



# OBSERVER



Vol. 2013, No. 1

Newsletter of the New Hampshire Astronomical Society

January 2013

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The new "Observer" was designed,  
compiled, written and edited by  
Tom Cocchiaro

## Vision for 2013 NHAS Leadership to Strive for Balance Between Outreach and Member Needs



As I write my first message for the 2013, I struggled with how to start it. Initial thoughts were "Take Two", "Here we go again", or "The second time is easier", but they all seemed

inappropriate and self-centered. Instead, I decided to open by expressing my gratitude to the people of this wonderful organization for making NHAS what it is. I learned a long time ago that the most valuable commodity that any organization has are their people. We would never have achieved the accomplishments NHAS has enjoyed without the passion and dedication of the membership. Being President is an honor and privilege and I am ecstatic to have the opportunity to once again serve.

NHAS has done an exemplary job over the past several years in public outreach but there has been a cost to that in that we have lost some balance with meeting the needs of our membership. What we need to do is slightly adjust the counterweight in order to have a more equitable balance of activities designed for our membership. The good news is that I believe that we can have our cake and eat it to! Therefore, our theme for 2013 is "members first".

I held an officer meeting Jan. 12 where I shared this vision with the officers and board. Everyone agreed that we need to have more

focus and activities for the members, by the members who have the knowledge. The term "in-reach" was mentioned which really sums of the thought process. We examined creative ways to effectively share knowledge, ways to streamline our operations, and how to capture input from the membership. I presented this vision to the membership at business meeting on Jan. 25 where it was well received. I would be remiss if I did not take the time to thank the prior administration for their outstanding contributions. NHAS accomplished a lot over the last two years under the leadership of President **John Bishop** and Vice President **David Gilmore**. Our finances were effectively managed by retiring Treasurer Ken Charles. We all extend our thanks and appreciation to all of you for your dedication and outstanding work. I also want to extend my thanks to Paul Winalski for staying on as Secretary for another term. Once again, I will depend on Paul for his parliamentary knowledge and guidance.

We all have passion with Astronomy and various aspects of it. My passion will be to serve NHAS as best as possible in leading this great organization in 2013.

Clear Skies,  
**Rich DeMidio,**  
**NHAS President 2013**

## Amherst Public Library (Dec. 19)

I got to the library at 6 p.m., for what proved to be an uneventful presentation. We only had 4 people in the room. Afterwards, we all went outside. As it turned out, it was Junior Book Club Night at the library, and a large group of kids came out and we had a nice skywatch. Also on hand were members of the Aldrich Astronomical Society.

★ **Ed Ting**

## Portsmouth Sidewalk Astronomy (Dec. 22)

**Ted Blank, Curt Rude** and **Gardner Gerry** manned four scopes in Market Square for a chilly monthly Portsmouth Sidewalk Astronomy session. "For the first hour, a choral group serenaded us (and the town) with Christmas Carols," said Blank. "Then we had the corner to ourselves for the rest of the evening. Blank said he got there about 5 p.m., followed by Gerry at 5:30 and Rude about 6:30.

"We all stayed until close to 10 p.m.," said Blank. "I stayed on the Moon all night, with my usual setup with maps of the Moon, but this time I added an 80mm with video camera on a 9" LCD television so people could see the terminator, the mare, and watch the Moon move as the earth turned. My high power scope was the 150mm Mak which was visual only but on a tracking mount. Gardner had the 9 1/4" and Curt had the 8" XT and went back and forth between Jupiter and the Moon. Gardner also showed M42, and pretty well for the light conditions. Gardner reminded me about half way through the evening to set up the donation scope, and between then and breakdown we got \$40 in donations.

★ **Compiled from a Report by Ted Blank**

## First Night Portsmouth (Dec. 31)

Despite dire predictions by the Clear Sky Clock and other weather outlets for cloudy conditions throughout First Night Portsmouth, a clear window opened starting at 5 p.m. and stayed open till 8:45 providing some of the best ever views of Jupiter I've ever seen in a scope. **Shane Cross** and I represented NHAS at the event and connected with hundreds--if not thousands--of revelers in

the downtown who waited in lines (that sometimes ran nearly all the way from Market Square to State St.) for a glimpse of what was a rare, picture-perfect apparition of Jupiter in all it's glory. At 215X in the 9.25 Celestron multiple features were razor sharp and distinct including many cloud bands with roiling detail, the Great Red Spot and all four Galilean moons spread out in a line across the field of view.

In all we had three scopes set up--one had to be left unattended (the Vixen) but managed to stay on target most of the night despite young folks trying to do chin-ups on the eyepiece from time to time. Shane brought his 120mm Celestron, I brought a Celestron 9.25 mounted on an Atlas EQ-G outfitted with a Televue T6 13 mm most of the night, and a Vixen ED80sf mounted on an iOptron MiniTower running at 53x also with a second Televue T6 13mm.

We made lots of contacts and handed out lots of brochures. Shane even got a \$10 tip from someone who told him to "have a beer on me."

We set up at 4 p.m. and stayed on station till the last stroke of the bell at midnight on the Old North Church bell tower--and deafening crowd countdown--logging 8 straight hours on the chilly square. The oohs, ahhs and gratitude of the crowd made it all worthwhile.

★ **Tom Cocchiaro**

## Goffstown High School (Jan. 3)

A couple of teachers and about half a dozen students showed up for the Goffstown High School Skywatch Jan. 3. **Gardner Gerry, Rich DeMidio** and I manned telescopes at the event. Unfortunately things clouded over rapidly just as we were getting started. However, all of the students got multiple views of Jupiter and I managed to catch M42, and later, Gamma Arietis through a sucker hole, but that was about it. We spent a lot of time chatting with the students about things astronomical while waiting for breaks in the clouds that never came.

Mike V. brought a propane heater to help us keep our hands warm, and it was most welcome--the temperature was 11 degrees!

★ **Paul Winalski**

## Salem High School (Jan. 10)

The skywatch took place as scheduled. Participating NHAS members were **Paul Winalski, John Bishop, Gardner Gerry, Ted Blank, Steve Rand**, and one other member attending his first skywatch. **Gary Duranko**, the teacher who organized the event, also joined us.

This event was open to the public so Cub Scouts and their parents taking part in another program at the high school came out to look through the telescopes. One woman who was there introduced herself as Salem High School's principal, so we're getting good exposure with the school's management.

Sky conditions were turbulent, although there wasn't much wind on the ground. A big patch of clouds went through, but things cleared up very nicely later on.

As soon as we set up we noticed that there was a Jupiter shadow transit in progress so we shooed all of the indoor presentation participants outside briefly so that they wouldn't miss it. My 14" reflector wasn't cooled down enough to show this, but John Bishop's off-axis 6" scope gave an excellent view.

Other things that I showed over the course of the evening were M42, Sigma Orionis, Rigel as a double star, the Pleiades, W. Orionis, R. Leporis, M31, M37, M36 (or was it M38?), M35, the Perseus double cluster and the Christmas Tree cluster.

★ **Paul Winalski**

## Manchester West Side Library (Jan. 23)

**Steve Rand** gave a presentation to the library audience and Ted Blank and I had telescopes set up in the parking lot of the Senior Center next door. Few people actually came out, probably because it was the coldest night in 2 years. 5°F when we left around 8:15 p.m. I showed the moon, the Pleiades, M42 and Jupiter to the hardy folks that did come out to the scopes.

★ **Gardner Gerry, Public Observing Cochair**

## EOC Library Telescope Update

January 2013 has proven to be a milestone for the library telescope program. It marks the final delivery of the last five Oceanside Photo and Telescope-donated scopes and enters us into a new era of challenges to gather funding and try to fulfill the new requests. We have new unfulfilled requests from the Fiske free library in Claremont, Ingalls Memorial library in Rindge and the Brewster Academy in Wolfeboro.

Volunteers at the modification party, held Jan 27 at the McAuliffe Shepard Discovery Center in Concord, completed the last six of the 64 scopes noted in the LTP website forum. Scopes went to Bradford, Colebrook, Chester, Fremont, Bow, Hopkinton and Bedford Libraries, the Gafney Library in Sanbornville, the Kimball Library in Atkinson and Tracy Memorial Library in New London.

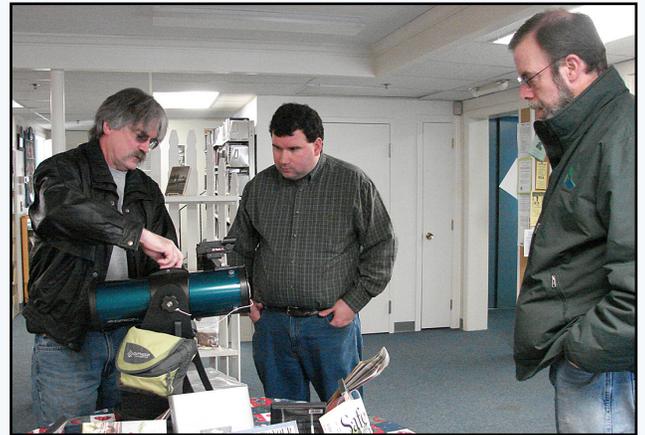
★ **Pete Smith, Library Telescope Program Chair**

## Two More LTP Scopes In Merrimack County

LTP Telescopes went out to the Tracy Memorial Library in New London and the Brown Memorial Library in Bradford on Tuesday, Jan. 29. Although the fog so thick you couldn't see more than five feet in front of you, it didn't dampen the enthusiasm of both library staffs receiving their new acquisitions. When I returned to fix a finder mount problem on Monday, the staff reported to me that Bradford patrons seemed quite excited with the telescope. Both libraries are planning to request skywatches in the near future.

★ **Steve Rand**

*Brown Memorial Library staffers pose with their new telescope. Left to right are: Library Trustees Patty Furness and Bea Howe; Meg Fearnley, library director; and Library Staff members Maggie Ainsless and Jean Kennedy. --Courtesy Photo*



Top, Pete Smith, NHAS Library Telescope Program chair, gives a library telescope orientation to Tim Sheehan, Chester Library director; and Jeff Venner, an NHAS member.

Middle, Jeff Eitreim, NHAS member & Library Trustee, presents a library telescope to the staff of the Hopkinton Town Library. Pictured left to right are Eitreim, Leigh Maynard, children's Librarian; Karen Dixon, reference librarian and Donna Dunlop, library director.



Members of the January LTP modification crew pose with a get-well sign for recently injured Marc Stowbridge, father of the LTP program. Pictured, left to right are: Gerry Smith, Pete Smith, Walt Jablonsky, April South, Ted Blank, David "Rags" Gilmore, Steve Rand, Curtis Rude, Mike Miller, Scott McCartney, Andy Jaffe, Tom Cocchiario and Jeff Eitreim.--Ted Blank Photo

Bottom, Molly Milazzo, library assistant in charge of technology and teen services for the Baker Free Library, poses with their new telescope delivered recently by Andy Jaffe.--Courtesy photos



John Bishop, far right, introduces new officers at the December Social. Left to right are Cocchiaro, Gilmore, Winalski and DeMidio. Click [here](#) for background on the new team.--Ed Ting Photo

## December Business Meeting

Fellowship, fun and food were the focus of December’s business meeting held Dec. 14 at the McAuliffe Shepard Discovery Center. Though the three-hour get together covered all the expected official meeting requirements, much of the time was devoted to thanking outgoing officers for their efforts over the past year, remembering successes and the work ahead, and welcoming a new leadership team—with a unanimous vote.

New officers are: **Rich DeMidio**, president; **Tom Cocchiaro**, vice president; Paul Winalski, secretary; **David “Rags” Gilmore**, treasurer; and **Ken Charles**, new junior director.

Outgoing president **John Bishop** said his time in office was challenging but that he had great people to work with and his term proved to be an overall good experience. “I’m going to miss the officer’s meetings,” he said.

Then Junior Director **Ted Blank** penned a poem to recognize John’s time at the helm and shared it with the group.

*Although our club is not super religious,  
for two years our President has been a Bishop.*

*He’s led us in meetings and skywatches too  
and also, seemingly, out of the blue  
he found us great speakers, who taught us  
a lot and left us with plenty of good food for  
thought.*

*He’ll teach you to star-hop as long as you  
practice even though, like his scope, he’s a  
little off-axis.*

*With his eye to the eyepiece the heavens  
he reads, but his moustache provides all  
the filters he needs. So with thanks for your  
efforts, we say to you John, your style of  
observing has really caught on.*

*Your great contribution as we bid you adeiu?  
Now all of our members are off-axis too!*

**Gardner Gerry**, outgoing director gave a state of the society overview and said the club is alive and well and mentioned that loaner scopes are still available for checkout. He added that **Joe Derek** was planning to do a little refurbishing at the Young’s Farm Observing Site starting this Spring.

Education Outreach Committee CoChair **Rich Schueller** reported on the work of the group saying that new scopes bound for libraries were ordered recently through the NHAS partnership with Cornerstones of Science. Plans are to schedule future library telescope deliveries twice a year on May 15 and Oct. 15. He also said the EOC plans to put together more member –only events, more club-centered skywatches and “Intro to Astronomy” programs that would be held just before the Spring Messier Marathon and just after the Fall MM.

Schueller also said the club’s Rey Center skywatch commitment is covered through 2013 except for December and that it would be nice to have more volunteers to help with that program and other upcoming EOC projects.

Membership Chair **Bill Steele** reported that the club has one volunteer to teach Astro 101 and 102 courses but encouraged more experienced members to share their knowledge through workshops and educational presentations. He said he would be working with the EOC to create more hands-on educational opportunities for members. Volunteers are particularly needed to present programs on astronomy lore.

**Herb Bubert** was introduced as the new chair of the Astrophotography Committee. He thanked Gerry for his efforts as past chair and invited members to check out member astrophotography in the forums. Bubert will be hosting an astroimaging workshop March 15. See the related story on the program on Page 6 for details. ★

Thanks to everyone who came and who provided plates full of delicious delicacies for the evening. It appears one of the more popular offerings was a certain chicken pot pie which disappeared quickly. So good was it that many members hunted down the chef to get the recipe.

## Treasurer’s Report

**STARTING BALANCE** .....\$12,887.70

### DEPOSITS:

MEMBERSHIP ..... 660.00  
DONATIONS..... 1380.00  
CALENDAR SALE ..... \$63.00  
**TOTAL**.....2103.00

### ACCOUNTS PAID:

JAMECO ELECTRONICS (LTP) ..... 10.27  
BARNES & NOBLE (LTP) ..... 49.76  
OPT (LTP) ..... 520.46  
CORNERSTONES ..... 1,051.00  
OF SCIENCE (LTP)  
**TOTAL**..... 1,631.49

**NET BALANCE:** ..... 11,319.21

**PETTY CASH:** ..... 100.00

**CASH BALANCE:** .....\$11,419.21

**EOC SHARE:** .....\$5,779.13

**CURRENT MEMBERS:** ..... 109

### NEW MEMBERS:

**DWIGHT LANPHER**  
NORTHEAST HARBOR, ME

**ALAN KAPLAN**  
MANCHESTER, NH

**SUE MCPHEE &  
RICK MARSHALL**  
HILLSBORO, NH

### DONATIONS:

DAVE WEAVER..... 10.00 ..... GEN

LUANNE PIGEON ..... 20.00 ..... EOC  
(CONCORD SCH DIST)

BEDFORD PUBLIC LIBRARY .... 250.00 ..... LTP

KIMBALL LIBRAR ..... 250.00 ..... LTP  
(ATKINSON, NH)

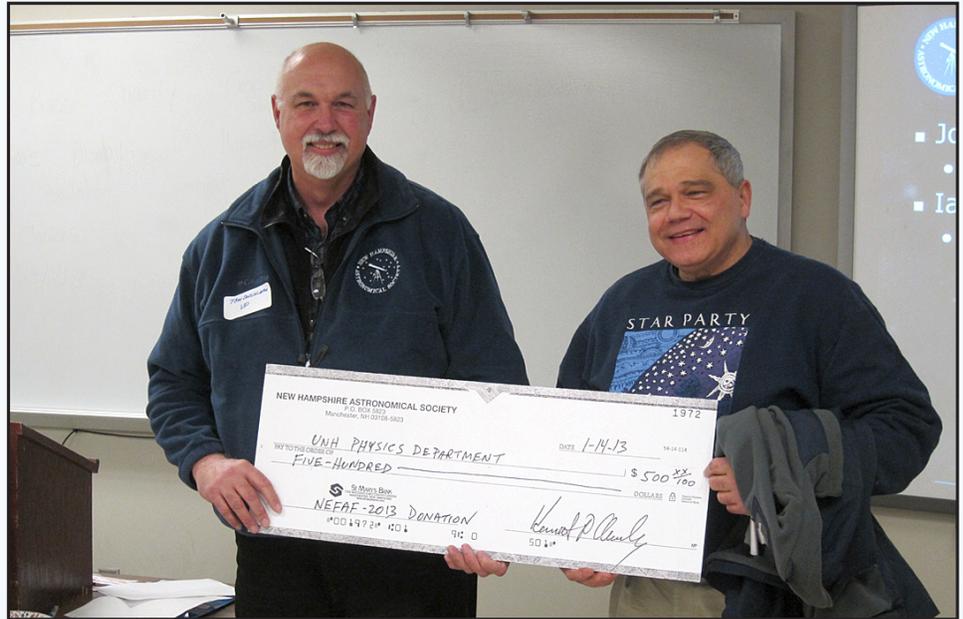
PATTY FURNESS..... 250.00 ..... LTP  
(BROWN MEMORIAL LIBRARY)

## January Business Meeting

The society's new slate of officers introduced a new vision for the club at January's business meeting held Jan. 25 at St. Anselms College in Manchester. Speaking to a packed house, returning NHAS President **Rich DeMidio** proposed a new direction for the club starting with efforts to strike a balance between outreach and member-centered activities and educational opportunities. DeMidio explained that investing more time in member-related activities builds enthusiasm and involvement leading to increased participation in club activities and public outreach.

He said that over the past several years, the club has excelled at public outreach through participation in public events like MSDC's Aerospacefest, the New England Fall Astronomy Festival and school science fairs; the Library Telescope Program and monthly skywatches. While NHAS has received local and national recognition for its efforts—those accolades have come at the expense of membership focus and heavy reliance on a small core group of people who are quickly reaching burnout. He added that the current pace is unsustainable and that officers will be working toward a balance that meets both member needs and the needs of those excited about learning more about the fascinating universe in which we live.

DeMidio said the club membership is split up into several different groups: those who joined to develop their observing or astrophotography skills, those who are here to acquire and share knowledge about astronomy and



NHAS Vice President Tom Cocchiaro, left, presents a check for \$500 to John Gianforte, chairman of the New England Fall Astronomy Festival set for Sept. 13-14 at the University of New Hampshire Observatory in Durham, N.H.--Ted Blank Photo

those who enjoy rubbing elbows with the public to share their knowledge and experience the excitement of novices seeing the wonders of the universe for the first time. The mission for 2013 will be to meet member needs and to tap our members' unique interests and skills for the benefit of all. To that end, the club will be sending out a survey in the near future to learn what members want and how they'd like to be involved.

Some immediate changes have already been implemented like a new meeting format that provides more time for member networking and sharing during the meeting times a pre-meeting "Ask the Astronomer" session and the elimination of committee reports that may be easily found in the online forums. Officers also voted to add a post-business meeting skywatch and schedule more in-house guest speakers.

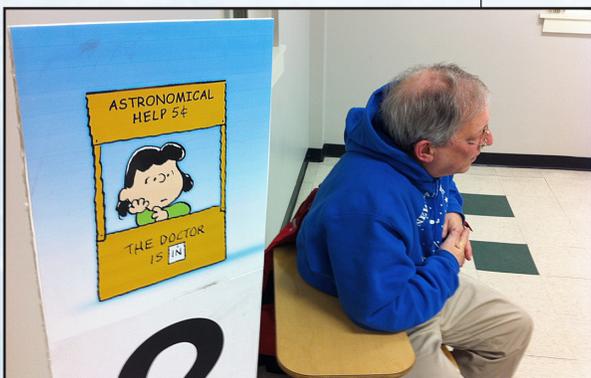
To reach a wider audience, the club leadership will be investigating the use of social media, digital media, web conferencing and a two-way presence on Facebook that will provide an opportunity to better engage with the public.

DeMidio added that he hopes to take better advantage of the club's website capabilities by posting club-

generated training and informational videos, distributing surveys and polls and by making it easier for members to communicate through the forums.

**John Gianforti**, chair of the highly successful New England Fall Astronomy Festival, spoke to the group about this year's program set for Sept. 13-14 at the University of New Hampshire Observatory in Durham, N.H. This year's keynote speaker will be Dava Sobel, acclaimed author of "Galileo's Daughter," "Longitude," and "A More Perfect Heaven: How Copernicus Revolutionized the Cosmos." Gianforte thanked the group for its past support of NEFAF and put out the call for volunteers to help with this year's festival which will be celebrating its third year. In particular, he asked for a club member to organize the evening public skywatches and coordinate the arrangement of telescopes in the observing area. At the end of his talk, NHAS Vice President **Tom Cocchiaro** presented him with a check for \$500 in support of the astronomy outreach gala. Cocchiaro and Gianforte are cofounders of the event

**Gardner Gerry** capped the evening with a beginners guide to astrophotography. ★



NHAS Director Ted Blank holds court over the first-ever "Ask the Astronomer" session held before the meeting. --Tom Cocchiaro Photo



Former Astrophotography Chair Gardner Gerry, left, and Herb Bubert go over the process of stacking images with an NHAS club member at a past astro imaging workshop held at the Nashua Public Library. Those looking to capture the wonders of the universe for posterity should plan to attend the workshop coming up March 15--the ides of March.--Tom Cocchiaro Photo

**Astrophotography Workshop (March 15)**

Astrophotography Committee Chair Herb Bubert will host an astrophotography workshop at 7 p.m., March 15 in the Salem High School Library. The original session was supposed to include a Jupiter imaging session before a workshop on processing, but Bubert decided that trying to image Jupiter as part of the workshop was “a little too ambitious.” Instead of a dual program, Bubert expects to hold a separate imaging workshop in the Spring where participants will actually set up their scopes and do some actual imaging.

He said he will still cover acquisition during the March session, but instead of processing images captured that night, he will work with attendees to stack and process digital video files that will be supplied workshop.

Those attending may also bring their own videos or images to practice on. Attendees are also encouraged to bring some USB thumb drives along to help speed up the process of transferring the practice video to individual laptops. Since the group won't be imaging at the March 15 workshop the event will be held cloudy or clear. ★

**Volunteer Lecturers Needed**

If you were at the January NHAS club meeting, you'll know that our theme for this year is balancing outreach (at which

we've been outrageously successful) with in-reach to our membership. As co-chair for the Public Observing Committee, I'd like to couple in-reach with outreach by getting more members involved (in-reach) in our outreach activities.

I hope will get more than the “usual few” involved in our commitment to sky watch events as “designated astronomers” and volunteers to be “designated lecturers” at one or more skywatches.

So what's involved? You'd be responsible for giving the indoor presentation that precedes most skywatch events which usually involves a 15-20 minute presentation on “What's Up in Tonight's Sky?,” the Moon (if visible); planets (if applicable); double stars, star clusters, nebulae, and galaxies--depending on the time of year. In other words, just a brief overview of what the participants are likely to see through the telescope that evening so that they will have a clue as to what they're seeing when they look through the eyepiece.

Most people preparing for a presentation read up on whatever they're planning to present--and guaranteed--you'll soon become more of an expert on it than the crowd you'll be presenting to. And if you're asked questions you can't answer--“I don't know” or “Science doesn't know” are always acceptable answers. You'll still be an expert compared to most members of your audience.

You do need the courage/hutzpah/empathy/whatever to speak in public.

This isn't for everyone. But if you've got public presentation/lecture skills, NHAS badly needs you to support our indoor presentations. And please don't think that you're stepping into a quicksand commitment if you agree to be a NHAS lecturer for an event. If you can do only one indoor presentation, that will help offload the three of us who are presently covering the events, and that will be a big help.

Contact Gardner Gerry or me via email if you are interested by clicking on the highlighted text in this sentence. We can use all the potential NHAS lecturers we can get.

★ **Paul Winalski, Public Observing Committee Cochair**

**Spring Messier Marathon (March 23)**

Following a long tradition, Larry and Linda Lopez will once again host the Spring Messier Marathon at their home in New Boston, N.H. starting in the late afternoon, Saturday, March 23 and continuing until the sun comes up Sunday morning. For those who'd like to hone their marathon skills in advance, members plan to gather March 16 at the Young's Farm Observing Site for a practice session. The rain date is set for Friday, March 29 or Saturday, March 23.

The Messier Marathon events feature a potluck supper and social time, and a full evening (and morning for those who last through the whole program) of observing and exploration. All NHAS members, family and guests are welcome. For those who don't have scopes or binoculars it's a great time to get acquainted with a host of faint fuzzies through the many scopes that will be there. The event is also perfect time for those members who do have scopes to get oriented to deep-sky-object observing.

There will be lots of folks eager to help members enjoy the Messier objects, and other wonders of the night sky, so attendees need not worry about their level of experience. Details are available to members only at the following link which leads to directions and background on the event in the forums. ★

**[Click here for Messier Marathon Directions and Background.](#)**

## Local Astronomy Clubs

### **New Hampshire Astronomical Society**

Monthly skywatches around the state including Saturday skywatches in downtown Portsmouth on the Saturday closest to the Quarter Moon  
[www.nhastro.com](http://www.nhastro.com)

### **Amateur Telescope Makers of Boston**

[www.atmob.org](http://www.atmob.org)

### **Astronomy Society of Northern New England** (Kennebunk, Maine)

[www.asnne.org](http://www.asnne.org)

### **McAuliffe-Shepard Discovery Center**

(Concord, NH)  
 Observatory and First Friday Observing  
[www.starhop.com](http://www.starhop.com)

### **North Shore Astronomy Club**

(Groveland, Mass.)  
[www.nsaac.org](http://www.nsaac.org)

## Magazines

### **Astronomy**

[www.astronomy.com](http://www.astronomy.com)

### **Astronomy Technology Today**

[www.astronomytechanologytoday.com](http://www.astronomytechanologytoday.com)

### **Sky at Night**

[www.skyatnightmagazine.com](http://www.skyatnightmagazine.com)

### **Sky and Telescope**

[www.skyandtelescope.com](http://www.skyandtelescope.com)

## Computer Software

### **Cartes Du Ciel** (aka Skychart) (Free)

[www.ap-i.net/skychart/](http://www.ap-i.net/skychart/)

### **Celestia**

[www.shatters.net/celestia/](http://www.shatters.net/celestia/)

### **Computer Aided Astronomy** (Free)

[www.astrosurf.com/c2a/english/](http://www.astrosurf.com/c2a/english/)

### **Earth Sky Tonight**

[www.earthsky.org/tonight](http://www.earthsky.org/tonight)

### **Google Sky** (free, online use only)

[www.google.com/sky](http://www.google.com/sky)

### **SkyMap Online**

[www.skymaponline.net](http://www.skymaponline.net)

### **Starry Night**

(many versions novice to expert)  
[www.starrynight.com](http://www.starrynight.com)

### **Stellarium** (free)

[www.stellarium.org/](http://www.stellarium.org/)

### **WinStars** (free)

[www.winstars.net/english/index.html](http://www.winstars.net/english/index.html)

## Online Live Observatories

### **SLOOH**

[www.slooh.com/about.php](http://www.slooh.com/about.php)

### **AstronomyLive**

[www.astronomylive.com](http://www.astronomylive.com)

### **Worldwide Telescope**

[www.worldwidetelescope.org/Home.aspx](http://www.worldwidetelescope.org/Home.aspx)

## Astronomy Gear

### **AstroMart**

(used astronomy equipment and advice)  
[www.astromart.com](http://www.astromart.com)

### **Celestron**

[www.celestron.com](http://www.celestron.com)

### **Explore Scientific**

[www.explorerscientific.com](http://www.explorerscientific.com)

### **Lunt Solar Systems**

[www.luntsolarsystems.com](http://www.luntsolarsystems.com)

### **Meade**

[www.meade.com](http://www.meade.com)

### **Oceanside Photo & Telescope**

[www.optcorp.com](http://www.optcorp.com)

### **Orion Telescopes**

[www.telescope.com](http://www.telescope.com)

### **Televue**

[www.televue.com](http://www.televue.com)

### **Vixen Optical**

[www.vixen.com](http://www.vixen.com)

### **William Optics**

[www.williamoptics.com](http://www.williamoptics.com)

## Other Web Sites

**Cloudy Nights** (Telescope, binocular and equipment reviews, astronomy forums)  
[www.cloudynights.com](http://www.cloudynights.com)

**Heavens Above** (spot satellites and the International Space Station)  
[www.heavens-above.com](http://www.heavens-above.com)

**NASA** (everything NASA)  
[www.nasa.gov](http://www.nasa.gov)

**SpaceWeather** (Solar activity, asteroid passes, sky activity reports)  
[www.spaceweather.com](http://www.spaceweather.com)

## Citizen Research Opportunities

**Galaxy Zoo**  
[www.galaxyzoo.org](http://www.galaxyzoo.org)

**Citizen Sky**  
[www.citizensky.org](http://www.citizensky.org)

**SetiQuest** (Join the quest for ET)  
[www.setiquest.org](http://www.setiquest.org)

**SetiLive** (Listen in on real signals live)  
[www.setilive.org](http://www.setilive.org)

**Seti@home** (lend your computer downtime to track ET)  
[www.setiathome.berkeley.edu/sah\\_about.php](http://www.setiathome.berkeley.edu/sah_about.php)

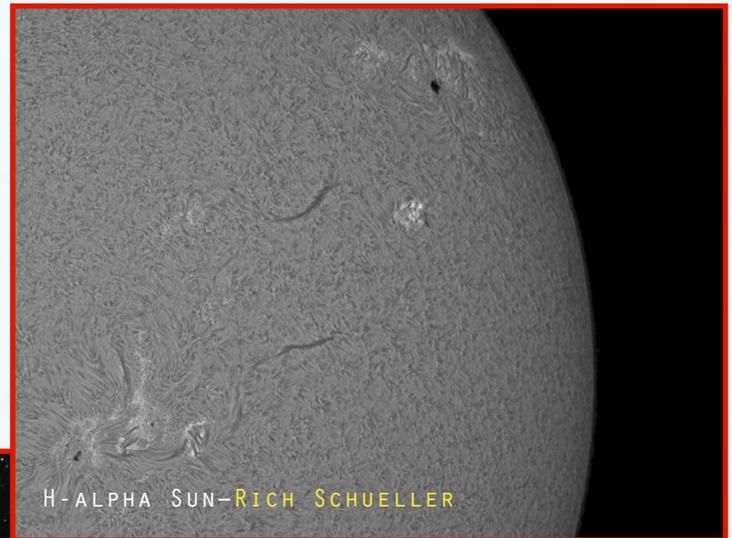
Mobile Astronomy Apps	
<b>iPhone/iPad</b>	SolarWalk
3D Sun	Star Chart
APOD Viewer	Star Gazer
Distant Suns	Star Search
Exoplanet	StarMap
FlyBy	StarWalk
FourthDay	Voyager
Galaxy Collider	
GoSkyWatch	<b>Android</b>
Mars Globe	Astronomy Picture of the Day
MessierList	Google Sky Map
Moon Globe	Mobile Observatory
MoonPhase	Moon Phase Pro
MyCSC	NASA App
NASA News	Planet's Position
Perpetuum	Space Junk Pro
Planetarium	Star Chart
Pocket Universe	Sundroid Pro Sunrise
SkyMap	Sunset
SkyMap Pro	Vortex Planetarium
SkySafari	



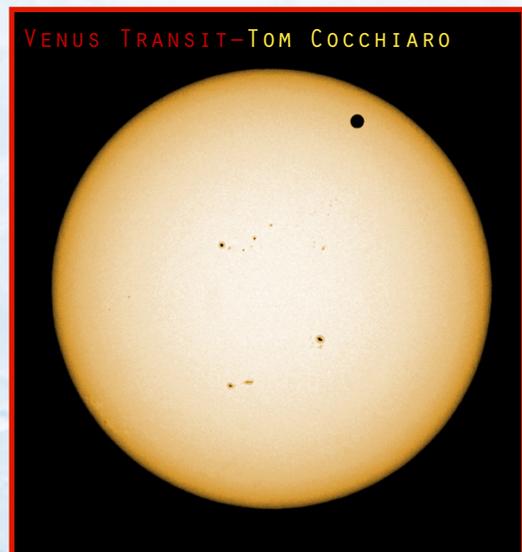
MOON COMPOSITE-ED TING



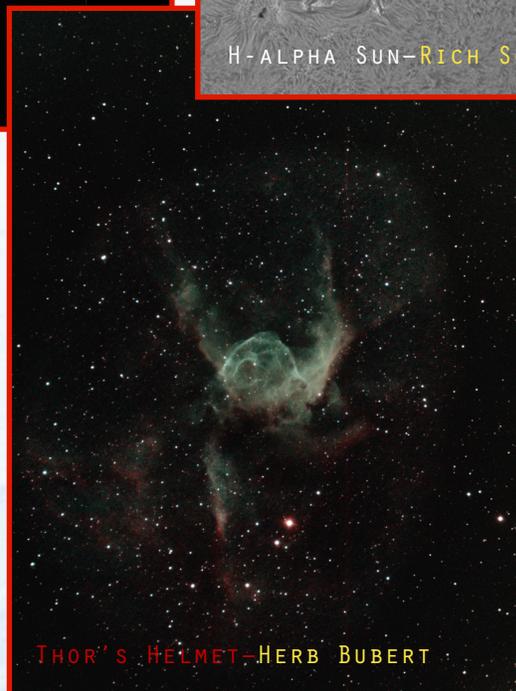
JUPITER MOON TRANSIT-HERB BUBERT



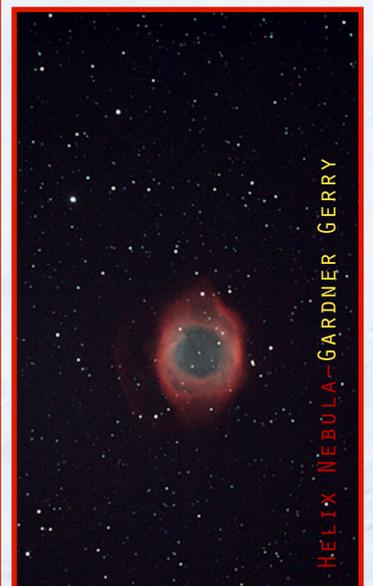
H-ALPHA SUN-RICH SCHUELLER



VENUS TRANSIT-TOM COCCHIARO



THOR'S HELMET-HERB BUBERT



HELIX NEBULA-GARDNER GERRY

<b>Fri Feb 8</b>	All day 7:30pm – 10:00pm	<b>NHAS Business Meeting</b> - McAuliffe-Shepard Discovery Center, Concord NH
<b>Sat Feb 9</b>	All day 5:00pm – 12:00am 6:00pm – 8:00pm	<b>Coffee House Night at Club Observatory</b> <b>Rey Center Skywatch</b> - Curious George Cottage, Waterville Valley, NH
<b>Sun Feb 10</b>		● <b>New moon 2:20am</b>
<b>Mon Feb 11</b>	6:30pm – 7:45pm	<b>North Hampton School Skywatch</b> - North Hampton School, 201 Atlantic Avenue, North Hampton NH
<b>Tue Feb 12</b>	All day 7:00pm – 8:00pm	<b>Lincoln's Birthday</b> <b>Skywatch for Hampton Academy</b> - 931 Ocean Road, Hampton NH
<b>Wed Feb 13</b>	6:30pm – 7:45pm	<b>North Hampton School Skywatch (backup date)</b> - North Hampton School, 201 Atlantic Avenue, North Hampton NH
<b>Thu Feb 14</b>	All day 6:30pm – 8:30pm	<b>Valentine's Day</b> <b>Educational Outreach Committee</b> - Manchester City Library, Manchester, NH
<b>Sat Feb 16</b>	6:00pm – 10:00pm	<b>Sidewalk Astronomy Skywatch</b>
<b>Sun Feb 17</b>	All day 5:15pm – 8:00pm	☾ <b>First quarter 3:31pm</b> <b>Skywatch for Frost Free Library</b> - 79 Frost Hill Road, Marlborough, NH
<b>Mon Feb 18</b>	All day 5:15pm – 8:00pm	<b>Washington's Birthday (Presidents Day)</b> <b>Skywatch for Frost Free Library (rain date)</b> - 79 Frost Hill Road, Marlborough, NH
<b>Thu Feb 21</b>	6:30pm – 8:30pm	<b>Skywatch for Bedford High School</b> - Benedictine Park, Wallace Road, Bedford NH
<b>Mon Feb 25</b>	All day	☽ <b>Full moon 3:26pm</b>
<b>Fri Mar 1</b>	7:00pm – 10:00pm	<b>Skywatch for McAuliffe-Shepard Discovery Center</b> - McAuliffe-Shepard Discovery Center, Concord NH
<b>Mon Mar 4</b>	All day	☾ <b>Last quarter 4:53pm</b>
<b>Tue Mar 5</b>	6:00pm – 8:00pm	<b>Hudson Memorial School Skywatch</b> - Hudson Memorial School, Hudson NH
<b>Thu Mar 7</b>	6:00pm – 8:00pm 6:30pm – 9:00pm	<b>Hudson Memorial School Skywatch (backup date)</b> - Hudson Memorial School, Hudson NH <b>Skywatch for Middle School at Parkside</b> - Parkside Middle School 75 Parkside Ave, Manchester, NH
<b>Sat Mar 9</b>	5:00pm – 12:00am 6:30pm – 8:30pm	<b>Coffee House Night at Club Observatory</b> <b>Rey Center Skywatch</b> - Curious George Cottage, Waterville Valley, NH
<b>Sun Mar 10</b>	All day	<b>Daylight Saving Time Begins</b>



## How to Join NHAS

### Write to us:

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P.O. Box 5823  
Manchester, NH 03108-5823

### Send E-mail to:

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

### Fill out the online contact form:

[Click here](#)

[www.nhastro.com](http://www.nhastro.com)

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Feb. 28, 2013

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