The Carboniferous Period

Seas – a tropical swamp in

lying tropical swamps covered the land. Dead trees and other

was part of a large continent that lay across the equator. Low

direction, separating a shallow lagoon to the west from

A large part of the desert lay beneath sea level and around

dunes. The remains of these dunes, the 'Yellow Sands', are

drier. This area became a barren desert covered by sand

North of the equator and the climate became hotter and

About 300 million years ago the land moved slowly further

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dried. This area became a barren desert covered by sand

dunes. The remains of these dunes, the 'Yellow Sands', are

been removed by the work of rivers and seas. Some of these

reached where it is today. We do not have any record of the

This area continued to drift north for 250 million years until it

above them to collapse.

Thick salt deposits still exist deep beneath the surface further

in places fossilised shells can still be seen in the rock.

In the same exposed cliff at the

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Just some of the unusual rock textures to look out for:

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north of the equator and the climate became hotter and

dried. This area became a barren desert covered by sand

dunes. The remains of these dunes, the "Yellow Sands", are

quarried today for building sand.

Salt minerals known as evaporites built up on the sea floor.

caused the sea water to evaporate, making it much saltier.

The action of the ice and meltwater were largely responsible

for shaping the landscape you see today. Rivers and seas

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This area continued to drift north for 250 million years until it

reached where it is today. We do not have any record of the

geology of the area during that time and any rocks formed have

been removed by the work of rivers and seas. Some of these

'resisting' rocks have been quarried elsewhere and brought into

the area for building stone.

Over the last 2.5 million years the climate alternated between
colder periods ("ice ages") and warmer periods. At times, ice

sheets up to 5km thick covered County Durham and the

North Sea. The ice finally melted about 15,000 years ago.
The action of the ice and meltwater were largely responsible

for shaping the landscape you see today. Rivers and seas

continue to wear away the land further altering the dramatic

ciffs and coastline.
Action from the sea continues to erode and change this the waste, leaving the terrace you see in the image below. The spoil that came out of the colliery was tipped over the cliffs onto the beach. Waves gradually washed away most of which ceased production in 1991. The huge blast furnaces of 1862, a chemical works built in 1865 and finally a colliery, bottleworks factory established in 1855, an ironworks in Nose’s Point was a hive of industry for over a century, with a than 6,000 survive. There is another example on the beach points, including coastal locations such as here. Over ‘pillboxes’. Named after their squat shape, these concrete invasion. The most common of these defences were called in Hawthorn Dene. Take care as the steps are very steep and can be slippery. On beach turn right. Cross stream where it is safe to do so – it is sometimes narrower nearer the sea. Turn right and follow the steps down to Blast Beach, then follow instructions on map below. On the opposite side of the path to the site are steps down to Hawthorn Dene. Take care as the steps are very steep and can be slippery. Limestone cliffs above you. They were probably formed when the sea level was higher than it is today. Wave action created exposures of Magnesian Limestone. This is one of a few 18th century pot kilns found across the north dock in Seaham is a row of trees look for stile over railway on right of docklands, sand and other strategic points, including coastal locations such as here. Over 28,000 pillboxes were built across Britain, of which fewer than 4,000 survive. There is another example on the beach at Hawthorn How. In 1942 a network of defences was hastily built all over the British Isles to help the fight against an anticipated German invasion. The most common of these defences were called ‘pillboxes’. Named after their squat shape, these concrete forts were sited on road junctions, soundings and other strategic points, including coastal locations such as here. Over 28,000 pillboxes were built across Britain, of which fewer than 4,000 survive. There is another example on the beach at Hawthorn How. Keep dogs under close control, preferabdy on a lead. Please pick up after your dog – there are waste bins at Nose’s Point. You may encounter livestock on the roads. Limestone at work. This is a site of a few 18th century pot kilns bound across the Magnesian Limestone. Coulston limestone was burnt in kilns to produce quicklime, which was mixed with water to make ‘slaked’ lime. This was used in agriculture to neutralise acid soils and in the building industry to make lime mortar, which was the main bonding agent before the harder, faster setting Portland cement was introduced in the late 19th century. At the north dock in Seaham is a row of trees look for stile over railway on right. Lime lovers. The special soils on the Magnesian Limestone support a range of plants which are at risk on the open seafront site of wildlife. Durham Wildlife Trust manages the Nature Reserve here at Hawthorn Dene. The grass is cut just once, late in the summer, which gives the plants a chance to release their seeds and so keep the cycle going (in some areas over 40 different lime-loving plants have been recorded within a square metre). Before you get to & is an important local geological feature known as the Seaham Limestone. This is an area of gravel on the side of the cliff about 30 metres above the present beach. It is there because after that last ice age, when the huge weight of the ice sheet was removed, the land rose relative to sea level. Dating of shells from the gravel suggest the raised beach is between 200,000 and 240,000 years old. Take care near the cliff edge, which drops steeply and can be slippery, especially after wet weather.