

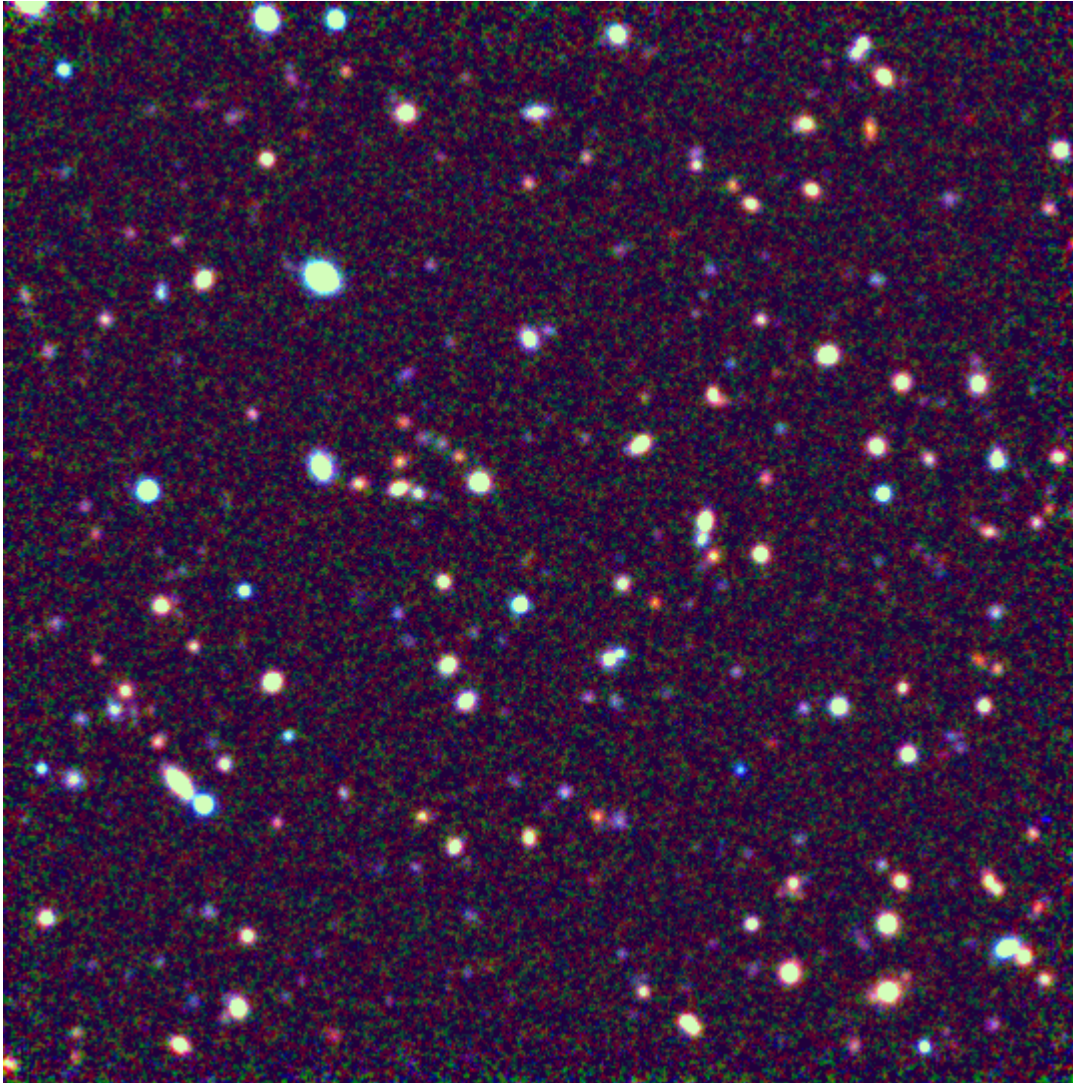


Desert Skies

Tucson Amateur Astronomy Association

Volume LIII, Number 7

July, 2007



KPNO Infrared JHK composite image
of the Hubble Deep Field

Inside this issue

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Cover Photo: This color composite image of the Hubble Deep Field was obtained with the IRIM infrared camera at the KPNO 4m Telescope. The J, H and K bands drive the blue, green and red guns of the image display, respectively, in this representation. [Copyright © 1997 The Association of Universities for Research in Astronomy, Inc. All Rights Reserved. http://www.stsci.edu/ftp/science/hdf/clearinghouse/irim/irim_color.html](http://www.stsci.edu/ftp/science/hdf/clearinghouse/irim/irim_color.html)

TAAA Web Page: <http://www.tucsonastronomy.org>

TAAA Phone Number: (520) 792-6414

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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\$ 5.00
 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 \$ 4.05

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.. All material copyright Tucson Amateur Astronomy Association or specific author. No reproduction without permission, all rights reserved. We will not publish slanderous or libelous material! Send submissions to:

George Barber
 TAAA/Desert Skies Editor
 15940 W Ridgemoor Ave
 Tucson AZ 85736

President's Message

Hello Fellow TAAA Members:

Things are on the move with TAAA in a couple important areas, and TAAA members will have an opportunity to participate in both.

First, George Barber has shown excellent leadership in putting together the design for the small observatory we are ready to build for TIMPA. It will house the 14" telescope donated by David and Wendee Levy, and it will be available for the use of TAAA members and for educational purposes. Elsewhere in this issue of Desert Skies you will find the information about the work weekend that is planned for July 7 and 8, to be held in the garage at Teresa and Claude Plymate's house. We will construct the building there and move it to TIMPA for installation when the road and slab for the observatory are completed. Thanks to George and all of the other members who have contributed to the completion of the design. It will be fun now to see the small building, which is in fact a roll-off shed, become a reality. This addition will certainly enhance our use of the TIMPA site.

Second, you will also find elsewhere in this issue of Desert Skies an article I have written entitled "A Permanent TAAA Observing Site -- Why Not Now?" This article describes a new initiative to secure the land and design the plan for developing a permanent dark site for our use. As most of you know, this has been a long term quest of TAAA, and the current Board of Directors is determined to make it a reality within the next year. We have financial resources which have been contributed or earned over the years. We will probably need to raise some more funds, but we

are off to a start, and there are many decisions to be made and plans to be completed to get there.

We are calling for a Special Meeting on the TAAA Land Search to be held Saturday, August 18 at 2:00 PM. It will be held in the Steward Observatory in the conference room N305 on the third floor. The specific place will be announced in plenty of time before the meeting. We hope that all interested members of TAAA will come to that meeting.

We are also inviting members to submit proposals of possible sites for us to put through the evaluation steps that we have planned. In fact, we have a first proposal and the evaluation process is being undertaken as this issue of Desert Skies is being put together. We will have information about that site in the August Desert Skies and at the meeting on August 18. So, if you know of sites that we might consider, either on public or private land, please contact me for the proposal form and bring them to our attention for evaluation.

As the monsoon season approaches, these two initiatives will give us a chance to work together to prepare for the rest of the year and beyond. We hope you will join us in these endeavors.

Clear skies,
Bill Lofquist
President

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, July 6, at the Steward Observatory Auditorium - Room N210

ASTRONOMY ESSENTIALS: 6:30 pm
Speaker: Dr. Mary Turner

It is time again for our quarterly look at some of the celestial objects that are good candidates for viewing over the next few months. Included will be constellation legends and lore as well as pictures and data on a variety of objects which may include constellations, globular and open clusters, nebulae, planets, galaxies or any other of the many wonders currently found overhead in our night sky.

GENERAL MEETING: 7:30 pm
Title: Multi-wavelength deep field surveys: watching galaxies grow
Speaker: Mark Dickinson, Kitt Peak National Observatory

Modern deep field astronomical surveys have revolutionized our knowledge of the formation and evolution of galaxies in the distant universe. More than a decade ago, the famous Hubble Deep Field observations kicked off a new generation of research projects that have opened the early universe to scrutiny at almost every accessible wave-

length. Dr Mark Dickinson, of Kitt Peak will describe the current state-of-the art surveys that combine information at many different wavelengths, including observations from the Spitzer, Hubble, and Chandra space telescopes, to view the formation of galaxies in the young universe, and to unravel the physical processes at work during their growth from infancy to maturity.

BOARD OF DIRECTORS MEETING: Wednesday, July 11, 6:30 pm. The meeting is held at Steward Observatory Conference Room N305.

STAR PARTIES AND EVENTS:
05 July - Beginner's SIG at China Rose
07 July - TAAA Observing and Beginner's SIG at TIMPA
07 - 08 July - 14" Observatory Construction Party
09 July - Astrolmaging SIG at China Rose
14 July - TAAA Observing at Las Cienegas
18 July - Wilson Elementary Star Party

NEWSLETTER SCHEDULE: Deadline for articles: Sat, July 21. Printing: Mon, July 23. Folding Party: Tues, July 24. Mailing: Wed, July 25. The newsletter is mailed 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: Jack Adkins, Russ Dover, Robert Eby, Steve McClain, and Cindy Psick. 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 online at either Yahoo Groups email list website under Files, or at most meetings.)

It is with sadness that we report that John Johnson passed away on June 6th of a heart attack. John joined the TAAA in April 2002. He was an electrical engineer and enjoyed making anything that would help his astronomy hobby. He was an active visual observer until CCD imaging took over. He was most interested in imaging galaxies. John was thrilled when Astronomy Magazine published an image he took of Messier 45 (the Pleiades). You can see this beautiful image on his website: <http://www.astroccds.com/>. John leaves a wife and a couple of children. Letters and cards can be sent to his daughter, Anita Sheridan, at 4307 Dillehay Dr, Parker TX 75002. Thank you Dean Salman for providing the details for this article.

TIMPA Access Card Agreement Changed

The TAAA Board of Directors has revised the TIMPA Access Card Policy and updated the Agreement to agree with the new policy. The new policy is now in affect. The most important change is to limit long term agreements to one year. Access card agreements will be reviewed annually and new agreements will need to be signed each year. Deposits and late fees have been changed and the process for borrowing a card has been streamlined. All members currently holding access cards will be contacted individually so new agreements can be signed.

Temporary TIMPA Access Cards are available for TAAA members and non-members for use on specific dates. Temporary cards are available by contacting any of the following people: Terri Lappin, Bill Lofquist, Ray Toscano, Michael Turner, and John Kalas (see page 2 for contact information).

Astro-Imaging SIG Meeting

Monday, July 9, 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.

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 got hats, T-shirts, denim shirts, and patches. We take cash and checks.

Beginners' Special Interest Group BSIG for July - Please note the meeting date!

Due to the July 4 holiday, the Beginners Special Interest Group will gather for the monthly dinner meeting and TIMPA warm-up at the China Rose restaurant (NE corner of Speedway and Rosemont) on **Thursday, July 5**, at 6:00 pm.

For July and August Lou Faix will present a two part program entitled "But Where Is It?" These sessions will help the novice locate particular objects in the sky. At the July meeting, Lou will cover the basics of using a Planisphere to identify the constellations and learn the major star names and locations. He will also discuss locating and identifying the visible Planets using published monthly sky charts and an "Hour Glass Almanac". If you have binoculars or a Planisphere, you are invited to bring them for observing from the parking lot.

Dr. Mary Turner will also present an observing list for the TIMPA star party the following Saturday, July 7. Join us at the China Rose for information and good company, and at TIMPA for (we hope!) clear skies!

The BSIG Committee

BSIG Committee Volunteers Needed

The Beginner's Special Interest Group is looking for enthusiastic, energetic, experienced TAAA members to join the BSIG Committee. If you enjoy helping others learn about observing skills, basic astronomy, telescopes and accessories, and other topics of interest to new amateur astronomers, the BSIG Committee is the place to be! Call or email J.D. Metzger or Dr. Mary Turner, or join us at the monthly BSIG dinner meeting at the China Rose restaurant. This month's meeting is Thursday, July 5, at 6:00 pm.

14" Observatory Construction Party By George Barber

Come join your fellow TAAA members as we build the observatory for the 14-inch telescope to be installed at TIMPA.

Sign up sheets will be on the table at the July 6 meeting, or e-mail George Barber at mail@tucsonastronomy.org if you plan to attend or have any questions.

Club News (cont.)

With your help, the TAAA will have a great observatory we can all take pride in!

Grand Canyon Star Party in Review

By Dean Ketelsen

It was a great star party! The weather cooperated yet again and we got to observe 8 nights in a row. There were a couple nights it was a little iffy, and not everyone set up their scopes, but even on the worst night (Monday) we had nearly an hour of clearing, so besides viewing Venus, Saturn and Jupiter thru the clouds, everyone got to see a few dark-sky objects and we had 120 visitors look thru my scope (less than half a normal night's throughput, but better than zero!). As for a short synopsis of what the star party is all about, it can't be put much better than what Linton Rohr posted on the Astromart forum:

Ahoy there.

I just had the pleasure of sharing my 14.5" window into the universe, with several hundred visitors to Grand Canyon National Park. I met a lot of great fellow-amateurs, too. Though I was only able to stay the first 4 days, I entertained folks from Europe, Asia, and all parts of the USA. Most of them, of course, had little knowledge of telescope optics, though many commented on how wonderful they thought my images were. And though I take pride in my mirror, the biggest joy by far was watching the reaction of people seeing celestial objects for the first time, whether it was Saturn, Jupiter, M13, M8, M51, the Veil, or what have you. Audible gasps and various exclamations of awe were quite common. Many had never even seen dark skies before, let alone the Milky Way in all its glory. Heartfelt expressions of gratitude flowed freely, and my heart was truly warmed. Most of these people will take home with them a new appreciation of our universe and perhaps a few will be inspired to pursue astronomy in some way themselves. I am happy to have shared my small bit of knowledge with them, and look forward to doing so for years to come.

This year we were all "official VIPs" (Volunteers In the Park), and we needed to keep track of visitor contacts

(many of us had little mechanical counters to keep track of folks looking thru scopes). I just heard back from Marker Marshall, our ranger, with the numbers. We had 69 astronomers registered with 1977 volunteer hours (nearly a man-year!). All told, we had nearly 58,000 logged visitor-views thru the telescope and 1,000 folks attend the twilight talks. After Marker interviewed visitors at the bus stop (to see how many scopes they looked thru), she determined we had about 560 visitors per night. Pretty respectable numbers!

Marker gave the "Stay Up Late" award (several times past 3am), "Biggest Telescope" award (28"), and "Most Volunteer Hours" award (over 62 hours) to Dennis Young from Sedona. Sim Picheloup of Houston had the "Most Visitor Contact" award (4224). My personal award for "Study Astronomer" of the star party goes to Julie Thomas who left the star party early on Thursday by bicycle (!) for Phoenix, finishing the roundabout 260 miles back home in 2 days in 108 degree heat.

There are a number of photo albums posted on line for those who want to see the event and some familiar faces. They include Geoff Babcock's images:
<http://www.azphoto.info/GCSP%202007/>

Joe Bergeron photos:
<http://homepage.mac.com/joebergeron/PhotoAlbum11.html>

And for a change of pace, here are Jane Houston Jones' North Rim photos and more:
<http://photo.whiteoaks.com/2007-06-grand-canyon/>

Thanks to all the volunteers for their help - it wouldn't be much of an event without you all. And special thanks go to our ranger this year, Marker Marshall, and her ranger-in-training Kristi Neilson. They went way above and beyond the work load the Park has offered in the past. Let's do it again next year - 21-28 June, 2008 are the selected dates. It is only a few days past full moon, and we risk monsoons, but that was the consensus by acclimation of the regulars at the pizza party at this year's event. See you there!

Grand Canyon T-Shirts Available! We have a large number of t-shirts left over from this year's event, nearly 30, in fact. Unfortunately we are out of mediums and 2XLs, but



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www.stellarvisionastronomy.com

Club News (cont.)

have smalls (3), large (9) and X-large (3) in short-sleeve, and large (4) and X-Large (7) in long-sleeve. Short sleeves are \$10, long sleeve are \$12. I will be gone the month of July (including the July meeting), so e-mail me to reserve your shirt, and I will get them to you upon my return.

Upcoming Lectures

Below is our upcoming lecture schedule. You'll see that we've scheduled a Backyard Observatories lecture for September's meeting. Members with backyard observatories might want to consider showing off their observatory at the September meeting. We'll also be scheduling a tour, possibly the following day, of the observatories that are presented. Details will be provided closer to the date.

Aug 3	<i>Astronomy Essentials</i>	Luke Scott The Moon
	<i>Invited Lecture</i>	Fulvio Melia (tentative to speak about black holes)
Sept 7	<i>Astronomy Essentials</i>	TAAA Project Status Report
	<i>Invited Lecture</i>	Backyard Observa- tories
Oct	<i>Astronomy Essentials</i>	Mary Turner, Sea- sonal Objects
	<i>Invited Lecture</i>	Steve Howell, Kitt Peak, TBA



TAAA members can borrow any of the five Night Sky Network toolkits for use at outreach activities like star parties, classroom presentations, or other events where you are talking about astronomy. The five toolkits are listed below. Each contains a training tape or DVD, a Resource CD which contains PowerPoint presentations and NASA animations, plus the materials for doing the projects. Contact Terri Lappin (see page 2) for more information about these kits and their use.

PlanetQuest: materials to explain how planets are detected, why we put telescopes in space, treasure hunt for objects related to stellar evolution, star chart of naked eye stars known to have planets in orbit

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, includes a game that a group or family can play

Telescopes - Eyes on the Universe: explains the basic principles of optics, the human eye, and observing

Shadows and Silhouettes: covers lunar phases, eclipses, and transits

The Night Sky Network has also given us a SolarScope to use in our outreach efforts. It will provide a white light image of the sun suitable for a small group to view together.

Newsletter Printing Costs

Thanks to a suggestion from a TAAA member, we've located less expensive copying services. This newsletter is being printed at the UPS Store located at Campbell and Broadway and we thank them for taking on this job.

Member's Events

TAAA and BSIG Star Party at TIMPA Saturday, July 7

Come on out and enjoy the summer skies (monsoon willing)! 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. We 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. Directions to the TIMPA site are located on the outside flap of this newsletter.

TAAA Star Party at Las Cienegas (Empire Ranch) Saturday, July 14

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

Member's Events (cont.)

prepared for cool temperatures and mosquitoes. 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.

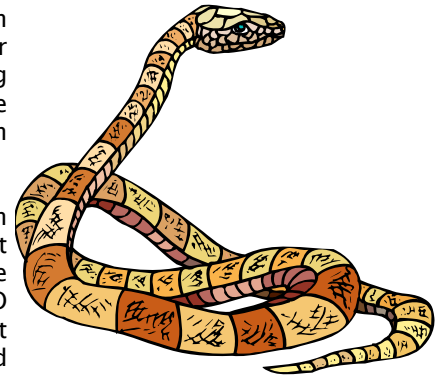
Rattlesnake Alert!

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://www.friendsofsaguaro.org/rattlesnakes.html>.

Along with rattlesnakes, other desert critters, such as gophers and ground squirrels, make their home at TIMPA.

These residents can leave holes and other potential tripping hazards, so be careful when walking.

Finally, the Tucson water department has declared the water at TIMPA is NO LONGER POTABLE. It is strongly advised that you bring your own water.



Items of Interest

Websites: Trips On The Internet Super-Skyway

By Rik Hill

Making a spectrum of yourself....

Have you ever wanted to see the differences and changes in stars? Think spectroscopy is beyond your means and capability? Think again. There are a number of websites that can get you on your way to enjoying this new angle to your old hobby.

The quickest way to get going is to simply buy a spectrograph as explained in:

<http://www.regulusastro.com/regulus/papers/spectroscopy/index.html>

On this website there are some broken links, most importantly the one for Rainbow Optics Star Spectroscope. The correct link is:

<http://www.starspectroscope.com/>

To do things this way will run into some cash. The spectrograph alone costs just under \$250.

One of the masters at CCD imaging has a website devoted to amateur spectroscopy. Christian Buil's website on CCD Spectroscopy:

<http://www.astrosurf.com/buil/>

There are a lot of links here that take you to many very technical websites that show what the best European amateur spectroscopists are doing.

One site I found fascinating was the one that talked about making a grism spectrograph:

<http://www.regulusastro.com/regulus/papers/grism/index.html>

A grism is where a transmission diffraction grating is used with a prism to achieve some interesting results. I'll let you find out what those are without going in to great detail here.

If you want a fairly high resolution spectrograph and want to know all the gory details on how they work, another Christian Buil site is what you're looking for. He details the construction of a really good spectrograph and many technical details on design.

<http://astrosurf.com/buil/us/spe2/hresol1.htm>

Now if all this is too technical and you want to do spectroscopy on the cheap I've posted an article for building a spectrograph using your existing camera (film, webcam or CCD) and about \$10 in parts, that will show fundamental lines in stellar spectra.

<http://www.lpl.arizona.edu/~rhill/spect/spect.html>

I show results and how to make the images in the article. While this was done with film, the techniques are the same for digital images. If you have questions about availability of materials or things not covered in my article, feel free to send me an email and I'll be glad to help you along. While the original design was for film camera, I soon hope to have the time to use my webcam on this spectrograph and do more and fainter objects.

Should you be fired up by this you might want to join the Forum for Amateur AstroSpectroscopy is a cyber place where amateurs at all levels of expertise can go to discuss problems, techniques and achievements:

Items of Interest (cont.)

<http://users.erols.com/njastro/faas/>

This should take care of all that "spare time" you had laying around!

As always, if you know of a particularly good website you would like mentioned here, drop me a line at rhill@lpl.arizona.edu

Public Star Parties and Community Events

All members of 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.

Wilson Elementary Star Party

Wednesday, 7/18/2007

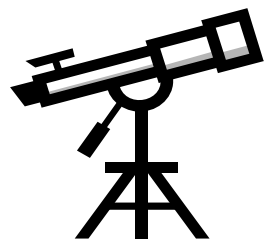
Northwest

No. of Scopes: 2

Wilson Elementary will be hosting Sun Viewing at 2330 W. Glover Rd. From Oracle take Ina west to La Cholla (Foothills Mall) and turn right (north). Proceed about 4 miles past Casas Adobes church, then at Naranja (stoplight) to Glover, turn left (west). School is a short distance on the right. Viewing will be on basketball court

(follow signs). Contact person Betsy Wilkening can be reached at 954-2401 or email ewilkening@amphi.com will be available for TAAA volunteers! Set-Up Time: 9:30am. Observing will be from 10:00am to 11:00am. Sunset: 7:30pm Dark Sky: 8:31pm Moon Phase: (no moon during viewing).

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
Meade 8-inch f/4 Schmidt-Newtonian LXD-55
Meade 10-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) for details about these telescopes.

SAIDA NEEDS MORE HELP FROM MORE TAAA MEMBERS. AFTER ALL, WE WILL ALL BENEFIT FROM DARK SKIES IN OUR AREA !!!

For more information, go to: www.sa-ida.org

Or feel free to contact:

John Polacheck, President of SAIDA, E-mail: jpolach@dakotacom.net , Telephone: 743-1362

SAIDA meets on the second Wednesday of each month from 5:30 to 7:30 PM in the IDA office located at 3225 N. First Ave, just North of Ft. Lowell. And.....

WE USUALLY HAVE PIZZA !!!

TAAA BOARD OF DIRECTORS MEETING—June 6, 2007

Attending: TAAA Board Members present: Bill Lofquist presiding, Ken Shaver, Steve Marten, Terri Lappin, and George Barber. Members present: Mary Lofquist. President's Call to Order: 6:38PM

May Minutes. Accepted. Unanimous.

Member Feedback. -

Member requested signage for Las Cienegas. Improvements will be researched for next Board Meeting. Several members have noted that dining after meetings has not been announced.

Announcements

Our current Star Party Volunteer Coordinator will step down September 1, 2007. Those interested please forward your intention to Bill Lofquist, 297-6653.

Newsletter - Terri Lappin

Terri has been reviewing cost and product data to reduce newsletter printing costs while maintaining quality and electronic submission service. Mailboxes Etc. is under consideration but electronic submission and delivery to the UofA Mirror Lab may not be available.

TIMPA Observatory - George Barber

George reviewed TIMPA Observatory plans that he has coordinated with SMR Construction Company. Modifications were incorporated to better prevent structure displacement from weather, etc. The Board voted to approve the modified plans; unanimous.

Transfer of 16' Dome to Storage at TIMPA - George Barber

George has calculated that at least eight people will be needed to move the dome pieces Saturday, June 9. Another request for volunteers will be entered on the Announcement and Forum group sites.

Treasurer Report - Terri Lappin

Terri reviewed 2007 TAAA Budget through May 31 and May Profit and Loss Statement. Most expense items are within our \$9,138 annual budget; several over-budget items are minimal (under \$100 total). Major expenses for May included a mobile mini storage unit. TAAA has received Quick Books Pro Premier through Bob Gilroy; Terri will begin using this new application for TAAA. The Board thanked Bob for his contribution to TAAA.

Dark Observing Site Search - Bill Lofquist

Bill presented a proposed structure for selecting and purchasing land for a TAAA observing site. The board discussed the proposed site selection process, assignment of site mission, dark site criteria, purchase vs. lease and related details. Also discussed was methodology to include membership participation in shaping mission statement, criteria and related factors. The Board resolved to obtain a dark observing site within one year given general concurrence of the membership.

Adjourned at 10:25pm
Respectfully Submitted,
Steve Marten
Secretary

PERMANENT TAAA OBSERVING SITE

A Permanent TAAA Observing Site - Why Not Now?

By Bill Lofquist

The Board of Directors determined at its June meeting to undertake a strong initiative to create a strategic plan and secure property for the development of a well-designed, dark and accessible observing site that will help us pursue the mission of the TAAA.

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.

This is not a new quest. Throughout the 50 plus year history of our organization there have been on-going attempts to accomplish this goal. Much thought has gone into it, and the result has been quite frustrating for many members and the feelings about these efforts have been strong and lasting. It is a complicated issue for a club like ours located in a center of astronomy such as Tucson.

The upshot of these years of effort has been that we have no such site and we seem not to be close to creating one. Some are asking, "Why doesn't a club as strong as TAAA not have a well-developed observing site? Other clubs in smaller places have done it, why can't we?"

I don't presume to have any easy answers for this dilemma, but I would like to see us undertake an initiative that breaks through the barriers that have stymied these efforts in the past and move clearly and resolutely toward the development of a "permanent" observing site. This article, while it will propose specific approaches which will be debatable, is intended to give us a framework for discussion, clarification and action. The Board of Directors has determined to have a strategic plan in place and property secured by May, 2008. While this may seem unrealistic to many, it gives us a clear outcome and a time frame to work within.

SOME OF THE ISSUES

A major issue is: Should we try to arrange the use of pub-

PERMANENT TAAA OBSERVING SITE (cont.)

lic land that we do not purchase, but use, or should we purchase property that we can be in control of? I am recommending that we look for property to purchase. Public land is subject to the whims of many people. There is no way we can control our own destiny and we would be subject to vague rulings as people come and go in the administration of the public land. Efforts to find such a place would take many months, and searches thus far have been unsuccessful.

I suggest that we focus on purchasing our own place. It is an investment that has the potential of appreciating if the area becomes too light polluted. We can be in control of how we design and build the plan.

There are issues related to distance, accessibility, utility availability and other considerations. A rule of thumb in the past has been that the facility not be more than one and a half hours drive from downtown Tucson. We don't want to drive very far on an unpaved road, and it must be passable in a sedan in wet weather. We need to have electricity and water. The contours of the land need to lend themselves to our purposes. Good observing is the key consideration.

Who within the club will take the time and show the persistence needed to follow through on the planning and action? Past efforts have had energy and interest behind them for a while and have then lost steam. How can we create a situation in which that does not happen again?

How will we pay for and maintain the facility? We have funds at present, but how will we use them? How will we generate more funding? How will we resolve issues around the purposes for which the funds we have were donated?

Many people in TAAA now have backyard observatories. How can we plan a facility that will be useful to and used by these people who may be completely satisfied with what they have? Will they be interested in using a club observing site? This group includes some of our most knowledgeable and skilled observers.

How will we move forward when there appear to be irreconcilable differences of opinion on many issues? What is the board's responsibility for providing leadership in the process? Involvement of the membership is essential, and we want to gather ideas from all directions. But we also will need to make decisions and move ahead if we are to be successful. Can we be satisfied with developing a "really good" site, though not a "perfect" one?

As we move ahead other issues will become apparent, and we will need to deal with them.

FUNDING

How will we pay for property, develop it and maintain it? How will we assure ourselves that we have adequate cash flow to handle and manage the facility once it is established? How much property will provide enough land for

our purposes and a buffer with surrounding property? These are important questions. We will need to be bold to accomplish our goal, but conservative in our reach. We don't want to get out on any limbs that we cannot manage.

For discussion purposes, we can consider how we can raise funds within the club and how we might generate more funds outside the club. First, let's think about internal fundraising.

Let's say that we allocate a certain amount of our existing funds to this initiative. We probably do not have enough to purchase land and still have enough left to develop the site. How can we generate additional funds within the club?

Other clubs have created fee schedules for using the different parts of the facility, and solicited tax-deductible contributions for constructing them. Past efforts to raise funds have been quite successful, and we do have a good nest egg. At the same time, construction and land costs have risen sharply and this challenges us to add to these funds.

We can explore outside possibilities such as foundation or government grants, fundraising events and other ideas. These would take longer to plan and make happen.

WHAT WILL THE FACILITY INCLUDE?

We can use raw land to set up scopes, but over time we will want to create some good and attractive facilities. We can make every effort to be ecologically sound in what we build. These might include:

- Observatory with warm room/classroom (possibly remotely controlled)
- Additional smaller observatories (slide off roofs, small domes)
- Observing pads
- Restrooms and showers
- Ramada with picnic tables
- Campsites, bunkhouses, etc.

Individuals might want to build an observatory if there is adequate land and we can create an understanding of how personal observatories can contribute to the overall goals of the facility.

I am sure many creative ideas will be generated as the facility progresses.

WHO WILL LEAD THE EFFORT?

Obviously, the Board of Directors has a key role in this kind of initiative. I suggest that we create ad hoc working groups that invite participation from the membership, including the following people:

- Interested board members

PERMANENT TAAA OBSERVING SITE (cont.)

- All past club presidents who are in the Tucson area
- The leaders of the Beginners' SIG and the Astro-Imaging SIG
- A special sub-group of backyard observatory owners
- Other interested members

It is obvious that if we make a strong beginning we will learn a lot along the way. This will include reflection on past efforts to find a site and what was learned from that experience. We will also learn how to resolve differences of opinion and to overcome reluctance that freezes us into inaction.

As president, I would like to be the primary facilitator of the process. This is a skill that I believe I have, and I would be committed to broad participation from within the membership. Meetings will need to be efficient, focused and productive. Records of each meeting should be kept so we can track our progress. Since we are all volunteers, the initiative of individual members and follow-through on tasks will determine our progress. We can use the Forum, email and the interactive part of the web site, as well as periodic meetings, to move the process along. Ad hoc working groups can take on particular planning and action roles.

In a voluntary organization things never progress as quickly or smoothly as we would like, but if we keep a positive focus on the goal of having a classy observing facility worthy of TAAA and the Tucson area, I believe we can get it done.

STRUCTURE AND PROCESS FOR MOVING AHEAD

The Board of Directors has created a structure and process for undertaking this initiative.

To secure the land, we have a four-phase process that has, in fact, been started with a first example. Phase I: Proposal Phase. Phase II: Evaluation Phase. Phase III: Sounding out the Membership. Phase IV: Board Decision Phase.

A proposal for a site was presented to the Board at its June meeting by Keith Schlottman and Bill Lofquist. This proposal was accepted by the Board as a serious proposal. As this article is being written, a team of nine or ten TAAA members is going to the site to evaluate it for its observing quality. This group will also walk over the area to see its potential for development. They will then fill out brief forms giving their individual evaluations. Of course, they will discuss the pros and cons while on site.

We will need to get other proposals from members to compare the relative merits of different sites. If this occurs over the next several months, we will be in a position to secure the needed land.

Following the acquisition of land we will establish ad hoc working groups from within the TAAA membership to address different things. For example, a great deal of work

has already been done on designing the 16' dome observatory and warm room. With some additional adaptation of those plans, we can move toward constructing the observatory. Other working groups can address landscaping, smaller observatory plans, campsite design, cabin construction and other amenities that we might want to have. Planning and Zoning Departments require a certain amount of planning to acquire approval of the land for special uses such as ours.

We are emphasizing the use of small ad hoc working groups rather than standing committees because of their efficiency and short time demands. We can also get more TAAA members involved in this way.

One standing group that we have established is a Strategic Planning Working Group, made up of Keith Schlottman, Teresa Plymate, Robert Crawford and Bill Lofquist. This group will coordinate the work of all other working groups and report to the Board of Directors for decision making. We have also asked all TAAA past presidents in the area to serve as an informal advisory group to the initiative.

SPECIAL MEETINGS OF THE MEMBERSHIP

We will have occasional special meetings of interested members to move this process forward.

A first meeting is to be held on August 18 in room N305 at the Steward Observatory on the U of A campus. It will be held at 2:00 pm, and we hope members who want to see this initiative move ahead will attend. At that time we will report on anything that has happened to date, go into more detail about plans to proceed, and engage members in joining the effort.

CONCLUSION

These ideas are only a beginning, but I hope they will encourage great interest, enthusiasm and energy within the club. Again, the Board of Directors voted to undertake this initiative at its June 2007 meeting.

We invite your participation!

(If you have questions, suggestions and additional ideas about this initiative, please contact Bill Lofquist by email at wlofquist@comcast.net, or phone him at 520-297-6653.)

Dark Skies for July 2007

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

Sa/Su 30/ 1 - - -	Tu/We 10/11 21:12 - 2:16	Sa/Su 21/22 23:29 - 3:56
Su/Mo 1/ 2 - - -	We/Th 11/12 21:11 - 3:13	Su/Mo 22/23 23:58 - 3:57
Mo/Tu 2/ 3 21:14 - 21:36	Th/Fr 12/13 21:11 - 3:49	Mo/Tu 23/24 0:32 - 3:58
Tu/We 3/ 4 21:14 - 22:10	Fr/Sa 13/14 21:10 - 3:49	Tu/We 24/25 1:12 - 3:59
We/Th 4/ 5 21:14 - 22:41	Sa/Su 14/15 21:10 - 3:50	We/Th 25/26 1:59 - 4:00
Th/Fr 5/ 6 21:14 - 23:10	Su/Mo 15/16 21:09 - 3:51	Th/Fr 26/27 2:54 - 4:01
Fr/Sa 6/ 7 21:13 - 23:40	Mo/Tu 16/17 21:18 - 3:52	Fr/Sa 27/28 3:56 - 4:02
Sa/Su 7/ 8 21:13 - 0:11	Tu/We 17/18 21:46 - 3:53	Sa/Su 28/29 - - -
We/Th 18/19 22:12 - 3:54		Su/Mo 8/ 9 21:13 - 0:46
Th/Fr 19/20 22:37 - 3:55	Su/Mo 29/30 Full Moon	Mo/Tu 9/10 21:12 - 1:27
Fr/Sa 20/21 23:02 - 3:55	Mo/Tu 30/31 - - -	

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn	Vi=Visibility
Sa/Su	Set	Rise	Rise Vi	Set Vi	Rise Vi	Set Vi	Set Vi	
30/ 1	19:33	5:19	5:15 -	22:06 -3	1:25 1	3:33 -2	22:09 1	-3 brilliant
07/ 8	19:32	5:22	4:36 -	21:48 -3	1:12 1	3:03 -2	21:44 2	0 conspicuous
14/15	19:30	5:26	4:11 6	21:27 -3	0:59 1	2:33 -2	21:19 3	3 moderate
21/22	19:27	5:30	4:03 4	21:00 -1	0:47 1	2:04 -2	20:54 4	6 naked eye limit
28/29	19:22	5:35	4:15 4	20:28 1	0:35 1	1:35 -2	20:29 6	9 binoculars limit

By Erich Karkoschka

Desert Skies Classified

For Sale	8 inch Celestron Nexstar 8 GPS carbon fiber tube in a fork mount. Excellent optics and latest firmware update. Celestron Heavy Duty wedge with alignment accessory kit, Electric focuser, Telrad finder, Counterweight bar and weight. Viewing before purchase can be arranged. \$1500 takes it all; hoping for a local buyer. Steve Coe, 602-789-7786. [10/07]
For Sale	Parts for Newtonian telescope: pressure molded fiberglass tube about 12" diameter with mount holes for spider and Novak primary mount and mount flat for focuser. Protostar 3 vane spider and diagonal mount. Kenneth Novak 9 point mirror mount. 2" diagonal mirror. 10" f/6 parabolic primary by Galaxy Optic of Buena Vista, Colo. Full thickness very fine optic. Over coated silver. All parts for \$700. Also: Nagler 7mm eyepiece--\$125.00, Leitz Trinovid 8x32 Binoculars--\$300. Call John McAfee at 520-762-0064. [08/07]
For Sale	Losmandy G11 Gemini Go-To mount. Less than 1 year old, includes dovetail, tripod, 21 lb CW, 12V power supply, Pelican Case for EQ head, \$2,500. Canon 20D (NOT the "a" model) mint condition, includes programmable timer, AC PS, and 55-200mm zoom, and all standard accessories, \$900. John Davis (585)355-5360 teledavis@yahoo.com [08/07]
For Sale	Celestron Ultima 11 Schmidt-Cassegrain Telescope, fork mounted. Excellent condition, well cared for, fantastic optics, many extras. Heavy-duty wedge, 2" diagonal, 10X50 finder scope with illuminated reticule eyepiece. Equipped with JMI Motofocus, Telrad mount and piggyback camera mount. This scope is ideal for deep sky and solar system visual observing and photography. The f10 11 inch mirror has given me outstanding sharp views rivaling larger scopes. Comes with custom made padded case w/built-in wheels. Also, Thousand Oaks solar filter (11-inch), mylar cover, visual back and Kendrick dew remover system for corrector plate and finder scope. \$2,000. Optional eyepieces available, Celestron 30mm - \$25, Orion 9mm illuminated reticule - \$35, old-style Televue 55mm plossel (incredible FOV) - \$50 or \$90 for all three. Call Gary Freiburger in Tucson, 626-6121 (W), 742-9494 (H), garyf@ahsl.arizona.edu [08/07]

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Constellation Report by Chris Lancaster

Bootes

Boh-oh-teez

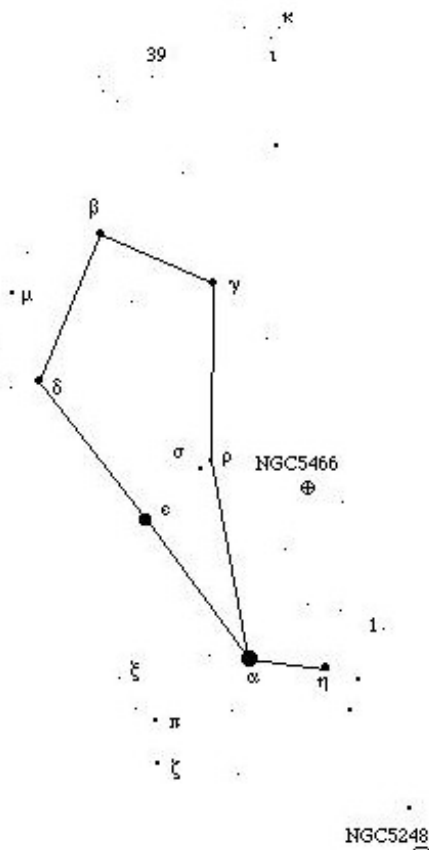
As spring approaches, so, too, does the bright star Arcturus toward the evening sky. It is not only the brightest star in Bootes but also the brightest by far in its neighborhood of the sky at magnitude -0.04. Being a giant K3 star, its orange color is readily apparent. At mid-month, Arcturus is high overhead on the meridian, marking a spot along the same path if you follow the curve of the handle of the Big Dipper. The general shape of the entire constellation reminds some of us as an ice cream cone or a snow cone--a welcome sight after the hot days of middle and late spring.

Several mythological stories refer to the character drawn in the stars of Bootes. The name itself comes from the Greek word for "herdsman", and arktouros, from which we get the name Arcturus, is Greek for "guardian of the bear." It is said that Bootes is the son of Zeus and Callisto. After Zeus's wife, Hera, went into a jealous rage and turned Callisto into a bear, Bootes encountered the bear and threatened to kill it before Zeus took the bear away and placed it safely in the sky. Bootes is now forever chasing the bear (Ursa Major) around the north celestial pole.

The Egyptians considered the stars near the pole, which never set, to be evil, and thus invented the constellation Bootes (in their eyes a hippopotamus) to keep these stars confined. The Arabs saw the circumpolar stars as a peaceful flock, again herded by Bootes.

Arcturus (Alpha Bootis) shows its orange color very well through a telescope or naked eye. It is cooler than our sun with a surface temperature of 4,200 degrees Kelvin; however, its 4 solar masses occupy a volume much larger than our own star, making its stellar density over 3,000 times less. Its large proper motion of 2.29" per year is due to two factors. First is its proximity, but more so because of its motion relative to ours. While the sun revolves around the galactic core within the plane of the galaxy, Arcturus moves within the great spherical halo surrounding this plane. Arcturus is currently slicing through the part of the galactic disk occupied by the sun, and in a short half million years, it will have receded in the distance beyond naked eye visibility.

Scanning Bootes with binoculars will show you something which is obvious. You'll see scattered stars with no hint of diffuse objects like clusters or nebulae. But looking more closely at these stars reveals Bootes' main attractions--it is a true playground for fans of double stars. Here's a list of the best of Bootes's doubles:



Mu Bootis (Alkalurops) -- the easiest double star with a wide separation of 109" between its primary, shining at magnitude 4.5, and its secondary, at 6.5. If you really increase the power you may be able to split the dimmer component which is separated by a scant 2".

Iota -- a similarly easy separation of 38.5". Its contrasting brightness of magnitudes 5 and 7.5 make for an interesting pair.

Kappa -- a bit over half a degree to the northwest of Iota. Here is a star of magnitude 4.5 next to a 6.5 companion with 13.3" of separation.

Pi -- down in the vicinity of Arcturus is this pretty blue-white double. The magnitude 5 and 6 pair are separated by 5.6".

Xi -- jump 3.7 degrees northeast of Pi to this fairly easy double. This one takes on the appearance of a yellow or gold magnitude 5 primary star of spectral type G8 paired with a reddish magnitude 7 star of type K4. The separation of 6.9" makes it easy to split in small scopes at high power.

39-- in the northern reaches of the constellation is a close 6 and 6.5 magnitude pair. Only 2.9" separate this white couple.

Epsilon -- called "Pulcherrima" (Latin for "most beautiful") by its discoverer F.G.W. Struve in 1829. This is an attractive orange-blue pair which is easy to find, but difficult to split. The magnitude 2.7 primary is 2.6" from magnitude 5 secondary.

Zeta -- the benchmark some observers use to gauge the culmination of the capabilities of their equipment, their skill as observers, and steadiness of the skies. The magnitude 4.5 and 5 pair is separated by only 0.9".

Out of the 20 or so galaxies found on a detailed star map, NGC5248 is the brightest. Its magnitude 10.7 glow reveals an oval measuring 6.1'x 4.4'. This object is located at RA 13h 37m 32s Dec +08d 53' 08" in the far southwest corner of the constellation. Look near Bootes's boundary with Canes Venatici to find NGC5466, a loose globular cluster of a fairly bright magnitude 9.1 and having a sizable diameter of 11'. Its location is RA 14h 05m 30s Dec +28d 32' 00".

Tucson Amateur Astronomy Association
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Directions to TIMPA and Empire Ranch

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.