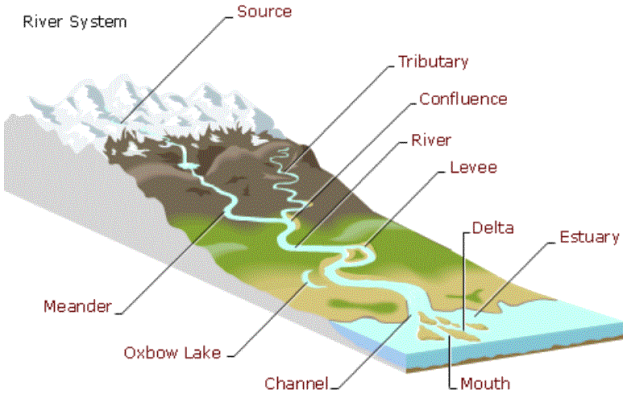
8.1 – Coasts and hydrology

Our coasts are always changing and are shaped by a huge number of factors, not only geology, but direction of wind, strength of waves and the influence of the weather. The processes of erosion, transportation, and deposition, create some of our most spectacular landmarks. Hydrology is the study of rivers and how they shape the land. They have a close link with the coast.

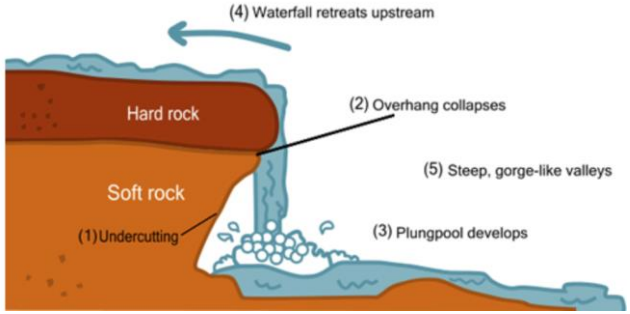
Keywords

coast, headland, formation, bays, erosion, processes, caves, arches, stacks, stumps, blowhole, spit, longshore drift, transportation, deposition, oxbow lake, waterfall, flooding, constructive, interface, beach, swash, backwash, friction, wave, weathering.

The river system - Rivers create different landforms as they progress downstream. Just like at the coast, these are created by erosion, transportation and deposition.

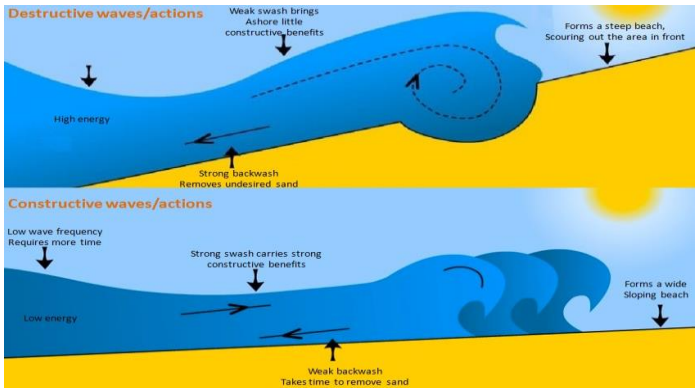


Waterfalls and oxbow lakes – these are classical river features created by erosion. There is a complex process which explains how the waterfall is developed and changes over time.



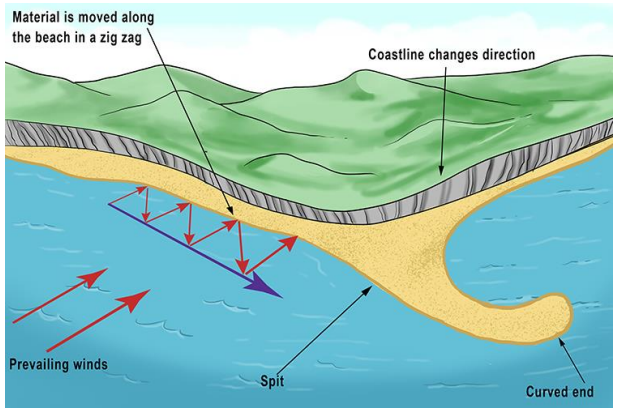
Flooding - This is caused when a river overflows its banks, or when the sea washes onto the land. The most common cause of flooding is heavy and prolonged rainfall. There are many other causes, including: steep slopes, snow melt, urbanisation, deforestation.

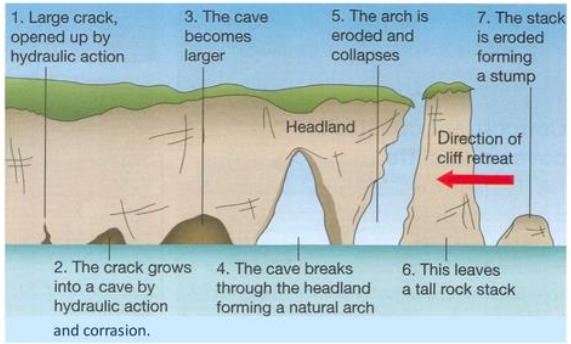
Constructive and destructive waves



The varied geology of the UK makes our coast very different from one side of the British Isles to the other.

Spits and depositional features – spits are created when sand is moved by the process of longshore drift, a critical process that shapes the coast. When the coast changes direction or a river enters the sea, often a spit (finger of sand)





Caves, arches and stacks - these features are created by the agents of erosion – hydraulic action, abrasion, attrition, and solution. Waves crash against the coast creating headlands and bays, and the cave arches and stacks develop on headlands.