

VLA/VLBA NEWSLETTER

DECEMBER WEATHER STATS	
HIGH	LOW
61.7° (17th)	-5° (26th)
Total Precipitation .8"	

From the World's Premier Centimeter Wave Radio Synthesis Telescopes

AROUND THE VLA

Congratulations to Brent Avery! He has been promoted to Supply and Materials Coordinator and will be moving his base of operations from the Warehouse to Room #2 in the Tech Services Building.

Congratulations to the NMPRA on hosting some great Christmas parties! Both the children's party at the AOC and the adult party at the Garcia Opera House were rousing successes! Thanks to all the board members and others who volunteered to help out with all the hard work required for the rest of us to enjoy these functions.

David Fugate will be doing PC inventory around the site the next few weeks. Please cooperate with him in this effort.

JANUARY SKIES

On the 16th of January the planet Venus will reach its greatest elongation from the sun and appear to be half illuminated through a small telescope. A little later in the month, Mercury will become visible as it too will reach elongation on the 28th. About 45 minutes after sundown it should be visible around 30 degrees below and to the right of Venus.

The 28th will once again find the new crescent moon near Venus. Jupiter and Saturn continue to be brilliant evening objects high in the eastern sky. For the more persistent observers, Mars rises about 2 a.m. making for a grand total of five planets easily visible to the naked eye during this month.

These plus many other objects will be visible through the telescopes of the Tech Astronomy Club during a star party on January 25th. Special guest at the observatory that evening will be some fifth graders from a school in Taos, New Mexico. All are welcome at the observatory on that evening. You can also check out the Campus Observatory hot line at 835-5101 or visit the Club's home page at <http://www.nmt.edu/~astro>.

A new feature on the Club's web page is a link to a site where you can find out when the International Space Station can be spotted passing overhead during evening hours.

J. Sparigo

THAT JAMMIN' FRM

Prior to coming into the antenna barn for overhaul, The FRM (Focus Rotation Mount) on Antenna #5 would occasionally malfunction (jam) causing it burn out a circuit card in the positioning electronics. After an inspection by the Ramon Molina (Antenna Mechanics) and Steve Tenorio (Servo Shop), It was decided to do a complete overhaul of the FRM. The entire FRM/Subreflector assembly was subsequently removed from the antenna and placed at ground level to be completely overhauled.

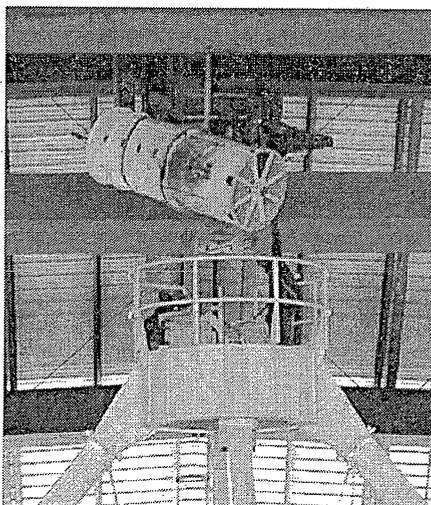


Photo by E. Rice

After the Antenna Mechanics (Phillip Sanchez, Joe Rodriguez and Frank Broaddus) replaced the gears and bearings that rotate and focus the subreflector, the Servo Shop conducted preliminary tests that indicate the problem has been corrected. The FRM will be re-installed on the antenna as soon as the DCS group (Gary Duff) conducts a complete diagnostic test.

J. Thunborg

STUBBORN

We disassembled the broken axle assembly from Los Alamos on January 2nd. It took 100 tons of pressure, two rose-buds (torches), and some serious sledge hammering to make the wheel give up its grip on the axle. To get an idea of just how much pressure 100 tons is, imagine 100 Chevys stacked up on a 7 inch diameter shaft! The home-made 100 ton press will get another workout the second week of January, when we use it to take a bad elevation bearing out of its housing at Los Alamos.

J. Ruff

FRANKENSTEIN IS STILL DEAD

Martin Lopez, Marlin Smith and Tom Olney in the Transporter Shop have been extremely busy this last month repairing transporter main drive hydraulic pumps. The pump test stand showed that a pump on Transporter #1 was performing poorly and that the two spare pumps did not work at all. These pumps are being discontinued by the manufacturer and it is nearly impossible to get support from the factory. Therefore the "transporteros" had no option but to try and assemble two working pumps out of the three defective ones plus a handful of new parts they had on the shelf.

A pump (nicknamed Frankenstein) was rebuilt with a combination of new and factory rebuilt parts. It was then installed on the transporter and tested. The pump still did not work. Mark Hlad (the hydraulic expert from Sunsource Hydraulics in Albuquerque) came out to the VLA and helped disassemble and rebuild Frankenstein again. It still did not work properly. We were completely stumped and now the only way to isolate the working parts from the faulty ones was to install them one at a time in a good pump and then connect it to the transporter and test it. This effort is very time consuming, as the pumps must be assembled to very tight tolerances.

Each time a pump is rebuilt, the drum clearance must be measured and fitted with a custom-made spacer sleeve. The VLA machine shop has greatly expedited this process by making these sleeves in house.

During the last month, the Transporteros have assembled, installed on the transporter and tested ten different pump configurations. By this effort, they have been able to satisfactorily rebuild one pump. However, they are still evaluating pump components to see if we have sufficient working pieces to assemble an operable spare pump.

J. Thunborg

CAN YOU SAY "CACOMISTLE?"

The cacomistle (cack-uh-missel), commonly known as the Ringtail Cat (and various other names: Miners Cat, Bassarisk...) is related to the raccoon rather than cats. It's a relatively small critter, weighing 2-3 pounds while 14-16 inches long in body, with a beautiful tail of equal length, ringed in black and white. The body is grey-tan colored, and about the size of a small cat -- plus that fluffed out tail -- it somewhat resembles a fox in the head and face. With a small and narrow snout, it has large, erect ears. All the better for tuning in to the movements of its favorite prey -- mice.

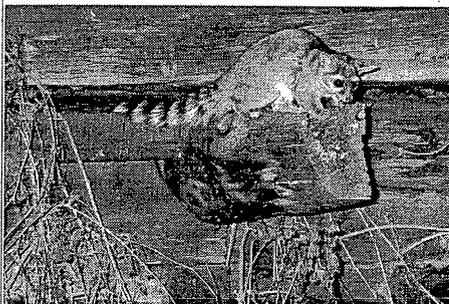


Photo by K. Gatlin

The Ringtail is actually omnivorous and while an excellent mouser, it also enjoys fruit. According to one article, it's especially fond of bananas; it sure likes the ones I've offered. And it's very adept at stealing cat food from an outside window sill dish. But that has become a prime photo setting, so I convinced my old barn cat that it's OK to share at night while she sleeps inside the house.

This old log casa I live in has lots of cracks and crevices, ready made for mice. But in the six weeks or so since my little ringtailed compadre moved in, I haven't had one mouse in evidence. I've discovered the ringtail's favorite entrance to the ceiling and that too, has suited itself as a photo platform. So with

this symbiotic relationship in place I hope to get better acquainted.

The cacomistle was certainly open to this idea, and tried to move inside.

It found a weak spot in the small space between my ceiling and roof, and enlarged a couple of holes so it could come inside and enjoy the premises. A considerate house guest, actually, it didn't make a large mess. Mostly rummaged the trash can and made off with an apple -- all of this while I was away from home. I found its tracks in dust here and there, which of course is why I've let this dust accumulate; I knew it would come in handy, sooner or later.



Photo by K. Gatlin

One article said the ringtail is nocturnal and lives in trees, but it's much more adaptable than that. It's known to inhabit rocky areas, including Indian ruins and uninhabited dwellings. Add my inhabited dwelling to the list. And I've found that it's quite amenable to a daylight snack session, not just dark of night.

I'd never seen a ringtail in this country, but "Pop" McKee of Pie Town says he encountered them here in the '60s, though not since. Doug Scott told me he shared a building with a whole family of 'em on White Sands Missile Range, and Eric Carlowe said they would help themselves to his dog's chow when he lived at Magdalena. Currently, it seems three of them have taken a liking to an office in Macey Center. Surely the AOC is inevitably inviting...

K. Gatlin

A DAY AT THE VLA

One afternoon at work, this writer was informed that strangers were having their way in an unauthorized area of the array. Were they invading us? The story as received was that several people were wandering around the antenna located at AE3. Of all people, I was called upon to deal with this problem. Since when did I become head of NSF security?

The Operator had said that strangers were out near AE5 and asked that I go out to see what was happening. I responded, "darn, that's a long way (from the comfort of my office), who called this in?" It seemed obvious that whoever called to report the situation did not want any part of unruly strangers lurking about.

With hardhat in hand, I grabbed the keys to the company vehicle and drove out to AE3 to meet these unfamiliar people. For all I knew, they had already seized the telescope. I looked to the horizon expecting to see billows of smoke coming from that area. Hmm, no smoke! As I drove closer, I thought to myself, "what will I do if they come at me with weapons?" I really did not know what to expect.

As I drove closer to the scene, I saw a fancy red pickup truck parked several hundred feet from the telescope, outside of the NRAO right-of-way. So far, so good! Where are all these people? Now I feel a little disappointed about not being able to meet head-on such a rowdy bunch. I drove up and parked alongside and began chatting with its driver.

He (a party of one) turned out to be another inquisitive visitor who drove all the way from Albuquerque on his day off to see the VLA. He and I agreed that it was a great vista point to take in this awesome, picturesque display of the array. "Want a beer?" he asked as we talked. At the time, it sounded like a great idea and I was tempted to take his offering, but instead declined the offer and said "nah, I am still on duty." After answering a few questions and a making small talk, I decided this situation is well under control and left our visitor in solitude.

G. Cole

GATES

As we all know the pasture is greener on the other side of the fence and if a gate is left open a cow will find it and certainly go through it. When the wrong bull gets into the wrong pasture, a rancher gets very upset since it will likely cost him mucho dinero. At the VLA, it is common practice to close every gate behind you after you drive through it. Yes, even if you find it open. This practice is the only fool proof way of assuring that the cattle remain where the rancher intended to keep them. You cannot depend on the "other guys" to close the gate, it must be you. If a gate is intended to remain open, Operations will be instructed to inform you; otherwise, please close all gates securely behind you.

L. Serna