

# COASTAL FLOODING



## Influences on coastal flooding

Climate change and rising global temperatures has resulted in sea levels rising at an average of 23cm since 1880. This is mainly due to melting polar ice and glaciers, and oceans expanding as they warm. Over 100cm of sea level rise is predicted by 2100. More extreme weather events and higher sea levels will continue to increase the frequency of coastal flooding.

Sea level rise caused by low pressure systems, together with strong winds from storms can push large amounts of water towards the coastline.

Tides rise and fall each day due to the gravitational pull of the moon on the earth. Spring tides occur twice monthly when there is a full or new moon, causing sea levels to swell more than usual and increase the height of the tide.

Areas of reclaimed or low lying coastal land may be particularly susceptible to the effects of rising sea levels and storm surges.

Larger and more frequent storm surges can speed up the rate of coastal erosion and mean future events have even greater impacts.

Coastal defence schemes may be over topped when the design height is exceeded by high sea levels and large waves. Predicted climate change and sea level rise may mean that such events will become increasingly likely.



Rivers and estuaries may become tidally locked when incoming tides stop water flowing out to sea. If this occurs when river levels are also high due to prolonged rainfall, flooding may occur.