



World's Longest Earthquake

Scientists have recently identified the longest earthquake in history. It rumbled along a fault line east of Sumatra in Indonesia for 32 years.



The Earth's surface is made up of many pieces called tectonic plates. They are like puzzle pieces and the edges of them are called faults. The faults can often rub together.

When they rub together for a long period of time, they cause constant low-level **disruption**. This is known as a 'slow-slip event'. Eventually, these can develop into a 'mega earthquake.' This is what happened in Sumatra when a 'slow-slip event' created a 'mega quake' with a magnitude of 8.5 on the Richter scale.

The earthquake then created a **tsunami** which caused huge destruction to Indonesia.

It used to be thought that 'slow-slip events' only lasted for weeks and months. But, scientists now know they can last for decades.

How Did They Work It Out?

Researchers from Nanyang Technological University were studying ancient corals.

What is the Richter scale?

- The Richter scale measures the size of an earthquake and its impact. It was created by Charles F. Richter in 1943.
- The lowest scale starts from less than 1.0 to 2.9, which is not generally felt by anyone, and reaches up to 8.0 and higher; earthquakes of this **magnitude** cause severe destruction.

Photo: Indonesia.

The corals are known as microatolls. The patterns on these disk-shaped corals show changes in sea levels and land movement over time.

These patterns have allowed researchers to work out how long the earthquake lasted. It started in 1829 and ended in 1861.

Glossary

magnitude The size or impact something has.

disruption Something which causes a problem or interruption.

tsunami A huge wave of water in the sea caused by an earthquake.

Reflect

What examples of extreme weather do you know about?



Questions

1. How long did the world's longest earthquake last for?

2. In your own words, explain what a 'slow-slip' event is.

3. Which of the following words is a synonym for 'severe' as it is used in the sentence: '**... earthquakes of this magnitude cause severe destruction.**'?

- A minor
- B mild
- C stern
- D terrible

4. The main idea of the article is....

- A Earthquakes are common.
- B Slow-slip events can last decades.
- C All earthquakes last a long time.
- D Coral is clever.