

A JOURNEY THROUGH TIME: THE SHARED HISTORY OF THE CHALK CLIFFS OF PAS-DE-CALAIS AND KENT

CHALK: A GEOLOGICAL CONNECTION

White and majestic, the cliffs of Cap Blanc-Nez and Dover face each other across the Strait of Pas-de-Calais. They share a common history, nearly 100 million years old. Just imagine...

At that time, a sea covered the region and the climate was much warmer. Under these conditions, microscopic plankton flourished. To protect themselves, they formed tiny calcareous plates around their cells (called coccoliths), which would sink to the seabed once the plankton died.

Over the course of 20 million years, vast quantities of these plates accumulated and eventually formed chalk.

To grasp the scale of a coccolith, consider that one cubic centimetre of chalk contains several billion of them.



Did you know?

It's estimated that it took a whole century to deposit just 1 to 3 millimetres of chalk. Just imagine how much time was needed to accumulate all the chalk we now see in the towering cliffs of Cap Blanc-Nez and Dover!

Cape or not a cape?

A cape is a landform that juts out into the sea. Unlike its neighbour, Cap Gris-Nez, the Cap Blanc-Nez no longer extends prominently into the strait today. But it wasn't always like this—just a few thousand years ago, shortly after the Strait of Pas-de-Calais opened, Cap Blanc-Nez stretched much farther out into the sea. Erosion has since worn it down, reshaping the coastline over time.

White or Grey?

Telling Cap Gris-Nez apart from Cap Blanc-Nez is simple – it's all about geology!

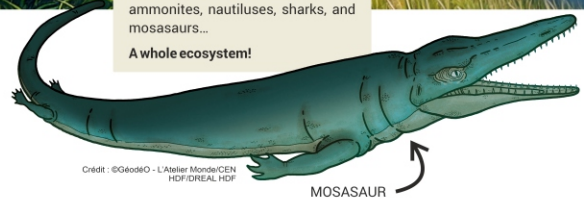
Cap Gris-Nez is made up of darker materials, mainly dark grey clays and sandstones.

Cap Blanc-Nez, on the other hand, is formed from chalk, ranging from white to light grey. This chalk reflects light beautifully, giving the headland its luminous name: *Blanc-Nez*, or "White Nose."



During the Cretaceous period, this warm, nutrient-rich marine environment was home to a wide variety of fauna: sponges, bivalves, brachiopods, belemnites, ammonites, nautilus, sharks, and mosasaurs...

A whole ecosystem!



Credit: © Géodéo - L'Atelier Monde/CEN HOF/DREAL HOF

MOSASAUR

THE OPENING OF THE STRAIT OF PAS-DE-CALAIS



From white cliffs to chalky hillsides, the landscapes on either side of the strait look strikingly similar... and for good reason: France and England were once part of the same landmass!

During the Quaternary period, the climate shifted between ice ages and milder interglacial periods. At that time, a land bridge—the Artois ridge—still connected the two countries, separating the North Sea from the English Channel.



Around 450,000 years ago, a major glaciation pushed the ice sheet as far as England and the Netherlands. As it slowly melted, it formed a vast lake over the North Sea. When the lake overflowed, a series of massive waterfalls carved into the rock and gradually opened up the passage.

England became an island! Over time, erosion widened the Strait, giving it its current shape.



Cap Gris-Nez



Cap Blanc-Nez



The 'Big Bang'

13.8 bya



Earth formed

4.6 bya

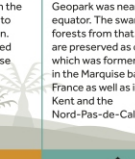


540 mya



DEVONIAN

419 mya



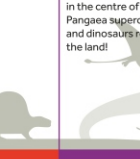
CARBONIFEROUS

359 mya



PERMIAN

299 mya



TRIASSIC

252 mya



JURASSIC

201 mya



CRETACEOUS

145 mya



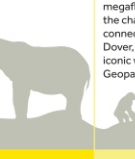
PALAEOGENE

66 mya



NEOGENE

23 mya



QUATERNARY

2.6 mya

*mya = million years ago

Cap Blanc-Nez is a remarkable geological site, officially designated as a "geosite" within the Cross-Channel Geopark Transmanche.

This initiative is led by the Parc naturel régional des Caps et Marais d'Opale (France) and the Kent Downs National Landscape (England), as part of a broader effort to promote and recognise the geological heritage of the region on an international scale—particularly within the framework of UNESCO recognition.

This project is co-funded by the Green Fund (Fonds vert)