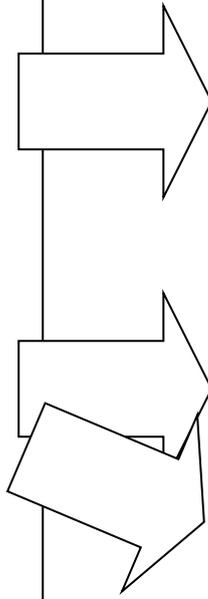


Key Question: Why are coastal areas a valuable economic and environmental resource?

In this section you need to know:

- The reasons for the increasing popularity of coastal areas.
- Some examples of different activities found in coastal areas.
- What human activities are found in the coastal environment.
- The reasons why these activities have developed.
- To know and understand why the coast is an important resource for economic development.
- To know and understand about some places where coastal development is taking place.



In this section you have looked at the following case studies...

Southampton - a multi-use area, uses include Exxon Mobil Oil Refinery, Fawley Chemical plant, Calshot Activity Centre and the Port.

Dubai - an important economic resource, developed firstly because of its oil but now a major tourist destination.

Bahia, Brazil - how tourism can be used to develop a coastal area.

Key Words

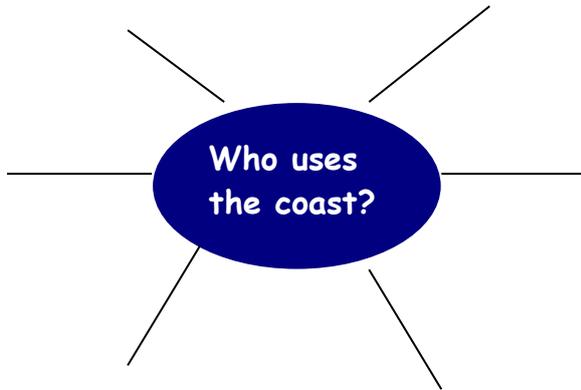
Multi-use coastal area - a coastal area where a range of activities take place such as recreation and industry.

Growth Poles - areas used for business development.

Infrastructure - network of links including transportation and services.

Sustainable - meeting the needs of the present without compromising those of the future. There are 3 aspects to sustainability - environment, social and economic.

The Coast: A Multi-Use Area



Can you remember the main ways these uses can be classified?

-
-
-
-



Explain why the population of many coastal areas is increasing. 4 marks

Reason 1 _____
Development

Reason 2 _____
Development



Examiners Tip

Always 'develop' each point you make before you go onto the next one.

You can develop your ideas by using words such as '**because**', '**therefore**', '**this means that**'.

An example for the question above would be...

The first reason why the population of many coastal areas is increasing is that many businesses locate there. **This means that** there are many job opportunities which attract people to live there.

You cannot achieve full marks for a question **UNLESS** you fully develop each idea.

Case Study: Southampton



You need to know some examples of different activities found in coastal areas.

Examiners Tip

Draw a sketch map here

1. Describe the location of Southampton

2. What are some of the human activities found in this area of the coast?

3. Southampton has a large port, can you **explain** how the port helped the town to grow?

4. Why is the port still an important part of Southampton's economy?

5. Why is Southampton Water a good location for industry and shipping?

Define the term 'Multi-use coastal area' and using an example you have studied outline the uses made of one such area. 4 marks.



Examiners Tip

Remember to develop each point!

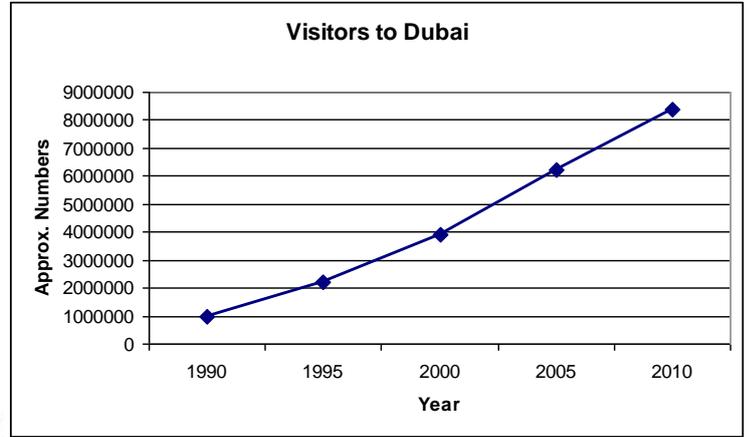
Case Study: Dubai



Examiners Tip

You need to know and understand why the coast is an important resource for economic development and understand about some places where coastal development is taking place.

Dubai is one of the fastest-growing places in the world.



Why has Dubai Grown?

-
-
-
-
-

Examples of Recent Developments in Dubai

-
-
-
-
-



Is Dubai Sustainable?	Environmentally	Economically	Socially
Sustainable			
Unsustainable			

Case Study: Bahia (New - you could just use Dubai for tourism)



Examiners Tip

You need to know and understand why the coast is an important resource for economic development and understand how tourism can be used to develop a coastal area with reference to a case study in Brazil.



The Berimbau programme in Costa do Sauipe aims to develop projects that will improve living conditions for local people. US\$2 billion is being put into tourist development in the region.

What benefits has tourism brought to this area?

-
-
-
-
-
-
-



Examiners Tip

If the question asks for 'place detail' or asks you to describe a location, ensure you can do this at different scales.



Examiners Tip

Read the question carefully, the question below asks you to talk about 2 different things (economic AND social) - students sometimes only talk about the first thing and therefore can miss out on HALF the marks.



With reference to specific place detail, explain how the development of tourism can improve economic and social conditions for local people. 6 marks.

Key Question: How have physical processes created the coastal landforms that exist today?

In this section you need to know:

- The characteristics of waves.
- How erosion and weathering shape the coastline.
- How rock type and structure influences coastal landforms.
- How to describe the landforms associated with 'hard' and 'soft' coastlines.
- How waves move beach sediment.
- How the deposition of beach sediments creates coastal landforms.



Examiners Tip

Don't forget the erosion processes and names of the landforms!

In this section you have looked at the following examples...

Constructive and destructive waves - know the differences between them.

Marine Erosion - hydraulic action, attrition, abrasion.

Weathering - corrosion, wetting/drying, biological, freeze thaw, salt crystallisation.

Landforms associated with 'hard coastlines' - headlands, bays, caves, arches, stacks, stumps, wave cut notches, wave cut platforms.

What happens at 'soft coastlines'? - Cliff slumping/landslides/mass movement.

Longshore Drift - what this is and how it happens.

Landforms of Deposition - beaches, spits, bars, tombolos.

Key Words

Marine Erosion - the wearing away of rocks by the action of the sea.

Weathering - the breaking down of rocks by the action of the weather, plants or chemical action.

Prevailing Wind - the dominant wind in an area.

Crest - the top of a wave.

Swash - movement of water down a beach.

Subaerial Processes - processes that attack the face and top of a cliff.

Landform - a physical feature that has been shaped by erosion/weathering.

Headland - where land juts out into the sea.

Slipping plane - line of weakness often where a previous landslide has occurred.

Sediment - material that is eroded and deposited by the action of water or the wind.

Beach - an accumulation of sand and shingle.

Groyne - wooden or concrete barrier built across a beach.

How Physical Processes Shape the Coastline



You need to know and understand the characteristics of waves, the processes of erosion that shape the coastline and the key words associated with coastal processes.

Examiners Tip

The Coastal System

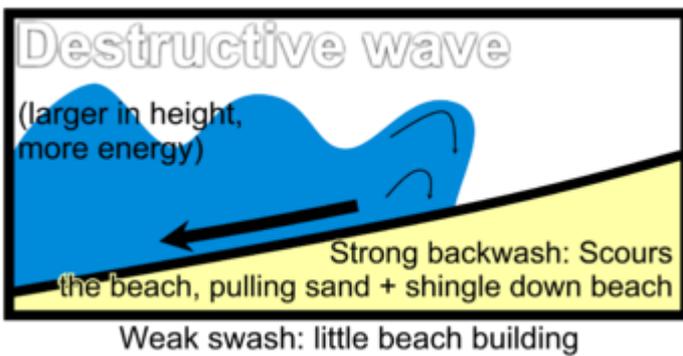
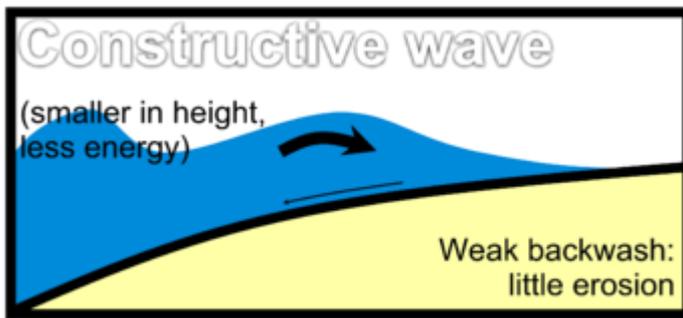


The coastal system acts like a conveyor belt. Material is worn away from some places and moved by waves and then deposited in other places. Erosion and weathering are the first part of this process.



Examiners Tip

You need to describe and explain the differences between constructive and destructive waves.



Weathering

Draw a sketch for each

Corrosion

Wetting/Drying

Salt Crystallisation

Biological

Erosion Processes

Abrasion

Attrition

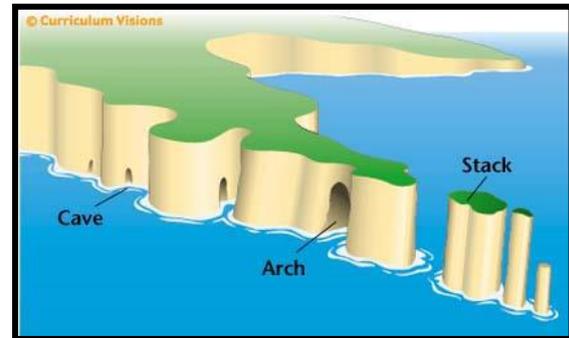
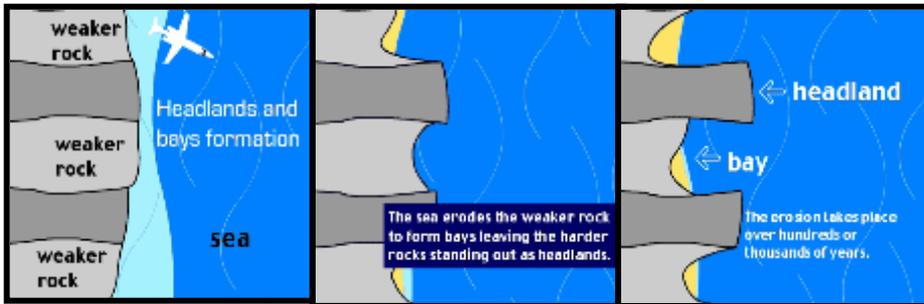
Hydraulic Action

Landforms found on 'Hard' Coastlines



You need to know how rock type and structure influence the type of landforms found in coastal areas and how to describe the landforms associated with hard coastlines using the key words.

Examiners Tip



Abrasion **Arch** **Wave Cut Platform** **Wave Cut Notch** **Stack**
Hydraulic Action **Cave** **Attrition** **Headland**



Examiners Tip

Ensure you know how EACH of these landforms are formed.

Choose one of the landforms from above and describe and explain how it is formed



Why are 'Soft' Coastlines Vulnerable to Rapid Erosion?



You need to know how rock type and structure influence the type of landforms found in coastal areas and why 'soft' coastlines are vulnerable to rapid erosion.

Examiners Tip

What rocks are hard and what rocks are soft??

Hard (Resistant) Rock	Soft (Less Resistant) Rock
IGNEOUS - granite, pumice.	CLAY
SEDIMENTARY - Limestone, chalk.	GRAVEL
Coastal areas that are made up of well structured rocks with few lines of weaknesses are more resistant to wave energy, so rates of erosion are slow.	Many parts of the UK have soft coastlines that are affected by a combination of erosion and weathering. Rocks such as clay and gravel do not have a strong structure and become unstable when wet. A combination of heavy rainfall soaking through the rock, and wave attack at the base of the cliff may trigger cliff slumping and landslides.

The Retreat of Soft Coastlines



Sketch the diagram from pg 17 AQA Textbook



What is meant by:

i. a hard coastline

ii. a soft coastline

iii. How does rock type affect rates of coastal erosion?

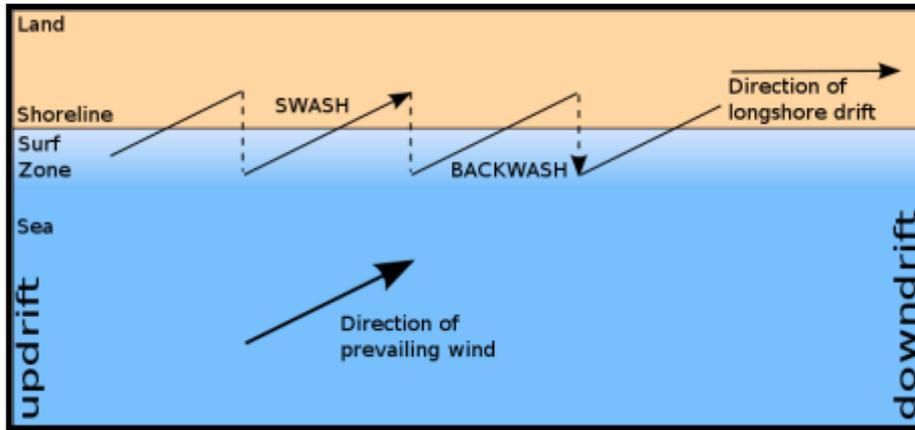
Landforms Created by Coastal Deposition



You need to know how waves move beach sediment and how the deposition of beach sediments creates coastal landforms.

Examiners Tip

Longshore Drift



Examiners Tip

The process of LSD can be easily explained with a simple, labelled diagram. Practise drawing this as it can be used to help answer several types of questions.



Landforms



Examiners Tip

You should try and refer to examples when talking about landforms - Hurst Castle Spit is a good example here.

Spit _____

Bar _____

Tombolo _____ example? _____



Draw an outline sketch of Hurst Castle Spit (pg 19 AQA Textbook) and annotate your sketch to describe and explain the main features of the spit.



Key Question: Why are decisions made to manage coastal areas?

In this section you need to know:

- How coastal management is organised in England and Wales.
- To know and understand the differences between hard and soft engineering.
- The advantages and disadvantages of different management types.
- Examples of where hard and soft engineering techniques have been used.
- To know and understand why some methods of coastal protection are more suitable for different locations.
- To know and understand the conflicts that occurs when trying to protect coastlines.

In this section you have looked at the following case studies/examples...

- Shoreline management plans (SMP's).

HARD

Walton on the Naze

SOFT

Wallasea Wetlands

Key Words

Hard Engineering - controls the power of the sea by building barriers between the sea and the land, often in the form of sea walls.

Soft Engineering - this attempts to work with the natural environment, the two main types are beach replenishment and managed realignment (retreat).

Timber Revetments - open structures of planks which act as breakwaters but allow sand through the gaps so that a beach develops.

Rock Bund - mound of rocks built in front of cliffs for protection.



Be able to describe a range of hard engineering methods used to manage and protect areas of coastline. Also ensure you can describe how beach replenishment works.

Case Study: Conflict in Walton on The Naze



Examiners Tip

You need to know and understand the conflicts that occur when trying to protect coastlines.



Examiners Tip

Learn a case study of a stretch of coastline that has been managed to protect it from the sea, and another case study of an area where no protection has been provided to prevent erosion.



Coastal Management Near the town of Walton

Sea wall, rip-rap, groynes, Concrete revetments

Coastal Management at the Naze

Managed Retreat - the coastline is allowed to erode due to lack of homes or businesses



Colour code the opinions - for and against the current sea defences.

There are many rare species of insects and plants in the Naze area that need to be protected

It wouldn't be worth protecting the Naze as our cost/benefit calculations show that the cost of building sea defences would be far higher than the value of properties that would be lost.

The groynes protecting Walton are making the erosion at the Naze worse!

My house and business are in the town of Walton if there were no sea defences here I could risk losing everything. Besides hardly anyone lives near the Naze anyway

The Naze tower (a historical monument) is going to fall into the sea if the Naze is not protected.

I'm one of the few people that live at the Naze end of Walton and if the cliffs retreat much further my house is going to be worthless and I won't be able to get home insurance

Key Question: How can Fragile Coastal Environments be Managed?

In this section you need to know:

- That some coastal areas face environmental threats.
- That some coastal environments are fragile and need to be managed in order to survive.
- Managing fragile environments in a sustainable way.
- Some ways of using the natural environment to protect against flooding.
- About integrated coastal zone management (ICZM).
- Planning for Sea Level Rise.

In this section you have looked at the following case studies/examples...

- Soufriere Marine Management Area, St Lucia.
- The Great Barrier Reef Marine Park
- Chesil Beach and Fleet Nature Reserve (New)
- Wallasea Island, Essex
- Mediterranean Coastal Zone
- Response Project - Ancona, Italy (New)

Key Words

Ecosystems - communities of plants and animals within a particular physical environment.

Reefs - ridges of rock near the surface of the sea.

Sedimentation - deposition of fine sand.

Earth Bund - constructed mound of earth

Integrated Management - management of the whole of an area/system rather than parts of it.

Sustainable Management - management that meets the needs of the present while preserving an area for future generations.

Managing Fragile Coastal Environments - Case Studies, Soufriere (St Lucia) and The Great Barrier Reef



Examiners Tip

You need to know what coral reefs are and why they are important. You also need to know how St Lucia is being protected.



Examiners Tip

Be clear as to the threats coral reefs face and the methods used to protect them.



Examiners Tip

You need to know the threats facing the Great Barrier Reef and how they are protecting it.



Soufriere (St Lucia)

Why are areas of Coral Reef Under Threat?

Why are Coral Reefs Important?

What are the main points of the SMMA?

- ---

- ---

- ---

- ---

Great Barrier Reef

What makes the GBR so unique?

What are the main threats facing the GBR?

What are the main ways in which the GBR is managed?

- ---

- ---

- ---

- ---

- ---

Managing Fragile Coastal Environments - Case Study - Chesil Beach and the Fleet Lagoon (New-you will need to research this)



Examiners Tip

You need to understand the threats and pressures on a fragile coastal environment such as Chesil Beach and you need to explain the sustainable methods used to manage the area.

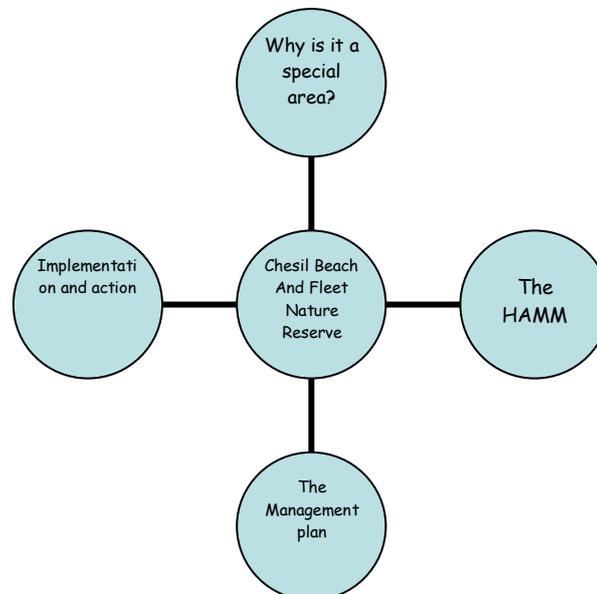


The Pressures

- 100,000-150,000 visitors per year
- Sail Boarding/Windsurfing/Canoeing
- Bait Digging
- Fishing
- Diving
- Swimming
- Educational field visits
- Bird Watching
- Oyster farming
- Ministry of defence activity



Draw lines off each section to outline the key points of the management scheme.

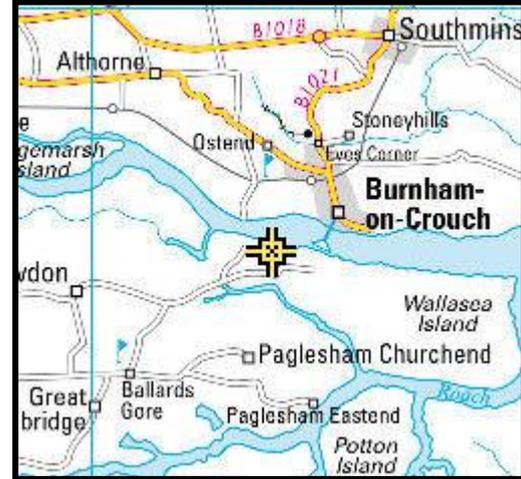


Using the Natural Environment to Reduce the Threat of Flooding - Case Study, Wallasea Wetlands - Essex



Examiners Tip

You need to know some ways of using the natural environment to protect against flooding.



How do these methods protect against coastal flooding?

Mud flats -

Mangrove forests -

Earth Bund -

Salt marsh -

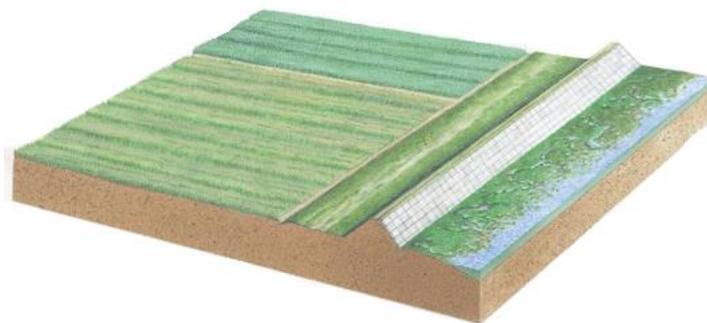
Managed Retreat Advantages - sustainable, builds up natural defences, it's cheaper, it enhances ecosystems.

Managed Retreat Disadvantages - good farmland may be lost, buildings may be lost, decreases the value of properties.

Managed Retreat



About Wallasea Island	Why was managed retreat a good option for Wallasea?	How was the scheme carried out?	Has it been successful?



Existing 'hard' flood defences.

If no high ground is present inland, a new flood bank is built behind the existing one. The land between the two defences is contoured to ensure the right habitat is created.

The old defence is breached allowing the tide to move in and out.

As the tide moves in and out, mud is deposited and intertidal habitat is created between the banks. This soaks up wave energy.



Examiners Tip

Managing the Coastal Zone - Mediterranean



You need to know about Integrated Coastal Zone Management (ICZM) and about the issues surrounding the management of the Mediterranean coastal area.



Integrated Management means

Explain the difference between integrated coastal zone management and shoreline management

Sustainable Management means

Four environmental threats on the coastal area

- ---

- ---

- ---

- ---

Four ways the coastal area is being managed

- ---

- ---

- ---

- ---

Outline the ways in which the environment be damaged by development in coastal areas

- ---

- ---

- ---

Planning for Sea Level Rise - Ancona, Italy - The Response Project



Examiners Tip

You need to know how climate change may affect coastal areas and how information can be used to plan for rising sea levels.



The Response Project

There are 3 main strategies to the Response Project;

- 1) Collecting background information
- 2) Assessing the risks of rising sea levels
- 3) Offering guidance to planners and decision makers

How will climate change affect coastal areas?

Why will the sea level rise?

Examples of low-lying coastal areas

How many people live near coastal areas worldwide?

How do we plan for rising sea levels?

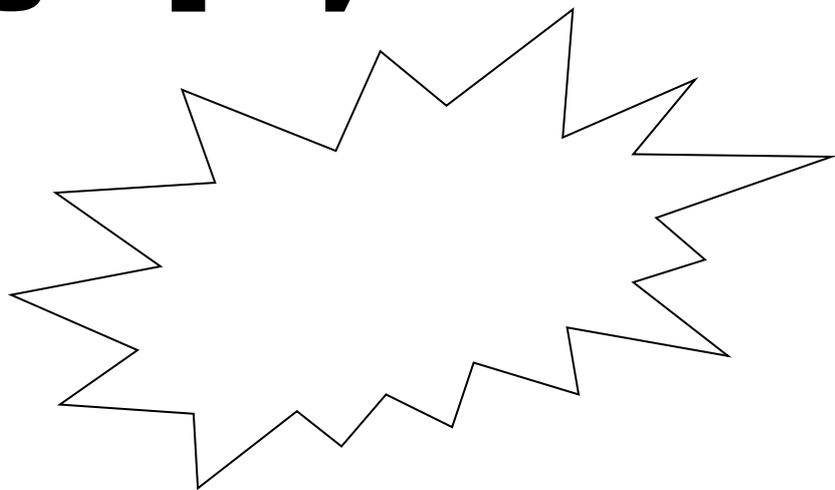
How is the response project used in the area around Ancona in eastern Italy?

Name:

Revision Booklet

Unit 1 – The Coastal Environment

Geography



Tutor Group:
Geography Teacher: