



Star Stuff

Ford Amateur Astronomy Club Newsletter

Volume 27, Number 11

Nov/Dec 2017

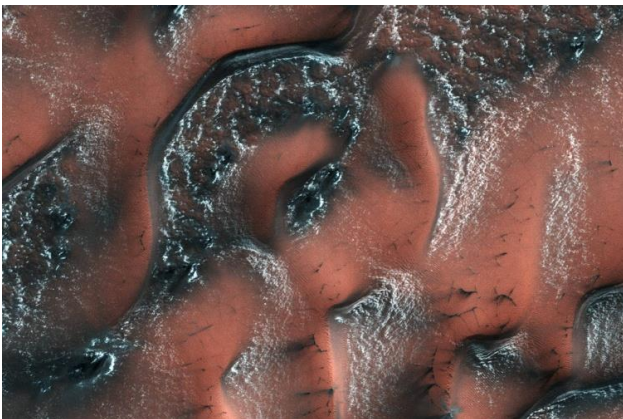
Snowy Worlds Beyond Earth

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

Presidents Article

By Liam Finn

Elections 2018

The Elections are just over a month away. There is one chair that will be opening as it is term limited, for which we will be seeking a new Vice President. The existing officers that have yet to reach their term limits are willing to remain in their positions. The nominating committee has been busy searching for someone to take on the VP responsibilities.

If you would like to run for any of the officer positions, you need to be present at the club meeting in January and you can nominate yourself. Your nomination needs to be seconded. You must be at the January meeting to be considered.

Sirius Award

The Sirius Award is awarded to a member of the club who has gone above and beyond to help with any and all aspects of the club to make it successful, be that through outreach, volunteering at events, being an officer in the club or being a good ambassador for the FAAC.

If you have someone in mind please send your nominations to president@fordastronomyclub.com. Please include the person's name and a list of the reasons why you think they deserve this award. So far I have received three nominations submissions. This is your one time a year that you can recognize an outstanding member of the club.

All submissions need to be in by the January club meeting. Once the nominations are closed the officers of the club will meet and review the submissions.

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Presidents Article

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Please note that existing officers for 2017 and elected officers for 2018 cannot be included. If they are nominated they will be just dropped from the final list. Also this is a once in a lifetime award so you can't nominate anyone who has received the award in the past.

Get your thinking caps on and help the club recognize an outstanding member.

Final Meeting for 2017

2017 has been a great year for the club with many new members and lots of outreach events. I hope 2018 is just as busy and we spend just as much time before the public if not more. We are our own ambassadors to the club so we are all responsible for putting forward the good the club does and for driving new members.

As a final celebration for the outstanding year we have had in 2017 our last meeting on December 7th will start with normal club business for the first 45 minutes or so but finish with a potluck. I encourage everyone bring a finger food dish to share and feel free to bring your family members. The Planetarium will also be open afterward so after filling your tummies you can bring yourself and family to the planetarium to show them our night sky (seeing as we see little with the clouds).

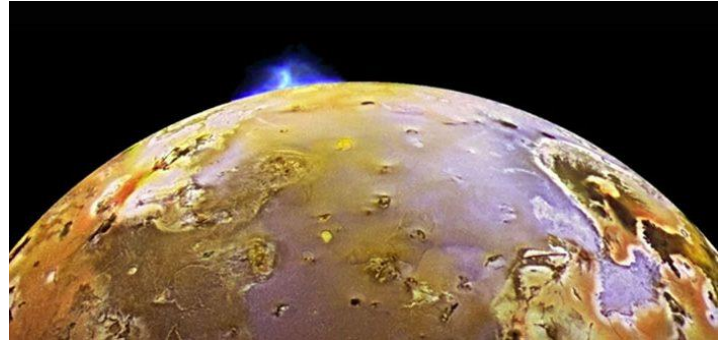
I wish all of you Happy Holidays and hope to see you at the meeting on December 7th.

Snowy Worlds Beyond Earth

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A Moon of Jupiter: Io

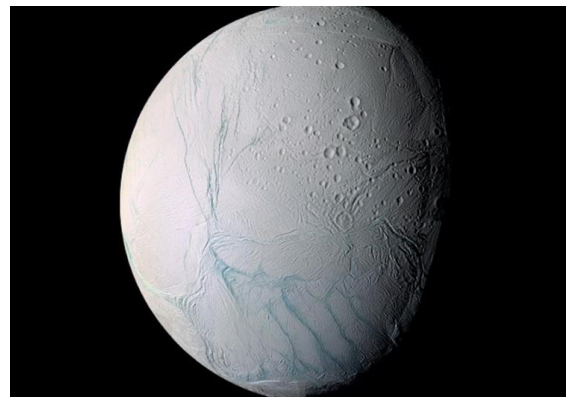
There are dozens of moons that orbit Jupiter and one of them, called Io, has snowflakes made out of sulfur. In 2001, NASA's Galileo spacecraft detected these sulfur snowflakes just above Io's south pole. The sulfur shoots into space from a volcano on Io's surface. In space, the sulfur quickly freezes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

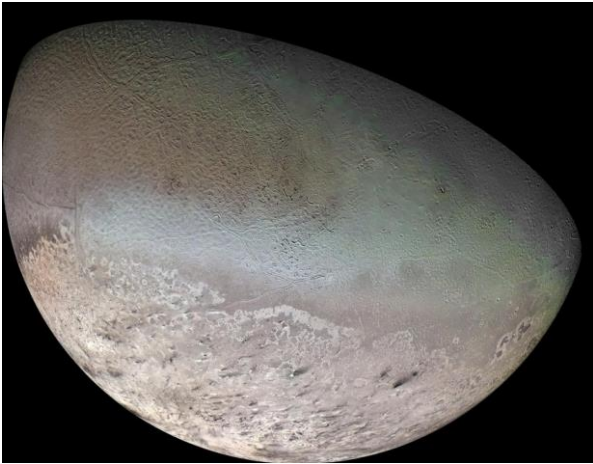
Saturn's moon, Enceladus, has geysers that shoot water vapor out into space. There it freezes and falls back to the surface as snow. Some of the ice also escapes Enceladus to become part of Saturn's rings. The water vapor comes from a heated ocean which lies beneath the moon's icy surface. (Jupiter's 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

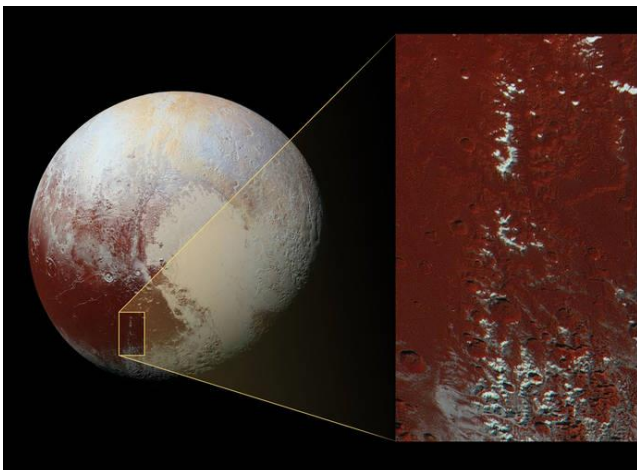
Neptune's largest moon is Triton. It has the coldest surface known in our solar system. Triton's atmosphere is made up mainly of nitrogen. This nitrogen freezes onto its surface covering Triton with ice made of frozen nitrogen. Triton also has geysers like Enceladus, though they are smaller and made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

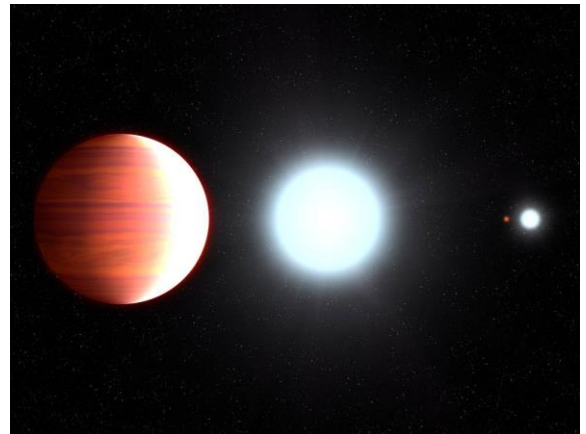
Farther out in our solar system lies the dwarf planet Pluto. In 2016, scientists on the New Horizons mission discovered a mountain chain on Pluto where the mountains were capped with methane snow and ice.



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)

Want to learn more about weather on other planets? Check out NASA Space Place:

<https://spaceplace.nasa.gov/planet-weather>

Secretary's Report

By Jessica Edwards

26 October 2017

What's Up and Member Observations

Attendance at Astronomy at the Beach for Friday was low due to poor weather. Saturday was very well attended with estimates of several thousand in attendance. Large solar prominences were observed by several members during the month as well. 17 November is the predicted peak of the Leonid Meteor Shower. Mercury, Saturn, Uranus, and Neptune are visible in the evening while Venus, Mars, and Jupiter can be seen in the morning.

Main Talk – Maui Astronomy – Jon Blum

The Big Island of Hawaii is ideal for Astronomical Observations. Many observatories sit at the top of Mauna Kea. They mostly make observation in visible and infrared light. The most famous of them are the Keck 1 and 2 telescopes, which are 10 meters in diameter and have adaptive optics to deal with disturbances in the atmosphere. Haleakala on the island of Maui also has several observatories. Conditions are so dark that Venus and zodiacal light are the main sources of light pollution.

2017 Beginner's Nights Calendar

Month	1st Quarter	Beginner's Night	Sunset	Location
April	Monday, April 3rd	Saturday, April 1st	7:58pm	Island Lake
April/May	Tuesday, May 2nd	Saturday, April 29th	8:30pm	Island Lake
		^^Int'l Astronomy Day^^		
June	Thursday, June 1st	Saturday, June 3rd	9:04pm	Island Lake
July	Friday, June 30th	Saturday, July 1st	9:12pm	Island Lake
July II	Sunday, July 30th	Saturday, July 22th	8:54pm	Island Lake (Club Picnic)
August	Tuesday, August 29th	Saturday, August 26th	8:15pm	Island Lake
Solar Eclipse is on 21st - Head for totality!				
September	Friday, September 9th	Fri-Sat Sept 29, 30	7:17pm 7:14pm	(AATB / Island Lake)
October	Sunday, October 27th	Saturday, October 28th	6:30pm	Maybury State Park

Treasurers Report

November/December 2017

By Mike Bruno

Going forward, the financial report will be available at all the club meetings and on request to the treasurer. You can submit a request for a copy to treasurer@fordastronomyclub.com

FAAC Equipment Holders Report

By Dennis Salliotte

FAAC Equipment Report 12/1/17

<u>Item</u>	<u>Currently Held By:</u>	<u>Date Last Verified</u>
<u>Telescopes</u>		
4" Dobsonian (Harold's donation)	George Korody	1/20/17
<u>Presentation Tools</u>		
Projector (older)	Jim Frisbie	1/15/17
Projection Screen 8'	Bob MacFarland	11/29/17
Speaker System w/wireless mic	Bob MacFarland	11/29/17
Bullhorn	George Korody	1/20/17
DVD Player	Jim Frisbie	1/15/17
Projection Screen 6'	Hayden Barrett	8/4/17
Projector, ViewSonic	Gordon Hansen	11/29/17
<u>Demonstration Tools</u>		
Weight On Planets Scale	George Korody	1/20/17
Lunar Phase Kit	Bob MacFarland	11/29/17
100 ft Scale Model Solar System Kit	Bob MacFarland	11/29/17
<u>Display Items</u>		
Astronomy Event Sign (3' X 6')	Gordon Hansen	11/29/17
PVC Display Board - Folding	Sandra Macika	1/23/17
Banner – Small (24" X 32")	George Korody	1/20/17
Banner – Medium (24" X 72")	Sandra Macika	1/23/17
Banner – Large (32" X 16')	George Korody	1/20/17
Tri-Fold Presentation Boards	Don Klaser	1/26/17
Tri-Fold Poster Board (Early Club Photos)	George Korody	5/25/17
<u>Other</u>		
Canopy (10' X 10')	Liam Finn	9/19/17
Equipment Etching Tool	Greg Ozimek	11/29/17
Pop Cooler	Hayden Barrett	7/27/17
<u>EQUIPMENT KITS</u>		
<u>Telescopes</u>	<u>CARETAKER</u>	

TK3 Celstrn 130 Newt Goto mount	Liam Finn	9/19/17
TK4 Clstrn 90 Refrctr w/man mount	Liam Finn	9/19/17
TK5 4 ½ “ Reflector, on Fitz GEM mount	Bob MacFarland	11/29/17
TK6 8” Orion 8XTi Dobsonian	Jed & Jacob Datema CARETAKERSHIP IS AVAILABLE	3/29/17
TK1 Coronado PST solar scope w/double stack, Meade Autostar Goto mount & tripod and accessories	John McGill	1/15/17
TK7 TPO 8” f/4 Imaging Newtonian Telescope (OTA)	Jim Barnes	1/16/17
<u>Binoculars</u>		
BK3 15x70 binocs, monopod mount	Bob MacFarland	11/29/17
BK4 20x80 binocs, altaz goto mount	Sandra Macika	1/23/17
BK5 25x70 binocs w/tripod adaptor	Tim Dey	10/22/17
<u>Eyepiece Kit</u>		
EPK1 Eyepieces, filters & accesories	Liam Finn	9/19/17
<u>Other</u>		
TA Sky Quality Meter	Liam Finn	9/19/17
TA Sky Atlas 2000.0	Tim Dey	10/22/17
TA Orion telescope binoviewer	Liam Finn	9/19/17
<u>Lincoln Park Observatory</u>		
LPO Celestron binoviewer #93691	Tim Dey	11/22/17
LPO Celestron 2X 1.25” Barlow	Tim Dey	10/22/17
<u>Imaging SIG</u>		
C1 Celestron NexImage Solar System Imager model #93712	Gordon Hansen	11/29/17
C2 Meade Deep Sky Imager PRO III w/AutoStar Suite	Gordon Hansen	11/29/17
C3 Orion StarShoot Deep Space Video Camera NTSC #52185 w/video capture device #52178	Gordon Hansen	11/29/17
C4 Meade Electronic Eyepiece w/cable to a video monitor, VCR or TV. Pairw#43 AND Meade 3.5” LCD Color Monitor Kit # 07700 Complete (unused). Pair	Gordon Hansen	11/29/17

w#34		
C5 Orion StarShoot Deep Space Video Camera II #52195 AND Orion StarShoot iPhone Control for Deep Space Video Camera II #52195	Gordon Hansen	11/29/17
C6 Canon 60 DA and accessories	Tim Dey	10/22/17
CA1 Rigel Systems Spectroscope	Gordon Hansen	11/29/17
CA2 Celestron 1.25" to T-Adapter(male thread) Model #93625	Gordon Hansen	11/29/17
CA3 Canon EOS deluxe astrophoto kit FOR Canon bayonet T-thread adapter and variable 1.25" extender	Gordon Hansen	11/29/17
CA4 Orion StarShoot LCD-DVR #58125 2.5" LCD screen	Gordon Hansen	11/29/17
CA5 Celestron Canon EOS T-ring adapter #93419	Gordon Hansen	11/29/17
<u>Special Event Use Only- Not Available For Loan Out</u>		
TK2 Meade 8" ETX-LS-ACF w/tripod, voice assist, computerized GPS plus MANY (35+) accessories	Tim Dey	10/22/17 TK2 kit destroyed in fire
BK1 Orion BT-100 binocular telescope w/hard case, Orion VersaGo h.d. man altaz mount w/Vixen dovetail head and Vixen style binocular holder bracket	Ken Anderson	11/29/17
BK2 Zhumell 25x100 binoculars, hard case & Zhumell TRH-16 tripod w/soft fabric bag	Sandra Macika	1/23/17
TAK1 Night Vision Intensification binocular unit	George Korody	1/20/17
Dennis Salliotte equipment@fordastronomyclub.com		

STAR STUFF

This Newsletter is published eleven times each year by:
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WEBMASTER: Greg Ozimek
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Club Information:

The Ford Amateur Astronomy Club (FAAC) meets on the fourth Thursday each month, except for the combined November/ December meeting on the first Thursday of December - at Henry Ford College Administration Services and Conference Center in Dearborn. Refer to our website for a map and directions. www.fordastronomyclub.com

The FAAC observes at Spring Mill Pond within the Island Lake State Recreation Area near Brighton, Michigan. The club maintains an after-hours permit and observes on Friday and Saturday nights, and nights before holidays, weather permitting.

The FAAC also has use of a private observing site near Gregory Michigan and Lake Erie Metro Park. See the FAAC Yahoo Group* for more information.

Observing schedules and additional info are available on our website, or via the FAAC Yahoo Group.* Or call the FAAC Hotline, for info and leave a message, or ask questions: 313-757-2582. You may also send email inquiries to info@fordastronomyclub.com.

Membership in the FAAC is open to anyone with an interest in amateur astronomy. The FAAC is an affiliate of the Ford Employees Recreation Association (F.E.R.A.).

Membership fees:

Annual - New Members: \$30 (\$15 after July 1)

Annual - Renewal: \$25 (\$30 after January 31)

Membership includes the STAR STUFF newsletter, discounts on magazines, discounts at selected area equipment retailers, and after-hours access to the Island Lake observing site.

Astronomy or Sky & Telescope Magazine Discounts Obtain the required form from the FAAC club treasurer for a \$10 discount.

Send the completed form directly to the respective publisher with your subscriptions request and payment. Do not send any money directly to the FAAC for this.

Star Stuff Newsletter Submissions Your submissions to STAR STUFF are welcome! Send your story and/or images to the editor: StarStuff@fordastronomyclub.com Email text or MS Word is fine. STAR STUFF will usually go to press the weekend prior to each general meeting.

Submissions received prior to the 15th can be included in that month's issue.

* FAAC Members are welcome to join our Ford Astronomy Club Yahoo! Group. Messages photos, files, online discussions.