

**HOLDERNESS
RAPID CLIFF RECESSION
RAPID CLIFF EROSION**

Weathering and mass movement are important processes on the Holderness coast.

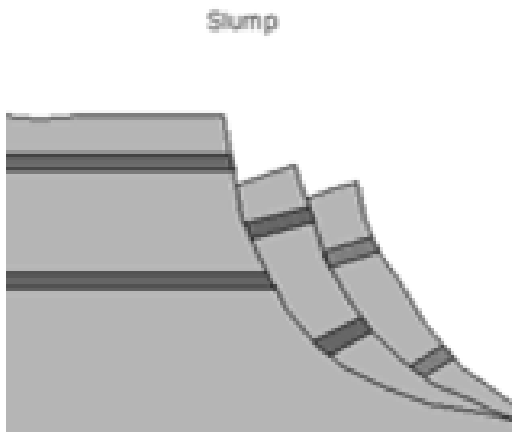
Rotational slips and mudflows are the main processes.

SUB-AERIAL PROCESSES

combination of factors:-

- Saturation of the porous clay by rainfall and sea spray
- The weight of water in the clay increases the downward force of gravity
- Water between clay particles acts as a lubricant
- Water pushes particles apart to create minimum density packing
- Water also increases the pore water pressure and increases the shear stress
- This leads to sudden slope failure and collapse

Rotational slips are caused by



The soft, unconsolidated glacial till (boulder clay) is easily eroded by destructive waves.

Hydraulic action, abrasion and cavitation wear away the base of the cliff.

This material is then removed from the base of the cliff by waves to allow more erosion to occur, and recession continues.

WAVE EROSION

Longshore drift along the coast is from north to south.

This moves beach material away from the Holderness coast to build up Spurn Point.

This also means that there is no beach to absorb the wave energy.

The boulder clay has low amounts of sand. This reduces the size of the beach.

The lack of a beach allows the full destructive forces of waves and wave energy to attack the foot of the cliff.

The wave energy also removes any material supplied to the base of the cliff by sub-aerial processes.