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THE NHAS OBSERVER AND COLUMBIA COMMEMORATIVE



Newsletter of the New Hampshire Astronomical Society

Volume 2003 No. 2

"All the news that fits in print"

February 2003

Running the Messier Marathon

President's Message

February brings us into another month of cold weather. To some, it only adds to the challenge to get out and observe. To others, it acts as a deterrent. I hope that is not the case for us as we reschedule our Freeze-Your-Buns event to February's Coffee House due to the cloudy weather conditions in January.

One of many things planned for this year is the choosing of an image for the 2003 club T-shirts [sold during the run-up to Astronomy Day]. We are asking members to bring what they think would be a suitable image for our shirts to the next meeting. Generally, it has been a famous telescope which can range from something historic to something of more modern design.

It looks like another busy club year as we participate in public observing events for schools and organizations throughout the New England area. Our thanks go to **Ed Ting** for giving of his time in coordinating these events and for his excellent public speaking presentations to all age levels. Many good things are spoken about the club by people who attend our skywatches.

As guest speaker at the Feb. meeting, Ed will share his expertise on how to find all the Messier objects in one night. This is an opportunity generally afforded to us one month a year.

This Messier Marathon will take place during the March Coffee House but at the **Lopez's** home. This has become somewhat of a tradition now for the club. Thank you **Larry** and **Linda!** Larry says that Plan B will use YFOS as the alternate site.

Happy observing,

★ Joe Derek
NHAS President 2003

Public Observing Highlights

On January 10th, four NHAS members went to Crotched Mountain Rehabilitation Center in Greenfield, NH. A short slide show was followed by an enjoyable skywatch under dark skies. But it was cold up there, about 5 degrees F. Club member **Herb Bubert** got his truck stuck in almost a foot of snow, but the strong muscles of the NHAS came to the rescue! We pushed Herb's truck free after about five minutes worth of effort. The skies were so good that Herb and **Mike Townsend** wound up staying after the skywatch was over. Thanks to Crotched Mountain staff member **Caralyn Menne** for her hospitality.

On January 15th, NHAS went to Cub Scout Pack #104 in north Manchester at St. Catherine's Church. After four years, we finally got clear skies for this event. A good thing, too – these kids have been watching my same presentation for four years now and they appreciated the opportunity to see live what all the excitement has been about.

A skywatch that was rescheduled from last month was held at the Wilkens School in Amherst, NH on Feb. 5th.

A CMP Skywatch was scheduled for Friday, Feb. 7 but snow was predicted for early that day and more snow fell than predicted – go figure!

★ Ed Ting

New Officers Chart Course for Club

On Feb. 2, somewhat subdued by the sad events of that morning, the club leadership met to discuss several issues for the coming year.

The following decisions were made:

- Move the club mailbox to the Manchester main office.
- Devise a simple database for tracking membership.
- Redesign the web site to give it a new look and feel.
- Research an observatory-grade telescope for the NHAS Observatory, and upgrade some cabinets at YFOS.
- Identify "just in time" volunteers.
- Complete an inventory of club property.
- Select representatives for Astronomy Day at CMP.

If you are not sure who your new officers are, here's a photo of (L to R) Jim, Todd, Joe, Mike, and Linda.



Noteworthy News
Columbia has been lost.....Page 2

On the web at <http://www.nhastro.com/>

The Columbia Has Been Lost



It's odd how you seem to remember forever where you were when a major disaster struck close to home. I was at church on that fateful morning of Feb. first with a crew repainting the sanctuary when a phone call apprised us of the disaster. We turned off the music, stopped to pray for the astronauts and their families, and then tuned in the news to get the details.

The flight of the Space Shuttle Columbia and STS-107 began on Jan. 16 with an awesome fiery liftoff but without much fanfare as another science mission. It ended in a fiery descent, a deep blow to our national pride, to NASA, and most of all to the



tight-knit cadre of families, friends, and coworkers of seven astronauts, who were waiting to see them touch down at the Space Center in Florida.

At the memorial service on Tuesday, Feb. 4, President Bush offered these words of comfort:

"Their mission was almost complete and we lost them so close to home. The men and women of the Columbia had more than 6 million miles and were minutes away from arrival and reunion. The loss was sudden and terrible, and for their families the grief is heavy.

Our nation shares in your sorrow and in your pride. We remember not only one moment of tragedy, but seven lives of great purpose and achievement."

Let us remember those seven lives, whose ages ranged from 41 to 48: Columbia Commander Col. **Rick Husband**, Shuttle Pilot Cmdr. **William McCool**, Shuttle Payload Commander Lt. Col. **Michael Anderson**, Shuttle Columbia Engineer Dr. **Kalpana Chawla**, Shuttle Columbia Pilot Capt. **David Brown**, Shuttle Columbia Physician Cmdr. Dr. **Laurel Clark**, and Shuttle Columbia Payload Specialist Col. **Ilan Ramon** of Israel.



Learn more about them by visiting NASA's web site dedicated to them: <http://www.nasa.gov/columbia>.

Space exploration is still a very risky business, but, for the cause of science and for the advancement of human knowledge, people still sign up to take those risks. **Michael Anderson** told his minister, "If this thing doesn't come out right, don't worry about me, I'm just going on higher."

I hope that investigators uncover some answers in the short run as to why it happened, but I also hope that we as a

nation, and NASA as our space agency, develop a new focus, a renewed sense of purpose, and set a new goal for space exploration more cogent than shuttles and space stations, goals that will capture the hearts and minds of the next generation as did President Kennedy on May 25, 1961 when he set the goal, "before this decade is out, of landing a man on the moon and returning him safely to the earth." This we must do to inspire future space explorers to take the risk and to honor Columbia's final crew, who faced the ultimate risk.

★ Michael Frascinella
Photos courtesy of Fox News

Web Uploads

A new design is in process to revamp the NHAS web site, based on comments from several members. If you have any HTML ability, let me know. The bulk of the work will be moving existing page content into the new format [which is a little like moving your belongings room by room from one house to another - Editor].

★ Barbara O'Connell

Thank You Note

I just want to say thank you to the members of NHAS for a great year in 2002. I really enjoyed contributing to the club as President. NHAS is made up of some truly great people. I hope you enjoy the club in 2003 as much as I have for 16 years.

★ Barbara O'Connell
2002 NHAS President

AstroStudents

We had a wonderful second session in the ASTRO-101 series. **Mike Stebbins** gave a fact filled review of solar system objects. It was a multimedia session as Mike used his computer for graphical support.

Eleven people attended, and four of them were at YFOS for the first time. There was a light drizzle right around the freezing mark so we didn't do any observing.

We did give the four first-timers a walk-through training session for the use of the site.

★ Bob Sletten

The Bottom Line

Balance: \$8500 (unchanged)
2002 members: 149

Welcome

NHAS welcomes these new members into our field of view:

- Gardner Gerry** Litchfield, NH
- George Cassidy** Amherst, NH
- Barry Mackinnon** Dunbarton, NH
- John Su** Grantham, NH
- ★ Jim Warendra

New Mini-Constellation

An article in *Sky & Telescope* about NGC 457 inspired me to do some research and this, coupled with my innate but off-the-wall pattern recognition capabilities, led me to a new hobby as a constellation inventor. The original ones have been around for a few thousand years, and, hey this is the 21st Century, we need something that is culturally contemporary.



Some texts describe this star cluster as being shaped like an owl, a lobster, or E.T. the movie alien. One of the creature's eyes is 5th magnitude phi (ϕ) Cassiopeia. In the preceding photo (a 40-minute wide image from the Digitized Sky Survey), if you face Polaris, then north is up.

After loading the image into PaintShop Pro and connected the dots, I found I had created the new mini-constellation of Chicken Boy.

If you have passed any of those fried chicken fast food places, or a mattress store or car dealer having a sale, you have probably seen the Chicken Boy. So this constellation honors those unsung folks who wear in chicken costumes to make a living.

★ Michael Frascinella

Looking Back at Last Month

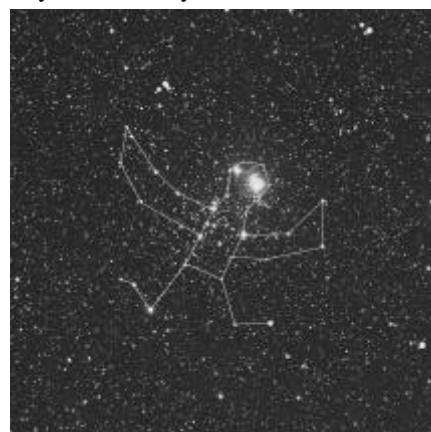
Opening. **Joe Derek** opened the first meeting of 2003 by welcoming **Clint Spare** and **Victor Thibeau**.

Book of the Month. none this month.

Scope of the Month. none this month

Committees. Web: **Barbara O'Connell** added a news item to the home page from a club member who went to Hawaii. Club e-mail lists would be purge soon and **Larry Lopez** was working on a secure method to keep track of members' names and their e-mail addresses. **ATMs:** **Larry** said the next ATM meeting would be in three weeks and a "Build Your Own Scope" program was in the thinking stage.

Membership: **Bob Sletten** noted that the next Astronomy class would be on Jan. 31 at YFOS. **Mike Stebbins** would be teaching on "The Planets." **John Pappas** would present "Navigating the Sky" in February.



Constellation of Chicken Boy

Public Observing. **Ed Ting** was relieved that the string of cancelled skywatches was broken by the ones held at Crotched Mt. and the Cub Scout Pack in Manchester. Upcoming events included Freeze Your Buns, Wilkins School in Amherst, and CMP. Ed also mentioned the great deal on Celestron

eyepieces at Rivers Camera Shop, Dover, NH.

YFOS. **Larry Lopez** said Jan. 25 would be a preparation day for the Jan. 31 Freeze Your Buns event.

Treasury. **Jim Warendra** reported

a balance of \$8500, and 145 members.

Goodies in the Mail. **Michael Frascinella** gave away astronomy CDs, posters, and bulletins received from his contact at JPL.

Awards. **Ed Ting** presented awards to **Herb Bubert** and **Mike Townsend** for their "outstanding support of public observing in 2002" (see photo). Congratulations Herb and Mike!



Joe Derek presented an award to **Barbara O'Connell** in recognition of her service as 2002 NHAS President. Congratulations, Barbara!



Other Notes. **Joe Derek** listed other items of interest: March 20 – request for CMP Skywatch; March 28, Messier Marathon; April, Boston Astronomy Day, no details yet; May 17, Astronomy Day at CMP; **Steve Brady** was featured in the news for discovering a supernova. Great work, Steve!

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Looking Back (Cont'd.)

Joe also announced that **Jeff Carter** has been appointed by the NH Speaker of the House to a position on the Christa McAuliffe Planetarium Commission. This must be the first time we've seen Jeff in a suit! Way to go, Jeff!



Guest Speaker. Chase McNiss presented the evening talk on "How o Not Freeze Your Buns in Winter." He began with the physiology of temperature stress, covering the body's various reactions to the cold. At a body temperature of 95 degrees, you are in trouble, in hypothermia. Next he covered heat loss – the various ways the body loses heat, including breathing.



Our objective should be to maintain body heat while observing the stars. To do this:

- Dress in layers to trap heat.
- Use shell clothing to lessen heat convection.
- Wear loose-fitting clothing.

- Keep cotton away from your skin by using synthetic fabrics.
- Bring extra clothing.
- Keep your head covered.
- Use thin nylon or polypropylene sock liners inside wool socks to keep your feet warm.
- For hands, use thick polypropylene gloves inside overmittens or stock up on chemical hand warmers.
- Use an attached hood; it's better than a hat alone.

Prepare for cold weather observing as follows:

- Gather your clothing the day before observing.
- Pack the clothing in a bag for ease of transport (to a remote site).
- Get plenty of rest.
- Eat well but allow time to digest your last meal.
- Don't wear the warm clothing in the car.
- Don't get fatigued.

A short question and answer session concluded the talk.

★ Michael Frascinella

NASA Space Place

Invisible Tornadoes

By Tony Phillips

The biggest problem with tornadoes – next to the swirling 300-mph winds – is that it is hard to see them coming.

But soon scientists will be able to foresee, not merely tornadoes, but the severe storms that spawn them, hours before there is even a cloud in the sky! Thanks to a new satellite technology being co-developed by NASA, NOAA and the U.S. Navy, emergency personnel will actually watch the invisible beginnings of a storm unfold.

"They are going to know where the storm centers are forming before the storms are there," says James Miller, project manager for Earth Observing 3 (EO3), a satellite that will test out this new technology in 2005 or 2006.

Unlike the tiny water droplets in clouds, the water vapor that feeds storms is invisible to the human eye. Water vapor is easy to detect, however, at infrared (IR) wavelengths. EO3 will use an IR-sensitive device called GIFTS-short for Geosynchronous Imaging Fourier Transform

Spectrometer-to make 3D movies of temperature, pressure, and water vapor in Earth's atmosphere.

Three or four hours before the storm clouds are visible, meteorologists will notice water vapor converging toward an area. This water vapor, which provides the "fuel" for the coming storm, is too close to the ground for today's weather satellites to see. Then meteorologists will check precisely how the air temperature over that area varies vertically (something else ordinary satellites cannot do). This temperature variation determines whether the humid air will rise to form storm clouds. And when these conditions look ominous, the meteorologists can alert the public.

The goal of EO3 is to "test drive" this new technology and prove that it works. If successful, NOAA plans to incorporate GIFTS-style sensors into its next generation of weather satellites.

These future satellites will give meteorologists exactly what they need in order to give the people exactly what they need: an earlier warning that tornadoes may be on the way.

GIFTS and EO3 are managed by NASA's New Millennium Program. NASA and NOAA will operate EO3 during its first year in geosynchronous orbit above the United States. If the technology works as planned, the U.S. Navy will assume control of EO3, move the satellite to a point above the Indian Ocean, and use it to monitor weather in shipping lanes there.

For adults, the EO3 web site at <http://nmp.jpl.nasa.gov/eo3> has more about the mission and the GIFTS instrument. For children, The Space Place web site at http://spaceplace.nasa.gov/eo3_compression.htm has a jazzy, interactive "squishy ball" demo of the data compression methods that will be used on EO3.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

DEADLINE March 2003 Issue: 5 PM March 1

E-mail your articles to the Editor. Phone if you have a late submission.

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Messier Marathon, Feb. 21, CMP

NHAS Upcoming Events

Event	Date	Time	Location
February meeting	Feb. 21	7:30 p.m.	Planetarium, Concord, NH
FYB Coffee House	Feb. 28	7:00 p.m.	YFOS
Windham Skywatch	Mar. 4	7:30 p.m.	Windham Center School, Windham, NH
CMP Skywatch	Mar. 7	7:30 p.m.	Planetarium, Concord, NH
March meeting	Mar. 14	7:30 p.m.	St. Anselm's College, Goffstown, NH