Britain’s coast

Britain’s coast formed over millions and millions of years. Earthquakes, volcanoes and extreme weather changed the land – and they created some fantastic natural places.

The White Cliffs of Dover, England

The White Cliffs of Dover are one of the most beautiful places on the English coast. In some places, the cliffs are 100 metres high – and in good weather you can see them from France! They look beautiful, but what created them?

About 90 million years ago, this part of the British Isles wasn’t land – it was under the sea. The weather was much warmer than today, and millions of very small organisms lived in a huge tropical sea. When they died, their shells formed thick layers under the water. Gradually, over millions of years, these layers of shells changed into a soft, white rock called chalk.

But how did these chalk rocks become cliffs? Over millions of years, earthquakes pushed the rocks up until they became hills. Later, water eroded the hills next to the sea. They became the high White Cliffs of Dover.
The Giant’s Causeway is an area of huge rocks on the coast of Northern Ireland, about 100 kilometres from Belfast. The Giant’s Causeway looks amazing because the 40,000 black columns of rock are regular shapes. They formed this way because they came from a volcano.

There aren’t any active volcanoes in the British Isles today, but millions of years ago, there were lots of them in Scotland and Ireland. About 55 million years ago, a volcano on the north coast of Ireland erupted. The lava was very hot when it came out of the volcano – about 1,000 °C. But it quickly became cooler and changed into solid rock.

Cracks formed in the rock in regular shapes: a lot of columns have six sides and their tops look like stones in a road. It’s easy to see how they inspired the legend of giants walking on the causeway across the sea to Scotland!
Loch Fyne, Scotland

A ‘sea loch’ is where the sea goes into a long, deep valley on the coast of Scotland. The longest – and probably the most beautiful – is Loch Fyne. Loch Fyne is 65 kilometres long, and it is more than six kilometres wide. It is also very deep, and a lot of interesting creatures live there.

The Scottish sea lochs formed over millions of years. Between 2.5 million and 10,000 years ago, there were periods of very cold weather in Europe. These ‘ice ages’ lasted for thousands of years. During each ice age, snow and ice covered most of Europe. In places like Scotland, there were enormous glaciers on the mountains.

A glacier is a river of ice. It starts in the mountains, and the ice moves very slowly down to the sea. The movement of the glacier cuts the rock, and over a long time, makes a very deep valley.

About 10,000 years ago, the world’s weather became warmer again, and the glaciers in Scotland disappeared. When they disappeared, they left deep valleys. Seawater came into the valleys, and they became beautiful sea lochs, like Loch Fyne.