

Potential Storm Surge Flooding Map

June 2016

Part I - Mission Connection

a. Product Description - The Potential Storm Surge Flooding Map is a product from the National Hurricane Center (NHC) which provides valuable information on the potential of storm surge flooding. The map targets areas along the Gulf and East Coast of the United States at risk from storm surge during a tropical cyclone event.

The Potential Storm Surge Flooding Map shows:

- geographical areas where inundation from storm surge could occur and
- how high above ground the water could reach in those areas.

Areas of flooding on the map are represented in different colors based on water level:

- red : > greater than 9 feet above ground,
- orange: > greater than 6 feet above ground,
- yellow: > greater than 3 feet above ground, and
- blue: > greater than 1 foot above ground.

The map takes into account:

- flooding due to storm surge from the ocean, including adjoining tidal rivers, sounds, and bays,
- normal astronomical tides,
- land elevation, and
- uncertainties in the track, landfall location, intensity, forward speed, and size of the cyclone.

The map does not take into account:

- wave action,
- freshwater flooding from rainfall,
- riverine discharge,
- flooding inside levees, and
- overtopping of levees.

The intertidal zone, the area that is above water at low tide and under water at high tide, will be displayed with a user-selectable mask layer on the Potential Storm Surge Flooding Map. This mask layer will allow users to differentiate between areas that could experience consequential flooding of normally dry ground and areas that routinely flood during typical high tides. The intertidal mask will be depicted as gray on the Potential Storm Surge Flooding Map.

NOTE: The potential storm surge hazard is not depicted within certain levee areas, such as the Hurricane and Storm Damage Risk Reduction System in Louisiana. These areas are highly complex and water levels resulting from overtopping are difficult to predict. Users are asked to consult local officials for flood risk inside these leveed areas.

NHC will release the initial map for a storm (affecting the Gulf or East Coast) when it issues a hurricane (tropical storm) watch or warning or anytime within 48 hours of anticipated onset of tropical storm force winds.

The map is subject to change every 6 hours with each new NHC full advisory package. Due to the processing time required to generate the storm surge guidance and produce the map, it will be available about 60 to 90 minutes after the NHC advisory.

The map provides a reasonable upper-bound for flooding at particular locations due to storm surge, and therefore conveys the flooding that a person should be prepared for. Specifically, the map depicts the amount of flooding of normally dry land that has a 1-in-10 (10%) chance of being exceeded. The map is created from multiple runs of the Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model.

b. Purpose – The map provides information which enables users to make decisions related to the protection of life and property from storm surge flooding of normally dry land.

c. Audience – Federal, state, and local government agencies, media, and the general public.

d. Presentation Format – Online graphic can be found at: <http://www.nhc.noaa.gov/>
GIS data will be available for each advisory this graphic is active and can be found via the NHC GIS webpage <http://www.nhc.noaa.gov/gis>

e. Feedback Method -

Technical questions may be addressed to:

National Hurricane Center
Attn: Jamie Rhome
11691 SW 17th Street
Miami, FL 33165-2149
or e-mail to: jamie.r.rhome@noaa.gov

Policy questions may be addressed to:

National Weather Service
Attn: Wayne Presnell
W/AFS26
Marine, Tropical and Tsunami Services Branch
1325 East West Highway
Silver Spring, MD 20910
or e-mail to: wayne.presnell@noaa.gov

Part II - Technical Description

a. Format & Science Basis - The potential storm surge flooding graphic is created from the (SLOSH) Probabilistic model (PSURGE) and is based on the forecast movement and intensity of

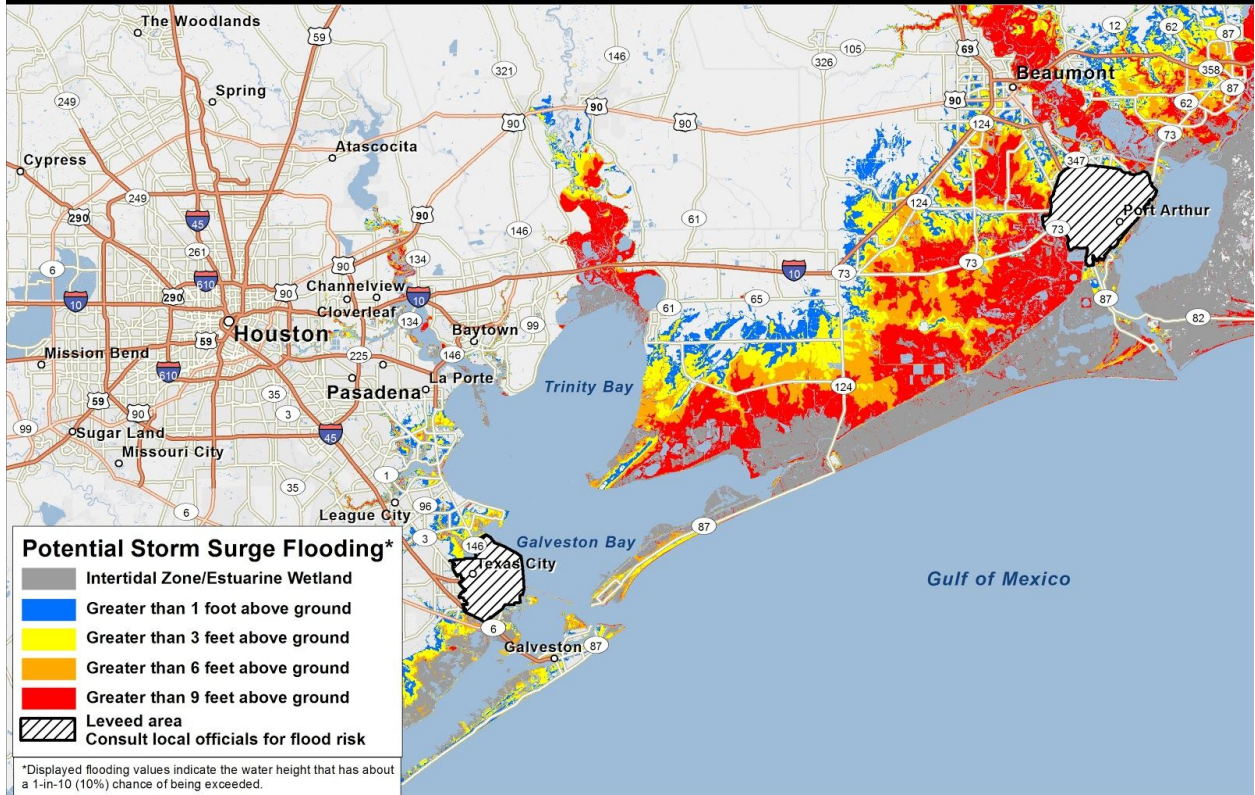
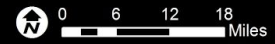
the current tropical storm or hurricane. PSURGE takes into account historic forecast errors. The map is created from the PSURGE 10% exceedance and represents a reasonable estimate of worst-case scenario flooding of normally dry land due to storm surge. There is a 1-in-10 chance that storm surge flooding at any particular location could be higher than the values shown on the map.

b. Product Availability - NHC will release the initial map with the first issuance of a hurricane watch or warning or, in some special cases, a tropical storm watch or warning, for any portion of the Gulf or East Coast of the United States (anytime within 48 hours of the anticipated onset of tropical storm force winds). The map is subject to change every six hours in association with every new NHC full advisory package. The experimental map will be available approximately 60 to 90 minutes following the advisory release.

c. Additional Information - A full description of other NWS Tropical Cyclone Weather Services Program products is provided in NWS Instruction 10-601, which is available on the Internet at: <http://www.nws.noaa.gov/directives/010/010.htm>.

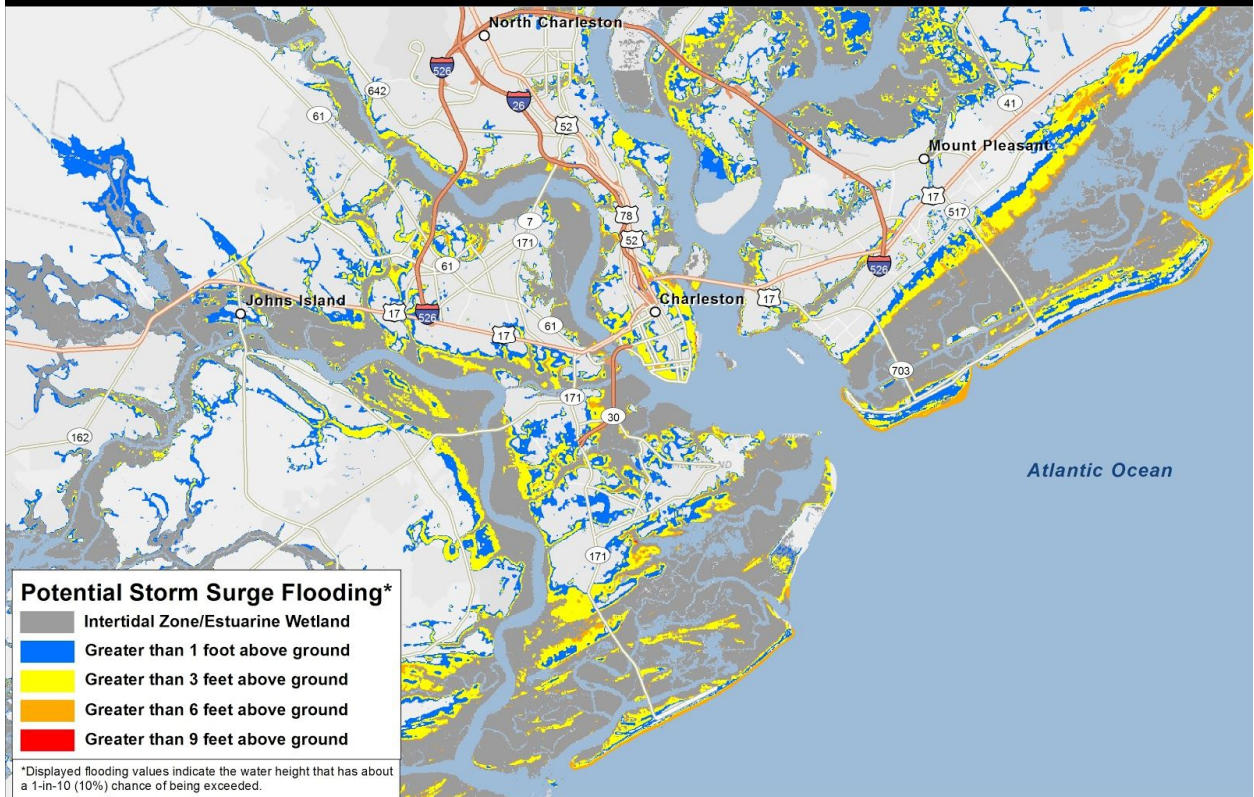
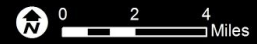
Below are static examples of the Potential Storm Surge Inundation Map. Note that the product will be interactive with pan and zoom capability.

Hurricane X



National Hurricane Center
Storm Surge Unit

Hurricane X



Potential Storm Surge Flooding*

- Intertidal Zone/Estuarine Wetland
- Greater than 1 foot above ground
- Greater than 3 feet above ground
- Greater than 6 feet above ground
- Greater than 9 feet above ground

*Displayed flooding values indicate the water height that has about a 1-in-10 (10%) chance of being exceeded.



National Hurricane Center
Storm Surge Unit

