

# USGS MONITORING STORM TIDE AND FLOODING FROM HURRICANE MATTHEW

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The USGS (USGS) deployed a temporary monitoring network of water-level and barometric pressure sensors at 288 locations along the Atlantic coast from Florida to North Carolina to record the timing, areal extent, and magnitude of hurricane storm tide and coastal flooding generated by Hurricane Matthew in October 2016. During the storm, real-time water level data collected at both the temporary rapid deployment gages and long-term USGS streamgages were relayed immediately for display on the USGS Flood Event Viewer webpage to provide emergency managers and responders with critical information for tracking flood-impacted areas and directing assistance to impacted communities. In the days immediately following Hurricane Matthew, storm-tide data collected with non-real-time water-level and wave-height sensors were retrieved and processed for subsequent dissemination on the Flood Event Viewer. Along with the sensor retrieval, 543 high water marks were surveyed in the impacted areas. The high water mark information is also available on the Flood Event Viewer. Data collected from this event can be used to evaluate the performance of storm-tide models for maximum and incremental water level and flood extent as well as the site-specific effects of storm tide on natural and anthropogenic features of the environment. This presentation will describe the factors for selecting the temporary sites, the equipment used, methods for obtaining the peak water level, and usage of the USGS Flood Event Viewer. It will also discuss the various ways these data are used by forecasters and emergency management officials during the event and researchers after the event.

*Program reference: 4.3.2*