

Monday 8<sup>th</sup> March 2021

Coastal Process- erosion and transportation

Starter- which wave is which? Why?



**Destructive wave-** Strongback wash, more energy, short length and process is erosion.



**Constructive wave-** opposite and depositions occurs on the beach.

**Hydraulic power-** very common during destructive waves and storm like conditions and this type of erosion involves the waves to crash against the rocks/cliffs and then the waves compress the air within those cracks leaving them to expand which will widen and wear away overtime.

**Corrasion-** where material on the beach is thrown against the cliff base and face and erodes the rock through a sandpaper action.

**Attrition-** Eroded particles in the water smash into each other and break into smaller pieces. Their edges get rounded off as they bash into each other.

**Corrosion-** chemical action turns the rock into a solution where weak carbonic acid in seawater dissolves rock like chalk and limestones.

**Abrasion**- Eroded particles in the water scrape and rub against the rock/cliff removing small pieces.

Explain using coastal processes how a wave cut notch forms.

I think a **wave cut notch** is caused by the sea erosional processes such as abrasion and hydraulic action causing a dent in the cliff. When it increases the cliff becomes unsteady and collapses.

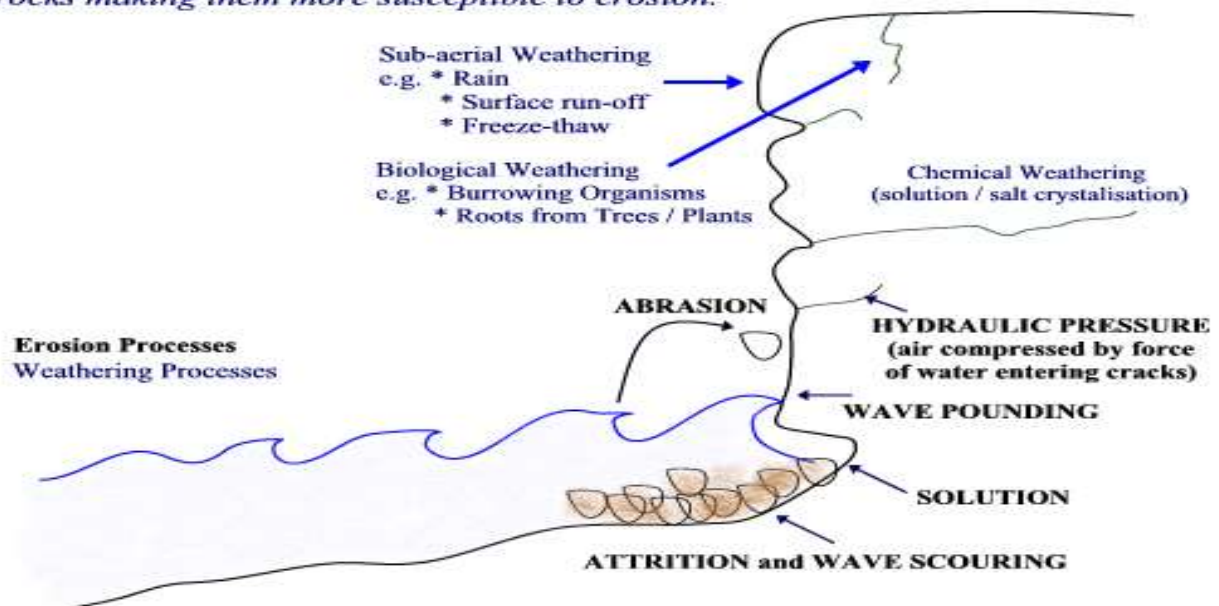
**Destructive waves** are high energy waves. They cause erosion at the **base of** the cliff by **CORRASION** and **ABRASION**.

**Hydraulic action** creates a **wavecut notch** by creating a wavecut notch by trapping air in a fracture in the rock which increases air pressure which erodes the rock.

The coast is shaped by weathering, mass movement, erosion and transportation and deposition.

## Coastal Erosion and Weathering Processes

*Remember weathering and erosion do the most damage at the weakest points. Weathering also helps to weaken rocks making them more susceptible to erosion.*



A- Hydraulic power

B- Abrasion

C- Solution

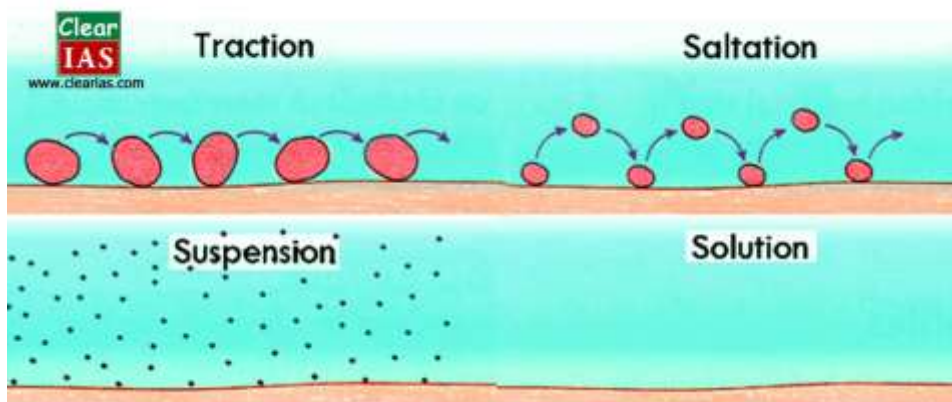
D- Attrition

Rainfall and changes in temperature make rocks weaker. This process is called **weathering** and often effects coastal cliffs. The force of wind and waves in coastal areas wears away cliffs. This is called **erosion**. As waves hit the cliff, air is forced into cracks, breaking the rock. This is called **hydraulic** power. When waves break on a beach, pebbles, move against other pebbles. This process is called **attrition** and makes the pebbles smaller. 4/4

### Transportation + Deposition

**Transport:** the sea picks up and carries eroded beach material.

**Deposition:** the sea puts down beach material that it is carrying, as it loses energy.



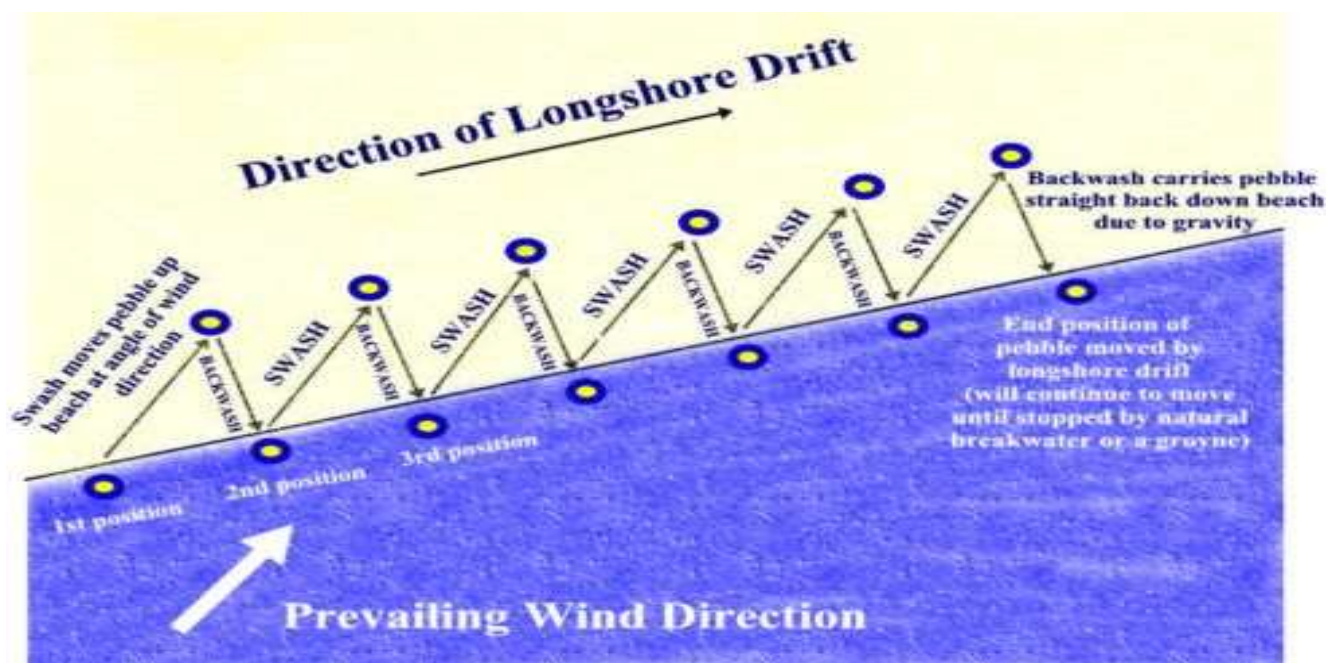
### What controls the movement of longshore drift?

The wind controls the movement of waves which in turn determines the direction of longshore drift.

**What direction does longshore drift move on the East coast of the UK?  
Explain your answer.**

So, along the east coast of England if the wind direction is FROM the north east then waves will approach the coast from this direction and move sediment along the beach from the north to the south.

**Long-shore drift:** the transport of sediment along a stretch of coastline caused by waves, approaching the beach at an angle.



Sediment is moved along the coastline in a process known as longshore drift. The prevailing wind blows waves carrying sediment into the beach at an angle, the waves break on the shore and as the water runs back into the sea it carries the sediment back down the beach, with backwash and the swash- perpendicular to the angle of the shoreline under the influence of gravity. This results in a zigzag motion as sediment is transported along the coastline. This process means that over time beaches can change shape. However, to stop there can be a groyne built, but small material such as sand and gravel still can escape.

