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Service Change Notice 21-21 Updated
National Weather Service Headquarters Silver Spring MD
1130 AM EDT Thu Jun 30 2022

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

From: Kate Abshire, Acting Chief
 Marine, Tropical and Tsunami Services Branch

Subject: Updated: Soliciting Comments through May 31, 2023 on
Experimental Arrival of Tropical-Storm-Force Winds Graphics for the South
Pacific and Western North Pacific Produced by the Central Pacific
Hurricane Center (CPHC) Based on Forecasts from the Joint Typhoon Warning
Center (JTWC)

Updated to extend the comment period through May 31, 2023, to promote new
local office websites for the experimental Arrival of Tropical-Storm-
Force Winds Graphics, and to define the product generation boundaries.

The National Weather Service (NWS) has extended the comment period
through May 31, 2023 for the experimental graphics that project the
arrival time of tropical-storm-force winds for tropical cyclones in the
South Pacific and western North Pacific basins based on forecasts issued
from the Joint Typhoon Warning Center (JTWC). These graphics will be
generated by the NWS Central Pacific Hurricane Center (CPHC). These
graphics will use the same format as graphics that are operationally
provided on [hurricanes.gov](https://www.hurricanes.gov) for the central and eastern North Pacific and
the Atlantic basins based on NWS forecasts.

Changes for this comment period include - The products have been updated
to Samoan Standard Time (SST) for the South Pacific and Chamorro Standard
Time (CHST) for the western North Pacific.

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 in advance of hazardous weather. 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 deterministic tropical cyclone forecasts,
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-force and hurricane-force winds at individual locations. This model constructs 1,000 plausible scenarios using the official NWS or JTWC tropical cyclone forecasts and their historical errors. Additional information on this product and the underlying technique are located online at:

[https://www.nhc.noaa.gov/about/pdf/About Windspeed Probabilities.pdf](https://www.nhc.noaa.gov/about/pdf/About_Windspeed_Probabilities.pdf)

There will be two thresholds for experimentally producing the Arrival of Tropical-Storm-Force Winds Graphics for South Pacific and western North Pacific tropical cyclones:

1. **Earliest Reasonable Arrival Time:** This graphic identifies the time window that users at individual locations can safely assume they 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 is when preparations should ideally be completed for those with a low tolerance for risk.
2. **Most Likely Arrival Time:** This graphic identifies the time before or after which the onset of tropical-storm-force winds are equally likely to occur. 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 experimental graphics for the South Pacific and western North Pacific will be updated using forecast information from the Tropical Cyclone Warning bulletins from JTWC within those basins. 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 Samoa Standard Time (SST) on the South Pacific graphics and to Chamorro Standard Time (ChST) on the western North Pacific graphics.

When JTWC Tropical Cyclone Warning bulletins are issued for the South Pacific or western North Pacific basins, the experimental graphics will be available within 15 minutes after the release of the product from JTWC. The Tropical Cyclone Warning bulletin is scheduled for issuance at 0300, 0900, 1500, and 2100 Coordinated Universal Time (UTC). The experimental Time of Arrival products will only be produced for any tropical cyclone system JTWC is issuing warnings on which have at least one forecast point within 10S-20S and 164.5W-178.5W for the South Pacific and within 0-25N and 180-130E for the western North Pacific. JTWC Tropical Cyclone Warning bulletins can be found under the following World Meteorological Organization (WMO) identifiers:

JTWC Product -----	WMO ID -----
Southern Hemisphere TC Warning	WTPS3[1-5] PGTW
Western North Pacific TC Warning	WTPN3[1-5] PGTW

More information on the products issued by JTWC can be found here:

<https://www.metoc.navy.mil/jtwc/jtwc.html?notices>

Examples of the Time of Arrival of Tropical-Storm-Force Winds graphics can be found at:

South Pacific:

<https://www.weather.gov/ppg/spacTropicalExample>

Western North Pacific:

<https://www.weather.gov/gum/wpacTropicalExample>

When there are active TCs in the South Pacific within 10S-20S and 164.5W-178.5W and in the western North Pacific within 0-25N and 180-130E, the experimental graphics will be provided at the following websites:

South Pacific: <https://www.weather.gov/ppg/spacTropical>

Western North Pacific: <https://www.weather.gov/gum/wpacTropical>

CPHC produces the graphics experimentally in KMZ format on the same webpages noted above. Additional information about the content of NWS tropical cyclone wind timing graphics can be found online at:

<https://www.nhc.noaa.gov/aboutnhcgraphics.shtml?#TOA>

Note: The experimental products will not have a backup production site in a case where conditions or events exist that prevent the product from being issued from the original production source.

Users are encouraged to provide feedback on this experimental product through the following survey:

[https://www.surveymonkey.com/r/Arrival TropicalStormForceWindsGraphics SouthPacific WesternNorthPacific](https://www.surveymonkey.com/r/Arrival_TropicalStormForceWindsGraphics_SouthPacific_WesternNorthPacific)

If you have questions regarding this notice, please contact:

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National Public Information Statements are online at:

<https://www.weather.gov/notification/>

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