



# Our Home - The National Weather Center

–by Stephanie Bowen



**The National Weather Center** is home to the Oklahoma Mesonet. Housed on the second floor with the Oklahoma Climatological Survey, the Mesonet has been located within the NWC since it opened in summer 2006.

The NWC sits on 22 acres and is a University of Oklahoma building, with the National Oceanic and Atmospheric Administration (NOAA) being the major resident. The 244,000 square foot building has five stories, a rooftop outdoor classroom, and enclosed weather observation deck. It accommodates about 550 people including research scientists, operational meteorologists and climatologists, engineers and technicians, support staff, and graduate and undergraduate students.

“I can’t imagine a better location,” said Chris Fiebrich, Manager of the Mesonet. “Because our Mesonet stations are located in every county of the state, it helps to have our headquarters centrally positioned in Norman. It’s even better that we get to be housed with other weather offices like the National Weather Service and OU’s School of Meteorology.”

Every year, the NWC hosts the National Weather Festival. People from all over the region attend the event featuring building tours, an hourly weather balloon launch, children’s activities, storm research vehicle displays, amateur radio demonstrations, the storm chaser car show, and weather-related info and products.

If you would like to come see the Mesonet headquarters and all of the other weather agencies in the NWC, mark your calendar for the next National Weather Festival on Saturday, November 3, 2012 from 9 a.m. to 1 p.m. For more information or directions, visit <http://www.norman.noaa.gov/events/nwf>. ■

*Left: The Oklahoma Mesonet staff in the central stairway of the National Weather Center. This year marks the sixth anniversary of the NWC opening.*





# MESONET IN PICTURES

2011 NWC Weather Festival





# MESONET IN PICTURES

## Calibrations Lab

- The chamber shown here calibrates Mesonet air temperature sensors. The calibration range is from -40 to 60 degrees Celsius (-40 to 140 degrees Fahrenheit).



## Calibrations Lab

- The Humidity Generator calibrates relative humidity sensors. The humidity range is 10 to 98 percent, and the temperature range is -10 to 70 degrees Celsius (14 to 158 degrees Fahrenheit). The calibration time is 15 hours.



# The Oklahoma Mesonet's Calibration Lab

—by Stephanie Bowen

**Behind the scenes** at the Mesonet, people are working hard to bring you quality data. One of our major contributors is the calibration laboratory, the Fred Brock Standards Laboratory. Consisting of only two people, David Grimsley and Ryan Brashear, they ensure the measurement accuracy of all sensors used in the Oklahoma Mesonet.

Grimsley and Brashear clean every sensor that comes into the lab from the field and make sure they are 100 percent operational for the field. They also maintain the traceability of Oklahoma Mesonet measurements to national and world recognized standards.

“We calibrate over 1,000 sensors per year,” said David Grimsley, Calibration Laboratory Manger. “During calibration, sensors are compared to traceable reference sensors that are in turn calibrated at specific intervals by accredited external laboratories. The term “traceable” means that a sensor’s accuracy is documented through a

series of comparisons with other sensors eventually leading to a universally recognized standard sensor. Most of the reference sensors used by the Brock Standards Lab are traceable to sensors maintained by the National Institute of Standards and Technology (NIST).”

In the calibration laboratory, sensors are calibrated over the entire measurement range it might experience in the field. Sensors are calibrated at least twice before going into the field, once when they come in from the field – the “As Found” calibration, and again before they return to the field – the “As Left” calibration. Any calibrations performed during the process or cleaning, repairing and adjusting are called “Intermediate” calibrations.

“Our main task is making sure the sensors read correctly, and they are cleaned,” Grimsley said. “Our sensors can have a very hard life.” ■

*Clockwise from top left: Soil Moisture Calibration, Temperature Calibration Bath - calibrates soil temperature, Rain Gauge Calibration, Air Temperature Moisture Susceptibility, Wind Direction Sensor Rebuild*







# Late September Rains Provide Drought Relief

By Gary McManus, Associate State Climatologist

## SEPTEMBER WRAP-UP

Hopes for drought relief were starting to fade as September wound down, only to be saved by a slow-moving soaker of a storm system during the month's last week. The storm system's prodigious moisture output was aided by a stationary front and in part by the remnants of Hurricane Miriam, spawned in the Pacific Ocean during the previous week. Totals of 2-4 inches were widespread across central and southern Oklahoma according to the Oklahoma Mesonet, mainly south of Interstate 40. The Mesonet site at Byars in Garvin County recorded 6.02 inches during the event. Unfortunately, not everybody shared in the drought-relieving moisture. Totals of less than an inch were common across the northern third of the state. Despite the attempted recovery at the end, September still finished nearly an inch below normal with a statewide average of 2.9 inches according to data from the Oklahoma Mesonet. The Mesonet site at May Ranch in Woods County had the lowest total with 0.74 inches during September while Byars in Garvin County led the state with 7.5 inches. The statewide average deficit for May-September climbed to more than 8 inches and ranked as one of the five driest such stretches on record, dating back to 1895.

The month was also on the warm side with an average temperature of 74.1 degrees, 1.7 degrees above normal. That ranks as the 36th warmest September on record. The highest temperature of the month, 111 degrees, came from the National Weather Service (NWS) site at Ralston on Sept. 4 and the lowest reading was a frigid 37 degrees recorded at Boise City and Kenton on Sept. 15 and 16, respectively. Oklahoma remains on course for its warmest year on record with a January-September statewide average temperature of 66.9 degrees, 4 degrees above normal. That bests the previous record of 66.3 degrees for the first nine months of the year from 1954 and keeps that year's record annual mark of 62.8 degrees within reach. September became the 25th month out of the last 30 to finish warmer than normal, a streak that began with April 2010.

Severe weather was a bit more widespread during September after a benign August, although tornadoes remained absent. According to preliminary data from the NWS, no tornadoes have touched down in Oklahoma since June 1. That's a record low total matched only by a similar June-September shutout in 2003. Accurate tornado statistics data back to 1950. Several instances of wind gusting to over 70 mph were reported during the month, including an 80 mph gust near Crowder on Sept. 26.

September ended with more than 42 percent of the state covered by exceptional drought in the latest U.S. Drought Monitor map. Exceptional drought is the worst such designation possible. More than 95 percent of Oklahoma was in the worst two drought categories, extreme and exceptional, and 100 percent remained in severe-to-exceptional drought. That will undoubtedly change once the rains of late September are factored into the next Drought Monitor map, scheduled to be released on Oct. 4. Most, if not all, of Oklahoma will still be covered by drought of some intensity, however.

# 2.9" RAINFALL

statewide average for September

# 7.5" RAINFALL

recorded at the Byars Mesonet site  
in September

# 74.1°F

average statewide temperature  
for September

# 37°F

lowest temperature recorded during  
September at Boise City and Kenton

## CALENDAR

### OCTOBER

- ▶ 4th: OK-FIRE presentation, Wildland Fire Canada Conference
- ▶ 5th: Field Trip, Hillcrest Elementary, OKC
- ▶ 9th: EPSCoR Women in Science Conf., Science Museum OK
- ▶ 17th: Field Trip, Enid High School
- ▶ 17th: NWC/Mesonet Tour, Canadian Co. Master Gardeners
- ▶ 25th: Field Trip, Terra Verde School
- ▶ 29th-31st: Oklahoma Ag Expo, Oklahoma City
- ▶ 31st: Mesonet Steering Committee Meeting, Norman

### NOVEMBER

- ▶ 3rd: National Weather Festival, NWC, Norman
- ▶ 8th: Ok-First Advisory Committee Meeting, NWC
- ▶ 9th-10th: Oklahoma Farm Bureau State Convention, OKC
- ▶ 10th: OK Science Teachers Association Conference, UCO

### *Thank you for 20 years of partnership!*

- ▶ Washington - Installed October 15, 1992
- ▶ Hooker - Installed October 22, 1992
- ▶ Kenton - Installed October 27, 1992
- ▶ Boise City - Installed October 28, 1992
- ▶ Goodwell - Installed October 28, 2012
- ▶ Beaver - Installed October 29, 1992
- ▶ Slapout - Installed October 30, 1992

## CONTACTS

Accessing recent (within the past 7 days)  
Mesonet data  
Contact: [Mesonet Operator](#)

Instrumentation, telecommunications, or  
other technical specifications  
Contact: [Chris Fiebrich](#)

Mesonet agricultural data and products  
Contact: [Al Sutherland](#)

Mesonet meteorological data  
Contact: [OCS Data Requests](#)

K-12 educational outreach  
Contact: [Andrea Melvin](#)

OK-First public safety outreach  
Contact: [James Hocker](#)

OK-FIRE fire decision support outreach  
Contact: [J.D. Carlson](#)

Not sure?  
Contact: 405-325-2541 or [Chris Fiebrich](#).

## FORECAST FOR OCTOBER

[Click here to view the original maps from the Climate Prediction Center.](#)

