

Hurricane Hazards

The main hazards associated with tropical cyclones and especially hurricanes are storm surge, high winds, heavy rain, and flooding, as well as tornadoes. The intensity of a hurricane is an indicator of damage potential. However, impacts are a function of where and when the storm strikes. Hurricane Diane (1955) hit the northeastern U.S. and caused 184 deaths. It was only a Category 1 hurricane but the thirteenth deadliest since 1900. Hurricane Agnes (1972), also a Category 1 hurricane, ranks fifth with damages estimated at 6.9 billion when adjusted for inflation¹.

A storm surge is a large dome of water, 50 to 100 miles wide, that sweeps across the coastline near where a hurricane makes landfall. It can be more than 15 feet deep at its peak. The surge of high water topped by waves is devastating. Along the coast, **storm surge is the greatest threat to life and property.**



Hurricane winds not only damage structures, but the barrage of debris they carry is quite dangerous to anyone unfortunate enough (or unwise enough!) to be caught out in them. **Damaging winds begin well before the hurricane eye makes landfall.**

Tropical cyclones frequently produce huge amounts of rain, and flooding can be a significant problem, particularly for inland communities. **A typical hurricane brings at least 6 to 12 inches of rainfall** to the area it crosses. The resulting floods cause considerable damage and loss of life, especially in mountainous areas where heavy rains mean flash floods and can also result in devastating mudslides.



Tornadoes spawned by landfalling hurricanes can cause enormous destruction. As a hurricane moves shoreward, **tornadoes** often develop on the fringes of the storm.

These hazards can bring other consequences not directly related to the storm. For example, hurricane-related deaths and injuries are often the result of fires started by candles used when the electricity fails. Heart attacks and accidents frequently occur during the clean-up phase. And depending on the industrial facilities in your area, hurricane damage might cause chemical spills that could make the disaster even worse.

¹ *Hurricanes: Their Nature and Impact on Society* , (Pielke and Pielke, 1997, p. 125)