



Mid-Hudson Astronomical Association

March, 2018

Website: www.midhudsonastro.org

Yahoo Group: MHAstro

President : Jack Chastain
Secretary: Jim Rockrohr
Newsletter Editor: Rick Versace
Publicity: Paul Chauvet
Speakers: Paul Granich

Vice President: Paul Granich
Treasurer: Karen Tulchinsky
Membership Coordinator: Caryn Sobel
Webmaster: Paul Chauvet
Outreach: (open)
College Liaison: Dr. Amy Forestell

Board of Directors: Joe Macagne, Karl Loatman, Steve Carey, Willie Yee

(Editor's note: No meeting last month so no minutes. Republishing Decembers minutes)

Minutes of the monthly meeting of the Mid Hudson Astronomical Association, February 20, 2018

The meeting was called to order at 7:30 PM by President Jack Chastain in the Coykendal Auditorium at SUNY, New Paltz, NY.

The minutes of the December, 2017, meeting were approved as published in the newsletter. (The January meeting was cancelled due to inclement weather.)

Officer's Reports:

Membership: Caryn Sobel was not present. Dues of \$25 are due for 2018.

Treasurer: Karen Tulchinski was not present.

Publicity/ Webmaster: Paul Chauvet was present.

- Paul is working with Ken Bailey and Jack Chastain on a transition plan for our web account ownerships (PayPal, Yahoo, etc.) when new officers are elected. There are 6-7 web accounts, insurance, checking account, etc. Draft will be posted to MHAstro list for discussion.

- He needs more notice on events. Several outlets require several weeks notice for publication.
- Paul will double check the 2018 star party schedule vis a vis Ken's comments and publish the final result on Yahoo and the MeetUp site.

Outreach:

- We need someone to coordinate our outreach events and schedules. See Jack if interested.
- **Sam's Point Moon Viewing:** April 21
- **Bright Ideas:** April 28, High Meadows School, Stone Ridge: solar viewing. See Willie.
- **Girl Scout Camp:** May 19, Ulster County Fairgrounds. Several 'scopes needed. Rick coordinating(?).
- **Paterson Library:** requesting 'scopes for sometime in August.
- **Possible Private Event:** at some TBD Lodge, willing to pay. After discussion, initial "bid" would be \$50 per astronomer and \$50 per telescope provided. Let them decide how many they need. Make it clear that we cancel for weather unless they want a speaker.

Upcoming programs: The following information was shared:

- (None reported)

Old Business:

- Club telescopes are available to paid-up members:
 - o 13" dobsonian, currently with Jack Chastain, is available.
 - o ETX80 maksutov, currently with Joe Macagne.
 - o 4" Tasco refractor on an EQ mount, currently with Paul Chauvet, is available.
 - o A planetary camera and a "deep space" camera are available. See Willie.

New Business:

- **Annual Dinner:** Sufficient interest was shown in having our annual dinner. Jack will check with The Would restaurant for dates after the March 20 meeting.
- **RAC (Rockland Astronomy Club) Dinner:** See Yahoo notes.
- **NEAF:** April 21-22. Do we want to have a table? The dates conflict with moon viewing at Sam's Point.
- **Club Star Parties:** Be sure to RSVP with car license plate number, make and model by the Thursday evening before the star party, even if there is only a remote chance that you will attend on Friday evening or Saturday, if postponed due to weather. It's better to have too many people on the list rather than someone who isn't registered.

Observing Reports:

- The club Star Party on December 29 had 4 people. It was cold.
- The February Star Party was cancelled due to clouds.
- Willie Yee reported on his trip the Winter Star Party in Chiefland Village, Florida. Cloudy and rainy almost all week. Some observing on Friday.

Visitors/New Members:

There were about 21 people in attendance at the end of the business meeting.

The meeting was adjourned at about 8:02 PM. The next meeting is on March 20th, 2018.

The presentation that followed was "Studying the Formation of Planets with Molecular Spectroscopy" by Dr. Colette Salyk, Assistant Professor of Astronomy at Vassar College, Poughkeepsie, NY.

Submitted by James Rockrohr, March 18th, 2018.

May Meeting at the Elting Memorial Library?

From Willie via the Yahoo group:

Elting Memorial Library is have a series of science programs on Tuesday evenings in May. They would be interested in hosting our May meeting on the 15th.

Since their series starts a 7 PM, this would involve moving our meeting time up to 7 PM that evening.

The benefit to us would be a much larger turnout.

Would people be OK with changing the time?



Measuring the Movement of Water on Earth

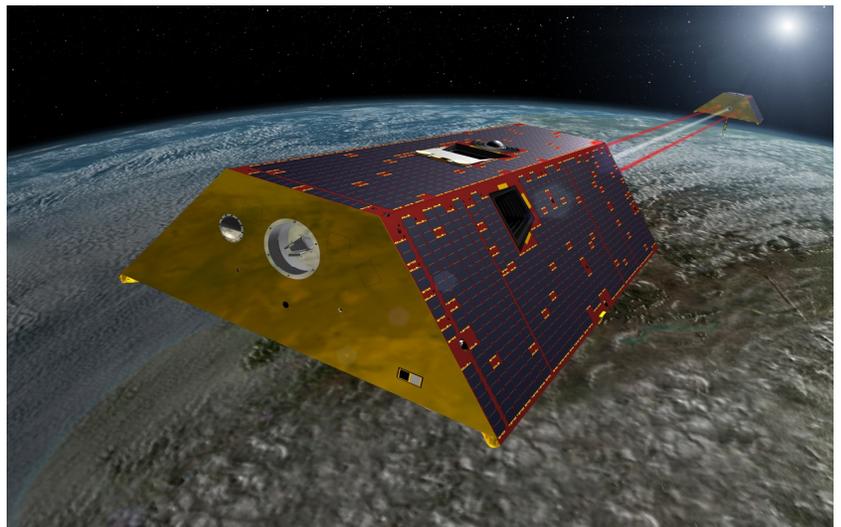
By Teagan Wall

As far as we know, water is essential for every form of life. It's a simple molecule, and we know a lot about it. Water has two hydrogen atoms and one oxygen atom. It boils at 212° Fahrenheit (100° Celsius) and freezes at 32° Fahrenheit (0° Celsius). The Earth's surface is more than 70 percent covered in water.

On our planet, we find water at every stage: liquid, solid (ice), and gas (steam and vapor). Our bodies are mostly water. We use it to drink, bathe, clean, grow crops, make energy, and more. With everything it does, measuring where the water on Earth is, and how it moves, is no easy task.

The world's oceans, lakes, rivers and streams are water. However, there's also water frozen in the ice caps, glaciers, and icebergs. There's water held in the tiny spaces between rocks and soils deep underground. With so much water all over the planet—including some of it hidden where we can't see—NASA scientists have to get creative to study it all. One way that NASA will measure where all that water is and how it moves, is by launching a set of spacecraft this spring called GRACE-FO.

GRACE-FO stands for the "Gravity Recovery and Climate Experiment Follow-on." "Follow-on" means it's the second satellite mission like this—a follow-up to the original GRACE mission. GRACE-FO will use two satellites. One satellite will be about 137 miles (220 km) behind the other as they orbit the Earth. As the satellites move, the gravity of the Earth will pull on them.



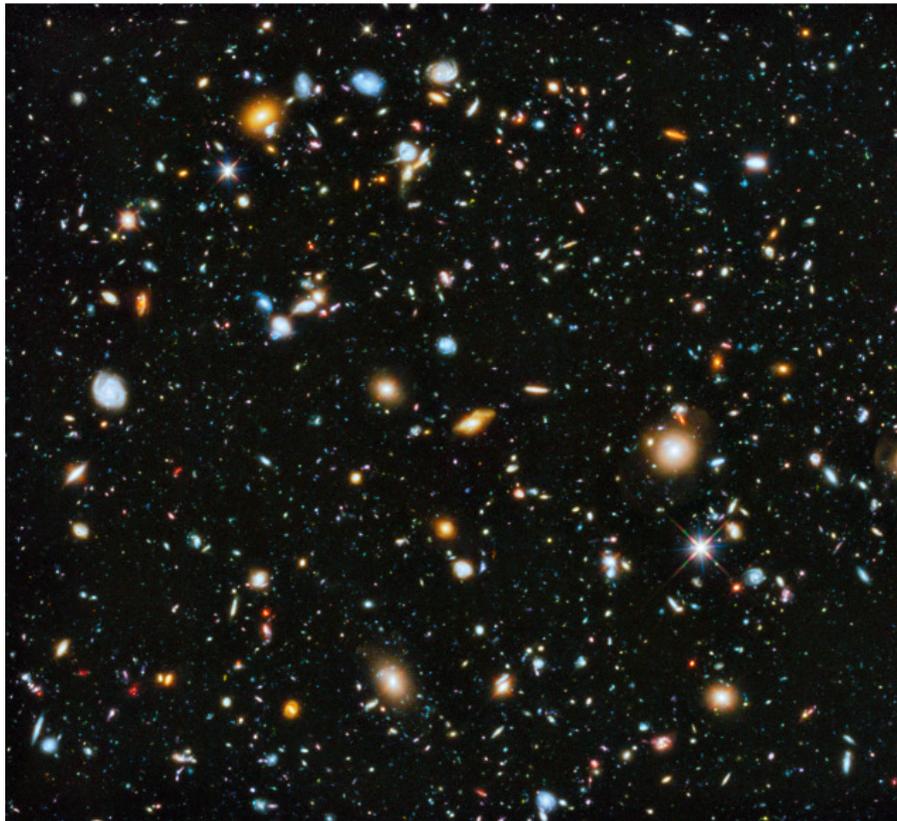
An artist's rendering of the twin GRACE-FO spacecraft in orbit around Earth.
Credit: NASA

Gravity isn't the same everywhere on Earth. Areas with more mass—like big mountains—have a stronger gravitational pull than areas with less mass. When the GRACE-FO satellites fly towards an area with stronger gravitational pull, the first satellite will be pulled a little faster. When the second GRACE-FO satellite reaches the stronger gravity area, it will be pulled faster, and catch up.

Scientists combine this distance between the two satellites with lots of other information to create a map of Earth's gravity field each month. The changes in that map will tell them how land and water move on our planet. For example, a melting glacier will have less water, and so less mass, as it melts. Less mass means less gravitational pull, so the GRACE-FO satellites will have less distance between them. That data can be used to help scientists figure out if the glacier is melting.

GRACE-FO will also be able to look at how Earth's overall weather changes from year to year. For example, the satellite can monitor certain regions to help us figure out how severe a drought is. These satellites will help us keep track of one of the most important things to all life on this planet: water.

You can learn more about our planet's most important molecule here: <https://spaceplace.nasa.gov/water>



2018 Star Party Schedule

Date	Time	Sunset	End Civil Twilight	Nearest New Moon
January 19th	7:00 PM	4:55 PM	5:25 PM	January 17th
February 16th	7:00 PM	5:30 PM	5:58 PM	February 15th
March 16th	7:00 PM	7:03 PM	7:31 PM	March 17th
April 13th	8:00 PM	7:34 PM	8:03 PM	April 16th
May 11th	8:00 PM	8:04 PM	8:35 PM	May 15th
June 15th	8:30 PM	8:31 PM	9:06 PM	June 13th
July 13th	8:30 PM	8:29 PM	9:02 PM	July 13th
August 10th	8:00 PM	8:00 PM	8:31 PM	August 11th
September 7th	7:30 PM	7:18 PM	7:46 PM	September 9th
October 5th	7:00 PM	6:30 PM	6:58 PM	October 9th
November 9th	7:00 PM	4:41 PM	5:10 PM	November 7th
December 7th	7:00 PM	4:25 PM	4:46 PM	December 7th

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 Taghkanic 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 ticketed 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.