

# Spring | Geography | Year 10 Coastal Landscapes in the UK

## Processes

### **Erosion**

*The wearing away and removal of material by a moving force, such as a breaking wave.*

### **Abrasion (or corrosion)**

The wearing away of cliffs by sediment flung by breaking waves.

### **Attrition**

Erosion caused when rocks and boulders transported by waves bump into each other and break up into smaller pieces.

### **Hydraulic power**

The process by which breaking waves compress pockets of air in cracks in a cliff. The pressure may cause the crack to widen, breaking off rock.

### **Mechanical weathering**

Weathering processes that cause physical disintegration or break up of exposed rock without any change in the chemical composition of the rock, for instance freeze thaw.

### **Chemical weathering**

The decomposition (or rotting) of rock caused by a chemical change within that rock; sea water can cause chemical weathering of cliffs.

### **Mass movement**

*The downhill movement of weathered material under the force of gravity. The speed can vary considerably.*

### **Sliding**

Occurs after periods of heavy rain when loose surface material becomes saturated and the extra weight causes the material to become unstable and move rapidly downhill, sometimes in an almost fluid state.

### **Slumping**

Rapid mass movement which involves a whole segment of the cliff moving down-slope along a saturated shear-plane or line of weakness.

### **Transportation**

*The movement of eroded material.*

### **Longshore drift**

The zigzag movement of sediment along a shore caused by waves going up the beach at an oblique angle(wash) and returning at right angles(backwash). This results in the gradual movement of beach materials along the coast.

### **Deposition**

*Occurs when material being transported by the sea is dropped*

*due to the sea losing energy.*

## Erosional landforms

### **Headlands and bays**

A rocky coastal promontory made of rock that is resistant to erosion; headlands lie between bays of less resistant rock where the land has been eroded back by the sea.

### **Cliff**

*A steep high rock face formed by weathering and erosion along the coastline.*

### **Wave cut platform**

A rocky, level shelf at or around sea level representing the base of old, retreated cliffs.

### **Arch**

*A wave-eroded passage through a small headland. This begins as a cave formed in the headland, which is gradually widened and deepened until it cuts through.*

### **Cave**

*A large hole in the cliff caused by waves forcing their way into cracks in the cliff face.*

### **Stack**

An isolated pillar of rock left when the top of an arch has collapsed. Over time further erosion reduces the stack to a smaller, lower stump.

## Depositional landforms

### **Beach**

*The zone of deposited material that extends from the low water line to the limit of storm waves. The beach or shore can be divided in the foreshore and the backshore.*

### **Sand dune**

*Coastal sand hill above the high tide mark, shaped by wind action, covered with grasses and shrubs.*

### **Spit**

A depositional landform formed when a finger of sediment extends from the shore out to sea, often at a river mouth. It usually has a curved end because of opposing winds and currents.

### **Bar**

Where a spit grows across a bay, a bay bar can eventually enclose the bay to create a lagoon. Bars can also form offshore due to the action of breaking waves.

## Management

### **Soft engineering**

*Managing erosion by working with natural processes to help*

*restore beaches and coastal ecosystems.*

### **Beach nourishment**

The addition of new material to a beach artificially, through the dumping of large amounts of sand or shingle.

### **Beach reprofiling**

Changing the profile or shape of the beach. It usually refers to the direct transfer of material from the lower to the upper beach or, occasionally, the transfer of sand down the dune face from crest to toe.

### **Dune regeneration**

Action taken to build up dunes and increase vegetation to strengthen the dunes and prevent excessive coastal retreat. This includes the re-planting of marram grass to stabilise the dunes, as well as planting trees and providing boardwalks.

### **Managed retreat**

Allowing cliff erosion to occur as nature taking its course: erosion in some areas, deposition in others. Benefits include less money spent and the creation of natural environments. It may involve setting back or realigning the shoreline and allowing the sea to flood areas that were previously protected by embankments and seawalls.

### **Hard engineering**

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

### **Gabion**

Steel wire mesh filled with boulders used in coastal defences.

### **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. It is used to build beaches to protect against cliff erosion and provide an important tourist amenity. However, by trapping sediment it deprives another area, down-drift, of new beach material.

### **Rock armour**

Large boulders dumped on the beach as part of the coastal defences.

### **Sea wall**

A concrete wall which aims to prevent erosion of the coast by providing a barrier which reflects wave energy.

Tier 2 Vocabulary

Tier 3 Vocabulary