Event-based Flood Data Collection and Dissemination: The USGS Flood Event Viewer and Short-Term Network database

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The U.S. Geological Survey plays an important role in the collection and delivery of data resulting from coastal and inland flooding events. USGS streamflow data are vitally important for the NWS to forecast flood magnitude and timing, for the USACE to operate flood control systems and for the support of emergency response at all levels of government. In addition to the constant monitoring of streamflow through its network of long-term, permanent streamgages, the USGS has established a robust network of coastal sites for the measurement of storm surge and waves. The data collected from numerous self-recording pressure sensors deployed for the duration of a storm event, along with surveyed high water mark elevations, are stored in the Short-Term Network (STN) database.

The USGS has developed the STN database, and an accompanying set of tools, to facilitate the collection and dissemination of event-based flood data, making that data easily accessible to partner agencies and the public alike. Internal and public applications work in concert via a web service layer to make much of the data available in real time, also leveraging National Water Information System (NWIS) data to provide a complete picture of flood conditions. Data can be viewed in the Flood Event Viewer, a map-centric data portal which allows users to explore and download sensor data and high-water mark records for any event in the STN database, including historic high-water events dating back more than 40 years.

The development of the STN database and suite of products has been instrumental in expanding the USGS response to flooding events such as Hurricane Matthew, providing increased efficiency and improved data dissemination. This presentation will illustrate how these tools support the USGS and partner agencies in their storm-response efforts.