CHARACTERISTICS OF THE NATURE RESERVE

Located at the furthest tip of Finistère in Brittany, the Crozon Peninsula Nature Reserve is a **protected area** that encompasses **27 coastal sites** known for their **remarkable geological heritage**.

Spread out over the peninsula's 120 kilometres of coastline, these sites cover both land and sea in **seven communities** and involve 79 landowners.

Created in 2013 by the Region of Brittany, the Crozon Peninsula Nature Reserve is one of 351 nature reserves in France and nine Breton regional nature reserves with the **"Remarkable Area of Brittany" label.**



Protecting, developing and promoting the discovery of its natural riches are the three main missions of the Nature Reserve which is **managed by the Communauté de Communes (local community council) in conjunction with its educational partner Maison des Minéraux (House of Minerals)** and in consultation with local actors.

DISCOVERY OF THE NATURE RESERVE

To participate in the **activities, conferences, nature walks and geological excursions** offered at the Nature Reserve, take a look at the information available:

- in the area's **tourist information centres** (Communauté de Communes, Maison des Minéraux, Town Halls, Tourist Offices and Armorique Regional Nature Park);

- on the **website** of the Nature Reserve: www.reservepresquiledecrozon.bzh/decouvrez-la-reserve/animations

- on the **website** : www.maison-des-mineraux.org

SAFETY GUIDELINES ⚠

The Reserve's sites located on cliffs are naturally unstable and potentially hazardous. For your safety:

- Stay on the coastal trails
- Visit the sites at low tide (see the tide tables and tidal coefficients)
- Keep away from the foot of the cliff to avoid falling rocks
- Be careful not to be trapped by the sea in a cove or a cave.

RULES & REGULATIONS

To ensure that everyone can enjoy this heritage, visitors are prohibited from damaging or removing any rocks, minerals or fossils, destroying any plantlife or wildlife, littering, making fire, camping or travelling by motor vehicle inside the Nature Reserve (unless they are specially authorized to do so for scientific or management purposes).

* Classification Decision no. 20-0502-09 of 26 October 2020

FOR MORE INFORMATION

Contact the Communauté de communes
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Tel.: +33 (0)2 98 27 24 76 - Email: erb@comcom-crozon.bzh
Website: https://www.reservepresquiledecrozon.bzh

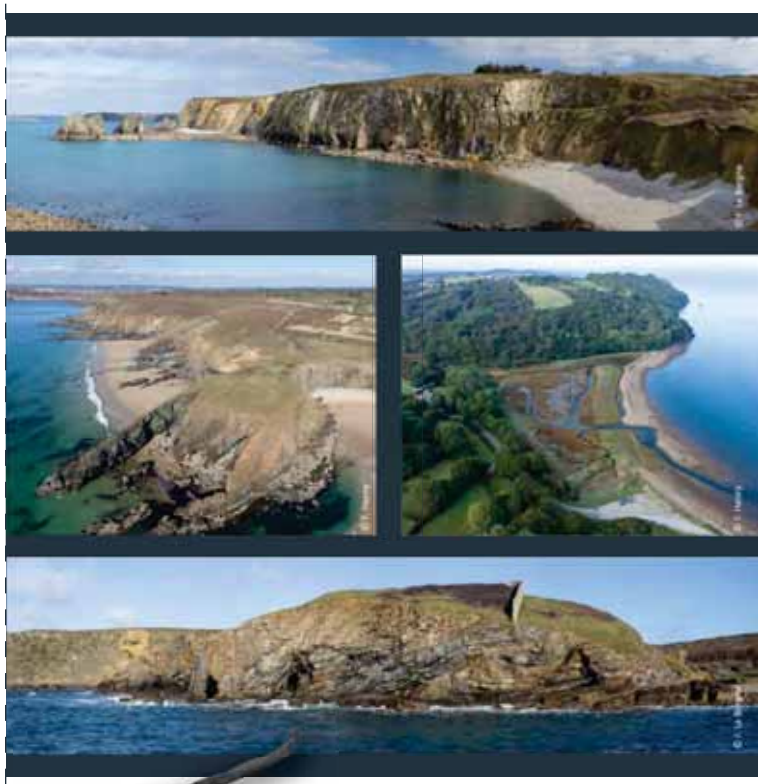
PARTNERS

Financial:

Technical:

REMARKABLE AREA OF BRITTANY — Labelled by the Region of Brittany

Regional Nature Reserve
GEOLOGICAL SITES OF CROZON PENINSULA



Communauté de communes
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Presqu'île de Crozon Aulne Maritime — Communauté de communes

CLIFFS, GUARDIANS OF MILLIONS OF YEARS OF GEOLOGICAL ARCHIVES

Crozon Peninsula boasts a shoreline carved out of many strata of sedimentary rock dating back to the Paleozoic Era.

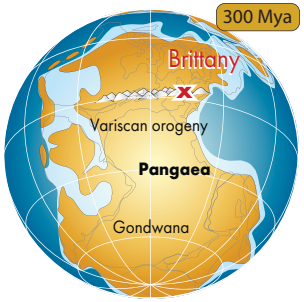
In fact, most of its subsoil was formed some 475 million years ago (mya). At that time**, Brittany was underwater, close to the South Pole,** at the edges of a supercontinent called Gondwana.

Particles of sand and mud carried from the continent out to see were deposited there in successive layers. Compacted over time, they gradually transformed into sandstone and mudstone. Some sea animals, along with traces of their activities, were fossilized at the same time.

This marine sedimentation, that was disrupted by volcanic activity on Crozon Peninsula (448 mya), continued over the course of nearly 150 million years (myr), during Gondwana's slow drift northwards. **Nearly 3,500 metres of sediment accumulated in depth**, where both periglacial and then tropical marine environments were recorded (444 and 385 mya respectively).

Around 320 mya, the collision of the Gondwana and Laurussia plates during the assembly of Pangaea led to the formation of an immense mountain range (the Variscan orogeny) whose peaks stood as high as elevations of 4,000 metres in Brittany.

Subjected to tremendous tectonic pressure, **the rocks of the future peninsula folded and fractured**. Whilst losing their initial horizontality, the sedimentary layers were transformed: the sandstone evolved into quartzite and the mudstone into shale.



After emerging, the imposing mountain range eroded and then fractured again at the time of the opening of the Atlantic Ocean (180 mya).

Fluctuations in sea level, caused by the alternating glacial and temperate episodes of the Quaternary period (from 2.6 mya to the present day), **finally drawing the coastline of the ancient Armorican mountain range**, whose tallest hillsides now rise to altitudes of around 400 metres.

A veritable open air museum, the Nature Reserve is home to a multitude of remarkable geological objects which bear witness to this past. These include landscapes, rocks and fossils of great heritage value, all of which are unique and non-renewable.

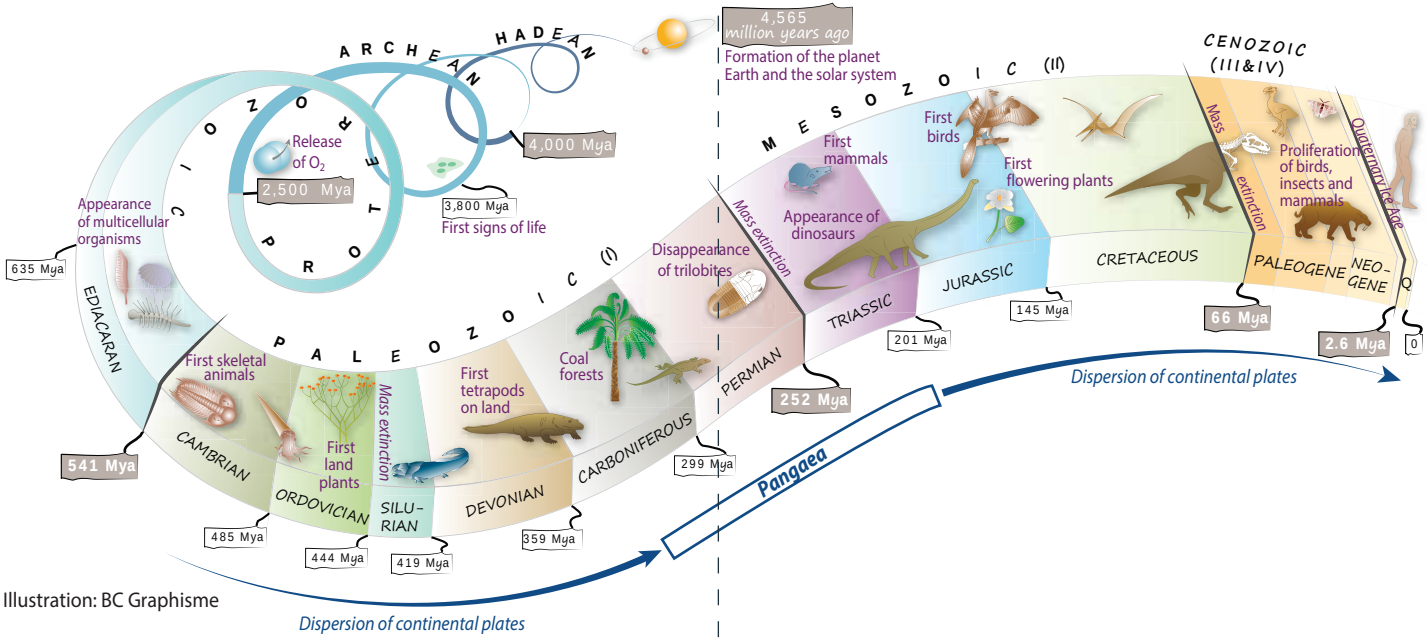


Illustration: BC Graphisme

A PATCHWORK OF NATURAL ENVIRONMENTS AND SUBSTANTIAL BIODIVERSITY

Located at the intersection of land and sea, the Nature Reserve's sites offer a wide variety of natural environments shaped by the sea, the wind and the ocean spray: habitats like **cliffs, moors, dunes, mudflats and sea caves** have been recognized and receive protection at a European level.

A broad diversity of animals and plants can be found there:

- common seaside species such as:


Common gorse


Herring gull


Common wall lizard

- and rare, protected species like:

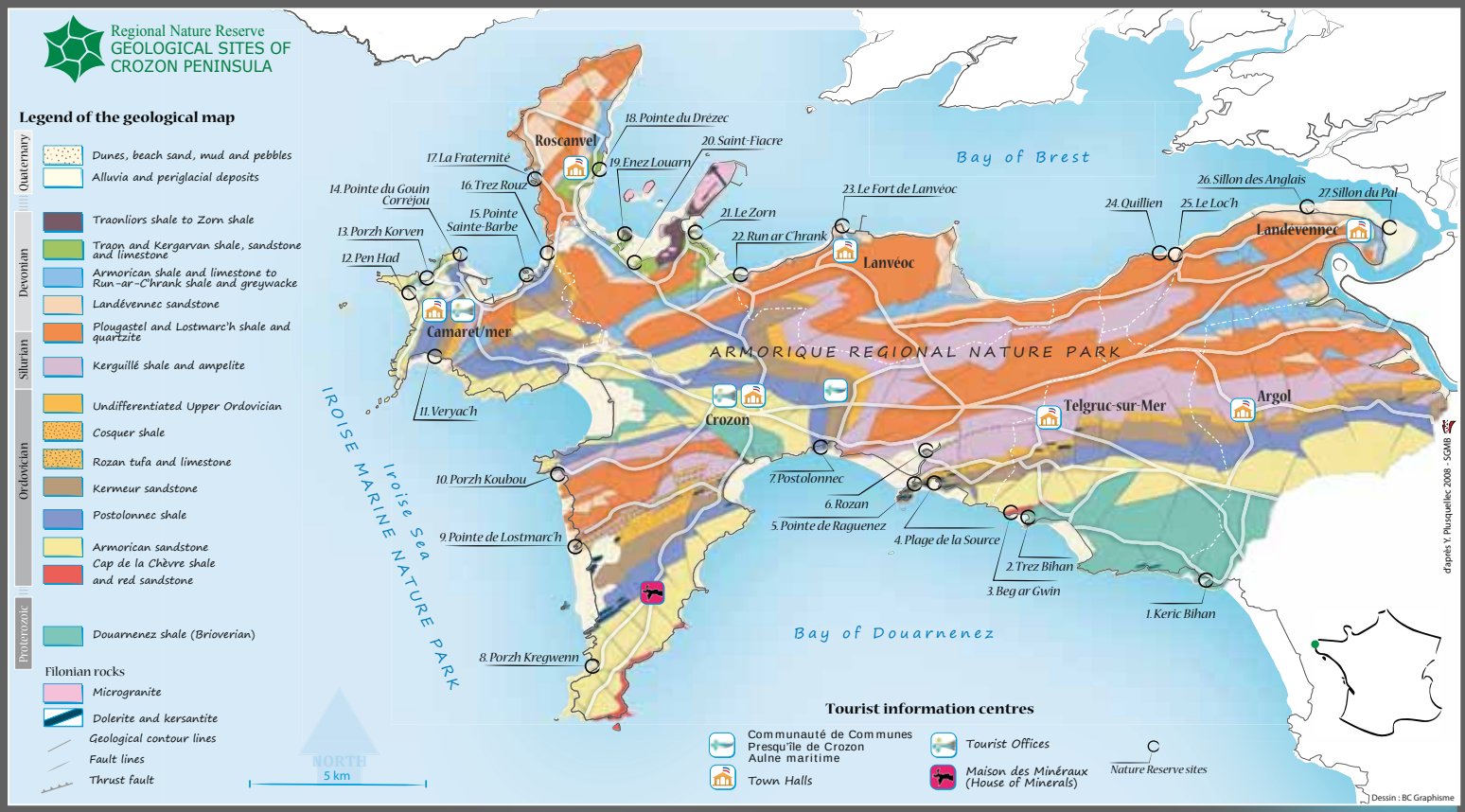

Crozonnaise gromwell


Marsh fritillary


Red-billed chough

A RICH HISTORICAL BACKGROUND

Humans have been present on Crozon Peninsula since the Paleolithic period (with the first signs of hominids appearing around 465,000 years ago), where they left behind remnants of their past. **Carved flint, a Gallo-Roman salt production site, lime kilns, military fortifications and Armorican sandstone quarries** imbue the Nature Reserve's sites with great historical interest.



GEOLOGICAL INTEREST OF THE 27 LISTED SITES:

⚠ Dangerous approach

1. KERIC BIHAN: Double folds in the oldest rocks on Crozon Peninsula (600 mya)

2. TREZ BIHAN: Underwater volcanism (600 mya) and Variscan fracturing

3. BEG AR GWIN: Unconformable contact between two geological formations and first Paleozoic deposits with red sediment from the continent (477 mya)

4. PLAGE DE LA SOURCE (dangerous approach due to unstable cliff): Beach with sedimentary deposits traversed by veins of lava from an old volcano (448 mya)

5. POINTE DE RAGUENEZ: Headland with "showers" of volcanic ash and blocks in a marine environment (448 mya)

6. ROZAN: Limestone, pillow lava and volcanic ash (448 mya)

7. POSTOLONNEC: 20 million years of changing sea level, recorded in the sedimentary rock (475 to 455 mya)

8. PORZH KREGWENN (observe from the coastal trail due to its dangerous approach): Crushed rock with crystallized amethyst quartz in the lattices of the fractures (300 mya)

9. POINTE DE LOSTMARC'H (observe with binoculars due to its dangerous approach): Headland with underwater volcanism: pillow lava flows and volcanic breccia (448 mya)

10. PORZH KOUBOU: Fossil beach bearing witness to the high sea level during the last interglacial period (125,000+ years ago)

11. VERYAC'H: 65 million years of sediment archiving the history of the Earth

12. PEN HAD : Stratified deposits linked to the succession of cold and temperate climates, contemporary to the first humans on Crozon Peninsula (beginning more than 400,000 years ago)

13. PORZH KORVEN (observe from the coastal trail): Unconformable contact between two geological formations and first marine deposits (475 mya)

14. POINTE DU GOUIN-CORREJOU: Headland with fossilized sandy sea beds (475 mya)

15. POINTE SAINTE-BARBE (observe from Camaret Port): Anticlinal fold created during the formation of the mountains of the Variscan orogeny (320 mya)

16. TREZ ROUZ: Periglacial slope deposits alternating with soil, coastal sand and lacustrine peat deformed by seismic tremors (Quaternary)

17. LA FRATERNITE (observe from Îlot du Diable): Folds and faults in limestone formed under tropical latitudes (410 mya)

18. POINTE DU DREZEC: Headland with dissolution cavities (microkarst) in the tropical limestone (390 mya)

19. ENEZ LOUARN: Limestone formed under tropical latitudes (390 mya)

20. SAINT-FIACRE: Fossilized muddy sea beds (390 mya) traversed by more recent veins of magma

21. LE ZORN: Last Paleozoic marine deposits on Crozon Peninsula (365 mya)

22. RUN AR C'HRANK: Fossilized muddy sea beds (400 mya)

23. FORT DE LANVEOC: Deposits of sea sand followed by limestone (415 mya)

24. QUILLIEN: Scree of shaly slabs, fragmented by frost action during the last glacial period (Quaternary)

25. LE LOC'H: Double gravel bar, built up by longshore currents from debris produced by cliff erosion and by the destruction of periglacial flows (Quaternary)

26. SILLON DES ANGLAIS: Gravel spit, fed with sedimentary debris by longshore currents (Quaternary)

27. SILLON DU PAL: Gravel spit, built up by clashes between longshore currents and the ebb tide, at the mouth of the Aulne (Quaternary)

Texts and photos (unless otherwise specified): Sophie Coat (CCPCAM, V3-2020) / Printer: Com à l'Ouest - *Do not litter*