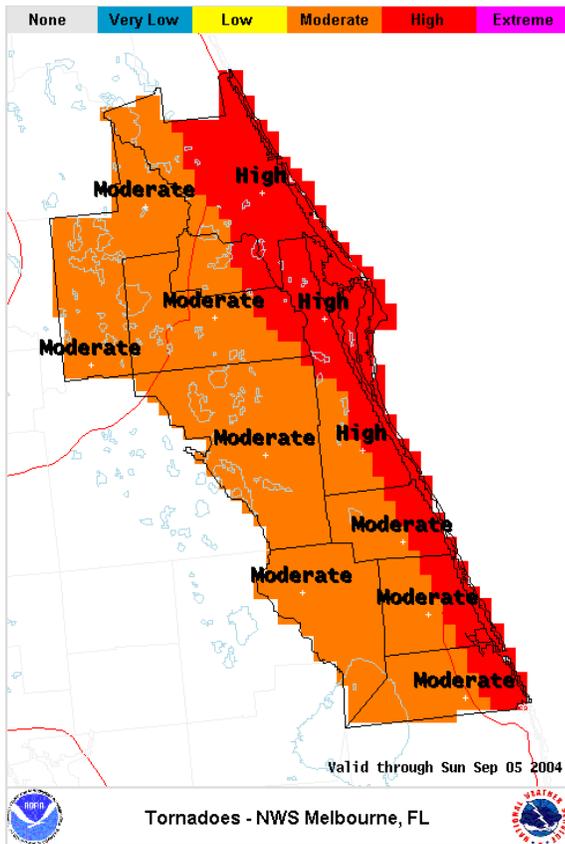




Experimental

Tropical Cyclone Tornado Impact Product



Description: Issued by the local Weather Forecast Office (WFO) during tropical cyclone situations, the *Tropical Cyclone Tornado Impact* product depicts the potential impact of the associated tornado hazard. It responsibly converts the most relevant threat assessment information into descriptions of potential impact using a color-coded index scale ranging from 0 to 5, *None* to *Extreme*. It combines the forecasting expertise of the Storm Prediction Center and the local WFO by considering both the regional-scale environmental conditions and local-scale enhancements conducive for tornadoes. It is based on the likelihood that tornadoes will occur, combined with the anticipated strength (e.g., Enhanced Fujita Scale) of the most intense tornadoes, offering a more complete expression of the overall threat and corresponding impact. Product release is triggered by the issuance of a tropical cyclone Watch or Warning anywhere within the defined area, but tornado impacts can be much broader in both time and space. Routine updates are provided shortly after each official advisory and are continued until tropical cyclone tornadoes are no longer an immediate threat to local communities.

Utility: The *Tropical Cyclone Tornado Impact* product uses an index scheme to distill the abundance of tornado information into a single plan-view map that is easy-to-understand. The product is designed to motivate less-sophisticated users to action regarding preparedness activities, while helping to prevent information paralysis. Importantly, it highlights the minimum corresponding actions and relates them to potential impacts. By a large majority, weak to moderate tornadoes occur more often than strong to violent tornadoes. In tropical cyclone situations, tornadoes can occur well before landfall (making preparedness and coastal evacuation efforts more difficult), well after landfall (making rescue and recovery efforts more hazardous), and in locations well away from the tropical cyclone center (making it more challenging to elevate public concern).

For Example: Upon the issuance of a tropical cyclone Watch or Warning, a mobile home resident located near but outside of the primary wind and surge threat area might investigate the *Tropical Cyclone Tornado Impact* product to assess the potential for impending tornado watches and warnings. Being subject to a potential impact of a high level, they may make the personal decision to temporarily evacuate to a nearby house of family or friends until the threat passes. Comparatively, utility restoration crews would have a better idea of the extent for potential outages away from the center of the storm. This information could then be factored into their preparedness and recovery operations strategy as limited manpower and resources are distributed.

Note: The example image depicts the potential impact from tornadoes associated with Hurricane Frances (2004) as expressed within 24 hours of landfall in east central Florida. Graduated definitions are based on the anticipated strength of possible tornadoes, while accounting for the likelihood of tornado occurrence.

Tropical Cyclone Tornado Impact Definitions

Impact Levels	Description
Extreme	<ul style="list-style-type: none"> Threat: An extreme threat to life and property; a 45% probability (or greater) of tornadoes. Minimum Action: Prepare for the likelihood of many tornadoes (even families) with scattered tornadoes of EF-2 to EF-5 intensity. Potential Impact: An extreme impact to communities within the specified area. Scattered locations may experience major tornado damage, among many locations of minor to moderate tornado damage. Some tornadoes may have longer damage tracks
High	<ul style="list-style-type: none"> Threat: A critical threat to life and property; a 30 to 44% probability of tornadoes. Minimum Action: Prepare for the likelihood of scattered tornadoes with isolated tornadoes of EF-2 to EF-5 intensity. Potential Impact: A high impact to communities within the specified area. Isolated locations may experience major tornado damage, among scattered locations of minor to moderate tornado damage. Some tornadoes may have longer damage tracks.
Moderate	<ul style="list-style-type: none"> Threat: A significant threat to life and property; a 15 to 29% probability of tornadoes. Minimum Action: Prepare for the likelihood of scattered tornadoes of EF-0 to EF-1 intensity. However, the likelihood of an isolated EF2 tornado is increasing. Potential Impact: A moderate impact to communities within the specified area. Scattered locations may experience minor to moderate tornado damage. Some tornadoes may have longer damage tracks.
Low	<ul style="list-style-type: none"> Threat: An elevated threat to life and property; a 2 to 14% probability of tornadoes. Minimum Action: Prepare for the likelihood of isolated to scattered tornadoes of EF-0 to EF-1 intensity. Potential Impact: A low impact to communities within the specified area. Isolated to scattered locations may experience minor to moderate tornado damage.
None	<ul style="list-style-type: none"> Threat: No discernible threat to life and property; the probability of tornadoes is less than 2%. Minimum Action: Listen for forecast changes; review tornado safety rules. Potential Impact: None expected; strong wind gusts may still occur.

Note: In all tropical cyclone situations, listen for possible tornado watches; take cover immediately if a tornado warning is issued for your area.

EF-0 Tornadoes – Weaker tornadoes on the Enhanced Fujita (EF) Scale causing minor damage. Damage to chimneys, porches, screen houses, and lighter-weight outbuildings; a few downed trees and power lines; large signs blown over. Tornado wind speeds of 65 to 85 mph.

EF-1 Tornadoes - Moderate tornadoes on the Enhanced Fujita (EF) Scale causing moderate damage. Mobile homes moved off foundations or overturned; roof surfaces peeled off buildings; cars blown off roads; several large trees downed and some power outages. Tornado wind speeds of 86 to 110 mph.

EF-2 to EF-5 Tornadoes – Strong to violent tornadoes on the Enhanced Fujita (EF) Scale causing major damage (up to complete destruction). Mobile homes completely demolished; numerous large trees snapped off, totally uprooted, or debarked; small debris objects (lawn mowers, smaller sections of roofs) become airborne missiles. Significant power outages over larger areas. Structural damage to sturdy buildings, especially roof and wall failures. In the worst situations, well-constructed walls fail or are even removed; large debris objects (cars, larger sections of roofs) become airborne missiles causing further structural failures. Tornado wind speeds 111 mph or greater; in the worst situations 200 mph or greater.