

Hurricanes

Interested in extreme weather events? Then a hurricane—a swirling mass of wind, rain, thunder, and chaos—will intrigue you. Hurricanes begin over tropical and subtropical ocean water. They start when warm water, moist air, and strong winds collide and create a rotating bundle of thunderstorms and clouds. A hurricane might last a few hours or several days.

How Hurricanes Form

Some hurricanes roar onto land bringing punishing wind, torrential rain, walls of water, even tornados. The wind, rain, and water surge wreak havoc on the coastline and damage hundreds of miles inland.

Violent winds flip cars, sink boats, and rip houses apart. Hurricane winds range from 74 miles an hour to 150 miles an hour or more. Wind creates high waves and pushes the water onto shore. The water surge can be 30 feet high. That's as high as a 3-story building. Storm surges cause most of the fatalities and damage.

In addition to the storm surge, hurricanes bring rain. Lots of rain. In 2009, a storm hammered Taiwan with 114 inches of rain in only three days. Hurricane rains cause landslides, flash floods, and long-term floods.

Because meteorologists can predict and track hurricanes, people living in a hurricane's path can stay safe by advance preparation, including an evacuation plan, creating an emergency kit with food, water, and other supplies (don't forget your pets), and most importantly by listening to local authorities on the best ways to stay safe.

Tornadoes

How Tornadoes Form

Tornadoes demolish houses, flip cars, cross rivers, dig 3 foot (0.9 meter) trenches, and lift lightweight objects 10,000 feet (3048 meters) into the air. A tornado is a lethal combination of wind and power. Tornadoes touch down all over the world, though most often in the United States.

A tornado is often a funnel cloud—a rotating column of air—that stretches from a storm to the ground. To be a tornado it must touch the ground. It can touch down for a few seconds or grind across the earth for miles. Tornadoes usually last less than 10 minutes.

Most tornadoes start from a supercell. A supercell is a rotating thunderstorm (called a mesocyclone). Supercells create the deadliest tornadoes.

The formation of a tornado is so complex, scientists have yet to understand it. The unpredictable and deadly nature of tornadoes also makes them difficult to study. No matter what movies show, scientists have had little success measuring or getting equipment into tornadoes. Not only is it dangerous, a tornado demolishes everything in its path, including measuring equipment. So, speeds and other factors remain a mystery.

The destruction caused by a tornado is undeniable and can be catastrophic. Though scientists will never be able to stop a tornado, the more they know, the more they can keep people safe.