NOUS41 KWBC 111945
PNSWSH

Service Change Notice 18-39
National Weather Service Headquarters Silver Spring MD
345 PM EDT Wed Apr 11 2018

To: Subscribers:
-NOAA Weather Wire Service
-Emergency Managers Weather Information Network
-NOAAPort
Other NWS Partners, Users and Employees

From: Allison Allen
Chief, Marine, Tropical and Tsunami Services Branch

Subject: Arrival of Tropical-Storm-Force Winds Graphics Become Operational on or around May 15, 2018

Effective on or around May 15, 2018, the National Hurricane Center (NHC) and the Central Pacific Hurricane Center (CPHC) will begin operational issuance of the Arrival of Tropical-Storm-Force Winds Graphics.

The anticipated arrival of sustained tropical-storm-force winds from a tropical cyclone is a critical threshold for coastal and inland communities. For example, emergency managers use this information to help determine when to begin and complete coastal evacuations, while members of the public need to know when to prepare their homes or businesses. Once sustained tropical-storm-force winds begin, such preparations usually become too dangerous or difficult.

Historically, many decision makers have inferred the arrival of sustained tropical-storm-force winds from NHC and CPHC products deterministically, without accounting for tropical cyclone track or size uncertainty. The risk in not factoring in these elements of uncertainty is that communities may have less time to prepare if a tropical cyclone speeds up or increases in size beyond the initial forecasts.

To better meet users' needs, a set of graphics was developed that depict when sustained tropical-storm-force winds from an approaching tropical cyclone could arrive at individual locations. The maps were developed and tested using social science techniques, including one-on-one telephone interviews, focus groups, and surveys with emergency managers, broadcast meteorologists, and NWS meteorologists to gather opinions on the idea, content and design of the products.

The timing graphics are created using the same Monte Carlo wind speed probability model currently used to determine the risk of tropical-storm- and hurricane-force winds at individual locations. This model constructs 1,000 plausible scenarios using the official NWS tropical cyclone forecast and its historical errors. Additional information on this product and the underlying technique are online at:

http://www.nhc.noaa.gov/about/pdf/About_Windspeed_Probabilities.pdf

There will be two thresholds for producing the Arrival of Tropical-Storm-Force Winds Graphic and posting them on the NHC and CPHC websites for all tropical cyclones, post-tropical cyclones, and potential tropical cyclones for which advisories are written:

Earliest Reasonable Arrival Time: This graphic identifies the time window that users at individual locations can safely assume will be free from tropical-storm-force winds. Specifically, this is the time before which there is no more than a 1-in-10 (10 percent) chance of seeing the onset of sustained tropical-storm-force winds. This timeframe is when preparations should ideally be completed for those with a low tolerance for risk.

Most Likely Arrival Time: This graphic identifies the time before or after which the onset of tropical-storm-force winds is equally likely. This graphic would be more appropriate for users who are willing to risk not having completed all their preparations before the storm arrives.

Timing information will only be available for locations that have at least a five percent chance of experiencing sustained tropical-storm-force winds during the next five days.

Each of these thresholds will also be available overlaid on top of the cumulative 5-day probability of tropical-storm-force winds, providing a single combined depiction of the likelihood of tropical-storm-force winds at individual locations, along with their possible or likely arrival times.

The graphics will be updated with each new full tropical cyclone advisory package from NHC and CPHC. Arrival times will be depicted with higher temporal resolution (i.e., in 6-hour intervals) during the first day of the 5-day forecast, increasing to lower temporal resolution (i.e., in 12-hour intervals) after the first day of the 5-day forecast period. Arrival times will be referenced to 8 AM and 8 PM local time, using a constant time zone that corresponds to where the cyclone is located at the time of the advisory. For example, if a cyclone is located in the Eastern Time Zone at the time of an advisory but is forecast to move into the Central Time Zone during the 5-day forecast period, all times on the graphic will be referenced to the Eastern Time Zone.

When advisories are issued, the default graphic will be available as a clickable thumbnail within the storm window box for active cyclones on the NHC main webpage:

www.nhc.noaa.gov

and the CPHC main webpage:

http://www.prh.noaa.gov/cphc/

After clicking on the thumbnail, users can select any of the four options.

Additional information and map examples are online at:

www.hurricanes.gov/experimental/arrivaltimes/

For questions regarding this notice, please contact:

Jessica Schauer
NWS Tropical Program Leader
NWS Marine, Tropical and Tsunami Services Branch
Miami, FL
305-229-4476
tropical.program@noaa.gov

National Service Change Notices are online at:

https://www.weather.gov/notification/archive

NNNN