NIGHTFALL

A PUBLICATION OF THE HUACHUCA ASTRONOMY CLUB

DECEMBER 2017

PRESIDENT'S NOTES

Happy December Everybody!

M42 – GREAT ORION NEBULA
(IN HYDROGEN-ALPHA [Hα])

By Richard Pattie, Dec. 2016. https://www.astrobin.com/277491/C/

Long, cool, clear nights cover our hills and valleys in December. Many of our club members may think back to the drifts of snow they left to move here while they put on their light jackets to go outside and observe.

And observe we can, the winter sky is full of opportunities in December. Two of my favorite constellations, Taurus (the Bull) and Orion (the Hunter) are again vying for supremacy in their century's long sky battle. Rising first, Taurus lowers his horns into attack position waiting for Orion who is already raising his club in return. Orion and Taurus, combined, is home too many splendors In Taurus, Messier 1 (M1), "The Crab Nebula" (the best-known supernova remnant, at least on Earth), is striking in clear dark skies through 6" to 10" telescopes and even better in bigger scopes. A fine open cluster for small scopes is M45 better known as the Pleiades. The bright blue-white stars fill the view in even the smallest wide field telescopes. In Orion, the seventh brightest star in the sky, Rigel a blue-white super giant, and Betelgeuse, a red super giant star, are beautiful naked eye and in small telescopes. Orion is, of course also home to the great (and I mean great) Orion Nebula, M42 and M43, to name just two. What I guess I'm saying is welcome to winter.

The opening of winter is also an excellent excuse for a HAC party, so we're using it. This year the setting will be the Patterson Observatory's classroom. Advertised as a Pot Luck Plus, the club will buy a few meat and veggie plates and a few bottles of wine to round out the menu of your holiday dishes. I'm not one for clever decorations, so expect the theme to be college classroom with food on tables.

While chewing the dandy delights, we can also chew the fat (so to speak) about anything under or beyond the sun without the restrictive framework of our monthly meetings. After eating (or during a break in action), if the sky is clear, we can drag out some small telescopes and open the dome for the 20-inch and try to find something interesting to look at and continue talking. Just writing about this I'm getting interested in talking to everyone and eating everything.

We should probably have another one of these socials in the summertime as well; just thinking.

Clear Skies Everybody

WELCOME OUR NEW MEMBERS

Amy and Robert Squires, along with their son Riley and daughter Ava joined in November as a military family. Welcome! We are glad you joined.

HAC HOLIDAY PARTY

The HAC holiday party will replace our usual monthly meeting on Friday December 8. This year's event is a pot luck gathering at the Patterson Observatory at 5:30 pm. Bring a dish to share. The club will provide a couple of party platters. Please let David Roemer know if you are coming and what you plan to bring.

At the January Meeting

For the January 2018 meeting we will be back in the Student Union Building at Cochise College. Our speaker will be the well-known amateur astronomer and accomplished astro-photographer Tom Polakis of the Saguaro Astronomy Club in Phoenix.

Farewell Bob Gent

Bob and Terrie Gent are packing up their tent and moving to Ohio. They expect to be relocated there by the end of January.

Bob Gent arrived in Sierra Vista in 2005 and has been an active member, board member, and officer of HAC throughout his time here. He served as club president and is the current Past President on our board of directors, 9a post he has agreed to continue to fill from afar). Through the magic of the internet, we can continue to benefit from his leadership and knowledge going forward. His physical presence, however, will be sorely missed.

He has been a tireless crusader for the protection of our dark night sky here in southeastern Arizona. He was instrumental in crafting the latest outdoor lighting codes for Cochise County and the cities of Sierra Vista and Benson. He was also the driving force behind Kartchner Caverns State Park's recent recognition as an IDA Dark Sky Park. He is recognized and well respected by all as the face of dark sky advocacy in our community and we owe him a huge debt of gratitude for his tireless and effective activism to preserve our beautiful night sky.

His many contributions to astronomy education and outreach here evidence a remarkable dedication to our hobby, our club. and our community: Project Astro, ASP RIM Astronomer, member of the Arizona Astronomy Board, PSI Docent, HAC Outreach Coordinator, Patterson Observatory operator, YES Fair Judge, Tourism Commission member, lecturer and advocate are just some of his many endeavors. He leaves giant shoes to fill.

We wish Bob and Terrie all the best in their next adventure and hope that, while far away, they remain part of our HAC family. To that end, the Board of Directors unanimously approved extending them an honorary lifetime membership in HAC. We wish them clear skies and bright stars always!

HAC Dues

Most HAC memberships expire each December. Thank you to all of you that have already renewed and for those that still need to pay their 2018 dues you can pay in person (cash or check) at the Dec 8 pot luck dinner at Patterson. You can also mail your dues check to PO Box 922 Sierra Vista AZ 85636. Or, you can pay your dues on line at www.hacastronomy.org by pulling down the membership menu and clicking on renew. You can use your credit card or Pay pal account.

Congratulations to HAC's 2018 Board of Directors

At the November meeting, the sitting batch of officers and board members were elected to another year term. The slate of officers for 2018 is as follows:

President	David Roemer
Vice President	Bill Howard
Secretary	Bert Kelher
Treasurer	Ted Forte
Board member at large	Howard Day
Board member at large	Ken Duncan
Board member at large	Gary Grue
Board member at large	Ken Kirchner
Past President	Bob Gent

The Ghosts of Telescopes Past, Present and Future

Mark your calendars (or use ours): ***January 20, 2018, 3 p.m., Telescope Clinic at the Patterson Observatory***. The third annual (sort of) **HAC Telescope Clinic** is coming when it is needed most, just after Christmas. Santa Claus has done his thing now let's do ours. Let's turn those lumps of coal into crystal clear lenses. Let's bring those scopes and binoculars back from the island of misfit toys. Everybody knows a few people who have telescopes that are photon challenged; so, get out the word. We also seek Santa helpers (need not be elven) to assist in the restoration, collimation, and reunification of the scopes and their owners. So bring along your bag of tools, a can of compressed air, your wisdom, and your Christmas spirit.

Just like Ebenezer on Christmas day, we want to free the public from the chains of unused telescopes they have metaphorically shackled to their legs, and allow them to celebrate the wonders of the sky with newfound happiness.

NCG Catalog Errata

By Ted Forte

Sometimes a new project can reveal a surprise in a familiar object. I have adjusted my quest to view all of the NGC visible from here (at my aperture) to concentrate first on the objects whose discovery is attributed to Sir William Herschel.

In late November, I was faced with the Herschel object NGC 2905 (in Leo). Sky Tools does not list it and Megastar showed it as equivalent to NGC 2903. For those that don't recognize that number – NGC 2903 is the really nice and fairly bright and large edge-on galaxy off the nose of Leo. It's been a long time favorite of mine. I can only guess

at how many times I've seen it other than to say that I have described the object in my logs no fewer than 33 times. This was the first time I had ever seen a hint of a designation discrepancy for the object. No big deal though, the NGC is rife with examples of "re-discovered" nebulae that have double catalog entries in the NGC.

So yesterday, I looked into the discrepancy and was surprised to find that it wasn't an error due to a re-observation at all, but learned that William Herschel actually saw a "double nebula" here and thought it was two objects. I re-observed it again this morning to consider how that might be and I have to admit that I would never have guessed.

As it turns out, the designation NGC 2905 applies to an HII region within NGC 2903. Who knew? I still find it a little puzzling as to how (why) William Herschel saw this as two objects, but we are influenced by what we expect to see and I think William Herschel was still (at the time of this discovery) under the assumption that all nebulae were unresolved (Milky Way) star clusters. He would have had no concept of external galaxies, so perhaps he interpreted the subtle difference in brightness distribution as a distance effect. Knowing the modern interpretation of the object and being quite familiar with photographs of the galaxy, my view is certainly biased.

I had another mystery to solve this morning in the guise of NGC 3192 (GX UMa). This is a "Herschel Object" (WH discovery) that points to a 16.3 magnitude object that is just minutes away from the 14th magnitude NGC 3191, which is not ascribed to William Herschel. It's one of those "how the blanked blank did he see this thing and miss the light house beacon right next to it?" moments. Of course, it was nothing of the sort. The "real" NGC 3192 is equivalent to NGC 3191. What is interesting is that William Herschel's son John is the one that first suggested that the fainter object wasn't seen by his father, but that the position he recorded just had a positional error and the observation really was of the 14th magnitude galaxy. But a lot of software will place NGC 3192 at the position of the 16.3 magnitude "ain't no" that is MCG 8-19-17.

Do I have too much time on my hands, you ask? Well, maybe, but I find this sort of catalog sleuthing to be fascinating.

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Space Place Article November 2017

Studying Storms from the Sky

By Teagan Wall

The United States had a rough hurricane season this year. Scientists collect information before and during hurricanes to understand the storms and help people stay safe. However, collecting information during a violent storm is very difficult.

Hurricanes are constantly changing. This means that we need a lot of really precise data about the storm. It's pretty hard to learn about hurricanes while inside the storm, and instruments on the ground can be broken by high winds and flooding. One solution is to study hurricanes from above. NASA and NOAA can use satellites to keep an eye on storms that are difficult to study on the ground.

In Puerto Rico, Hurricane Maria was so strong that it knocked out radar before it even hit land. Radar can be used to predict a storm's path and intensity—and without radar, it is difficult to tell how intense a storm will be. Luckily, scientists were able to use information from a weather satellite called GOES-16, short for Geostationary Operational Environmental Satellite – 16.

The "G" in GOES-16 stands for geostationary. This means that the satellite is always above the same place on the Earth, so during Hurricane Maria, it never lost sight of the storm. GOES-16's job as a weather satellite hasn't officially started yet, but it was collecting information and was able to help.

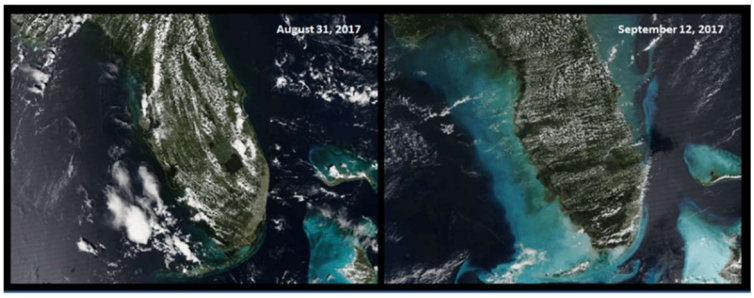
From 22,000 miles above Earth, GOES-16 watched Hurricane Maria, and kept scientists on the ground up to date. Knowing where a storm is—and what it's doing—can help keep people safe, and get help to the people that need it.

Hurricanes can also have a huge impact on the environment—even after they're gone. To learn about how Hurricane Irma affected the Florida coast, scientists used images from an environmental satellite called Suomi National Polar-orbiting Partnership, or Suomi-NPP. One of the instruments on this satellite, called VIIRS (Visible Infrared Imaging Radiometer Suite), took pictures of Florida before and after the Hurricane.

Hurricane Irma was so big and powerful, that it moved massive amounts of dirt, water and pollution. The information captured by VIIRS can tell scientists how and where these particles are moving in the water. This can help with recovery efforts, and help us design better ways to prepare for hurricanes in the future.

By using satellites like GOES-16 and Suomi-NPP to observe severe storms, researchers and experts stay up to date in a safe and fast way. The more we know about hurricanes, the more effectively we can protect people and the environment from them in the future.

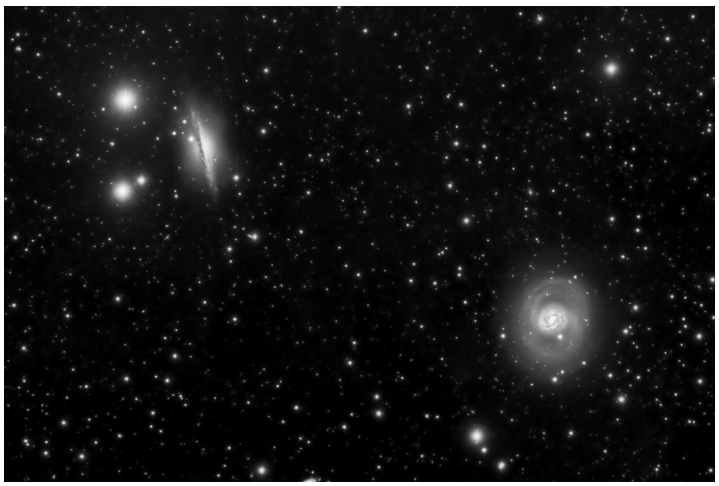
To learn more about hurricanes, check out NASA Space Place: https://spaceplace.nasa.gov/hurricanes/



Caption: These images of Florida and the Bahamas were captured by a satellite called Suomi-NPP. The image on the left was taken before Hurricane Irma and the image on the right was taken after the hurricane. The light color along the coast is dirt, sand and garbage brought up by the storm. Image credit: NASA/NOAA

Pictures from HAC Members

NGC 1055 by Richard Pattie



Girl Scouts at Patterson November 11, 2017

Globular Clusters in M31 by Mike Shade

Want Ads

For Sale: Meade 10" 2120 OTA with HTMC

I bought it on Cloudy Nights from a person in Wickenburg, had the secondary professionally cleaned at Starizona in Tucson. The OTA comes with either a Celestron 1.25 visual back or a 2" rotating visual back, an adjustable focus finder as shown in the picture, and a Vixen style dovetail bracket. Of course, there is also a front cover.

Asking $500

Contact Carl Swanson at (480)600-7353 or cswanson@gotsky.com

For Sale: Meade EXT60AT never used before, includes tri-pod.

Asking $200.00 B/O
Contact Keith Mullen at 266-4230

For Sale: Meade 10" LX200 classic telescope

In very good condition, with tripod, 120v AC and 12v DC power converters with 25' power cords, dew shield, 8x50 finder scope, electric focuser, piggy back bracket, and soft sided carrying case. Also includes a set of Meade CCD color filters, Meade CCD 3.3 focal reducer and CCD variable T-adapter. Plus some other equipment.

Asking $ 1,800.
Contact Bob Stroxtile at strox@ssvecnet.com or call 520-249-0875.

For Sale: Pier Tech electric telescoping pier with Lati-wedge made for the latitude of Sierra Vista

All the hardware, bolts, nuts, washers and plates are with the pier. Pier Tech can make new legs for it to make it correct for anywhere in the world. The pier and wedge have never been used and the only time the pier was out of the box was to take the photos. New today, the pier and wedge are $3,400. Asking $2,800.

Contact Bob Stroxtile at strox@ssvecnet.com or call 520-249-0875.

For Sale: Meade Starfinder 8" Reflector Telescope

Will Sell at a very reasonable price. Included are a Telrad Finder, Filters, and additional Lenses.

Contact Mr. Jim Moses at (520) 803-0913 or by email jjmoses2@gmail.com

For Sale: Planewave CDK14 corrected Dall-Kirkham telescope.

Includes the OTA, new November 2014, optional truss rod shroud and optional upper dovetail and the accessories that were included with the telescope (primary to secondary spacing tool). There is NO FOCUSER the adapter for an Optec TCFS3i is included. I also have the factory wooden shipping crate. The telescope has been in use every clear night in the observatory in Sonoita. This is an outstanding instrument and a great imaging scope.

For Sale: Celestron Celestar 8 inch S/C Deluxe - $1200.

Will also sell pieces individually

Contact Rhonda and Terry Taylor at (520) 366-2378 or by email at twrl2@yahoo.com. Or See Craigslist at http://sierravista.craigslist.org/bar/4523742100.html

For Sale: Older Optical Guidance Systems 12.5" f/9 Ritchey-Chretian telescope.

Very good Paul Jones ceramic optics, Robofocus secondary focuser, will include Takahashi collimating telescope. Some of the images through the scope are at Mshadephotography.com.

Contact Mike J. Shade at mshade@q.com

Club Officers and Contacts

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Secretary: Bert Kelher **Treasurer:** Ted Forte
Past President: Bob Gent

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HAC Dec/Jan Calendar of Events

SU	MO	TU	WE	TH	FR	SA
3 Dec 10:47 am Aldebaran 0.8° from moon	**4**	**5**	**6**	**7**	**8** HAC Holiday Pot Luck @ Pat Regulus 0.7° from moon	**9**
10 2:51 am	**11**	**12**	**13** Geminid Meteors	**14** Geminid Meteors	**15** Geminid Meteors	**16** Member Star Party
17	**18** 1:30 am	**19**	**20**	**21** Winter Solstice 11:28 am	**22**	**23**
24	**25** 	**26** 4:20 am	**27**	**28** Patterson Public Night 6 pm	**29**	**30**
31 	**1 Jan 2018** 9:24 pm Happy New Year!	**2**	**3**	**4**	**5**	**6**
7	**8** 5:25 pm	**9**	**10**	**11**	**12** HAC Meeting Student Union	**13** Member Star Party Mercury/Saturn
14 Saturn 3° S of moon	**15** Mercury 3° S of moon	**16** 9:17 pm	**17**	**18** Patterson Public Night 6 pm	**19**	**20** Telescope Clinic at Patterson 3pm
21	**22**	**23**	**24** 5:20 pm Loretto Catholic School	**25**	**26**	**27**
28	**29**	**30**	**31** Ceres at opposition	**1 Feb**	**2**	Huachuca Astronomy Club of Southeastern Arizona

All event times MST. Join Haclist to keep up to date with all of the Huachuca Astronomy Club events
Send an email to: haclist-subscribe@yahoogroups.com