

Experimental Hurricane Threats and Impacts Web Interface (HTI-Web) Product Description Document

Part I - Mission Connection

- a. Product Description – The experimental Hurricane Threats and Impacts Web Interface (HTI-Web) is an internet-based decision-support service designed to help users quickly interface with local hazard information whenever tropical storm and/or hurricane watches and warnings are in effect along the United States East and Gulf coasts, including Puerto Rico. Local threat assessments and corresponding potential impacts information about tropical storm or hurricane wind, storm surge, flooding rain, and tornadoes are provided by coastal Weather Forecast Offices (WFOs). Select preparedness information is also provided.

The webpage is based upon official tropical storm and hurricane forecast and warning products provided by WFOs and National Centers.

- b. Purpose – To display and communicate tropical storm and hurricane decision-making information on threats and impacts of tropical hazards.
- c. Audience – Federal, state, and local government agencies; state and local emergency managers; media, and general public.
- d. Presentation Format – Interactive web interface located at:
- e. Feedback Method – Continuous feedback is available via the following web page:

<http://preview.weather.gov/hti>

<http://www.nws.noaa.gov/survey/nws-survey.php?code=HTIWI>

Technical and policy questions may be addressed to:

National Weather Service
Attn: John F. Kuhn
1325 East-West Highway, Room 13124
Silver Spring, MD 20910-3283
john.f.kuhn@noaa.gov

Part II - Technical Description

- a. Format & Science Basis – The information contained in the web interface is based on the official tropical storm and hurricane forecast and warning products provided by WFOs and national centers.
- b. Product Availability – Information will be available whenever tropical storm and/or

hurricane watches and warnings are in effect along the Atlantic and Gulf coasts as well as Puerto Rico. Updates will be provided at least every six hours, and will cease when watches and / or warnings are no longer in effect.

- c. Additional Information – The local threat graphics in the HTI-Web (wind, storm surge, flooding rain, and tornado) are produced by WFO forecasters utilizing the Graphical Forecast Editor (GFE) in AWIPS. The accompanying potential impact statements are tailored to each WFOs area.

There are five levels to describe each threat (all threat levels are based on worst case plausible scenario):

Wind Threat – values are based on the official NDFD wind grids created from the official hurricane center forecast along with a measure of uncertainty provided by the official tropical cyclone wind speed probabilities.

- 1) Little to None – The potential for wind to remain less than 39 mph.
- 2) Elevated – The potential for winds equal to or greater than 39 mph and less than 58 mph.
- 3) Moderate – the potential for winds equal to or greater than 58 mph and less than 74 mph.
- 4) High – potential for winds equal to or greater than 74 mph, and less than 111 mph.
- 5) Extreme – the potential for winds equal to or greater than 111 mph.

Storm Surge Threat – grid is computed based on the probabilistic storm surge guidance. The guidance used will be the same the National Hurricane Center uses to determine the range of values used in their public advisories.

- 1) Little to None – Potential for inundation from storm surge plus tide to remain less than 1 foot above ground level (AGL).
- 2) Elevated – Potential for inundation from storm surge plus tide to be greater or equal to 1 foot and less than 3 feet AGL.
- 3) Moderate – Potential for inundation from storm surge plus tide to be greater or equal to 3 feet and less than 6 feet AGL.
- 4) High – Potential for inundation from storm surge plus tide to be greater or equal to 6 feet and less than 9 feet AGL.
- 5) Extreme – Potential for inundation from storm surge plus tide to be greater or equal to 9 feet AGL.

Flooding Rain Threat – grid is computed using a combination of the official NDFD QPF forecasts, flash flood guidance from the river forecast centers, and the Excessive Rainfall Probabilities from the Weather Prediction Center (WPC). In simplest terms, threat levels are described as follows:

- 1) Little to None – Potential for rain amounts to remain below flash flood guidance values with no to minimal impacts anticipated.

- 2) Elevated – Potential for highest rain amounts near values conducive to flash flooding capable of resulting in limited damage from fresh water
- 3) Moderate – Potential for highest rain amounts to notably exceed values conducive to flash flooding capable of producing significant damage from fresh water flooding.
- 4) High – Potential for highest rain amounts to well exceed values conducive to flash flooding capable of producing extensive damage from fresh water flooding.
- 5) Extreme – Potential for highest rain amounts to greatly exceed values conducive to flash flooding capable of producing devastating to catastrophic damage from fresh water flooding.

Tornado Threat – this is computed for the event analyzing SPC Tornado Probabilities for day 1 and severe weather probabilities as a proxy for tornado threat for days 2 and 3 (in case event falls in days 2 or 3), In simplest terms, threat levels are described as follows:

- 1) Little to None – There is no discernable potential for tornadoes from hurricanes or tropical storms. Appreciable damage is unlikely.
- 2) Elevated – Potential for isolated tornadoes capable of producing limited to locally significant damage.
- 3) Moderate – Potential for scattered locations to experience tornadoes (with a few strong) capable of producing significant damage.
- 4) High – Potential for numerous locations to experience tornadoes (with several strong) capable of producing extensive damage. Description consistent with an outbreak event.
- 5) Extreme – Potential for numerous locations to experience tornadoes capable of producing devastating to catastrophic damage. Description consistent with a historic outbreak event.