



OKLAHOMA CLIMATOLOGICAL SURVEY

NEWS RELEASE

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Drought Picture in Oklahoma Mixed By Gary McManus, Climatologist and Mark Shafer, Director of Climate Information Oklahoma Climatological Survey

NORMAN – Now that the snow has melted away, we can step back and see just how much the storm helped to improve the drought picture in Oklahoma. In some areas, the winter storm was enough to effectively end the drought, although impacts will linger in those areas until things green up in the spring again. But in most areas of the state, the moisture, while welcome, barely made a dent.

In the areas that picked up a couple of inches of rain, sleet, and/or snow, topsoil moisture looks to be in good shape. The problem is that years of drought have depleted water from lower down in the soil, with the result that the snowmelt is soaking downward through the soil rather than running off to fill ponds, lakes, and streams. Around the state, it is quite a mixed picture this week.

There is some potentially good news on the horizon. El Nino conditions continue to develop in the Pacific Ocean. As the strength of El Nino increases, typically the chances for precipitation in Oklahoma increase as well. Currently, it is still classified as a weak El Nino, but strengthening is expected over the next couple of months. Historically, strong El Ninos have always been associated with above-normal October-March precipitation statewide. While this episode is not likely to rank among the strongest events, it should be enough to tilt the odds a little bit more in favor of a wetter winter, particularly in the western two-thirds of the state. The Climate Prediction Center expects El Nino conditions to continue through May.

Panhandle / Northwest: The Panhandle has been in-and-out of drought periodically over the past five years. Over the last 90 days, conditions have been dry again in eastern Cimarron / western Texas counties. Most of the Panhandle is designated at D0 in the Drought Monitor, meaning it is considered “abnormally dry” but not quite in drought. East of the Panhandle, things go downhill quickly. Harper County joined its neighbors in a D3 designation, “extreme drought”. The area has been dry throughout most of the year, but until now it was squeezed between the Panhandle and some more favorable precipitation totals in Woods County.

North Central: This region is the heart of drought in Oklahoma. Nearly the entire region, stretching from Woodward to Kay counties, is designated as D4, or “exceptional drought”, the top category used by the Drought Monitor. Essentially, that means conditions like those being experienced now occur only once every 50 years. Most of the area is more than a foot below normal precipitation for the year. Even with the recent snow, the last 90 days shows a 4 to 8 inch deficit. Reports of severe problems with the wheat crop and stressed water supplies are common.

Northeast: One of the prime beneficiaries of the winter storm, the northeast has seen some improvement in its drought conditions. The D4 region extending into Osage County gives way to D1 (“moderate drought”) in Wagoner County. Topsoil moisture has improved, but deeper soils still appear to be dry. This is having a continued effect on water supplies. Most lakes in the Verdigris and Grand-Neosho River basins show little, if any, improvement. As of December 13, Penasacola Dam along Grand Lake stands at only 73% of capacity, roughly unchanged since mid-August. The region was hit very severely by drought for an extended period this past winter and spring, complicating the recovery process. Thus, even though the soil may squish under your feet, it can quickly dry down with just several weeks of dry weather.

West Central: Western Oklahoma is the tale of two halves –some have and some have not. North of a line from about Cheyenne to Putnam to Watonga, very little rain has fallen since last spring. This area is designated as D2, “severe drought”. There is some moisture for the wheat crop, but it is getting harder to find. South of the line, October rains helped to replenish topsoil enough for the winter wheat crop to germinate. The whole region missed out on the winter storm, so it’s been dry across all of western Oklahoma for about the last 6 weeks. If rain or snow doesn’t come to the area soon, it’s going to start taking a toll on the already-struggling wheat crop.

Central: Like the northeast, central Oklahoma is in a transition zone. Eastern parts picked up three or more inches of precipitation from the winter storm, but western parts had less than an inch. In the long-term, a strip of year-to-date 12-inch rainfall deficits runs southward from north central Oklahoma down through Shawnee and on to near the Red River. Like parts of the northeast, this means that dry soils deep down are eagerly absorbing much of the recent water, leaving ponds and lakes dry. Lakes Thunderbird and Canton can’t seem to shake the dryness, holding now at less than 60% of capacity. Further east, Lake Eufaula has turned the corner and seems to be headed toward higher levels, but recovery likely will take a long time.

East Central: Finally, some good news. Both the recent winter storm and October rainfall has helped to push the region to above-normal for the past 90 days and near-normal for the year-to-date. The one exception is a lingering area of dryness from earlier in the year across McIntosh and Muskogee counties. Most lakes in the Lower Arkansas basin are about full, with some holding water in their flood control pools for the first time in more than a year. As water is gradually released from Lake Tenkiller, it should help to improve navigation in the Kerr-McClellan Navigational Channel.

Southwest: While attention was focused on the east with the winter weather, southwestern Oklahoma has quietly slipped back toward drought conditions. Over the past 90 days, an area along the Red River from Hollis eastward to Duncan has had above-normal precipitation.

However, most of this came from the October rains. In the last 30 days the area has recorded less than an inch. The long-term drought effects are showing up as soils across western parts of the region are returning toward the dry end of the scale. Most of the region is presently depicted as abnormally dry, but unless relief comes soon we will probably see drought designations return.

South Central: The area of short-term above-normal precipitation ends abruptly between Cotton and Jefferson counties, with below-normal precipitation extending eastward to Bryan County. Coupled with the long-term deficits, this translates into water supply concerns. Although topsoil moisture looks good right now and the area did pick up 1 to 2 inches of precipitation from the winter storm, deeper soils have shown a long-term dryness that is proving difficult to overcome. A groundwater monitoring well at the Mesonet site near Fittstown has recovered about 6 feet since October, but is still down 18 feet since last spring. Water supplies at Denison Dam on Lake Texoma have been hovering near 80% of capacity since July, and showed only a slight rebound from the most recent storm. The south central region has, in effect, been in drought conditions since early 2003.

Southeast: Finally, we save some good news for last. Yes Virginia, Oklahoma does have water! Southeast Oklahoma appears fully recovered, except for southern McCurtain County. An area including all of Leflore and most of Haskell, Latimer, Pushmataha, Choctaw and McCurtain Counties is now drought-free. Most lakes in the Lower Red Basin, below Texoma, are full. Broken Bow Lake, in southern McCurtain, is still down, but is recovering. Of course, we won't really know if there is enough water until springtime when vegetation comes out of dormancy.

Attachments:

Year-to-date precipitation departure

Last 90 days percent-of-normal precipitation (September 15 – December 13, 2006)

Oklahoma Mesonet soil moisture, December 13, 2006

Drought Monitor, December 12, 2006 (released December 14)

Precipitation departures for October-March based on the strength of El Nino