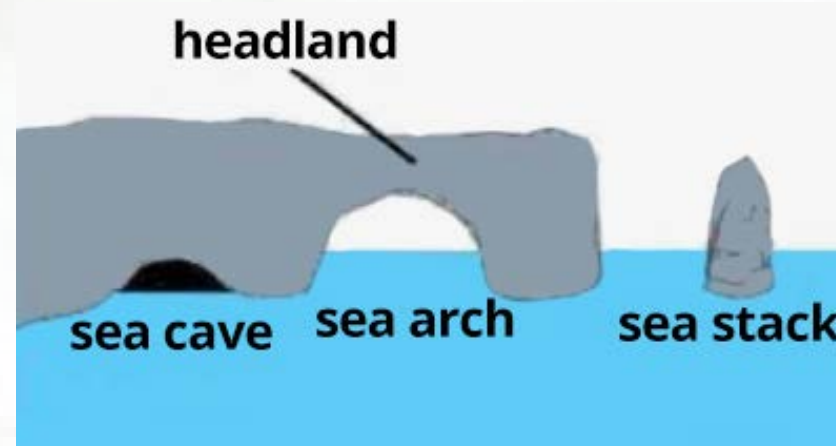


1.2.1b How do processes work together to create landform features at different scales in coastal landscapes in Wales?

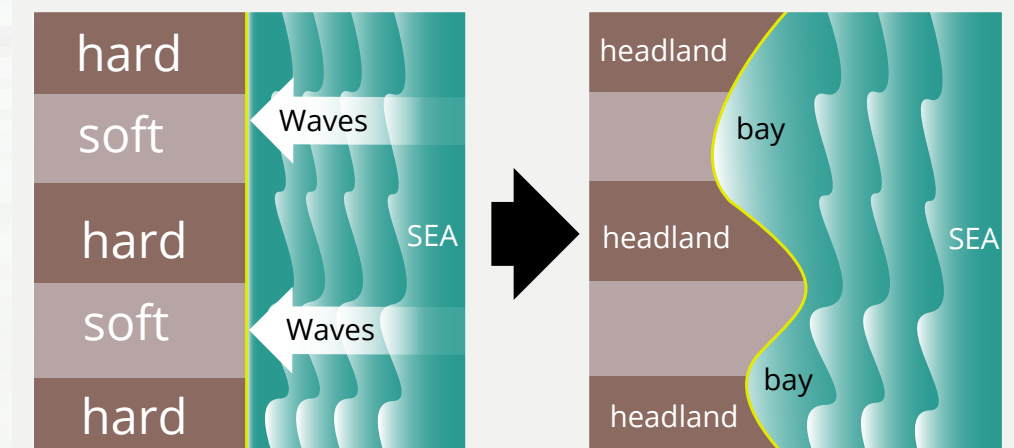


Arches to stacks

Erosion of cracks and faults in a headland can, in time, lead to the formation of a cave. Continued erosion along lines of weakness, such as **bedding planes**, can break through to the other side of the headland, forming an **arch**. Weathering of the roof of the arch could lead to a rockfall event and its collapse leaving behind a **stack** of rock.



Where a coast is made up of alternating bands of hard and soft rocks, bays form where erosion and weathering happen faster on weaker rocks, leaving behind headlands made of hard rocks.



How and why do coastal landforms change over time?

Erosion

Abrasion is when rocks carried in waves smash into cliffs, knocking bits off.
Attrition is when rocks crash together as they move along in the sea.
Hydraulic Action is when air is forced into cracks in a cliff by waves, forcing them to expand.
Solution seawater dissolves minerals in the cliff.

Weathering

Freeze-thaw is when water gets into cracks in the top of the cliff in the day and freezes at night. As this continues rocks break off and fall onto the beach.
Biological weathering is when the roots of plants growing in the cliff dislodge rocks that then fall from the cliff.

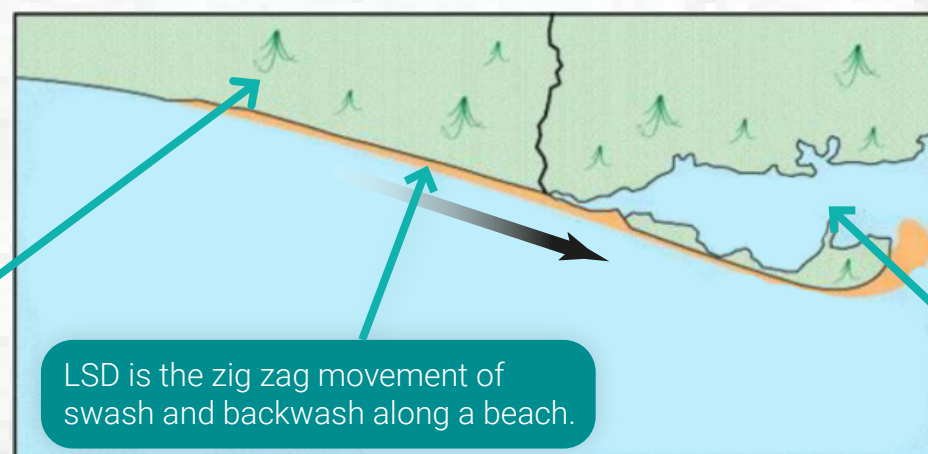
Mass Movement

Rockfalls – the movement of a mass of rocks off a cliff.
Landslide – a collapse of a mass of earth or rock from a cliff.



A **spit** is a distinctive coastal landform that shows the link between sediment supply, transportation and deposition.

Erosion, weathering and mass movement of a cliff provide the beach with material that is moved along by **longshore drift**.



Where the supply of sediment is high, the beach will build out and deposit sediment into the sea beyond a headland and form a **spit**, e.g. Barmouth spit. The water pressure from rivers stop spits from forming across river mouths, causing them to curve.

Erosion, weathering and mass movement processes combine to cause a cliff to retreat backwards, leaving behind a **wave-cut platform** that contains **rock pools**.

Most erosion occurs between high and low tide, forming a **wave-cut notch**.

