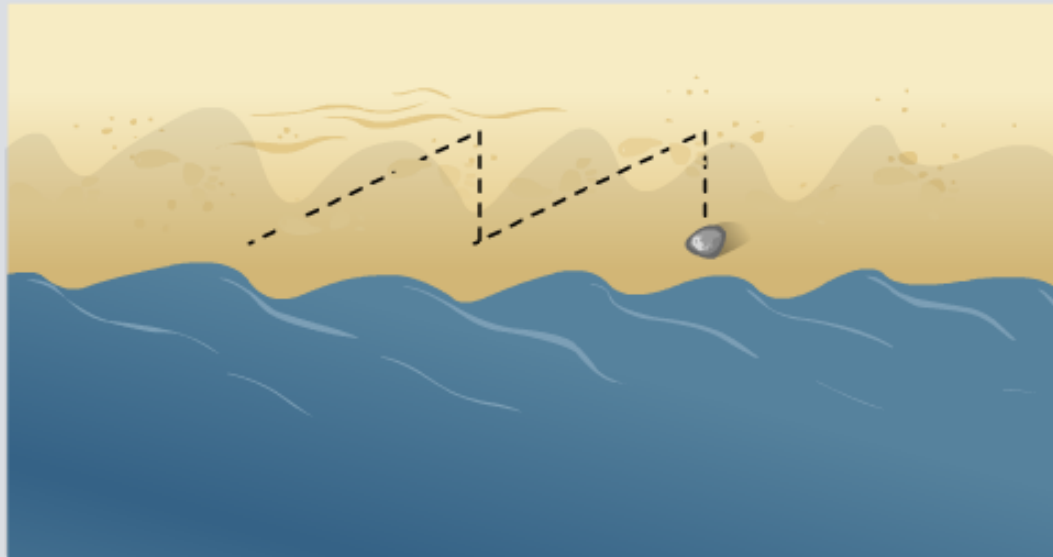


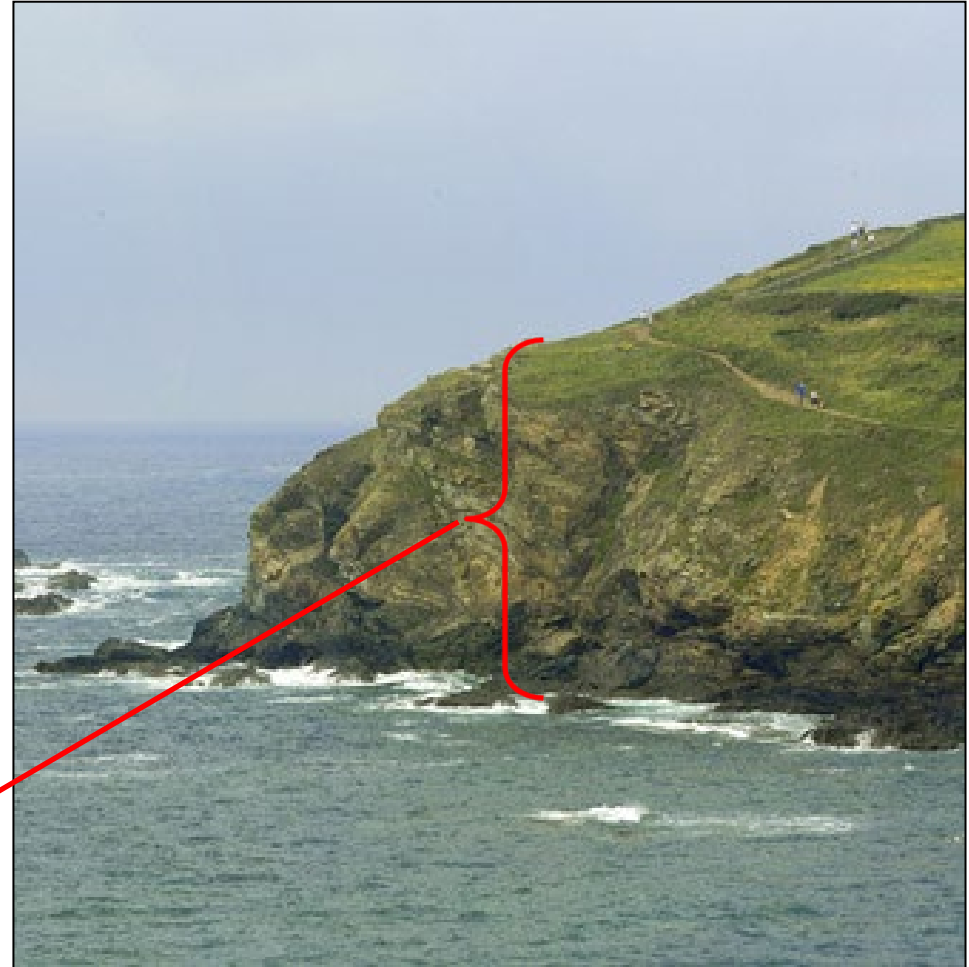
## Coastal Processes



# Processes of weathering

**Weathering** is the **in situ** breakdown of rocks. It occurs in place, without needing a transport medium.

Weathering is a **subaerial process**. This means it is land-based; it operates on the cliff face or land adjacent to the sea.



Subaerial processes

Do you know what different processes of weathering operate at the coast?



# Chemical and biological weathering



# Mechanical weathering



**Mass movement** describes the down-slope movement of weathered material under the influence of gravity.

There are several different types of mass movement, including:

- rotational slump
- rock falls
- mud slides.

How does each type occur?

What factors aid mass movement?

- sparse vegetation
- undermining by wave action
- heavy rain.



# Types of mass movement



# Processes of erosion



# The rate of erosion





When waves approach the shore, frictional resistance with the sea bed slows them down at their base. They get taller and their wavelength decreases. The top of the wave overtakes the bottom as the water gets shallower and they break.

The energy of waves determines whether they build up or **degrade** a beach. The former are called **constructive waves** and the latter **destructive waves**.

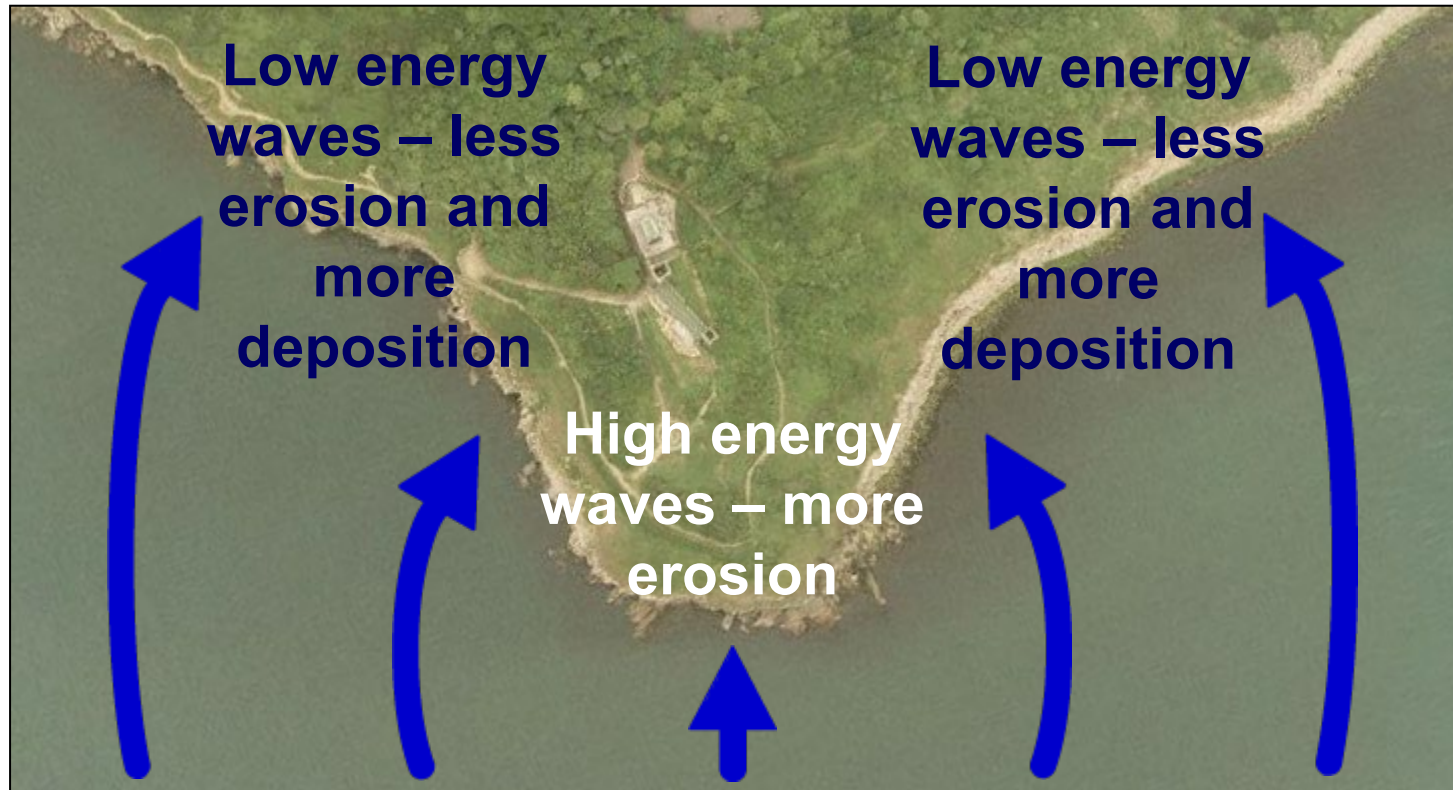


What determines whether waves are constructive or destructive?

- Height
- Wavelength
- Frequency
- Swash/backwash.



**Refraction** is the 'bending' of wave fronts. When waves approach an irregular coastline, they refract and their energy is concentrated on the headland, increasing erosion here.





Sediment is deposited where waves and currents slow down or the supply of sediment exceeds the rate of removal.

Pebbles are deposited when wave energy is high. Stormy seas are able to carry them and often throw them far up a beach.

Smaller particles, like sand, are only deposited when wave energy is low.

