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# Flood Inundation Modeling for Urban Watersheds

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In this paper, flood inundation modeling is examined through analyses of major urban floods in Baltimore, MD (USA). Analyses are based on the LISFLOOD-FP model and utilize high-resolution data sets for the channel and valley bottom topography and composition of Dead Run. We examine flood inundation for major flood events on 7 July 2004 and 24 July 2008. For the 7 July 2004 flood event, flood inundation observations are available over a significant portion of the drainage network of the Dead Run watershed. Additional data sets, including high-resolution radar rainfall data sets and stage observations from a network of stream gaging stations, are used to assess spatial heterogeneities of flood response. LISFLOOD-FP inundation representations are compared to FEMA flood inundation maps for the Dead Run study region and used to assess critical modeling elements for flood hazard assessments in urban watersheds.