HOW THE COASTLINE IS MANAGED

Coastlines erode both naturally and as a result of sea level rise and and increase in storms, caused by climate change. Both of these lead to the coastline retreating inwards, increasing the risk of coastal flooding. Without proper management, these factors can lead to increased risks of flooding, erosion, and habitat loss, posing threats to communities and infrastructure along the coast. To address this, we need effective coastal management strategies.

COASTAL MANAGEMENT POLICIES

England's coastline is split up into different units and when identifying the most sustainable management policy for each, there are four policy options:

- **Hold the line:** Maintaining or improving existing coastal defences to protect against erosion and flooding.
- **Advance the line:** Building new defences seaward of existing ones, primarily in areas with significant land reclamation.
- **Managed realignment:** Allowing the shoreline to move naturally while implementing measures to control erosion and protect coastal assets.
- **No active intervention:** Refraining from investing in new coastal defences where protection is not feasible or sustainable.

BENEFITS OF COASTLINE MANAGEMENT:

- Reduced flood risk
- Protection from erosion
- Improved health and well-being
- Carbon sequestration
- Economic benefits through tourism and recreation
- Preservation of biodiversity

SHORELINE MANAGEMENT PLANS

Shoreline Management Plans (SMPs) were introduced in 1995 when the government encouraged a more integrated approach to coastal defence. An SMP is a non-statutory policy document which sets the direction of strategic coastal defence policy and identifies the most sustainable approaches to managing the shoreline.
There are 22 SMPs in England and Wales which are managed by 7 coastal groups, with the North West managed by the North West and North Wales Coastal Group (NWNWCG).

IMPACTS OF A CHANGING COASTLINE

- **Flooding and Erosion:** Causes economic losses, mental health issues and destruction of coastal land.
- **Relocation:** Coastal flooding increases inundation risk, forcing communities to relocate, causing stress.
- **Biodiversity:** Loss of intertidal habitats harms marine ecosystems.
- **Investment:** Flooding and erosion deter investment, leading to lost recreational spaces.

ADAPTING TO A CHANGING COASTLINE

- **Development and Infrastructure:** New developments integrate flood resilience and sustainable drainage systems.
- **Flood Defence Schemes:** Implementation of strategies by Risk Management Authorities to reduce erosion and flooding.
- **Natural Processes:** Soft engineering methods like dune regeneration and marsh restoration provide natural defence.
- **Repairing Existing Defences:** Repair or replace deteriorating structures to protect coastal development.
- **Community Resilience:** Resilience plans prepare communities for efficient response and recovery.
- **Individual Action:** Reduce carbon footprints to mitigate climate change impacts.

COASTAL MANAGEMENT TECHNIQUES

Hard engineering refers to the use of artificial structures and physical interventions to manage the risk of erosion, flooding, and sea level rise along coastlines. These interventions directly alter the natural processes of wave action and sediment transport, providing protection to coastal communities and infrastructure, e.g. sea walls, revetments, groynes, breakwaters.

Soft engineering involves using natural or nature-based methods to mitigate erosion, flooding, and sea level rise along coastlines. These methods work with natural processes to enhance coastal resilience without relying on physical structures, e.g. managed realignment, dune regeneration, beach nourishment, cliff stabilisation.