



Monthly Notices of the Everglades Astronomical Society



Naples, FL
January 2018

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President's Message

I'd like to extend my warmest blessings to each of you for a happy and prosperous New Year.

Our December meeting, as always, was a lot of fun. In addition, we all learned something. Thanks to Mike for making the annual game show so successful. Our January meeting will be our club members' experiences of the August eclipse. Whether you were in the path of totality, outside the path of totality, or watched it on your computer, we want to hear from you. If you bought a T-Shirt, you may want to wear it. We will have a laptop or two at the meeting if you have photos to share.

I would greatly appreciate any suggestions you may have for the upcoming spring meetings.

If any of you have been trying to communicate with me via my e-mail, you may not have heard back from me. For this, I apologize. I have been trying to resolve my problems, but I haven't been very successful.

Denise

Dates for the "Fak"

Usually the best times to go out to the Fakahatchee Strand viewing site are moonless nights. Below is a list of upcoming Saturday nights that you will often find fellow club members out there enjoying the skies with you (weather permitting).

Date	Moonrise	Moonset
Jan. 6	11:00 p.m.	10:59 a.m.
Jan. 13	4:22 a.m.	3:28 p.m.

Sky Events

January 3 - Quadrantid Meteor Shower
January 8 - Last Quarter
January 16 - New Moon
January 24 - First Quarter
January 31 - Full Moon

Next Meeting

January 9, 2018: Time 7:00 – 9:00 pm
Fleischmann Park, 1600 Fleischmann Blvd., Naples
(Just south of the Coastland Mall on corner of Goodlette)

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Reminder – January 2018 Meeting is All about the Eclipse

This month's meeting will be entirely devoted to the 2017 Solar Eclipse. Members will be able to share and compare stories of their experiences at this meeting. Please bring any photos, etc., and please share your experiences with everyone. Also, if you have an eclipse t-shirt, please wear it to the meeting.



Picture of totality during the 2017 eclipse by Henri Troch.

Reminder – EAS Dues

While the EAS is a not-for-profit corporation, it still has monthly and yearly expenses. Yearly dues remain at \$20 which benefit you and your entire family. Please be reminded to pay your 2018 dues as soon as you can. Thank you.

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Cartoon contributed by Charlie Paul.

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Published Articles by EAS Members

Ted Wolfe's article in the Naples News/Collier Citizen on December 29, 2017: Looking Up: A bobblehead peering down at us from deep space



Photo of NGC 6559 (a giant emission nebula) by Ted Wolfe.

<http://www.naplesnews.com/story/news/local/communities/collier-citizen/2017/12/29/looking-up-bobblehead-peering-down-us-deep-space/985683001/>

TO VIEW THE ABOVE ARTICLE, PRESS "CTRL" AND LEFT CLICK BUTTON.

The below link provides previous articles in the Collier Citizen by Ted Wolfe that appeared over past years.

<http://www.naplesnews.com/search/Ted%20Wolfe/>

To view all of Ted Wolfe's photos, visit his website @ www.tedwolfe.com.



Photo of M42 (the Orion Nebula) taken by Vic Farris, Scope: 12" Meade LX200 f/10, Focal Reducer: Lepus 0.62x, Camera: ZWO ASI1600MC, Capture and Stack: SharpCap, Exposure: 90@20s, Processing: PhotoPad.



IC 1848 (Soul Nebula) taken by Chuck Pavlick. Scope: Orion 72 Eon w/0.8 Televue reducer; Camera: ASI 1600 mono; Subs: 7nm HA 10-360 sec., 10@ 600; 7nm OIII 10-360 sec., 10@600; 7nm SII 10-360 sec., 10@600; captured in Nebulosity and processed in Pixinsight & Photoshop.

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Snowy Worlds Beyond Earth

By Linda Hermans-Killiam

There are many places on Earth where it snows, but did you know it snows on other worlds, too? Here are just a few of the places where you might find snow beyond Earth:

Mars

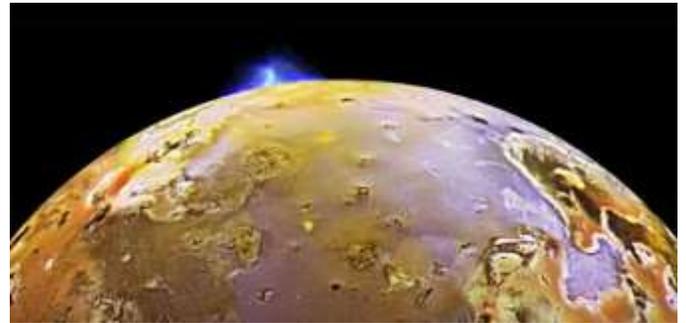
The north pole and south pole of Mars have ice caps that grow and shrink with the seasons. These ice caps are made mainly of water ice—the same kind of ice you'd find on Earth. However, the snow that falls there is made of carbon dioxide—the same ingredient used to make dry ice here on Earth. Carbon dioxide is in the Martian atmosphere and it freezes and falls to the surface of the planet as snow. In 2017, NASA's Mars Reconnaissance Orbiter took photos of the sand dunes around Mars' north pole. The slopes of these dunes were covered with carbon dioxide snow and ice.



NASA's Mars Reconnaissance Orbiter captured this image of carbon dioxide snow covering dunes on Mars. Credit: NASA/JPL/University of Arizona

A Moon of Jupiter: Io

There are dozens of moons that orbit Jupiter and one of them, called Io, has snowflakes made out of sulfur. In 2001, NASA's Galileo spacecraft detected these sulfur snowflakes just above Io's south pole. The sulfur shoots into space from a volcano on Io's surface. In space, the sulfur quickly freezes to form snowflakes that fall back down to the surface.



A volcano shooting molten sulfur out from the surface of Io. Credit: NASA/JPL-Caltech

A Moon of Saturn: Enceladus

Saturn's moon, Enceladus, has geysers that shoot water vapor out into space. There it freezes and falls back to the surface as snow. Some of the ice also escapes Enceladus to become part of Saturn's rings. The water vapor comes from a heated ocean which lies beneath the moon's icy surface. (Jupiter's moon Europa is also an icy world with a liquid ocean below the frozen surface.) All of this ice and snow make Enceladus one of the brightest objects in our solar system.



Enceladus as viewed from NASA's Cassini spacecraft. Credit: NASA

A Moon of Neptune: Triton

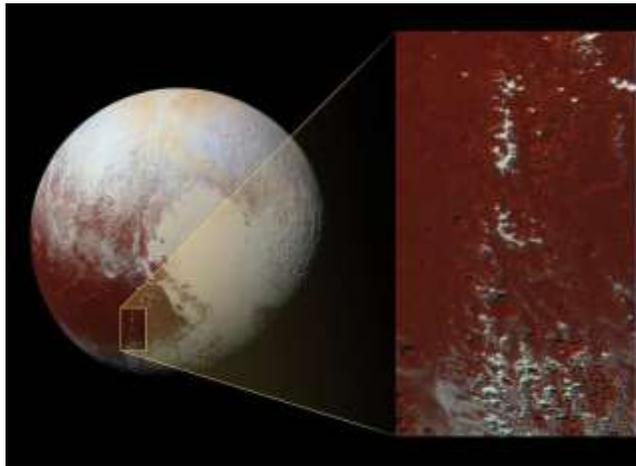
Neptune's largest moon is Triton. It has the coldest surface known in our solar system. Triton's atmosphere is made up mainly of nitrogen. This nitrogen freezes onto its surface covering Triton with ice made of frozen nitrogen. Triton also has geysers like Enceladus, though they are smaller and made of nitrogen rather than water.



The Voyager 2 mission captured this image of Triton. The black streaks are created by nitrogen geysers. Credit: NASA/JPL/USGS

Pluto

Farther out in our solar system lies the dwarf planet Pluto. In 2016, scientists on the New Horizons mission discovered a mountain chain on Pluto where the mountains were capped with methane snow and ice.



The snowy Cthulhu (pronounced kuh-THU-lu) mountain range on Pluto. Credits: NASA/JHUAPL/SwRI

Beyond Our Solar System

There might even be snow far outside our solar system! Kepler-13Ab is a hot, giant planet 1,730 light years from Earth. It's nine times more massive than Jupiter and it orbits very close to its star. The Hubble Space Telescope detected evidence of titanium oxide—the mineral used in sunscreen—in this planet's upper atmosphere. On the cooler side of Kepler-13Ab that faces away from its host star, the planet's strong gravity might cause the titanium oxide to fall down as "snow."



This is an artist's illustration of what Kepler-13Ab might look like. Credit: NASA/ESA/G. Bacon (STScI)

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EAS 2018 DUES

For the bargain price of only \$20.00 per family, all this can be yours this year:

- Meet with your fellow astronomy enthusiasts at least 10 times a year;
- Learn about astronomy and telescopes. Check out our club scope;
- Many opportunities to view planets, nebulae and other celestial objects (even if you don't have your own telescope); and
- Enjoy the many astronomy programs at our regular monthly meetings.

Don't miss out! Fill out this form (please print clearly) and send it with your \$20 check to the

Everglades Astronomical Society, P. O. Box 1451, Marco Island, Florida, 34146.

Name: _____

Address: _____

Phone: _____

Email: _____