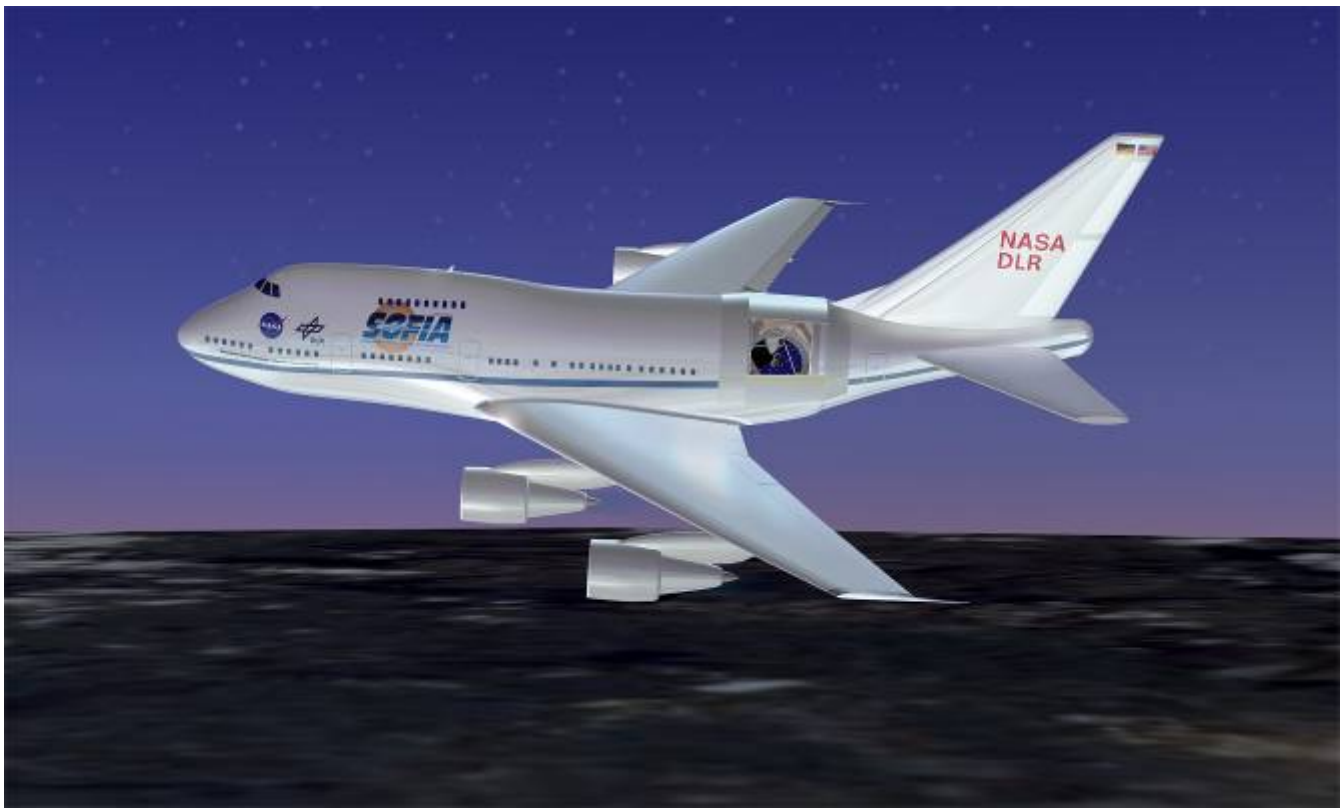
Desert Skies

Tucson Amateur Astronomy Association

Volume LV, Number 8 **August, 2009**



Stratospheric Observatory for Infrared Astronomy

Inside this issue

Cover Photo: Artists conception of the SOFIA aircraft in flight. Learn more about it at http://en.wikipedia.org/wiki/Stratospheric_Observatory_for_Infrared_Astronomy.

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Membership in the TAAA

Annual Fees

Individual membership $25.00
Family (includes two adults plus minor children) $30.00

Youth under 18 years must join as a family upon parental or guardian acknowledgement of participation in TAAA events. Ask the Treasurer for the required form.

Discounts (one discount allowed, subtract from above rates)

Seniors (over 60 years) $2.00
College Students, Teachers (K – 12) $8.00
Youth under 18 yrs (form required, contact the treasurer)..... $13.00

Options (add to above membership rates)

Tucson society of the Astronomical League (TAL) fees..... $ 7.50
Sky & Telescope Magazine 1 year (12 issues) $32.95
Astronomy Magazine 1 year (12 issues) $34.00
2 years (24 issues) $60.00
Postage for New Member Pack ..... $ 4.80

Donations are accepted for the following funds: SA-IDA/Light Pollution, TIMPA, Education, 30" Telescope & Land, and General/Undesignated.

Renewal Information

- Your membership expires as indicated on your mailing label.
- TAAA members may join the Tucson society of the Astronomical League (TAL) at the time they join or renew.
- Discounted Sky & Telescope or Astronomy magazine subscriptions are available to members and can be started or renewed at anytime. Rates are given above. Allow 3 months for processing. Subscriptions must be sent through the TAAA. *Do not send money directly to the magazines.* To change an individual subscription to the group rate, pay the subscription amount to the TAAA treasurer. Include your magazine renewal notice.
- Please include a note explaining what you are paying for. Credit cards are not accepted. Write one check or money order for fees plus any options or donations. Make it payable to TAAA and send to:

Tucson Amateur Astronomy Association
PO BOX 41254 Tucson, AZ 85717

Mailing Address or Email Changes - Send to address above or email the treasurer.

TAAA Mission Statement - The mission of the Tucson Amateur Astronomy Association is to provide opportunities for members and the public to share the joy and excitement of astronomy through observing, education and fun.

Desert Skies Publishing Guidelines - All articles, announcements, news, etc. must be submitted by the newsletter deadline. Materials received after that date will appear in the next issue. The editor retains all submissions unless prior arrangements are made. Submissions should be submitted in Word compatible files via e-mail or on a recordable media.. We will not publish slanderous or libelous material! Send submissions to:

George Barber
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Join our Email Lists on YahooGroups
Announcements: http://tinyurl.com/e7o3y (TAAA news, no posting allowed, 15/month)
TAAA Forum: http://tinyurl.com/hwoau (general astronomy discussion, posting allowed, 75/month)
TAAA Dark Site: http://tinyurl.com/3d8ts9 (discussion of dark site issues, posting allowed)

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President's Message

I would like to give a big thank you to all of the wonderful contributions we get from our membership. I am not talking about the financial kind of contributions although they are greatly needed and appreciated. I am referring to the countless hours members give toward all of the activities within the club. Just take a look at the list of office positions on page two and the vast array of activities going on throughout this and past newsletters. Behind every Title, activity, article, special interest group, meeting, and program you will find a host of volunteers that make this club operate. Along with all of the recognizable contributions we can see, there are countless things members do every month that go unmentioned. Since taking on an active roll on the Board of Directors I have come to realize how much really goes into making TAAA a world class organization. It all takes a huge effort and I am very proud to be associated with this fantastic group of people.

I know we are very short on opportunities to catch any type of clear skies. However, we still have a few organizations that are asking for us to help them out with star parties. I know you have all seen the look on the face of a kid when they see Jupiter or Saturn for the first time through a telescope. For this reason, we will not turn down the requests. Even in the face of iffy skies, we try our best to find those sucker holes in the clouds to make the events a success. While by our standards the term success is questionable, keep in mind that the people who are looking through your scope are going to walk away with a new memory and perhaps a lasting interest in astronomy.

To continue on the topic of volunteers, I would like to thank everyone involved in the efforts to make the dark site Astronomy Complex a reality. I would like to offer a special thank you to the work and dedication of John Kalas and Robert Crawford on the construction progress. Within this newsletter you will see pictures of the work and a progress report on the site. With the great coordination of the construction activities and continued good luck on weather, we are hoping to be able to have a dedication of the site in early November. Again, thanks to everyone for all of the hard work.

As always, Clear Skies (As clear as they can be in Tucson in August),

Ken Shaver
TAAA President

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, August 7, at the Steward Observatory Auditorium – Room N210

ASTRONOMY ESSENTIALS: 6:30 pm
Title: Comets
Speaker: George Barber

They come from the frozen outer edge of our solar system. Sometimes, they put on a fantastic light show talked about for generations. Just what are these visitors from far away? Tonight's presentation will unveil the mystery of comets, and what they teach us.

GENERAL MEETING: 7:30 pm
Title: SOFIA's future
Speaker: Erick Young, Steward Observatory

The Stratospheric Observatory for Infrared Astronomy (SOFIA) is a specially modified Boeing 747 aircraft that will conduct astronomical observations in the infrared. Flying above 99% of the obscuring water vapor, SOFIA will enable observations in regions of the spectrum that are normally completely blocked by the absorption in the Earth's atmosphere. SOFIA has a 2.5-m telescope and it will have a wide range of instruments. Over its anticipated 20 year lifetime, SOFIA will be able to take advantage of advances in instrumentation much as the Hubble Space Telescope has been reborn with each new generation of cameras and spectrographs. This talk will describe the efforts to complete the observatory and will highlight some of the science anticipated with this facility.

Dr. Erick Young is an astronomer at the University of Arizona. He received his Ph.D. from Stony Brook University in 1978. Since then, he has been part of the science teams for most of the space infrared astronomy missions. Notably, he worked on the IRAS, Spacelab II, ISO, NICMOS, and Spitzer missions. He is currently developing detectors for the NIRCam instrument on the James Webb Space Telescope. In September 2009, he will be leaving the University of Arizona to become the Director of Science and Mission Operations for the SOFIA Observatory.

BOARD OF DIRECTORS MEETING: Wednesday, August 12, 6:30 pm. The meeting is held at Steward Observatory Conference Room N305.

STAR PARTIES AND EVENTS:
03 Aug – Astro-Imaging SIG at China Rose
13 Aug – Astronomy Fundamentals SIG
15 Aug - TAAA Star Party at Las Cienegas
15 Aug - New Astronomy Complex Meeting
22 Aug - TAAA and AF-SIG Star Party at TIMPA
22 Aug - UofA Optical Sciences Graduate Students S.P.

NEWSLETTER SCHEDULE: Deadline for articles: Sat, August 29. The newsletter is published at least one week prior to the following month's General Meeting.

Club News

Member News

We welcome these members who have recently joined the TAAA: Scott and Stefani Sykes, Alex Postnikov and Natalya Voropaeva, Martin Malkin, Wheeler Huneycutt and Jan McSloy, William Clarke, and Taylor Genovese. Glad to have all of you join! New members can pick up a members pack at a meeting if they didn't request it by mail. Hope you'll make it to our star parties or meetings so we can all get to know you. (Updated membership lists are available at our website after logging in as a member. You can also pick one up at most meetings.)

Astro-Imaging SIG Meeting

Monday, Aug 3, 7pm
China Rose, NE corner Speedway/Rosemont

Our presentations feature CCD images, planetary webcams, and film. Come see some of the state of the imaging art over some Chinese food. Just show up and enjoy the show! For more information, contact Steve Peterson.

Astronomy Fundamentals Special Interest Group

AFSIG meeting for August

The Astronomy Fundamentals Special Interest Group (AFSIG) will meet on Thursday, August 13, at 6:30 pm in room 253 of the Environmental and Natural Resources Building (USGS and Weather Service) on the northeast corner of Sixth Street and Park Avenue on the campus of the University of Arizona.

All members of TAAA and new members particularly are welcome to AFSIG meetings!

The AFSIG Committee

TAAA Apparel

Looking for a special gift or a way to make that fashion statement? Try on something from our fine line of club apparel. We have hats, T-shirts, denim shirts, and patches. We take cash and checks.

Telescope Loaner Program Coordinator

TAAA needs a new telescope loaner program coordinator. If you wish to volunteer, contact a board member.

Special Meeting on the New Astronomy Complex Scheduled For August 15

By Bill Lofquist

The building of Phase 1 of our new TAAA Astronomy Complex is well under way. Several working groups are focusing on different aspects of creating a first class observing site for TAAA members and their guests, and we need more help with each of these for Phase 2 and beyond. Fundraising for further development beyond Phase 1 is necessary. Policies and Procedures for the Complex are being shaped. Designs for the dome and the large roll-off roof observatories, along with small roll-off roof designs are also in the works. Designs for the Educational Center/Clubhouse and the Sleeping Quarters are needed. Landscaping with an interest in harvesting water and protecting any plants of interest, as well as adding new plants, needs to be planned. Getting more members involved in this development will be a focus of the Special Meeting on August 15.

The meeting will be held in Room N305 at the Steward Observatory building and will begin at 9:30 AM. We expect the meeting will be over at 11:30.

We especially hope those members who will be using the Astronomy Complex with regularity will be present for this important meeting. The overall general design of the Master Plan is the result of the collective thinking of a number of TAAA members. This August meeting will provide an opportunity for us to give more specific shape to each part of the Complex.

The Strategic Planning Group and those present at the Special Meeting on May 16 have begun to give shape to the Phase 2 building of the Complex. Financial contributions continue to be made to this next Phase. So far the emphasis has been on developing the components of the "public area" of the Complex during Phase 2. This includes ten observing pads with electricity adjacent to the parking area; a small roll-off roof observatory to house the 14" scope contributed by Wally Rogers; a Ramada to use for educational sessions and member socializing; the "amphitheater", a large area for observing; secure storage; and RV/camper sites with electric hookups.

The August meeting will help to refine these plans. Much of the Phase 1 building will be under way at that time, and we will know about when our Grand Opening can be planned for the fall.

Put this time and date on your summer monsoon calendars and provide your ideas as we continue to push ahead with shaping a great Astronomy Complex.

Club News (cont.)

Night Sky Network Toolkits

Below is a list of our Night Sky Network Outreach Toolkits. These were developed by the Astronomical Society of the Pacific under contract with NASA. The Night Sky Network program recognizes the essential role that amateur astronomers can play in the public's understanding of astronomy. The toolkits are meant for use in small groups at star parties, either during the early evening hours or after dark. They are also great options for those questionable, cloudy nights.

By far, the Black Hole Survival Kit is the most popular with kids and adults. More than just a demonstration about the environment around a black hole, it demonstrates how matter bends the fabric of space-time. It can be used to explain what keeps a planet in orbit around a star, or why it's easier to launch a spacecraft from the moon rather than the Earth. This toolkit will be highlighted at the September Starry Messenger workshop.

PlanetQuest: explains planet detection techniques
Our Galaxy, Our Universe: scale model of the Milky Way galaxy and the Universe
Black Hole Survival Kit: what is a black hole and how does it affect objects nearby
Telescopes – Eyes on the Universe: explains basic principles of optics, the human eye, and observing
Shadows and Silhouettes: covers lunar phases, eclipses, and transits
Exploring the Solar System: scale model of solar system and NASA exploration of planets
GLOBE at Night: light pollution principles
Supernova!: life cycle of massive stars, touches on life cycle of sun-like stars
Mirrors and Glass – An inside look at telescopes: how telescopes work

Other Resources
SolarScope: provides a white light image of the sun suitable for small group viewing.
Comet Chef: an apron (with a comet on it) and chef's hat to wear when mixing up comets

Each toolkit contains several projects. You pick and choose which part you want to use. They contain all the essential materials needed. Each toolkit includes a Resources CD and a training DVD, which you get to keep.

Please make arrangements with Terri Lappin to borrow any toolkit.

TAAA Website – Login/Password Required

The TAAA website now has more resources for members viewing. Members must log in using the user name and password that has been distributed by email. If you haven't received the email message, it may mean we do not have your latest email address in our records. Please contact the treasurer to update your information. We currently have a common user and single password that everyone uses. Should you not have email and want the user name\password, contact any board member.

Name Tags

If you ordered a name tag, it will be available at the August meeting and all meetings in the future. They are only available for pick up at meetings – we do not mail them out. If you missed the latest order, we'll be placing another order in the fall.

The goal of the Starry Messenger Special Interest Group is to provide an environment where TAAA members can enhance their knowledge and understanding of astronomy and related concepts and to provide tools and techniques for explaining these concepts to people of all ages. The concept for the Starry Messenger SIG came through discussions between Terri Lappin and Loretta McKibben and has been approved by the TAAA Board. The first Starry Messenger workshop will be held in September.

Club News (cont.)

During the workshop, we will learn how to use the Night Sky Network Black Hole Survival Kit. This is the most popular NSN toolkit and lots of fun to demonstrate. At this first workshop, we'll also spend time discussing what we feel is needed to meet our stated goal. The date of the workshop has not been determined at the time of this writing, but will certainly be on a Saturday morning in September. The workshop attendance will be limited to allow for the best interaction among participants.

TAAA members had a chance twice last month to be Starry Messengers. On July 2nd, some of us gathered at the Tucson Botanical Gardens for their Twilight Thursday program. The skies were threatening but being brave, we set up telescopes and demonstrations anyway. Not long after setting up though a close lightning strike drove us all into the Education Building. Weather conditions kept the attendance low, but we still had an enjoyable evening indoors with our NSN projects. A model of Saturn was wedged into the forked trunk of a tree outside the Education Building, and we invited people to come inside to see Saturn through Dave Acklam's telescope. We got some puzzled looks, but it got them through the door where they saw our displays and saw "Saturn". In addition to Dave Acklam, telescopes were also brought by Chuck Schroll, Byron Skinner, and John Kalas. Brian O'Connell, Bob Gilroy, Vern Dunlap, Terri Lappin, and Paul & Cathy Anderson were there to demonstrate the Night Sky Network projects. Later that evening, the George family (Robert, June, and Troy) helped with the clean up.

The other chance for Starry Messengers to take action came on July 18th at the UofA Lunar & Planetary Lab celebration of the 40th Anniversary of the Apollo Landing. Selected projects from the Shadows & Silhouettes toolkit were used with the lunar theme. Bob Gilroy and Loretta McKibben explained the origin of lunar craters to the kids, and then the kids made their own craters in a tub of flour. We made a mess of the floor, flour everywhere, but the kids loved it. In another room, Robert Wilson and Alan Rose explained lunar phases to both adults and kids. Terri Lappin kept things going, relieving people as needed. Outside, John Kalas arranged for several TAAA members to bring their telescopes. Michael & Mary Turner, Dave Acklam, Randy Quiroz, Vern Dunlap, Jim O'Connor, and John Kalas set up for solar viewing. The sun cooperated with a small prominence being visible. The telescope operators are commended for spending all afternoon in hot and humid temperatures. Poor weather conditions made it hopeless for evening observing. One estimate set public attendance at 700 for the event which included meteorite and lunar rock displays, lectures, memorabilia from the Apollo era, and even some of the equipment that was used in the lunar program. Several other organizations participated in the event.

This month, we have the opportunity to be ambassadors of the universe to U of A Optical Sciences graduate students. That event will be held on Kitt Peak. See the article in the *Public Star Parties and Community Events* section of this newsletter.

You can contact the Starry Messenger SIG at smsig[at] tucsonastronomy.org (place @ sign appropriately). The group is just getting underway, so join us at next month's workshop or help out at any public outreach event.

Starry Messenger in our Midst

Paul Moss

This month we recognize Paul Moss as a Starry Messenger. Paul has a key role in the TAAA School Star Party Program. He coordinates the scheduling of school star parties, making it possible for youngsters to look through your telescope. Unfortunately, due to our limited number of volunteers, he sometimes has to tell teachers we can't come to their school. If you ask anyone involved in the school star party program, they'll tell you we need more volunteers. Paul is not shy about this. When asked what he'd tell someone contemplating getting involved in the school star party program, Paul said "Do it!"

Paul says, "the most important thing that we can do for another person is to share our time and experience." To that end, he brings his telescope to school star parties and has also been involved in the Project ASTRO program, Hands on Optics activities, and some SAMEC events. He wants to give others the chance to view the extraordinary by providing them something we consider ordinary, such as a view of a planet or the moon.

Paul Moss in front of UofA Kuiper Building for an American Institute of Aeronautics and Astronautics kid's club solar viewing event.

He tells of his first Telescopes for Telethon event...

> "The first T4T I did at a Walmart. I had an elderly woman come to my telescope and look through. It was her first look though a telescope, and she was in her mid-eighties. She was totally amazed at what she saw."

Club News (cont.)

That's a fine example of our ordinary experience becoming someone else's lifetime memory. Paul hopes this sharing might lead some to a position where they can in turn share with others. He also likes to see the look of amazement on their face.

Paul's early years were spent in New York State. His family moved to Tucson in 1968. Paul has been involved in astronomy since his early teens when a small refractor was enough to keep his interest. In the past 8 years, he has become a more avid observer with a larger telescope. He joined the TAAA about 5 years ago.

Paul has a wife of 27 years and they have two children. He is a professional machinist, making parts for aerospace applications, and he's a good cook. With all he does, he has also found the time for martial arts. He has a black belt in Tae Kwon Do, and is currently practicing another martial art and working towards another black belt. In his free time, he likes fishing and his new goal is to learn to sail. We wish him luck in that venture.

The Starry Messenger SIG recognizes the efforts of individuals through a monthly feature article in Desert Skies. This recognition is not meant to put anyone on a pedestal or belittle anyone else's efforts. It is to give us a chance to see how one individual acts out his or her mission as a Starry Messenger.

Upcoming Lectures

Sep 4	TAAA Status Report Starts at 6:30pm	
Oct 2	*Astronomy Essentials*	Seasonal Objects Mary Turner
	Invited Lecture	Bill Gates Elliptical Galaxies
Nov 6	Members Night Starts at 6:30pm	
Dec 4	*Astronomy Essentials*	Claude Plymate Adaptive Optics for the Beginner
	Invited Lecture	Ed Beshore SpaceWatch Program

International Year of Astronomy 2009 Events

A short presentation will be made at the August General Meeting about our involvement in the International Year of Astronomy. We need assistance if we are going to hold any special events. So far response from the TAAA membership has been very limited.

Ideas so far:

- Star party that begins with an afternoon telescope workshop where public can bring their telescopes and we'll show them how to set them up
- Small community star parties held at neighborhood parks (how best do we get the word out?)
- A series of public lectures by local professional or amateur astronomers held a library
- An astronomy workshop open to the public similar to the recent Astronomy Fundamentals class, but in a "Reader's Digest" version, completing in one afternoon

If these (or other ideas) are something you would support, let Terri know. Terri can be reached at 520-977-1290 or by email at tklappin[at]comcast.net (place @ sign appropriately).

Thank You Received From National Park Service for GCSP 2009

Our National Park Service Ranger contacts for GCSP 2009, Marge Ullmann and Marker Marshall, have sent a thank you note for all the participants and TAAA. I have forwarded the note to the participants, and would like to add my thanks to all of the TAAA members who participated, especially the invaluable help provided by our committee of Bill and Mary Lofquist, Mike and Mary Turner, George Barber, and Susan O'Connor.

Thanks, everyone! Let's get ready for GCSP 2010, June 5-12 2010.

Jim O'Connor
South Rim Coordinator
Grand Canyon Star Party

Items of Interest

Websites: Trips On The Internet Super-Skyway

By Rik Hill
Spot by Jove!

In case you have not heard, Jupiter again has been hit! The consensus and data appear to be converging on a comet as the impactor. The dark impact mark was found on the planet in an image by veteran ALPO Jupiter observer, Anthony Wesley on July 19 UT using a 14" home made telescope.

The original Wesley image can be seen at:
http://jupiter.samba.org/jupiter-impact.html

and an image of Anthony and his formidable telescope can be seen at:
http://jupiter.samba.org/AnthonyWesley.jpg

NASA/JPL's Glenn Orton responded quickly by getting images of it in the near IR with their IRTF telescope on Mauna Kea in Hawaii. They put out a press release the next day at:
http://www.nasa.gov/topics/solarsystem/features/jup-20090720.html

After many amateurs have searched their images, it is now looking like Wesley captured the impact site within the first rotation of Jupiter after the impact. Some polar projections of the discovery image of the impact site and a few subsequent days were produced by Hans-Joerg Mettig of Denmark and are very reminiscent of some of the 1995 SL-9 impacts:
http://jupos.org/share/Impact_20090719_164352_Wesley.gif
http://jupos.org/share/Impact_20090720_0219_Peach.gif
http://jupos.org/share/Impact_20090721_07150_Parker.gif
http://jupos.org/share/Impact_20090721_0847_Llewellyn.gif
http://jupos.org/share/Impact_20090723_0830_Warren.gif (new)

Amateur images have been pouring into the email lists but Joel Warren of the ALPO Jupiter section put his nice images into an animation:
http://marswatch.amaonline.com/723impact.gif

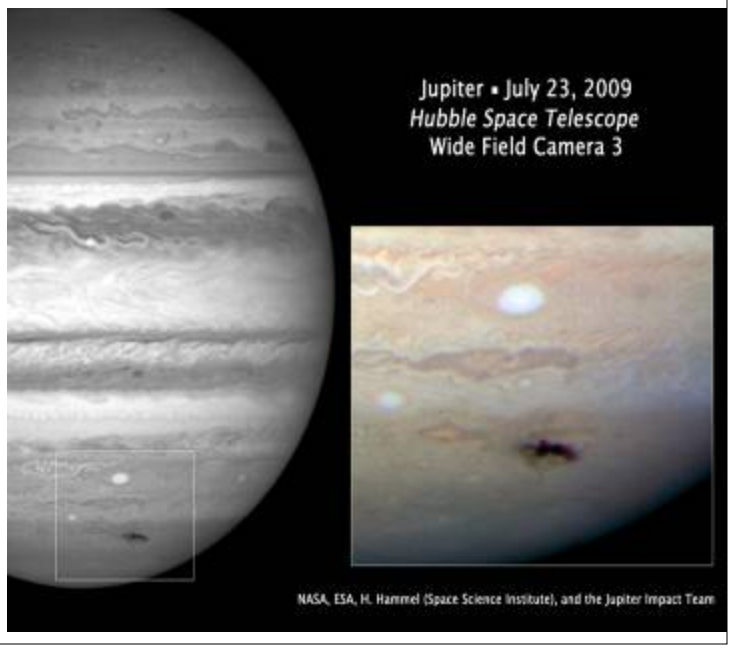
In a quick change of schedule under "director's discretionary time" the Hubble has taken some spectacular images at:
http://hubblesite.org/newscenter/archive/releases/2009/23/image/

and some KeckII images are seen at:
http://www.berkeley.edu/news/media/releases/2009/07/21_bruise.shtml

According to Sky and Telescope, the impact site is following the Great Red Spot by about 2 hours in time and an ephemeris for the GRS can be found on their site:
http://www.skyandtelescope.com/skytel/beyondthepage/41085997.html

Now if only our weather would cooperate!!

{As always, if you have a topic you'd like explored or have some interesting URLs you've turned up, drop me a line at: rhill[at]lpl.arizona.edu} (place @ sign appropriately)



Public Star Parties and Community Events

All members are asked to support the TAAA School Star Party program and other community events listed below. TAAA either sponsors or co-sponsors these events. These are great opportunities for beginners as you may only need to know a few objects in the sky. Even without a telescope, you can be valuable in other capacities. Sign up sheets for many events can be found at the meeting or contact a TAAA officer.

UofA Optical Sciences Graduate Students S.P.

Saturday, August 22 No. of Scopes: 8

The TAAA has been asked to supply telescopes for evening observing at the Kitt Peak picnic area. The club has supported this event for many years in the past. Evening observing is scheduled from 8:00 – 9:00 pm. Volunteers plus one invited guest each will be invited to a box dinner starting at 6:00 pm. 60 to 70 UofA students and faculty are expected to attend. We will need about eight telescopes. A sign-up sheet will be at the August monthly meeting. If you are unable to attend the monthly meeting, you may volunteer by contacting John Kalas at jckalas [at]cox.net or 620-6502 (place @ sign appropriately).

Member's Events

TAAA Star Party at Las Cienegas (Empire Ranch)

Saturday, August 15

Las Cienegas (formerly Empire Ranch) has been our normal dark-sky observing site for quite a number of years. Please try to arrive before sunset. Stay as long as you like, but let everyone know when you are ready to leave; someone may be taking astro-images. Bring a telescope if you have one, but you don't need one to attend. Any member would be glad to let you look through their telescope. And, there are now restroom facilities at the site. Las Cienegas is at 4000 feet so be prepared for cool temperatures after sunset. It's also a good idea to bring insect repellent. Attendees should park their vehicles either perpendicular to the airstrip facing toward the center of the strip, or parallel to the airstrip along either side facing west. That way, when you are ready to leave, you will not have to back up and turn on your bright white backup lights. See the directions to Las Cienegas on the outside flap of this newsletter.

TAAA and AF-SIG Star Party at TIMPA

Saturday, August 22

Come on out and enjoy the summer skies! TIMPA star parties are great for both beginners and experienced observers. Our novice members can get help with observing issues or equipment problems, as there are many experienced members there who would be happy to help. If you don't own a telescope, come anyway, because there are lots of telescopes set up and everyone is invited to look through them. This is a great way to check out different telescope designs before you make that all-important decision to buy. There is no scheduled talk for this activity, just come out and enjoy. We'll do our best to get you the answers you need. If you have friends or relatives who are curious about amateur astronomy, feel free to bring them along. The TIMPA site features a large parking area, and full restroom facilities. Be prepared for cool temperatures after sunset. It's also a good idea to bring insect repellent. Directions to the TIMPA site are located on the outside flap of this newsletter.

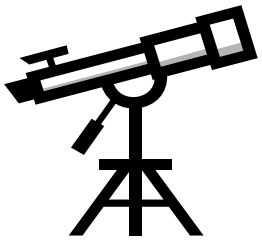
Rattlesnake Alert!

Be alert for rattlesnakes! Rattlesnakes are generally aggressive only if disturbed. If you see one, keep a safe distance and DO NOT try to interact with it in any way. Snakes are much faster than our reflexes, and should be handled only by professionals. Wear boots and long jeans. For more information, go to

http://en.wikipedia.org/wiki/Rattlesnake

Along with rattlesnakes, other desert critters, such as gophers and ground squirrels, make their home wherever they want. These residents can leave holes and other potential tripping hazards, so be careful when walking.

Telescopes for Borrowing



Free service

✦

Only for Members

Don't own a telescope?
Our Loaner Program is your answer!

These telescopes are in the program

Sears 60mmf/15 on equatorial mount
Unitron 62mmf/14.5 on equatorial mount
Meade 90mm ETX
Coulter Odyssey8 8-inch f/4.5 Dobson
Meade10-inch f/4.5 on equatorial mount
Meade 10" LX200 GPS (requires training session)

Beginners, here's your chance to learn and observe the sky before buying any equipment. The Loaner Program is available to any current member after meeting requirements detailed in the TAAA Loan Policy. Contact the Equipment Loan Coordinator (see page 2) or any club officer for details about these telescopes.

Dark Skies for August 2009

DARK SKIES (no twilight, no moonlight) for Tucson in 24-hour MST: 18=6pm, 20=8pm, 22=10pm, 0=12am
RISE, SET, VISIBILITY for sun and bright planets: rise for morning object, set for evening object

Fr/Sa 31/ 1 1:38 - 4:06	Mo/Tu 10/11 20:43 - 21:31	Fr/Sa 21/22 20:28 - 4:26
Sa/Su 1/ 2 2:30 - 4:07	Tu/We 11/12 20:41 - 22:03	Sa/Su 22/23 20:26 - 4:27
	We/Th 12/13 20:40 - 22:40	
Su/Mo 2/ 3 3:26 - 4:08	Th/Fr 13/14 20:39 - 23:25	Su/Mo 23/24 20:50 - 4:28
Mo/Tu 3/ 4 - - -	Fr/Sa 14/15 20:37 - 0:18	Mo/Tu 24/25 21:25 - 4:29
Tu/We 4/ 5 - - -	Sa/Su 15/16 20:36 - 1:20	Tu/We 25/26 22:04 - 4:30
We/Th 5/ 6 Full Moon	We/Th 26/27 22:46 - 4:30	
Th/Fr 6/ 7 - - -	Su/Mo 16/17 20:35 - 2:29	Th/Fr 27/28 23:33 - 4:31
Fr/Sa 7/ 8 - - -	Mo/Tu 17/18 20:33 - 3:42	Fr/Sa 28/29 0:24 - 4:32
Sa/Su 8/ 9 - - -	Tu/We 18/19 20:32 - 4:23	Sa/Su 29/30 1:19 - 4:33
	We/Th 19/20 20:31 - 4:24	
Su/Mo 9/10 20:44 - 21:02	Th/Fr 20/21 20:29 - 4:25	Su/Mo 30/31 2:15 - 4:34

Weekend	Sun	Sun	Mercury		Venus		Mars		Jupiter		Saturn		
Sa/Su	Set	Rise	Set	Vi	Rise	Vi	Rise	Vi	Rise	Vi	Set	Vi	Vi=Visibility
01/02	19:19	5:38	20:20	5	2:43	-3	1:28	1	19:59	-3	21:21	3	-3 brilliant
08/09	19:13	5:42	20:20	5	2:50	-3	1:19	1	19:29	-3	20:55	3	0 conspicuous
15/16	19:06	5:47	20:14	5	2:59	-3	1:10	1	Set:	-3	20:30	5	3 moderate
22/23	18:58	5:52	20:04	5	3:09	-3	1:02	1	5:12	-3	20:04	6	6 naked eye limit
29/30	18:50	5:56	19:48	6	3:21	-3	0:53	1	4:40	-3	19:39	8	9 binoculars

By Erich Karkoschka

TAAA Astronomy Complex

Phase 1 Construction Update

John Kalas – Construction Coordinator

As expected the pace of activity at the Astronomy Complex is accelerating. Since my last report, the following tasks have been completed:

1. Peter Ammon excavated the trenches for the electric service and water lines.
2. SSVEC installed the power poles along E. Perseus Way and ran the underground primary cable to the bathroom facility site including one transformer and one switch for future expansion. Randy Maddox's electrician installed the electric meter pedestal at the bathroom facility. SSVEC also ran the secondary electric service to the well site from an intermediate transformer. Peter Ammon installed the electric meter pedestal at the well site.
3. Peter dropped telephone/internet cable from Valley Telephone Coop into the trenches from E. Perseus Way to both the bathroom facility and the well house. There will be three cable towers installed within the complex and one on E. Perseus Way at the entry road.
4. Peter dropped an electronic conduit into the trench from the well house to the bathroom facility for future computer/electronic connections between the two buildings.
5. Peter built up the well house area to address potential flooding concerns. He also set the 5,000 gallon above-ground water tank on a gravel base.
6. Peter installed two culverts under the entry road to address washout concerns; an 18" diameter culvert across the entry road where it meets E. Perseus Way and a 30" diameter culvert across the entry road about 30' in from E. Perseus Way.
7. Peter dug out the rainwater catchment "ditch" which was enlarged to handle rainwater runoff and to supply fill dirt for the entry road culvert installations.
8. Peter coordinated the installation of the entry road barbed-wire fencing, decorative white rail fences and twin 12' wide gates. He also cleared the path for and coordinated the installation of the barbed-wire fencing along the southern border of the 40-acre parcel in which the club's 16-acre Astronomy Complex is located.
9. After a tenuous start, Harvey Allen successfully drilled the water well at the well site. The final well depth was 500', exactly what we had expected. The artesian pressure in the area pushed water up the hole to a depth of 280'. The well produces 25–30 gallons per minute; a very good production rate.

The following tasks will be performed next:

1. SSVEC will string the power lines on the power poles and finish the electric installation.
2. Peter will drop the water pipes and close up all of the trenches.
3. Peter will excavate and install the septic tank.
4. Valley Telephone Coop will complete the telephone/internet cable hookups to the four cable towers.
5. Peter will "pluck" the vegetation from the west side of S. Price Ranch Road in preparation for the widening/grading of S. Price Ranch Road. The debris will be trucked into the Astronomy Complex and piled on top of the existing debris pile from the internal clearing. At some point, the debris pile will be burned with a Sunsites-Pearce Fire Dept. tanker truck standing by.
6. Peter will complete the well house construction, so Randy Maddox's crew can begin the bathroom facility construction, hopefully by 8/17.

Despite a few delays, we are still projecting a construction completion date of the end of October. As we get closer to completion of Phase 1 construction, the club plans to schedule a Grand Opening celebration. I hope that you are as excited about this project as I am. If you like what you see, please consider making a significant contribution to the Phase 2 development which will be presented by Bill Lofquist in the very near future. The entire Phase 2 development will require "new" funds contributed by members.

Primary electric power trench along entry road

TAAA Astronomy Complex (cont.)

Five-thousand gallon water storage tank at well site.

Rain water catchment “ditch” (will be lined with stone).

Well drilling operation.

Entry road decorative fencing and gates.

30” diameter culvert under entry road.

TAAA Board of Directors Meeting - July 8, 2009

Attending: Board members present (7): Ken Shaver (presiding), Keith Schlottman, Luke Scott, Teresa Bippert-Plymate, John Kalas, John Croft, and George Barber. Members present (2): Terri Lappin, Claude Plymate.

The president called the meeting to order at 6:32 pm.

Minutes from the May Board meeting were approved.

Member Feedback

- The Board received positive feedback on having a public star party at which people could bring their telescopes and get help from TAAA members on set-up and use.

Upcoming Meetings

- The September meeting is the annual club status meeting, which will include reports on SIG and Dark Site activities. Refreshments will be served.
- Claude Plymate will present the December Astronomy Essentials lecture.

Announcements

- The club received a letter from the C-ROW star party organizer reporting that the event was over budget.

Treasurer's Report

- TAAA had 346 members at the end of June; 2 new members joined in June.
- During June, TAAA took in $1417, consisting of $625 in memberships, $568 in donations, and $224 for a paid star party.
- Expenses during the month were $15,646, mostly for costs related to the Dark Site; Astronomical League dues were paid on 1 July.

Dark Site Development

- John Kalas reported on Phase 1 construction and showed photos of the construction activities. The estimated cost for Phase 1 is $111,257, which includes the additional costs for improved drainage.
- Well drilling is likely to begin in a few weeks.

ALCON

- The board noted that members should be encouraged to join the Astronomical League.

TAAA Funds

- A motion was entered to reserve $6088.90 in a 30-inch Telescope and Facility Fund until July 2010 to enable a proposed design concept and cost estimate to be presented to the Board. The motion was approved unanimously.

Insurance

- The club received information regarding liability insurance and a course of construction rider for the Dark Site; however, a cost was not quoted. The board will vote by e-mail when the quote is received.

TIMPA Accessories

- A motion was entered by which the Board authorizes that $1155 plus tax from the TIMPA fund be used for the purchase of accessories for the 14-inch TIMPA telescope. The motion was approved unanimously.

Web Site

- The member's password will be changed quarterly. The policy will be implemented when the newsletter e-mail notification issue is resolved.

Meeting adjourned at 9:25 pm.

Board Votes Conducted via E-mail

Secretary's note: This section records business conducted via the Board's Yahoo group in response to events that require the Board of Directors to take action before the next regular Board meeting.

- Kuiper Circle Outreach Committee: The Board approved by a vote of 6-0 TAAA participation in the Apollo Landing celebrations at the Kuiper Space Sciences building and UA mall on 18 July.
- Conduit purchase: The Board approved by a vote of 6-0 expending $244 plus tax for the purchase of Innerduct electronic conduit for installation between the Dark Site well-house and utility.
- Dark Site additional construction costs: The board approved by a vote of 4-0 expending an additional $5523 in Dark

TAAA Board of Directors Meeting (cont.)

Site construction costs for (1) larger culverts and catchment ditches on the entry road and (2) installation of HDPE instead of PVC water pipe.

- Insurance: The Board approved by a vote of 6-0 expending $1030 for Astronomy Complex liability insurance and $300 for a construction insurance rider.

Respectfully submitted,
Luke Scott
Secretary

Desert Skies Classified

FOR SALE	Meade 2080 8 inch Schmidt Cassegrain with an installed declination motor and the original case (trunk). Excellent condition. $800 OBO. Joe Grisillo, 2sonjoe(at)att.net [09/09]
FOR SALE	Winer Observatory has acquired through a donation from an estate hundreds of telescope parts and accessories. All items are for sale at clearance prices. Items include a complete 20-inch Newtonian telescope on a Software Bisque mount, several carbon fiber tube assemblies (some including optics, some empty), FLI CCD cameras, filter wheels, focusers, spiders, secondary mirror holders, large binoculars, instrument rotators, eyepieces, photo accessories, much more. Please see http://www.winer.org or call Mark Trueblood at 520-455-9263 for details. [09/09]
FOR RENT	The residence at the TIMPA site will be available for rent in April. The house is a 3 bedroom, 1 bath. The rent is $450/mo. but will be discounted $100 if the renter is willing to empty the trash cans for TIMPA. They may have additional credits for other duties at the site. Please contact TIMPA President Mike Cummins at 299-0593. e-mail michael(at)mcummins.com
SERVICE	Green laser pointer need repair or tune up? Contact Donald Arndt at (415) 215-2409 or donaldja(at)pacbell.net. Typical repairs cost $25-50, including return shipping.

Your ad will run for 4 months unless specified. Month and year of last appearance is last item of ad. For additions or changes to this list, call or e-mail the newsletter editor.

Constellation Report by Chris Lancaster

Cygnus

The swan

There are many stories behind this constellation. One describes Cygnus as the Greek god Zeus after he disguised himself as a swan to seduce Leda, wife of a Spartan king. Another tells of Orpheus, a musician who was changed into a swan and lofted into the sky next to his harp (Lyra). And then there is the dramatic story of a young man called Cygnus who was the friend or brother of Phaethon, the son of Apollo. Phaethon borrowed the Sun chariot for a quick ride but soon lost control of the vehicle. To stop the chariot, Zeus was forced to kill Phaethon who fell into the river Eridanus. Cygnus frantically swam through the waters in an attempt to pull Phaethon back to shore for burial. Zeus was touched by the devotion Cygnus showed to his friend, so he turned Cygnus into a swan and gave him a permanent place in the heavens.

Near the northeast corner of the constellation is the star cluster M39. This is a very large, loose cluster of about 30 stars of magnitudes 7 to 10 spanning 32', or about the size of the moon at perigee. Its true appearance is best appreciated in binoculars, since in the telescope it becomes more of a random scattering of separate stars. It can be found 9.2d ENE of the 1.2 magnitude star Deneb (Alpha Cygni) or RA 21h 32.3' Dec +48d 26'. In M29 we find a much more compact cluster, and one which is almost lost in the surrounding star fields of the Milky Way. Look 1.8d SSE of Gamma Cygni for a tight group (7') of 10-15 stars of 8th and 9th magnitude forming a shape like two parentheses turned backwards--)(.

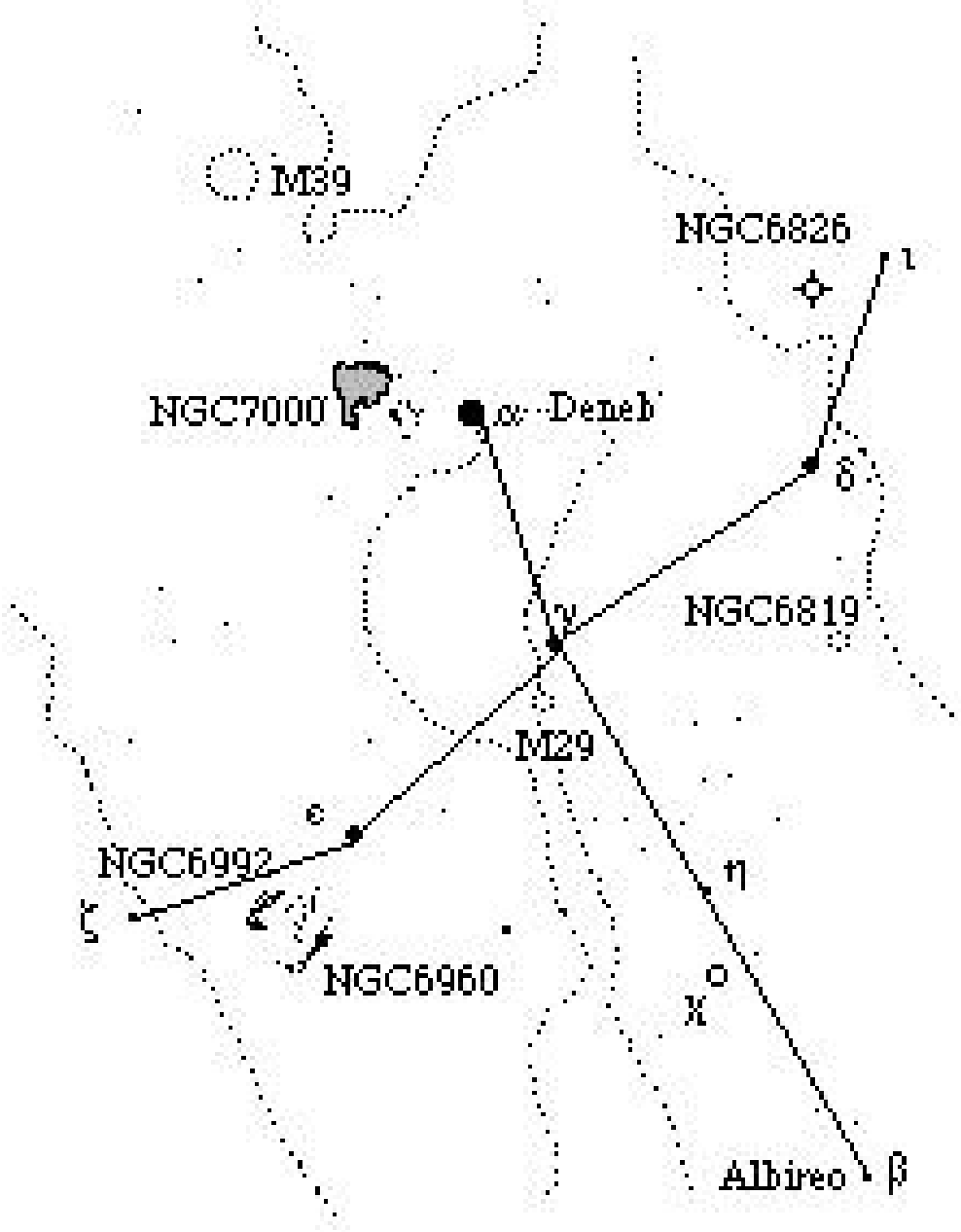
Another compact cluster measuring about 5' is NGC6819. Sometimes nicknamed the Foxhead, this is a rich group of stars of magnitudes 11 to 15 sitting 7.8' west of Gamma Cygni (RA 19h 41.3' Dec +40d 11'). It assumes the shape of a square vase or, as the name might suggest, an animal's snout.

Deneb is worth special mention since it is one of the intrinsically brightest stars known, giving off 60,000 times the light of the sun. It shines at magnitude 1.2 from a distance of about 1,800 light years. If placed at the standard distance of 10

Constellation Report by Chris Lancaster (cont.)

parsecs (32.6 light years), it would shine at magnitude -7 (its absolute magnitude), while the sun at Deneb's distance would be a 13.3 magnitude weakling.

Nearby is NGC7000 (3.2 degrees E of Deneb), also known as the North American nebula. In a dark sky it is visible in 50mm or larger binoculars. It covers a 120'x100' patch of the sky as a diffuse glowing cloud roughly outlining the shape of the North American continent.



Another well known nebula is the Veil Nebula. It is separated into two parts as NGC6992 to the east and NGC6960 to the west. In 8-inch and larger scopes this complex mass of nebulosity, which is almost 180' in diameter, is fairly evident as wispy tangles of gasses 3d SSE of Epsilon Cygni. The brightest portion, NGC6992, is a 1 degree long arc south of a line connecting Epsilon and Zeta Cygni, while NGC6960 is dimmer but perhaps a little easier to find since it passes by the 4.2 magnitude star 52 Cygni. It is very much worth the effort to pan along the Veil's entire face to study the details of its structure.

Increase your power to go after a small planetary nebula about 80% of the distance from Deneb to Iota Cygni (RA 19h 45m Dec +50d 31'). Measuring a mere 2' in diameter, this 10th magnitude nebula is NGC6826. With sufficient magnification, it shows an obvious disc compared to neighboring stars.

Chi Cygni is a variable star of special interest due to its wide range of brightness. Watch for it to fade to 13th magnitude, then brighten by a factor of 3,000 to near 5th magnitude over a period of 407 days.

Even though most observers with more than just a few glimpses through a telescope are closely familiar with Beta Cygni, I would feel remiss if I didn't mention it. This is Albireo, one of the best double stars in the sky. Any telescope can split the pair which are 34" apart and will show a pale golden yellow primary of magnitude 3.1, and a magnitude 5.1 companion of a wonderfully rich blue color.

Tucson Amateur Astronomy Association
P.O. Box 41254
Tucson, AZ 85717

Address Service Requested

Please consider renewing your membership on time. Renewal month and dollar amount appears on your address label. Magazine subscriptions are not included. TAL fee is included if participating in TAL. See details on page 2.

Directions to TIMPA and Las Cienegas

Directions to TIMPA Site

GPS coordinates: 32 deg 15.868' N, 111 deg 16.390' W

From the North:

1. Take Ina Rd. west about three miles past I-10.
2. Turn left (south) on Wade Rd.. Wade Rd. becomes Picture Rocks Rd. when the Rd. bends to the right (west).
3. Take Picture Rocks Rd. west to Sandario Rd..
4. Turn left (south) on Sandario Rd. to Manville Rd..
5. Turn right (west) on Manville Rd. to Reservation Rd..
6. Turn left (south) on Reservation Rd. (dirt Rd.) and go about two miles. The TIMPA entrance is on the left.

From the East:

1. Take Speedway Blvd. west and it turns into Gates Pass Rd..
2. Go over Gates Pass and continue west to Kinney Rd..
3. Turn right (north) on Kinney Rd. and continue past the Desert Museum.
4. Kinney Rd. bends left at the entrance to Saguaro National Park West and becomes Mile Wide Rd..
5. Take Mile Wide Rd. west about five miles to Reservation Rd.. Mile Wide Rd. ends at Reservation Rd. and you must turn right (north) onto Reservation Rd..
6. Take Reservation Rd. north about one mile. The entrance to TIMPA will be on the right.

NOTE

A gate card is required for TIMPA access. Please **DO NOT** ask the caretakers for entry to the TIMPA SITE. A list of TIMPA key keepers is available on the TAAA website, or by contacting a board member. For scheduled TIMPA star parties, a designated TAAA representative will provide access to the site.

Directions to Las Cienegas (Empire Ranch)

GPS coordinates: 31 deg 47.356' N, 110 deg 37.913' W

Take I-10 East from Tucson. Take Exit 281 (Route 83 Sonoita-Patagonia Highway South). Travel south on Route 83 for about 19 miles, watch for green and white milepost 40 sign on the right side of the road. Approximately ¼ mile past milepost 40, turn left into Las Cienegas. The road is dirt and is "washboarded" so go carefully. At about 2.9 miles, there is a fork in the road. Stay to the right. When the road ends in a "T", take a left. Cross over a concrete section of the road down in a wash. Just up the hill from the wash (about .2 mile), turn left. 0.1 mile ahead will be the end of an abandoned airstrip with a covered ramada. The club members have been setting up several tenths of a mile down the runway. If you arrive after dark, as a courtesy to other members, use only your parking lights to approach the set-up location.