

Geography

Coasts KO

Keywords

Constructive waves – waves which build up material on the coastline, creating a beach.

Destructive waves – waves which wear away the cliffs/beach.

Swash – the forward movement of the waves up the beach.

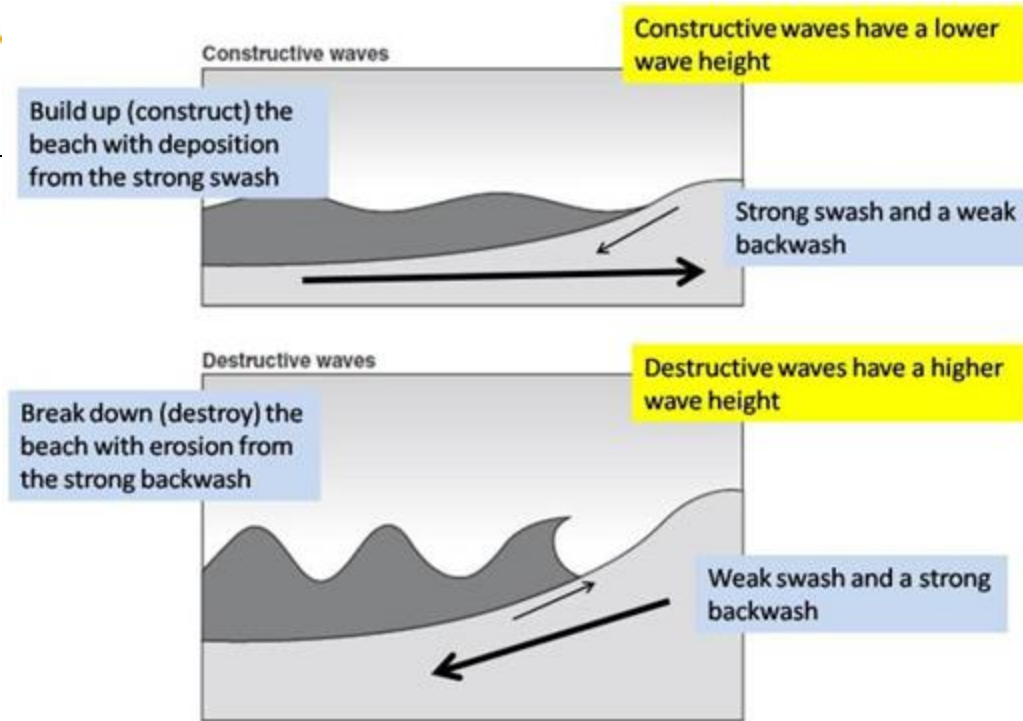
Backwash – waves going back into the sea.

Fetch – the total distance a wave travels.

Erosion – the wearing away of the coast/cliffs.

Transportation – eroded material is carried within the waves.

Deposition – material is deposited along the coast.



Homework tasks

Task 1 Revise the key words and types of erosion by creating a table.

Task 2 Draw diagrams to show the different wave types, longshore drift, a spit and a stump.

Task 3 Create two spider diagrams. One of soft engineering techniques and one of hard engineering techniques.

Types of Erosion

Hydraulic action – the force of the water gets into cracks which traps air, this causes ‘explosions’ and parts of the cliff to break away.

Abrasion – rocks in the waves are thrown at the cliff, wears it away like sandpaper.

Attrition – pebbles in the water bump into each other which makes them smaller, smoother and rounded.

Solution/Corrosion – certain rock types dissolve in sea water (chalk and limestone).

Landforms of Coastal Deposition

Beach

Created by constructive waves where the swash is stronger than the backwash.

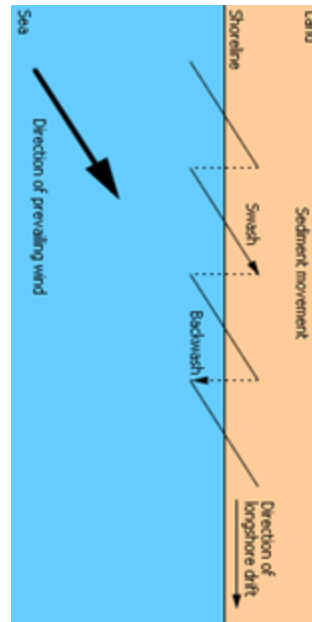
Spit

Longshore drift transports material along the coast.

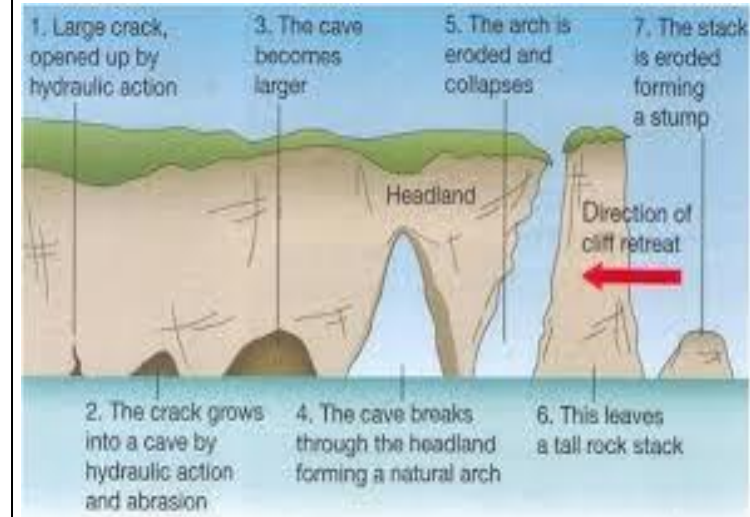
A spit forms when material is deposited due to a reduction in energy where the sea meets a river.



Longshore Drift



Landforms of Coastal Erosion



Soft Engineering- Managing erosion by working with natural processes to help restore beaches and coastal ecosystems.

Hard Engineering - The use of concrete and large artificial structures by civil engineers to defend land against natural erosion processes.

	Benefits	Costs		Benefits	Costs
Beach nourishment - Sand is added to a beach to make it steeper/longer to reduce erosion.	cheaper solution compared to H.E, fits in with natural surroundings.	sand is transported via longshore drift, needs regular maintenance (becomes costly in the long term).	Gabion - Steel wire mesh filled with boulders used in coastal defences.	Cheap and easy to construct	The cages can rust and break.
Managed retreat - Allow nature to take its course and erode certain parts of the coast deemed too costly to protect (e.g. farmland).	no need to build/fix any current sea defences (no cost).	compensation must be paid to those who are forced to relocate elsewhere.	Rock armour (rip-rap) - Large boulders dumped on the beach as part of the coastal defences.	Quick to build and easy to maintain.	Can look messy. Blocks often need repositioning.
			Groyne - A wooden barrier built out into the sea to stop the longshore drift of sand and shingle, and so cause the beach to grow.	Widen the beach. Good for tourism.	Longshore drift moves sediment all along the coastline, so groynes on one beach prevent sediment reaching another beach.
			Sea wall - A concrete wall which aims to prevent erosion of the coast by providing a barrier which reflects wave energy.	Reliable protection for buildings and cliffs.	Very expensive to construct and maintain.