and pick out as many nebulae, open clusters, and globulars as I could. I didn't try to count or catalog any of them, but rather just to delight in the richness of the view.

I did the same in the Carina nebula for a half hour and then decided to get serious. I had been told to look up the 'Meat Hook Galaxy' in Volans (NGC2442). It was fairly bright and 'S' shaped and is likely to be a pair of interacting galaxies. Next, I was off to the 'Toby Jug', a planetary nebula that required 235x to resolve its lopsided shape. Nearby in Carina was a big (60"), beautiful open cluster (NGC2516) that seemed to have several hundred stars giving it a decidedly grainy look. Additionally, there were several orange and red stars sprinkled throughout. In Pyxis, the small open cluster NGC2818 had an embedded dim planetary nebula in which, with averted imagination, annularity could be seen. This object is a mini-M46.

I had read that the Vela supernova remnant and Gum 12 were difficult objects in a 12" scope, so I didn't expect much when I looked for them. However, with an OIII filter this object was easy and enjoyable. There were faint tendrils of nebulosity spread out over several degrees of sky; not nearly so bright as the Veil nebula in Cygnus, but very intricate. There were some great, but dim, galaxy clusters in Hydra (NGC3311 etc; Hydra I) and NGC3271 etc. in Antlia. Both had multiple (4+) dim fuzzies in a single field. Because it was so high in the (very dark) sky, the Ring Tail Galaxy (NGC4038/9) in Corvus, was exactly like the pictures you see. The two interacting galaxies looked like a curled-up shrimp.

And so the night went on. New galaxies, planetary nebulae, clusters and nebulosities seemingly without end finally gave way to sleepiness about 3:30. But what a night!

In the morning I had to disassemble the scope and pack everything up. Taking out two metal crossbars from the mirror cell and putting them in the box for the aluminum poles lightened the final scope box to 68 pounds. Of course, all of my luggage came home without a hitch and I should have made that change on the trip out. I said goodbye to Elaine and Erol and drove back to Sydney, by now feeling fairly comfortable driving on the left side of the road. That evening was spent at a hotel near the airport and I boarded the long flight home the next morning.

In reviewing the events of the previous eight days I realized that there were good times and bad, but on average, the good was very, very good while the bad didn't seem so bad anymore. I think having such a spectacular end to the trip more than erased all the frustrations over baggage and clouds in the early part of the trip. It also reminded me that the reason I went to the SPSP for eight nights instead of only four was not only to get EXTRA viewing in, but also to ensure that I got SOME viewing in. It worked.

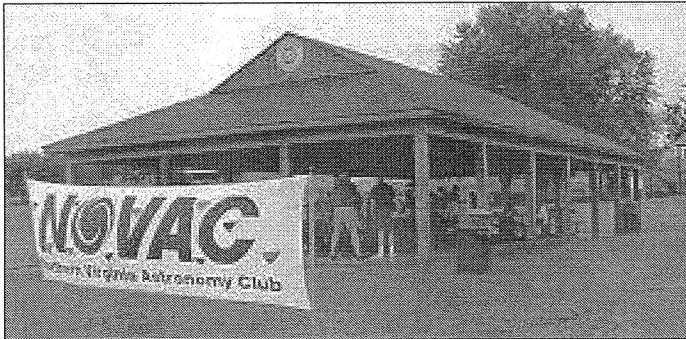


NOVAC Picnic 2001: Good Burgers, Bad Weather

Photos by John Deriso, text by Michael Mills

Despite the poor forecast, on June 16 several club members brought their families out to Franklin Park in the rain to enjoy take part in the club picnic. We persevered through the downpours and enjoyed some delicious hamburgers and hot dogs skillfully barbequed by Ed Witkowski and Joe Pierson. After dinner, one of the picnic tables was loaded with some of the treasures that John Avellone acquired from Bill

Powers on behalf of the club. The best of the potential telescope parts were snatched up by ATMs very quickly. The only astronomical observations were made by John Avellone, using one of his radio antennas. Hopefully, next year the weather will grant us more observing opportunities. ✨



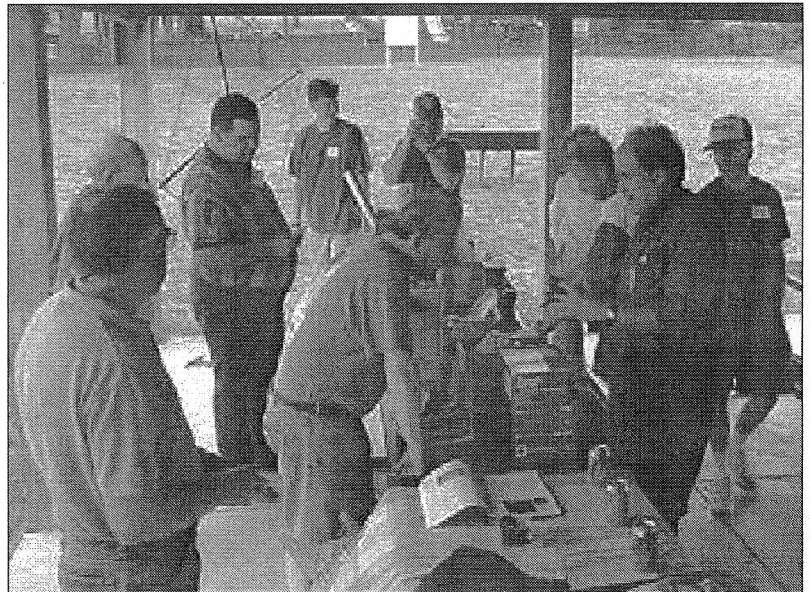
The main venue for the NOVAC Picnic 2001: one of Franklin Park's pavilions. Its roof helped make the event very enjoyable.



The main event: dinner! Thanks to everyone who contributed a side dish—they were all delicious!



Ed Witkowski tends the burgers in the rain.



Interested Telescope Nuts peruse the optical components and mechanical mysteries on the swap table.

New NOVAC Observing Site at Mason Neck State Park

By Bob Parks

NOVAC members can now use Mason Neck State Park for observing. The site is located on the Southeast tip of Fairfax County and is classified as an urban observing site. This is not an exceptionally dark site (LM 4.2) and the horizons are somewhat limited. It is intended to allow NOVAC members in the Northeast region to do some observing without trekking an hour or more to Mickey Gordon. The park is about a 20-minute drive from Alexandria. Here is a link to the Mason Neck State Park web site:

<http://www.dcr.state.va.us/parks/masonneck.htm>

As this is a wildlife sanctuary, you may see the occasional deer, bald eagle or heron, as they may be in close proximity. Also come prepared with insect repellent during the summer months as the park is on the waterfront and mosquitoes can be a problem. Restrooms are conveniently located near the visitor center. No camping is allowed but you may observe as late as you wish. When you plan to observe at the park for the first time, I recommend that you arrive before dark to get your bearings. You also might want to post a message to the NOVAC listserv to encourage other members to join you. I plan to use the site for casual week-night observing but I will continue to use darker sites for new moon weekends. Hope to see all you NOVAC Nor'easters out there soon!

Directions from the beltway:

1. Take I-95 South 5.4 miles until you come to Exit #163.
2. Turn left onto VA-642 towards Lorton for approximately 1 mile.
3. Turn Right onto Route 1/Richmond Highway South and go approximately 1 mile.
4. Turn LEFT onto Gunston Road and go Southeast for 4.4 miles.
5. Turn Right on High Point Road and continue until you come to the park gate.

Here are the terms of our observing agreement:

We have a renewable annual special use permit that allows NOVAC members and their guests to use the park after dark. We must abide by the terms of the permit or it can be revoked at anytime. In addition, all members should review the general rules and regulations regarding the use of Virginia State Parks. Members entering the park during the day must pay the posted Virginia State Park user fee. The fee is not required if you enter after dark.

1. All members must call and leave their name(s), phone number(s), and vehicle description(s) and license number (s) with the park prior to 3 PM on the day they intend to observe. You can do this by speaking to a park official in person, leaving a message on the answering machine or sending a fax. The park phone number is 703-550-0960 and the fax is 703-550-0654. I suggest making a note of when you call and the person you speak to for verification purposes. **IMPORTANT!!!** Any member found in the park after dark without complying with these instructions will be cited/fined for trespassing.
2. The gate is locked at dark and it is to remain locked while members are observing. The combination is on your membership card. There is a double padlock on one of the two hasps on the gate. The large keyed lock is the State's lock and our lock is the only combo lock on the gate. It is critical that members note how the dual locks are installed and return them to the same configuration after opening the gate. Either lock must be able to open the gate at all times.
3. The approved observing site is near the Hartwell Environmental Visitor Center and vehicles must be parked in the designated parking spaces. Telescopes can be set up in grassy areas near the visitor center, the field located across the road from the public restrooms and the picnic area. For a park brochure, which has a map, go to: <http://www.dcr.state.va.us/parks/maps/masoneck.pdf>
4. NOVAC will provide (2) public interpretive programs annually at the park. These are tentatively planned for fall and spring. ✱

ALCON 2001 Hotel Information

For all attendees of ALCON 2001,

ALCON 2001 is set for July 24-28, 2001 in Frederick Maryland. We have a great lineup of speakers and events.

If you have not made your hotel reservations yet, please do so ASAP. The discounted ALCON rate will be unavailable very soon. Please be sure to let the Holiday Inn reservations staff know you need the "ALCON" rate.

Contact information:

Holiday Inn & Conference Center
5400 Holiday Drive
Frederick, MD 21703
Phone: 800-868-7500 or 301-694-7500

NASA, HST, ALPO, IDA, IOTA and the League will be participating at this astronomical convention. Friday, July 27, will be our "light Pollution Awareness Day," and Thursday, July 26, will be our "ALPO Day." You won't Want to miss the festivities and excellent speakers. For additional information, please visit our web site at:

<http://alcon2001.homestead.com/alcon2001.html>

See you there and best wishes,

Bob Gent
Vice-President, Astronomical League
Chair, ALCON 2001

ANNOUNCEMENTS

NOVAC T-Shirt Design Contest is underway

NOVAC would like to sell t-shirts at the NOVAC Stargaze to commemorate the event and help raise money. To find an eye-catching design, we are holding a t-shirt design contest. The top three designs will each win a prize:

1st Place: \$75 gift certificate to Hands On Optics, plus a free t-shirt!

2nd Place: \$50 gift certificate to Hands On Optics.

3rd Place: \$25 gift certificate to Hands On Optics.

Draw your design on an 8½ x 11 inch sheet of paper, and send it to Michael Mills, 5001 Ridgewood Road, Alexandria, VA 22312.

- All entries are due by August 1, 2001. Winners will be announced at the General Meeting on August 12.
- Contest is open to all NOVAC members and their children.
- Prizes will be awarded for first, second, and third place entries as chosen by the NOVAC Board. The first place entry will be printed on t-shirts to be sold at the NOVAC Stargaze on September 22, 2001.
- Designs should incorporate an original NOVAC or general astronomy theme. They should also include the club web address: www.novac.com.
- Winning designs become the property of NOVAC.
- Winners will be announced at the August 12 General Membership Meeting.
- Questions may be addressed to Michael Mills at mjmills@fpcc.net

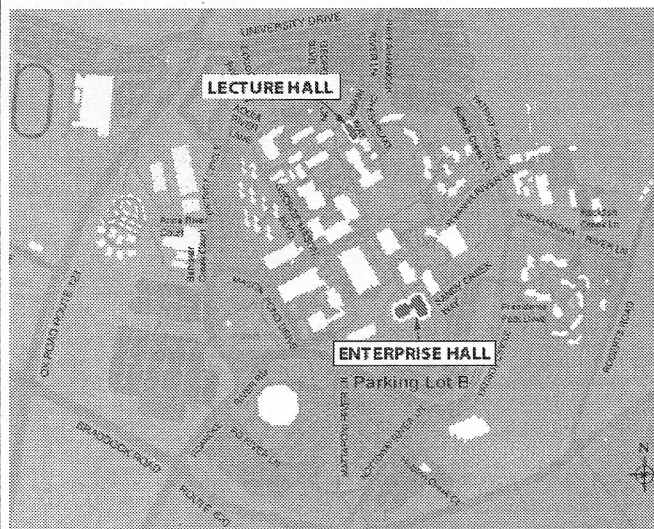
10 inch f/6 Loaner Scope Available

As reported in last month's newsletter, the club has recently acquired a 10" f/6 Discover Dobsonian telescope that is available for club members to borrow. John Nusbaum was responsible for ordering and assembling the telescope, and reports that it performs very well. However, this is a large telescope, and will require a large vehicle to transport it. The Dob's approximate dimensions are given in the table, below right. The telescope is equipped with 10 mm and 25 mm Plössl eyepieces in an eyepiece case. A deposit of \$500 is required to borrow it.

If you would like to borrow this telescope, contact Alex Lim at (703)222-0419 or alexander.lim@mci.com.

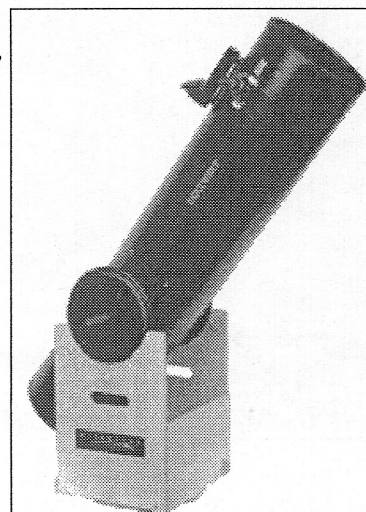
Temporary change for Meeting Location

Due to construction in the Lecture Hall at George Mason University, the July and August General Membership Meetings will be held in room 80 of the Enterprise Building, also on the GMU campus. See map below.



Tube:		Rocker Box:	
Diameter:	12.75"	Width:	17"
Length:	62.5"	Depth:	19"
Max. Width:	26" w/ handles, 19.5" w/o handles	Height:	27.5"
Weight:	57 lbs.		

NOVAC recently acquired a Discovery 10" f/6 Dobsonian similar to the one pictured here.



Crockett Park Observing Schedule, May-June 2001

Below are listed the coordinators and backup coordinators for NOVAC's scheduled observing sessions at C.M. Crockett Park. For full details about observing at Crockett Park, see the club webpage or your Membership Guide. To volunteer as observing coordinator, please contact Tilly Smith (smithwt@navsea.navy.mil).

Date	Primary Observing Coordinator	Phone	Secondary Observing Coordinator	Phone
Jul. 13	Christopher Bortz	703-897-0245	Kevin O'Neill	-
Jul. 14	Allan Mayer	703-403-0926	Renee Pleasant	unlisted
Jul. 20	TBD	-	TBD	-
Jul. 21	Renee Pleasant	unlisted	TBD	-
Aug. 10	Christopher Bortz	703-897-0245	TBD	-
Aug. 11	Renee Pleasant	unlisted	TBD	-
Aug. 17	TBD	-	TBD	-
Aug. 18	Renee Pleasant	unlisted	TBD	-
Sep. 14	Christopher Bortz	703-897-0245	TBD	-
Sep. 15	TBD	-	TBD	-

Jeff's Observing Report

Jeff Stetekluh

Jeff's astronomical calculations are made for the Northern Virginia area. See <http://www.novac.com/jeff/jrefs.html> for calculation references.

Principle Club Observing Nights

Jul 13,14, 20,21
Aug 10,11,17,18

Jupiter Eclipse Events on Principle Club Observing Nights

None

The Sun

Jul 8 rises at 5:51 AM, sets at 8:36 PM
Aug 12 will rise at 6:19 AM, will set at 8:07 PM

The Moon

Jul 13 Last Quarter
Jul 20 New Moon
Jul 27 First Quarter
Aug 4 Full Moon
Aug 12 Last Quarter
Aug 18 New Moon
Aug 25 First Quarter
Sep 2 Full Moon

Events

Jul 9 Mercury at Greatest Elong: 21.1°W (from Espenak)
Jul 28 The Southern delta-Aquarid meteor shower peaks (active Jul 12 to Aug 19) (from IMO)
Jul 30 Neptune at Opposition (from Espenak)
Aug 5 Mercury at Superior Conjunction (from Espenak)
Aug 12 The Perseid meteor shower peaks (active Jul 17 to Aug 24) (from IMO)
Aug 15 Uranus at Opposition (from Espenak)

The Planets

July 8	Rises	Transits	Sets	Mag	Diam	Notes
Mercury	4:31 AM	11:43 AM	6:56 PM	0.5	8.1"	
Venus	3:04 AM	10:08 AM	5:14 PM	-4.1	17.7"	
Mars	6:30 PM	10:57 PM	3:28 AM	-2.0	19.9"	SSE, 17*
Jupiter	4:35 AM	11:58 AM	7:20 PM	-1.9	32.5"	
Saturn	3:24 AM	10:36 AM	5:47 PM	2.5	16.8"	
Aug 12	Rises	Transits	Sets	Mag	Diam	Notes
Mercury	6:52 AM	1:43 PM	8:33 PM	-1.2	5.0"	WNW,4*
Venus	3:21 AM	10:39 AM	5:58 PM	-4.0	13.9"	
Mars	4:26 PM	8:52 PM	1:21 AM	-1.2	3:45 PM	S,23*
Jupiter	2:50 AM	10:12 AM	5:34 PM	-2.0	33.9"	
Saturn	1:19 AM	8:32 AM	3:45 PM	2.5	17.6"	

(* degrees elevation at sunset taking into account atmospheric refraction)
(Mag = apparent magnitude, Diam = apparent equatorial angular diameter)

Highlights of NOVAC Meetings

Renee Pleasant



NOVAC Board Meeting,

May 8, 2001. Arlington Planetarium.

Meeting called to order at 7:35 p.m. by NOVAC President Ed Karch. In attendance were 11 officers and trustees.

Minutes of previous meeting deferred until next meeting. Membership director Joe Pierson gave membership update, reporting 11 new member households (14 people) and 35 renewals. Joe then read members comments from renewals.

Pedro Martinez then gave the treasurers report. AL league dues payment will be made in June. Pedro will have a more detailed report after that disbursement.

Mike Mills, newsletter editor stated that the newsletter had been mailed and a show of hands indicated that about half the of Board had received theirs.

Alex Lim is the custodian of the clubs newest telescope, a 10" Discovery Dob that will have a deposit requirement of \$500 like the other club telescopes. Alex suggested that the dimensions of the telescope be outlined in the loaner information so potential users will know if it will fit in their vehicle.

Old business included the further discussion of various possibilities for club storage, including renting a storage locker or purchasing a storage unit made of a shipping container to place at a local park. Pete Johnson will continue his research into various storage options including the price of a shipping container.

Club member Bob Parks has arranged for observing at Mason Neck by NOVAC members. Bob will be placing a lock on the gate accessible by club members.

The MVP committee is still working actively on observing sites. A July 20th observing session is planned in commemoration of the Apollo moon landing.

Further discussion of a Public Outreach night was continued by Pete Johnson with the point again being made to suggest those requesting a public outreach session be directed to the Public Outreach night. The second Saturday of each month was suggested as was using Mickie Gordon Park.

Joe Pierson showed his proofs of new badges for officers and trustees. These will be in plastic sheaths and be distributed at each club meeting by Joe.

Discussion then turned to the suggestion that the membership directory be made available on the Members Only portion of the NOVAC web-

site. After a vote of 5 yes, 4 no it was decided not to place the membership directory on the website.

John Avellone then notified the Board of the intent of Fairfax County Public schools to cut the Planetarium program from the school budget. John asked if the board could draft a letter to county school Superintendent as well as place a notice on the NOVAC discussion list to notify other club members.

Mike Mills again suggested having items for sale with the NOVAC logo on them, such as T-shirts or hats. After checking pricing Mike reports that T-shirts would be much more economical to produce than the hats.

The logo is being updated and a suggestion was made to have a competition to pick a new logo.

Sean continues to work on General Membership meeting topics and program. The speaker list for Goddard needs to be updated. Bill Burton is tentatively scheduled as the June program with the topic Star Hopping.

The subject of a donation to the GMU astronomy department was again discussed.

Meeting adjourned at 9:00 p.m.

Submitted by Renee Pleasant, Secretary.

NOVAC Board Meeting,

June 5, 2001. Arlington Planetarium.

Meeting called to order at 7:30p.m. by President Ed Karch. 11 present.

Minutes of previous meeting approved as posted to the novac-board list.

Treasurer's report presented by Pedro Martinez, on file with the Secretary.

Alan Figgatt asked why the NOVAC hotline exists, Ed stated discussion of the hotline would be added to tonight's agenda.

Membership Report by Joe Pierson 15 new households with 22 individuals. 15 renewals with 17 individuals. Joe was asked about attrition and stated he would add that to future reports. Joe then read from various comments included in the renewals.

The storage options were then discussed, as Pete Johnson was not in attendance, further discussion was deferred for a future meeting.

Discussion of upcoming monthly meeting programs was next with Bob Bunge scheduled for June. Bob Stewart and Tony Cook scheduled for July's meeting. September will include an ATM display. October TBA. November, How to Buy a Telescope. Lightweight Telescope

Making suggested as a future topic, send suggestions to Sean O'Brian.

Harold Geller will select locations for the July and August meeting. When location is determined it will be announced on the two e-lists and in the newsletter if possible. Discussion followed about the possibility of returning the monthly meetings to Arlington Planetarium. Other possible locations for future meetings include the two local high schools with Planetariums. Discussion then turned to the Fairfax County School Budget and how the outcome of the of the Planetarium Budget cut was influenced by contact made to the School Board and Superintendent by NOVAC and the AL.

John Avellone suggested having the June 2002 monthly membership meeting at the Annual Picnic to reduce the number of meetings for the month of June.

Loaner Scopes: Board needs a report on club scope usage from each member in charge of a loaner scope. How long they are loaned out, waiting list, any repairs, etc. The Celestron 6" needs collimating, needs anew box for transporting as well as a bag for the tripod. Alex Lim has had two requests for the newest club telescope, the 10" Discovery. Discussion then turned to the possibility of acquiring other shorter, more transportable scopes.

The availability of the scopes should be posted on the website. Mike Mills suggested an eyepiece library, donated eyepieces for use of club members.

After discussion of the various ways people contact NOVAC, the board voted to end the use of the hotline.

Picnic: Ed Karch will use previous years shopping list and will make those purchases. Joe Pierson and Ed Witkowski will cook. Swap table will be available. Start time will be 3:00 pm.

John Avellone presented the AL candidates to the NOVAC board; NOVAC board approved AL candidates.

Last item was the suggestion of club member Wolf Schubert to purchase a hydrogen alpha filter for solar observing to be used as a club loaner, as well as for public outreach. After extensive discussion Ed Witkowski volunteered to research the filter, including delivery times and post findings to the board list. The Board voted to purchase the filter, the purchase of which will also be handled by Ed Witkowski.

Meeting adjourned at 9:05 p.m. Renee Pleasant, Secretary

New Members - February 21 through April 23

Joe Pierson

NOTE: This directory is not to be reproduced or used for any commercial purpose

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fellingner.m@att.net

Ron Maple & Dee Laskody
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Home# - 703-742-7877

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WELCOME!

Upcoming NOVAC Meeting Programs

Sean O'Brien

July 8

Video Astronomy Adventures and More

Bob Stewart & Tony Cook

July will be a NOVAC double-header. Tony will speak on "Things that go bump in the lunar night". This will mainly be about videotaping lunar impact flashes, but will also include a bit about relevant observing techniques and examples of things Tony has seen in Lunar Earthshine which are not lunar impacts e.g. cosmic rays, satellites, aircraft etc.

Bob Stewart will also show his videos of lunar occultations, grazes, and a potential lunar impact flash.

Sounds like a blast.

August 12

TBD: Check www.novac.com for announcements

PLEASE NOTE: the schedule of speakers is subject to change. Please check at

<http://www.novac.com/meeting.html>

for the latest info prior to the meeting.

What's YOUR interest? Let sean.o'brien@nasm.si.edu know.

Come share and learn about YOUR favorite topic!

National Capital Astronomers Meetings

The National Capital Astronomers are taking their usual summer hiatus, so there will be no NCA meetings in July or August. Also, since Saturday, September 2 falls on Labor Day weekend, there will be no meeting in September. Regular meetings will resume in October. See <http://www.capitalastronomers.org/> for more information.

NCA has regular monthly meeting September through June on the first Saturday of the month (unless it is a holiday weekend like September 2 is this year) at 7:30PM. at the Clinical Building in the Lipsett auditorium at the National Institutes of Health in Bethesda, Montgomery County, Maryland, just a little north of Washington, D.C. You can get to their meeting by exiting at the Bethesda Medical Center stop on the Red Line of the Metro.

Einstein Planetarium Public Observing Nights 2001

Sky Meadows State Park, near Paris, Virginia

Sean O'Brien

Join Sean O'Brien, staff astronomer of the Albert Einstein Planetarium, and other local amateur astronomers, for public telescopic observing under dark, star-filled skies, away from city lights. The evening begins with a short night sky orientation at dusk, followed by telescopic observing of various astronomical objects.

Sky Meadows State Park is west of Washington, D.C. on US Route 17 North, 1 mile south of US Route 50, or 7 miles north of Interstate 66, Exit 23. The park contact phone number is (540) 592-3556. There is a \$2 parking fee per car. Please cover flashlights with a red filter or a brown paper bag. Dress warmly. In case of clouds or rain, a park ranger will lead a short alternate program.

Observers with telescopes are most welcome. These programs are enjoyable. Kathy Budnie works most of these programs. She is a wonderful ranger to work with.

Sky Meadows State Park is at the the foot of the eastern side of the Blue Ridge. Remember, telescope volunteers don't pay the \$2 parking fee, and get to stay until 1am. Some nights are before New Moon, others have a waxing crescent Moon. We can park in the field behind the visitor center house. We observe from the "backyard". More info & reminders as these dates approach.

<u>Date</u>	<u>Comments</u>
Saturday, July 14	No Moon (6 days before New, Moonrise 1:40 am for DC).
Saturday, Aug. 11	Moon rise 12:11 am (for DC).
Saturday, Sept. 15	No Moon (2 days before New).
Saturday, Oct. 20	4 day old Moon, sets 9:11 pm (for DC).
Saturday, Nov. 17	Eastern Standard Time. 2 day old Moon. Leonid meteor shower (storm?) peaks 5 am 11/18, may catch some during program. More meteors perhaps during observing time, 11 pm-1 am.

Upcoming Events

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
J U L Y	1	2	3 •Board Meeting	4	5 FULL MOON	6	7
	8 •General Meeting 7 pm @ GMU (Enterprise Bldg, rm 80)	9	10	11	12	13 LAST QUARTER •Observing at MG/ Savage	14 •Club Observing Night @ Mickie Gordon
	15 •ATM-SIG Meeting	16	17	18	19	20 NEW MOON •Observing at all sites	21 •Observing at all sites
	22 •Observing at MG/ Savage	23	24	25	26	27 FIRST QUARTER	28
	29	30	31	1	2	3	4 FULL MOON
	5	6	7 •Board Meeting	8	9	10 •Observing at MG/ Savage	11 •Club Observing Night @ Mickie Gordon
	12 LAST QUARTER •General Meeting 7 pm @ GMU (Enterprise Bldg, rm 80)	13	14	15	16	17 •Deadline for Sep/ Oct Newsletter •Observing at all sites	18 NEW MOON •Observing at all sites
19 •ATM-SIG Meeting •Observing at MG/ Savage	20	21	22	23	24	25 FIRST QUARTER	
26	27	28	29	30	31		
A U G U S T							

**“To observe,
and to help others observe”**

NOVAC is a non-profit, all-volunteer organization chartered to advance amateur astronomy in Northern Virginia. Members benefit from:

Access to dark sky observing sites:

NOVAC maintains agreements that provide club members with year-round access to three observing sites away from city lights

Monthly Meetings

Monthly meetings are held at 7 p.m. on the second Sunday of each month in the Lecture Hall on the campus of George Mason University. Each meeting features a lecture on an interesting topic by a local expert. See the web page or upcoming Newsletters for a schedule of speakers.

Bimonthly Newsletter

The NOVAC Newsletter provides information specifically for NOVAC members, as well as general interest articles on such topics as observing reports, equipment reviews, upcoming events, ATM projects, and more.

Four high quality telescopes

NOVAC members may borrow one of the clubs four telescopes at no charge. Members may choose from among three 6” reflectors of different focal lengths and one 10” f/6 reflector. Also available for loan is a 7x50 binocular.

Large club library

NOVAC maintains a well stocked library in the Lecture Hall at GMU. At a monthly meeting, club members may check out books and observing guides and use them until the next meeting.

Club website

Up to date information about club events and activities is maintained on the club website at www.novac.com.

Private e-mail listserv

Members keep up with current club information by subscribing to the NOVAC e-mail list, without fear of flame wars or spam e-mails.

Public outreach opportunities

Several times each year, volunteers from NOVAC present astronomy programs to schools, churches, Scout troops, and other public groups.

Membership in the Astronomical League

Through NOVAC’s membership in the Astronomical League, NOVAC members gain access to the AL’s newsletter, services, and observing programs.

Discounts on astronomy magazines and books

Subscriptions to *Sky & Telescope* and *Astronomy* magazines are offered to club members at a considerable discount. Also, astronomy books purchased through the club are eligible for a 10-25% discount.

See your *Membership Guide* for more details about these benefits!

The NOVAC Newsletter is the official publication of the **Northern Virginia Astronomy Club** and is published six times per year.

The NOVAC Newsletter is sent to members of NOVAC as a regular membership benefit.

**Membership in the Northern Virginia Astronomy Club is \$25.00 per year and is open to anyone interested in astronomy or the sciences. Additional memberships at the same address without additional copies of the newsletter are \$5.00 per person. Contact Joe Pierson
15091 Jarrell Place
Woodbridge, VA 22193
703-680-6343
jmpierson@home.com**

All notices of change of address should be sent to Joe Pierson. Please include both old and new addresses.

NOVAC does not knowingly accept advertising for products of inferior quality nor does it accept responsibility for the quality of advertised products.

NOVAC members are invited to submit articles for publication in the *NOVAC Newsletter*. The editor reserves the right to edit all materials submitted. Send article submissions to the Editor, Michael Mills, at mjmills@fpcc.net, (**The deadline for submissions is two weeks in advance of publication: August 17 for the September/October newsletter.**)

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