What coastal management techniques are being used on Hayling Island?

Video summary	Before watching the video	During the video
Liz Bonnin introduces a clip exploring the significance of coastal erosion. The short film explains some of the methods used to manage coastal erosion on Hayling Island in Hampshire, including the use of tracer pebbles to measure the movement of shingle along the beach. The clip explains how the information is used to ensure soft engineering coastal management techniques are effective in restoring the beach's natural defences against the sea. Hard engineering techniques are also used on Hayling Island and the clip explains how these are used to prevent flooding.	Locate Hayling Island on a map of the UK and ask students to write a locational description. Look at images of Hayling Island and ask students why they think this location needs protecting from the sea. Ask them if they recognise any of the strategies being used to protect Hayling Island. **Introduce key terms such as:** **Shingle**: A mass of small rounded pebbles. **Hard engineering:** Using artificial structures to control natural processes. **Erosion:** The process where natural forces like wind, water, or ice wear away and transport soil, rock, and other materials from one location to another.	You may wish to stop at relevant points during this short film to pose questions and check understanding or wait until the end. Useful questions might include: • What is erosion? • What is Sacha beach scanning for? • What are tracer pebbles? • How do the tracer pebbles help us to understand more about the movement of sediment? • Why is some of the sediment moved by the team? • Why have big rocks been placed in some locations? • Why is beach management needed? • What would happen without human intervention?

After watching
Discuss with students how effective they think the methods are that are being discussed and whether this use of technology is a good way to help protect coastlines. Show students a range of different coastal management methods such as groynes, riprap, dune stabilisation and beach nourishment. Ask students to describe each method and to consider the advantages and disadvantages of each method. Look at aerial photographs of Hayling Island – can students identify any of those methods in the photographs.

A decision-making exercise could be set up where students decide what other coastal management methods could be used in Hayling Island to better defend it from coastal erosion. Students could be given information about the costs of each method and then given a budget of what they can spend. This could then be presented to the rest of the class, with students justifying their choices of coastal management strategy.		
Curriculum notes	**Where next?**	**Links**
This topic appears in Geography at KS3 (Coasts) and KS4 / GCSE (Coastal landscapes) in England, Wales and Northern Ireland and National 4/5 in Scotland.	Ask students to investigate another location with coastal management strategies, this could be that is local to your school. Students should divide their research into the hard and soft engineering strategies and their effectiveness. Students could also investigate which shoreline management plan their location falls into and whether the strategy of 'hold the line', 'advance the line', 'managed retreat' or 'do nothing' is being used.	KS3 coastal management: https://www.bbc.co.uk/bitesize/articles/zhg8kty Hard engineering: https://www.bbc.co.uk/bitesize/guides/z8kksg8/revision/1 Soft engineering: https://www.bbc.co.uk/bitesize/guides/z2234j6/revision/2 Coastal processes and landforms: https://www.bbc.co.uk/bitesize/articles/z6394xs