



The Spectrum

Newsletter of the Western Colorado
Astronomy Club



Members of the Astronomical
League, MARS Region



Members of the International
Dark-Sky Association

President's Message

Everyone, it is that time of year again. Time to nominate officers. As usual, all offices are open. I need to hear from any of the present officers if they would like to continue as they are, go for a different office or take time off. I will be available for another year as President but am getting close to burn out. My job along with being president is making it nearly impossible to keep up with my hobby. If promoted to assistant manager, it may become necessary to step down at the end of whichever year we are in at the time. Only a major event will keep me from fulfilling my duties as an officer. We have tried to make it easy to be an officer and not require too much of your time. It seems to end up as Jim and Vicki Maddox taking up the slack and I would like for us to take some of that away from them so that they don't burn out.

As a heads up, we are planning on scaling down the Star Party, somewhat. It is getting difficult to keep up on all the aspects of the raffle, porta-potties and mailings because only a couple of people are volunteering their time to get it all done. Most of us have full time jobs and it is very difficult to do all the different tasks that go along with a major star party and raffle. We may even change the location as some have complained about the desolate site we currently are using.

As an officer, you can help shape the club into the type of club you would like it to be. You can also help us to make decisions on events, meetings and on the Star Party; its location, its size and complexity. If you don't like our meetings, our events or our direction, as an officer, you can help us go in the right direction. Healthy clubs have many people actively participating

and contributing to their clubs. Clubs that have only a couple of active members do not last long. Nothing extra is needed to be an officer, only your regular dues and a couple of hours a month of your time. For me it has become a couple of hours to several hours of work a week for the club and it is getting harder to find the time to get things done. I rarely have an opportunity to get my scope out to image. Presently our club is in good shape and is a lot of fun but I want it to remain that way and I feel we need a little more input from its members.

The offices that are open are President, Vice-President, Secretary, Treasurer, Newsletter editor, Community Liaison (I can never remember what it is called, Jeff is the present officer) and web-master. Nominations will be taken at our next meeting and can be made to me by e-mail, anonymously by note or mail or by openly nominating at our next meeting. You can be as discrete or blunt as you like. Also, if you want to be nominated, I'll see to it that someone nominates you.

Thank you for your time and thanks to all of our officers for the very successful year we have had. It has been an honor serving with you!

Dave

P.S. I forgot to put in a pun! Let's see... how did God make the Orion Nebula? He must have used a nebulizer! Sorry, sometimes I make a Messier of them!

(Ed. note: A collective groan was emitted by the Cosmos)

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WESTERN COLORADO ASTRONOMY CLUB

The Western Colorado Astronomy Club formed in 1989 as a non-profit organization for the purpose of astronomy education. Members have a wide range of skill levels from beginner to advanced. Club activities include observing, astrophotography, telescope making, and discussion and lectures related to astronomy. Meetings are held at 7:00 PM on the first Tuesday every month at Mesa State College in the Weldon room of the Horace Wubben science building. Monthly observing sessions are held throughout the Western Slope, including an annual star party lasting several days and nights including camping and observing. Club members visit schools in District #51 at various times to give telescope viewing time to the students, and to lecture on astronomy-related science and current events. Several times a year we visit the Colorado National Monument for observing with the general public in mind. The club also presents an annual program at Mesa Mall for the community astronomy day.

Membership is open to anyone interested in astronomy and the night sky -- no telescope is required! Several loaner telescopes are available for members who complete the requisite training in their use. We are members of the IDA (International Dark-Sky Association) and the AL (Astronomical League). Membership benefits include discounted astronomical publications, AL services, and newsletters. Also an annual national event takes place in various areas of the United States. For current events log onto the internet and visit the WCAC web site, at:

www.wcacastronomy.org

WCAC OFFICERS 2007

President	Dave Copley	434-4364
Vice President	Ricky Smith	858-5360
Treasurer	Blanche Godel	241-1482
Secretary	Charlie Liggett	245-4649
Community Liaison	Jeff Dershem	243-1351
Newsletter Editor	James McSheehy	243-2887
ALCor Representative	James McSheehy	243-2887

ASTRO-ADS

Place your ad here -- free to club members,
a \$3.00 charge to non-members.
Only astronomy-related items please!

* JMI model NGF-S (older model, good condition) motorized focuser. This is a 2" focuser that fits the 2"x24 thread found on the back of many SCTs. It allows focusing without image shift for CCD work, and for public viewing sessions, less shaking and grabbing of the scope. Includes a 1.25" eyepiece adapter and push-button hand controller. Asking \$195 - contact Jim McSheehy 243-2887.

UPCOMING EVENTS

Please note that all event dates and times are subject to change. Check our web site at:

<http://www.wcacastronomy.org>

or our Yahoo group calendar at:

<http://groups.yahoo.com/group/WCAC-Group/cal>

for the latest information

- | | |
|---------------------|---|
| Dec 4 th | Monthly club meeting at 7 PM
Topic: Nominations for Officers,
Videos: Sprites, Star Sites |
| Jan 1 st | Monthly club meeting at 7 PM
Topic: Election of Officers, TBA |
| Feb 5 th | Monthly club meeting at 7 PM
Topic: TBA |

Did you know?

The Moon's orbital motion makes it appear to move backwards against the background stars as the Earth rotates. The motion is about one diameter per hour.

The City That Never Sleeps?

The forces of growth and progress have moved out of their RVs and motel rooms and now have a permanent seat at the table for both the Grand Junction and Mesa County planning departments. Not literally of course, but anyone paying attention to the way developers are ramming projects through the approval process these days knows what I mean. It seems every hay field and side lot between Parachute and Utah has been surveyed and marked for construction or a gas well. Local governments are determined to grow the Grand Junction metro area to a population of 250,000. Whether or not that growth is sustainable is a question that few ask in their headlong rush to increase tax revenues and pad budgets. From 2000 to 2006, population in the Grand Valley jumped 15% from 116,000 to over 134,000, and the rate of growth in outlying towns was even higher. But don't we need the jobs and business expansion that comes from a growing economy? Sure, we want that, but to get the benefits do we also have to sacrifice the things that make living in this area special? A sense of balance is needed and that is where WCAC can play a part in the ongoing growth debate.

It's time for WCAC to revisit the light pollution lobbying and mitigation efforts formerly headed by Aaron Reid and Carlo Godel. We may not get a permanent a seat at the planning table, but our concerns for proper lighting need to register with local politicians and bureaucrats on a regular basis. Otherwise we will suffer the gradual destruction of the night sky as developers try to light up every square inch of the Valley. The city, county, and state already have reasonable ordinances and laws for lighting design, but developers often ignore these ordinances or modify light fixtures after plans are approved. Nighttime lighting inspections are rare, so enforcement of lighting ordinances typically occurs only when citizens register a complaint. Our efforts should be proactive whenever possible because it's always better to address these issues in the planning stage before problem lights are installed. If that fails, we shouldn't be shy about asking local officials to enforce their own ordinances. The local codes and ordinances need updating to address the issue of light trespass so people don't have to suffer from bad light fixtures "grand fathered in" under the existing rules. Growth may be here to stay, but with some effort we can minimize the loss of our night sky.

Club News and Events

July General Meeting

In lieu of a regular meeting, the club held its annual picnic on July 3rd at the CNM Saddle horn parking lot. The usual cast of characters arrived between 4:30 and dusk for some interesting conversation, good food, and oh yeah, a bit of observing.



Other events in July included public viewing sessions at Rifle Gap State Park, and a mid-month gathering at CNM/Saddle horn where club members showed night sky objects to more than 60 visitors.

August General Meeting

The presentation for this month's meeting was about collimation, with Ricky Smith and Charlie Liggett handling the demonstration. Other August activities included a public viewing session at CNM/Saddle horn on the 11th where even monsoonal skies and threatening storms couldn't keep the crowds away. Eleven WCAC members participated and over 70 visitors

came to see the show in the sky and, when clouds intervened, the alternate show provided by Jim Maddox's projector and software.

September General Meeting

Treasurer Blanche Godel announced the club had four new members in August, and more good news that after expenses, the June star party had netted a small profit for WCAC. Plans for several public viewing events were announced at both state and national park sites. The meeting presentation was a video on Extreme Astronomy, courtesy of Jim Maddox.



The Red (Hot?) Planet

by Patrick L. Barry

Don't let Mars's cold, quiet demeanor fool you. For much of its history, the Red Planet has been a fiery world.

Dozens of volcanoes that dot the planet's surface stand as monuments to the eruptions that once reddened Mars's skies with plumes of glowing lava. But the planet has settled down in its old age, and these volcanoes have been dormant for hundreds of millions of years.

Or have they? Some evidence indicates that lava may have flowed on Mars much more recently. Images of the Martian surface taken by orbiting probes show regions of solidified lava with surprisingly few impact craters, suggesting that the volcanic rock is perhaps only a million years old.

If so, could molten lava still occasionally flow on the surface of Mars today?

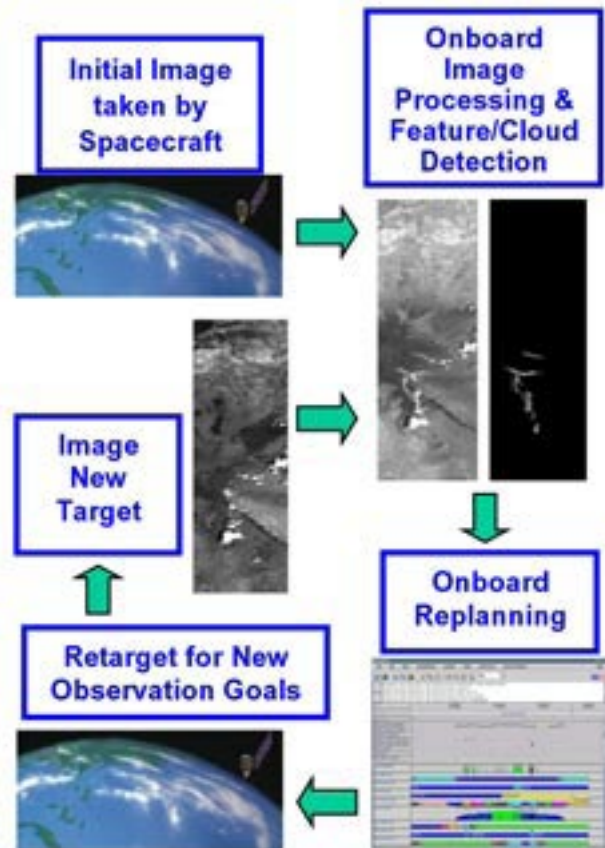
With the help of some artificial intelligence software, a heat-sensing instrument currently orbiting Mars aboard NASA's Mars Odyssey spacecraft could be just the tool for finding active lava flows.

“Discovering such flows would be a phenomenally ex-

citing scientific finding,” says Steve Chien, supervisor of the Artificial Intelligence Group at JPL. For example, volcanic activity could provide a source of heat, thus making it more likely that Martian microbes might be living in the frosty soil.

The instrument, called THEMIS (for Thermal Emission Imaging System), can “see” the heat emissions of the Martian surface in high resolution—each pixel in a THEMIS image represents only 100 meters on the ground. But THEMIS produces about five times more data than it can transmit back to Earth.

Scientists usually know ahead of time which THEMIS data they want to keep, but they can't plan ahead for unexpected events like lava flows. So Chien and his colleagues are customizing artificial intelligence software called ScienceCraft to empower THEMIS to identify important data on its own.



This decision-making ability of the ScienceCraft software was first tested in Earth orbit aboard a satellite called Earth Observing-1 by NASA's New Millennium Program. Earth Observing-1 had already completed its primary mission, and the ScienceCraft experiment was part of the New Millennium Program's Space Technology 6 mission.

On Odyssey, ScienceCraft will look for anomalous hot-spots on the cold, night side of Mars and flag that data as important. “Then the satellite can look at it more closely on the next orbit,” Chien explains.

Finding lava is considered a long shot, but since THEMIS is on all the time, “it makes sense to look,” Chien says. Or better yet, have ScienceCraft look for you—it’s the intelligent thing to do.

To learn more about the Autonomous ScienceCraft software and see an animation of how it works, visit <http://ase.jpl.nasa.gov>.

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

Best Laid Plans Meet G.I Summer Heat

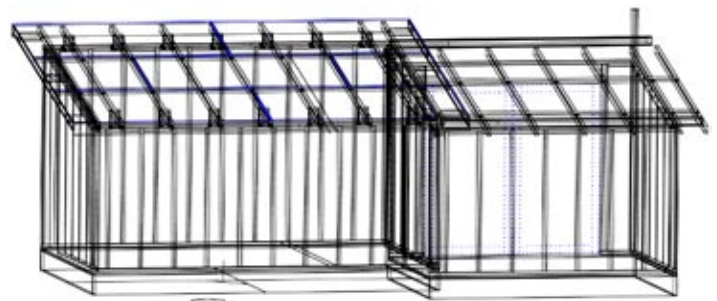
Jim McSheehy, WCAC

Last February I stood in my back yard and stared at four pieces of rusty rebar that I’d hammered into the ground two years earlier. They marked the four corners of an observatory shed that would someday free me from the drudgery of hauling gear back and forth from the house whenever I wanted to observe. The challenge of doing something new was a big incentive and I sat down and drew up detailed plans for the observatory, scouring the web for and trying to learn from other’s ideas and mistakes. How big overall, dome or roll-off roof, how tall should the walls be, where does the pier go? These were all questions that needed answers, and slowly but surely the fuzzy concept turned into a detailed set of drawings. Spring was coming, and with it I felt a renewed sense of optimism.

Shovel meets dirt. Hard manual labor is not something I do on a regular basis and believe me, moving cubic yards of dirt dampens optimism. Along with blisters on my hands, a large hole developed in March, three feet wide, six feet long, and “Deep enough for a grave” said one curious neighbor. The delivery driver from Lowes set a pallet of 80-pound bags of concrete mix right next to the hole and asked “Whatcha buildin’?” I told him it was a shed and he said, “Good thing you’re startin’ early, it’ll get *real* hot in a few weeks”. My wife and daughter helped me load and run a rented mixer as we filled the hole with two tons of concrete for the pier base and poured eleven concrete footers – progress!

Optimism was back and I actually imagined getting the observatory finished by the Fourth of July. April and May saw some furious (for me anyway) construction activity and my gaggle of 2x4s and OSB started to look more like a real building. Long ago when I worked as a program manager, the standing joke was the first 90% of any project requires 90% of the time, and the last 10% takes the other 90% of the time. Somehow it’s not as funny when the joke is on me.

Then June arrived. The Colorado sun smiled hard at me and laughed out loud as bottles of water disappeared in two gulps and the humidity hovered at 3%. Hey Jim, think positive - at least it isn’t raining! Heat slows everything down in construction except for paint and caulk, which dry instantly. I quickly learned that you can’t paint a door frame when it’s 95 degrees and zero humidity, and black tar paper is like a hot stove if you’re dumb enough to kneel on it at high noon. All of those little details didn’t get finished before July arrived and a ton of real work (the kind that pays bills) descended on me. My observatory project was covered with a tarp for most of the Summer. Now it’s September and I’m really looking forward to cooler days when those last details can be finished. But I better get a move on – the first hard freeze is only a few weeks away...



February...



September.

Application for Membership in the Western
Colorado Astronomy Club

New _____ Renewal _____

Name: _____

Address: _____

City, State, Zip: _____

TEL: Home () _____ Work () _____

E-mail: _____

Other Interests: _____

How did you hear about the club? _____

Please Circle all that apply:

Regular Membership: \$35 \$ _____

Associate: \$15 (age 22 and younger) \$ _____

Astronomy Magazine \$34 \$ _____

Sky and telescope Magazine \$32.95 \$ _____

Donation to Colorado Astronomy

Day events at Lincoln Park \$ _____

TOTAL \$ _____

Please make checks payable to Western Colorado Astronomy
Club and mail with form to: WCAC Treasurer, PO Box

Don't miss our monthly meetings!

The Western Colorado Astronomy Club meets on the first Tuesday of every month at 7 PM, and all members, invited guests, and visitors are welcome. Meetings are held at Wubben lecture hall on the Mesa State College downtown campus (1175 Texas Ave.). For additional information and directions, please visit our web site at:

<http://www.wcacastronomy.org/>

Western Colorado Astronomy Club
PO Box 55032
Grand Junction CO 81505

Address Correction Requested