GÉOPARC
Terres d'Hérault
Spectacular by nature!
Explore the Géoparc Terres d'Hérault
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Département Hérault
CANDIDAT AU LABEL GÉOPARC MONDIAL UNESCO
geoparc.herault.fr

540 million years of geological history

The Géoparc Terres d'Hérault, supported by the Hérault Council Department, is a collective initiative to protect and promote our heritage with the aim of obtaining the Unesco Global Geopark label in 2026.

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Interview with Kléber MESQUIDA,
President of the Hérault Council Department

How did the Geopark project come about?

KM

Géoparc Terres d'Hérault was born out of the initial studies carried out by the association "Demain la Terre!". I then proposed a partnership, a common approach, and that the Council Department should take the lead, because ***it seemed to me that we were the institution that could federate all the players in the territorial sense: municipalities and inter-municipalities, associations and professionals.***

In 2022, the Council Department committed to obtaining the UNESCO World Geopark label, with a view to possible official recognition in 2026.

Why apply to UNESCO?

KM

An international label like this provides added value and recognition of the quality of our approach. ***The label would highlight our remarkable geological sites, to protect them, promote scientific research and raise awareness-raising activities*** *to help local residents better understanding of their region, and in particular its geological wealth and diversity.*

Our application may also enable us to develop geotourism, *in the same way as we have created the "Hérault wine route", and are working on an "Oyster route": collective initiatives that invite visitors to discover our terroirs, supporting the local economy while working to preserve our environment.*

What do you personally like about geology?

KM

Geology is the shared history of the Earth and humanity. *It commits us to protect and enhance our precious natural spaces, and to preserving this unique heritage for future generations.*

The Géoparc Terres d'Hérault is also a place for sharing knowledge and educating people about the heritage and environmental issues of today and tomorrow.

What is a Geopark?

TERRES D'HÉRAULT, CANDIDATE FOR THE UNESCO GLOBAL GEOPARK LABEL

Applying for the UNESCO Global Geopark label is an opportunity for the Terres d'Hérault Geopark **to gain international recognition, with the aim of promoting its natural ressources and encouraging their preservation.**

A Geopark is first and foremost an area of outstanding geological interest. This is the case of the Hérault, with its mosaic of landscapes, rocks and reliefs, tells the story of 540 million years of geological history.

The Caroux mountain

To obtain the label, two conditions must be met:

1. The candidate territory must **present exceptional geological riches of international interest** to enable better knowledge and promote geological and ecological research.

2. The community representing the candidate territory must **carry out actions that preserve, raise awareness of and promote this heritage, whether with regard to remarkable sites or through sustainable tourism that is respectful of the environment.**

Notre-Dame de Saint-Eutrope chapel

The Gorges de l'Hérault

THE GÉOPARC TERRES D'HÉRAULT AND THE INHABITANTS OF THE HÉRAULT

Beyond its geological treasures, the Geopark is also characterised by **the community of women and of men committed** to preserving and promoting their cultural and natural heritage: 111 municipalities and intermunicipal partners; museums, associations and scientific mediators; tourism professionals; shopkeepers and craftsmen... all mobilised to raise awareness of these natural wonders.

Terres d'Hérault, An exceptional Geopark

Terres d'Hérault delivers a fabulous testimonial: the continuous story of 540 million years of the evolution of our planet. A highly visible history thanks to the rocks, massifs, limestone plateaus and gorges that punctuate the region. A natural spectacle accessible to all, to be explored from geosite to geosite.

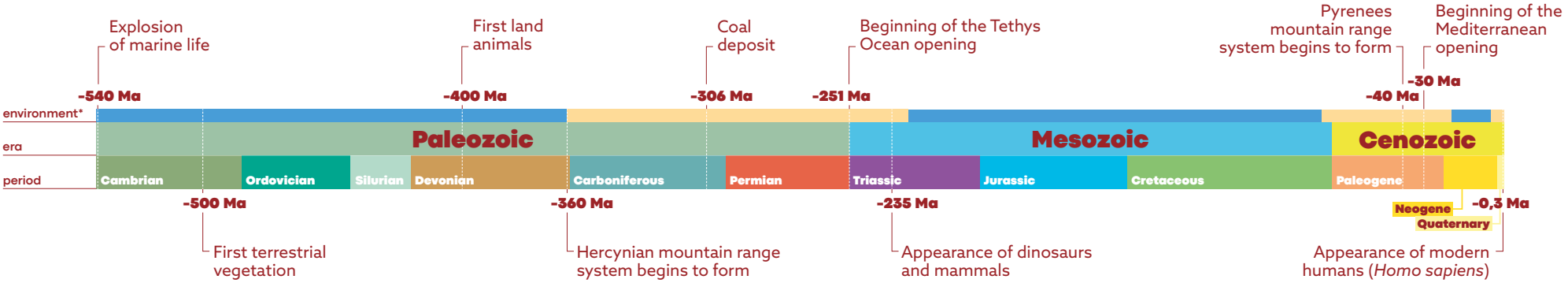
ALL THE GEOLOGICAL ERAS VISIBLE

From one site to the next, over 2,000 square kilometres, the Terres d'Hérault Geopark reveals the traces of all the major geological eras.

Three major eras are visible on the territory:

Paleozoic Era	Mesozoic Era	Cenozoic Era
1	2	3
Formerly known as the primary era	Formerly known as the secondary era	Formerly known as the tertiary era

THE GEOLOGICAL TIMELINE



Ma: Million years ago

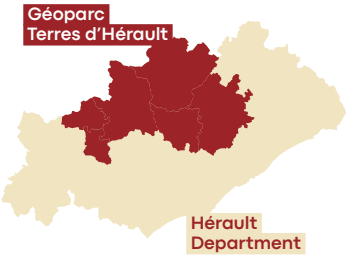
*Local deposition environment (Languedoc)

marine continental

Map of the Géoparc Terres d'Hérault

3 major geological categories: a journey in time and space.

1. The oldest geological history
2. The story of the work of water
3. The most recent history



The Cirque de Navacelles

The Causses du Lodèvois et Larzac

Volcanoes of the Hérault

The Gorges de l'Hérault

The Mines du Pays d'Orb

LODÈVE

The Ruffes du Salagou

The Salagou Lake

CLERMONT-L'HÉRAULT

GIGNAC

MONTPELLIER

BÉDARIEUX

The Cirque de Mourèze

The Plaine de l'Hérault

The Pic de Vissou

The Caroux and Espinouse Mountains

BÉZIERS

To facilitate understanding, this map has been simplified. It does not present all the geological processes and formations that make up the complex history of the Géoparc Terres d'Hérault.

1 The oldest geological history of the Hérault

The Caroux and Espinouse mountains, the Pic de Vissou, the Mines du Pays d'Orb, the Ruffes du Salagou

-540 À -251 MILLION YEARS AGO

Venture to the western ranges of the Geopark to travel back in time, and go back to the primary era.

DID YOU KNOW?

In Saint-Pons-de-Thomières area, the Goniatite-rich red marbles of the Devonian which come from Coumiac quarry are renowned for their quality and were used partially to adorn the White House in Washington.

Mendic Granite

Augen Gneiss

Schist

The Caroux and Espinouse mountains

Observe

Travelling the length and breadth of the Caroux and Espinouse mountains provides the opportunity to see magnificent panoramas of immense natural expanses: **very old rocks laid down during the formation of the Hercynian chain.**

Understand

Here, 360 million years ago, **a cycle of deformation began, causing the rock deposited** on the seabed folding during nearly 200 million years. This deformation also led to the granites rising up from the depths, subsequently uncovered by erosion. Transformed by temperature and pressure, they became gneiss. These rocks are among the oldest in the Hérault region.

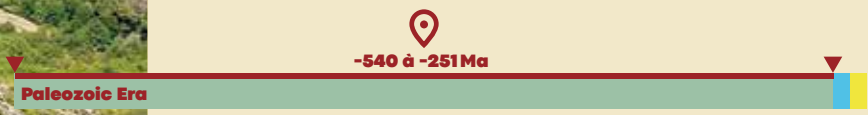
Explore

Georando recommends: **"Les gorges de Colombières"**

Visit

Favourites

- **Notre-Dame de Saint-Eutrope chapel,** nestled in the rocks, at an altitude of 1,100m, in the northern part of the Espinouse forest mount.
- **La forêt des écrivains combattants (The forest of writers fighters), on the Caroux mount's –** 135-hectare forest estate, is dedicated to the women and men of letters who died for France



The Pic de Vissou

-485 À -330 MILLION YEARS AGO

To take an interest in the Earth's history is to understand incredible spectacles, such as the formation of this peak, the highly complex process of which took millions of years.

Climbing the Pic de Vissou leads to **a panoramic view of the surrounding mounts and the plain.** This is the imprint left by major tectonic processes.

Here, 360 million years ago, **The retreat of an ocean led to the formation of the Hercynian chain.** This peak is the result of a very complex geological formation. The various rocks retrace the development of the Hercynian mountain chain, one of the planet's most remarkable geological formations. The site is also renowned for its copper deposits, mined as far back as the Neolithic period 5,000 years ago.

Georando recommends:
"Le Vissou se raconte"

Favourites

- **The Pic de Vissou rises to an altitude of 480 metres;** a popular spot for hikers and paragliders, with a diversified view in terms of the landscapes characteristic of the Hérault Department.

DID YOU KNOW?

The varied geology creates a nourishing soil favourable for winemaking, which has been practised here since Roman times.

-485 à -330 Ma

Paleozoic Era

The Mines du Pays d'Orb

-325 À -300 MILLION YEARS AGO

In the Hauts Cantons (upper cantons), the landscapes and buildings recount impressive, epic stories: those of the Earth's tumults and the humans extracting its black rocks.

Hidden in the folds of the mountains **the black charcoal rocks, traces of ancient vegetation,** are highly present and particularly beautiful.

Here, some 306 million years ago, at the end of the Carboniferous period, ancient lush forests were buried under sediment. **These ancient plant deposits formed the coal that we find today in the Graissessac coalfield.**

Georando recommends:
"Le Devois"

Favourites

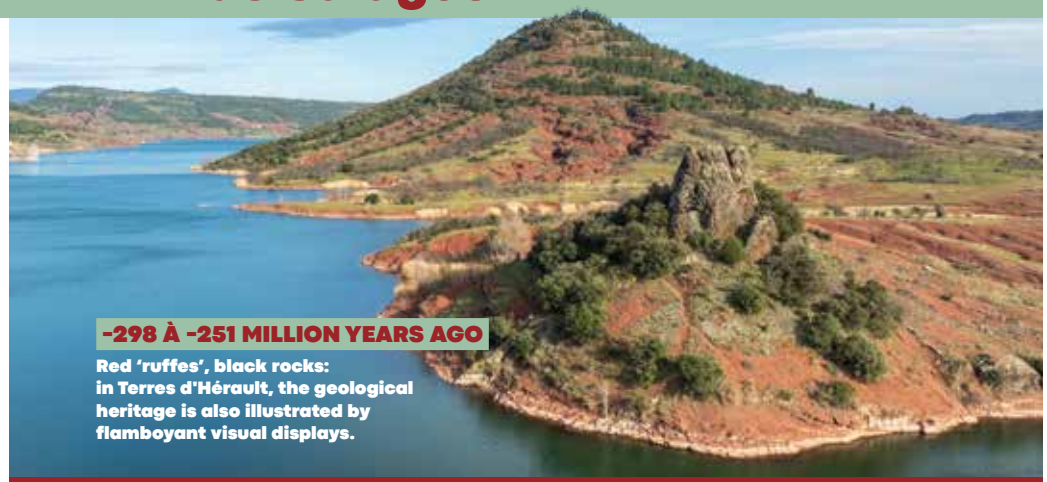
- **The Belvédère de Carlenca,** for reading rocks, in situ, and the panoramic views of the Monts de Faugères, the Haut-Languedoc and the Monts d'Orb.
- **Mine de Simon,** in Graissessac, opened in 1862, at an altitude of 383 metres, extracting veins of coal from the right bank of the Clédou. A place tinged with nostalgia for an industrial activity that lasted until the end of the 1990s.
- **The Mont d'Orb viewpoint,** to admire, to the east, the primary era terrains, which make up the landscape traversed by the narrow Orb valley.

-325 à -300 Ma

Paleozoic Era

The Ruffes du Salagou

In the process of being awarded the Grand Site de France label



-298 À -251 MILLION YEARS AGO

Red 'ruffes', black rocks: in Terres d'Hérault, the geological heritage is also illustrated by flamboyant visual displays.

Red 'ruffes', black rocks: in the valley and around the lake, explore the multitude of canyons reminiscent of Colorado.

Georando recommends: **"Le plateau du Cayroux"**

The Permian basin at Lodève began to form 298 million years ago, a consequence of the gradual collapse of the Hercynian chain. 271 million years ago, **sediments were deposited, giving rise to the red Salagou pelites, made up of clay and sandstone.** The red colour is due to the iron oxide they contain.

Favourites

- **The Salagou valley and lake:** currently in the process of being awarded Grand Site de France label, with a pass over the Col de la Merquière, at an altitude of 369m, gateway to the artificial lake below, at an altitude of 140m.
- **The Musée de Lodève,** for its collections on the history of geology. www.museedelodeve.fr/exposition/raconte-moi-la-vie-sur-terre

DID YOU KNOW?

The Hérault Council Department has acquired the threatened natural site which houses the paleontological slab of la Lieude, in the Salagou valley. With over 900 footprints of saurians and reptiles older than the dinosaurs, the Lieude slab is a unique site in the world.

Due to its protected status, it is currently inaccessible to the public.

-298 à -251 Ma

Paleozoic Era

2 The story of water in Hérault

The Causses du Lodévois et du Larzac, the Cirque de Mourèze, the Gorges de l'Hérault

Lodève blind valley

Karst

Dolomite

The Causses du Lodévois et Larzac

Cirque de Navacelles

GRAND SITE DE FRANCE

-200 À -145 MILLION YEARS AGO

One of the Geopark's finest attractions in every season: the causses (limestoneplateaus), "natural water towers" in the north of the Council Department, and their jewel, the Cirque de Navacelles.

A great place to observe the work of water, particularly in the middle of the scrubland, this area is dominated by limestone and dolomite landscapes.

Here, 168 million years ago, **vast thicknesses of limestone from marine organisms accumulated at the bottom of the warms and shallows seas that covered the Hérault.** Over the last 10 million years, water has eroded the limestone rocks, forming a vast karstic network.

Georando recommends: **"La virée des sotchs"**

Favourites

- **The Cirque de Navacelles,** a 'Grand Site de France': the most impressive natural scenic area in the Geopark, characterised by the morphological contrast between the causses and the Vis canyon.
- **The Baume Auriol viewpoint and the Maison du Grand Site,** a branch of the tourist office and a shop selling local produce.

DID YOU KNOW?

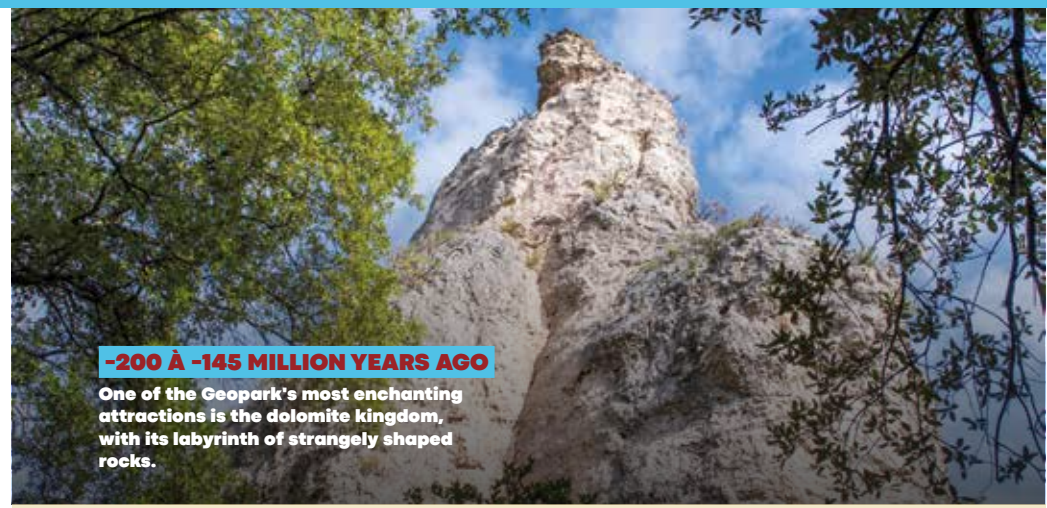
At Navacelles, the immense spectacular meander is the result of the Vis river, which over thousands of years carved its way into the Jurassic limestone that was formed 160 million years ago.

-200 à -145 Ma

Mesozoic Era

The Cirque de Mourèze

In the process of being awarded the Grand Site de France label



-200 À -145 MILLION YEARS AGO

One of the Geopark's most enchanting attractions is the dolomite kingdom, with its labyrinth of strangely shaped rocks.

Lunar landscapes or western film sets? With its ruiniform landscapes, the Cirque de Mourèze seduces and fascinates with the incredible work of water on the dolomites

Here, 160 million years ago, during the Jurassic period, in a warm sea where sediments were deposited, dolomitic rocks were formed.**These magnesium-rich rocks, which rose to the surface, have been sculpted by water and frost over the last few hundred thousand years.**

Georando recommends: **"Le Cirque de Mourèze"**

Favourites

- **The cirque itself,** for its dreamlike atmospheres.
- **The belvédère des Courtinals,** with an orientation to enjoy a wide panorama of the cirque and the village of Mourèze.

-200 à -145 Ma

Mesozoic Era

The Gorges de l'Hérault

GRAND SITE DE FRANCE

-200 À -145 MILLION YEARS AGO

One of the Geopark's most exciting attractions: the cool gorges of the Hérault. A must-see in summer.

With their lush green areas, white cliffs, clear whitewaters and sandy beaches studded with small flat pebbles, polished stones and various rocks, the Gorges de l'Hérault are the perfect place to observe the work of water.

Georando recommends:
"Les Fenestrelles"

Under the tropical waters of the Jurassic Sea, **sediments were slowly deposited, accumulated and compacted to form limestone rocks and grey dolomites.** Through its erosive action, water has patiently sculpted the landscapes of today.

Favourites

- **The Mont Saint-Baudille,** at the south-western end of the Montagne de la Séranne, a landmark of the southern edge of the Causse du Larzac.
- **The Cirque de l'Infernet,** at Saint-Guilhem-le-Désert, a gigantic wall of limestone cliffs that enclose the north of the Val de Gellone.

DID YOU KNOW?

Below the surface, the dissolution of the limestone gives rise to sinkholes and caves, which can reach an impressive size. There are several thousand in the Hérault region, making a high place of caving.

-200 à -145 Ma

Mesozoic Era

3 The most recent geological history

The Hérault Plain and Volcanoes

Basalt

Fossilized Oyster

Neck

The Plaine de l'Hérault

-34 MILLLION YEARS AGO TO TODAY

Forming a wide gulf, the plain, born with the arrival of the fledgling Mediterranean Sea, favoured cultivation, villages and communication routes, leaving the surrounding limestone hills to the scrubland.

Recent fossils of shark's teeth and giant oysters bear witness to this: the Mediterranean sea came all the way here, to the heart of Hérault plain!

Here, 20 million years ago, in a vast depression formed by the movements of the earth's crust, **the young Mediterranean stretched to the foot of the limestone reliefs,** depositing loose sediments (sand, clay, marl). The Hérault river slowly carved out its bed all the way to the coast, which favoured human habitation.

Georando recommends:
"Le castellas de Montpeyroux"

Favourites

- **Le Pont du Diable,** a geographical marker of the transition between the gorges and the plain, with its large openings allowing water to drain away during floods. It is without doubt one of the oldest romanesque bridges in France.
- **Le chemin de croix de Gignac.** From the 18 metre high square tower on the Way of the Cross and serving as monitoring point for this strategic crossroads in the heart of Hérault, a large view opens onto the surrounding landscapes.

-34 Ma to today

Cenozoic Era

Volcanoes of the Hérault

FROM -2,2 TO -1,1 MILLION YEARS AGO

The volcanoes, which appeared late, have left a legacy of fertile land in Hérault, but also deep black basalt rocks. An ever-present imprint that covers the entire region, seen in its vineyards and buildings.

In Terres d'Hérault, some rocks have the power to disrupt compasses. **Such is the case with these strange 'Necks', the remains of ancient basaltic chimneys.**

Some of these volcanic chimneys, which were once buried, are now visible in outcrops due to erosion. They are made up of basaltic rocks which contains a mineral, the magnetite.
As the time of cooling of lava emitted by the volcanoes, the magnetite oriented parallel to the magnetic field of the time. The direction of the magnetic field changes over time, so the magnetic field today is different from that of the past.
So when you approach it with a compass, it doesn't know how to orientate itself. The magnetite in the basalt disturbs the compass, like a magnet.

Georando recomends:
"Le Ceressou"

Favourites

- **Le Neck de la Roque,** basaltic chimney bordering the Salagou lake.
- **Le Dyke de la Roque,** a former fracture filled with magma. This is a completely natural formation.

-2,2 à -1,1 Ma

Cenozoic Era

Let's preserve our Earth

The history of the planet as it can be read in the rocks, landscapes and geological processes taking place in the Hérault, is an opportunity. It can help us to better understand the evolution of life on Earth and advance research with each new scientific discovery.

ECO-COMMITMENT, OUR DUTY TO FUTURE GENERATIONS

Join the Geoparks Global network to take part in global exchanges and innovative collaborative programmes with other Geoparks, in particular french-speaking Geoparks.

Our commitment? Raising awareness among the widest possible audience, disseminating and passing on useful knowledge for a more sustainable future. This work will be carried out in association with the research and education worlds, and in particular with "geo-mediators" on the field.

Schoolchildren, families, Hérault locals and tourists: everyone will be able to discover the region and its natural treasures in a different way.

PRESERVE OUR NATURE WITH ESSENTIAL ECOGESTURES

To ensure the preservation of the Geopark and its natural areas:

1

NEVER PICK UP FOSSILS OR TRY TO MOVE THEM

Stones and minerals such as fossils are rare natural materials and are particularly fragile.

2

AVOID NOCTURNAL ACTIVITY

Wildlife feeds on natural materials to be preserved.

3

RESPECT THE SILENCE OF NATURE

Wildlife feeds and lives in calm.

PRACTICAL INFO

For your Géoparc Terres d'Hérault explorations, go to:

geoparc.herault.fr

Find out all about our events, our news, our partners. Discover the geology of the Hérault through its geosites.

herault-tourisme.com

The Geopark through Georandos and our ambassadors' experiences.

herault.ffrandonnee.fr

All the hiking routes marked out and secured.

More infos

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GÉOPARC Terres d'Hérault

Département Hérault

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Direction de la communication du Département de l'Hérault - 05/24
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