

Tsunami

Overview

- A tsunami is a series of waves caused by the displacement of a large volume of water.
- Tsunamis can be caused by sudden displacement of the sea floor during large earthquakes, as occurred offshore Japan in 2011 and Indian Ocean in 2004.
- Tsunamis can also result from movement of underwater landslides. For example, the Storegga landslide occurred 8,200 years ago offshore Norway. This huge underwater landslide contains over 3,000 km³ of material, and it is bigger than Scotland.
- Meteorological events may cause very small tsunami.
- Coastal inundation and flooding by tsunamis can be very damaging, affecting both lives and property.

Impacts

Tsunami waves do not resemble normal surface waves, because their wavelength is far longer. They generally consist of a series of waves with periods ranging from minutes to hours. Although the impact of tsunamis is limited to coastal areas, their destructive power can be extreme, as illustrated by the 2004 Indian Ocean and 2011 Tōhoku events. Debris carried by the water can increase damage.

Notable tsunami events

March 2011 - Tōhoku, Japan earthquake and tsunami

Boxing Day 2004 - Indian Ocean earthquake and tsunami

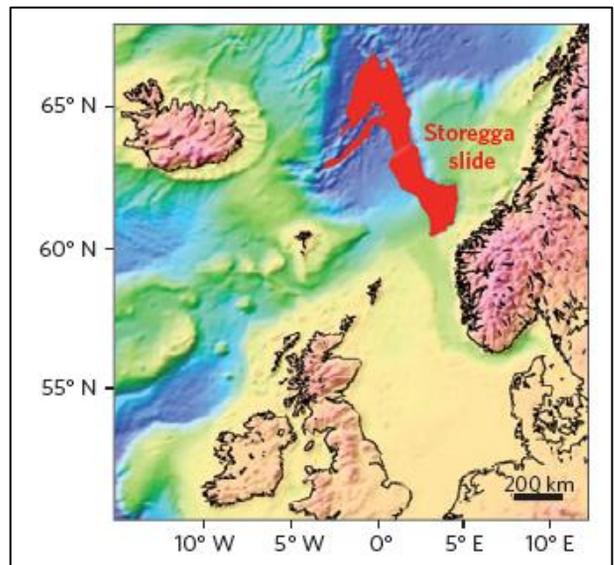
8,200 years B.P. - Storegga landslide and tsunami

Tsunamis in the UK

Damaging tsunamis that reach the UK are relatively infrequent compared to most other hazards.

However, the Storegga landslide produced a tsunami that ran up to heights of 3-6 m above sea level along the Scottish mainland, and up to 20 m in the Shetland Islands. A repeat of this type of landslide-generated tsunami would be extremely damaging, but such events in the vicinity of the UK have recurrence intervals of at least several tens of thousands of years.

Tsunami caused by large earthquakes could impact the UK but they are likely to have small magnitudes.



The huge Storegga Slide (in red) occurred 8,200 years ago, and produced a tsunami that ran up to heights of up to 20m above sea level.

More information can be found at: www.naturalhazardspartnership.org.uk/hazards/tsunami