**UNCERTAINTY AND USE LIMITATIONS**

Although the flood-inundation maps represent the boundaries of inundated areas with a distinct line, some uncertainty is associated with these maps. The flood boundaries shown were estimated based on gage heights at selected USGS streamgages. Water-surface elevations along the stream reaches were estimated by steady-state hydraulic modeling, assuming unobstructed flow and using discharges and hydrologic conditions anticipated at the USGS streamgage(s). The hydraulic model reflects the land-cover characteristics of any bridge, dam, levee, or other hydraulic structure existing in 2014. Unique meteorological factors (timing and distribution of precipitation) may cause actual discharges along the modeled reach to vary from assumed conditions during a flood and lead to deviations in the water-surface elevations and inundation boundaries shown. Additional areas may be flooded due to unanticipated backwater from major tributaries along the main stem or from localized debris or ice jams.

**STUDY AREA**

The City of Indianapolis, Indiana, is situated along the White River in central Indiana and has a population of 820,445 (U.S. Census Bureau, 2010). The city and neighboring communities have historically experienced severe flooding. Major floods occurred in 1913 and more recently in 2003, 2005, and 2013.

**PURPOSE AND SCOPE**

The purpose of this document is to describe the development of a library of estimated flood-inundation maps for an approximate 6.4-mile reach on the White River in Indianapolis, Indiana, and to make these maps available to emergency responders and the public on the USGS Flood Inundation Mapping Science Web site at <http://water.usgs.gov/osw/flood_inundation/>.

**MAP SOURCES**

Detailed source data for this map series can be found in "Flood-Inundation Maps for the White River at Indianapolis, Indiana, 2014” at: <http://dx.doi.org/10.3133/sir20155051>.

**HYDROLOGIC DATA**

The study area hydrologic network consists of three streamgages: the White River at Indianapolis, Ind. (station number 03353000), with more than 85 years of daily discharge data and more than 100 years of peak streamflow data since 1904; the White River at Michigan Street (station number 03352953); and the White River at Stout Generating Station (station number 03353611). Stage is measured continuously at all three stations, from which continuous records of streamflow are computed. Selected flows were used to simulate water-surface elevations in the hydraulic model.

**HYDRAULIC MODEL**

The hydraulic model was calibrated to the current stage-discharge relations for the three streamgages in the study reach. Differences between target and simulated water levels at the three streamgages were less than 0.2 foot (ft).

**WATER-SURFACE PROFILES**

Profiles were developed for 11 gage heights at 1-ft intervals ranging from 10 to 20 ft as referenced to a local gage datum at the White River at Indianapolis streamgage (station number 03353000), corresponding to elevations between 671.76 and 681.76 ft NAVD 88, respectively.

**FLOOD-INUNDATION MAPS**

These maps were created in a geographic information system (GIS) by combining the water-surface profiles and digital elevation model data. The digital elevation model data have an associated vertical accuracy meeting the requirements of the 1998 National Standard for Spatial Data Accuracy (NSSDA) at the 95-percent confidence interval (1.96 x root-mean-squared error [RMSE]) and a maximum permissible RMSE for 95-percent of the horizontal check points of 5.0 ft or better.

**DISCLAIMER**

Inundated areas shown should not be used for navigation, regulatory, permitting, or other legal purposes. The USGS provides these maps as a quick reference and emergency planning tool but assumes no legal liability or responsibility for any direct, indirect, incidental, consequential, special, or exemplary damages or lost profit resulting from the use or misuse of this information.