

Hurricane Winds

The intensity of a landfalling hurricane is expressed in terms of categories that relate wind speeds and potential damage. According to the [Saffir-Simpson Hurricane Scale](#), a Category 1 hurricane has lighter winds compared to storms in higher categories. A Category 4 hurricane would have winds between 131 and 155 mph and, on the average, would usually be expected to cause 100 times the damage of the Category 1 storm. Depending on circumstances, less intense storms may still be strong enough to produce damage, particularly in areas that have not prepared in advance.

Tropical storm-force winds are dangerous to those caught in them. For this reason, emergency managers plan on having their evacuations complete and their personnel sheltered before the onset of tropical storm winds, not hurricane-force winds.

Hurricane-force winds can easily destroy poorly constructed buildings and mobile homes. Debris such as signs, roofing material, and small items left outside become flying missiles in hurricanes. Extensive damage to trees, towers, water and underground utility lines (from uprooted trees), and fallen poles cause considerable disruption.

High-rise buildings are also vulnerable to hurricane-force winds, particularly at the higher levels since wind speed tends to increase with height. Recent research suggests you should stay below the tenth floor, but still above any floors at risk for flooding. It is not uncommon for high-rise buildings to suffer a great deal of damage due to windows being blown out. Consequently, the areas around these buildings can be very dangerous.

The strongest winds usually occur in the right side of the eyewall of the hurricane. Wind speed usually decreases significantly within 12 hours after landfall. Nonetheless, winds can stay above hurricane strength well inland. Hurricane Hugo (1989), for example, battered Charlotte, North Carolina (which is 175 miles inland) with wind gusts to nearly 100 mph.

Additional Resources:

- [Storm Prediction Center](#)
- [Institute For Business and Home Safety](#)

- [National Hurricane Center, Hurricane Preparedness Web Site](#)
- [Most Intense Storms Recorded](#)