



# Surviving the Elements

—by Stephanie Bowen

**THE MANY BENEFITS** provided by the Oklahoma Mesonet were showcased March 21 as part of the ongoing “Surviving the Elements: Land and Water Issues of the West” series at the National Cowboy and Western Heritage Museum.

Ron Elliott, Oklahoma Mesonet Steering Committee member, provided insights about the state-of-the-art network for weather and soil monitoring at the event.

“Ron did a great job informing our attendees about Mesonet and its capabilities,” said Gretchen Jeane, Director of Education and Special Projects at the National Cowboy and Western Heritage Museum. “Many people started downloading the (Mesonet) app as soon as he mentioned it in his presentation. The response to Ron’s presentation and to the entire Surviving the Elements series has been wonderful. I’ve been stopped time and time again by people that have attended to tell me how much they enjoyed and appreciated the information that was provided.”

Hosted by the National Cowboy and Western Heritage Museum and made possible through a grant by the Coca-Cola Foundation, the “Surviving the Elements: Land and

Water Issues of the West” series took place every Friday throughout March.

“I’ve attended the first three Fridays of this month,” Elliott said. “I would say the presentations have been interesting and thought provoking. It’s a nice mix of various perspectives.”

Elliott kicked off the March 21 session, which focused on future demands and solutions, with an emphasis on science, environmental stewardship, conservation and best management and production practices.

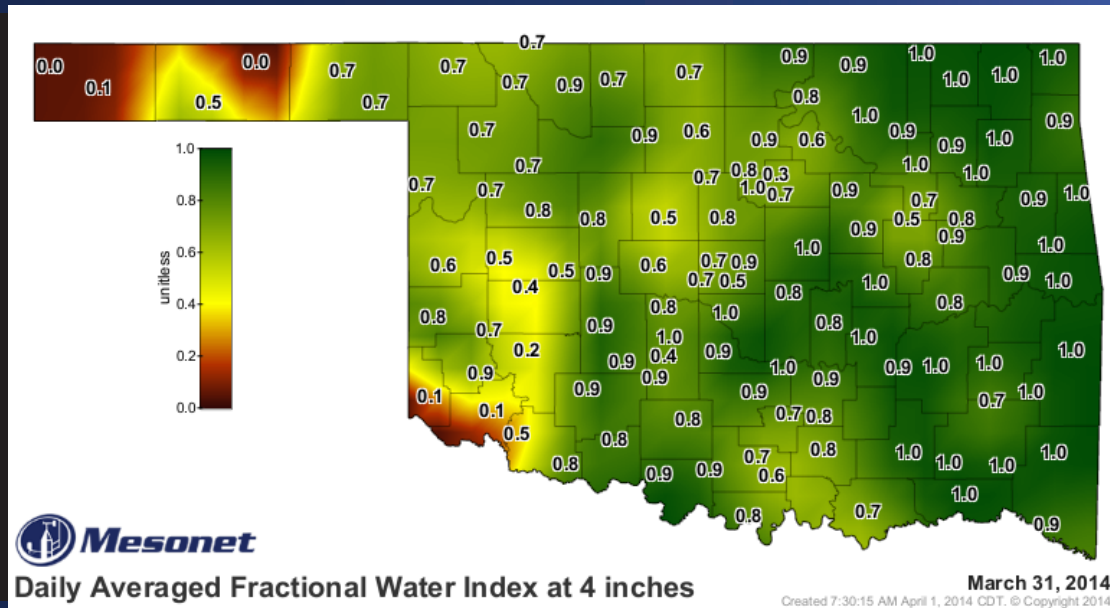
The National Cowboy and Western Heritage Museum has plans to include the Mesonet in a future exhibit. ■



# MESONET IN PICTURES

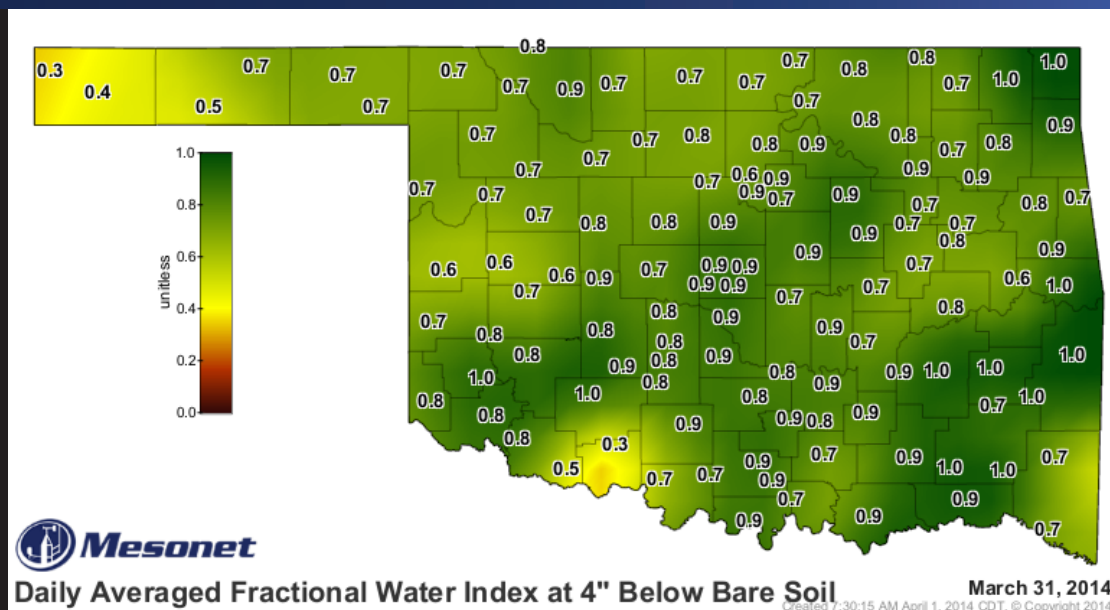
## New 10 cm Daily Averaged Fractional Water Index Map

- The Daily Averaged Fractional Water Index at 4 inches map displays the 24-hour-averaged soil moisture at 4 inches (10 cm) under native vegetation for the previous day. Fractional water index ranges from 0 (completely dry) to 1.0 (completely saturated). Soil moisture can not be measured if the soils are frozen. This may cause our maps to have areas of missing data during the winter months. This map is updated once each day between 7 and 8 AM. Find this map by clicking on "Weather" at mesonet.org, then clicking on "Soil Moisture" from the side menu.



## New 10 cm Daily Averaged Fractional Water Index Map Below Bare Soil

- The Daily Averaged Fractional Water Index at 4 inches under bare soil map displays the 24-hour-averaged soil moisture at 4 inches (10 cm) under bare soil for the previous day. Fractional water index ranges from 0 (completely dry) to 1.0 (completely saturated). This map is updated once each day between 7 and 8 AM. Find this map by clicking on "Weather" at mesonet.org, then clicking on "Soil Moisture" from the side menu.



## Updated Weather Tab

- Since introducing our new 10 cm Daily Averaged Fractional Water Index Maps, we have updated the side menu of the Weather tab on our website. You will now find Soil Moisture and Soil Temperature are separated into their own sections of the website.



- Local Weather >
- Current Conditions >
- Radar >
- Air Temperature >
- Rainfall >
- Wind >
- Dewpoint & Humidity >
- Pressure >
- Solar Radiation & Satellite >
- Soil Temperature >**
- Soil Moisture >**
- Ground Water >
- Station Meteograms >
- Past Data & Files >
- Advisories >
- Upper Air >

### Norman

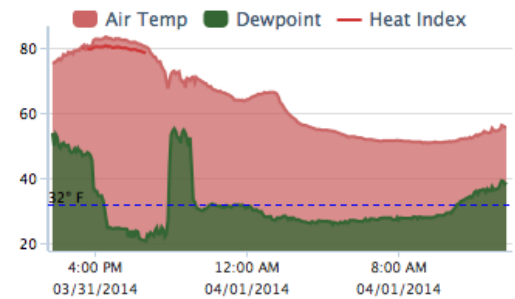
Current Conditions at 1:40 pm CDT

[Change Mesonet Site](#) [Site Information](#) [Share](#) [Tweet](#)

# 56 °F

Dewpoint: **39 °F**  
 Humidity: **53%**  
 24-hr Rainfall: **0.00 in.**  
 Wind: **ENE at 8 mph**  
 Wind Gusts: **10 mph**  
 Pressure: **29.97 in.**  
 Solar Radiation: **351 W/m2**

Sunrise: **7:18 am**  
 Sunset: **7:50 pm**



### Forecast at a Glance

Today	Tonight	Tomorrow	Tomorrow Night	Thursday	Thursday Night	Friday	Friday Night	Saturday
Mostly Cloudy	Slight Chance Tstms	Slight Chance Tstms	Slight Chance Tstms	Mostly Cloudy	Partly Cloudy	Mostly Sunny	Mostly Clear	Mostly Cloudy
High <b>67°F</b>	Low <b>63°F</b>	High <b>82°F</b>	Low <b>61°F</b>	High <b>73°F</b>	Low <b>43°F</b>	High <b>63°F</b>	Low <b>42°F</b>	High <b>67°F</b>
Wind NE at 8 mph	Wind E to S at 10-16 mph	Wind S at 16-21 mph	Wind S to SW at 14-18 mph	Wind S to W at 7-12 mph	Wind NW at 14-16 mph	Wind NW at 13-15 mph	Wind N to E at 6-10 mph	Wind E to SE at 6-12 mph

Forecast data provided by the [National Weather Service](#). See the [complete forecast](#) or an [Hourly Forecast](#): [graph](#) [table](#)

# Steering Committee Q&A

## Steve Stadler

—by Stephanie Bowen

**STEVE STADLER SERVES ON THE MESONET STEERING COMMITTEE AND IS A PROFESSOR OF GEOGRAPHY AT OKLAHOMA STATE UNIVERSITY AND THE STATE GEOGRAPHER OF OKLAHOMA. STEVE HAS LIVED IN OKLAHOMA SINCE 1980.**

**Q: TELL ME A LITTLE ABOUT YOUR BACKGROUND AND YOUR INVOLVEMENT ON THE MESONET STEERING COMMITTEE.**

A: My undergraduate and M.S. degrees are from Miami University (Oxford, Ohio). I received my PhD in Physical Geography from Indiana State University in 1979 as an applied climatologist. I teach physical geography, climatology, and meteorology at Oklahoma State University and have published in a variety of journals in geography and the atmospheric sciences.

I was present in the early 1980s when people on the OSU campus started to become interested in observing and using weather data in a better way than through the Cooperative Observation Network which had a turnaround time of months for users. We formed an ad hoc campus group to explore the possibilities of constructing an agricultural weather network. When OSU, OU and the Norman weather community became aware of parallel network efforts later in the 1980s, we got together and found much strength in cooperation. I helped in funding and strategizing for network implementation and was lucky enough to be on the original Mesonet Steering Committee and remain so today.

**Q: HOW DOES THE MESONET IMPACT AND SERVE YOU AS THE STATE GEOGRAPHER?**

A: As State Geographer I get asked all sorts of questions about Oklahoma and some of them are, of course, related to the atmosphere. The Mesonet with its associated Website has been an authoritative source of data and summaries.

Grants from the National Oceanic and Atmospheric Administration, U.S. Department of Energy, and National

Aeronautics and Space Administration have been directly related to the presence of the Mesonet. We can do things with the depth and breadth of our data archive not possible elsewhere.

The Mesonet has been a potent aide to my research. The Mesonet was able to produce statewide maps of wind power density and prepare other electronic data layers for comparison which I used in my work as a principal investigator in the Oklahoma Wind Power Assessment Initiative since the early 2000s. ■





# Dry, Cold March Brings Drought Intensification

By Gary McManus, State Climatologist

## MARCH WRAP-UP

Oklahoma's weather during March was so boring only a Mother (Nature) could love it. Dust storms and wildfires livened things up a bit, but there was very little in the way of traditional severe weather. Through March 31, the number of consecutive days without a reported tornado in Oklahoma rose to 236, the third longest stretch since accurate records began in 1950. The last reported tornado in Oklahoma occurred back on August 7, 2013, when a small EF0 twister touched down near Turpin in Beaver County. The longest tornado drought on record is 292 days from May 17, 2003, to March 3, 2004. Snow and sleet kept winter in the news the first few days of the month with amounts of nearly 6 inches reported across northern Oklahoma. Despite that moisture, it was dry across most of the state and in some areas, exceedingly so. The Oklahoma Mesonet site at Boise City brought up the rear with a scant 0.05 inches of liquid moisture. Of the 120 existing Mesonet sites, 33 came in with less than an inch of moisture, and 64 recorded less than 2 inches. Mt. Herman in McCurtain County recorded the most with 5.98 inches. The statewide average was 1.75 inches, 1.36 inches below normal to rank as the 38th driest March since records began in 1895. March was the seventh consecutive month the statewide average precipitation total dipped below normal, and the 30th month out of the previous 42 to do so, dating back to October 2010. The cumulative statewide precipitation deficit over that period rose to approximately 28.9 inches.

March also continued a tendency for cooler than normal weather. According to preliminary data from the Mesonet, the statewide average temperature was 46.4 degrees, the 23rd coolest March on record at 3.8 degrees below normal. That is the 12th month out of the last 14 to finish cooler than normal, dating back to February 2013. The month's highest temperature of 88 degrees was recorded at four separate locations on the 31st. The lowest temperature for the month, minus 7 degrees, was reported at Buffalo on the third. Several low temperature records were either tied or broken at stations in northeastern Oklahoma during those first few icy days of the month.

The combination of drought, high winds and low relative humidity produced numerous days with extreme wildfire conditions. Fires burned several hundred acres in Logan County on March 20, destroying two mobile homes. A Texas wildfire on the 18th spread for 20 miles and burned its way into Ellis County, Oklahoma. It required several Oklahoma and Texas firefighter units to extinguish the blaze. Many other wildfires were reported throughout the month. Those same weather conditions also produced intense dust storms that some local Panhandle residents likened to the Dust Bowl storms of the 1930s. The biggest "duster" was possibly the March 11 storm that kicked up dust from eastern Colorado down into the High Plains of the Oklahoma and Texas panhandles. Another dust storm on the 18th spread much farther to the east, obscuring the sky throughout western and central Oklahoma.

The drought that helped produce those dust storms intensified across the High Plains into western Oklahoma. The latest U.S. Drought Monitor report indicated a significant increase in extreme to exceptional drought across the western third of Oklahoma, now encompassing 24 percent of the state. That's an increase of nearly 20 percent since October 1, 2013. Moderate to severe drought covered approximately 53 percent of the state and nearly 19 percent was considered to be in "Abnormally Dry" conditions. Only four percent of Oklahoma was portrayed devoid of any dry conditions.

# 236 CONSECUTIVE DAYS

without a reported tornado in Oklahoma

# 46.4°F

average statewide temperature  
for March

# 88°F

highest statewide temperature  
for March recorded at four  
separate sites on March 31

# -7°F

lowest statewide temperature for March  
recorded at Buffalo on March 3

## CALENDAR

### APRIL

- ▶ 2nd: OK-First Re-certification Course, Elk City
- ▶ 2nd: Tulsa County Master Gardener presentation, Tulsa
- ▶ 3rd: OK-First Re-certification Course, Moore
- ▶ 8th: Pecan Management Course presentation, Perkins
- ▶ 9th: Field Trip, Enid High School
- ▶ 9th: Severe Weather Preparedness Booth, Lopez Foods, OKC
- ▶ 10th: Severe Weather Preparedness Talk for ESL, OKC Univ.
- ▶ 10th: Grape Management Course presentation, Perkins
- ▶ 12th: OSU Extension Whistle Stop & Festival exhibit, Wellston
- ▶ 15th: OSU Urban Water Conservation presentation, Stillwater
- ▶ 15th: Tulsa Community College Hort Club presentation, Tulsa
- ▶ 18th: Summer Camp Application Deadline
- ▶ 21st-27th: OK-First Online Re-certification Course
- ▶ 22nd: OCU Earth Day presentation - OKC
- ▶ 24th: ScienceFest, OKC Zoo
- ▶ 29th-30th: Oklahoma State FFA Convention, OKC
- ▶ 30th: Field Trip, Westfall Elementary, Choctaw

### ***Tweet of the Month***

*Nate - March 13 -Thank you to @okmesonet for putting on a fantastic class about radar and mesonet training! I feel like a junior weatherman!!*

Find us on   

## 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](#)

Earthstorm - K-12 educational outreach

Contact: [Andrea Melvin](#)

OK-First - Public safety outreach

Contact: [James Hocker](#)

OK-FIRE - Fire management outreach

Contact: [J.D. Carlson](#)

Not sure?

Contact: 405-325-2541 or [Chris Fiebrich](#).

## FORECAST FOR APRIL

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

**DISCUSSION:** Equal chances for above-, below- and near-normal precipitation and temperatures for Oklahoma.

**Equal chances for above-,  
below- and near-normal  
precipitation and  
temperatures statewide**