

# THE FLINT RIVER OBSERVER

NEWSLETTER OF THE FLINT  
RIVER ASTRONOMY CLUB

An Affiliate of the Astronomical League

**Vol. 24, No. 5** July 2020

**Officers:** President, **Sean Neckel**; Vice President, **Aaron Calhoun**; Secretary / ALCOR **Mark Grizzaffi**; Treasurer, **Steve Hollander**; Board of Directors: **Dwight Harness, Felix Luciano, and George Ruff**; Program/Observing Coordinator: **Sean Neckel**; Facebook Coordinator: **Aaron Calhoun**; Webmaster: **Tom Moore**; Newsletter Editor: **Dawn Chappell**; NASA Contact: **Felix Luciano**

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## Club Calendar:

**FRAC Meeting:** Thursday, July 9, 2020, 7:30 on Zoom or Google Meets. A meeting invitation will be sent out in early July for the meeting. If you do not get an invite to the meeting, please email me at [stneckel@gmail.com](mailto:stneckel@gmail.com) and I will reply with the invite.

**FRAC Observing:** Club observing weekend, Friday and Saturday July 17-18, 2020 at Joe Kurz WMA, sunset until whenever.

No public events scheduled for July, so no cancellations.

Please keep checking your email for updates regarding club events.

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## Welcome!

Welcome back to the club, Douglas Maxwell!

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## Information Request:

Does any club member have contact information for Aaron Morris? He paid his club dues at our last in-person meeting in February, and I do not have any contact information for him.

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## Trivia:

1. On the average how far away is the Moon from the Earth?
2. What is the only moon with an atmosphere?
3. In what year did we land on the Moon?
4. Compared to the Earth, how big is the Moon?
5. How much further away is the Sun from Earth, compared to the Moon?

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## President's Message:

Hello FRAC Members,

Just a few thoughts for this month:

- Our first ever virtual club meeting went very well, with 11 members participating. I encourage other members to join us on July 9th for our next meeting. If anyone has anything they would like to share or present, please do so!
- We are getting somewhat closer to normalcy, so I expect that we may have a public event in August with High Falls State Park. If we move forward with an event, the FRAC board and I will work with the state park officials to determine what the best course of action is to keep everyone safe, and what measures need to be put in place to allow for a hygienic observing event.
- Finally, thank you to the members who have donated to our club funds this month. We will likely use some of this to have a "Getting FRAC Together Again" event whenever we are allowed to get back together again.

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**Previous Meetings/Activities:**

FRAC Meeting - June 11, 2020 - 7:30pm on zoom.us

- 11 members attended our virtual meeting. Sean and Gianna Neckel, Aaron Calhoun, Steve Benton, Steve Hollander, Mark Grizzaffi, Dawn Chappell, Elaine Stachowiak, Alan Pryor, Felix Luciano, and Dwight Harness attended. The meeting went well for our first-ever attempt at a virtual meeting.
- A suggestion was made to use Google Meets - I will investigate. If we have a program suggestion, this will probably be the best forum since it does not have a time limit.
- If anyone has a program suggestion, or something they would like to present at the July meeting (or any meeting after that), please let me know and we will add it to the agenda.

Astronomy in the Park at High Falls State Park, June 13, 2020 - Cancelled

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**Solar System Observing – July 2020**

**Mercury** is in conjunction with the sun early in the month. Later in July, it will be visible about an hour before sunrise.

**Venus** Visible in the predawn sky.

**Earth** is right below you. Its close proximity and gravity well make it a serious impact threat.

**Jupiter** will be visible all night all month and is at opposition on July 13-14.

**Saturn** will be visible all night all month and is at opposition on July 20.

**Mars** rises after midnight all month, visible until just before dawn.

**Uranus** rises in the early morning hours, visible with a telescope.

**Neptune** rises after midnight, visible with a telescope.

**Moon:** Full: 7/4 LQ 7/12 New: 7/20 FQ: 7/27

**Random bits of information: Inner Solar System Edition**

- Mercury has the most eccentric orbit of all the planets. Its distance from the sun varies from 29 to 43 million miles during its 88-day year (Earth days)
- Venus has the least eccentric orbit of all the planets, rotates in a retrograde direction (opposite all the other planets), and its day (243 Earth days) is longer than its year (224 Earth days).
- Earth is the densest planet in the solar system. Earth's Moon is the 5th largest satellite in the solar system, and the largest relative to its parent planet.
- Mars is home to the solar system's largest volcano and 2nd tallest mountain, Olympus Mons. It is also home to one of the largest and deepest canyons in the solar system, Valles Marineris.
- 1 Ceres is the only dwarf planet inside the orbit of Neptune, is the only asteroid belt object rounded by its own gravity and makes up about 31% of the total mass of the asteroid belt.
- 4 Vesta is home to the tallest known mountain in the solar system, Rheasilvia. It is 22.5km (14 mi) from base to peak, 1200m higher than Mars' Olympus Mons. This mountain is the central peak of one of the solar system's largest impact craters, also named Rheasilvia.

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**Classifieds:**

If you have something you would like to buy, sell, or trade, email the specifics, including your contact information to [stneckel@gmail.com](mailto:stneckel@gmail.com)

For sale:

Celestron C90 Maksutov-Cassegrain reflector, with 45° diagonal, manual adjust tripod, 32mm eyepiece (can probably throw in a couple more if you need them), 8x21 finder scope, solar filters for the scope and the finder. Great portable scope. Asking \$90 for everything.

Contact Sean at [stneckel@gmail.com](mailto:stneckel@gmail.com).



Photo of Messier 101, courtesy of Alan Pryor.

With the virus situation I do not leave my home, so it was taken from my pasture. I had to contend with the Atlanta light pollution and the half moon. The half moon gave plenty of light pollution for most of the night. One reason I selected this target is that I knew the moon would not completely wash it out. I did a little over 4 hours of exposure to get the image. 8 sets of 5-minute red, green and blue frames. 25 luminescent frames at 5 minutes each. The camera was an FLI 16803 and the scope was a Celestron 11" EdgeHD with a 0.7 reducer.

Messier 101 is sometimes known as the Pinwheel Galaxy. It is in the constellation of Ursa Major. Messier 102 is another possible name for this object. Messier 102's identity has been the subject

of controversy. A lot of experts think M101 and M102 are the same object. Messier 101 is about 21 million lightyears away, and it is believed to have about 1 trillion stars in it. It is a face-on spiral galaxy that spans about 170,000 light years. It is fairly bright for a galaxy at a magnitude of 7.8.

The full-size photo is located here:

<https://photos.app.goo.gl/jBNFPiSYEhA4XfNS8>

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**Trivia Answers:**

1. 238,856 miles
2. Saturn's Titan
3. 1969
4. The Moon is 1/4 the size of the Earth
5. The Sun is 400 times further than the Moon. That is why the Moon appears to be the same size. The Sun is 400 times larger but is also 400 times further away than the Moon.

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