

NIGHTFALL

Huachuca Astronomy Club of Southeastern Arizona



HAC MEETING: Friday, September 19, 2008

7 pm, Cochise College, Sierra Vista, Rm. 305A/B

PLUS our monthly Show-N-Tells, upcoming event details, refreshments & NEW Exciting Door Prizes!

Speaker: Tom Kaye Topic: "A Forty Inch Telescope!"

Eulogy of a Past President

JEFF MEDKEFF, (1968-2008)

I'd like to share a few reminiscences about Jeff Medkeff, a former president of our club who died early this month at age 39 from complications of liver cancer. Jeff was unique in many ways, and I think it's fair to say that we owe the very existence of the Huachuca Astronomy Club to him. To understand why, let me take you back to a typical Club meeting in the late 1990's: duration of the meeting, 45 minutes; attendance, 5; speaker, none; program, none; duration of the discussion of the Club tee shirt, 40 minutes; diagnosis of the Club's condition, clinically dead. Jeff and I always disagreed on number of dues-paid members the club had at that point: I remember there being two; Jeff remembers four.

Jeff literally revived the club. He recruited new and fallen-away members, myself for one. He invited speakers, publicized meetings and changed the day of meetings and star parties from Sunday to Friday (the former president's bowling night having been Friday). Jeff rearranged the meetings to include a break with refreshments--adding a social dimension to the Club.

Why was Jeff so concerned about reviving the Club? It was because his own club in Akron, Ohio became his refuge and home itself for a bright, geeky kid whose home life was, to put it mildly, something less than ideal. His parents, when they were splitting up, had a reverse custody battle over who had to take Jeff.

If you combine this background with a genius IQ--Jeff's was 173--you can understand why Jeff was not always the easiest person to get along with. He was always right, he HAD to be. In fact he WAS always right, except for that time when he was wrong about the number of dues-paid members the Club had at the low point.

Jeff was a genius, a brilliant speaker, a facilitator, an enabler--he put people together and made things happen. He accomplished more in his allotted half-a-lifetime than most of us could in several. It was a privilege to know him, and he will be deeply missed.

Dave Healy

STARIZONA
ADVENTURES IN ASTRONOMY & NATURE

Official Donor of the Huachuca Astronomy Club Door Prizes!!!

President's Perspective

It's hard to believe, but summer is almost over and the monsoons are slowly winding down, though, as I write this article the skies are grey as if Mother Nature wants to keep our countryside green for a couple weeks longer. We're still waiting for clear and steady nights so that we can resume observations of the our beautiful sky and get people working on their Astronomical League certificates. We have several members who are very active in this activity; let's see if we can encourage a few more people to take advantage of this nice opportunity that our club enjoys as being a member of the AL. It is with a great amount of sadness that we learned about the passing of one of HAC's past presidents. Jeff Medkeff did many significant things in our hobby and for our club. On the front cover of our newsletter is a tribute to him. We will miss him very much and send our condolences to his wife, Karen. In his honor, the Board is going to discuss establishing an annual award to a HAC member who has done the most for the club in the past year.

The slots for speakers for the rest of 2008 have finally been filled and it looks like we'll end with a big bang. For the year 2009, which is the International Year of Astronomy (take a look at Doug Snyder's website on it), I am hoping to have a series of speakers, mostly amateur observers and hopefully a good number from the club who will come talk to us about their specific observing programs. I have already lined up someone to talk about double stars. I would like to talk about searching for supernovae and maybe solar eclipse chasing since there is going to be a good one in 2009. Maybe some of you can start brushing up on your observing programs and talk to your fellow club members about what you see and study while looking through your telescope. Not to put anyone on the spot, but we all know that Keith loves globular clusters and Doug is Mr. Planetary Nebulae, hopefully we'll be able to cajol them into speaking about their favorite objects and how they go about observing them. Of course, the Deep Sky guys (Bob and

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SKY CALENDAR EXCERPT

courtesy of Doug Snyder,
"Palominas Observatory"

September '08

Sep. Highlight: Comet 6P d'Arrest

- 07 Su ☽ First Quarter Moon 0704 hrs
- 10 We Merc.Greatest elong. E (27°) 2100hrs
- 12 Fr Uranus at opposition 1900 hrs.
- 13 Sa ○ Full Moon 0213 hrs
- 16 Tu ☾ Third Quarter Moon 2204 hrs
- 17 We Equinox (Autumn) 0845hrs
- 19 Fr **HAC Meeting 1900 hrs.**
- 20 Sa **HAC Public Star Party**
- 27 Sa Zodiacal Lt. in E. for 2 wks.
HAC Member Star Party
- 29 Mo ● **New Moon 0112 hrs.**

Be Sure To Visit Doug's New Website:

www.astronomyyear2009.com

Club Resources

The Club has iron on HAC Patches available for \$2.00 ea. Contact Bob Kepple at 366-0490/ astro-cards@aol.com or Jeanne Herbert at 366-5690.

Huachuca Astronomy Club P.O. Box 922 Sierra Vista, AZ 85636 <http://hacastronomy.com> email: mrgalaxy@juno.com

Yearly Membership: Individual: \$25; Family: \$35; Military: \$20; Student:\$10 (with restrictions)

President: Wayne Johnson, mrgalaxy@juno.com ; **Vice President:** Keith Mullen, 520.366.0049/ repogazer@msn.com

Treasurer: Bob Kepple: 366-0490/ astrocards@aol.com; **Secretary:** Jeanne Herbert, 366-5690

Star Party Coordinator: Keith Mullen, repogazer@msn.com;

Outreach Events Coordinator: Rich Swanson, 803-7298 or blakstar64@cox.net

Loaner Scopes: Gary Myers 432-4433; Newsletter Editor: Teresa Mullen, edugazer1@yahoo.com / 366-0049

This issue of Nightfall can also be found on-line at hacastronomy.com. Click 'Newsletter' link. There is much more information about astronomy and our HAC activities on our club web site. *To join the HAC-LIST, send an email to haclist-subscribe@yahoogroups.com .

About the Speaker... Grinding a 1.1 Meter Mirror, the Good the Bad and the Ugly

A light hearted look at the trials and tribulations of grinding your first mirror especially when it weighs almost half a ton! The Spectrashift Project has been on an 8 year quest to find, grind and build a 1 meter plus telescope. A big mirror is a dream of many amateur astronomers, but the reality of such a project can not be comprehended at the start. This talk will go through the search for a blank, the machine to grind it and the instrument to measure it. Highlighted are the disasters from almost dropping 900 lbs of glass, why everything you thought you knew doesn't count, and how a project like this tests your sanity. If you ever thought about how cool it would be to build your own big telescope, you must hear this talk first.

Tom Kaye is a recent transplant to Sierra Vista from Chicago. Due to 24 hour daylight in the Chicago area, he became interested in spectroscopy as a last resort. He now leads a team of high level amateurs under the banner Spectrashift.com with the goal of discovering an extrasolar planet. They have already built a spectrograph capable of high precision radial velocity measurements down to better than 200 m/s. They used this instrument to detect the known exoplanet around the star Tau Boo and published the results in a peer-reviewed journal proving that amateurs can measure redshifts.

Travels on the Celestial Sphere

Bob Kepple and Glen Sanner

We thought we would try something different this month for our "deep sky" article. This one is "shallow sky," covering four constellations in the summer sky. We want you to be able to locate these four relatively obscure constellations. They can be a little difficult to isolate because none of them have any really bright stars, nor do they have a distinctive, easily found shape. By right ascension, they are as follows:

Microscopium-the Microscope

Genitive: Microscopii Abbreviation: Mic
 Culminates: 9PM-September 18th Area: 210 square degrees
 Approximate central coordinates: RA 20h 30m, Dec. -35° 10'

This constellation was created by French astronomer Nicolas Louis de Lacaille in the 1750s. It commemorates the invention of the microscope in the early 1600's by several scientists: Zacharias Janssen, Anton van Leeuwenhoek, and Galileo Galilei. Lacaille put the constellation in his maps of the sky in 1752. It is a scattering of faint naked eye stars and has little resemblance to a microscope as we know it. It is found due south of Capricornus between Piscis Austrinus and Sagittarius. The best deep sky objects found in this constellation are galaxies NGC 6925, NGC 6958 and IC 5105. Use the

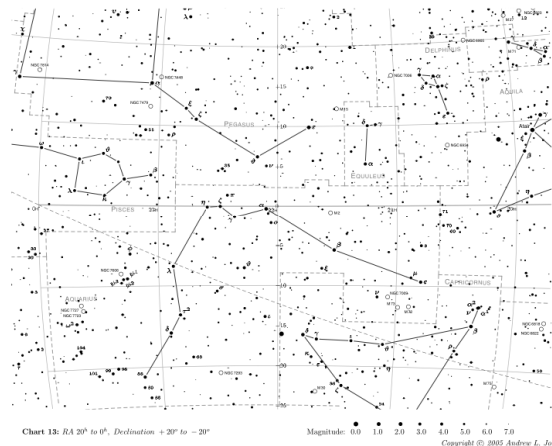
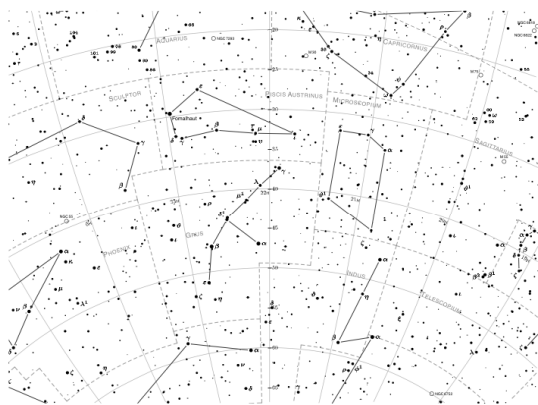


chart to find this constellation.

Equuleus-the Colt

Genitive: Equulei Abbreviation: Equ
 Culminates: 9PM-September 22nd Area: 72 square degrees
 Approximate central coordinates: RA 21h 11m, Dec. +07° 11'
 This constellation is a collection of faint stars forming a trapezoid between Delphinus and the nose of Pegasus. We have inherited this constellation from Greco-Roman civilization and it appears on star maps dating from the late 1600s. It also ap-



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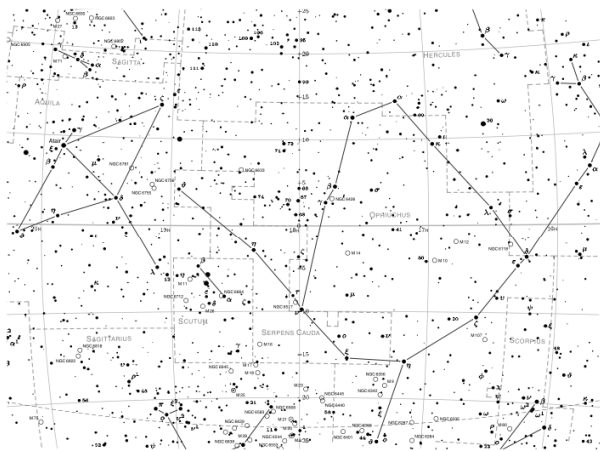
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Glenn) can talk about anything outside our solar system, but we would also want someone to talk about solar, planetary, and cometary observing. These can be full length talks (preferred), but if you can only come up with 20 minutes of material, then we can have a double billing for the night. If anyone knows an "expert" (enthusiasm counts for a lot, too) on some particular type of object (amateur or professional), please let me know who they are and how to contact them. I'm especially looking for a good speaker on variable stars. They seem to be hard to find around here...

Clear skies, Wayne (aka Mr. Galaxy), your resident president

(Continued from page 3)

pears in Jamieson's maps published in the early 1800s. The head of "The Colt," appears on most maps right next to the head of Pegasus. Hipparchos may have invented this constellation and some have said that this is the horse that Mercury gave to Castor. In any case it is the second smallest constellation, only Crux in the southern Milky Way is smaller. It has a sprinkling of galaxies and a handful of double stars. Use the chart to find this constellation.



Scutum-the Shield

Genitive: Scuti Abbreviation: Scu

Culminates: 9PM-August 15th Area: 109 square degrees

Approximate central coordinates: RA 18h 41m, Dec. -10° 00'

This constellation was introduced in 1690 by Johannes Hevelius to honor King John (Sobieski) III, who became king of Poland (by election) in 1674 and who subsequently broke the siege of Vienna by leading the Polish cavalry against the Turks in 1683. It was originally named Scutum Sobiescianum, and was shortened to Scutum in the 18th century. It has no distinctive star pattern other than an elongated rhombus. The NE part of it is one of the richest areas of the summer Milky Way being the Scutum Star Cloud, this is offset in the NW portion by the Great Rift. What a visually striking area of the sky! By looking at the Scutum Star Cloud you are visually travel-

ing down a portion of the Sagittarius arm (see fig.#1-courtesy NASA/JPL). Figure #1 This is a wonderful area to look at with binoculars! Scutum may be found between Aquila and Sagittarius. The star chart will help you find it.

Vulpecula-the Little Fox

Genitive: Vulpeculae Abbreviation: Vul Culminates:

9PM-September 8th Area: 268 square degrees

Approximate central coordinates: RA 20h 14m, Dec. +24° 51'

Johannes Hevelius also introduced this constellation in the late 17th century. It was originally Vulpecula cum Anser, the Little Fox and the Goose. It has since been shortened to Vulpecula and is situated between Cygnus and Delphinus. This is a marvelous area to sweep with binoculars and the Little Fox shows itself extending from the Great Rift on the west to the summer Milky Way on the east. We find the "coathanger" in this constellation as well as M27, a wonderful planetary. It has no major bright stars to mark it but with a little help from our star chart , you will easily find this summer gem.

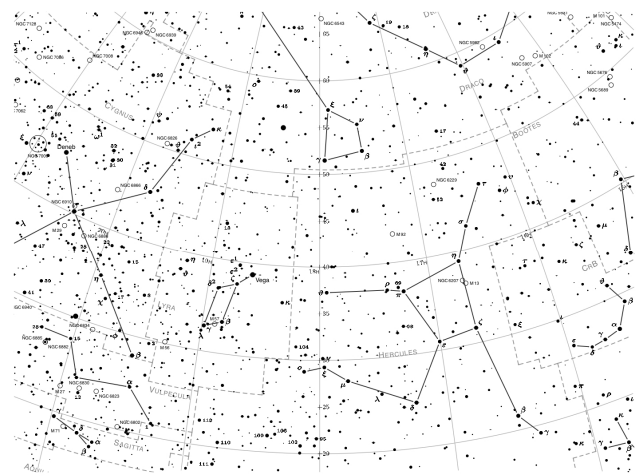


Chart 6: RA 16° to 20°, Declination +65° to +20°

Magnitude: 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0

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STAR PARTY CORNER

Keith Mullen, Star Party Coordinator (520) 366-0049 email: repogazer@msn.com

Participation is the Lifeblood of the Club!

August is the month when I should take a break from the Star Party corner; we never have a successful Star Party in August. But I'm going to write it anyway because there is reason to mention it. On Saturday August 5th we had scheduled the member Star Party and it was located at DSO (Desert Starlight Observatory) - Bob and Barb Kepple's Jewel in Palominas. Although it was completely cloudy at 6:00 p.m., there was a steady flow of members arriving at the Kepple's and by 8:00 PM the place was full. Barb overdid herself with munchies that qualified for dinner, and oh those cookies! At around 8:30 someone arrived and asked why we were all in the house when the sky was clear, everybody rushes out to the Observatory for a couple of hours of OK observing. The point of the article is NO MORE NO GOES for member star parties. When all you have is clouds and 25 people show up for what turned out to be one of the best events of the year it says we are getting the point, Astronomy has a Social side and we are beginning to see it.

Now next month's member star party should be more observing than chatting and munching. It's scheduled for the very late new moon period of September 27th and is happening at RGO (that's my place) and hopefully I'll have a mount in time to get the 14" RCOS operational to go along with the 20" which has been behaving lately. There will still be munchies and whatever anyone else decides to bring along, but that late in the month almost assures us of some viewable weather.

September Star Party Schedule

Saturday, September 20th Finds us entertaining our public friends at the Public Star Party being held at the Patterson Observatory on the U. of A. South campus. There is no theme for this month's event but after a long wet spell we wanted to give them a chance to get re-acclimated to the skies and wanted to keep the distance down. We will need a few member scopes for this event so if you can come out at 7:00 p.m. and bring the equipment too, that would be appreciated.

Saturday, September 27th Is the fall observing seasonal opener at RGO. A new 14" Ritchie will be available for your enjoyment and plenty of hospitality to go around. So get out here and let's get the Season off to a great start. Directions to all Observatories can be found in our award winning Web Page.

On this same evening the U.of A. south has Dine Under The Stars (DUTS) scheduled and we at the HAC have been there every year. So if you want to help out there before you come to RGO, call Rich Swanson at 803-7298 to volunteer. We need at least another 3 scopes there. You get to sample the dinner which is sponsored by Las Casitas Mexican Restaurant this year.

Reminder the HAC Annual Picnic & Star Party is coming to JBO on Saturday October 25 starting at 1700 hours (4 o'clock), so start planning what you're going to bring.

HAC Library Needs A Home

When I volunteered to take over the club library a long time ago I understood it would take a lot of work cataloging and cleaning the thousands of publications. Many weeks were spent on this and now most of what we have is stored in new boxes, keeping out all the cockroaches, spiders and other critters. All magazines are now in uniform white boxes, with the exception of a number of large books which do not fit in these boxes. All boxes are numbered and any requested magazine can now be found in a matter of seconds. The available publications are all listed on the HAC website.

So, when I took over the refurbishing of the library I was not aware that I also inherited PERMANENT storage for it. The result is: I can no longer use my observatory for what I built it for. The library has taken over almost all of it. I would certainly like to use my observatory for its intended purpose again. So, it is not hard to see my position at this time. We need a storage place for the HAC library as soon as possible. The club certainly cannot afford renting a public storage facility.

We have a large membership in HAC and someone should be able to come up with a suggestion for a new home for our library. I would estimate that the value goes into several thousand dollars and is still growing with new donations. It would be a disaster to take it to the local landfill or sell it on [eBay](#) for a nickel on the dollar. Shipping cost would negate the latter.

Any and all suggestions will be considered. Remember it is YOUR library as members of HAC. If you have any ideas, please call any of the officers including myself at 458-5277.

Hans

NASA Space Place

A Google for Satellites: Sensor Web 2.0

If you could see every satellite passing overhead each day, it would look like a chaotic meteor shower in slow motion.

Hundreds of satellites now swarm over the Earth in a spherical shell of high technology. Many of these satellites gaze at the planet's surface, gathering torrents of scientific data using a dizzying array of advanced sensors — an extraordinary record of our dynamic planet.

To help people tap into this resource, NASA researchers such as Daniel Mandl are developing a "Google for satellites," a web portal that would make requesting data from Earth-observing satellites almost as easy as typing a search into Google.

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“You just click on it and it takes care of all the details for you across many sensors,” Mandl explains.

Currently, most satellites are each controlled separately from the others, each one dauntingly complex to use. But starting with NASA’s Earth Observing-1 (EO-1) satellite, part of the agency’s New Millennium Program, Mandl and his team are building a prototype that stitches these satellites together into a seamless, easy-to-use network called “Sensor Web 2.0.”

The vision is to simply enter a location anywhere on Earth into the website’s search field along with the desired information types — wildfire maps, vegetation types, floodwater salinity, oil spill extent — and software written by the team goes to work.

“Not only will it find the best sensor, but with proper access rights, you could actually trigger a satellite to take an image in the area of interest,” Mandl says. Within hours, the software will send messages to satellites instructing them to gather the needed data, and then download and crunch that raw data to produce easy-to-read maps.

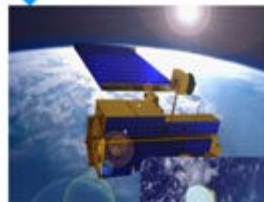
For example, during the recent crisis in Myanmar (Burma) caused by Cyclone Nargis, an experimental gathering of data was triggered through Sensor Web 2.0 using a variety of NASA satellites including EO-1. “One thing we might wish to map is the salinity of flood waters in order to help rescue workers plan their relief efforts,” Mandl says. If the floodwater in an area was salty, aid workers would need to bring in bottled water, but if flood water was fresh, water purifiers would suffice. An early and correct decision could save lives.

Thus far, Mandl and his team have expanded Sensor Web 2.0 beyond EO-1 to include three other satellites and an unmanned aircraft. He hopes to double the number of satellites in the network every 18 months, eventually weaving the jumble of satellites circling overhead into a web of sensors with unprecedented power to observe and understand our ever-changing planet.

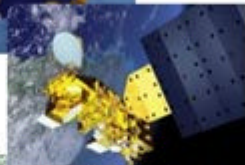
To learn more about the EO-1 sensor web initiatives, go to <http://eo1.gsfc.nasa.gov/new/extended/sensorWeb/sensorWeb.html>. Kids (and grown-ups) can get an idea of the resolution of EO-1’s Hyperion Imager and how it can distinguish among species of trees—from space at http://spaceplace.nasa.gov/en/kids/eo1_1.shtml.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Map shows locations of wild fires



Terra (MODIS, Moderate Resolution Imaging Spectroradiometer)

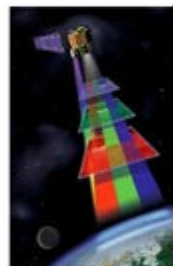


Aqua (MODIS)

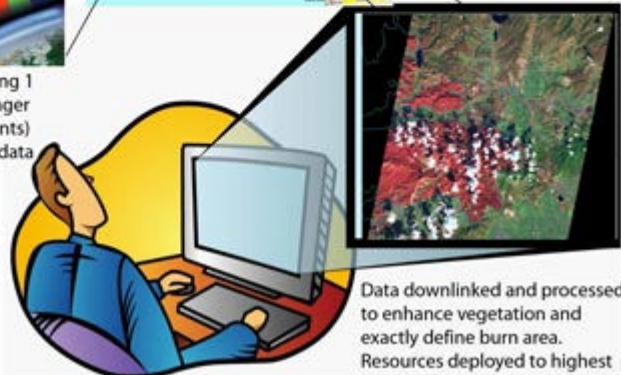
MODIS Active Fire Map



Fire precisely located using MODIS data



Earth Observing 1 (Advanced Land Imager and Hyperion instruments) tasked to acquire image data



Data downlinked and processed to enhance vegetation and exactly define burn area. Resources deployed to highest risk areas.

