

PRODUCT DESCRIPTION DOCUMENT

Tropical Cyclone Surface Wind Speed Probabilities - Text

Approved Signed by David B. Caldwell Date 3/17/08

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Water and Weather Services

Tropical Cyclone Surface Wind Speed Probabilities - Text

Part I - Mission Connection

- a. Product Description - The Tropical Cyclone Surface Wind Speed Probabilities text product contains two parts. The first part, called Maximum Wind Speed (Intensity) Probability Table, provides over a five day period what the probabilities are for the maximum sustained (1-minute average) wind speed of a tropical cyclone for various intensity categories. A second part, called Wind Speed Probability Table for Specific Locations, provides probabilities, in percent, of sustained wind speeds equal to or exceeding 34-, 50-, and 64-knot wind speed thresholds. These wind speed probabilities are based on the track, intensity, and wind structure uncertainties during recent years in the official forecasts from the National Hurricane Center and the Central Pacific Hurricane Center and are computed for coastal and inland cities as well as offshore locations (e.g., buoys).
- b. Purpose – These products are intended to provide users with information enhancing their ability to make preparedness decisions specific to their own situations. Customers have requested additional tropical cyclone probabilistic information, and the National Research Council’s Fair Weather Report encourages probabilistic products.
- 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; nations in the Americas, Caribbean, east and central Pacific; the media; maritime interests; and the general public.
- d. Presentation Format – Text products will be displayed on the Internet and disseminated with WMO headers via the EMWIN and NWWS.
- e. Feedback Method - Continuous feedback is welcomed via existing NWS feedback mechanisms, such as an e-mail via the webmasters at the National Hurricane Center or Central Pacific Hurricane Center.

Technical or policy questions and comments for this product may be directed to:

National Weather Service
Attn: Scott Kiser, OS21
1325 East-West Highway, Room 13126
Silver Spring, MD 20910

or e-mail questions and comments to: Scott.Kiser@noaa.gov

Part II - Technical Description

- a. Format & Science Basis - The products are statistically based on track, intensity, and wind structure uncertainties during recent years in the official tropical cyclone forecasts produced by the respective tropical cyclone forecast center. The product provides maximum wind speed (intensity) probabilities at standard forecast hours (12, 24, 36, 48,

72, 96, and 120) for various stages of a tropical cyclone (dissipated, depression, tropical storm and hurricane) and for the five categories of the Saffir-Simpson Hurricane Scale.

Probabilities are also provided for sustained wind speeds equal to or exceeding three wind speed thresholds: 34-, 50- and 64-knots. Two types of probability values are produced: individual and cumulative. Individual probabilities are provided for each of the following time intervals: 0-12 hours, 12-24 hours, 24-36 hours, 36-48 hours, 48-72 hours, 72-96 hours, and 96-120 hours. These individual probabilities indicate the chance that the particular wind speed will *start* during each individual at each location. Cumulative probabilities are also produced for the following time periods: 0-12 hours, 0-24 hours, 0-36 hours, 0-48 hours, 0-72 hours, 0-96 hours, and 0-120 hours. These cumulative probabilities indicate the overall chance that the particular wind speed will occur at each location during the period between hour 0 and the forecast hour.

- b. Product Availability - These text products are intended to be made available by the issuance deadlines for routine advisories (03, 09, 15, and 21 Coordinated Universal Time – UTC) and to be included with special advisories for all tropical and/or subtropical cyclones.
- c. Product Examples - The products will be posted on the NHC and CPHC web pages when there are tropical cyclones in their respective areas of responsibility. A static example is posted on line at:

<http://www.nhc.noaa.gov/aboutnhcprod.shtml>

- d. Additional Information - A full description this and other NWS Tropical Cyclone Weather Services Program Products is provided in NWSI 10-601, which is available on line at:

http://www.nws.noaa.gov/directives/010/operation_services.htm