Storm Surge Analysis Update Meetings, Coastal Flood Risk Study for Northeast Florida (NEFL) Study Area

The Federal Emergency Management Agency (FEMA) Region IV Office in Atlanta has undertaken a multiyear coastal flood risk study to better identify, quantify, and communicate coastal flood hazards and associated risks in northeast Florida and produce updated Flood Insurance Rate Maps (FIRMs). FEMA is updating studies along coastal communities in Duval, Flagler, Nassau, St. Johns, and Volusia Counties. This coastal flood risk study is being undertaken as part of the FEMA Risk Mapping, Assessment, and Planning (Risk MAP) program. FEMA has initiated this work through its Production and Technical Services (PTS) mapping partner and is coordinating closely with the Florida Division of Emergency Management (FDEM), Florida’s National Flood Insurance Program (NFIP) Coordinator, and community officials and other stakeholders in the affected communities.

One of the hallmarks of the Risk MAP flood risk study effort is continuous engagement of, and coordination with, community officials and other stakeholders throughout the study lifecycle. During Technical Update Meetings held in December 2012, the Project Team presented an overview of the coastal study methodology, the planned production schedule, and results of the study to date. Discussions during the Technical Update Meetings focused on storm surge model development, identification and classification of storm parameters, and storm validation.

During the current round of meetings, referred to as Storm Surge Analysis Update (SSAU) Meetings, the Project Team will present results from the next phase of the study, including the storm surge analyses, and potential impacts to existing regulatory products, such as the FIRMs and Flood Insurance Study (FIS) reports. These products are subject to the regulatory requirements of the NFIP discussed in FEMA 495, Adoption of FIRMs by Participating Communities.

Storm surge is the increased water level due to water being pushed landward by the wind and pressure fields of coastal storms, such as a nor’easter or hurricanes. The guidelines and standards for storm surge analysis have been detailed by FEMA in Atlantic Ocean and Gulf of Mexico Coastal Guidelines Update.

Determining the magnitude of the storm surge is complex, because it is affected by many variables. Variables include storm size and intensity, storm track and speed, atmospheric pressure, offshore water depths, and landfall location.
To address all combinations of the modeling variables, specialized computer models and high-powered computers are used to simulate hundreds of hurricane events and compute surge elevations for the 1-percent-annual-chance (100-year) and 0.2-percent-annual-chance (500-year) events. These models are validated using historic storm and tide data. The results of the storm surge analyses are new **stillwater flood elevations (SWELs)**.

SWELs are the projected elevations that coastal floodwaters would reach in the absence of waves resulting from wind effects. The SWELs are combined with wave setup, or the additional elevation of water due to waves breaking near the shore, and overland wave heights during the next phase of the study to compute coastal Base (1-percent-annual-chance) Flood Elevations.

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**Mitigation Planning and Activities**

A key component of the FEMA Risk MAP program is its focus on helping to identify ways to reduce flood risk to communities and their citizens. Therefore, participants in the SSAU Meetings will also discuss what actions community officials and citizens have taken to reduce risks and how effective they have been; what options are available for future mitigation projects; and resources that could assist, including a FEMA publication titled *Integrating Hazard Mitigation Into Local Planning: Case Studies and Tools for Community Officials*.

Additional hazard mitigation planning resources are accessible through [www.fema.gov/hazard-mitigation-planning-resources](http://www.fema.gov/hazard-mitigation-planning-resources).

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**For More Information**

Questions regarding the SSAU Meetings, and the coastal flood risk project for the NEFL Study Area in general, can be addressed to the Project Team members below.

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Additional information regarding the flood risk study is accessible through the NEFL Study Area page on the FEMA Coastal Analysis and Mapping Web Portal: [www.southeastcoastalmaps.com/Pages/Projects/Northeast-Florida.aspx](http://www.southeastcoastalmaps.com/Pages/Projects/Northeast-Florida.aspx).