

The 2011 Floods Arkansas

The Response Efforts of the USGS Arkansas Water Science Center



Introduction

On Friday, April 22, 2011, in advance of heavy rainfall and steadily-rising river levels, the USGS Arkansas Water Science Center mobilized field crews to begin critical sampling and data collection for water levels and streamflow information. These crews continued their important work supplying flow rate and water monitoring data to policy makers and emergency responders throughout the historic flood.

Whole Effort

The flood response work of the USGS Arkansas Water Science Center was a whole effort. Every field scientist, boat, and their equipment were out collecting critical information. USGS crews worked around the clock to ensure that policymakers and first responders had the information they needed to make the best decisions possible. Arkansas crews were assisted in their work by other USGS crews from Texas and Mississippi, as well as equipment loans from the USGS Texas and Oklahoma Water Science Centers. Arkansas crews returned the favor by meeting the floodwaters with the Tennessee Water Science Center in Memphis, and following the floodwaters south to help out in Louisiana as well.

Critical Data

During the historic 2011 flooding, USGS provided critical data to policymakers and first responders, including:

U.S. Army Corps of Engineers: USGS streamflow data was crucial to Army Corps decisions to make emergency spills into the reservoirs along the White River. In addition, the Army Corps requested USGS crews perform measurements throughout Arkansas at sites like Helena and Memphis, Tennessee.

National Weather Service: The National Weather Service relies on USGS streamgage data to make accurate flooding forecasts. During the 2011 flood, USGS crews worked constantly to maintain these streamgages, as well as replace the many that were overtopped by floodwaters.

Arkansas Department of Transportation: On May 5, the White River overtopped I-40 between Little Rock and Memphis, prompting the Arkansas Department of Transportation to temporarily close that stretch of the Interstate. USGS crews, in partnership with the Arkansas Department of Transportation, immediately set out to install a temporary streamgage to monitor conditions and determine when it was safe to reopen the road.

Historic Flooding

The summer of 2011 brought historic flooding to Arkansas. In addition to the massive floodwaters that coursed down the Mississippi River, unusually heavy rainfall caused backwater flooding and levee failure along the Black and White Rivers as well. USGS streamgages registered record highs, with six gages showing either highest, second-highest, or third-highest levels since as far back as 1915, and more than 19 gages showing 10-year highs.

News Coverage

News Releases:

Floodwaters Closing I-40 to be Monitored, May 6
<http://www.usgs.gov/newsroom/article.asp?ID=2788>

Widespread Historic Flooding Across Arkansas, May 2
<http://www.usgs.gov/newsroom/article.asp?ID=2783>

USGS Measures Record Flooding in Arkansas, April 26
<http://www.usgs.gov/newsroom/article.asp?ID=2773>

USGS Crews Measure Flooding in Arkansas, April 25
<http://www.usgs.gov/newsroom/article.asp?ID=2777>

News Articles:

Little Rock Arkansas Matters:
Flood Levels Reaching Dangerous Heights

Arkansas News, Heavy rain,
flooding reported across state, May 2, 2011

Arkansas Democrat-Gazette,
Rivers rising to historic levels as rains continue
Today's THV TV - USGS monitoring I-40 floodwaters



*Black River at Pocahontas, AR
USGS Arkansas Water Science Center technicians measuring the flow across a US Highway being passed by a fan boat.*