



Coasts

Coastal Processes

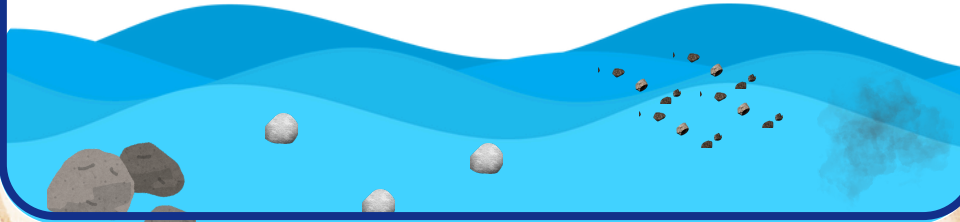
- Coasts are shaped by erosion, transportation, and deposition.
- These change the coastline and create landforms.
- The type of rock (hard or soft) affects how quickly this happens.



Transportation

- Sediment is moved in four ways:
- **Suspension** - tiny particles float.
 - **Saltation** - small pebbles bounce.
 - **Traction** - large rocks roll along.
 - **Solution** - minerals dissolve in water.

Longshore drift moves sediment along the beach in a zig-zag.



Managing the Coast

- Coasts are protected from erosion and flooding with:
- Hard engineering (sea walls, groynes, rock armour)
- Soft engineering (beach nourishment, dunes, managed retreat)
- Choices depend on cost, impact, and how important the land is.

Erosional landforms

Erosion shapes cliffs over time:

- Crack → Cave → Arch → Stack → Stump
- Caused by wave action like hydraulic power and abrasion.
- These landforms show how powerful waves change coastlines.



Jurassic coast - UK

Seawall



Erosion

Waves wear away rocks using four main processes:

- **Hydraulic action** - water forces air into cracks.
- **Abrasion** - rocks scrape cliffs like sandpaper.
- **Attrition** - rocks smash into each other and break.
- **Solution** - some rocks dissolve in seawater.



Depositional landforms

- When waves lose energy, they drop sediment in calmer areas like bays.
- Over time, this builds beaches, spits, and other coastal features.
- A spit forms when longshore drift moves sediment out to sea but is then deposited in a curve due to wave direction.
- If a spit connects to land or an island, it may form a tombolo.

