

What is a Hurricane?

A hurricane is a type of tropical cyclone, which is a generic term for a low pressure system that generally forms in the tropics. The cyclone is accompanied by thunderstorms and, in the Northern Hemisphere, a counterclockwise circulation of winds near the earth's surface. Tropical Cyclones are classified as follows:

Tropical Depression: An organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds* of 38 mph (33 kt**) or less

Tropical Storm An organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39-73 mph (34-63 kt)

Hurricane An intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph (64 kt) or higher

* Sustained winds are defined as a 1-minute average wind measured at about 33 ft (10 meters) above the surface.

** 1 knot = 1 nautical mile per hour or 1.15 statute miles per hour. Abbreviated as "kt".

A Tropical Cyclone has different names throughout its average 12 day life cycle, depending on the wind speed.

- **Tropical Disturbance** - A slight rotary circulation with no strong winds. A common occurrence in the tropics. There are several different types of Tropical Disturbances: an easterly wave, a West African Disturbance Line (WADL), a disturbance in the Intertropical Convergence Zone (ITCZ), a trough or cold Low in the upper troposphere, or an old polar front. So if you hear any one of these terms on the evening weather show, you know something is brewing in the tropics that could develop into a major storm.
- **Tropical Depression** - A rotary counterclockwise circulation with the highest sustained wind of 39 miles per hour. It is at this point the hurricane people recognize it as a possible threat and give it a strange name like TD4 (Tropical Depression number four).
- **Tropical Storm** - A distinct rotary counterclockwise circulation with sustained wind of 39 miles per hour to 73 miles per hour. Now the Hurricane Center in Miami, FL, gives it a real name, like TROPICAL STORM EMILY. The eye becomes visible.
- **Hurricane** - Strong, very pronounced counterclockwise rotary circulation with winds of 74 miles per hour and higher. The eye is very pronounced.

And forever keep in mind

- **A HURRICANE WATCH** means there is a possible hurricane threat to the area within 24 to 36 hours.
- **A HURRICANE WARNING** means hurricane conditions are expected to affect the area in less than 24 hours. Take immediate precautions.

But remember, anyone can issue hurricane watches and warnings: radio stations, television stations, your corner supermarket butcher, anyone. But they can not say that it is an official National Weather Service watch or warning. The official word from the National Weather Service is the one that should be heeded.

Definitions of Watches and Warnings

Tropical Storm Watch

A tropical storm watch is issued when tropical storm conditions, including winds from 39 to 73 mph, pose a possible threat to a specified coastal area within 36 hours.

Tropical Storm Warning

A tropical storm warning is issued when tropical storm conditions, including winds from 39 to 73 mph, are expected in a specified coastal area within 24 hours or less.

Hurricane Watch

A hurricane watch is issued for a specified coastal area for which a hurricane or a hurricane-related hazard is a possible threat within 36 hours.

Hurricane Warning

A hurricane warning is issued when a hurricane with sustained winds of 74 miles per hour or higher is expected in a specified coastal area in 24 hours or less. A hurricane warning can remain in effect when dangerously high water or a combination of dangerously high water and exceptionally high waves continues, even though the winds may have subsided below hurricane intensity.

Flash Flood Watch

A flash flood watch means a flash flood is possible in the area; stay alert.

Flash Flood Warning

A flash flood warning means a flash flood is imminent and everyone in the area should take immediate action.

"Saffir-Simpson Hurricane Scale"

All Hurricanes are dangerous, but some are more so than others. The way storm surge, wind and other factors combine determines the hurricanes destructive power. To make comparisons easier and to make the predicted hazards of approaching hurricanes clearer to emergency managers, National Oceanic and Atmospheric Administration's hurricane

forecasters use a disaster-potential scale which assigns storms to five categories. This can be used to give an estimate of the potential property damage and flooding expected along the coast with a hurricane.

The scale was formulated in 1969 by Herbert Saffir, a consulting engineer, and Dr. Bob Simpson, director of the National Hurricane Center. The World Meteorological Organization was preparing a report on structural damage to dwellings due to windstorms, and Dr. Simpson added information about storm surge heights that accompany hurricanes in each category.

Category	Winds	Storm Surge	Effects
One	74-95 mph	4-5 ft	No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Also, some coastal road flooding and minor pier damage
Two	96-110 mph	6-8 ft	Some roofing material, door, and window damage to buildings. Considerable damage to vegetation, mobile homes, and piers. Coastal and low-lying escape routes flood 2-4 hours before arrival of center. Small craft in unprotected anchorages break moorings.
Three	111-130 mph	9-12 ft.	Some structural damage to small residences and utility buildings with a minor amount of curtainwall failures. Mobile homes are destroyed. Flooding near the coast destroys smaller structures with larger structures damaged by floating debris. Terrain continuously lower than 5 feet ASL may be flooded inland 8 miles or more.
Four	131-155 mph	13-18 ft	More extensive curtainwall failures with some complete roof structure failure on small residences. Major erosion of beach. Major damage to lower floors of structures near the shore. Terrains continuously lower than 10 feet ASL may be flooded requiring massive evacuation of residential areas inland as far as 6 miles.
Five	greater than 155 mph	18+ ft.	Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. Major damage to lower floors of all structures located less than 15 feet ASL and within 500 yards of the shoreline. Massive evacuation of residential areas on low ground within 5 to 10 miles of the shoreline may be required.