

PRODUCT DESCRIPTION DOCUMENT

Experimental Probabilistic Tropical Cyclone Inundation Guidance Products

Approved:

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Date:

Experimental Probabilistic Tropical Cyclone Inundation Guidance Products

Part I - Mission Connection

- a. Product Description - The Probabilistic Tropical Cyclone Inundation Guidance products consists of two suites of probability products for the Gulf of Mexico and Atlantic coastal areas. The first suite of products shows probabilities, in percent, of inundation exceeding 0 feet though 20 feet above ground level, at 1 foot intervals (e.g., the probabilities in percent, of inundation exceeding 0 feet, 1 feet, 2 feet, ..., 20 feet). The second set of products show the probabilities of inundation heights (above ground level) being exceeded, from 10 to 90 percent, at 10 percent intervals. The two suites of probabilities do not account for tide, waves, and fresh water (i.e. precipitation runoff and river inflow).
- b. Purpose – The products are intended to provide users with information to enhance their ability to make preparedness decisions specific to their own situations. Users have requested additional tropical cyclone probabilistic information, and the National Research Council’s Fair Weather Report encourages the development of probabilistic products. Based on feedback received for existing tropical cyclone storm surge guidance products provided in terms of NGVD-1929 and NAVD 1988, the NWS anticipates it will be easier for users to understand inundation guidance in terms of “above ground level”.
- c. Audience – The emergency management community is the primary target audience. However, this product will also be widely used by other federal, state, and local government agencies; the media; maritime interests; and the general public.
- d. Presentation Format – Graphics will be generated and displayed on the internet as .png files at: <http://www.weather.gov/mdl/phish>. ESRI shape files and GRIB2 files can also be downloaded from the website.

Planning is currently underway to provide the GRIB2 data via the NWS Telecommunication Gateway in the future.

Feedback Method

Technical questions may be addressed to:

National Weather Service
Attn: Arthur Taylor
W/OST25
Meteorological Development Laboratory
1325 East West Highway
Silver Spring, MD 20910
or e-mail to: arthur.taylor@noaa.gov

Policy questions may be addressed to:

National Weather Service
Attn: John F. Kuhn
W/OS21
Marine and Coastal Services Branch
1325 East West Highway
Silver Spring, MD 20910

or e-mail to: john.f.kuhn@noaa.gov

Part II - Technical Description

- a. Format & Science Basis - The Probabilistic Tropical Cyclone Inundation Guidance products are a statistical output from of an ensemble of SLOSH model runs. All ensemble members are based on the current NHC's tropical cyclone advisory. Ensemble members take into account historical error characteristics by varying input parameters such as forward speed, cross track location, radius of maximum wind, and hurricane intensity. The inundation guidance is computed based on average heights within the native SLOSH grid. The grid cell dimensions vary between basins and within basins. The resulting inundation guidance is interpolated to a 625 x 625 meter NDFD CONUS sub grid.
- b. Product Availability - The product is available whenever a hurricane watch and/or warning is in effect for any portion of the Gulf or Atlantic coasts of the continental United States. Updates to the product are generally produced one hour after the issuance of routine NHC tropical cyclone advisories (03, 09, 15, and 21 Coordinated Universal Time – UTC).

Static example of the product is available at: <http://www.weather.gov/mdl/phish>.

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