Storm Surges & Cyclones

2013 North Sea Storm Surge

In December 2013, there was a large depression which moves South East from the North Sea.

Characteristics

- Wind speeds over 140 mph were recorded in parts of Scotland
- Gale force northerly winds led to a storm surge reaching 5.8m in Lincolnshire
- There was significant flooding in North Eastern England and Eastern Scotland
- Scotland's rail network had to be closed and 100,000 homes lost their electricity
- 15 fatalities across the UK, Holland, Germany and Belgium

Factors Increasing Vulnerability

- North Sea becomes shallower in Southern England, which leads to higher wave heights in the South
- The North Sea is open to the Atlantic and the coastline is funnel shaped, therefore low lying coastal settlements (such as Norfolk) are at a greater risk of flooding.

Cyclone Sidr

In November 2007, a storm surge hit the Bay of Bengal due to a tropical cyclone formed in the Indian Ocean. This had huge social, economic and environmental costs.

Key Facts

- Storm surges were 6 metres high, due to the extreme gales reaching 223km/h.
- 3500 fatalities caused due to drowning
- Houses, bridges, road and infrastructure were destroyed. Electricity and communications networks were damaged, leaving homes unconnected.
- Drinking water was contaminated with salt water and debris and sanitation infrastructure was destroyed. This increased the risk of diseases spreading in the aftermath of the cyclone.

Factors Affecting Bangladesh's Vulnerability

- Most of the country is very low lying, most places are only 1-3 metres above sea level. In addition, there are many bays and rivers running far inland. These can allow storm surges to travel further inland, hence increasing the area affected.
- The coastline consists of mainly unconsolidated sediment which is easily eroded, therefore there are few cliffs and natural coastal defences against cyclones
- Deforestation of mangroves means there is little to dissipate wave energy when it initially hits land.
- Bay of Bengal is triangular/ funnelled which concentrates waves and increases their destructive power for the countries surrounding.
- Bangladesh is one of the world's most densely populated country (population = 169m in 2015)