June Highlite:
Asteroid
June 23rd

NIGHTFALL
Huachuca Astronomy Club of Southeastern Arizona

HAC MEETING: Friday, June 20, 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: Dean Salman Topic: Remote Imaging Far and Near

Star Party Corner

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

Participation is the Lifeblood of the Club!

March's Lion was still roaring when May arrived, maybe even a little worse than the two months before. We managed to slide in between two gusts of wind for the Member Star Party held at Glen and Deanna Sanner's DOW on May 3rd. To our surprise Jeff Medkeff dropped in for a brief visit and John Casella showed up with a pretty new Refractor, the sky lasted for a few hours before doing a disappearing number. All in all, another job well done by Glen and Deanna. May 10th brought us to the Lawley Automotive Center for Astronomy Night, the replacement venue after being chased from our old digs at the ball field over in the park. We managed to get 14 scopes set up including two with camera's and monitors back on the pavement behind the service dept. What we hoped for attendance-wise never happened. Not even close to last year's numbers or donations. We chalked it up to the economy and being in a new place. A highlight of the event was that both raffle scopes were taken home by members. R.B. Rice won the Nexstar 4SE and Steve and Jeanne Herbert won the Nexstar 114GT, now that makes two prizes for them in 4 years. Good things come to those who participate. We have made a deal with Sean Lawley to step it up for next year, meaning more of everything, especially advertising and making the Automotive center more public friendly for the event.

June Star Party Schedule

Saturday, June 7th

"Let's Get Ready to Rumble" An all afternoon and evening event at RGO billed as the "Celestron C-Row Star B. Q.". We are having at least three Celestron officials flying out to mingle with the HAC members

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President's Perspective

Wayne Johnson

We have some Excellent news! Dr. John Hill, director of the Large Binocular Telescope, has invited HAC members to tour the facilities up on Mount Graham. There is room for only 30 people on this tour and many of the seats were already spoken for at the May meeting so don't wait to sign up. Reservations are on a first come, first served basis. Since the newsletter is getting out late because of me we're pushing back the date of notification a little, but we need to know by Tuesday, June 10th at the very latest.
Glenn Minuth has volunteered to be the Point of Contact (POC) for this event. He can be contacted at minuthg@cox.net or 520-378-0144 and he has written an itinerary for the trip that he can email to you. Per John Hill we need to have all the names of the people going on the tour and need to submit the list to the LBT office before heading to the observatory.

We should rideshare as much as possible up the mountain. People who are not comfortable driving in the mountains can drive their own cars to the LBT base facilities located on Route 366, about 7 miles this side of Safford. You will have to pack your own meal and bring enough to drink. I suggest being at the LBT site (on the mountain) by about 3:30pm to get organized for our tour by 4pm. It is strongly suggested that you have sunscreen and wear warm, layered clothing no matter how hot the weather is downtown. Bring your cameras (still and video) so that we can have a show and tell the following meeting.
The LBT tour will last about 90 minutes and it will end with us watching as the dome shutters open for the telescope's evening operation! Unfortunately we cannot stay for viewing with the telescope because the engineers and astronomers are still trying to work out bugs in the system. The drive down will be partly in the dark so ride with someone who is comfortable with mountain driving. See you up on Mt. Graham, Saturday, June 14th!

Again, for the LBT tour, bring warm clothing, hat, suntan lotion, food, water, and a camera.
Many thanks and clear skies,
Wayne (aka Mr. Galaxy), your resident president

Club Resources

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

Dollar$ & Cent$

Bob Kepple

The Club has a checkbook balance (mid May) of $4,464.22, includes petty cash.

Huachuca Astronomy Club P.O. Box 922 Sierra Vista, AZ 85636 **http://hacastronomy.com** email:mrgalxy@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

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…

Our speaker for June will be Dean Salman and he will be talking about setting up a remote site. He will cover the equipment you need to consider and the advantages and disadvantages of what he used. He will also cover what you need to do automated imaging runs while you are sleeping through the night. During the presentation if his schedule works out will be logging into a remote site to demonstrate how it all works. Most of what will be discussed can be done in your very own backyard.

Dean Salman has been interested in Astronomy since the late 60's and has done film and CCD imaging for the past 35 years. He has had images published in Astronomy and Sky & Telescope including other books and publications around the world. He is currently working on a project to capture the Sharpless Catalog using narrowband filters which he will also talk about toward the end of his presentation.

Glorious Globulars

By Bob Kepple and Glen Sanner

This month we are featuring several "glorious globulars." As most of you know Bob and I go to the Texas Star Party almost every year. We started in 1988 and Bob has missed one and I have missed two. Well to make a long story short they observe at TSP - boy do they observe! John Wagner, a member of the organizing committee of TSP, makes observing lists for attendees to observe. If you complete these observing lists at TSP you receive a pin for your work. They are a fun pursuit as any of the attendees can attest and they give you purpose to be out there under the stars. Well we are doing a take-off on one of those lists. So we would ask you to observe some of these "glorious globulars," and if you complete our short list we will give you a certificate (for the pin you will have to go to TSP). As a matter of fact at the end of this article we will list many more globulars for you as a challenge to complete in the next few months.

5139 Omega Centauri, the granddaddy of all globular may actually to a dwarf galaxy.

A few notes about globular clusters before we begin to observe. Globular clusters contain hundreds of thousands of stars in a sphere usually over 100 light years in diameter. The degree of star-crowding toward the center is expressed by its Shapley-Sawyer concentration class, class I being the most star-dense and class XII being the least dense. We will use these class listings so you know how rich the globular may appear. Also the larger your telescope the better the resolution as these clusters respond very well to aperture.

NGC 5139-Omega Centauri Class VIII, Size 36.3', Mag. 3.5v, Brightest star 11.5v,

RA 13h 26.8m, Dec -47°29', Constellation Centaurus

This globular is breathtaking in any aperture telescope. It can be seen naked eye and is a fine sight in binoculars. It is incredible in larger telescopes. Its core is ablaze with countless stars. After the Hubble Space Telescope and the Gemini South Telescope discovered an intermediate black hole within NGC 5139,

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professsional astronomers may reclassify NGC 5139 as a dwarf galaxy. This is the finest globular seen from the northern hemisphere and its only rival is 47 Tucana in the southern hemisphere.

M3=NGC 5272 Class VI, Size 16.2', Mag. 5.9v, Brightest star 12.7v,

RA 13h 42.2m, Dec +28°23', Constellation Canes Venatici

This is a superb globular! It is an extremely bright ball of stars with its periphery a halo of pinpoints of light. It is every bit as impressive as the more famous globular cluster M13, "The Great Hercules Cluster."

M5=NGC 5904 Class V, Size 17.4', Mag. 5.7v

RA 15h 18.6m, Dec +02°05', Constellation Serpens Caput

This globular is one of our favorites and we like it better than the famous Hecules Cluster, M13. It has a spectacular lacing of star chains forming loops like pedals of a flower making it almost three-dimensional. A fine double star, 5 Serpentis, lies nearby and may be seen in your viewfinder.

M92=NGC 6341 Class IV, Size 11.2', Mag. 6.4v

RA 17h 17.1m, Dec +43°08', Constellation Hercules

This is a very bright globular, it has a dense core with stars thinning gradually outward with many chains to be seen. It is the constellation Hercules' second impressive globular but is not observed as often because it lies well away from bright stars or asterisms that help to locate it.

M55=NGC 6809 Class XI, Size 19', Mag. 6.4v

RA 19h 40.0', Dec -30°58', Constellation Sagittarius

To round out our short observing list we present one of the least concentrated globulars, a class XI globular, so that you may compare the difference in classification. M55 is an exquisite sight showing hundreds of stars resolved evenly across a 15' diameter halo. You will have to stay up a while to get this one. By the time it occupies the early evening sky the Monsoon clouds will be hindering our viewing.

That finishes the featured observing list, A table of globular clusters is included for your observing pleasure. We hope you come to admire these fine objects.

ID Name	Constel	RA	Dec	App Mag
NGC5139	Cen	13:26:47	-47:28:53	4.80
M4 NGC6121	Sco	16:23:35	-26:31:31	6.23
M92 NGC6341	Her	17:17:07	+43:08:11	6.65
M22 NGC6656	Sgr	18:36:24	-23:54:00	5.1
M10 NGC6254	Oph	16:57:09	-04:05:58	6.99
NGC6388	Sco	17:36:17	-44:44:06	6.7
M12 NGC6218	Oph	16:47:15	-01:56:52	7.04
NGC3201	Vel	10:17:37	-46:24:40	8.58
M13	Her	16:41:42	+36:27:11	7.22
M3 NGC5272	CVn	13:42:15	+28:22:28	7.15
M55 NGC6809	Sgr	19:40:00	-30:58:00	6.4
M5 NGC5904	Ser	15:18:34	+02:05:35	7.21
M80 NGC6093	Sco	16:17:02	-22:58:30	7.81
NGC5286	Cen	13:46:27	-51:22:24	8.57

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NGC5986	Lup	15:46:04	-37:47:10	8.33
NGC6723	Sgr	18:59:33	-36:37:54	7.2
M10 NGC6254	Oph	16:57:07	-04:06:17	7.89
M92 NGC6341	Her	17:17:10	+43:08:26	7.75
M53 NGC5024	Com	13:12:55	+18:10:09	7.75
M68 NGC4590	Hya	12:39:28	-26:44:34	8.09
NGC5927	Lup	15:28:00	-50:40:00	11.6
M12 NGC6218	Oph	16:47:12	-01:57:38	8.34
M71 NGC6838	Sge	19:53:43	+18:46:57	8.0
M68 NGC4590	Hya	12:39:30	-26:45:00	9.29
M69 NGC6637	Sgr	18:31:24	-32:21:00	7.6
NGC6539	Ser	18:04:50	-07:35:09	10.50
M56 NGC6779	Lyr	19:16:35	+30:10:43	10.26
NGC5897	Lib	15:17:24	-21:00:37	9.82
Pal11	Aql	19:45:14	-08:00:26	
NGC6652	Sgr	18:35:46	-32:59:28	8.8
M107 NGC6171	Oph	16:32:30	-13:02:08	10.41
NGC6712	Sct	18:53:04	-08:42:19	8.2
IC1276 Pal7	Ser	18:10:44	-07:12:27	11.67
NGC6229	Her	16:46:59	+47:31:39	10.72
NGC6139	Sco	16:27:40	-38:50:57	12.29
NGC5466	Boo	14:05:28	+28:31:57	10.66
NGC6760	Aql	19:11:12	+01:01:50	9.1
NGC4147	Com	12:10:06	+18:32:30	11.16
NGC6287	Oph	17:05:09	-22:42:25	11.89
NGC5634	Vir	14:29:37	-05:58:37	11.21
NGC5694	Hya	14:39:37	-26:32:18	11.33
NGC5053	Com	13:16:27	+17:41:52	11.15
NGC6528	Sgr	18:04:50	-30:03:21	9.5
NGC5946	Nor	15:35:28	-50:39:33	15.65
NGC6235	Oph	16:53:25	-22:10:34	11.72
NGC6144	Sco	16:27:14	-26:01:26	11.64
NGC6749	Aql	19:05:15	+01:54:02	12.4
NGC6453	Sco	17:50:52	-34:35:54	9.8
Pal5	Ser	15:16:05	-00:06:41	12.01
NGC6440	Sgr	17:48:53	-20:21:39	14.34

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and to demonstrate the proper use of Celestron equipment. These guys are the Service Manager, Sales Manager and newly-appointed Public Relations Director. I am asking everyone who owns a Celestron of any vintage or aperture to bring it out. Now this DOESN'T exclude those of you who own another brand, bring it too. This is a HAC member Star Party but we are going to do a photo Op for the Celestron owners to use on their web page. So the deal is, you bring a steak, burger, whatever you want along with a side dish and I'll do the cooking. Teresa and I will provide a huge salad and all the refreshments and it all starts when you get here, anytime after noon is fine and we EAT at 5:00 p.m. with the C-Row photo shoot at 6:30. So please have that Celestron scope here and set up by 6:00 P.M. There has been word about these guys bringing a bag of goodies to pass out along along with answering any question about telescopes you could ask. These are the guys that design and build them. An R.S.V.P. to 366-0049 would be nice but not necessary, just come out for a fun filled day and night. Not many clubs get this kind of manufacturer attention so let's not waist it. SEE YOU HERE !

Saturday, June 28th

Public/Member Star Party at JBO. Dave took Big Blue to the car wash so views should be dazzling and this might be the last time to get out until after the dreaded Monsoons. See you there!

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MWGC51	1636-283	Sco	16:39:26	-28:23:52	12.85
NGC6535		Oph	18:03:51	+00:17:51	12.76
Terzan3		Sco	16:28:40	-35:21:13	13.24
NGC2158		Gem	06:07:25	+24:05:48	14.44
NGC6366		Oph	17:27:44	-05:04:36	12.55
NGC6325		Oph	17:17:59	-23:45:57	13.75
MWGC13		Pyx	09:07:58	-37:13:17	15.17
Pal1		Cep	03:33:23	+79:34:50	13.58
Pal10		Sge	19:18:02	+18:34:18	14.72
NGC6941		Aql	20:36:23	-04:37:07	
Pal4		UMa	11:29:17	+28:58:25	14.36
Pal3		Sex	10:05:31	+00:04:17	14.54
NGC6540		Sgr	18:06:08	-27:45:50	14.6

The Palomar globulars and other clusters of 12th magnitude and fainter are challenge objects for large telescopes. These are also targets for astro-photographers and those with StellaCams. Let us know how you made out finding these objects.

Space Place Astronomy Club Article

Ozone, the Greenhouse Gas

We all know that ozone in the stratosphere blocks harmful ultraviolet sunlight, and perhaps some people know that ozone at the Earth's surface is itself harmful, damaging people's lungs and contributing to smog.

But did you know that ozone also acts as a potent greenhouse gas? At middle altitudes between the ground and the stratosphere, ozone captures heat much as carbon dioxide does.

In fact, pound for pound, ozone is about 3000 times stronger as a greenhouse gas than CO_2. So even though there's much less ozone at middle altitudes than CO_2, it still packs a considerable punch. Ozone traps up to one-third as much heat as the better known culprit in climate change.

Scientists now have an unprecedented view of this mid-altitude ozone thanks to an instrument aboard NASA's Aura satellite called the Tropospheric Emission Spectrometer—"TES" for short.

Most satellites can measure only the total amount of ozone in a vertical column of air. They can't distinguish between helpful ozone in the stratosphere, harmful ozone at the ground, and heat-trapping ozone in between. By looking sideways toward Earth's horizon, a few satellites have managed to probe the vertical distribution of ozone, but only to the bottom of the stratosphere.

Unlike the others, TES can measure the distribution of ozone all the way down to the heat-trapping middle altitudes. "We see vertical information in ozone that nobody else has measured before from space," says Annmarie Eldering, Deputy Principal Investigator for TES.

The global perspective offered by an orbiting satellite is especially important for ozone. Ozone is highly reactive. It is constantly being created and destroyed by photochemical reactions in the atmosphere and by lightning. So its concentration varies from region to region, from season to season, and as the wind blows.

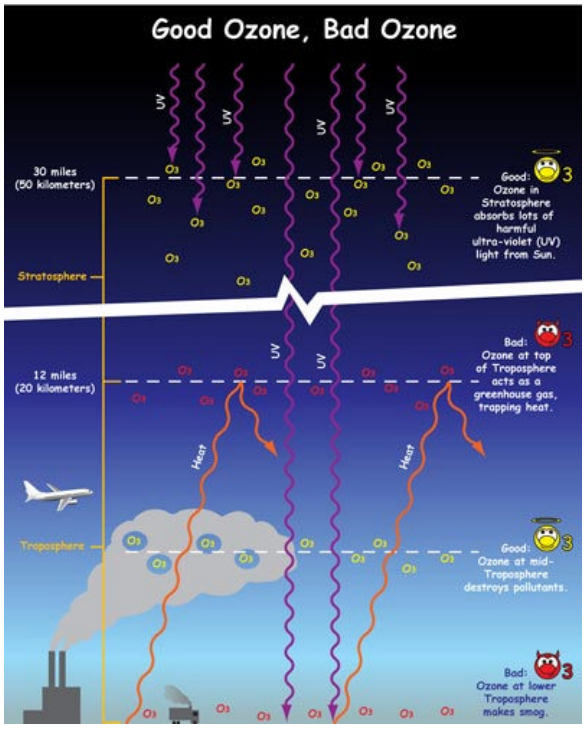
Data from TES show that ozone's heat-trapping effect is greatest in the spring, when intensifying sunlight and warming temperatures fuel the reactions that generate ozone. Most of ozone's contribution to the greenhouse effect occurs within 45 degrees latitude from the equator.

Increasing industrialization, particularly in the developing world, could lead to an increase in mid-altitude ozone, Eldering says. Cars and coal-fired power plants release air pollutants that later react to produce more ozone.

"There's concern that overall background levels are slowly increasing over time," Eldering says. TES will continue to monitor these trends, she says, keeping a careful eye on ozone, the greenhouse gas.

Learn more about TES and the science of ozone at tes.jpl.nasa.gov/. Kids can get a great introduction to good ozone and bad ozone at spaceplace.nasa.gov/en/kids/tes/gases.

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



Caption:

Ozone behaves differently at different altitudes in the atmosphere. High in the stratosphere and at mid-troposphere it has positive effects on life at the surface. At the top of the troposphere ozone is a greenhouse gas and at the surface it makes smog.

Note to editors: This image can be downloaded at: http://spaceplace.nasa.gov/news_images/ozone_profile_cartoon.jpg

P. O. Box 922
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Visit us on the web at hacastronomy.com

Win a Telescope

A new 3-inch Celestron Newtonian telescope was donated to the club with the instructions that it be given to a worthy HAC Junior Astronomer. Therefore, HAC would like to announce an essay contest. The winner will be awarded this telescope.

Essay Contest Announcement

Any son, daughter or grandchild (16 years of age or younger) of a current HAC member that wants to win this telescope needs to write a one-page essay (max 300 words) on why they feel they deserve this telescope. The essay shall be titled:

If I had a Telescope...

All essays will be judged and voted on by HAC Board of Directors during the meeting on the Wednesday prior to the regular June meeting, held on Friday, June 20th, 2008 at Cochise College, Sierra Vista, AZ. The results of the vote will be final and the winning Junior Astronomer will be notified and presented with the telescope that night.

Deadline for Essay: Tuesday, June 17th, 7 p.m. MST.

Please contact Keith Mullen with any questions: 366-0049. Submit online to repogazer@msn.com.