Mid-Hudson Astronomical Association

May, 2016

Website: www.midhudsonastro.org

Yahoo Group: MHAstro

President : Willie Yee
Secretary: Jim Rockrohr
Newsletter Editor: Rick Versace
Publicity: Paul Chauvet
Parks Liaison: OPEN

Vice President: Candace Wall
Treasurer: OPEN (Ken Bailey until June)
Membership Coordinator: OPEN
Webmaster: Paul Chauvet
College Liaison: Dr. Amy Forestell

Directors: Karl Loatman, Joe McCagne. Steve Carey, Paul Granich

Minutes of the monthly meeting of the Mid Hudson Astronomical Association,
April 19, 2016

The meeting was called to order at 7:33 PM by President Willie Yee in the Auditorium of the Coykendall Science Center at SUNY, New Paltz, NY.

The minutes were approved as published in the most recent newsletter.

Officer's Reports:
Membership: Caryn Sobel was not present. She reported via email to Willie that we had 2 new members this month.

Treasurer: Ken Bailey was present. See his latest report as published in the newsletter.

Treasurer's Report for the month of April, 2016

Date: 14 May, 2016

Bank Balance:	$2616.15
Outstanding Checks:	$ 157.58
Outstanding Deposits:	$ 0
Ending Bank Balance:	$2458.57
Checkbook Balance:	$2458.57
Balance with Bank: Yes	

Ending balance total: $2458.57

Notes: Outstanding checks are for Dutchess County Science Fair prizes, reimbursement for FedEx charges, and donation for Earth Day.

Respectfully submitted: Ken Bailey
Treasurer

Outreach: Candace Wall was present and the following were discussed:

- **Walkway Over the Hudson:** April 22, Steve Carey and Ken Bailey, so far.
- **Sam's Point:** Daytime Solar observing on April 23. Willie coordinating…could use some help.
- **Olana:** Current dates are April 23 and September 3 (Labor Day weekend). Also looking for 'scopes on their Movie nights July 29 and August 26.
- **James Evans Elementary School** (Wappingers Falls): Looking for a brief presentation and outdoor star gazing in April/May for 6-12 year olds on a Thursday or Friday.
- **Greenkill YMCA:** 5/2 or 5/4, 100 2nd graders, 60-90 minute program.
- **Girl Scouts Camporee at Ulster County Fairgrounds:** June 11. Looking for an activity for the girls during the day and star gazing for those who stay overnight. Willie is coordinating.
- **Boy Scouts at Thurman Camping Area:** 6/24 (6/25 rain date), Ken Bailey coordinating.
- **Montessori Schools** (New Paltz?): Looking for a regular (monthly?) presentation. Joe Macagne working on this.

Publicity: Paul Chauvet was present. Send him info on public events.

Webmaster: Paul Chauvet present. No issues known.

Upcoming programs: Candace Wall was present and the following information was shared:

- May – Steve Bellavia
- June – Prof. Kevin H. Knuth
- July – Dr. Daniel Wolf Savin
- August – Linda Zimmerman
- September – Chris Kendall

Old Business:

- **Club Telescopes:**
  - 13" Dobsonian (Jack Chastain). Mirror removed. Settled on a mirror coater, will be sending it for recoating soon.
  - Criterion 8" SCT is available. Tabletop use (no tripod). See Willie.
  - ETX 125 has a focuser issue. Willie has it.
  - 4" with Paul Chauvet.
  - 8" Newtonian on an equatorial mount needs to be picked up by Ken Bailey from Karl Loatmann to be transferred Ken's son's new astronomy club in South Carolina.

New Business:

- **Lecture at New Paltz** tomorrow, April 20, 5 PM, "Search for Life in the Universe".
- **RAC Summer Star Party**: July 29-Aug 7, Savoy MA. Our club has been invited to co-sponsor the event. Looking for volunteers to man the booth, etc.
- **Transit of Mercury:** May 9. Willie will set up solar scopes in front of Coykendall hall from 10-3 PM. Willie will also set up at the Rt. 44/55 overlook at 9AM to view the ingress if there is enough interest.
- **Mason Dixon Star Party is now the York County Star Party, August.** See Ken Bailey for more information if interested.

Observing Reports:

- **Haviland Middle School**: Great night, Moon, Jupiter, Mercury. About 90 kids.
- **Sam's Point**: 12 people, great time, good sky.
- **Earth Day**: Willie had solar scopes, Dark Sky table. 50-100 people.

Visitors/New Members:

There were about 21 people in attendance.

The meeting was adjourned at 8:03 PM. The next meeting is on May 17th. The program that followed was "The Human Mind; Symmetries and Physics" by Professor Tarun Biswas.

Submitted by James Rockrohr, May 15, 2016.

From the President:

Global Astronomy Month 2016

April, according to Astronomers Without Borders, was Global Astronomy Month. We had an unusual number of events scheduled, and thanks to a RARE three week stretch of good observing conditions, they almost all happened. The exceptions were the Roundout Schools S.T.E.A.M. Program, which was clouded out on April 2nd, and the April Star Party.

The April Star party was not big deal for most of us, since it was the weekend of the North East Astronomy Forum (NEAF). We had a table there for the first time I can remember. Jack Chastain and Joe Macagne, Jim Rockrohr and others did yeoman service covering the table. I was a little tied up with the Star Trek New Voyages/Trekonderoga table, so greatly appreciated this. Jack said that a number of folks came by who said they were MHAA members, but if we had that many paying members, our coffers would be overflowing. I suspect most of them were members of the Meetup group.

The following week we had two events: Lunar observing at Sam's Point, and the Earth Day celebration in New Paltz. The Sam's Point event went well, with about 20 participants. Conditions for viewing were pretty good by the vistor's center parking lot, and the staff were able to get the lights turned off. The following day we had a table and solar telescopes set up for the Earth Day Fair at the Reformed Church in New Paltz. A very large sunspot made an attractive target. We also got display materials through the International Dark Sky Association to encourage the Earth Dayers to include the night sky as a natural resource worth preserving.

On the 23rd, we had a double header: Sam's Point in the morning, and Olana in the evening. Sam's Point was to be a solar observing event, with at least one telescope available to take advantage of the beautiful terrestrial sights from Sam's Point. A combination of circumstances ended up with me being the only one from the club who was there, but Laura, the Education Director was very helpful in setting up and staffing the table. We had nearly a hundred people come by .About 2 in the afternoon, the ranger's radio started popping with chatter about a fire. At 3 PM I was scheduled to leave, and was pretty much packed up, when the order came through, "We're closing the park, GET THE ASTRONOMERS OFF THE HILL NOW!." A truck showed up, and the ranger literally ran with my stuff into the truck, and took me down the mountain where the parking lot as filled with fire and emergency vehicles. I was not in danger at any point, but it made for an exciting finish to a successful outreach event. The fire continued for several days and burned nearly 2000 acres. Fortunately, there were no casualties or homes lost.

From Sam's Point I headed up to Olana for what was billed to be the Lyrids Meteor Shower. Unfortunately, this was just a day past the full moon, so there was not much to be expected, as I pointed out in my talk, which was divided between the meteor shower that we could not see, and the moon, which we could. There were four of us, and we kept the crowd engaged for a couple of hours, as it was a pleasant night. I did not see a single meteor, though some folks saw one or two.

All in all, a busy month, an adventure, and endeavors worthy of Global Astronomy Month.

Dr. Willie Yee
MHAA President

Visit **spaceplace.nasa.gov** to explore space and earth science!

Hubble NOAA's Joint Polar Satellite System (JPSS) to revolutionize Earth-watching
By Ethan Siegel

If you want to collect data with a variety of instruments over an entire planet as quickly as possible, there are two trade-offs you have to consider: how far away you are from the world in question, and what orientation and direction you choose to orbit it. For a single satellite, the best of all worlds comes from a low-Earth polar orbit, which does all of the following:

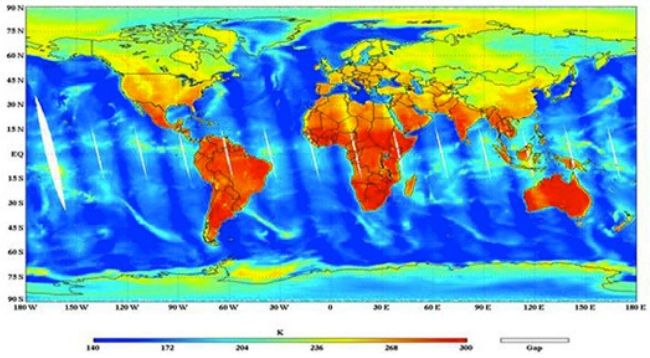
- orbits the Earth very quickly: once every 101 minutes,
- is close enough at 824 km high to take incredibly high-resolution imagery,
- has five separate instruments each probing various weather and climate phenomena,
- and is capable of obtaining full-planet coverage every 12 hours.

The type of data this new satellite – the Joint Polar Satellite System-1 (JPSS-1) -- will take will be essential to extreme weather prediction and in early warning systems, which could have severely mitigated the impact of natural disasters like Hurricane Katrina. Each of the five instruments on board are fundamentally different and complementary to one another. They are:

1. The Cross-track Infrared Sounder (CrIS), which will measure the 3D structure of the atmosphere, water vapor and temperature in over 1,000 infrared spectral channels. This instrument is vital for weather forecasting up to seven days in advance of major weather events.

2. The Advanced Technology Microwave Sounder (ATMS), which assists CrIS by adding 22 microwave channels to improve temperature and moisture readings down to 1 Kelvin accuracy for tropospheric layers.

3. The Visible Infrared Imaging Radiometer Suite (VIIRS) instrument, which takes visible and infrared pictures at a resolution of just 400 meters (1312 feet), enables us to track not just weather patterns but fires, sea temperatures, nighttime light pollution as well as ocean-color observations.



4. The Ozone Mapping and Profiler Suite (OMPS), which measures how the ozone concentration varies with altitude and in time over every location on Earth's surface. This instrument is a vital tool for understanding how effectively ultraviolet light penetrates the atmosphere.

5. Finally, the Clouds and the Earth's Radiant System (CERES) will help understand the effect of clouds on Earth's energy balance, presently one of the largest sources of uncertainty in climate modeling.

The JPSS-1 satellite is a sophisticated weather monitoring tool, and paves the way for its' sister satellites JPSS-2, 3 and 4. It promises to not only provide early and detailed warnings for disasters like hurricanes, volcanoes and storms, but for longer-term effects like droughts and climate changes. Emergency responders, airline pilots, cargo ships, farmers and coastal residents all rely on NOAA and the National Weather Service for informative short-and-long-term data. The JPSS constellation of satellites will extend and enhance our monitoring capabilities far into the future.

Images credit: an artist's concept of the JPSS-2 Satellite for NOAA and NASA by Orbital ATK (top); complete temperature map of the world from NOAA's National Weather Service (bottom).

2016 Star Party Schedule

Date	Time	Sunset	End Civil Twilight	Nearest New Moon
January 8th	7:30 PM	4:42 PM	5:13 PM	January 9th
February 5th	7:30 PM	5:16 PM	5:45 PM	February 8th
March 11th	7:30 PM	5:59 PM	6:26 PM	March 8th
April 8th	8:00 PM	7:30 PM	7:58 PM	April 7th
May 6th	8:30 PM	8:01 PM	8:32 PM	May 6th
June 10th	8:30 PM	8:31 PM	9:05 PM	June 4th
July 1st	8:30 PM	8:35 PM	9:09 PM	July 4th
July 29th	8:30 PM	8:17 PM	8:49 PM	August 2nd
September 2nd	8:00 PM	7:27 PM	7:56 PM	September 1st
September 30th	7:30 PM	6:38 PM	7:06 PM	September 30th
October 28th	7:30 PM	5:55 PM	6:23 PM	October 30th
November 25th	7:30 PM	4:28 PM	4:59 PM	November 29th
December 30th	7:30 PM	4:34 PM	5:06 PM	December 29th

Directions To The Star Party Site—

Lake Taghkanic State Park is in the town Ancram, NY. The park entrance is on the Taconic Parkway 10 minutes north of the exit used for Wilcox park.

Star Parties at Lake Taghanic are held in the West Parking lot, next to the beach. The skies are darker than in Wilcox, with less stray light to deal with. The horizon is also much lower, especially to the south and east, making many more targets possible.

IMPORTANT: all events at Lake Taghkanic State Park require an **RSVP** which includes license plate number of the car you are bringing (please do so via Meetup). The park is patrolled by state police, and all non registered cars will be ticketted and risk our use of the park.

General Information:

- For the foreseeable future, all indoor meetings will be held on the 3rd Tuesday of each month in Coykendall Science Bldg., SUNY New Paltz (directions above) at 7:30 PM. All indoor events are FREE! All are welcome. The presentations are generally geared towards teenagers and up. For more information, call the Club Hotline.
- Dates listed for star parties are the primary dates. The rain date is the following night unless otherwise noted. Only one session is held for a given weekend, usually on the primary date, Friday, unless postponed (usually due to inclement weather) to the backup date, Saturday. Exceptions to this are noted in the "Scheduled Events" section above.
- All outdoor events are FREE! All are welcome. If you bring small children, it is **your** responsibility to keep a close eye on them. Please do not bring white-light flashlights. Instead, bring a red astronomer's flashlight or an ordinary flashlight covered with several layers of red cellophane. If in doubt about the weather, check the status of the event at www.midhudsonastro.org.