

## Using Linear Referencing Techniques to Map and Predict Flood Inundation

David E. Ladd<sup>1</sup>

The May 2010 and 2011 floods in Tennessee revealed a critical need to provide the public with accurate and timely information on flood levels that might help prevent loss of life and property. During or before a flood, maps and GIS products depicting flood inundation can provide emergency responders and property owners with critical information to aid in rescue efforts, determine escape routes, and assess damage. With sufficient stream gage and digital elevation data, linear referencing tools can be used to create flood profiles which can be extrapolated to quickly produce flood-inundation surfaces without the use of complex hydraulic models. The U.S. Geological Survey (USGS) is developing a system for extrapolating flood depth and extent, based on current or projected flood stage, and for publishing maps of inundation surfaces in a format that is readily accessible to community planners, emergency responders, and the general public.

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<sup>1</sup> Hydrologist, U.S. Geological Survey, 640 Grassmere Park, Suite 100, Nashville, TN 37211; phone: 615-837-4773; email: deladd@usgs.gov