U.S. Army Corps of Engineers
Institute for Water Resources

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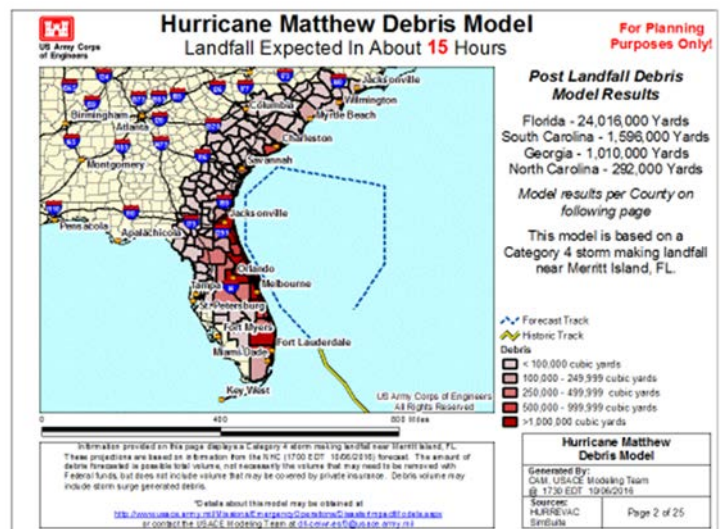For More Information:
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USACE Computer Model Critical to the Corps Hurricane Matthew Response

ALEXANDRIA, VIRGINIA. To help support the mission and aid in better decision-making, the USACE's Institute for Water Resources and the USACE Readiness Support Center have collaborated on the development and use of computer models that provide emergency managers and responders with a first look at the potential severity of a storm and are intended to set the "scale and scope" of the storm event and potential mission assignments.

> "*The results of these models are also shared with other federal, state and local partners to help them make better risk informed decisions during the response and recovery phases of an event,*" stated IWR's Chad Markin, the USACE Lead for *the Disaster Impact Modeling* efforts.

Through the use of these geospatial tools, the USACE can provide estimates of possible debris volumes, number of people and households likely within hurricane force winds, and possible temporary roofing, temporary housing needs, and potential impacts to critical infrastructure starting about three days prior to a forecasted hurricane landfall. The models are then updated every 6 hours when new advisories are issued by the National Hurricane Center (NHC) or Central Pacific Hurricane Center (CPHC) forecast times, the speed of a storm and estimated time of landfall.

Mr. Markin was running the computer models during the Hurricane Matthew storm event in terms of Matthew's projected landfall and damage areas. These projections are based on information from the NHC forecast and extrapolated to represent a landfall condition that has either occurred or may occur in the near future (in this case, based on CAT 4 storm making landfall near Merritt Island, FL). The information generated can be viewed by state (Florida, S. Carolina, Georgia, N. Carolina), with drill downs to specific counties within the state. The model depicts statistics like the numbers of persons and households that are included within estimated hurricane force winds.

This tool is very useful to emergency responders as they can quickly access information in their geographic area. For example, they can immediately find out how many airports, electrical power plants and substations, fire stations, hospitals, law enforcement, nuclear plants, nursing homes, potable water infrastructure, schools, sewage treatment plants, and military bases that will be within hurricane force winds.

Learn More
Institute for Water Resources: www.iwr.usace.army.mil
USACE response to Hurricane Matthew: https://www.facebook.com/USACEHQ/?fref=nf