

What You Need to Know About Hurricanes

The Atlantic hurricane season begins on Monday, June 1. For the United States, the peak hurricane threat exists from mid-August to late October, although the official season extends through November 30.

Each year, our nation experiences more significant hurricane risk as coastal populations continue to rapidly increase. More than one in six Americans now reside in a county abutting the Atlantic Ocean or Gulf of Mexico. In resort areas, populations can swell tenfold or even a hundredfold on holidays and weekends.

The most significant danger comes from a hurricane's storm surge, when the surface of the sea gets raised due to the force of a hurricane's winds spiraling in toward the center. It is important to note that the stronger and larger the size of the hurricane and the shallower the offshore water, the higher the surge will be.

Hurricanes are measured using the Saffir-Simpson scale, a 1 to 5 rating based on the storm's sustained wind speed. This scale estimates potential property damage. Hurricanes or typhoons reaching Category 3 and higher are considered major events because of their potential for loss of life and damage. Category 1 and 2 storms are still very dangerous and warrant preventative measures. In the western North Pacific, the term "Super Typhoon" is used for tropical cyclones with sustained winds exceeding 150 mph. For more information on the Saffir-Simpson Hurricane Scale, go to www.nhc.noaa.gov/aboutsshs.shtml.

Hurricane-force winds, 74 mph or more, can destroy buildings and mobile homes. Debris, such as signs, roofing material, siding, and small items left outside, become flying missiles in hurricanes. And winds can hold at hurricane strength well inland. In 1989, Hurricane Hugo battered Charlotte, North Carolina—about 175 miles inland—with wind gusts to near 100 mph, downing trees and power lines.

Hurricanes and tropical storms also produce tornadoes. These tornadoes most often occur in thunderstorms embedded in rain bands well away from the center of the hurricane; however, they can also occur near the eyewall. Usually, tornadoes produced by a hurricane are relatively weak and short-lived, but still pose a threat.

Hurricanes and tropical storms can produce widespread torrential rains often in excess of six inches. This rain can produce deadly and destructive floods. Heavy rain can trigger landslides and debris flows, especially in mountainous regions. Flooding is the major threat from tropical cyclones to people living far from the coast. Flash flooding can occur quickly due to intense rainfall. Long-term flooding on rivers and streams can persist for several days after the storm.

Saffir-Simpson Hurricane Scale

The Saffir-Simpson Hurricane Scale, a 1 to 5 rating based on the hurricane's sustained wind speed, estimates potential property damage.

- Category 1 (Sustained Winds of 74-95 mph): Damage primarily to shrubbery, trees, foliage, and unanchored mobile homes. No real damage to other structures. Storm surge typically 4-5 ft. above normal.
- Category 2 (Sustained Winds of 96-110 mph): Some trees blown down. Major damage to exposed mobile homes. Some damage to roofing materials, windows, and doors. Storm surge typically 6-8 ft. above normal.

- Category 3 (Sustained Winds of 111-130 mph): Large trees blown down. Mobile homes destroyed. Some structural damage to roofing materials of buildings. Some structural damage to small buildings. Storm surge typically 9-12 ft. above normal.
- Category 4 (Sustained Winds of 131-155 mph): Trees blown down. Complete destruction of mobile homes. Extensive damage to roofing materials, windows, and doors. Complete failure of roofs on many small residences. Storm surge typically 13-18 ft. above normal.
- Category 5 (Sustained Winds over 155 mph): Complete failure of roofs on many residences and industrial buildings. Extensive damage to windows and doors. Some complete building failures. Storm surge typically greater than 18 ft. above normal.

Terms to Understand

- Hurricane Watch: Hurricane conditions are possible in a specified area, usually within 36 hours.
- Hurricane Warning: Hurricane conditions are expected in a specified area, usually within 24 hours.
- Tropical Storm Watches and Warnings: Take these alerts seriously. Although tropical storms have lower wind speeds than hurricanes, they often bring life-threatening flooding and dangerous winds. Take precaution.

2008 Atlantic Hurricane Names

Arthur	Hanna	Omar
Bertha	Ike	Paloma
Cristobal	Josephine	Rene
Dolly	Kyle	Sally
Edouard	Laura	Teddy
Fay	Marco	Vicky
Gustav	Nana	Wilfred

Sources: National Weather Service, National Oceanic and Atmospheric Administration, American Red Cross, Federal Emergency Management Agency

Content was also reproduced from the preparedness guide, "Hurricanes – Unleashing Nature’s Fury,” and can be downloaded at www.weather.gov/os/hurricane/pdfs/HurricanesUNF07.pdf

The graphics on this next page explain more about how hurricanes work and are from the National Oceanic and Atmospheric Administration.

