



Soils Benefit from Winter Precipitation

—by Stephanie Bowen

WINTER ARRIVED FULL BLAST here in Oklahoma on the weekend of November 22, 2013 with snow and ice across much of the state. While this weather is not a good thing for driving conditions, it is a very helpful thing for drought and soil moisture.

“Winter precipitation helps soil moisture by melting slowly, which means it has more time to percolate into the soil and not run off,” said Cindy Luttrell, Lead Operator for the Mesonet. “Our manual (people) observation stations measure both snow depth and the amount of water in a melted sample so that we know how much water to expect from the winter precipitation once it melts.”

The snow to water ratio varies from 8:1 to 20:1, but is roughly estimated to be 10:1. One other thing to remember is that the

Mesonet rain gauges are not heated, so snow and ice are measured as they melt. This provides us a measure of the moisture as it enters the soil and becomes part of the state’s water budget.

Of course, if winter precipitation is good for the soil, it is also good for winter crops. Moisture from snow and ice lasts longer and does not evaporate as quickly since temperatures are low.

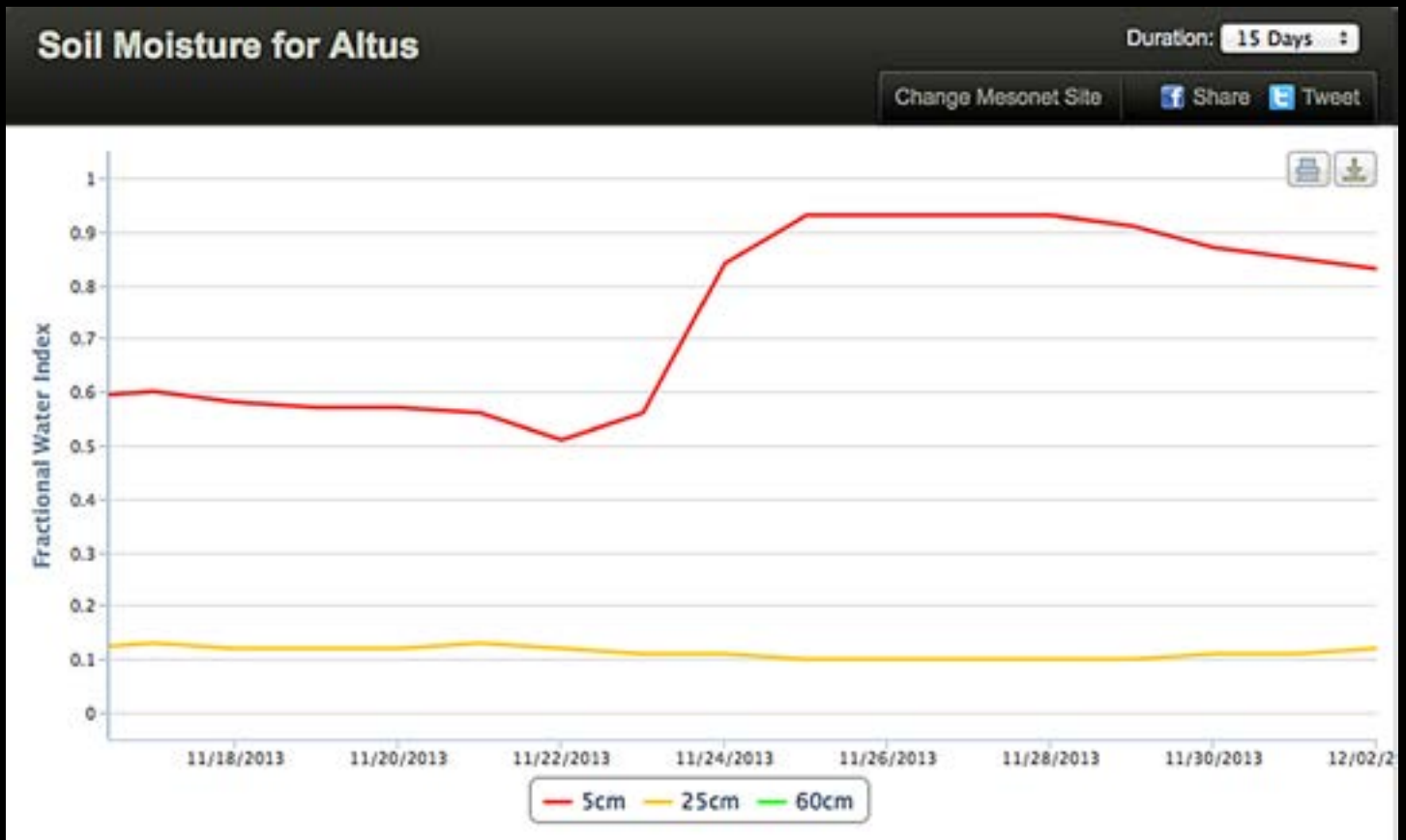
“Frozen precipitation is beneficial to winter crops,” said Albert Sutherland, Mesonet Agricultural Program Coordinator. “When thick enough to cover the foliage like young wheat, it also protects the crop from colder temperatures and acts as an insulator.” ■

Altus received approximately five inches of snow during the storm on the weekend of November 22, 2013. Winter precipitation is very beneficial for the soils. Photo courtesy of Staff Sgt. Nathanael Callon and posted on Twitter by Altus Air Force Base.



Soil Moisture Graph

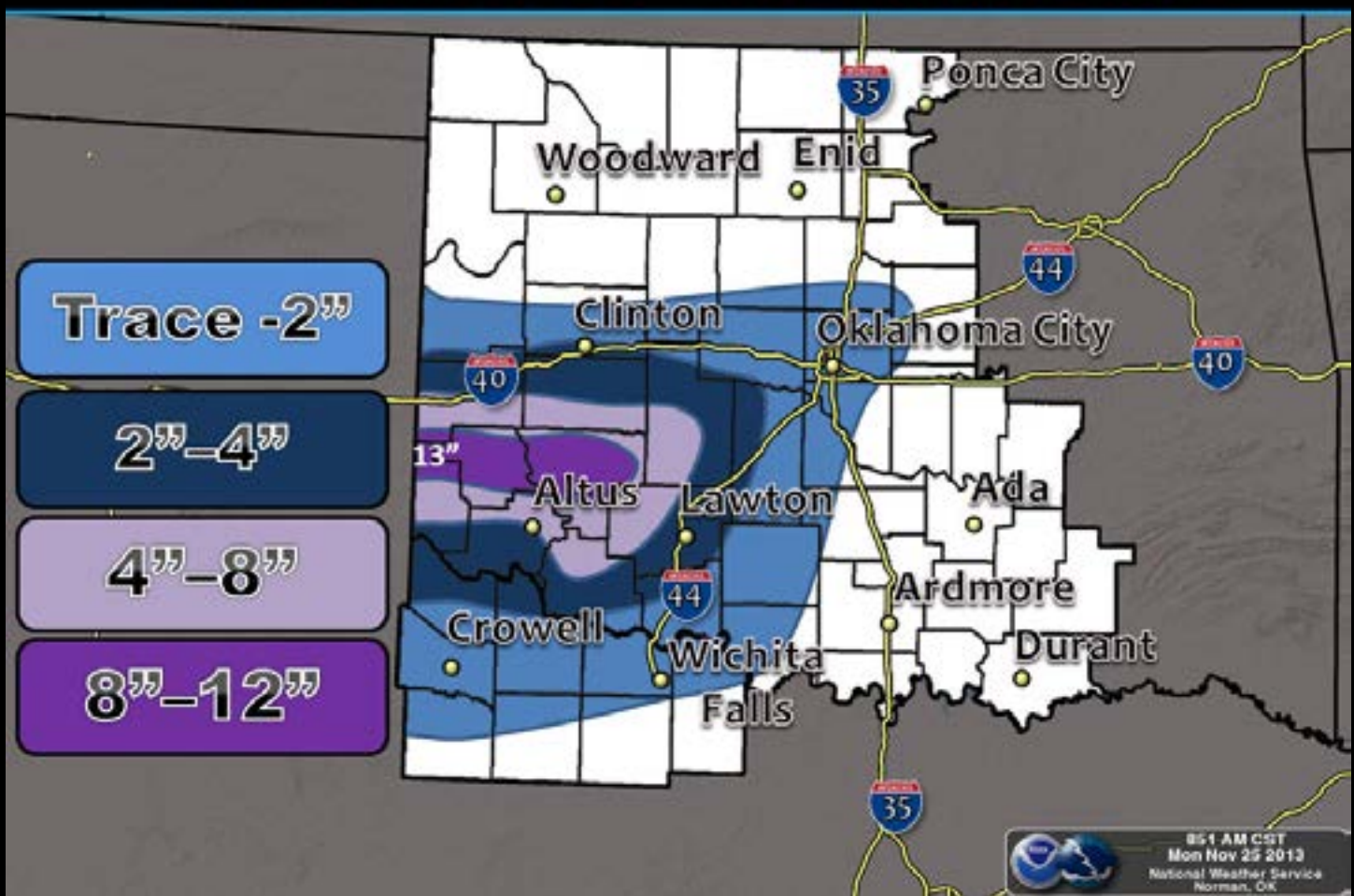
- Winter precipitation moved into the state on the weekend of November 22, 2013. In the graph below, you can see how the soils benefitted from the slow melting moisture from November 22-25, 2013. To view soil moisture graphs, go to www.mesonet.org and select "Weather" from the top menu tab. Click "Soil Moisture/Temperature" from the side menu, and then select "Soil Moisture Graph."



NWS Norman Graphicast

- Each National Weather Service office creates graphiccasts to advise you of impending weather and provide followup after a storm. This graphiccast from the Norman office on November 25, 2013, provides us with snowfall and sleet amounts from the previous weekend's winter storm. You can view graphiccasts for your area at www.mesonet.org by selecting "Forecast" from the top menu.

November 24th Snowfall/Sleet





November Brings Early Taste of Winter

By Gary McManus, Associate State Climatologist

NOVEMBER WRAP-UP

November is considered a fall month climatologically, but it certainly did its best to look like a winter month during 2013. Emphatically cooler than normal, thanks mostly to a frigid outburst by Mother Nature during its final 10 days, November was punctuated by an early cool-season snowstorm that dumped more than a foot of snow across southwestern Oklahoma. According to data from the Oklahoma Mesonet, the statewide average temperature for the month ended 1.8 degrees below normal at 46.5 degrees, the 33rd coolest November since records began in 1895. November was the eighth month during 2013 to finish with below normal temperatures. Prior to that, 28 out of the 34 months between April 2010 and January 2013 had been warmer than normal. The January-November statewide average of 61.1 degrees is the 40th coolest such period on record at half of a degree below normal, standing in stark contrast to last year's mark of 65 degrees over the same period. The fall season itself, however, was actually 0.2 degrees above normal and ranked as the 59th warmest on record. The lowest temperature recorded by the Mesonet was 9 degrees from Alva on the ninth, and the highest temperature of 85 degrees occurred at Altus on the 16th.

Moisture was plentiful in a few select areas, but scarce for most. The statewide average precipitation total as measured by the Mesonet came in at 1.64 inches, more than an inch below normal, to rank as the 47th driest November on record. The most notable exception was drought-parched southwestern Oklahoma, a result of their late-month wintry blast, although far southeastern Oklahoma saw some hefty precipitation totals as well. Other than those lucky few, the rest of the state saw deficits of 1-3 inches. Far northwestern Oklahoma was particularly dry with less than 20 percent of normal November rainfall. Fall was also dry with a statewide average of 7.22 inches, 2.8 inches below normal, to rank as the 45th driest on record. The Mesonet station at Idabel led the state with 6.52 inches while Freedom recorded a meager 0.18 inches.

The wintry precipitation actually came in two successive waves. The first storm brought a light glaze of ice to the state on the 22nd and 23rd and wind chills down into the single digits. The more powerful storm struck on the 24th and 25th with snow, sleet and freezing rain falling over a large area, creating widespread traffic problems and scattered power outages. National Weather Service (NWS) cooperative observers at Altus, Hobart and Vinson all recorded 13 inches of snow during the storm on November 24 and 25, and the Mangum observer was close behind with 11 inches. Widespread totals of 4-6 inches were reported across other parts of southwestern Oklahoma. Some snow spread to the north and east from the storm, but the rest of the state saw precipitation mainly in the form of rain, sleet and freezing rain. Oklahoma City saw less than an inch of snow during the storm and Tulsa recorded a trace.

Very little change occurred in drought conditions during November according to the U.S. Drought Monitor. There was an increase in drought intensity across far southwestern and west central Oklahoma, but a bit of a decrease across south central Oklahoma. At month's end, 31 percent of Oklahoma remained in some intensity of drought on the Drought Monitor, almost entirely within the western one-third of the state.

1.64"
PRECIPITATION
statewide average for November

46.5°F
average statewide temperature
for November

9°F
lowest recorded temperature at
Alva on November 9th.

31
PERCENT
of the state suffering from at least
moderate drought according to the
U.S. Drought Monitor

CALENDAR

DECEMBER

- ▶ 3rd-4th: Oklahoma Turfgrass Conference
- ▶ 3rd-5th: Oklahoma Ag Expo, Midwest City
- ▶ 4th: Field Trip, Western Oaks Elementary, Bethany
- ▶ 7th: Science Olympiad Tournament, Putnam City High
- ▶ 7th: First Lego League State Championship, Edmond
- ▶ 13th: Judging Olive Public Schools Science Fair, Drumright
- ▶ 23rd-Jan. 1st: OU Winter Break - OCS office closed

JANUARY

- ▶ 10-11th: KNID Agrifest, Enid
- ▶ 20th-22nd: Oklahoma Ag Aviation Conference, Midwest City
- ▶ 22nd-24th: OCES Conference, Stillwater

Thank you for 20 years of partnership!

▶ **Breckinridge - Installed December 3, 1993**

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 DECEMBER

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

**Equal chance for above
normal, normal or below
normal temperatures
across the state**

**Chance for below normal
precipitation across most
of the state.**

DISCUSSION: Equal chance of above normal, normal, or below normal temperatures across the state. The precipitation outlook finds increased odds for below normal precipitation across the most of the state except the far west Panhandle.