Nebraska has been at the epicenter of the drought of 2012, and its impacts will intensify if it lasts through the winter, as is forecast, say climatologists at the University of Nebraska-Lincoln's National Drought Mitigation Center.

"The previous five years all had above-normal precipitation, the wettest period in recorded history," said Michael J. Hayes, the center's director. "For Nebraska, it was unprecedented. We came into 2012 with a full hydrological system–rivers, streams, reservoirs and groundwater. When you're talking major droughts, this is not a multi-year drought. As we look ahead to 2013, we don't have that margin built into our hydrological system, so we're in pretty dire straits."

Nebraska, Colorado and Wyoming are all on track to record their driest year on record in 2012, Hayes said, and the country as a whole is having its hottest year on record.

The Climate Prediction Center says the drought in the Plains is likely to continue at least through February, and recovery will take time.

"In Nebraska and the central Plains, we've started seeing the drought feeding off itself, with the dry soils and dry air not allowing precipitation events to develop as usual," said Brian Fuchs, drought center climatologist. "With the lack of moisture, we're more like a desert environment. It warms up fairly quickly during the day, but drops quickly at night."

State climatologist Al Dutcher recently said that the chances of getting a wet enough winter to bring moisture levels back to normal are only 10 to 20 percent.

"When we do have precipitation, very little will go to runoff," Fuchs said. "Those soils are going to act as a big sponge. They're just going to take in a lot of the moisture. We'll continue to see problems of stock ponds, smaller lakes and streams dropping. The hydrologic drought hasn't reared its head, but it's there, as we are seeing more water systems under stress."

"Typically when farmers are done irrigating, you will see the water in the Platte percolate back

through the basin," Fuchs said. "We did see that response but it was very minimal and that was even with the irrigation season ending sooner than usual. The channels are tiny, with these very small threads of water in eastern Nebraska."

Anecdotal evidence suggests that in some areas, groundwater levels are declining, which could affect well owners. "I would see that exponentially increasing if we stay dry in 2013," Hayes said. "There's a public health issue when homes don't have water." Although rural residents may be accustomed to hauling water occasionally, Hayes noted that it could be a real hardship for some, such as older people living alone.

Organizations that work with well owners recommend having wells checked now, especially if they were constructed before 1993, to ensure reliability of water supply.

Agricultural producers have been hit hard by the drought. The U.S. Department of Agriculture's Risk Management Agency said that as of Dec. 10, indemnity payments nationwide had reached $8 billion for 2012.

In 2012, 80 percent of the eligible acres nationwide and 90 to 95 percent in Nebraska enrolled in crop insurance, said Rebecca Davis, regional director for the RMA in Topeka, speaking at Nebraska's Climate Assessment and Response Committee meeting Nov. 29.

She said that Nebraska is currently the fourth largest consumer of crop insurance, and the fifth largest recipient of indemnity payments, with nearly $483 million paid out as of Nov. 19, and corn alone accounting for $363.2 million of the covered loss. By Nov. 26, total Nebraska indemnities were at $544 million, with $502 million due to drought, heat and dry wind that affected more than 2 million acres of cropland.

This year's drought is forcing producers to make hard choices. "The problem with drought and lack of forage is that many producers are using corn stalks as forage, actually baling them and selling them like hay, which is a double-edged sword," Fuchs said. "While they are using the stalks for one purpose, it could be hurting them as far as tillage conditions." Leaving stalks on the field as a cover that can prevent erosion and help hold moisture in the soil.

Nebraska had its worst fire season since 1919, with central and western Nebraska hardest-hit. Don Westover, fire program leader of the Nebraska Forest Service, reported that as of Dec. 14, the state had 1,426 wildfires reported, burning more than 400,752 acres and 65 structures, and costing $12 million so far. He added that a few large fires still unreported in the official tally would add another 94,000 acres.

For up-to-date information from Nebraska Extension about how to prepare for another drought year, see droughtresources.unl.edu.