

Midwest Soil Could Take Up To Two Years To Recover From Long Drought, Says MU Researcher

COLUMBIA, MO.

The Midwest suffered the worst drought in years last summer, and Midwest soil has been suffering from a drought since early 2010. As a result, crops have wilted and farmers have fallen on hard times. Now, a University of Missouri researcher says that it may take at least two years for crops and soil to recover.

Randall Miles, associate professor of soil science at the MU School of Natural Resources, found that soil in the Midwest is dry down to as deep as 5 feet, where the roots of the crops absorb moisture and nutrients.

"I wouldn't count on a full recovery of soil moisture any time soon," Miles said. "Even if parts of the Midwest receive a lot of snowfall and rain this spring, it will take time for the moisture to move deeply into the soil where the driest conditions exist."

In 2012, Miles found that some roots had to go down as much as 8 feet to extract water. Typically, 1 foot of soil holds 2 inches of water. To recharge completely, a fully depleted soil would require about 16 inches of water over normal precipitation amounts.

"The soil moisture will recharge with a hydrologic process where water moves downward from surface water and fills in the pore space found in the soil," Miles said. "However, during the winter months it is important to remember that a foot of snowfall equals about an inch of rainfall, so the soil could take some time to recharge."

Miles has been testing the depths of soil moisture around Missouri and found that parts of the state where Hurricane Isaac dropped extra rainfall were wet in the first few inches of soil, but dry below that level. While that moisture

helps for a short while, Miles said the moisture will evaporate with just a few days of high winds.

"In order for the soil moisture to return to a normal state this year, the rain and snow would almost have to come continuously," Miles said. "The weather would almost have to be like the precipitation found in London, coming down



Miles says that the soil is drought as far as 5-feet deep. He predicts that this will hurt the upcoming growing season unless the Midwest experiences significant rain soon.

light and slowly to minimize runoff."

In addition to soil moisture being affected by the drought, Miles says that it could take two years of good rains for microbes and insects to recover, as well as barge traffic on the Mississippi and Missouri rivers.

"Until we start seeing normal rainfall, the water levels on the Mississippi and Missouri rivers are going to be low, affecting the number of barges that can pass on the rivers at one time," Miles said.

Miles believes that it could be two to three years before farmers can expect bumper crops again. Δ