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News Release

November 26, 2007	James M. Sherwood	614-430-7743	sherwood@usgs.gov
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Editors: Cuyahoga River hydrograph from June 21 to June 25, 2006 is available at http://oh.water.usgs.gov/images/Cuyahoga_flood_2006_hydrograph.jpg. This news release can be viewed online at http://oh.water.usgs.gov/newsreleases/Cuyahoga_2006_flood_rpt.pdf

Extreme conditions caused 100-year flooding of the Cuyahoga River near Independence, Ohio, in June 2006

Thunderstorms and heavy rains at the end of June 2006 caused record flooding of the Cuyahoga River near Independence, Ohio. This extreme event has a 1 in 100 chance of being equaled or exceeded in any given year. Damage to approximately 4,580 homes and 48 businesses in Cuyahoga County exceeded \$47 million. Statewide damages exceeded \$150 million. Six counties (Cuyahoga, Erie, Huron, Lucas, Sandusky, and Stark) in northeast Ohio were declared Federal disaster areas. One death in Lorain County was attributed to the flooding.

Because flooding along the Cuyahoga River near Independence and Valley View was particularly severe, a study was done by the U.S. Geological Survey (USGS), in cooperation with the Federal Emergency Management Agency, to document the gage-height, streamflow, flood-frequency, high-water-mark, and meteorological data associated with the flood. The peak water-surface elevations associated with the flood were documented in an area extending from approximately 2 miles downstream from the USGS gaging station on the Cuyahoga River at Independence to approximately 2 miles upstream from the USGS gaging station at Independence. High-water marks were identified and flagged in the field, and third-order-accuracy surveys were used to determine elevations of the high-water marks.

Extreme weather conditions that developed over northern Ohio on June 21, 2006, produced 4 to 5 inches of torrential rainfall in 6 hours across much of the area. In the afternoon on June 22, 2006, intense, nearly stationary thunderstorms developed over Cuyahoga and Summit Counties. More than 5 inches of rain fell in less than 2 hours across several southern Cleveland suburbs, with Brecksville recording 1.64 inches in 15 minutes and 3.38 inches in 1 hour.

These conditions resulted in the highest streamflow and gage height recorded at the USGS streamgage on Cuyahoga River at Independence since continuous streamflow records began being collected in 1922. The peak streamflow of 25,400 cubic feet per second, at a peak gage height of 23.29 feet, exceeded the previous peak streamflow of 24,800 cubic feet per second on January 22, 1959. The recurrence interval of the new peak streamflow was estimated to be slightly less than 100 years. A 100-year flood is the peak streamflow that has a 1 in 100 chance of being equaled or exceeded in any given year.

The USGS report, entitled "Flood of June 22–24, 2006, in North-Central Ohio, With Emphasis on the Cuyahoga River Near Independence" by James M. Sherwood, Andrew D. Ebner, G.F. Koltun, and Brian M. Astifan, is available online at <http://pubs.usgs.gov/sir/2007/5161>.

For more information about floods, see the USGS fact sheet, "Flood Hazards—A National Threat," at <http://pubs.usgs.gov/fs/2006/3026>.

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