

Saguaro Astronomy Club

Metro Phoenix, Arizona

SACNEWS



September 1997 — Issue #248

v8.20

A Perspective on Arizona Observing & Astronomy Clubs

by Russ Chmela

Sometimes, the best view of what you are doing may come from someone just passing through, or happening by. A year and a half may be a bit beyond this but I would like to offer my impressions and expressions about Arizona observing. The time is right since I am fast approaching the end of my stay here. Career and the desire for a more moderate climate are taking me further west to the Silicon

**...with the clarity, I could go
down till the nose of the scope
practically scraped the ground...**

Valley of California. In a way, it is merely a continuation of a western journey I started in 1995. This first leg led me to Arizona and the East Valley Astronomy Club as well as the Saguaro Astronomy Club. Coming from Vermont in the soggy province of New England, my primary desire was to stop losing 60-80 day stretches of observing to rains, snows, and the shortest summer nights you can get without moving to Alaska.

I arrived on Memorial Day weekend of 1995, and straight into the 100-plus degree weather. I spent the first 4 months here doing what I had promised to stop doing, building telescopes instead of using them. This one had to be built however, it just was necessary beyond all reason. I had discovered something unique in observing, a climate that allowed aperture to work! Back in the north-east, the seeing and the spring and autumn transparency never seemed to allow much good to come from ever larger scopes. For that reason, I used a C-8 and a 10" RFT for all my uses, until that first session out at Florence Junction.

Using a simple C-8 I found to my amazement details in Galaxies and Nebulae seen in only larger apertures or

Quick Calendar

SAC Meeting

Speaker: Warren Kutok: *Restoring Telescopes*
7:30 PM, Friday, September 19

SAC Deep-Sky Meeting

7:30 PM, Thursday, September 25

SAC Star Party

Buckeye Hills Recreation Area
Saturday, September 27

not at all before. Using some other scopes there with club members showed even more newness in old familiar objects. Two scopes really put me into the idea for a 12", both Tom Polakis' 13" and a 12.5" another member had there. Years before this, I had crafted a 12" mirror, but my testing ability had yielded a poor figure. A few weeks in Pierre Schwaar's skilled hands changed that and the newly figured and coated glass joined a lightweight dobsonian optimized for transport. My first light on it was Comet De Vico, and it was to be a scope that would see many more comets in the coming years. I began by going to town on the declination zone of 25 degrees south to 50 south (-25 to -50). These were new places for me and with the clarity, I could go down till the nose of the scope practically scraped the ground before stopping. I took time to revisit some other objects seen before. The

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DIM MOMENTS
IN
**AMATEUR
ASTRONOMY**
by Paul Dickson

Adapted from the August 1983 SACNEWS

WHAT'S THAT?
A TELESCOPE.
BUILT IT MYSELF

IT LOOKS
LIKE A GIANT
ROLL OF
TOILET PAPER

planets also leaped new levels of detail, with a ringless Saturn, and Mars and Jupiter to see anew.

Now for some observations on what is done right here. Probably the best examples of star parties done well are the Sentinel Stargaze and the All-Arizona Star Party. For years I had participated in events set up back East where they were overplanned, overstaffed, overambitious, and too short. Although I was a member of the Springfield Telescope Makers back there, and helped them put on Stellafane every year, I had always felt it could have been done better, and longer. By contrast, events here are simple, yet fun, and cost little to initiate. During the time here I have had some memories that are unforgettable.

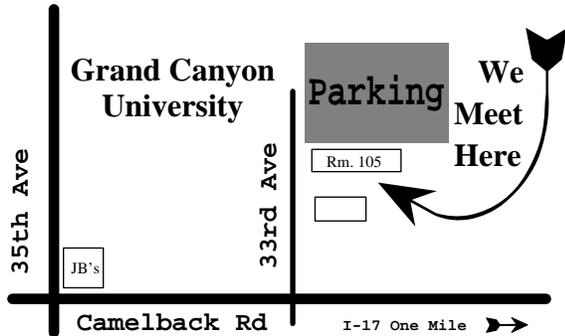
Seeing Hyakutake from the park next to the Salt River, with its searchlight-beam tail emerging from a receding cloudbank. Going to the top of Kitt Peak with the members of Tucson Amateur Astronomical Association

(TAAA) and hearing the big domes squeak and rattle in the night as they moved, and seeing how well my 12" did at over 5000'.

Attending a public viewing at Lowell Obs., and viewing Jupiter through the 24" and M2 and 57 also, from that historic dome. Rising at 3:00 a.m. to see Hale Bopp after its time behind the sun, and the start of its current viewing season, and to view it with Tom Bopp, its discoverer and his observing partner. Watching the dawn and the sunrise out at Vekol and Sentinel, with the most profoundly deep sense of wonder at the colors, the shadows and the solitude combined. Walking from a 24" after seeing M42 at 300x with brilliant colors and then handed a pair of small ultra-wide field binoculars (from Russia) that when used, showed Barnard's loop and the Witch-Head nebula practically in the same view. The night I viewed from Boyce Thompson Arboretum with EVAC members,

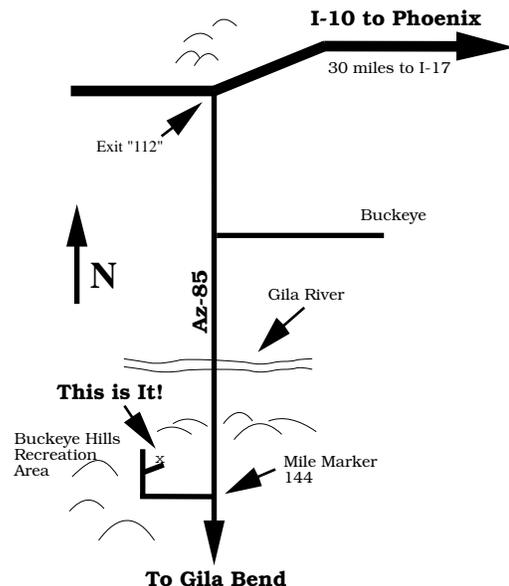
Directions to SAC Events

SAC General Meetings 7:30 PM at Grand Canyon University, Fleming Building, Room 105 — 1 mile west of Interstate 17 on Camelback Rd., north on 33rd Ave., second building on the right.



SAC Deep Sky Subgroup Meeting at John & Tom McGrath's, 11239 N. 75th St., Scottsdale, 998-4661 — Scottsdale Rd. north, Cholla St. east to 75th St., southeast corner.

SAC Star Parties at Buckeye Hills Recreation Area Interstate 10 west to Exit 112 (30 miles west of Interstate 17), then south for 10.5 miles, right at entrance to recreation area, one-half mile, on the right. No water and only pit toilets. Please arrive before sunset; allow one hour from central Phoenix.



and saw the midnight fireball. The nice Leonid display of December 96 was another meteor event to remember.

Then there were the objects that club members showed to me for the first time. I had passed by NGC 2359 (called Thor's Helmet by some) in my years of viewing until Sam Herchak called me to the eyepiece one night at Vekol. Then Tom Polakis and Bernie Sanden providing my intro to Omega Centauri. I had seen it back in '86 during a Halley's Comet trip, but only in 11x80's. There were many others, but time and space will close the list here.

What I could have done without, the wind and lighting of the Monsoon's, the sound of gunshots in the dark, the thought of what may be slithering on the ground nearby, the strange comings and goings of cars and people in the desert at night for purposes non-astronomical and unknown. The 95 degree temperatures at night for almost 2 months.

The only observation of what is not (my opinion) done right here is the lack of club coordination of what site is "in" for the coming weekend, and who's going. It seems like it is left to luck for a great many in the club,

especially the new members, to find companions for a observing night. There are a lot of members who have their own sites and agendas, and no desire to group. I heard this endlessly from others in the club.

All in all, I would not trade the time I spent here for anything. Someday, I may even be back, but more likely to northern Arizona if that happens. I hope that the people of the Sonoran region become less prone to paving all before them and leave a little of the desert for future stargazers.

Russ Chmela — March 25, 1997

Newsletter Deadline

Mail items for Such-a-Deal at least two weeks before the end of the month. Articles that need to be published in a timely fashion must be submitted or the newsletter editor notified of the article at least 6 weeks before month they are published. Items arriving too late for an issue will be included in the next newsletter.

Comet Comments

by Don Machholz

(916) 346-8963 CC229.TXT August 8, 1997
<http://members.aol.com/cometcom/index.html>
 DonM353259@aol.com

C/1997 O1 (Tilbrook)					
Date	RA-2000-Dec	Elong	Sky	Mag	
08-20	13h08.4m	-01°57'	50°	E	11.1
08-25	13h15.1m	-00°11'	46°	E	11.3
08-30	13h21.5m	+01°23'	42°	E	11.5
09-04	13h27.8m	+02°48'	39°	E	11.7
09-09	13h33.8m	+04°05'	36°	E	11.9
09-14	13h39.7m	+05°16'	33°	E	12.1
09-19	13h45.6m	+06°22'	30°	E	12.2
09-24	13h51.4m	+07°24'	28°	E	12.4
09-29	13h57.1m	+08°24'	26°	E	12.6
10-04	14h02.8m	+09°23'	25°	E	12.7

Another new comet has been discovered by a Southern Hemisphere observer. Meanwhile, Comet Hale-Bopp rolls into the morning southern sky for many North American observers. Comet Tabur (C/1997 N1), which is behind the sun and will soon appear in our evening sky, has shown some diffuseness lately. This indicates that it may be fading out- only time will tell. Finally, three more comets have been found by the solar-orbiting SOHO satellite, bringing its total to twenty. None of these comets have been seen from the earth and most of them belong to the Kreutz Sungrazing Group.

Justin Tilbrook of Clare, South Australia used an 8-inch reflector to discover a new comet on July 22. It was in the evening sky, just north of the constellation Corvus, and magnitude ten. Comet Tilbrook (1997 O1)

is presently receding from both the earth and the sun, and therefore growing dimmer.

Comet Hale-Bopp, as seen from the earth, is pulling away from the sun and moving south. This provides a limited opportunity for Northern Hemisphere observers to get their last look at the comet. From 25 Degrees North Latitude the comet will be seen best in mid-October when it will be 20 degrees above the southern horizon at morning twilight. This is why this is possible. In early September Comet Hale-Bopp is low in the southeast at astronomical twilight. With each passing morning it is higher in the sky at astronomical twilight; this is because it rises earlier each day while the sun rises later, giving the comet additional time to climb. After mid-October this daily gain begins to be offset by the comet's continued southern motion, and by the end of the year it will no longer be visible. A final encore presentation of the comet for those at 25 Degrees North Latitude occurs in early 1998 when the comet winds northward again, peeking over the southern horizon at evening twilight.

Continued on next page...

1995 O1 (Hale-Bopp)					
Date	RA-2000-Dec	Elong	Sky	Mag	
08-20	07h39.5m	-20°13'	47°	M	5.1
08-25	07h44.1m	-22°11'	50°	M	5.3
08-30	07h48.4m	-24°11'	52°	M	5.4
09-04	07h52.4m	-26°12'	55°	M	5.5
09-09	07h56.2m	-28°15'	58°	M	5.6
09-14	07h59.5m	-30°19'	60°	M	5.7
09-19	08h02.5m	-32°25'	63°	M	5.8
09-24	08h05.1m	-34°31'	65°	M	5.9
09-29	08h07.3m	-36°38'	68°	M	6.0
10-04	08h08.9m	-38°46'	70°	M	6.1
10-09	08h10.0m	-40°53'	72°	M	6.2
10-14	08h10.5m	-43°00'	75°	M	6.3

Fuzzy Spot

by Ken Reeves

Lacerta

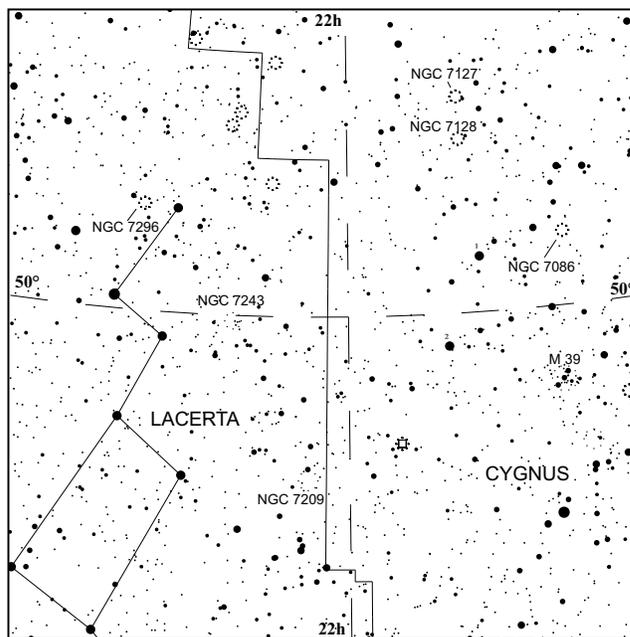
September 1997

This month's column covers the small and indistinct constellation Lacerta, the lizard. It appears in the fall Milky Way between Cygnus and Cepheus. The lizard's head contains several open clusters, three of which are Herschel 400 objects, while the tail hangs out of the Milky Way and contains several faint galaxies. I'm also stealing some open clusters from Cygnus, which are nearby, to round out the column.

About a year and a half ago, I started noticing that when I went out observing, I would usually end up with one very special observation that I called the "WOW" observation of the night. When I looked over my notes, I would think "what about these other observations, how did they compare to the WOW object." So I decided to start rating all of my observation on a scale of 1 to 10 (10 being the best), which become known as a WOW rating. There is absolutely no objective reasoning for the rating given, but simply how that observation affected or inspired me. It may be the star pattern surrounding the object, something special

about the object itself, or perhaps something that I just can't describe (For example, I gave the 4-star pattern of M 73 a 9, I just like it). The other thing I like about giving observations a WOW rating is that it makes the observation and object more personal.

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Observers further north will not be quite as lucky. At 40 Degrees North Latitude Comet Hale-Bopp will be best seen between mid-September and mid-October, when it will be rising above your ESE horizon at morning astronomical twilight. It will not get more than five degrees high in dark sky on any of these mornings. If you live between any of these aforementioned latitudes, you can probably figure out your own comet watching situation. In any event you'll need a low southeastern horizon, clear air and probably a medium-sized telescope to view the comet, which is about 300 million miles away.

COMET HUNTING NOTES: Many people quote the 1700 hours it took me to find my first comet or the 1742 hours to find my second. This has been surpassed twice in recent years. In 1987 Noboru Nishikawa took 3024 hours

in 2389 sessions to find his first comet (1987a). In 1990 Yuji Nakamura discovered his first comet after searching 2236.5 hours in 1558 sessions.

C/1997 N1 (Tabur)					
Date	RA-2000-Dec	Elong	Sky	Mag	
08-20	10h02.0m	+14°45'	4°	E	6.9
08-25	10h28.4m	+20°10'	10°	E	7.5
08-30	10h55.8m	+24°54'	17°	E	8.2
09-04	11h24.6m	+28°54'	23°	E	8.9
09-09	11h54.8m	+32°11'	29°	E	9.5
09-14	12h26.3m	+34°47'	34°	E	10.0
09-19	12h58.8m	+36°43'	39°	E	10.5
09-24	13h31.6m	+38°00'	43°	E	11.0
09-29	14h04.0m	+38°41'	47°	E	11.4
10-04	14h35.5m	+38°52'	51°	E	11.8
10-09	15h05.3m	+38°36'	54°	E	12.2
10-14	15h33.3m	+38°01'	56°	E	12.5

Orbital Elements

Object:	Hale-Bopp	Tabur	Tilbrook
Peri Date:	1997 04 01.13800	1997 08 15.4779	1997 07 13.2599
Peri Dist:	0.9141405 AU	0.395469 AU	1.373622 AU
Arg/Peri (2000)	130.58915°	344.2126°	336.0222
Asc Node (2000)	282.47069°	147.6169°	231.1502
Incl (2000):	089.42943°	085.9685°	115.8011
Eccentricity:	0.9951172	1.0	1.0
Orbital Period:	~2500 years	Long Period?	Long Period?
Reference:	MPC 29568	MPC 30244	IAU Cir. 6707+
Epoch:	1997 06 01	1997 08 15	1997 07 13
Absol Mag/"n":	-1.0/4.0	10.0/4.0	8.0/4.0

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So here are the objects for the month along with my WOW ratings:

NGC 7209 (22h05.2 +46°30) I saw this cluster as very large, very bright, not compressed, and somewhat rich. This cluster has some of the nicest strings of stars that I can recall seeing in any cluster. Specifically on the E side is a string that roams all over the place, kind of resembles a mini Eridanus. There are 3 bright stars on the outskirts that are probably not members of the cluster. I counted about 75 stars in 4 levels, with many more right at the threshold of seeing. The cluster is very obvious in my 9x40 finderscope. This is a very nice cluster, I really liked the long string. I rated this one a 9.

NGC 7243 (21h15.3 +49°53) This cluster is very bright, very large (about 1/2 field of view at 70x), and not very condensed. I counted 65 stars, although it is very hard to tell where the cluster ends since the Milky Way is so rich here. The cluster is split into 3 groups of stars with dark spaces in the middle. This one is also obvious in the finder. I like this cluster with the dark spots, a nice double star, I gave this one a 7.

NGC 7296 (22h28.2 +52°17) The third of the Herschel clusters in Lacerta is a small tight group of stars, somewhat small, not too bright, poor, and somewhat condensed. I counted 9 stars with possible haze,

these stars were in two levels plus 1 bright star. As the other clusters in Lacerta, this one sits in a rich Milky Way field. This one is definitely the least impressive of the three, I gave it a 4 for the WOW rating.

Nearby in Cygnus are a few objects I am including here.

NGC 7086 (21h30.5 +51°35) I saw this cluster as not very bright, not very big, poor, and pretty condensed. 10 stars were counted in 3 levels over a granular haze. Although I had a short description, it must have impressed me somewhat as I rated it a 6.

NGC 7127 (21h43.9 +54°37) This cluster (which is not a Herschel or best NGC object) is pretty small, pretty faint, pretty loose, and pretty poor. The cluster contains 3 levels of stars, with 10 stars counted including a bright star in the middle and 4 surrounding it forming an X. A bright star is noted to the WSW. This cluster is the poorest in this column, I gave it only a 3.

NGC 7128 (21h44.0 +53°43) I noted this open cluster as pretty small, pretty faint, condensed, and poor. There are 3 levels of stars with 9 stars counted in a circlet with a possible background haze. Three of the stars in the circlet are doubles. I thought this cluster had a nice shape, but not much else, so I rated it a 4.

Herschel 400 Objects

7209, 7243, 7296

SAC's 110 Best of the NGC Objects

7209, 7243

New SAC E-mail Mailing List by Paul Dickson

In the past, I have been collecting E-mail addresses from club members. I did this for two reasons, one for the club's Contact List, and the other for quick notification of astronomically related events.

I'm now replacing the manual mailing list with an automated one.

This mailing list will allow automatic subscriptions by anyone with an E-mail account.

I have actually created two E-mail mailing lists. One is a receive only mailing list that will replace me as the sender of astronomical news as well as club news. This mailing list is limited to broadcasts by member SAC Board of Directors only, so only those approved may send messages to all subscribed members.

If you have something that you feel should be sent to all SAC E-mail subscribers, send it directly to the mailing list. If you are not on the board, the message will be redirected to me for approval.

To subscribe to this mailing list, send E-mail to:
sac-mls-request@psiaz.com
with the SUBJECT set to: **subscribe**

the body of the message will be ignored.

After you subscribe, you will receive an occasional E-mail message from the mailing list. In the past there have been one to three messages each month, but there have been a lot of months with nothing sent.

If you were on my mailing list, you will still need to subscribe to this new one. I am not copying over E-mail addresses to this new mailing list from the old list.

If, in the future, you wish to be removed from the mailing list, send E-mail again to the above address with SUBJECT set to "**unsubscribe**" and you will be removed from the list. When you subscribe to the mailing list, you will receive a message about how to unsubscribe. You should save this message for future reference (eg. if you change your mailing address in the future).

If you have an announcement that the club in general would be interested in hearing, send it to: **sac-mls@psiaz.com**.

Board of Directors' E-Mail List

There is now a mailing list for the members of SAC's Board of Directors (BoD). Like the BoD meetings, this mailing list is open to all club members. The instructions for joining is similar to the ones above.

To subscribe to this mailing list, send E-mail to:
sac-board-request@psiaz.com
with the SUBJECT set to: **subscribe**

After you subscribe, you will receive any E-mail from discussions on this list. The discussions should be limited to club business. To add your comments to a discussion on this mailing list, send E-mail to sac-board@psiaz.com.

Rules for these Mailing Lists

Please do not publish these E-mail addresses to any newsgroup or on and web page. There are many programs that search the newsgroups and web pages for E-mail addresses to send advertising.

Please be relevant. Topics should be related to amateur astronomy (for sac-mls@psiaz.com) or SAC business (for sac-board@psiaz.com).

You will still need to notify me or some other club officer of your E-mail address if you want it publish in the Contact List. The mailing list software only keeps track of the E-mail address. Therefore if you don't have an E-mail address that reflects your name, there is no way to quickly link your address to your name.

Thanks to Bob Erdmann for hosting the POP3 mailboxes on psiaz.com.

Bits and Pieces

Coming Events

Star Parties

All-Arizona Oct. 3-4
Starry Nights Festival Oct. 24-26

Meteor Showers

Leonids Nov. 16

Minutes from the July Meeting

Adam Sunshine opened the meeting at 7:30. Guests were asked to introduce themselves and we had 7 guests in attendance. Welcome!!

A.J. Crayon got up to sell our 20th anniversary T-shirts for \$12 each. If you would like one or two, please contact A.J.

The Deep Sky meeting was on July 24. The constellations were Ursa Major and Virgo. Please bring your drawings and observations. Brian Workman received an award for the SAC 110 Best of the NGC. Congratulations Brian!!

Steve Coe said that when it gets a little cooler they would pick a date for the next novice meeting.

Gerry Rattley announced to the club that Eugene Shoemaker died in a car wreck in Australia. It is a great loss to all of astronomy.

After the business meeting we had our Show and Tell. Slides were shown by A.J. Crayon. Nice slides, A.J.

We had 41 people in attendance. There was no main speaker, so Gerry Rattley talked to us about the speakers up through March, '98.

The meeting was adjourned early and nine of us went to JB's to continue our discussions.

—David Fredericksen, SAC Secretary

September Club Meeting

The speaker for the September club meeting will be the owner of Photon Instruments of Mesa, AZ, Warren Kutok. He will talk about refurbishing of old telescopes.

Deep-Sky Group Meeting

The Deep-Sky Group is a Special Interest Group made up of people who like to discuss observing and observing techniques. They particularly like to observe objects out past the Orrt Cloud that's why they're called the Deep-Sky Group. The type of objects include stars, nebulae, and galaxies.

If you are interested in sharing your observations, or are interested in observing techniques, then by all means come join in. The meetings are held at John McGrath's house every other month on the Thursday after the SAC meeting; directions are found on page 2 of this newsletter.

Consider this to be an invitation to this meeting. This meeting is OPEN to all SAC members. All you have to bring is an interest in what objects look like when view through a telescope.

For the September Deep-Sky Meeting we will discuss the objects in Ken Reeves' July and August *Fuzzy Spot* columns (Scorpius, Serpens, Libra, and Scutum), which total 13 objects.

If you have new or old observations, bring them along. Even if you have no observations, come anyway. This is a good way to improve your observing skills.

Such-A-Deal

SUCH-A-DEAL is a place to advertise equipment, supplies, and services related to amateur astronomy. This is a free service for SAC members and friends. SAC is not responsible for the quality of advertised items or services. All insertions must be submitted in writing.

For Sale — 1997 Pierre Schwaar custom made 12 1/2" reflector. 68" focal length ($f/5.44$), 16" oversized tube assembly, 66" long. Candy Apple Red with custom auto body finish. Big Foot mount with rotatable saddle. 2" R&P focuser and 8x50 illuminated reticle finder. A \$2500 value with superb optics. \$1850. Jody Humber, Sun City West Arizona Astronomy Club, 584-2289 (work), 412-2329 (home).

All-Arizona Star Party

October 3-4, 1996

This is the sixteenth annual All-Arizona Star Party. It is a two night event, held during the new moon of October. This year's event is once again sponsored by the East Valley Astronomy Club (EVAC). In the distant past, this event has been sponsored by other Arizona clubs.

The star party take place at a site south of Arizona City, which is almost equal distant (about 55 miles to Arizona City) from Phoenix and Tucson (see the map). The site is remote and very dark. The only facilities available will be a port-a-pottie.

Staying the night means you have to plan ahead. The desert tends to be hot and sunny during the day and cold at night. Last the temperature ranged from the lower 50's at night, to 104 during the day. After a 100 degree day, a 50 degree night can seem bitterly cold, so plan accordingly. Remember to bring warm clothes, food, and drinks. It's best to bring too many warm clothes than too few.

All Arizona astronomy clubs are invited and it's

hoped for a large turn-out. Last year there were more than 50 vehicles on the observing field on Saturday night. So plan on being there early to see old friends and making new ones. Last year, Friday night was clear the entire night while on Saturday night, it clouded up by 10 PM.

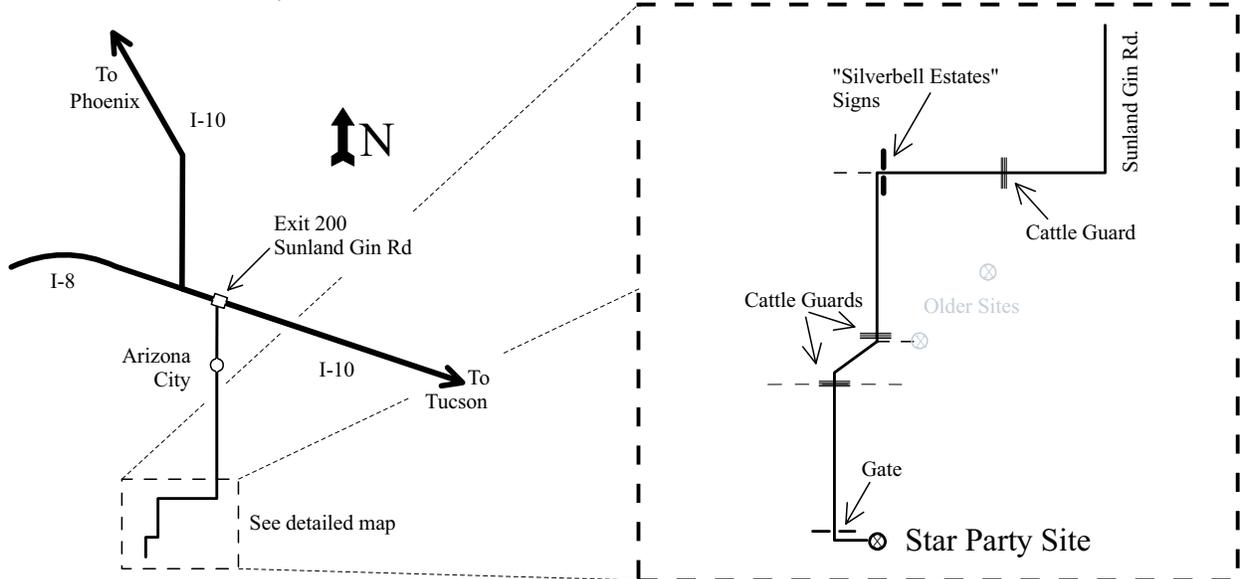
Those planning on staying for both nights may want to get a motel room back at the Interstate. The 100+ degree days make it difficult to get any rest. Having a room can save you two hours on driving home and you get to sleep in air conditioned comfort.

Please make every attempt to arrive before dark. After dark the site is difficult to find, even if you know where it is.

Swap Meet

On the Saturday afternoon, October 4th, there will be a swap meeting at the site from **4:30 PM until sunset**. Bring money to buy or things to sell or trade.

For those staying both nights, here are a list of restaurants at the given I-10 exits: **194** — Dairy Queen, Burger King, Denny's, **198** — Wendy's, **200** — Iron Skillet, Subway, Burger King, **203** — Pizza Hut, McDonald's, Taco Bell, Waffle House, and Mexican Food.



Take I-10 to exit 200 (Sunland Gin Road.) Turn right (south) after exiting the freeway. After about 15 miles, the pavement ends and about one mile further, the road turns sharply to the west. After another four miles, the main road will turn south just after the "Silverbell Estates" signs. Three miles past the signs, the road will veer off to the west, and five miles further, the road will pass through a gate. Turn left immediately after the gate and continue for another 2/3 of a mile to the site.

Behind the Scenes at SACNEWS by Paul Dickson

This article is really filler. I can't stretch the given articles far enough to fill this empty column. So I writing this article to fill it.

I thought I might bring everyone up-to-date on how I'm publishing SACNEWS. My last such article, named "Administrivia", recounted my move from TeX on an Amiga 1000 to TeX on a DP/X-20 running AIX (a Unix operating system). Well, this summer I've moved the newsletter generation to another machine.

This summer I put together a new PC with 64 megabytes of RAM, a 166MHz AMD K6 (a Pentium clone CPU with MMX), and 4 gigabytes of hard disk space. The

resulting machine, surprisingly, is faster than the DP/X-20, by nearly a factor of two or more. This new PC runs Linux (another Unix operating system).

Earlier this year, I experimented with running TeX on my Windows 95 PC, but gave up just after installing the software. TeX uses a lot of little font files, but with Windows 95 using 32KB clusters, each file, whether it was using 1K or 32K, used 32K of hard disk space. The TeX software consumed nearly 50 megabytes. On my 1.6 gigabyte hard disk, I had more than 0.3 gigabytes wasted.

Better support for my newsletter generation and more efficient use of disk space are just two reasons of many for switching to Linux.

I purchased two network cards, one for each machine. Now, whenever I open a connection to the Internet from either machine, the Linux machine does the connecting. As a side benefit of this, the Linux machine now gets my E-mail hourly from my Internet Provider. With my E-mail now stored on the Linux machine, there is no dial-up pause before reading my E-mail. In fact, thanks to Bob Erdmann, I was able to set up automated mailing lists for both SAC and EVAC.

To get around the wasted hard drive space problem, I have set up a mountable filesystem on the Linux system (which uses hard disk space more efficiently). Not only is there less wasted space, but I can now have a filesystem that's larger than 2GB.

I've moved my printer from my Win95 machine to the Linux machine. The software configuration change was trivial. Now the Linux machine does the Postscript interpretation when needed.

There's always neat software available for Unix systems. In the astronomical vein, there is IRAF. IRAF is the image processing software that professional astronomers use. The only problem I had with IRAF was with image displaying tools. It seems that my Linux machine uses 32-bit color, but the IRAF tools can only display images when running in 8-bit color. I guess it's always surprising when the amateur's equipment exceeds those of professionals.

I'm still learning about my new machine and it's operating system. There are always some new tool to find or feature to use. By the way, this is now the second newsletter put together on my new machine.

New Theory Explains Astronomical Weather

by Wil Milan

I've come up with a new theory which explains why it's always clear around a full moon, but often cloudy near a new moon. My new theory also explains why buying a new scope inevitably leads to a long string of cloudy nights. I hereby offer my new discovery for the good of mankind and for the understanding of astronomers everywhere, who will immediately grasp the truth of my theory.

My theory is that the Moon, just as it absorbs light from the Sun, also absorbs moisture from the Earth's atmosphere. These "negative moisture rays" are reverse-emitted from the moon from its sunlit side, where absorbed solar radiation has created a vast excess of negative moisture rays.

Since we now believe that all forces are transmitted by the exchange of particles, my research shows these negative moisture rays actually represent a negative flux of previously undiscovered particles I hereby dub "moistons." Heavy solar radiation on the moon's lit surface wipes out almost all its moistons, just as heavy solar radiation wipes out the moistons from desert regions, making them quite dry. The full moon therefore becomes a very powerful absorber of moistons, removing clouds from the atmosphere and thereby allowing clear views of a hopelessly bright sky, useless for deep-sky observation. Two weeks later the unlit side of the moon, having not

been exposed to solar radiation in some time, is virtually bulging with moistons, which it happily emits into the Earth's atmosphere and creates clouds just when it would be dark enough to be gawking at deep-sky objects.

My "Moiston Theory" also explains why buying a new scope immediately results in bad weather. It's really very simple: New lenses and mirrors have not yet been exposed to the night sky, and in fact they have been tightly packed in boxes, behind lens caps, etc. Therefore when they are unpacked they are jam-packed with an excess of moistons, which first chance they get they start emitting into the night sky—voilà, the famous "new scope overcast." Unlike with the new moon, the new-scope moiston effect is only local: the clouds are only in your area, not world-wide. (Which explains why if you take your new scope to a remote dark sky location, your new scope will create bad weather there too.) The effect diminishes when the scope is no longer new, though even there you have to be careful: A new *used* scope can also trigger "new scope overcast" by emitting the moistons it built up while sitting unused and tightly capped in the previous owner's closet.

Since the discovery of any new particle inevitably results in a Nobel prize, I fully expect to be collecting mine for Milan Moiston Theory. It explains so many observed phenomena and evidence for it is so overwhelming that my Nobel is not in doubt. I'm planning to use a portion of my huge Nobel award to fund research on another new particle I've already termed the "darkion." (The rest of my award—the bulk of it, really—I will of course spend in equal parts on eyepieces, Mountain Dew, and Doritos, all necessities in the furtherance of field astronomy.)

September 1997

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	New Moon 4:52 P.M. 1	2	3	PAS Meeting Brophy Prep. Physics Lab 4	TAAA Meeting (Tucson) 5	6
7	8	First Quarter Moon 6:31 P.M. 9	EVAC Meeting (SCC: Rm. PS172) 10	Mars Global Surveyor enters Mars Orbit (6 PM) 11	12	13
14	Tomorrow Full Moon 11:51 A.M. "Harvest Moon" 15	Mercury at greatest elongation 18° (morning) 16	Yesterday Sun enters Virgo 10 A.M. 17	Moon occults Saturn 3 A.M. 18	SAC Meeting Grand Canyon University, Fleming Rm. 105 19	20
21	Autumn (Autumnal) Equinox 4:55 P.M. 22	Last Quarter Moon 6:36 A.M. 23	24	SAC Deep-Sky Meeting 7:30 P.M. 25	Asteroid Flora at opposition (Mag. 8.1) 26	SAC Star Party Buckeye Hills (members&guests) 27
28	29	30	All Times are Mountain Standard Time			

Magazines & Discounts

Club members may subscribe to astronomical magazines at reduced rates through the club Treasurer. See the Member Services Form on the back page of this newsletter. Furthermore, club members are encouraged to align their subscriptions with the Jan.–Dec. calendar year. This eases the burden both on the Treasurer and the Publisher by permitting a single Group Renewal to be placed in the autumn for the upcoming calendar year.

Those members who experience problems with their subscriptions to *Astronomy* magazine may call Kalmbach Publishing Customer Service at (800) 446-5489.

Those members who experience problems with their subscriptions to *Sky & Telescope* magazine may call Sky

Publishing at (800) 253-0245.

Besides the club discount on *Sky & Telescope* magazine, Sky Publishing offers club members a 10% discount on all other Sky publications. This means books, star atlases, observing aids, Spotlight prints, videos, globes, computer software, and more.

Club members who subscribe to *Sky & Telescope* through the Club Discount Plan may order Sky publications directly, at the above toll-free number, without going through the club Treasurer. Simply mention the Club Discount Plan and give the Saguaro Astronomy Club name to receive the discount. Sky Publishing will check their records to verify that you are eligible to receive the discount.

Saguaro Astronomy Club Member Services Form

Membership

Memberships are for the calendar year and are prorated as follows: Jan - Mar 100%, Apr - Jun 75%, Jul - Sep 50%, Oct - Dec 25%.

- \$28.....Individual Membership
- \$42.....Family Membership (one newsletter)
- \$100.....Business Membership (includes advertising)
- \$4.....Nametag for members
- \$14.....Newsletter Only

Subscriptions

The following magazines are available to members. Subscribe or renew by paying the club treasurer. You will receive the discounted club rate only by allowing the club treasurer to renew your subscription.

- Sky & Telescope.....\$27.00 for one year
- Astronomy.....\$20.00 for one year

Write your name, address, phone number, and E-mail address in the space below.

Make checks payable to SAC.
Mail the completed form to:

David Fredericksen
SAC Secretary
6222 W Desert Hills Dr
Glendale AZ 85304

SAC and SAC Meetings

Saguaro Astronomy Club (SAC) was formed in 1977 to promote fellowship and the exchange of scientific information among its members — amateur astronomers. SAC meets monthly for both general meetings and star parties, and regularly conducts and supports public programs on astronomy.

SAC meetings are usually held on the Friday nearest the full moon. This means that over the course of the year, meetings are not held on the same week of the month. The same is true of the club's star parties. Star parties at Buckeye Hills Recreation Area are mostly held on the Saturday of the third quarter moon.

SAC General Meetings: 7:30 PM at Grand Canyon University, Fleming Building, room 105 — one mile west of Interstate 17 on Camelback Rd, north on 33rd Ave., second building on the right. See inside for a map to the meeting location.

1997 SAC Meetings

Jan. 24
Feb. 21
Mar. 21
Apr. 25
May 16
Jun. 20
Jul. 18
Aug. 22
Sep. 19
Oct. 17
Nov. 14
Dec. 13 Party

1997 SAC Star Parties

Date	Sunset	Moonrise
Jan. 4	5:37PM	3:50AM
Feb. 1	6:03PM	2:35AM
Mar. 1	6:28PM	1:23AM
May 31	7:34PM	3:01AM
Jun. 28	7:44PM	1:43AM
Jul. 26	7:34PM	12:25AM
Aug. 30	6:58PM	4:56AM
Sep. 27	6:20PM	3:46AM
Oct. 25	5:46PM	3:33AM
Nov. 22	5:25PM	1:18AM
Dec. 27	5:31PM	6:22AM

SACNEWS

c/o Paul Dickson
7714 N 36th Avenue
Phoenix AZ 85051

Stamp

Inside:

- A Perspective on Arizona Observing & Astronomy Clubs by Russ Chmela
- Dim Moments by Paul Dickson
- Comet Comments by Don Machholz
- Fuzzy Spot by Ken Reeves
- New SAC E-Mail Mailing List by Paul Dickson
- Behind the Scenes by Paul Dickson
- New Theory Explains Astronomical Weather by Wil Milan

SAC Meeting — September 19

Deep-Sky Meeting — September 25

SAC Star Party — September 27

All-Arizona Star Party — October 3-4

First Class Mail