Supervolcano!

A monster volcano lies beneath Yellowstone National Park.

By Inez Prieto

Yellowstone's steam vents are the result of a giant volcano underneath.

Yellowstone National Park might not look like a volcano, but it is one. In fact, scientists call it a "supervolcano." Its hot springs, bubbling mud pots, steam vents, and steaming geysers are all proof that magma lies deep below the ground.

Magma—a mixture of hot molten rock and gas—is a key ingredient in volcanic eruptions.

Volcano vs. Supervolcano

Most volcanoes erupt when magma builds up inside Earth. Over time, the pressure becomes so great that an eruption occurs. A supervolcano works the same way, except that the magma beneath the surface has been building up for hundreds of thousands of years. As a result, the supervolcano can erupt a thousand times more magma than an average volcano.

Scientists estimate that Yellowstone has erupted three times in the last 2.1 million years. The last eruption took place about 640,000 years ago. That eruption was so violent that the entire top of the volcano collapsed. That is why Yellowstone is flat instead of cone shaped, like most volcanoes.

When a Supervolcano Erupts

So, what exactly are the effects of a super eruption? To find out, scientists looked to Southeast Asia. That's where a supervolcano erupted more than 75,000 years ago. During the eruption, so much ash blew into the air that it blocked sunlight around the entire planet! As a

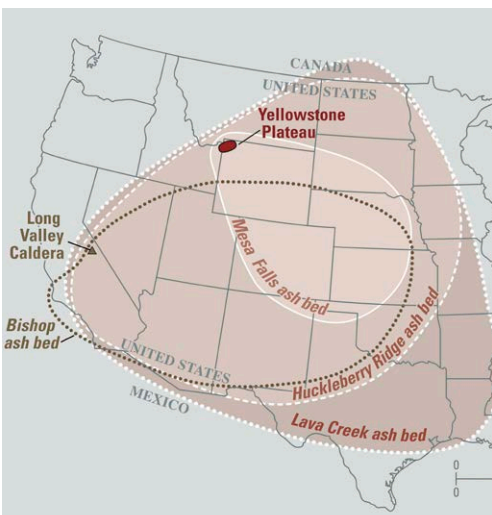
result, world temperatures dropped by as much as 21 degrees. The effect on life was huge. Most plants in the Northern Hemisphere died, and human life was nearly destroyed.

Could It Happen Again?

Over 3 million people visit Yellowstone National Park each year. Should they be worried about getting caught in an eruption? Should everyone on the planet be worried?

"No," says Lisa Morgan, a scientist who works for the United States Geological Survey. According to Morgan, scientists would know if an eruption was coming. "There would be swarms of earthquakes in the area and big changes in the ground's shape. And none of this has happened."

As far as supereruptions go, the heat is off—for now.



The shaded areas show how far ash from Yellowstone's last supereruption traveled.

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