NIGHTFALL

A PUBLICATION OF THE HUACHUCA ASTRONOMY CLUB

JUNE 2016

PRESIDENT'S NOTES

'"The arc of the Milky Way seen from a truly dark location is part of our planet's natural heritage," said Connie Walker, and [sic] astronomer from the U.S. National Optical Astronomy Observatory in Tucson, Arizona. Yet, 'more than one fifth of the world population, two thirds of the U.S. population and one half of the European Union population have already lost naked eye visibility of the Milky Way.'" (June 9, 2009, archive.cosmosmagazine.com)

"From the Backyard," Jay LaBlanc, Nikon D810 105mm f/1.8 eighteen 30 sec subs.

Here's what we can see from our backyards, lest we forget it. Thanks, Jay, for the beautiful and dramatic backyard image.

It's mid-June but before you start sealing up the observatory, sending off your mirror for recoating and start your summer reading list in preparation for monsoon, go outside during the night, scope or not, and gaze at the wonderful star fields of summer. Many of us moved here for the dark skies and pleasant weather, but once here we may begin to take it for granted. You may be in an observing routine of scooping up faint fuzzies, or you might be turning your attention to astro-imaging (with the majority of your viewing done looking at a computer screen); stop what you are doing from time to time and just watch the sky.

Maybe you can go out just after the sun has set and watch the skies darken, looking for the first planet or star. Maybe you can go out after dinner and make out the constellations you once knew by heart or never knew until now. Maybe you can get those binoculars you normally use for viewing Vermilion Flycatchers to catch a peek of Mars near Antares as they both float near the summer Milky Way. Or, just maybe you can get up early and march out to see Mercury.

Now that I got that off my mind, let's get to planetary matters. We have a wealth of planets well positioned for full nights of viewing and imaging. Mars is up all night long. It looms large and red in Scorpio. The skies have been less than cooperative, giving most nights poor seeing. So that just means we need to take every opportunity possible to catch a good glimpse of the surface features. I got up last night at about 3a.m., and with cloudy eyes realized just how big and bright Mars has become. It is as close as it has come in 11 years, and I can easily imagine it not as a dot but as a disk. A quick look in even my Orion ED80 shows some surface features, most notably the polar cap and circumpolar darkening. If you're lucky, the dark triangular shape of Sytris Major may be in the view.

But wait, there is more: Jupiter is still well placed in early evening. The major bands stand out boldly against the pale zones, and the Great Red Spot is a golden orange. Even small telescopes will show the bands and the four "Galilean" moons as they dance around the planet.

Last but not least, Saturn is beginning to be available for viewing at reasonable hours. The rings are inclined at a little more than 26 degrees from edge-on in 2016, so a lot of ring detail can be seen under good seeing with large telescopes and medium sized telescopes using filters.

A good article in the July issue of Sky and Telescope on filters for viewing planets is worth the read. And now is a

wonderful time to pull out those filters you got as a set way back when, and put then to use. But don't limit your viewing to just Wratten color filters. Try anti-light pollution filters such as Lumacon's Deep Sky, or Orion Telescope's Sky Glow filter on the planets. You will be surprised at the bands and features that will pop out on the planets, especially the gas giants.

At the June Meeting

The June meeting will be in the Library Commons Area, Cochise College Sierra Vista campus on June 17, 2016 at 7 PM. Our speaker will be Stephanie Sallum, a fourth year astronomy graduate student at the University of Arizona's Steward Observatory. The meeting is FREE and open to the public.

Steph is interested in how high contrast imaging can contribute to our understanding of planet formation. Her thesis work has been using the novel imaging technique of non-redundant masking to search for and image accreting planets in transition disk clearings. Before coming to the Steward Observatory, she did undergraduate work at MIT in the Planetary Astronomy Lab studying Pluto's atmosphere. When she is not doing astronomy she is usually out rock climbing.

Her talk will be entitled "Imaging Protoplanets: Observing Transition Disks Using Non-Redundant Masking"

Observing programs of the Astronomical League

The A.L. observing programs are telescope projects that will help you learn the sky, improve your skills and introduce you to new objects and genres of objects. They are, perhaps, the greatest advantage to being an Astronomical League member. Since HAC is an A.L. member society, all HAC members are also League members and eligible to earn these observing awards. Currently there are more than 50 of them and they cover everything from basic constellation recognition to intense photographic sky surveys. There truly is something for every sort of astronomical interest and every experience level from novice to expert. Check them out on the League's website www.astroleague.org by pulling down the "Observe" menu.

HAC's Award's Coordinator, Ted Forte, is available to answer questions about the programs and can review your logs (a few program coordinators insist on reviewing logs themselves but most allow society award coordinators to approve awards) Completing any of the programs will earn you a certificate, and recognition in the Reflector magazine. Your award will also be listed on the AL website in a searchable database. Most of the awards also earn a lapel pin. But the true reward is in the sense of accomplishment that comes from completing a program and the confidence and skills you will gain in the process.

Welcome our new members

Three members joined at our Astronomy Day celebration at the library in May. Jesus and Jessica Ruiz of Sierra Vista joined as a family with their children, Jesus, Freddy and Marie. Ken and Ayako Howard of Sierra Vista joined as a family along with their children Kenny and Sakura. Ken observes with a Celestron 8 SE. Laurie Ann Carlisle of Sierra Vista also joined at the event. Nathaniel McCready of Huachuca City is our newest military member. He also attended Astronomy Day and joined the next day via our on-line application. Allen Harrison of Sierra Vista joined at the May meeting. Allen is a returning member after a long absence from our roster. Welcome back, Allen! Gene Tackett of Sierra Vista joined the club at the June Member Star party at Repogazer. Welcome to all our new members, we are glad you joined!

The world lost a treasure recently

Thomas Neyhart passed away of natural causes on May 20th, 2016, at the age of 68. Although Tommy only spent a few years in Sierra Vista, his impact on the community will not be forgotten. Many knew Tommy as a guardian angel of Brown Canyon Ranch, and for his passionate involvement

with the Huachuca Astronomy Club.

Tommy will be remembered for his boisterous laughter, his kindness, his wealth of knowledge, and his love of all things baseball.

In recent years, Tommy toured the country, visiting countless historical and breathtaking natural sights, volunteering, and offering astronomy or birding lessons to any who wished to learn more. His love of stories and his quest for adventure inspired countless people throughout his travels, and he will be remembered as a man who fully embraced every moment of life.

His proudest legacy, however, is that he was a wonderful father and friend to his three children, Sarah, Sam and Heather, who, as kids, Tommy took around the globe to foster a love of learning and an adventurous spirit. Tommy also leaves behind his brother and best friend, John Neyhart.

Tommy's memorial service will be a private family celebration of life; in lieu of flowers, however, the family asks for donations to be made to the Huachuca Astronomy Club at hacastronomy.org in Tommy's memory.

[Editor's note: This is a copy of the obituary written by Tommy's daughter Heather, that ran in the Sierra Vista Herald. I would just like to add that I have always maintained that you can pick your family members and it is evident that Tommy and we (the members of the Huachuca Astronomy Club) mutually chose one another. We'll miss you, Tommy. David R]

An Opportunity to Win a New Celestron Scope

Celestron Telescopes has chosen the Huachuca Astronomy Club to be the recipient of a New Celestron 102 SLT Computerized GO-TO Scope.

This telescope will be displayed at the May 7th Member Star Party at the Repogazer Observatory (RGO) at HAC member Keith Mullen's home and again at the May members meeting.

To win this telescope is easy. Write a one page essay on why you think you would be a worthy recipient, including how winning this scope would enhance your interest in Astronomy.

All Essay's will be sent to Celestron where the staff will determine who is the winner. There are no particular rules or requirements, and Celestron's decision will be final. We've done this before at HAC with two sisters declared as co-winners due to their essay's Merrits and Celestron promises to do it again to help support HAC's inreach efforts. Announcement of the winning Essay will be at Celestron's discretion after a reasonable amount of time and after the scope has been available to be seen by many members. HAC member and former V.P. Keith Mullen will have the scope and will make it available for any HAC member who wishes to come out to Hereford and examine it, call (520)266.4230 to schedule a time.

General Scope info: Celestron's NexStar 102 SLT, Computerized Mount and tripod, with an additional 60 mm OTA included, two eyepieces, a diagonal and red dot spotter scopes with each OTA, complete operating instructions and a CD of "The sky". No manufacturer warranty included.

Space Place Article

NOAA's Joint Polar Satellite System (JPSS) to revolutionize Earth-watching

By Ethan Siegel

If you want to collect data with a variety of instruments over an entire planet as quickly as possible, there are two trade-offs you have to consider: how far away you are from the world in question, and what orientation and direction you choose to orbit it. For a single satellite, the best of all worlds comes from a low-Earth polar orbit, which does all of the following:

- orbits the Earth very quickly: once every 101 minutes,
- is close enough at 824 km high to take incredibly high-resolution imagery,
- has five separate instruments each probing various weather and climate phenomena,
- and is capable of obtaining full-planet coverage every 12 hours.

The type of data this new satellite – the Joint Polar Satellite System-1 (JPSS-1) -- will take will be essential to extreme weather prediction and in early warning systems, which could have severely mitigated the impact of natural disasters like Hurricane Katrina. Each of the five instruments on board are fundamentally different and complementary to one another. They are:

1. The Cross-track Infrared Sounder (CrIS), which will measure the 3D structure of the atmosphere, water vapor and temperature in over 1,000 infrared spectral channels. This instrument is vital for weather forecasting up to seven days in advance of major weather events.

2. The Advanced Technology Microwave Sounder (ATMS), which assists CrIS by adding 22 microwave channels to improve temperature and moisture readings down to 1 Kelvin accuracy for tropospheric layers.

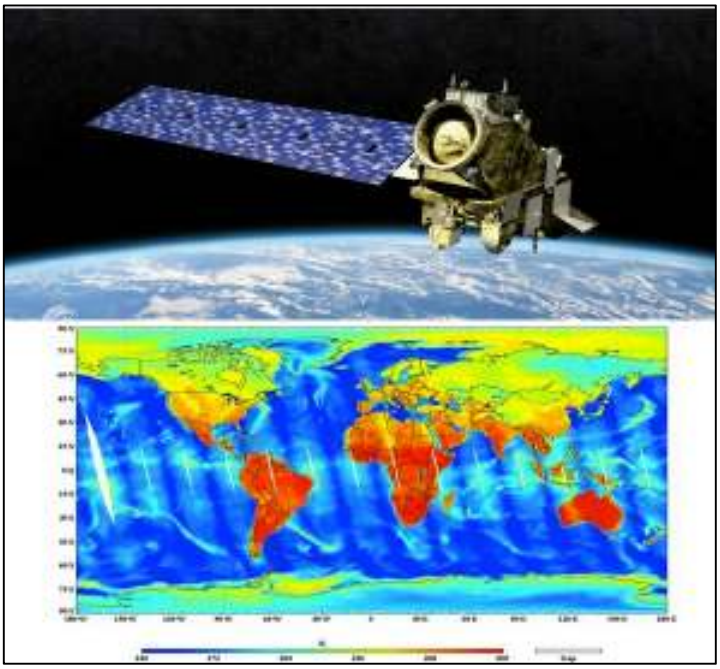
3. The Visible Infrared Imaging Radiometer Suite (VIIRS) instrument, which takes visible and infrared pictures at a resolution of just 400 meters (1312 feet), enables us to track not just weather patterns but fires, sea temperatures, nighttime light pollution as well as ocean-color observations.

4. The Ozone Mapping and Profiler Suite (OMPS), which measures how the ozone concentration varies with

altitude and in time over every location on Earth's surface. This instrument is a vital tool for understanding how effectively ultraviolet light penetrates the atmosphere.

5. Finally, the Clouds and the Earth's Radiant System (CERES) will help understand the effect of clouds on Earth's energy balance, presently one of the largest sources of uncertainty in climate modeling.

The JPSS-1 satellite is a sophisticated weather monitoring tool, and paves the way for its' sister satellites JPSS-2, 3 and 4. It promises to not only provide early and detailed warnings for disasters like hurricanes, volcanoes and storms, but for longer-term effects like droughts and climate changes. Emergency responders, airline pilots, cargo ships, farmers and coastal residents all rely on NOAA and the National Weather Service for informative short-and-long-term data. The JPSS constellation of satellites will extend and enhance our monitoring capabilities far into the future.



Images credit: an artist's concept of the JPSS-2 Satellite for NOAA and NASA by Orbital ATK (top); complete temperature map of the world from NOAA's National Weather Service (bottom).

Pictures from HAC Members

Comet C/2013 X1 (PANSTARRS) by Jay LaBlanc

Rosette Nebula – by Mike J. Shade

Rho Ophiuchus by Jay LaBlanc

WANT ADS

FOR SALE: DOBSONIAN REFLECTOR AND STELLACAM

16-inch, f4.5 Truss-tube Dobsonian Reflector for sale. It has wheelbarrow handles to wheel it around and load into a van or pickup truck with a set of ramps. It comes with an 8x50 viewfinder, Sky commander digital setting circles, and a rainproof scope cover. Was asking $2000.00 but will sell for $1800.00 to fellow club members.

Also have a StellaCam II video camera with video to computer adapter to view on a computer monitor. $150.00.

Contact Bob Kepple at 520-366-0490, or Astrocards@aol.com.

FOR SALE: MIRROR BLANK.

13 7/8" diameter by 4 1/2" thick. Pyrex Glass with no scratches or bubbles. Very Rare - Perfect for doing a large binocular. $75.00

Contact Rob Shernick at (520) 458-6790 or by email at nuvolari_p3@q.com

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

FOR SALE: 8" CELESTRON NEX STAR

Good condition with all original accessories.

Contact Mae Childs at maechilds2014@aol.com

FOR SALE: 12.5" DOB

Made by an local ATM in Tucson for 500.00. Celestron 8" OTA with additional Hyperstar III Optics from Starizona. Both for 1000.00

Contact Max Mirot at galiloeo@yahoo.com

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Our sponsors have been keeping us supplied in door prizes for some years. If you have not contacted them lately, please consider this. They have a lot of great astronomical products that we all need.

For more information on products and contact information, their websites are:

Farpoint Astronomy	http://www.farpointastro.com/
Starizona	http://starizona.com/

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HAC June/July Calendar of Events

SU	MO	TU	WE	TH	FR	SA
Jun 12 4:10AM	**13**	**14** 	**15**	**16**	**17** HAC Meeting Library Com. Steph Sellum	18
19 	**20** 7:02 AM	**21**	**22** Girl Scouts at Patterson 7:30PM	**23**	**24**	**25**
26	**27** 2:19 PM	**28**	**29**	**30** Mars Stationary	**JUL 1**	**2**
3	**4** 7:01AM 	**5**	**6**	**7** Pluto Opposition	**8**	**9**
10	**11** 8:52PM	**12**	**13**	**14**	**15** HAC Meeting Student Union Tom Polakis	**16**
17	**18**	**19** 6:57PM	**20**	**21**	**22**	**23**
24	**25**	**26** 7:00PM	**27**	**28** Delta Aquariid meteors	**29** Delta Aquariid meteors	**30** Delta Aquariid meteors
31	**Aug 1**	**2** 4:45PM	**3**	**4**	**5**	

NO OUTREACH EVENTS ARE SCHEDULED DURING MONSOON MONTHS

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