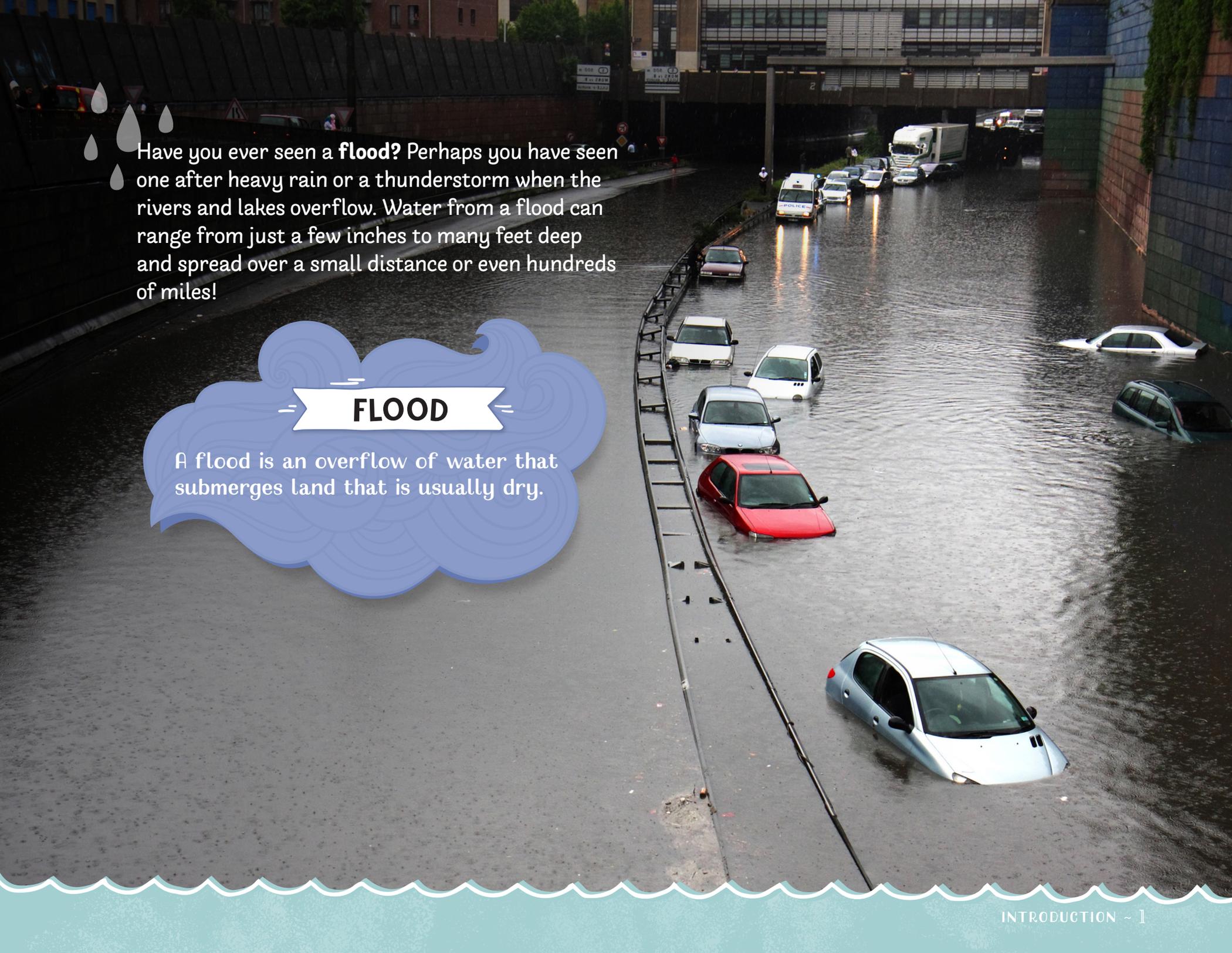


FAMOUS FLOODS

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THE GOOD AND THE BEAUTIFUL LIBRARY



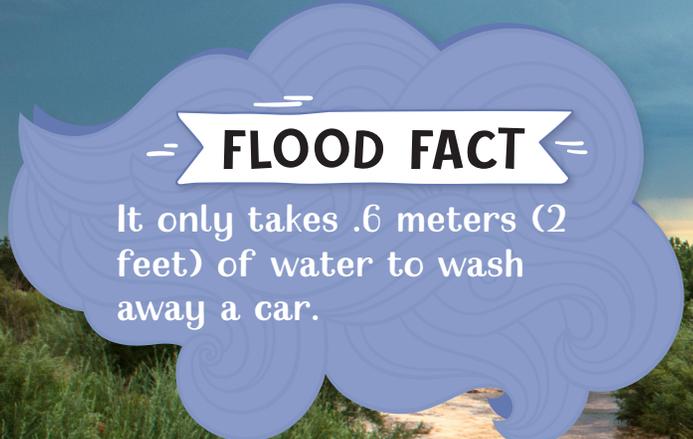
Have you ever seen a **flood**? Perhaps you have seen one after heavy rain or a thunderstorm when the rivers and lakes overflow. Water from a flood can range from just a few inches to many feet deep and spread over a small distance or even hundreds of miles!

FLOOD

A flood is an overflow of water that submerges land that is usually dry.



What causes a flood? There are many causes of flooding, including heavy rainfall, broken dams or levees, storm surge, overflowing rivers, melting snow or ice, and even lack of vegetation in an area. Any event that involves a large amount of water can cause flooding.



FLOOD FACT

It only takes .6 meters (2 feet) of water to wash away a car.

While the initial impact of a flood is often devastation, there are long-term benefits of flooding.

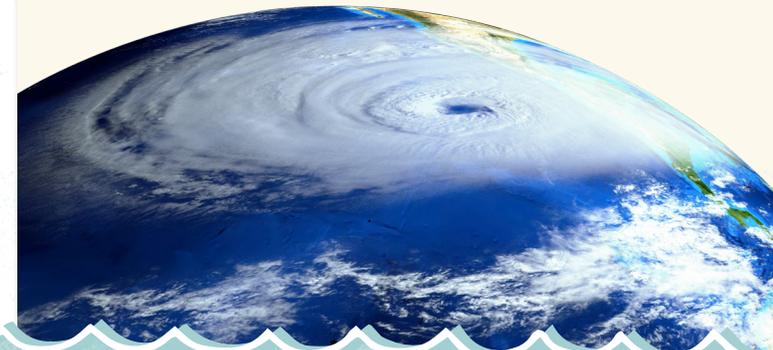
- River floods distribute and deposit sediments over large areas of land. These river sediments replenish nutrients in topsoil and make agricultural lands more fertile. The populations of many ancient civilizations settled along the floodplains of rivers such as the Nile, the Tigris, and the Yellow because periodic flooding resulted in fertile, productive farmland.
- Flooding also helps to replenish underground aquifers. The water is absorbed into the ground and moves down through the rock to supply natural springs, wells, rivers, and lakes with fresh water.



Floods occur all over the world, though the climate, landscape, and man-made structures play a large part in how severe the flooding is in a particular area. Let's take a look at some of the catastrophic floods that have happened around the world.

CATASTROPHIC

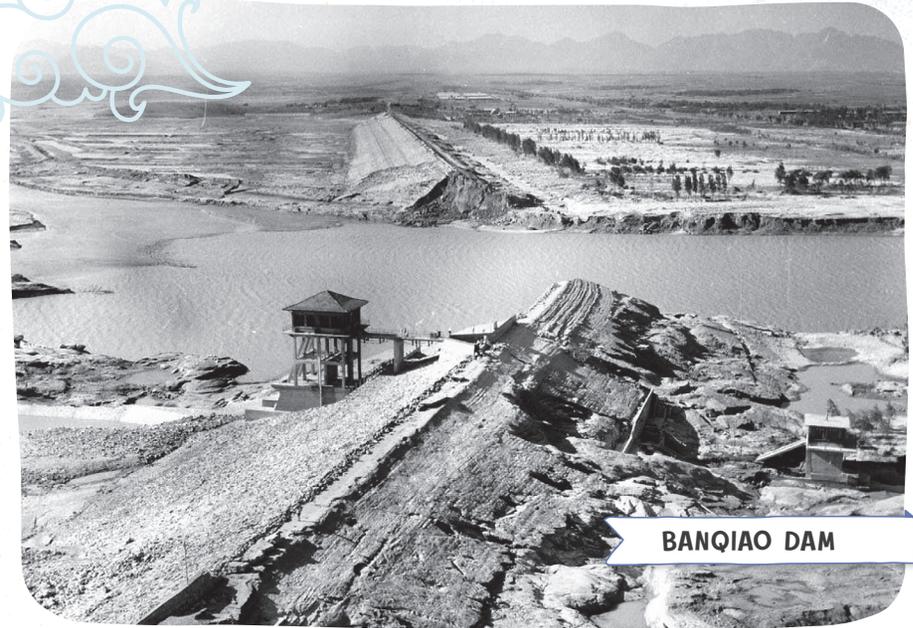
Catastrophic (adj): involving or causing sudden great damage or suffering; involving a sudden and large-scale alteration in state



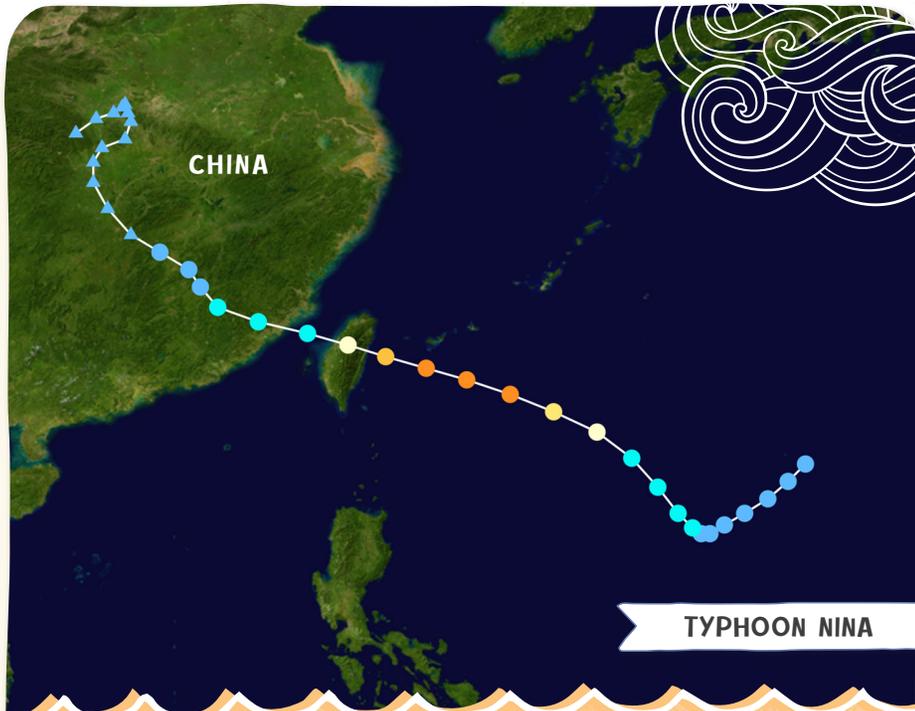
Asia

THE IRON DAM FAILURE

The Banqiao Dam was originally constructed in 1951 and was later dubbed “the iron dam” due to the repairs that were made in the following years when cracks appeared due to construction and engineering errors. The creation of this dam was a source of controversy, as hydrologists and engineers could not agree on the appropriate safety features of the dam. These disagreements were revisited in 1975 in the wake of the worst water disaster in this area’s history.



BANQIAO DAM



TYPHOON NINA

As Typhoon Nina made its way through Henan Province in eastern China, a catastrophe was building. In one day the area received the total amount of its annual rainfall average and then continued to be deluged for another 29 hours! The Banqiao Dam, which crossed the Ru River, was built to handle a foot and a half of rainfall over three days. It gallantly fought to hold back nearly six times that much water.

Africa

2000 MOZAMBIQUE FLOOD

In early 2000, the country of Mozambique was inundated with heavy rainfall. Within the first few days of heavy rains, the capital city was flooded. The rivers that ran through the country's valleys began to overflow, culminating in the Limpopo River surging over its banks, flooding villages, and destroying homes.

The weather continued to batter the soaked country as Cyclone Leon-Eline stormed into the coast. This caused further extensive damage, mainly from flash floods, as farms and land were completely submerged in water. People climbed trees and onto rooftops as they attempted to avoid the water, and some people were plucked from their places of refuge by helicopters that were sent in to help.



LIMPOPO RIVER





At first the floods were one-time events in certain areas. However, on Christmas Eve of 2010, a monsoon arrived. The heavy rainfall did not cease, and by the 30th of the month, vast areas of Queensland were under water. Initially, the most heavily impacted areas were along the banks of the Burnett River and the Fitzroy River. As these areas flooded, forcing the evacuation of thousands of people, the water shut off access to those towns for days. As the flooding continued, the Brisbane River's banks broke. Twenty thousand homes were flooded, as well as local businesses, historical sights, and monuments. One bridge, The Brisbane River Walk, collapsed into pieces.

The floodwaters not only devastated homes and businesses but also resulted in a massive invasion of crocodiles and snakes. The country's infrastructure was also heavily impacted, and 300 roads and highways were forced to close for safety. The disaster was said to cover three-quarters of Queensland itself.



South America

2015 EL NIÑO FLOODS

Weather phenomena, such as cyclones and hurricanes, can have a devastating impact on the severity of floods because of their strong winds and the amount of water they produce. There is another weather pattern that can impact our world, created near the equator in the Pacific Ocean.

El Niño is caused as the sun warms water near the equator, inducing cloud formation and rain. While trade winds normally blow this weather out to sea, during an El Niño, the westerly winds are weaker, and the clouds and rain blow eastward, toward land.





HOW DO LEVEES FAIL?

Levees are meant to hold back water, which has a lot of force due to its weight and movement, but levees can fail. When the force of the water pushes on a weakened part of the levee, or when it overruns the top of the levee, the levee can collapse, opening a large hole for waters to flow through and flood the surrounding areas.



Levees can also fail if they become overly saturated with water. This can cause “leaks” in the levee where water flows through it. This eventually weakens the levee to the point of collapse.

Both of these situations occurred during the Mississippi River Flood of 1927.



In many areas of the world, rivers that are known for flooding are carefully monitored. People have built levees, dams, and reservoirs in attempts to keep the rivers from overflowing their banks. When these fail, emergency measures like sandbags and even portable inflatable tubes can be used. For coastal flooding, seawalls and barrier islands have been created to help stop the flow of water into areas where it isn't wanted.

