

# Coastal Processes and Management Investigation: Sitges

## BEACH 18 (SHINGLE BEACH)

Students work in groups at a minimum of 10 locations spread evenly between the discotheque and the sewage works to record:

- the long axes lengths of 60 pebbles collected from the swash zone (record in cms)
- the long axes lengths and alignments of 60 pebbles collected from the storm berm (use a compass, and record in degrees)
- A fieldwork sketch should also be completed for this beach to show the evidence for coastal erosion and management.

### SAFETY

- **Do not walk out onto the breakwaters**
- **Do not enter the water at any time**
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### Pebble sampling table for swash zone – longest axis length

Site Number \_\_\_\_\_

60 swash zone pebble longest axis lengths


Average longest axis length

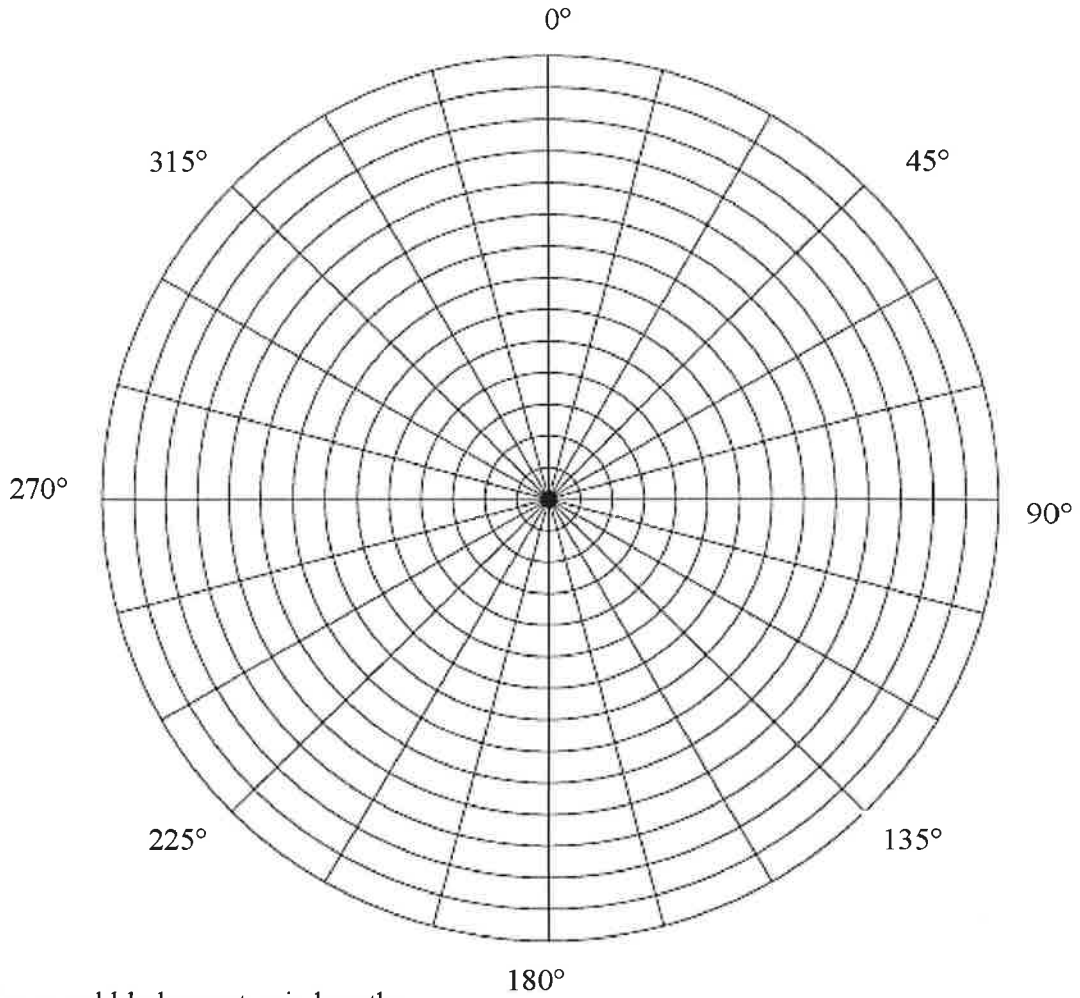
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Group Number

**Pebble sample for Storm Berm – Pebble longest length and alignment**

**Pebble Alignment**

Sample a further 60 pebbles from the storm zone and record the alignment directly onto the polar graph below.



60 storm berm pebble longest axis lengths

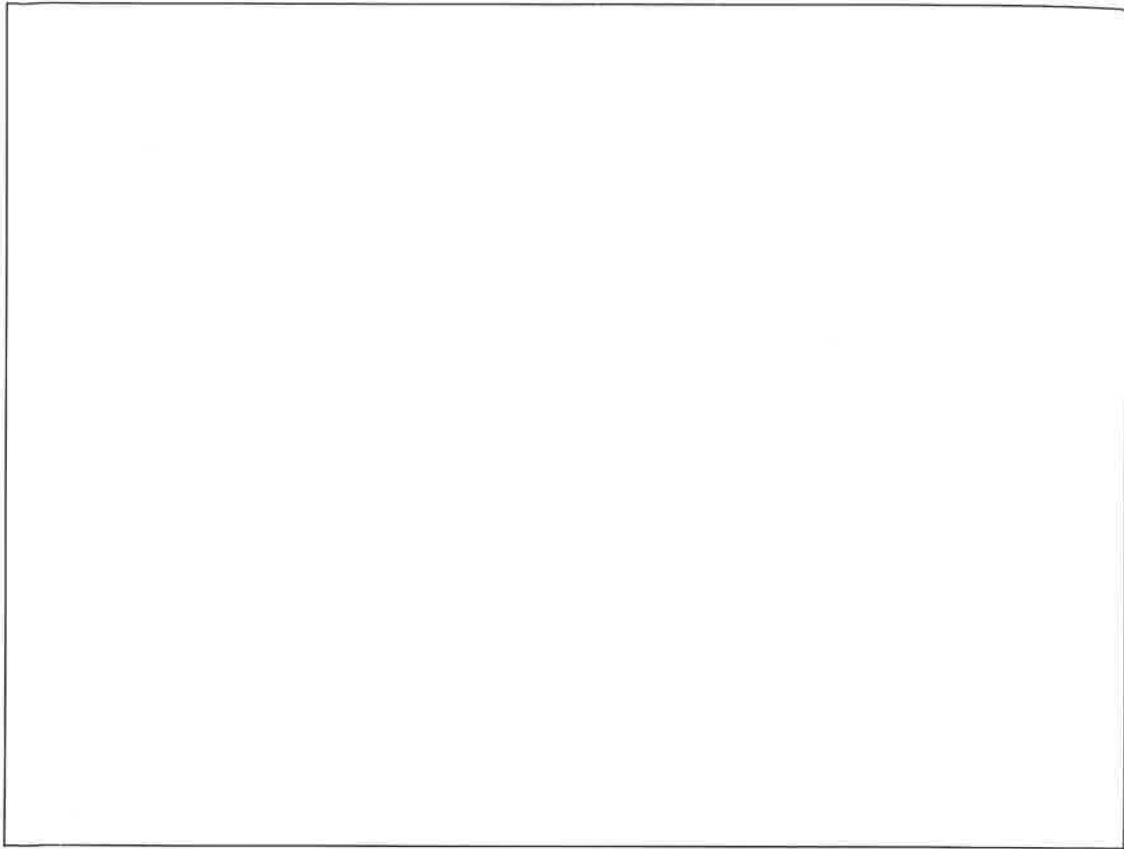

Average longest axis length

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Group Number

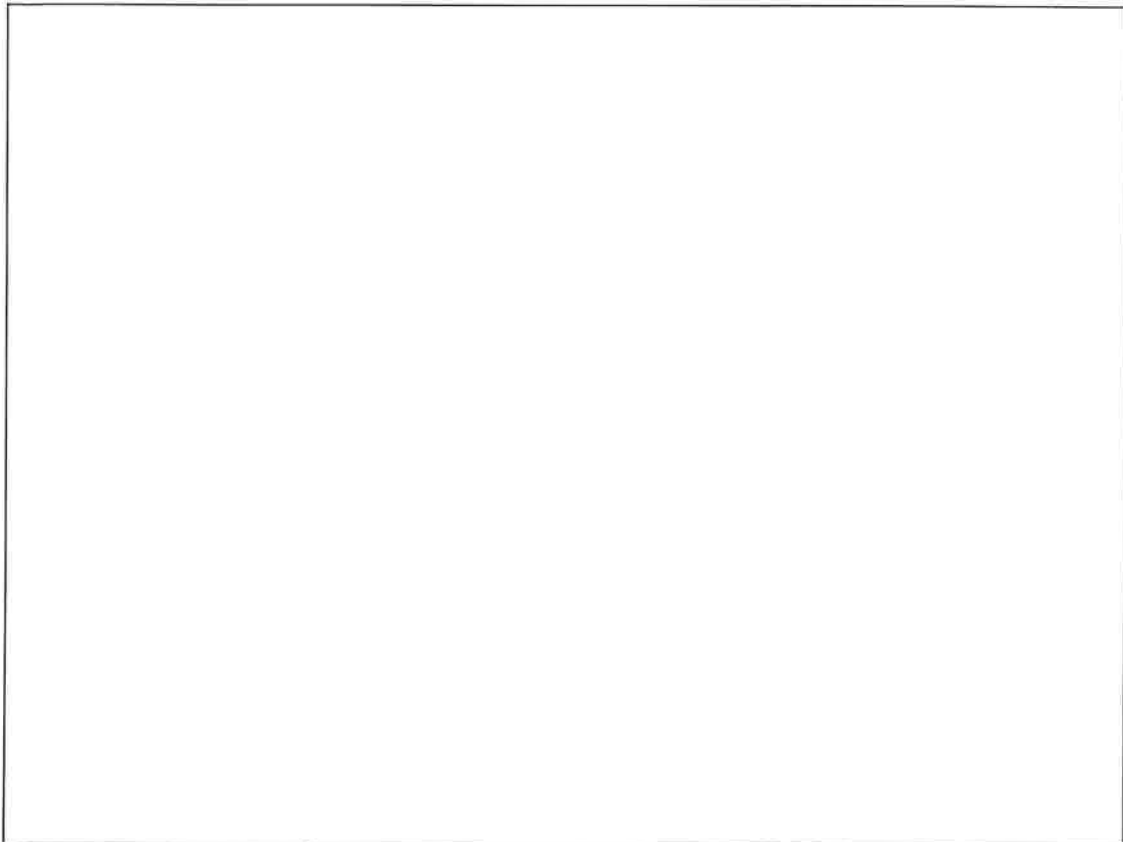
# Sitges Beach Shapes

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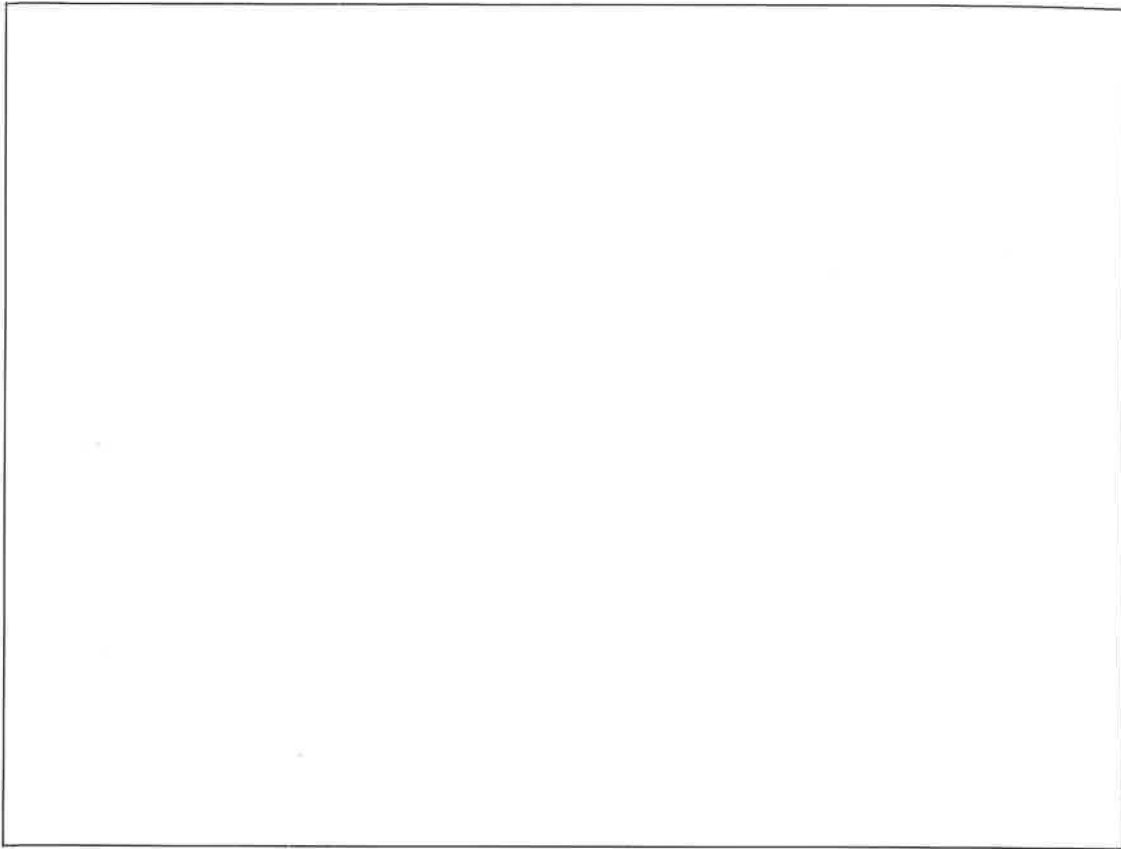
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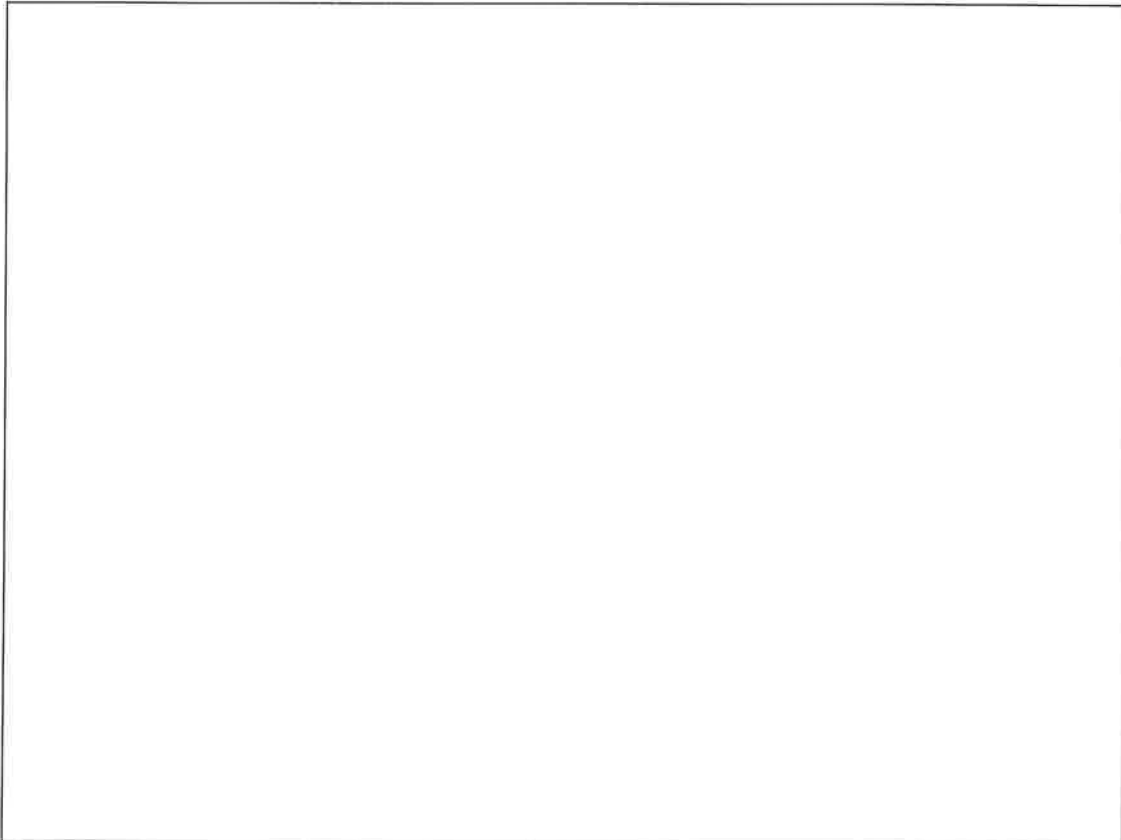
# Sitges Beach Shapes

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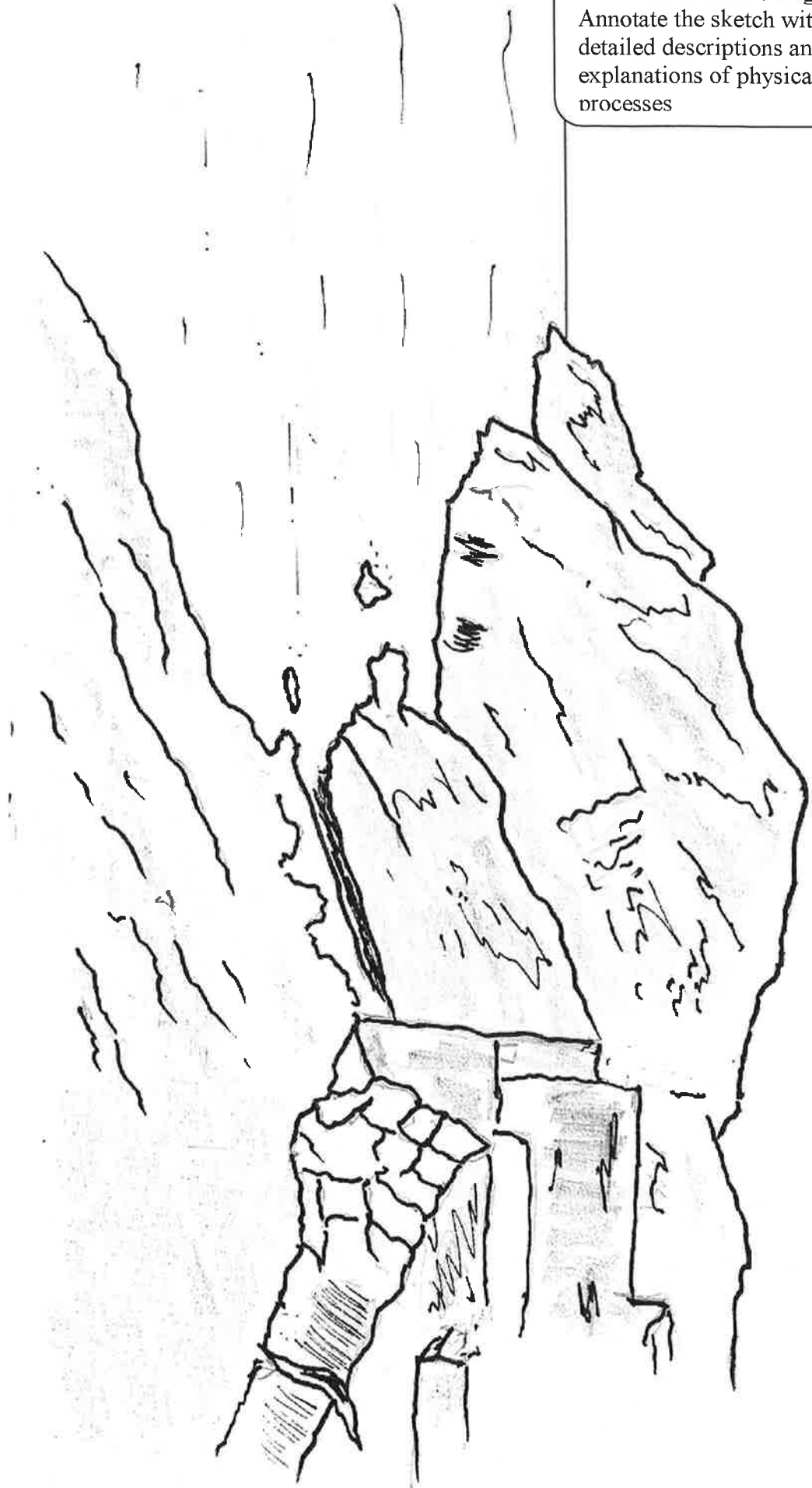


Beach Number \_\_\_\_\_



**Field Sketch: Sitges**

Annotate the sketch with at detailed descriptions and explanations of physical processes



## Fieldwork Follow Up

### Key Vocabulary

**Fetch:** Refers to the distance or length of water that the wind has blown.

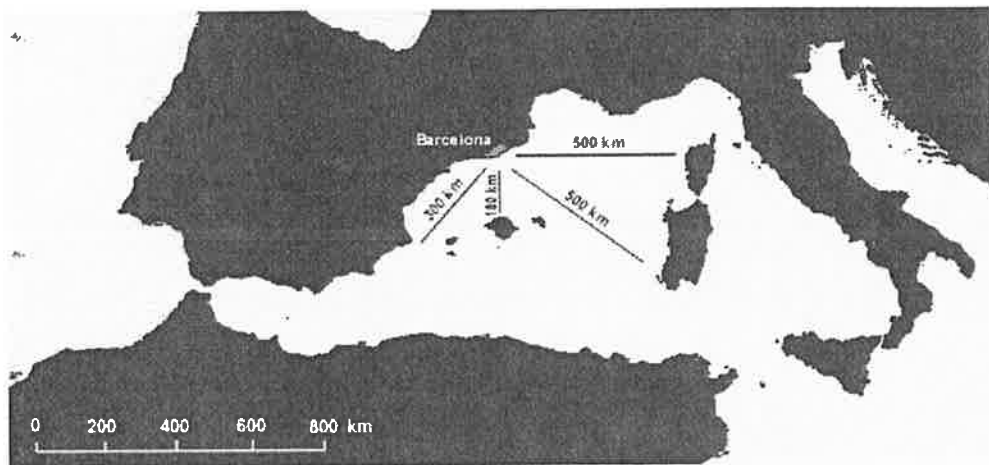
**Erosion:** This is the breaking down of rock and the beach by wave action

**Destructive wave:** Are large plunging waves with a short wave length. They are associated with erosion due to their strong backwash

**Constructive wave:** Are smaller waves with a stronger swash and weak back wash. They have a long are wave length and are shorter in height and associated with building up beaches.

### Coastal Processes at Sitges

Study the map and consider from which direction waves are most likely to be destructive



### Beach Alignment and Pebble size

	Discotheque					Sewage works				
Sites	1	2	3	4	5	6	7	8	9	10
Average pebble length - berm										
Average pebble swash										
Sketched kite diagram										

How does the geology affect coastal landforms at Sitges?

