COASTAL FLOODING AND MANAGEMENT

Coastal erosion and the threat of flooding will only increase as sea levels rise over time. As our shores and landscapes change naturally without intervention, more water will reach further inland putting more homes and communities at risk of flooding.

The main causes of flooding are:

Storm Surges: These are changes in sea level due to high winds and low pressure conditions.

Rising Sea Levels: This gives a higher starting point for the storm surges and larger waves that can overtop the coastal defences putting more people at risk of coastal flooding.

Reclaimed land: Reclaimed land can be susceptible to flooding as it is low lying and flat.

Coastal Flooding and Erosion Management Methods

Coastal erosion is the loss of coastal land through the removal of sediment and bedrock at the shoreline. There are four main erosion processes, known as attrition, hydraulic action, abrasian and corrosion. The various techniques and options below are used to slow down the effects.

Hard Engineering

These methods involve using man-made structures to protect the shoreline against flooding and erosion.

Breakwaters

Douglas breakwater
cc-by-sa/2.0 - © Andrew Abbott - geograph.org.uk/p/3160449

Gabion Baskets

Gabions, Solent Beach
cc-by-sa/2.0 - © Mike Faherty - geograph.org.uk/p/1040956

Groynes

Dovercourt groynes
cc-by-sa/2.0 - © Bob Jones - geograph.org.uk/p/748828

Revetments

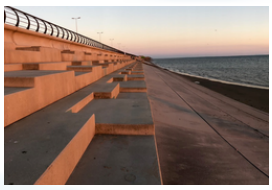

Image: The Flood Hub

Rock/concrete armour

Rock armour
cc-by-sa/2.0 - © Jonathan Wilkins - geograph.org.uk/p/1452136

Sea Walls

Sea wall - below Highcliffe Castle Golf Club
cc-by-sa/2.0 - © Mr Ignavy - geograph.org.uk/p/782406

Soft Engineering

These methods use natural processes to protect the shoreline against flooding and erosion.

Cliff stabilisation

South Coast cliffs
cc-by-sa/2.0 - © Nigel Freeman - geograph.org.uk/p/581176

Managed realignment

Image: The Environment Agency
Hesketh Out Marsh West in the Ribble Estuary during the construction phase

Dune regeneration

Image: The Flood Hub

Beach Nourishment

The Beach at Cley, Norfolk
cc-by-sa/2.0 - © Peter Home - geograph.org.uk/p/24206

newground
your community is our business

This resource has been produced by Newground who work in partnership with the Environment Agency

Last reviewed: March 2021

For more information visit:
www.thefloodhub.co.uk
@TheFloodHub