



SACnews

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Is it Polite to Point? by Peter Argenziano

Remember back when the only people carrying pagers were doctors? Then it seemed everyone had a pager. Remember the early mobile telephones? Same progression to ubiquity. Now it seems like every amateur astronomer can't get along without a green laser pointer. Well, it's not quite that bad yet... I hope it doesn't follow the lead of the previous devices.

Personally, I have nothing against laser pointers. They are a wonderful improvement over the frustrating attempts to point to something in the night sky with your finger. We've all been there. What started as 5mW devices being used by a couple of people at any given star party has evolved into many such users, some wielding devices rated in excess of 35mW. And apparently they're not just for pointing out objects to other interested parties gathered around your telescope. They are now also being used as pointing devices, sort of like a Telrad everyone gets to see. Where does it end? In some of the most irresponsible advertising I've seen recently, a company named Wicked Lasers pitches their products every month in Astronomy magazine with the byline "Enough power to pop balloons, ignite matches, and light cigarettes." Certainly all necessary characteristics for an astronomical pointing aid.

Following some hyperbole about public safety, laser pointers have been banned at some regional star parties. Clearly that's not the answer. Like everything else, I believe the right approach is one of moderation and common sense. While 5mW is probably not bright enough to be effective

for suburban usage, 50mW is certainly excessive at a dark sky site. The amateur astronomy community is poised to be able to control the future usage of these devices based upon how well we police ourselves. As I understand it, the popular green laser pointer is a much more sophisticated device than the red pointer popularized in meeting rooms across the country. Wikipedia provides this concise explanation: "The green light is generated in an indirect process, beginning with a high-power (typically 200-300 mW) infrared laser diode operating at 808 nm. The 808 nm light pumps a crystal of Neodymium-doped Vanadate, which lases deeper in the infrared at 1064 nm. The vanadate crystal is coated on the diode side with a dielectric mirror that reflects at 1064 nm and transmits at 808 nm. The crystal is mounted on a copper block, acting as a heatsink; its 1064 nm output is fed into a crystal of KTiOPO4 (KTP), mounted on a heatsink in the laser cavity resonator. This unit acts as a frequency doubler, and halves the wavelength to the desired 532 nm. The resonant cavity is terminated by a dielectric mirror that reflects at 1064 nm and transmits at 532 nm. An infrared filter behind the mirror removes IR radiation from the output beam, and the assembly ends in a collimator lens."

Legislation, regulation or education: these are the three approaches to the continued availability of laser pointers. Education is, in my opinion, the appropriate course that could spare us all from legislation or further regulation. These devices are actually regulated by the FDA today, but there is

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From Thunderstorms to Solar Storms...

by Patrick L. Barry

When severe weather occurs, there's a world of difference for people on the ground between a storm that's overhead and one that's several kilometers away. Yet current geostationary weather satellites can be as much as 3 km off in pinpointing the true locations of storms.

A new generation of weather satellites will boost this accuracy by 2 to 4 times. The first in this new installment of NOAA's Geostationary Operational Environmental Satellites series, called GOES-N, was launched May 24 by NASA and Boeing for NOAA (National Oceanic and Atmospheric Administration). (A new polar-orbiting weather satellite, NOAA-18, was launched May 2005.)

Along with better accuracy at pinpointing storms, GOES-N sports a raft of improvements that will enhance our ability to monitor the weather—both normal, atmospheric weather and "space weather."

"Satellites eventually wear out or get low on fuel, so we've got to launch new weather satellites every few years if we want to keep up the continuous eye on weather that NOAA has maintained for more than 30 years now," says Thomas Wrublewski, liaison officer for NOAA at NASA's Goddard Space Flight Center.

Currently, GOES-N is in a "parking" orbit at 90° west longitude over the equator. For the next 6 months it will remain there while NASA thoroughly tests all its systems. If all goes well, it will someday replace one of the two active GOES satellites—either the eastern satellite (75°W) or the western one (135°W), depending on the condition of those satellites at the time.

Unlike all previous GOES satellites, GOES-N carries star trackers aboard to precisely determine its orientation in space. Also for the first time, the storm-tracking instruments have been mounted to an "optical bench," which is a very stable platform that resists thermal warping. These two improvements will let scientists say with 2 to 4 times greater accuracy exactly where storms are located.



New GOES-N satellite launches, carrying an imaging radiometer, an atmospheric sounder, and a collection of other space environment monitoring instruments.

Also, X-ray images of the Sun taken by GOES-N will be about twice as sharp as before. The new Solar X-ray Imager (SXI) will also automatically identify solar flares as they happen, instead of waiting for a scientist on the ground to analyze the images. Flares affect space weather, triggering geomagnetic storms that can damage communications satellites and even knock out city power grids. The improved imaging and detection of solar flares by GOES-N will allow for earlier warnings.

So for thunderstorms and solar storms alike, GOES-N will be an even sharper eye in the sky.

Find out more about GOES-N at goespoes.gsfc.nasa.gov/goes.

Also, for young people, the SciJinks Weather Laboratory at scijinks.nasa.gov now includes a printable booklet titled "How Do You Make a Weather Satellite?" Just click on Technology.

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

SAC Databases and Observing Programs

By Steve Coe

The group of folks who put together the Saguaro Astronomy Club databases and observing lists would like you to know what is available for download and how you can make use of this information for fun and glory.

There are three databases: Deep Sky, Double Star and Red Star.

The deep sky database contains information on over 10,000 star clusters, galaxies and nebulae of all types. If you are interested in observing objects beyond the Solar System, then this listing can provide you with observing lists for many years to come.

The double star database contains information on over 2000 pairs of stars.

All types of multiple stars are included; wide apart, close together and multiple stars. All the stars in this list have been observed by someone recently so that we know that they are not too difficult with an amateur telescope.

The red stars database contains information on over 300 stars that show distinct warm color in the telescope. From the obvious of Betelgeuse and Antares to a wide variety of carbon stars which are the reddest stars in the sky, these are a fascinating addition to any observing list.

Each of these is available for download from the SAC web site at: www.saguaroastro.org

Each zipped file contains the same data in three forms: a text file with a vertical bar or "fence" between each column of data, a comma separated variable or quote comma quote file that can be imported into a database manager and an Excel spreadsheet file.

There are a wide variety of ways to use this information, it comes sorted by constellation. You can simply pick the constellation you wish to observe and start going after the objects in the list. Warning-in Virgo or Ursa Major this will yield a BIG observing list.

If you wish to be more selective, then a sort technique must be available in the program you are using to manipulate the data. In either Excel or a text file editor, sort the information by the data you wish to use as a limiting factor. Let's say that is magnitude. So, sort the info by magnitude, choose 12th magnitude as a for instance, and then discard all the rest of the objects fainter than that.

Now you are ready to create an observing list. I generally use MS Word, but any program that will provide printing control will do. I use the Print Preview command to see how the printout will look. Then I usually put three objects on a sheet and print out the list. You can choose a different number of objects or a different font size; however it looks best to you.

If you are very good at Excel, this program can provide a sorted list very quickly. I know that it also can control how the printout looks, but I need to brush up of that aspect.

However you do it, use the database that appeals to you and it will give you lots of flexibility about how your observing lists are printed and what you observe at the telescope.

Now, if you don't wish to make up your own list, we have done that for you as well. There are plenty of pre-made observing lists on the SAC web site: Lunar, Urban, Solar System, Messier, Double stars and Best of the NGC. The very good news is that once you complete one of these you are eligible for an award. Now, you do have to start taking notes about what you see at the eyepiece to be eligible for the award, so don't forget to jot down what you see.

Three of these lists were made specifically so that you could do them from your light polluted backyard. The Lunar, Urban and Solar System lists can be completed, either all or most objects, within metro Phoenix. You might need to get out of town to see some meteors.

The deep sky awards: Messier list, Best of the NGC and Double stars are going to demand a little better skies than your backyard might provide. The list of Charles Messier is the place to start; it covers the best of brightest deep sky objects around the sky. The best of the NGC and the double stars list provide our favorites in these categories.

What there is to do is to get started. Pick a list that appeals to you and observe the sky. Beside a telescope and some eyepieces, you will need a star chart or Moon map to find your way around and a notebook to keep those notes that will get you an award when you are done.

Join in and enjoy the biggest adventure in the Universe.

Call For Observations– Ophiuchus

By A.J. Crayon

For July it is Ophiuchus – again, but it is worth re-visiting 2 years later. That time the observing list was more varied than the, mostly, globular clusters of this month. It has a nice selection of globular and open clusters for you reading pleasure.

But first, before getting started I'd like to share some e-mail I received from Don Machholz regarding last month's column on M102. I thought it interesting and informative and hope you do also.

- ★ I would like to weigh in that **M102** is **NGC5866**. I do not believe that it is the same as **M101** (despite what Steve O'Meara and Pierre Méchain say!). OK, so if Méchain saw **M101** again when he was recording **M102**, then he would have indicated its position in reference to "the Great Bear", which is clearly near **M101** but not near **M102**. So what is near **M102** (**NGC5866**?). Well, Draco is near by, and so is Boötes (even if he had the wrong star).
- ★ Secondly, I could never seem to duplicate what Méchain would have done if he was duplicating an observation of **M101**. He describes **M101** as "very obscure and quiet large", while **M102** (**NGC5866**) is "small", as he describes it. Could he have seen **M101** a second time, and thought he was in a different part of the sky, plotting it on his map in the wrong place? This is possible, but does not answer why he said it is "small". And even if he did misplot it, near the area of his misplot is a "small" galaxy.
- ★ As for **M102** being another other NGC besides **5866**, I have comet hunted this area dozens of times, and the number one object I find is **5866**, followed by **5907** (long and narrow, not "small" as Méchain describes **M102**). I very seldom pick up **5879** and almost never **5899**, so I doubt that Méchain would have seen them, while missing **5866**.

Those are my thoughts on the subject. In my Messier Marathon book I cover it in 2-3 pages, and this was an area that I researched as much as I could while writing it. SEDS also has a few pages

on the subject.

P.S. This weekend George Robinson and I will be doing a MM from this area, expect to see 95 to 97 objects.

Note that Don Machholz is doing a Messier Marathon in June! Wow!

M12

This Messier globular cluster is located almost 3° west of 12 Ophiuchi; about half way there you'll pass a nice three star arrangement of 8th mag stars. Be sure to notice it in your finder if you use the star hop method.

8" f6, Newtonian, 38X; Charlie Whiting: At **38X** this GC is very faint, but at least it is noticeable as a patch of light gray against a dark gray background. There are some dim stars superimposed on it and around it. They seem to be part of a chain of stars that pass through M-12 generally running E-W. To the east of M-12 there is a triangle of slightly brighter stars. At **60X** a few more stars are resolved. Now M-12 looks a little oblong with the long axis running roughly E-W. The gray patch is on the verge of becoming granularity. It is almost as though some of the GC's stars will be resolved with the next step up in magnification. At **160X**, alas, only a few additional stars are resolved, but they look like they may be outliers of the cluster. A 10th mag star on the south edge seems to have a little red color. At **320X** the granularity has thinned out so much that it is hard to separate it from the gray background. But, the good news is that there are lots of tiny dim stars resolved.

10" f10, SCT, 14mm; Joe Goss: Globular Cluster- Fairly large, bright, fairly well resolved on outer areas, several chains of stars streaming from the center

18" f4.5, Dobsonian, 135X; Dan Gruber: Six or 7 fairly bright stars (est. m. 8 – 9) in two flung-out arms. Twenty to 25 dimmer (est. m. 10 – 11) stars in a more compact but still fairly loose elongated area (est. 3' X 6') in a slightly larger, faint filamentous-looking elongated core. Estimated overall diameter 12'–15'.

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IC4665

This is a large bright naked eye open cluster a little more than one-degree north east of 3rd magnitude Cebalrai (β Ophiuchi). Count the stars and estimate their brightness.

8" f6, Newtonian, 38X; Charlie Whiting: This OC is visible in the **9x50** finder scope as a collection of 5 or 6 dim stars almost forming a rectangle. In the 8" telescope, at **38X**, it is a very large cluster. It fills more than 1/2 the FOV. 14 bright stars of 7th and 8th mag stand out against the dull gray background. They form 4 lines, all running roughly SE to NW. There are also about 7 dimmer stars of 9th and 10th mag that seem to belong to this cluster. At **60X** several more dim stars of 11th and 12th mag come into view. The cluster now extends almost the whole FOV. One of the bright stars in the eastern quarter of the cluster now has a 10th mag partner. Zooming in on the double for a closer look, at **160X**, only the eastern quarter of the cluster is in the FOV. There are a few more stars resolved of 13th mag.

10" f10, SCT, 32mm; Joe Goss: Open Cluster-Very large, larger than FOV, very bright, fairly sparse, not well defined

14.5" f4.9, Newtonian, 66X; Jack Jones: Mag 4.2 open cluster, naked eye object. This thing is a degree across! It has a dozen 7th mag stars in a loose squarish conglomeration.

18" f4.5, Dobsonian, 74X; Dan Gruber: 18 – 20 fairly bright stars (est. m. 8 – 9) in very loose configuration, including one possible 30" – 40" double with a 10th mag blue companion. 20 – 25 stars est. mag 10 – 11. 15 – 20 stars est. mag 12 or greater. All stars distributed fairly evenly and filling up entire FOV. Several more possible doubles ~45' SE of main cluster, one mag 8 – 9 and the other mag 10 – 10, both separated by ~30".

M62

This globular is located just across the border from Scorpius. There isn't any short hop from a bright star, so start with ϵ Scorpio and swing almost 5° north of northeast and you will easily sweep it up on your finder.

10" f10, SCT, 14mm; Joe Goss: Globular Cluster-Fairly small, very bright to core, not well resolved, more oval than round

M19

From M62, slew north for about 4° to get here. Again, like Messier globular clusters, it should be visible in your finder.

10" f10, SCT, 14mm; Joe Goss: Globular Cluster-Large, bright, fairly compressed, well resolved, 2 star chains stand out, 2 bright stars on outer edge at 1 and 9 o'clock.

NGC6316

This globular cluster is just across the other side of the **Pipe Nebula's** end; otherwise it is 1.5° south of 36 Ophiuchi.

10" f10, SCT, 14mm; Joe Goss: Object Globular Cluster- Fairly small, faint, compressed, not well resolved

14.5" f4.9, Newtonian, 200X; Jack Jones: Mag 8.8 globular cluster. Small, unresolved, and has a mag 11 star involved.

16" f4.4 Newtonian, Rick Rotramel: GC - fS, pF, Rich, round, brighter in the middle.

Pipe Nebula

Viewing the Pipe Nebula naked eye is a test of viewing conditions. It can be seen on most clear, dark and transparent nights from Arizona. Rick Rotramel is the only one that reported a naked eye viewing – but only after his eyes were well dark-adapted.

NGC6366

This globular cluster is 1° west of 4.5 magnitudes SAO141665.

10" f10, SCT, 32mm; Joe Goss: Object Globular Cluster- Fairly large, very faint, few stars resolved

14.5" f4.9, Newtonian, 200X; Jack Jones: Mag 9.5 globular cluster. This is a large unresolved cluster 1/4 degree E of 47 Oph, causing glare. Resembles an open cluster as a few 9th mag stars are seen, but the globular is only a haze at best.

NGC6633

This one is way out on the western side near Serpens. This open cluster is a switch from globular clusters and we don't have any naked eye star to hop from, so use your binoculars and locate 5.7 magnitudes SAO123516 that is within a degree of the cluster.

8" f6, Newtonian, 38X; Charlie Whiting: Wow! What

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President's Message

By Rick Tejera



It seems that there is a new unit of time. In addition to the Year, Month, Day, Hour etc., we now have "The Foreseeable Future". When planning the 5 Mile Meadow Star party, scheduled for last month, Steve Coe had inquired with the Forest Service in May about any restrictions or closures of the Coconino National Forest. He was told they had no plans to close the forest "For the Foreseeable Future". Turns out they closed it effective June 23rd, the day we were supposed to be up there. So it seems "The Foreseeable Future" is about 1 1/2 months in duration. At any rate, the reasons were valid and there really wasn't much we could do about it. Life will go on. The forest has since reopened as of 6 July, so maybe we'll be able to get up there sometime later this year. Steve is thinking Sept 22nd-23rd.

If you're new to the club, pencil in the August 19th star party on your calendar. This will be our sort of annual "To Heck with the Monsoons Star Party". We will host a novice session. So bring you new equipment and your questions and we'll be happy to help you get the most out of your scope. The event will be at the Cherry II site. Sunset is 1911, so plan on being up there about 1 hour before then so set up and so we can answer questions while it is still light. If you haven't been, it take about 1 hour to get there from Phoenix, so plan accordingly.

This months lead article by Peter Argenziano actually beat me to the punch. I've been researching the issue of green lasers for a while now, albeit more from a legal standpoint. While I don't believe green lasers are a problem yet, I'd certainly like to prevent the "Yet" from becoming "Now". Recent posts on AZ-Observing from the Grand Canyon Star Party seem to indicate that there are those who are beginning to feel green lasers are becoming obtrusive. While

I certainly know their value, I can also see the counterpoint. One cannot also dismiss lightly, the perception that green lasers are a threat to aviation or national security, real or imagined. I'll bet most of don't know that Thunderbird Park, where we hold our biggest public event (where Green lasers will out in force), lies directly under the northern approach path into Sky Harbor for east operations. Aircraft are typically at about 4000-5000 ft (3000-4000 agl) at this point so it is conceivable that we could actually hit an aircraft with a green laser. While I really doubt it would do anything to the pilots, who are above the area we could strike, it would certainly cause no end of trouble and bad PR.

Peter mentioned Wicked Lasers and their advertising in his article. In my research I discovered that they are being targeted by the FDA for importing class IIIb lasers that do not meet US specifications. I did not find anything to indicate they are being investigated about their advertising, even though it is blatantly against USA laws to advertise or promote a class IIIb laser for the use as a pointer or for entertainment purposes (Title 21 of the Code of Federal Regulations (CFR) Section 1040.10(b)(39)).

With all this in mind, I will recommend to the board that a committee be established for the purpose of defining a Set of Guidelines for the use of green laser pointers at SAC events. I have no intention of banning or restricting the use of green lasers, but I do feel that we need to be proactive in ensuring that they are used responsibly. If you'd like to be on this committee, please contact me. Once established, the guidelines will be posted on the website and published in the newsletter so everyone will be aware of the content.

Till next month, Clear Skies
Rick

August 2006

<i>SUN</i>	<i>MON</i>	<i>TUE</i>	<i>WED</i>	<i>THU</i>	<i>FRI</i>	<i>SAT</i>
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Schedule of Events for August 2006

Aug. 2nd	Moon at first quarter at 0146mst
Aug. 9th	Moon is full at 0345mst.
Aug. 11th	SAC General Meeting at Grand Canyon University at 1930, Speaker: Dr. Paul Scowen, ASU Topic TBA
Aug. 15th	Moon at third quarter at 1851 mst.
Aug. 19th	To Heck with the Monsoons Star Party at Cherry II, Sunset 1911, End Ast. Twilight 2042 Moonrise 0240. A Novice Group Session will be held at this event.
Aug. 23rd	Moon is new at 1010 mst.
Aug. 31st	Moon at first quarter at 1556mst.

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a sparkler this OC is! It is large (almost 1/2-degree) and bright. The 5.7 mag star, T Oph (*ed note:CHR 71*), is to the SE. There are about 2-dozen bright (8th, 9th & 10th mag) member stars in the 1st level. There are also dim, 2nd level, stars and a hint of granularity. The brightest stars are aligned in a band that runs NE-SW. At **60X** the OC extends across the entire FOV. Most of the sparklers appear blue-white. The granularity has given way to a hazy patchiness among the resolved stars. Going to **160X** and looking between the 1st and 2nd level stars I am now picking up several very dim stars, probably 13th mag. Even the haziness has thinned to almost nothing.

10" f10, SCT, 14mm; Joe Goss: Object Globular Cluster- Fairly large, fairly bright, trail of faint stars leading away from core

16" f4.4 Newtonian, 90X, Rick Rotramel: OC - L, fB, irregular scattering of ~60 fB stars.

18" f4.5, Dobsonian, 74X; Dan Gruber: 50 – 60 stars (est. m. 7 – 10) evenly spread over an elongated area (est. 25' X 50'). It forms a flattened "W" asterism of brighter stars (est. m. 7 – 8) in SW. "Arrowhead" asterism of 6 tightly grouped stars (est. m. 9 – 10) on NW. 3 – 5 possible wide (30" – 60") doubles scattered throughout.

Call for Observations

Here is the constellation and objects for August. It is the desert denizen found as part of the SAC logo, Scorpius. I'm not sure why this one has been skipped for so long, perhaps due to its southerly declination? No more! Let's see what it has to offer. Naturally we will start with, and do all of the Messier entries, beginning with **M80** located 1.5° northwest from \circ Scorpii. If you star hop this one, take a gander at the Milky Way you traverse between the two. Next is easily located **M4**, in the same finder view of Antares and 1.3° to the west. Both of these globular clusters are easily seen in modest size finders. Next is a planetary nebula, **NGC6153**, and is quite a hop from our last object. So get ready for some fun here, it is 6.3° east of southeast from 3rd magnitude ϵ Lupi and is not visible in moderate sized finders. Now, going back to clusters find the magnificent **NGC6231!** It is a naked eye galactic cluster located about ½ degree north of ζ Scorpii. Can you detect the cluster

without any optical aid? If you have binoculars available, or can borrow a pair please do, give this area a nice once over, you will be most happy to have done so. Moving on, towards the tail, find **M6**, about 5° north of northeast from Shaula, or λ Scorpii. Finally, there's **M7**, a scant 3.8° southeast from M6. Both of these clusters are so large and bright you should be able to see them without any optical aid. Can you see them this way?

For September - while working on a globular cluster observing program, I did a number of them one night in Sagittarius and was struck by their varied size and magnitudes. So, I thought this would be a nice sequence for all to study and have, therefore, arranged them from the faint to very bright. Keep track of the number of stars you can resolve in each of these gems. The first to start with is magnitude 11.2 **Palomar 8**, at almost 5' that may be found a little more than 2° east-southeast from M25. Second is **NGC6558** and is located in the spout of the teapot. Its magnitude 9.3 and almost 4' should make it easier to spot. Next is **NGC6652** located almost 3° northeast from Kaus Australis, also known as ϵ Sagittarii. This globular is at magnitude 8.9 and is about 3.5' in diameter. Continuing on we go back near one of the earlier one, **NGC6569** in the spout of the teapot, is magnitude 8.7 and almost 6' in diameter. While here, check out NGC6558 again, only one-degree to the west. I missed this alignment during my observing sequence and need to go back and check them out again. The fifth in this sequence is **NGC6624**, at magnitude 8.3 and 6', is located about 50' southeast from Kaus Meridionalis, better known as δ Sagittarii. Now move on to **NGC6723** located about 30' north of northeast from ϵ Corona Australis. This one is magnitude 7.3 and 11' in diameter. At this time, let me put a thought in your mind. We have gone from very faint to the very large and you might wonder why this last one isn't in the Messier Catalog? To see why it isn't check out the last globular cluster on this month's list **M22** tis pretty easy to find being about 2.5° northeast from Kaus borealis, or λ Sagittarii. This one is magnitude 7.3 and 11' in diameter, one of the finest globular clusters. I hope you enjoy the tour and have an appreciation of the variety of these denizens of the deep.

Bits & Pisces– Minutes of the June 9th, 2006 General Meeting

By Susan V. Pritchard

The June 9, 2006 meeting opened at 7:30 by President Rick Tejera, who welcomed all visitors and members. He invited the visitors to introduce themselves and sign the guest book and receive a copy of the SAC newsletter. Paul Dickson gave the Treasurer's Report—the club has a total balance of \$6096 in assets and no outstanding liabilities.

Announcements:

- ★ June 17th is the date set for the June star party.
- ★ The 5 Mile Meadow star party is still planned for June 23-24; at this time, there are no forest closures. (ed Note: Tentatively Rescheduled for Sep. 22nd-23rd)
- ★ Jack Jones is the coordinator for SAC members to attend the Grand Canyon Star Party; Steve Dodder will be at the South Rim, while Jack and Margie Williams will be at the North Rim—dates are June 17-24, 2006. Dean Kettleon will also be at the South Rim. Jack said that some Messier

Marathon T-shirts are still available.

- ★ Steve Coe again mentioned that the Double Star list has been put on the SAC website and thanked those who helped compile the data. Go to: <http://www.saguaroastro.org/content/downloads.htm>

Show 'n Tell: Steve Coe presented some pictures from previous 5 Mile Meadow trips, and Rick Rotramel showed a nice video from the Riverside Telescope Makers Conference.

In lieu of a speaker, there was a general Swap and Shop for all members, and afterwards members went to the JB.'s restaurant at Northern and 35th Avenue for fellowship and food.

The next meeting will be on July 14, 2006.

Respectfully submitted,
Susan V. Pritchard
Secretary, Saguaro Astronomy Club
April 27, 2006
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little, if any, enforcement of the regulations after the devices are sold. The Electronic Product Radiation Control Provision of the Federal Food, Drug, and Cosmetic Act authorizes the FDA (yes, the Food and Drug Administration) to regulate lasers used to entertain crowds with light shows. The FDA recognizes four classes (I to IV), including two subclasses (IIIa and IIIb), of lasers. The higher the class, the more powerful the laser. The CD player in your car utilizes a Class I laser. The checkout scanners at the grocery store are Class II

devices. A green laser pointer with a maximum output of 5mW is classified as IIIa; power exceeding 5mW is Class IIIb. Class IV lasers are found in military, medical and industrial applications.

If you own a laser pointer, please use it responsibly. If you are thinking of buying one, familiarize yourself with its proper usage before bringing it to a star party. Let's all have fun out there in the dark.

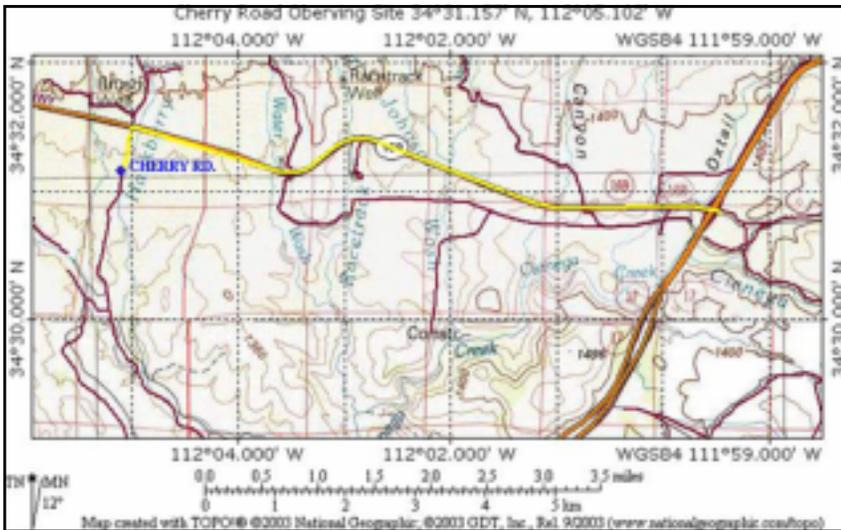
Monthly Trivia Question

What was the last February NOT to have a full Moon?
When will the next one be?

Last Month's Answer: "OK". Upon contact with the lunar surface, Buzz Aldrin said: "OK, Engine Stop".

SAC Meeting and Observing Sites

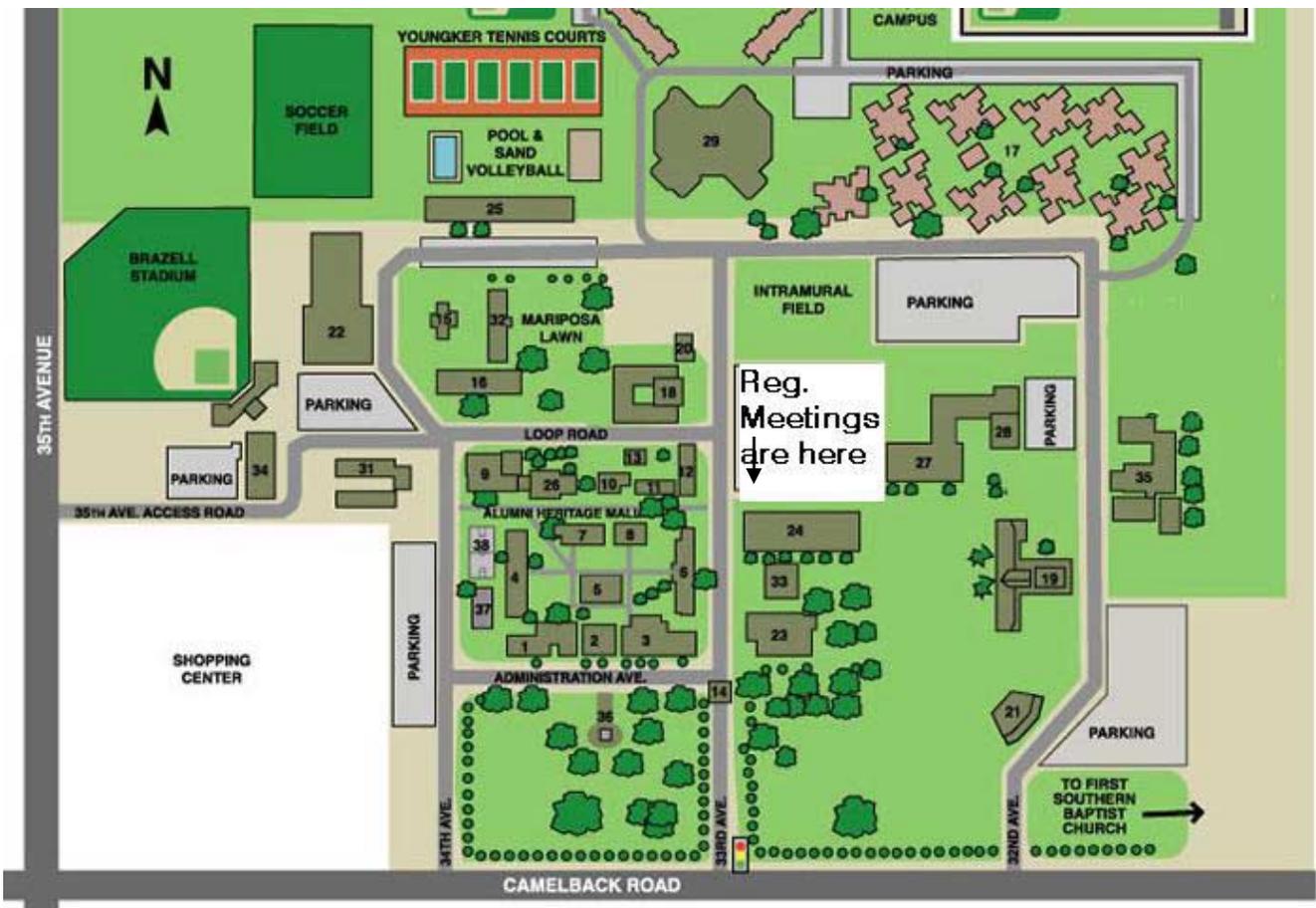
Cherry Rd. Star Parties



Take I-17 north to the Cherry Rd exit. Turn west (left) and continue on Cherry Rd for about 5 miles. Turn Left on the dirt road just past the sign that says Cherry 6. Note you turn in the direction Opposite the arrow on the sign. The site is 3/4 down the road on the left.

General Meetings

7:30 p.m. at Grand Canyon University, Fleming Building, Room 105: 1 mile west of I-17 on Camelback Rd., North on 33rd Ave., Second building on the right.



SAC Membership Services

Membership– Memberships are for the calendar year and are pro-rated for new members as follows: Jan– Mar: 100%; Apr– Jun: 75%; Jul-Sep: 50%; Oct-Dec; 25%.

- \$28.00 Individual Membership
- \$42.00 Family Membership
- \$14.00 Newsletter Only
- \$10.50 Nametag for members, Pinned Clasp
- \$12.00 Nametag for members, Magnetic Clasp
(will be mailed to address below)

Magazine Subscription Services

The following magazines are available at a discount to club members. Check the magazines you wish to subscribe to or renew, and pay the club treasurer. Please allow 3-4 months for the order to be processed.

- Sky & Telescope \$33.00/yr
- Astronomy \$34.00/yr
- Astronomy \$60.00 for 2 Years

Please Print

Make Check Payable to : SAC

Name: _____

Bring completed form to a meeting or mail it with your remittance to:

Address: _____

**SAC Treasurer
c/o Paul Dickson
7714 N 36th Ave
Phoenix, AZ 85051-6401**

City: _____ St: _____ Zip: _____

Phone: _____

Check here if this is an update of information already on file.

E-Mail: _____

SAC on the Internet

SAC has several E-mail mailing lists. To subscribe, send an email to the email address and put **Subscribe** in the subject box.

SAC-Announce@freelists.org: SAC-Announce is a mailing list for just club announcements, Typically 3-5 messages per month.

SAC-Forum@freelists.org: SAC-Forum is a general discussion mailing list. Topics should be related to Astronomy or SAC

SAC-Board@freelists.org: SAC-Board is a mailing list for discussions of club business. If you'd like to see how the club is run (or not run), or have a question about the club, this is the list to read. Typically month to month matters are discussed.

AZ-Observing@freelists.org: AZ-Observing while not a Sac list, is well attended by SAC members. This is the list to with observing places around Arizona. Find out where people are going and what they saw.

Printed Newsletter

Sac can save a lot of money if you download the PDF version of the newsletter. PDF files are readable by both PC's and Macs. When the newsletter is published, a message will be sent to the address indicated above with the URL of the newsletter. Check the box below if you don't have access to the internet or if your prefer a printed copy.

Please send me a hard Copy of the newsletter

SAGUARO ASTRONOMY CLUB

June2006

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Email: newsletter@saguaroastro.org



Videmus Stellae



SAC Schedule of Events 2006

SAC Meetings

January 13th, 2006	July 14th, 2006
February 10th, 2006	August 11th, 2006
March 10th, 2006	September 8th, 2006
April 14th, 2006	October 6th, 2006
May 12th, 2006	November 3rd, 2006
June 9th, 2006	December: TBA

ATM & Astro-Imaging Group Meetings

January 10th, 2006	July 11th, 2006
February 7th, 2006	August 8th, 2006
March 7th, 2006	September 5th, 2006
April 11th, 2006 ?	October 3rd, 2006
May 9th, 2006	November 7th, 2006
June 6th, 2006	December 5th, 2006

SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise	Site
Jan 21st, 2006	1752	1919	0044	F
Feb 18th, 2006	1818	1942	2335	F
Mar 18th, 2006	1842	2005	2230	F
Apr 22nd, 2006	1908	2037	0347	F
May 20th, 2006	1928	2108	0157	C
Jun 17th, 2006	1943	2129	0029	C
Jul 22nd, 2006	1938	2117	0346	C
Aug 19th, 2006	1911	2042	0240	C
Sep 16th, 2006	1854	1958	0135	C
Oct 14th, 2006	1759	1921	0033	F
Nov 11th, 2006	1723	1850	2316	F
Dec 16th, 2006	1725	1854	0449	F

F = Flat Iron; C = Cherry Road