- Natural disasters

ENVIRONMENT

SURPRISING WAYS NATURAL DISASTERS CAN TURN DEADLY

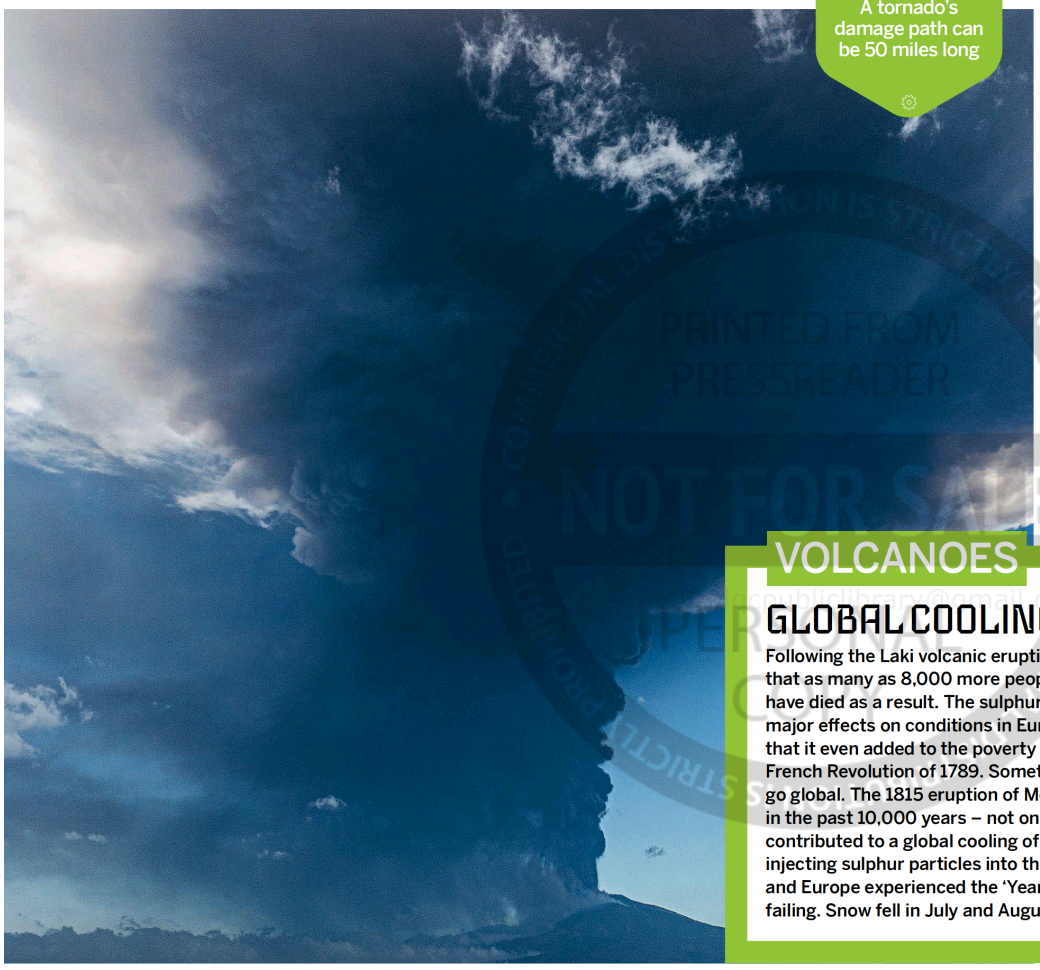
Forget rivers of lava and strong winds... Earth's most furious moments claim their victims in unexpected ways

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Mucor spinosus, one of the fungi that can cause the deadly mucormycosis infection

Did you know?
A tornado's damage path can be 50 miles long



TORNADOES

AIRBORNE DISEASES

Tornadoes kill primarily with 'blunt force trauma' as flying objects hit people. But these flying objects can also carry infections. In 2011, a 0.7-mile-wide tornado blasted through Joplin, Missouri. It was an EF5 storm, with winds exceeding 198 miles per hour. It killed 158 people and injured nearly 1,000. Nearly a dozen people developed mucormycosis from soil that penetrated their skin. This rare infection can be cured, but only with harsh measures: strong antifungal drugs and the removal of damaged skin. At least three of the deaths linked to the tornado were caused by this.

VOLCANOES

GLOBAL COOLING

Following the Laki volcanic eruption of 1783, winter was so cold that as many as 8,000 more people than usual in the UK may have died as a result. The sulphur particles from the eruption had major effects on conditions in Europe, leading some to speculate that it even added to the poverty and famine that led to the French Revolution of 1789. Sometimes a volcano's cooling effects go global. The 1815 eruption of Mount Tambora – the largest in the past 10,000 years – not only killed 70,000 people, but contributed to a global cooling of about 0.5 degrees Celsius by injecting sulphur particles into the atmosphere. North America and Europe experienced the 'Year Without Summer', with crops failing. Snow fell in July and August in New England.

DID YOU KNOW? Natural disasters quadrupled in the two decades following the early 1980s

VOLCANOES

TOXIC GASES

In 1783, Iceland's Laki volcano erupted, spewing sulphurous compounds into the atmosphere for eight months. Few Icelanders died as a result of the lava flows themselves, but other effects of the eruption proved catastrophic. Acid rain drenched the crops, and huge amounts of hydrogen fluoride were released, which poisoned both the population and livestock. It's estimated 8,000 Icelanders died as a result. The sulphur dioxide from the eruption entered the jet stream and spread westward over Europe, through China and Russia, and then over America by way of Alaska and northern Canada. In Europe, thousands choked to death as they inhaled the poisonous cloud. It has been estimated that 23,000 people died in the British Isles alone. Scientists at the University of Leeds have estimated that a similar eruption today would kill around 142,000 people across Europe.



Swathes of land left barren



Liquefaction in Christchurch, New Zealand, after it was hit by an earthquake in 2011

EARTHQUAKES

LIQUEFACTION

When soil is saturated with water, it can turn to mush when an earthquake strikes, in a process known as liquefaction. This dramatically reduces the ability of soil to support the foundations of buildings, and accounted for much of the destruction in the harbour of Port-au-Prince during the 2010 earthquake in Haiti. Generally, but not always, liquefaction occurs near to the earthquake rupture, where the radiating seismic waves are strongest. However, the mud volcano island that formed off the southern coast of Pakistan in 2013 was hundreds of miles away from the epicentre of the magnitude 7.7 earthquake that occurred on 24 September. Geologists believe that a combination of liquefaction and methane from the pile of mud and sand that exists in the offshore region was responsible for the formation of the mud mound, which measured approximately 176 by 160 metres.



Homes toppled by a landslide

EARTHQUAKES

LANDSLIDES

The initial vibrations from an earthquake are the least of your worries if they're shaking an area with vulnerable geographical features. Particularly violent earthquakes can trigger secondary reactions – some of which prove far more deadly than the initial earthquake. The most infamous example of this phenomenon is tsunamis – huge water waves typically triggered by underwater earthquakes that can devastate coastal towns, such as the 2004 Indian Ocean tsunami, which claimed more than 230,000 lives across South Asia. But inland areas near mountains or hillsides aren't safe either. Seismic activity here can trigger chain reactions that cause massive landslides and avalanches, burying whole communities under rubble. In 2013, 100 people were killed in China's Gansu province when a magnitude 6.6 earthquake resulted in severe landslides.

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