

Hurricanes, Cyclones and Typhoons

Hurricanes, cyclones and typhoons are storm systems that can produce extremely powerful winds, torrential rain, high waves and damaging storm surges, and can spawn tornadoes. These storm systems develop over large bodies of warm water and eventually may move over land. They are among the most devastating naturally occurring hazards and are capable of producing large-scale devastation on human populations. Hurricanes are classified according to intensity using the Saffir-Simpson Scale (see table below). The destructive power of a hurricane can result in:

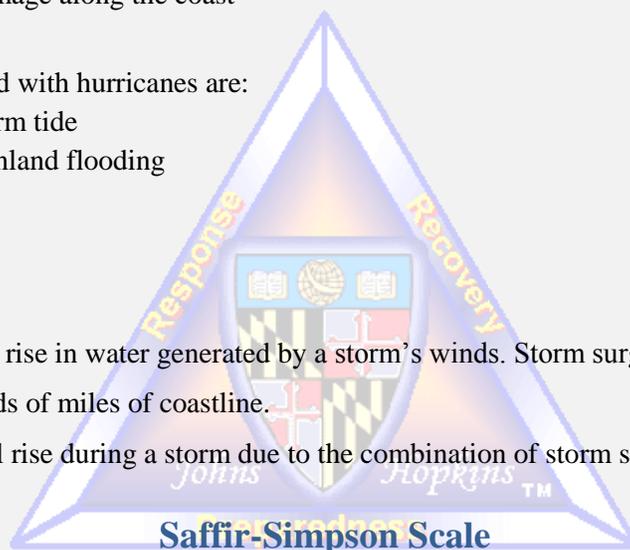
- Loss of life
- Buildings destroyed
- Beach and dune erosion
- Road and bridge damage along the coast

The major hazards associated with hurricanes are:

- Storm surge and storm tide
- Heavy rainfall and inland flooding
- High winds
- Rip currents
- Tornadoes

Storm surge is an abnormal rise in water generated by a storm's winds. Storm surge can reach heights well over 20 feet and can span hundreds of miles of coastline.

Storm tide is the water level rise during a storm due to the combination of storm surge and astronomical tide.



<http://www.nhc.noaa.gov/aboutsshws.php>

Category	Wind Speed Range and Types of Damage Due to Hurricane Winds
1	74–95 mph: Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap, and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96–110 mph: Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected, with outages that could last from several days to weeks.

3 (major)	111–129 mph: Devastating damage will occur: Well-built frame homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130–156 mph: Catastrophic damage will occur: Well-built frame homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	157 or higher: Catastrophic damage will occur: A high percentage of frame homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.



Classification of Cyclones/Hurricanes/Typhoons Based on Geographic Location

Hurricane	North Atlantic Ocean the northeast Pacific Ocean east of the dateline, or the South Pacific east of 160E
Typhoon	Northwest Pacific Ocean west of the dateline
Severe Tropical Cyclone	Southwest Pacific Ocean west of 160E or southeast Indian Ocean east of 90E
Severe Cyclone	North Indian Ocean
Tropical Cyclone	Southwest Indian Ocean

