# Coasts Key Word Glossary

**Abrasion** – Also known as corrosion. It is the wearing away of the cliff by sand, fragments of rock and boulders that are being hurled at the cliff by the waves. It causes grinding in a sand paper like action.

**Advance the line** – A coastal management strategy to move the defence of an area seawards of its existing position. This is a rare decision to build forward of the present position.

**Anoxic** – Without oxygen

**Area of Outstanding National Beauty** – this title gives special protection to an area that is an especially attractive landscape.

**Backwash** – the wave washing straight down the beach, due to gravity.

**Barrier beach** – an accumulation of sand and shingle lying parallel to the shoreline that encloses a marsh or lagoon on the landward side.

**Boulder Clay**- the unsorted sediment deposited directly below a glacier, which has a range of particle sizes from fine clay to rock fragments and boulders. Also known as glacial till

**Coast** – that part of the land most affected by its proximity to the sea and that part of the ocean most affected by its proximity to the land. It is a zone of transition. The frontier between the land and the sea.

**Coastal squeeze**- a) where a coastal sediment is prevented from expanding due to the sea on one side and rural areas inland or b) an environmental situation where the coastal margin is squeezed between the fixed landward boundary and the rising sea level.

**Coastalisation** – the movement of people to coastal areas. It can be used in the negative sense of intensive housing development along coastlines, leading to environmental degradation.

**Constructive waves** – are depositional waves with a long wavelength and a low wave height. They are low frequency and have a high waver period. The swash is stronger than the back wash. The beach will have a low gradient profile.

**Corrasion** – see abrasion

**Corrosion** – or solution is when the acids in the sea water dissolve the rocks

**Cost-benefit analysis** – a technique where projected public schemes are evaluated in terms of social outcomes as well as in terms of profit and loss.

**Cretaceous** – geological period 65-135 million years ago

**Cuspate foreland** – a triangular accumulation of sediment such as sand and shingle.
**DEFRA** – The Department for the Environment, Food and Rural Affairs, in the UK, is in charge of policy about coastal erosion and they come up with shoreline management plans.

**Destructive waves** – are erosional waves that have a short wavelength and high height. Hey are high frequency and low period. The backwash is stronger than the swash so the gradient of the beach is steep.

**Do nothing** – A coastal management strategy that involves monitoring the situation and letting nature take its course. No coastal defence activity takes place except for safety measures.

**Dynamic equilibrium** – the balanced state of a system when the inputs and outputs are equal. If one element changes because of an outside influence, this upsets the internal equilibrium and affects all the components. By the process of feedback, the system adjusts to the change and regains equilibrium.

**Environment Agency** – implements the policies of DEFRA to build flood and coastal defences in the UK.

**Erosion** – the wearing away of the land surface and the removal of debris by wind, water or ice.

**Eustatic change** – A world wide change of sea level which may be caused by the growth and decay of ice sheets.

**Eutrophication** – the process by which ecosystems experbecome more fertile environments as detergents, sewage and artificial fertilisers flow in

**Fetch** – the total distance of open water that a wind blows across.

F**reeze-thaw** – the weathering of rocks which occurs when water which has penetrated joints and cracks freezes and expands.

**Geology** – the scientific study of the Earth, including the origin and history of the rocks and soils of which the Earth is made

**Geomorphology** – the study of the shape of the earth and the processes that work on the surface of the earth

**Hard engineering** – coastal protection methods that are designed to overcome natural processes. Structures are built to resist wave and tidal energy and sub aerial processes that cause mass movement eg sea walls

**High water mark** – the highest point that the tidal waters come to.

**Hold the line** – A strategy of coastal management to continue to hold the line of defence where it is by maintaining or enhancing the current coastal defences.

**Hydraulic pressure** – When a parcel of air is trapped and compressed into a joint or between a wave and the cliff causing the weakening or breaking off of rock or damage to sea defences.

**High value coastal areas** – Areas of the coast with endemic species of plants and animals (that are only found in that area), diversity, aesthetic and recreational value and vulnerable to human impact.

**Integrated coastal management** – an approach which sees the coastal zone as an interactive and dynamic complex of sub-systems. Human activities in one sub-system may adversely affect other sub-systems. For this reason, it considers that various parts of the coastal zone cannot be considered in isolation

**Isostatic changes** – the rise or fall of the Earth's continental crust, often in response to the melting or accumulation of glacial ice.

**Jurassic** - geological period 135-195 million years ago

**Land reclamation** – is any process where land can be substantially improved or made available for some use. Processes include the treatment of derelict land, drainage of temporarily waterlogged land or the drainage of lakes or shallow parts of the sea floor.

**Lithology** – the rock's features such as its permeability, solubility, relative hardness and texture

**Longshore drift** – the movement of sand and shingle along the coast

**Low water mark** – the lowest point that is exposed to the air at low tide

**Off shore coastal zone** – reaches out to the outer limit of the economic exclusion zone (EEZ). This is currently set at 200 miles or 370.4km out to sea. Within that limit the coastal state has rights over the natural resources of the water as well as the sea bed.

**Onshore coastal zone -** up to 60km inland.

**Marine erosion** – abrasion, attrition, solution and hydraulic pressure

**Managed retreat** – see retreat the line

**Mass movement** – the downslope movement of material such as rocks, loose soil and stones by gravity and it is often lubricated by water.

**National Nature Reserve (NNR)** Identifies and protects both geological and biological interests.

**Plant succession** – the gradual evolution of a series of plants within an ecosystem or given area. This series of plant communities occurs in a roughly predictable order.

**Polder** – Dutch term for a flat piece of land that has been reclaimed from the sea, lakes or rivers by building dykes and draining. Polders are maintained by pumping.

**Relief** – the shape of the Earth's surface. An area of 'high relief' has large differences in the height of the land; 'low relief' indicates little difference in altitude

**Retreat the line** –A strategy to encourage the movement of the shoreline landward of its present position in a managed or controlled manner, hence the term 'managed retreat'.
**Rock structure** – the way in which the rock is constructed such as in layers or as a solid mass, its angle and direction and how it has folded or faulted

**Salt Marsh** – mud flats in estuaries and sheltered bays on which vegetation has grown

**Sea change** – an Australian term for coastalisation, which the added special sense of people moving to small coastal towns fro the improved lifestyle and low house prices.

**Sediment cells** – a length of coastline and its associated near shore areas within the movement of coarse sediment (sand and shingle) is largely self contained. There are 11 cells around England and Wales some of which can be divided into sub-cells

**Sediment sinks** – places that accumulate sediment from deposition, like beaches, sand dunes, estuaries and offshore.

**Sediment sources** – the places where the sediment in coastal zone originate from eg cliffs, fluvial areas and off shore

**Shoreline Management Plans** – plans that take into consideration an entire sediment cell or sub-cell

**Site of Special Scientific Interest (SSSI)** – Protects an areas biological, geological and geomorphological importance.

**Slumping** – a mass movement where rock and soil move downwards along a concave face

**Soft engineering** – coastal protection methods that are designed to work together with nature, rather than against it. eg beach nourishment

**Special Area of Conservation (SAC)** – Protects wildlife areas.

**Spit** – a long, narrow and sometimes curved accumulation of sand and shingle extending the shoreline where it changes direction.

**Stakeholder** – are individuals, groups or organisations that have a interest in the development or outcomes of a particular project. They may be involved financially or emotionally.

**Storm surge** – a increase in the sea level due to a low pressure depression. If this coincides with a spring tide and winds then the waves may be above the normal high water mark and flooding can occur.

**Sub aerial weathering** – non marine processes that can help cause cliff failure at the coast. These include the types of weathering that are normally found on the land, such as freeze thaw weathering, hydration, biological weathering as well as salt weathering.

**Succession** – the gradual evolution of a series of plants within an ecosystem or given area. This series of plant communities occurs in a roughly predictable order.

**Swash** – The movement of a wave up the beach at the angle of the wind.

**Swell** – a long series of ocean waves, generally produced by wind, and lasting after the wind has ceased

**Terminal Groyne syndrome** – beach erosion occurring just after the last of a series of groynes

**Tombolo** – an accumulation of sand and shingle which joins an island to the mainland.

**Topography** – the physical features of an area of land, especially the position of its rivers and mountains

**Triassic** – geological period 195-235 million years ago

**Tsunami** – a series of very large waves generated by a disturbance on the sea bed (eg earthquake, volcanoes, landslides, meteorite) and they can threaten life on the land.

**Weathering** – the break down of rocks at or near the earth's surface where they are situated (in situ) by the weather, plants and animals.