

## The Boxing Day tsunami, 2004

### The impacts of the 2004 Boxing Day tsunami

Countries affected by the 2004 Asian tsunami ▼



#### 5 Somalia

This was the worst-hit African country, with damage concentrated in the tip of the Horn of Africa. Homes and boats were destroyed and freshwater wells and reservoirs were contaminated. Up to 30 000 people were displaced.

#### 12 Kenya

Kenya was one of the few affected countries to be warned and to take some action, so many people were able to escape the coastal areas as a result – and only one person was killed.

#### 7 Maldives

Of the 199 inhabited islands, 20 were destroyed. The shallowness of the water limited the tsunami's destructive power but flooding was extensive. A sea wall protecting the capital Male prevented half the city being destroyed. Many luxury tourist resorts were badly damaged – affecting the economy of the country, which depends on tourism.

#### 2 Sri Lanka

The second worst affected country – the southern and eastern coastlines were ravaged, with homes, crops and fishing boats destroyed. 400 000 people lost their jobs.

#### 3 India

The south-east coast of the mainland, especially Tamil Nadu, was worst affected. Up to 140 000 people were displaced. In the Andaman and Nicobar Islands, salt water contaminated freshwater sources and destroyed arable land. Most of the Islands' jetties were also destroyed.

#### 4 Thailand

The west coast was severely hit, including islands and tourist resorts near Phuket, so the death toll included 1700 foreigners from 36 countries.

#### 1 Indonesia

Western Sumatra, the closest inhabited area to the earthquake's epicentre, was devastated by the tsunami. Up to 70% of some coastal populations were killed or missing. Up to 400 000 people were displaced.

	Country affected	Dead and missing
1	Indonesia	236 169
2	Sri Lanka	31 147
3	India*	16 513
4	Thailand	5395
5	Somalia	150
6	Burma	61
7	Maldives	82
8	Malaysia	68
9	Tanzania	10
10	Seychelles	3
11	Bangladesh	2
12	Kenya	1
	<b>Total</b>	<b>289 601</b>

The distribution of dead and missing ►

\* including the Andaman and Nicobar Islands

## The tsunami horror

Most people remember when they first saw film of the 2004 Boxing Day tsunami, showing holidaymakers and locals watching the sea retreating an abnormal distance – and then its return towards the shore as a wall of water – realizing only at a late stage how huge the returning waves were. It rates as one of the world's worst disasters. Its scale was rare – of a kind that occurs about once in every 100 years.

Tsunami occur where:

- earthquakes measure more than 6.5 on the Richter scale
- the earthquake's focus is shallow beneath the Earth's surface
- the focus is also beneath the ocean.

The earthquake that caused the Boxing Day tsunami was estimated at between 9.0 and 9.3 on the Richter scale, and was over 100 times stronger than the one which caused the Kobe earthquake in 1995. The thrust heaved the floor of the Indian Ocean towards Indonesia by about 15 metres, and, in so doing, sent out shock waves. Once started, these radiated out in a series of 'ripples', moving almost unnoticed across oceans until they hit land. The longer and shallower the coastal approach, the more the ripples built up height. The waves that struck the shallow coastline near Banda Aceh (only 15 minutes from their origin), and parts of Sri Lanka, were nearly 17 metres high on impact. By contrast, islands in the Maldives experienced a four-metre high sea swell, rather than a crashing wall of water.

▼ The tsunami wall of water hitting Ao Nang, Thailand

