In terms of lives lost and property damaged, floods are just behind tornadoes as the top natural disaster. In the United States, flood damages totaled $8.41 billion in 2011. There were 113 flood-related deaths. Floods can affect any area to some degree; wherever rain falls, flooding can occur.

As water falls to the Earth in the form of rain or snow, it seeps into the ground. But if the ground is frozen or the surface impervious (asphalt or concrete are two contenders) or the soil is already saturated and cannot absorb the water faster than it falls from the sky, problems arise

Water from floods can take time to build up, allowing the population in an area time to be warned in advance. But sometimes flooding occurs quickly. [Flash floods](https://www.livescience.com/6592-science-flash-floods.html) gather steam within six hours of the events that spawned them. They are characterized by a rapid rise of fast-moving water. Fast-moving water is extremely dangerous — water moving at 10 miles an hour can exert the same pressures as wind gusts of 270 mph (434 kph), according to a 2005 article in [USA Today](http://www.usatoday.com/money/perfi/housing/2005-09-08-wet-homes-usat_x.htm). Water moving at 9 feet per second (2.7 meters per second), a common speed for flash floods, can move rocks weighing almost a hundred pounds. Flash floods carry debris that elevate their potential to damage structures and injure people

The top five deadliest floods in world history occurred when the Huang He (Yellow) River in China exceeded its banks. The yellow silt that provoked the river's name can pile up higher than the land around it, causing the water to spill out of its causeway and onto the flat land surrounding it. Natural ice dams add to the problem. In an effort to control the damage, the Chinese government has built channels, dams and dikes to moderate the flow.

The deadliest flood came in 1931, when between 1 and 4 million people were killed. Thirty-four thousand square miles (88,000 sq km) of land were flooded, leaving 80 million people without homes. In 1887, natural flooding claimed between 1 and 2 million lives.

Strategic military flooding of the river top the third and fourth deadliest spots. In 1642, approximately 300,000 people died to flooding, famine, and plague when the Ming governor of Kaifeng ordered his men to break dikes along the river in an attempt to drown rebels assaulting his city. In 1938, the river was again used as a defensive weapon to halt the advance of invading Japanese troops, killing nearly a million people.

The worst dam collapse in history occurred in 1975, when significant rainfall following a typhoon assaulted the Banqiao dam on the Ru River in China. Almost 4 feet of rain poured down in a single day. A smaller dam upstream broke, sending a wall of water rushing downstream. A total of 62 dams failed in the incident, with walls of water between 10 and 20 feet high pouring onto the plains below. In an effort to control the flooding, some dams were deliberately destroyed with hopes of relieving some of the pressure. Approximately 230,000 people were killed.

Although China takes a frequent beating from flooding, the Netherlands also boast a number of deadly floods in its history. High tides and storms were responsible for the deaths of approximately 100,000 people in the Netherlands and England in 1099. A violent weather pattern known as a "Great Storm" created a storm tide in 1287 that broke a dike and killed up to 80,000 people. The same storm killed people in England. In 1421, the tenth deadliest flood in the world occurred when storms caused dikes to collapse. Water flowed across the lowlands, killing nearly 10,000.

The deadliest natural disaster in American history was the [Hurricane of 1900](https://www.livescience.com/57671-hurricane-season.html) in Galveston, Texas. The Category 4 storm killed over 6,000 people, with most official reports citing closer to 8,000 dead. Storm surge killed many on trains attempting to evacuate the city. Floodwaters destroyed bridges and telegraph lines, keeping those outside of the city from realizing the extent of the damage for some time.

In fact, storm surge deaths caused by hurricanes dominate the list of flood dangers in the United States. These include the second most dangerous storm, the Okeechobee Hurricane in 1928, which caused over 2,500 deaths. In contrast, [Hurricane Katrina](https://www.livescience.com/22522-hurricane-katrina-facts.html) claimed fewer than 2,000 lives.

Other dangerous incidents of flooding include a 1972 dam failure in Buffalo Creek, West Virginia. The dam, declared "satisfactory" only four days before the disaster, set off a chain reaction, as pressure from first broken dam caused a second to burst, and then a third. More than 132 million gallons of water were released, claiming 125 lives while injuring more than 1,100 people. Almost all 5,000 of the residents downstream were left homeless.

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A 1976 flash flood in Colorado's Big Thompson Canyon after excessive rainfall created powerful water that ultimately killed 144 people and resulted in almost $40 million in damages. Waters reached speeds of more than 30 feet per second, moving 250-ton boulders with their powerful currants.

In the [Great Flood of 1993](https://www.livescience.com/7508-history-repeats-great-flood-1993.html), excessive rainfall in the Mississippi River basin caused significant flooding that did $20 billion in damages over a period of several months.