

Indian Ocean Tsunami 2004

Cause

An earthquake of **magnitude 9.1** due to the rupture of the Sunda Megathrust fault caused the seabed to rise by **15m for over 1500 km**. This caused a **30m wave**.

The Sunda Megathrust fault is a **destructive** plate boundary between the **Burma plate** and the subducting **Indo-Australian Plate**.

In many places affected, the natural defence of **mangrove swamps** on the coast had been removed for economic reasons or for tourism, therefore exemplifying the impact of the tsunami.

Global effects

Earth's orbit altered – Days are now **2.68 microseconds** shorter.

12 countries in total were affected.

Social impacts

Death toll: **228,000**

Most coastal populations were taken by surprise due to a complete lack of **Tsunami Warning systems**.

Many people ventured onto **exposed beaches** due to the **drawback effect**, causing many casualties by drowning.

High population and **tropical climate** meant that diseases spread fast – **Cholera, Dysentery and Hepatitis** epidemic feared.

Economic impacts

Many communities affected were dependant on the **fishing industry**, so loss of income earners, fishing equipment and ships **damaged local economy** in some areas.

Infrastructure, such as fresh water supplies were damaged, making it difficult for **farmers to irrigate**. The saltwater made land infertile.

Environmental impacts

Coastal ecosystems such as mangroves, coral reefs and forests destroyed by the wave surge.

Many more ecosystems polluted by **human and chemical waste** in the floodwater.

Responses

US\$14 billion was provided in aid.

The **US** provided aircraft for Search and Rescue, surveying, and transport of aid cargo.

Corruption hampered aid efforts. For example, Sri Lanka refused Israeli aid efforts.

Tsunami warning system implemented in response.

