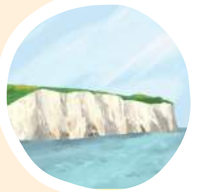
Legend

- Geopark perimeter
- Observed fault
- Presumed fault
- Paleogene: clays, sands and sandstones
- Upper cretaceous: white chalk with and without flint
- Upper cretaceous: grey chalk and marls
- Lower cretaceous: gault clays
- Lower cretaceous: green sands
- Lower cretaceous (wealdian formations): sands and clays
- Upper jurassic: clays, sandstones and limestones
- Middle jurassic: limestones, marls and clays
- Carboniferous: limestones, dolomites and coal formations
- Devonian: limestones, shales and marls

Hucking Estate | Hucking

This former estate consists of ancient woodlands and open Chalk grassland. The plants and animals that live here depend on the underlying geology. From the hilltops, you can enjoy spectacular views over the Weald.

Upper Cretaceous: white Chalk with and without flint



White Cliffs of Dover | Dover

One of the most famous geological formations in the world. On a clear day, you can stand atop these 110-metre-high Chalk cliffs and see France. This chalk was formed around 90 million years ago by the accumulation of tiny shells on the floor of a warm sea. From the summit, imagine the land bridge that once connected the United Kingdom to France, and the Megaflood that opened the Strait of Dover and separated them nearly 500,000 years ago.

Upper Cretaceous: white Chalk with and without flint

Cap Blanc Nez | Escalles

Cap Blanc-Nez offers a unique view of the Strait of Dover and, on clear days, the English coast. Its 134-metre-high cliffs are made of Chalk, formed during the Cretaceous period through the accumulation of microscopic remains of marine organisms.

Upper Cretaceous: white Chalk with and without flint

Dryhill Quarry | Sevenoaks

This former quarry is the first local geological nature reserve in Kent. Its main feature is an exposure of the "Hythe Beds," which are part of the Lower Cretaceous Greensand group. The layers here are tilted and deformed, a consequence of tectonic movements that formed the Alps around 40 million years ago.

Lower Cretaceous: Greensand

Marais audomarois | Surroundings of Saint-Omer

This important geological site was formed by the meeting of the sea and the river. Its soil consists of sediments deposited by the Aa River, which would normally have settled on the seabed of the North Sea. This sedimentation led to the formation of peat, which has long been exploited by humans.

Quaternary

Bassin carrier de Marquise |

Surroundings of Marquise

This Chalk-extracted basin is the oldest area within the Cross-Channel Geopark. It tells a 400-million-year old story, from the Devonian to the Carboniferous, and illustrates how geological history can shape the economic activity of a territory.

Devonian and Carboniferous

Cap Gris Nez | Audinghen

The 45-metre-high cliffs of cap Gris Nez are made up of rocks that are 150 million years old, from a time when dinosaurs still roamed the land and sea. The site was then covered by the sea, at the bottom of which sediments were deposited that gradually formed the rocks of the cliff. These same formations can be seen all along the coast as far as cap d'Alprech.

Upper jurassic: clays, sandstones and limestones

Discover the history of our Geopark with this geological map!

The Cross-Channel Geopark brings together two landscapes carved from the same ancient Chalk ridge: the Caps et Marais d'Opale in France and the Kent Downs in the UK. Our shared goal is to achieve UNESCO Global Geopark status and shine a global spotlight on this remarkable cross-border story.

For more information
scan the QR code

www.geoparktransmanche.org

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This map was produced as part of the Cross-Channel Geopark project with support from the Fonds Vert.

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Did you know that 450,000 years ago, a Chalk ridge allowed people to walk across what is now the English Channel? Today, the waters separate the UK and France, but our landscapes, biodiversity, and shared cultural heritage connect us more than ever.

For more details scan the QR code

Scan me!

The Cross-Channel Geopark promotes sustainable tourism that respects our landscapes, while offering awareness-raising activities for both young and old. We are also committed to preserving our geological and natural heritage, while highlighting the cultural and intangible riches of our regions.

www.geoparktransmanche.org

CROSS-CHANNEL GEOPARK TRANSMANCHE

Devonian

Middle Devonian | -390 million years ago (Mya)

During the Devonian period (419 to 359 million years ago), the area that is now the Geopark was completely submerged. The tropical climate favoured the development of marine biodiversity. Around the middle of the Devonian, extensive reef environments formed, where fish, corals, molluscs, algae, and sponges coexisted. These organisms left fossil traces that are preserved in the limestone rocks still present today in France. These fossils allow us to reconstruct ancient marine habitats and provide evidence of the evolution of ecosystems during this period.

An example of geosites from this period

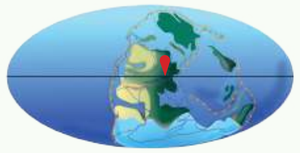
Bassin carrier de Marquise|from the Devonian to the Carboniferous|FR

A marker of this period?

Coral
A marine animal belonging to the Phylum Cnidaria.

Asterolepis
An extinct species of armored fish from the Asterolepididae family.

Carboniferous



Upper Carboniferous | -306 Mya

During the Carboniferous period (359 to 299 million years ago), the climate remained tropical. The landscape of the Cross-Channel Geopark underwent major upheaval. Initially underwater, it was gradually pushed up as part of a massive mountain-building event, forming a range comparable to the present-day Himalayas. By the end of the Carboniferous, this range was fully formed, and the Geopark region was no longer underwater. At the foot of these mountains, vast swampy forests with lush vegetation thrived, leading to the formation of coal that was later exploited in the Geopark's subsoil (at Marquise).

An example of geosites from this period

Column of the Grande Armée | Stones from the Marquise quarry basin | FR

A marker of this period?

Alethopteris
Fern-like plants belonging to the group Pteridospermales.

Arthropleura
Literally "jointed ribs" in Ancient Greek, this is an extinct genus of large millipede-like diplopods.

Jurassic

Lower Jurassic | -195 Mya

Between the end of the Carboniferous and the Jurassic period (from 199.5 to 145.5 million years ago), the mountain chain underwent intense erosion, and the territory of the Geopark became flattened. During the Jurassic, as the Atlantic Ocean began to open, the area was periodically flooded by the sea. The rocks found in the Boulonnais, in France, testify to this: sandstones, limestones, and clays, rich in marine fossils (ammonites, marine reptiles, fish, bivalve molluscs, and more). They reflect shallow environments where waves and tides left their marks (ripples, dunes, and more).

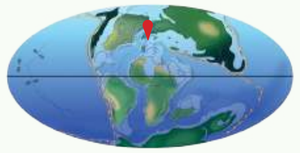
An example of geosites from this period

Cap Griz Nez | FR

A marker of this period?

Ammonite
Ammonites are cephalopods that first appeared in the Devonian. They survived three mass extinctions but finally disappeared during the Cretaceous–Paleogene crisis (the one that killed the dinosaurs). They are related to octopuses, cuttlefish, and squid. Their finely ornamented shells, global distribution, and long geological history make them excellent fossils for dating rock layers.

Cretaceous



Debut of the late Cretaceous | -94 Mya

During the Early Cretaceous (145 to 100 million years ago), a significant greenhouse effect caused global temperatures to rise above present-day levels, along with a substantial increase in sea levels. In the second half (100 to 65.5 million years ago), the sea covered much of Europe. This sea is known as the Chalk Sea. Life flourished in this sea, both in the waters (mosasaurs, sharks, ammonites, nautiluses, and more) and on the seafloor (sponges, bivalves, sea urchins, and more).

An example of geosites from this period

White Cliffs of Dover | UK

A marker of this period?

Coccolith
Coccolithophores are small, single-celled marine algae. They are protected by a shell made up of calcium carbonate plates, called coccoliths, which measure only a few micrometres in diameter. Throughout their lives, they constantly renew these plates, which then fall to the seafloor. These coccoliths accumulate and form an important part of sedimentary rocks such as Chalk.

Quaternary

Quaternary | -18000 years ago

The Quaternary is the most recent period in Earth's history, covering the last 2.6 million years. It is marked by the emergence of the genus Homo. This period was also characterised by climatic instability, with alternating cold periods, known as glacial phases, and warmer periods, called interglacials. These climate variations strongly shaped the landscape of the Cross-Channel Geopark: the opening of the Strait of Dover, the formation of coastal landscapes, the courses of rivers and their valleys, and the settlement of humans in the region.

An example of geosites from this period

River Darent | UK

A marker of this period?

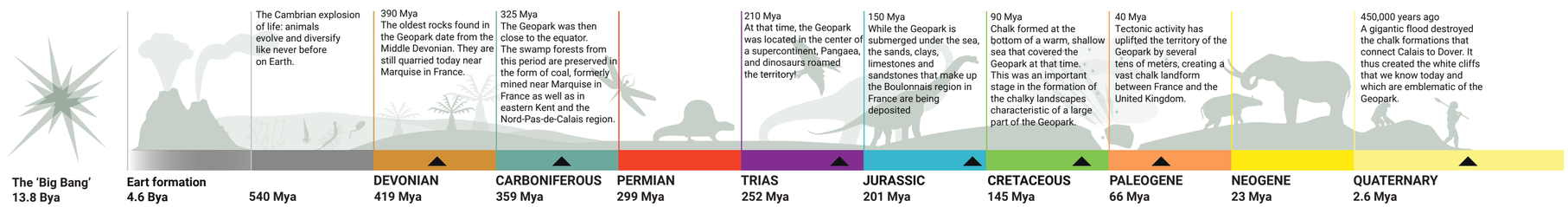
Wooly Mammoth
The woolly mammoth is an extinct species belonging to the elephant family.

Neanderthal
An extinct species of the genus Homo, which lived in Europe, the Middle East, and Central Asia until around 40,000 years ago.

The geological map

This map shows the geological subsoil of the Geopark, with the superficial formations removed—that is, the ground beneath our feet, the land beneath the fields, and the sediments under the valley-bottom marshes—leaving only the bedrock.

Geology is not limited to this bedrock: it also shapes the hills, valleys, watercourses, soils, resources, and even the locations of villages and monuments. This map offers clues to understanding how our geodiversity has shaped this area and the rich variety of landscapes we see today.



How was this map created?
This map was produced using both French and English geological data, which involve differences in scale. For this reason, and to make the map easier to read and understand, certain explanatory choices were made. Furthermore, knowledge of the seabed remains incomplete, which is why the data for this area are less precise than those for the land.