

## Aerospacefest 2011

### President's Message

The recent rain may have kept us from observing, but the sunshine of OPT has smiled warmly upon our Library Telescope Program. The recent very generous gift is an endorsement of the program and will let us expand it hugely.

Congratulations to **Marc Stowbridge** for the idea and many thanks to all the "telescope parents" who maintain the library telescopes.

★ John Bishop  
NHAS President 2011

### Highlights for This Month

This was a **very** busy month for our public outreach efforts. We held a large number of public sky watches, and we had a big presence at the McAuliffe-Shepard Discovery Center's Aerospacefest 2011 event. My thanks especially to **Ted Blank**, who was the NHAS coordinator for this event, and the key to its success.

**John Bishop** has the first light report of the Rob Teeter truss tube makeover of his 9-inch DGM off-axis Newtonian reflector. I have personally looked at and through this telescope and IMO this is a first-class job well done.

★ Paul Winalski  
NHAS Secretary 2011

### NHAS Awards Prizes to 2011 Astronomy Bowl Winners

The McAuliffe-Shepard Discovery Center held its fifth annual Astronomy Bowl competition on 26 March 2011. High school-age

contestants answered a grueling barrage of questions on their knowledge of Astronomy in hopes of winning scholarship awards. This year's competition was especially keen. It took *thirty* (!) tie breaker questions to determine the winner. The awards were presented during Aerospacefest 2011 by astronaut Lee Morin.

NHAS also presented prizes to the winners of the 2011 Astronomy Bowl. The awards were presented by **Rich Schueller**. Each of the top three contestants received a one year free NHAS membership (through October 2012). And also:

First place winner **Cameron Steckler**, Nashua High School South 11<sup>th</sup> grade, was awarded a 4.5" Orion Starblast telescope (as configured for the Library Telescope Program) and a Lunar Atlas.



**Rich Schueller congratulates the winner of the Astronomy Bowl (Ted Blank photo)**

Second place winner **Gregory Vance**, Nashua High School South 12<sup>th</sup> grade, was awarded Tasco 10x60 binoculars and a Messier Objects book.

Third place winner **Anastasia Stevens**, Contoocook Valley Regional High School 12<sup>th</sup> grade,

was awarded a Star Gazers handbook and a planesphere.

Congratulations to all three of the 2011 Astronomy Bowl winners for a job well done! We all hope to see you at future NHAS events.

★ Paul Winalski

### Aerospacefest 2011, 29-30 April

Here are reports from some of the NHAS members who made this event a success for us. Many more photos are posted in the "Meetings" forum on the NHAS website. My thanks to all who helped make this event such a success! Well done, all!

★ Paul Winalski



**Ready for Friday evening's observing session at Aerospacefest (Herb Bubert photo)**



**Gardner Gerry demos astrophoto gear (Herb Bubert photo)**



**John and Michael Pappas with the demo reflector (Ted Blank photo)**

Due to the hard work of these dedicated people, hundreds of members of the public were treated to a real astronomy experience at Aerospacefest 2011 at the McAuliffe-Shepard Discovery Center. Some were active during the event, some before or after, but everyone made a great contribution. Special thanks to **Nori** for providing delicious cookies, to **Joel Harris** for teaching us how to put up the tent, and to **Don Byrne** for interior decoration.

Participating NHAS members: **Patrick Adams, Matt Amar, John Bishop, Ted Blank, Don Byrne, Ken Charles, Joyce Icaza, Brian Icaza, Gardner Gerry, David Gilmore, Joel Harris, Marion Hochuli, John Pappas, Michael Pappas, Rich Schueller, Melinde Sanborn, Marc Stowbridge, Mike Townsend, Paul Winalski.**



**Mr. T., Soulshine, and Ken Charles (Ted Blank photo)**

The outdoor crew braved a cold, windy cloudy morning, finally being rewarded with clear skies around 1PM, when lots of solar observing took place. Three members manned the MSDC Observatory the entire day in shifts, while others worked the indoor crowd, demonstrated how telescopes worked, handed out

brochures, pitched the Library Telescope Program, and just generally did us all proud. Thanks to everyone.

★ Ted Blank



**Dave Gilmore explains solar observing in the MSDC observatory dome (Herb Bubert photo)**

I had a *great* time despite the early clouds and somewhat chill wind. I think those dampened the public's spirit because I don't recall seeing that many people until the afternoon when the sun was more prevalent, though that could simply be coincidence. Good news is the lack of pressing crowds made it easier to engage people in demonstrations, and solar viewing. Kudos to Ken for the brilliant vanilla smoke machine and **Joe Derek** for the excellent laser holding assembly, which improved that demo immensely.

★ David "Rags" Gilmore



**Rich Schueller explains the subtleties of H- $\alpha$  observing (Ted Blank photo)**

A special thanks to all the NHAS members who selflessly donated their time and talents Friday night and/or Saturday to help to make this a great Aerospacefest 2011. The vast array of scopes and displays had something to intrigue young and old, experienced and novice. We also thank the NHAS for the generous donation of prizes for the

Astronomy Bowl V winners. I believe the enthusiasm with which they were received is indicative of the use they will get and the knowledge the students will gain. Let's look forward to Aerospacefest 2012 May 4 & 5, 2012!

★ Dave McDonald  
Director of Education  
McAuliffe-Shepard Discovery  
Center



**... always said I shouldn't look into the eyes of the Sun. But mama, that's where the fun is! (Ted Blank photo)**

We received this message of thanks from Jeanne T. Grrulkis, the Executive Director of the MSDC:

*"Thank you everyone for an EXCELLENT Aerospacefest 2011!!!!"*

*"What a fun day. Things really came together. Lots of happy people enjoying the day, enjoying learning. Hooray!"*

*"Thank you for the parts you each played. Please forward this to our volunteers and work-study students who also helped, as I don't have those email addresses. But volunteers & work-study students, we treasure you! Thank you for helping get kids & families excited about aviation, astronomy, Earth science, space science, math, biology, physics – what a great day!"*

★ Ted Blank

## **Stratham Hill Park sky watch, 21 April**

One of the organizers counted ninety-one attendees. We had television press coverage, as well. NHAS participants: **Ted Blank, Herb Bubert, Tom Cocchiario, Brian Cossette, Carl Speltz, David Speltz.**

The event was very successful. The Stratham Library folks counted ninety-one embers of the public at the sky watch. I just know that we had six or more scopes and lines at each. Skies were clear. I was able to help a family who brought their own scope (one of those 60mm long-tube refractors on a wobbly mount) to find Saturn, which they thought was beyond the power of their scope. Once we got the mount stabilized properly, we got a very sharp, albeit small, view of Saturn with the 20mm eyepiece the scope came with (looked like a Kellner). Fortunately the focuser took 1-1/4" eyepieces so I could let them borrow my 11mm TeleVue Plossl for a much better view of Saturn--and three of his moons. They were delighted to know they could see other things besides individual stars in that scope.

The Stratham Library Telescope was there.

We also got to see a ISS pass and an Iridium flare.

★ Paul Winalski

### First Light for 9" Rob Teeter Off-axis Telescope, 21 April, Nashua NH

I picked up my new Rob Teeter structure at NEAF last weekend where he had been displaying it in his booth. He said it got a lot of attention: people would glance at it and then do double-takes because there was no secondary spider. Then they'd ask him what was going on. So it got traffic for him, which is good.



**John Bishop and his Teeter 9" OA reflector (Herb Bubert photo)**

If enough of those inquirers actually follow-up with him because they

want an off-axis telescope maybe he might contact Dodgen (though even if Dodgen were willing to make 9-inch mirrors again, he'd probably have to order four mirrors and that would be a significant investment unless he had four solid orders). So those of you who want a 9-inch should speak up!

Speaking of Dodgen, I saw Doug Reilly of "Punked Astronomy" at NEAF. He still has his Dodgen 6-inch but still has not written a review.

Back to my new telescope! The woodwork is beautiful. It's stained a dark cherry and all the hardware is brass. The shroud fits tautly. Even at zenith I won't need to go up more than one step on a ladder, which is a big improvement over the old structure and one of my goals in this project. Motions are easy and the telescope stays where you leave it when pointed. The mirror box is a good bit heavier than I expected. Rob had to add weights in the mirror box to compensate for the weight of the finder. That's a consequence of the long focal length (and of his choice of radius for the altitute circle). But it will pack up smaller than the old fiberglass tube and giant dob mount, which was my other major goal in this conversion.

The telescope isn't 100% finished: I still need to permanently install the red-dot and 9x50 RACI finders when I figure out exactly where I want them and I'd like to install light baffles and screening over the ventilation holes in the bottom of the mirror box. I like having the air-flow the big holes make possible, but I don't want mice or light coming through them!

Last night I attached a Telrad to the finder board and got "first light". I was in my in-town backyard. The sky was very clear and stars did not twinkle. I didn't run the fans but they weren't really necessary.

It took me a bit of time to collimate. I marked the truss poles so that future uses will be consistent and faster though I'll have to figure out a better marking system than rings of masking tape for the longer run! I

used a laser to collimate the secondary and approximate the primary; then I used the "sliver of secondary seen in the image of the primary in the secondary" method which Dan McShane teaches to get a rough collimation. That was followed by star collimation. The first time I did this process, the collimation screws bottomed out, so I loosened all three a considerable amount and started over. Bottoming out is easy in this structure because there's a fan installed directly under the mirror, so downward travel is limited.

Once I got it collimated, it was great. Stars were tiny bright dots. Castor was an easy split at low power. I didn't have much sky to look at due to trees, but I got the best view of the Eskimo Nebula (NGC 2392) that I've ever had, with mottled detail in the disc.

Saturn was up, so I partially disassembled the scope to move it out to the sidewalk where Saturn was visible. Rob's design attaches the truss tubes to a ring which is itself attached to the mirror box by four hand knobs.. so you can remove the ring from the mirror box and the truss and upper cage stay together as a moveable unit. That made it much faster to move the telescope. As a bonus, the connection is exact enough that collimation is preserved!

Saturn was clear. I saw five moons (confirmed by Calsky today). From the preceding side: Titan, Rhea and Dione close together, Saturn, Enceladus dim and just above the ring and on the trailing side, Tethys. I didn't see the Cassini division.

★ John Bishop

### Highland-Goffe's Falls Elementary School Sky Watch, 22 April 2011, Manchester NH

I didn't write down a list of members, but as I recall we had: **Ed Ting** gave a talk, **Ted Blank**, **Herb Bubert**, **Ken Charles**, **Gardner Gerry**; **John Rose**, **Bill Steele**, **Mike Townsend**, new

member **Duncan** whose last name I don't remember.

Sky conditions turned out much better than expected, but, the parking lot lights were brutal. To bad we couldn't set up in the ball field. Not much beyond Saturn and a few bright double stars to show.

★ John Rose

### Salem High School Starfest, 22 April 2011, Salem NH

This sky watch was part of an event called "Starfest". A student club focused on the environment and re-forestation had arranged for chaperones, a band and food. The band was surprisingly good, playing mostly classic rock. There were about eighty high school students there, playing frisbee and having a good time.

I arrived at 6:30 PM to give me time to set up. There was some confusion about the location. The students told me I could drive on the field but then the grounds guy came out and ordered cars off the field because there were buried pipes. The location chosen for the telescopes was hundreds of yards out from the parking lot in a baseball field, with wet grass over mud. I suggested a dryer, firmer corner near the parking lot which was somewhat sheltered from the lights and I set up there.

No other NHAS members showed up. No Salem High person had a scope. So I showed Betelgeuse as soon as it showed up, then Algieba because it was a double. By then it was dark enough to find Saturn and I showed Saturn from 7:45 PM to 9:45 PM, when the Starfest was over and I packed up.

The kids were appreciative and orderly; the members of the organizing club and the teachers who were chaperoning were helpful in moving my gear and interested in what I had to say about star evolution and doubles. But they didn't have much background knowledge—it wasn't an audience of students prepared by a science module on astronomy.

I used my "new" nine-inch off-axis in the new structure. It performed really well. Even in a sky so hazy that only Titan of Saturn's moons could be seen, I could see the rings as tilted arches and a band on the planet body.

★ John Bishop

### Galaxy Hopping, 30 April 2011, YFOS

On April 30<sup>th</sup> the clear sky chart looked good and I headed over to YFOS to try out something new: galaxy hopping. I had just read an article about the Virgo Galaxy Cluster in the May 2011 edition of *Sky & Telescope* in which the author claimed that there were so many galaxies in that cluster that you did not need to star hop, but can just move from one galaxy to the next.

My point of entry for this evening was Denebola in Leo. From there I star hopped to M98, M99 and M100. After another short star hop I arrived at the bottom of Markarian's chain: M84 and M86. From that point I was indeed able to just move from one galaxy to the next. I basically just followed the star maps and directions in the *Sky and Telescope* article from here on out.

The transparency was good so the galaxies were showing very nicely. I ended up seeing twenty-eight galaxies during this tour, including thirteen Messier objects. To round out the evening I took a look at the Sombrero Galaxy, the Ring Nebula and the Great Cluster in Hercules. Not a bad way to spend a beautiful and warm spring evening!

★ Stijn Brand

### Antrim Elementary School Sky Watch, 12 May 2011, Antrim NH

We had clear skies and excellent seeing for this sky watch. NHAS members who attended: **Ted Blank, Herb Bubert, Gardner Gerry, Paul Winalski.**

There was an indoor presentation of very impressive 3<sup>rd</sup> grade class projects on the Moon and the Solar System, followed by the sky watch.

Ted and Herb attended the indoor event.



**Uh-oh, Herb, better check that eyepiece for fingerprints (Ted Blank photos).**

The sky watch started well before sunset and we mainly showed the Moon (very sharp views at First Quarter) and Saturn (Titan trivially visible—a couple of other moons with effort).



**Paul Winalski explains lunar geography.**

As it got darker I was able to show also Castor, Mizar, the Beehive, and M35. Gardner picked up M3 as well.



**A parent brought a scope as well.**

There were 50+ attendees. The site had a very good view and dark skies, marred only by the school's floodlights. This would be an excellent site if we could get the lights turned off.



**Our host Ms. Sutton (left), with her student teacher Courtney.**

Thanks to all who made this event a success—especially to Ted, who traveled a long way.

★ Paul Winalski

Just to expand a bit on the indoor activities at Antrim Elementary School:

The student projects were truly amazing for 3<sup>rd</sup> graders. The teacher, Ms. Sutton, and her student teacher Courtney, encouraged the students to go way beyond the requirements for 3<sup>rd</sup> grade. Each student chose a planet, made a science-fair-size poster on their planet with hand-drawn images and facts about it. Then each student added a personal diagram explaining why the moon has phases. Finally, each student composed a Haiku about why the earth was a special place. I will upload photos of these projects to the forum with the outdoor pictures.

The students then sang a song about Pluto for the audience, lamenting its demise from the pantheon of planets but insisting it would always have a warm place in their hearts.



**Two of the Student Posters (Ted Blank photo)**

Realizing that the schedule was going to bring the students out quite early in essentially full daylight, my offer to give a thirty minute talk on what people were going to see in the scopes was accepted, and that went

from 7:00 to 7:30. (The schedule was developed based on early bedtimes for 3<sup>rd</sup> graders on a school night, but the parents were very understanding in letting the kids stay later.) During my talk I was pleased to be able to introduce the author of one of my slides. Herb Bubert accepted a warm round of applause from the audience for his efforts to image Saturn each year, along with their good wishes for completion of his project to image Saturn for an entire Saturnian year. The students participated in my competition to guess the Earth-Moon distance, and I showed a few slides on lunar craters and Saturn as well as my favorite, the Hubble Deep Field image. We finished with instructions on respecting the equipment and how the telescopes worked.

The student teacher's father brought his Tasco 5" reflector, which gave very good images of the moon. It's main drawback was the mount, an EQ-1 or equivalent on a very shaky tripod. It took a good fifteen minutes to reverse the finder scope so it pointed up, balance both axes, set the latitude adjustment, adjust the rings, center the finder... most of you have been through these efforts, and at the end there was still so much play that using the scope was mostly an exercise in frustration. There's a reason to spend more money on your mount—it actually makes the hobby fun! Too bad the public so often gets the other impression. For example, the finder scope mount only had three screws instead of six, so when you loosened any one of them the finder scope slid down and hit you in the eye. Welcome to Astronomy—ouch! However, we kept it more or less pointed at the moon all night and people did use it and track the moon a bit.

The club members who attended provided a whole range of equipment - binoculars on a tripod, an ST-80 on a Portamount, an 80mm APO on a minitower, an 8" reflector on a G-8, and two bigger dobs. This helped keep the lines short, but also gave people a nice overview of how the same target

looked in different scopes and scope designs. So if you are ever wondering if an extra scope will be helpful at an outreach event, the answer is yes for both reasons mentioned above! I brought both versions (normal and mirror image) of the S&T laminated map of the moon, and quite a few people used them and began to appreciate lunar geography a bit. The terminator went right through Sinus Iridum, and I don't think there's a better time for lunar observing than this because in the north you've got the Maria and in the south the cratered highlands for contrast. Plato and Copernicus were both easily visible too.

One of the students (Molly) took home an NHAS application and her parents were supportive of her joining the club. I will ask the teacher for her parents' contact info so someone can get in touch with them.

★ Ted Blank

## Portsmouth Children's Day, 1 May 2011, Portsmouth NH

Ken Charles, Marc Stowbridge, and Ted Blank set up four solar scopes in the parking lot of the Thomas Leighton Cruise Ship for the 2011 Portsmouth Children's Festival. We had hundreds of visitors of all ages. The sky was blue and cloudless and lots of interesting features were visible on the sun. Tom Cocchiaro was going to be coordinator but could not get home from Florida in time due to the delay in the launch of the space shuttle Discovery, but he kindly made available his tent, tables, solar posters and other equipment.



**(Ted Blank photos)**

Barbara Massar, the director of Pro Portsmouth who organized the day, stopped by at the end and enjoyed a nice long sit-down (her first of the day!) and view of solar prominences and sunspots. She expressed her appreciation to NHAS and looked forward to seeing us again at Market Square Day. **Sheila Charles** was also on hand to lend some extra sunshine to the activities.

★ Ted Blank



Sunshine through Soulshine with Ken Charles



Marc offers both white light and H- $\alpha$

## Boy Scout Camporee, 13 May 2011, Hudson NH

Despite the star-gazing part of the Camporee event being called off for Hudson NH, I decided to go anyway as I live just down the road from where it was taking place. The weather held up and I had over one hundred Scouts look at Saturn and the moon through my 17-1/2" reflector. I have to say I was impressed by the leaders who kept

things well under control as they organized visitations by groups of approximately ten at a time. I never felt overwhelmed.

★ Joe Derek

## Weeks Public Library Sky Watch, 13 May 2011, Greenland NH

We had about thirty people attend the indoor talk at the Weeks Public Library, and then come out for observing next door at the Greenland Central School. On site from NHAS were **Ted Blank, Herb Bubert, Larry Lopez, Tim Mauro, Don McDaniels, Jim Moe** (a friend from Portsmouth), and **Paul Winalski**. One of the visitors brought his Meade ETX 90, which gave nice views of the Moon and Saturn. They had no idea how to align it or use the handset. Unfortunately neither did any of us who were trying to help them. I suggested they come to First Friday at MSDC where there would no doubt be Meade-a-holics in great numbers. Skies were clear and very steady. The view of Saturn in Herb's big Starmaster dob were to die for. Don M. had a red filter in his 8" dob which brought out the Moon craters very nicely. Seven people from the school next door also came over.

The librarian was able to get the parking lights turned off, which was great. Unfortunately, we had all tucked back into a corner behind a building which ended up having lights all over it... live and learn. Next year we'll get it right.

Thanks again to everyone who came out.

★ Ted Blank

## Board of Directors Report

The Chairman is still not doing well on getting things done that need to get done. The subject of how the buildings at YFOS are fairing, and what near and long term maintenance issues came up at the last officers' meeting. As agreed I did contact a club member in the construction trade who is willing to

take a look at the buildings with this in mind. Replacing a roof for example is expensive so we should start thinking of setting aside money for such things.

I do have some feedback that the club tent may need some new bungee cords that hold the tarp to the frame. Perhaps some knowledgeable member would be willing to locate replacements?

★ John Rose, Chairman

## Rye NH Library Scope Delivered

I delivered the Rye Library Scope today, May 10th, with Marc's modifications, and I will be going back to provide some additional training for the staff when they can schedule it. This is a picture of me and Lyn Beattie, a member of the group called Friends of the Rye Library who funded the purchase.



The Library Director, Andrew Richmond, got a quick look at the scope between meetings. It should be circulating shortly.

★ Ted Blank

## NHAS April 2011 Business Meeting

The April business meeting was held at the McAuliffe-Shepard Discovery Center on 15 April, our President, **John Bishop**, presiding. Attendance was light—lots of our regulars were at NEAF.

### President's Report

Rob Teeter will be giving a talk at 3:00 PM 4 June at Merrimack College in Andover MA. The talk is free and open to the public; room/location to be determined.

Aerospacefest 2011 takes place on 30 April. Please sign up!

**Board of Directors**

**John Rose** reports that a budget for the mount for the club's Lunt scope has been approved, and might be purchased this weekend at NEAF.

**Membership**

No report from chairman **Bill Steele**. The email list cleanup has happened.

**Webmaster**

No report.

**Educational Outreach Committee**

**Matt Amar** reports that the EOC hasn't had any meetings lately, but is hoping to relocate and to get back to regular meetings.

Aeospacefest 2011: Please sign up for event duties. We have publicity posters—take them if you can distribute them effectively.

Rey Center Update: The scheduled events for January-March were couled out. 2 April (Matt Amar presenting) did happen, with a modest turnout of about two dozen people. The skies there are very nice. **Rich Schueller** reports that we will commit to another three events before we have the review of the program with the Rey Center coordinators.

**Astrophotography**

**Gardner Gerry** reports that there is not much new, but be sure to see the recent postings to the "Pictures" forum for some amazing images!

There was a request for Gardner to set up an Astro 101: Astrophotography class.

**Public Observing**

No report.

**Miscellaneous Business**

We need future guest speakers!

**Book of the Month**

None.

**Scope of the Month**

None.

**OzSky 2011**

**John Bishop** gave a presentation on his experience at the OzSky 2011 event. OzSky is an annual event hosted by the Australian branch of the Three Rivers Foundation (3RF).

3RF is an educational outreach organization with branches in Texas and Australia. OzSky is presented by 3RF each year as an opportunity for northern hemisphere amateur astronomers to enjoy the wonders of the southern hemisphere sky. NHAS members **Paul Winalski**, **Rich DeMidio**, and **Jean Buckley** have taken advantage of this unique observing opportunity in the past, and have reported on how wonderful the sky is. John's presentation focused on logistics and other matters.

Things to bring:

- John Bambury's list of 600 southern sky objects
- A red flashlight (dim) to read your list
- A southern hemisphere planisphere
- A notebook to record observations
- Something to read during the day
- You don't need a log of clothes; the motel has a laundry room

Air travel:

- Quantas is nicer than United
- Upgrade if you can afford it; 14 hours in an economy seat is rough
- Get up and move around at least twice during the trip
- Break up the trip in two days if you can

Breaking up the trip in San Francisco:

- There's an OK Travelodge near the airport in Millbrae
- A mall with restaurants and so on across the street if you forgot something
- The 5 As is an excellent Chinese restaurant
- A hospital with an ER is less than a mile away

Hotel in Sydney

- Take the subway from Sydney Airport to "Central"
- The Mercure is an easy walk from the subway
- Breakfast at the hotel is expensive, but there's a cheap (but nice) place outside ("Michels").

Sydney

- Go on the optional tours hosted by 3RF
- The Botanical Gardens, especially the succulent garden, is worth a visit, and you can walk there from the hotel
- Be sure to check out the mineral exhibits at the Australian Museum
- There are good restaurants near the hotel—Spice I Am (Thai) is especially recommended

Australian Food

- Australian coffee is like espresso. Order a "short black" for the closest thing to US coffee.
- There are lots of cheap beef dishes, but the meat can be gristly.
- They put a lot of white sauce on the beef.
- The fish is good.
- Kangaroo tastes like venison.
- Be sure to try sausage rolls and beef pie.
- They may ask if you want more salt—say "no"!

The Train

- Central has **two** stations: the subway (tunnel to get there) and the trains (CountryLink) on the upper level. Make sure you allow at least half an hour to get from the hotel to the platform where the train leaves to Dubbo; it's easy to get lost in the two stations and you don't want to miss the Dubbo train.
- The upgrade to first class is worth it to get away from noisy, poorly behaved children.
- They have adequate food on the train, but bring water with you.
- Be prepared to photograph the scenery from the train!

Rental Car

- They drive on the left in Australia. Beware of turning on the windshield wipers when you intended to use the turn signals.
- Be sure **not** to rent from the agencies in Dubbo Airport as it's far from the train station. Ask when you rent where they are located.
- You won't be driving much.

- Stop at the Woolworths supermarket in Coonabarabran and buy groceries for the week.

#### Motel

- It's a camping-type motel with lots of beds in each room.
- They don't do daily maid service.
- Each room has a kitchen (stove, refrigerator, sink).
- There are clothes lines to dry towels and clothing on.

#### The Sky

- It's as amazing as Paul says.
- Don't miss Thor's Helmet in the 30-inch scope!

#### Evening Presentation

**Dave MacDonald** showed us a movie on the IBEX mission.

#### The Bottom Line

<b>Starting Balance:</b>	<b>\$7367.14</b>
<b>Deposits/Credits:</b>	
Membership:	240.00
Donations:	365.00
Bank Interest:	1.85
Total :	606.85
<b>Accounts/Paid:</b>	
Cynric (plowing):	234.30
Ryhmes Propane	65.78
Rackspace Cloud	20.36
Total:	320.44
<b>Net Account Balance:</b>	<b>\$7653.55</b>
<b>Petty cash drawer:</b>	\$100.00
<b>Cash Balance:</b>	<b>\$7753.55</b>

**Membership:** 139

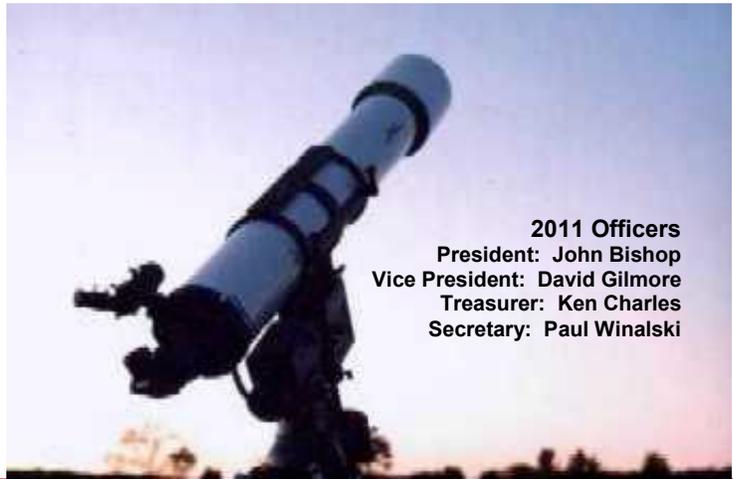
#### Donations:

Friends of Rye Public Library  
(LTP) 75.00  
**Kristy Tierney (EOC)** 5.00

#### New Members:

**Kristy Tierney**, Candia NH  
**Stuart May**, Weare NH

★ Ken Charles  
NHAS Treasurer 2011



**2011 Officers**  
**President: John Bishop**  
**Vice President: David Gilmore**  
**Treasurer: Ken Charles**  
**Secretary: Paul Winalski**

**DEADLINE June 2011 Issue: 5 PM June 13**

E-mail articles to the Editor.

**CHANGE OF ADDRESS** – Notify the Treasurer of changes to postal or e-mail address.

**How to Join N.H.A.S.**

**Write to us:**

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P.O. Box 5823  
Manchester, NH 03108-5823  
Attn: Treasurer

**Send E-mail to:**

[info@nhastro.com](mailto:info@nhastro.com)

**Use our web site:**

<http://www.nhastro.com/>

**This month's contributors:**

John Bishop, Ted Blank, David Gilmore, John Rose, Stijn Brand, Joe Derek, Ken Charles

**New Hampshire Astronomical Society**  
**P.O. Box 5823**  
**Manchester, NH 03108-5823**



## NHAS Upcoming Events

Event	Date	Time	Location
Nashua High School North Sky Watch	May 21	8:00 PM	Nashua High School North, Nashua NH
Goffstown High School Sky Watch	May 26	8:00 PM	Goffstown High School, Goffstown NH
NHAS Coffee House Night	May 27	5:00 PM	YFOS
Astro 101: YFOS Orientation Workshop	May 27	6:30 PM	YFOS
Gilmanton School Sky Watch	May 27	7:30 PM	Gilmanton School, Gilmanton NH
Discovery Center Sky Watch	June 3	7:00 PM	McAuliffe-Shepard Discovery Center, Concord NH
Rey Center Sky Watch	June 4	6:30 PM	Curious George Cottage, Waterville Valley NH
New Boston Cub Scout Sky Watch	June 4	7:30 PM	Whipple Free Library, New Boston NH
Educational Outreach Committee Meeting	June 9	7:00 PM	McAuliffe-Shepard Discovery Center, Concord NH
Market Square Day	June 11	9:00 AM	Market Square, Portsmouth NH
Sidewalk Astronomy	June 11	7:00 PM	Market Square, Portsmouth NH
NHAS Business Meeting	June 17	7:30 PM	McAuliffe-Shepard Discovery Center