UNCERTAINTIES AND LIMITATIONS FOR USE OF FLOOD-INUNDATION MAPS

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 water stages (water-surface elevations) and are derived from gages at selected USGS streamgages. Water-surface elevations along the stream reaches were estimated by steady-state hydraulic modeling, assuming unobstructed flow, and using streamflow and hydraulic conditions anticipated at the USGS streamgages. The hydraulic model reflects the land cover, vegetation, and floodplain characteristics existing on December 2011. Unique meteorological conditions during a flood event may lead to deviations from those anticipated by the hydraulic model. Flood-inundation maps were calibrated by inundating areas identified through a combination of Federal Emergency Management Agency's (FEMA) flood inundation study, National Oceanic and Atmospheric Administration's (NOAA) flood inundation study, and historical inundation data. Inundation information for specific locations was also used to evaluate and refine the flood-inundation boundary modeling. These flood maps were prepared using the flood models along selected stream reaches (streamgauge numbers) that were analyzed for the period of record. Additional uncertainties may be related to changes in the waterway system, such as changes in land use or changes in floodplain elevations and structures that may be present along the modeled reach. Backwater conditions may include the movement of floodwater on the floodplain, the movement of floodwater into major tributary channels, or localized backwater conditions, such as: changes in the streambed elevation or roughness, backwater from major tributaries along a main stem river, or backwater from localized debris or ice jams.

The accuracy of the floodwater extent portrayed on these maps will vary with the extent of inundation, and the quality of the flood model, and the streamflow and hydrologic conditions. In addition, the spatial distribution of the flow was limited to the stream networks. This may lead to deviations from actual flow patterns and the extent of inundation along the network.

This series of flood-inundation maps should not be used for navigation, regulatory, permitting, or other legal purposes. The USGS provides this information as a quick reference, emergency planning tool, and cannot assume any legal liability or responsibility resulting from the use of this information.

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