Departement Callt Geological geosites Pyrenean anticlines and synclines **AVEYRON Explore the Terres** d'Hérault Geopark **Cultural geosites** Les Lavagnes ENS (sensitive natural area) 57 Pont de Cep ENS (sensitive natural area) Font du Griffe ENS (sensitive natural area) 58 L'Albine ENS (sensitive natural area) «Mourèze Cirque» «The Vissou tells its story» **THE STORY** Other hikes The Hérault, Beginning of the Mediterranean Explosion of marine life Beginning of the Tethys Marine deposits of the mountain range **OF HALF A BILLION** First land Coal seam ■ Three "Grands sites de France": (Montagne Noire trilobites) – animals ┌ formation Causses and garrigues system begins ┌ opening Salagou-Cirque de Mourèze Cirque de Navacelles an exceptional region **YEARS OF PLANETARY** ┌Hérault volcanoes Gorges de l'Hérault **EVOLUTION** with exceptional Services ■ UNESCO sites: Cenozoic Causses and Cévennes accreditations cultural landscape of agro-pastoralism

Neogene -0,3 Ma

Appearance of modern

humans (Homo sapiens)

-235 Ma

ruffes

- Hercynian

mountain range

system begins to form

LAppearance of dinosaurs

and mammals

Ma: Million years ago

*Deposition environment (Languedoc)

marine continental

└ First terrestrial

vegetation

Sotchs of Sorbs

18 Caylar rocks

19 Perthus pass

«Organs pipes» of Taussac

Forest of fighting writers

The Héric canyon

Avène thermal springs

Mont Saint-Baudille belvedere

Rocher des Vierges belvedere

The Caroux belvedere

51 Aumelas castle

The Tour-sur-Orb lime kiln

The Estabel museum cellar

KThe Fenestrettes»

% J «The Mining Trail»

Passa Meridia MERIDHA

Tourist offices
Information places

Grand Site de France

Heritage curiosity

Archaeological site

Heritage

UNESCO Heritage

The Way of Saint James

The Geopark initiative is accredited under the great

approach with its partners.

landscapes of the Hérault region and shares a common

Haut Languedoc Regional Natural Park

■ Grands Causses Regional Natural Park

«The Castellas of Montpeyroux»

«From the dry valleys to the Sotchs»

Saint-Michel de Mourcairol

Maison de Grand Site of «Baume Auriol»

Gothic parish church of Saint-Pargoire

Chapel of Notre-Dame-de-Saint-Eutrope

that we were the institution that could federate all the players: municipalities and intercommunal bodies, Grands Sites de France, regional natural parks, interdepartmental actors, tourist offices associations, museums, professionals...

What does the UNESCO label bring?

Firstly, recognition of the quality of our approach. The label can hightlight our remarkable Herault geology to protect it promote it and define scientific research and awareness-raising initiatives to help local residents better understand their

The bid is also the opportunity to develop tourism, in the same way that we have created the Hérault wine route, and more recently the oyster route : collective initiatives that invite visitors to discover our terroirs, supporting the local economy while working to preserve our environment A challenge for today and tomorrow.

Kléber MESQUIDA, President of the Hérault Council Department

co-commitment

p ensure the preservation of the Geopark



Why?

Wildlife feeds and lives in calm

The Terres d'Hérault Geopark, a fabulous testimony to the past

Covering more than 2000 square kilometres and 55 geosites, the «Terres d'Hérault» tells the story of 540 million years of evolution on our planet. It is a story that can be seen in the mountains, peaks, mines, causses, canyons, cirques, volcanoes and plains.

THE UNESCO GLOBAL GEOPARK LABEL

How do you obtain this prestigious label?

■ The candidate area must have exceptional geological resources

■ The community representing this territory carries out actions to preserve, raise awareness of and promote this heritage.

THE TERRES D'HÉRAULT GEOPARK COMMUNITY

Terres d'Hérault is made up of women and men committed to pursuing the Geopark adventure. They include the 111 partner municipalities and intercommunal bodies, museums such as the Lodève Museum, tourist offices and associations, as well as teachers, scientific mediators, craftsmen, shopkeepers...

The geology of the Hérault region is remarkable for the richness and diversity of its rocks: Mendic granite, augen gneiss, schist, Lodeve blind valley, karst, dolomite, basalt, fossilised ovsters, necks, etc.

APPLICATION TIMETABLE

■ Summer 2024: The Terres d'Hérault Geopark is authorised to submit

■ **November 2024:** Submission of application to UNESCO.

■ Summer 2025: International evaluators are hosted in the Hérault to discover our geological heritage and the dynamics of the bid

■ 2026: The final deliberation of the UNESCO Executive Board.

32 geosites to discover

CAYROUX BASALT PLATEAU 2



Geo-hike **« Le Cayroux »** Pass through dolmens, «capitelles» and the incredible landscape of «ruffes» (pelites), the red earth of the Lodévois dating from the Permian period (271 million years ago) and pasaltic rock, the result of more recent lava flows (650 000 to 2 million years ago).

It is one of the basalt plateaus, along with Auverne and Germane that surround the Salagou lake. Basalts were deposited during the period of volcanic activity experienced by the Hérault, giving rise to the Escandorgue volcanic chain.

The name ruffe comes from the Latin "ruffus", meaning red. The Salagou site is the largest outcrop of it in Europe!

The Neck of la Roque, an ancient volcanic vent The Dyke of la Roque, an ancient fracture in which



o-hike **« Mourèze Cirque »** ulptures in a chaos of upright rocks. A challenging climb takes you to the summit of Liausson Mount

Western setting or lunar landscape, the Moureze Cirque is an amphitheater of ruiniform reliefs carved out of Jurassic dolomite, at the foot of which Moureze village nestles in a maze of corridors

Sediments deposited since the Jurassic period were sculpted by water a frost to form these dolomites 1.8 million years ago. The eroded debris forms a unique sand, known locally as grésou.

PIC DE VISSOU 8



o-hike **«The Vissou tells its story»** brières, home to Europe's oldest copper mines, ne path then winds through the heart of a listed site, rich in geological and landscape discoveries.

A must-see site, for its unique panorama. The Pic du Vissou has attracted generations of geologists to its slopes, trying to understand the mysteries of its complex formation, which took several tens of millions of years.

The geological site has become famous since Paul Gervais de Rouville, the first geologist to climb the Pic in 1868, identified an inversion of rocks, with older overlaying newer ones.

CÉRESSOU ?



Céressou, overlooking the surrounding plains, is one of the Hérault volcanoes that were active between 2.2 and 1.1 million years ago. Emerging from the sea that once covered the region, its crater

> arting out from the village, this loop takes you through the ntès vineyards, oaks and an olive grove, to reveal the remains of the ancient volcano, part of the Massif Central range. This is an exceptional site for observing basalt flows, the black stones produced by lava flows over a million years ago.

DEVIL'S BRIDGE 10 1



t offers a remarkable view over the alluvial plain of the Hérault at the end of the Hérault canyon. It has been a listed historic monument since 1996 and has been on UNESCO's World Heritage List as part of the "The Way of St James" since 1998.

eo-hike **«The Castellas of Montpeyroux »** One of the entry points to the «Saint-Guilhem-le-Désert Gorges

l'Hérault» Grand Site de France, Montpeyroux, a village at the foot of the Séranne massif, is a must for nature lovers. Pass through olive groves, vineyards and garrigues to reach the ramparts of Castellas, a medieval fortress whose remains will surprise you.



Sitting on a promontory, which is in fact a 23 million years old Miocene river's bed, the Gignac Way of the Cross is a privileged viewpoint over the Geopark's «Plaine de l'Hérault» geological area. It is listed as a historic monument.

Travelers passing through Gignac will notice these little chapels lined up on a promontory. Fourteen in number, they form a Way of the Cross that starts from Notre-Dame-de-Grâce church. It would appear that the first chapel was built before 1672 by the Récollet fathers, the others by parishioners. It was not until the 19th century that they took the name «Way the Cross».

INFERNET CIRQUE (12)



The Infernet Cirque is a gigantic wall of Jurassic limestone and dolomite. Over thousands of years, the Verdus river has shaped the rocks, eroding them and opening up the Cirque towards the presentday Saint-Guilhem-le-Désert village.

eo-hike **«The Fenestrettes»** his path, built by the monks of Gellone at the bottom of the Cirque, suspended in places in the cliffs, offers breathtaking views. Starting from the Saint-Guilhem-le-Désert village square, this loop crosses over grey limestones and dolomites, shaped by geological movements over 170 million years ago, when the

Hérault was still bathed in the waters of a tropical sea.

THE GREZAC PLATEAU (14)

Anchored in the Causses, the Grezac plateau is made up of Jurassic limestone and dolomite. 1.8 million years ago, water eroded these rocks to form the plateau's current aerial landscapes and the dolomitic ledges on its heights.

The oppidum, a naturally fortified town built on the Puech de Grézac, is a reminder of the almost continuous presence of humans on the plateau until the High Middle Ages. The «calades», hollow way laid out by man, were used by herds to reach the oppidum.

NAVACELLES CIRQUE 15 15



A Grand Site de France, it is the widest canyon in Europe - and it is spectacular 1400 meters separate the viewpoints of Blandas and Baume Auriol, while they face each other above Navacelles. Here, the Vis river has carved out its bed in the limestone of the Larzac and Blandas plateaus, forming vast meanders. Over time, the river's course has been diverted by the infilling of the former meander by limestone concretions on vegetation.

The cliffs of the canyon are nesting grounds of 25 protected bird species, including griffon vultures and short-toed eagles.



Carved into the southern limestone foothills of the Causse du Larzac, it forms a natural geographical boundary 350 metres above the hamlet of Gourgas. It was formed by a meander of the Bronzinadouïre stream in the limestone cliffs of the foothills of the Causse du Larzac plateau.

At the heart of this cirque we find the Banquier cave, one of the most eautiful aquatic caves in the Hérault, rarely accessible even to experienced cavers. The villagers love to narrate legends this evil fairy lair.

SOTCHS DE SORBS 17

These circular depressions in the limestone are called sinkhole, but the term «sotch» is used on the Grands Causses. Here, they were formed 1.8 million years ago. They vary in diameter from 50 to over 200 meters and in depth up

Geo-hike « From the dry valleys to the Sotchs» A typical walk in the heart of the Lodévois and Larzac Causses. The path winds its way through wide depressions carved into the limestone, descending along the Devèze to the bottom of the Virenque canyon. Following the dry bed of this curious river, you

reach the goatherds' farm at Camp d'Alton.

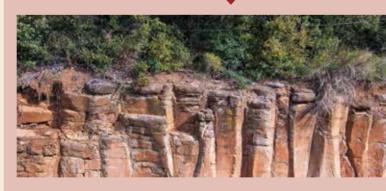
CAYLAR ROCKS 18



Strombolian cone with basaltic flows that seal the fore-Causses. In this area, the hikes around Roc Castel are not to be missed! This relief features the remains of a medieval castle, overlooking the limestone plateaus and the emblematic dolomites of the Navacelles Cirque. This is also an ideal natural area for «agropastoralism».

Roc Castel is a perfect example of the role of geology and topology in uman history. In the Middle Ages, villages were built on higher ground to petter defend themselves, as was the case here!

RED PASS OF ESCANDORGUE 20



Hérault between 2.2 and 1.1 million years ago.

To take full advantage of the beauty of these landscapes, try the «Escandorque plateau» hike, which passes through the state forest and close to the Lerab Ling Buddhist temple, renowned as a major retreat center in Europe.

« ORGANS PIPES » OF TAUSSAC (21)



Rising above the surrounding vegetation, the Jurassic dolomitic organs of Taussac feature a distinctive columnar formation known as debit, not to be PADÈNE CLIFF 22



On these slopes, layers of coal 1 to 6 meters thick alternate with so-called 'barren' layers of sandstone and shale. These deposits date from the Upper Carboniferous period.

Access to the site is do by the hike that starts at the museum

«Graissessac in the past», a must-see place to discover the mining

story of the Graissessac coalfield. CHAPEL OF NOTRE-DAME-DE-SAINT-EUTROPE 23



The climb up to the chapel provides an opportunity to observe the metamorphic formations of the Espinouse mounts. Located in the central part of the Montagne Noire, this mount is mainly made up of gneisses (ancient granites) with layers of metamorphosed sedimentary formations

The chapel was probably once a hermitage. The current building may date from the Middle Ages (14th century) and replaces an old pre-Romanesque site. Legend has it that Saint Eutrope withdrew alone to these mountains

THE COLOMBIÈRES CANYON 27



The gneisses and schists of the Colombières canyon are among the oldest rocks in the Geopark. Take a trip back over 400 million years witnessing the remains of one of the most remarkable geological formations on our planet: the Hercynian chain.

The gneiss found here is the result of a phenomenon known as

netamorphism. It is called «augen gneiss» because of the egg shape of the large white feldspar crystals it contains! Geo-hike **«The Colombières canyon»** After viewing the canyon, you will cross a plateau before

descending along an ancient Roman road through centuries-old

chestnut groves. A sporty and magical hike. MENDIC GRANITE 28



The Mendic granite massif is located in the Orb Mounts, one of the highest reliefs in the Hérault. This granite stands out in the landscape for its characteristic pink color and grainy texture. It probably dates from the early Cambrian period, 540 million years ago. It is one of the oldest rocks in the Terres

MONTPEYROUX NAPPE IN ROQUEBRUN

of a powerful, folded and inverted Paleozoic sedimentary series, interpreted as a Hercynian thrust sheet.

An ancient «griotte» marble quarry, exploited since the 6th century for facing and ornamentation. Not far from this quarry, there is an internationa stratotype (gold nails) to serve as a reference for the Frasnian/Fammenian

Its marble adorn one of the rooms of the White House in Washington. AVÈNE THERMAL SPRINGS (32)

The Coumiac quarry is a real geological gem.



Avène's water is extracted from the Lower Cambrian dolomites. It comes from rainwater infiltration on outcrops near the station. The water is heated at depth before returning mineralised to the surface, 40 to 50 years later.

GEOLOGICAL BELVEDERE OF CARLENCAS 33



past environments that have shaped our region, both by reading the rocks n situ and by enjoying the panoramic views over the Faugères mounts, the Haut-Languedoc and the Orb mounts.

In the heart of the mines of the Pays d'Orb, some coal mines continued to operate until recently. The last mine closed in 1993.

BELVEDERE OF LIAUSSON 35

The Liausson mountain offers a breathtaking panorama of the geology of the Hérault: the spectacular red ruffes around the Salagou lake, the volcanic mesas and, in the background, the southern edge of the Larzac plateau and the Mont Saint-Baudille. To the south, views open out over the Mourèze Cirque with its dreamlike atmosphere, and the primary era formations around the Pic de Vissou.

> The Courtinals belvedere, with its orientation table overlooking the cirque and the village of Mourèze.

BELVEDERE FROM THE CROIX DE MOUNIS



Pass at an altitude of 810 metres, the panorama from the Croix de Mounis offers a breathtaking view of the Montagne Noire, the Orques cliffs, the Caroux and Espinouse mountains. These represent the oldest geological formations in the Hérault, very old rocks that were laid down during Hercynian chain formation.

The forest of fighting writers on the Caroux mountain



Mont Saint-Baudille is part of the Séranne mountain, an ancient coral reef dating back to the Jurassic period. Under the tropical waters of the Jurassic Sea, sediments were slowly deposited and compacted to form grey limestone and dolomete. Geological processes then transported the rocks

> Limestone rocks and fossils all around you

to their present location. The dissolution of the

limestone has given rise to several thousand sinkholes and caves in the Hérault region. a remarkable place for caving.



Made of gneiss rich in mica flakes, this natural belvedere reflects a special kind of light. It's a veritable balcony overlooking the Mediterranean, allowing you to observe the Caroux and Espinouse mountains slopes, made up of rocks inherited from the primary era. The Caroux forms a gigantic silhouette of a reclining woman, hence its nickname of «reclining lady», a landmark for sailors along the Languedoc coast.

LODÈVE MUSEUM



of the Hérault. «Tell me about life on Earth» traces 540 million years of the Earth's history, with graphic and digital reconstructions, treasures and numerous fossils collected only locally.

The Département has acquired the endangered natural site that is home to the paleontological slab of la Lieude, a unique site with over 900 footprints of synapsids and reptiles older than the dinosaurs. (This site is currently being developed and is not open to the public)

SIMON MINE

Coal mining at Graissessac began in the 18th century and continued until 1993. The Simon mine is one of the remnants of this industrial past. Here, coal made up of layers of dead vegetation deposited during the Carboniferous period can be seen on the surface.

A hike between mountains and ridges to Cabanes mount. Here, people and landscapes are linked to coal mining, result of the fossilisation of vegetation that proliferated in marshes in an equatorial climate, buried under the sand and clay produced by the erosion of a mountain range.

Geo-hike **« Le Devois »**

MAISON DE GRAND SITE 48 OF DEVIL'S BRIDGE

It welcomes you to the Gorges de l'Hérault Grand Site de France, between Aniane and the Devil's Bridge.

THE LEGEND OF DEVIL'S BRIDGE

Every night, the Devil destroyed the work being done of the two abbeys of Aniane and Gellone to build a bridge over the Hérault. Guilhem promised the Devil the soul of the first creature to cross the bridge if he helped build an indestructible bridge here. The Devil agreed, and once the bridge was built, he was sent a poor dog as a reward... The Devil tried in vain to destroy the bridge! Out of spite, he threw himself into the river!

MAISON DE GRAND SITE 49 OF « BAUME AURIOL »

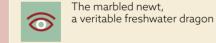
Located on the Baume Auriol belvedere on the edge of the cliff, the Maison de Grand Site presents the history of the Navacelles Cirque, a scenic area emblematic of the Lodévois and Larzac limestone plateaus.

carving through the Jurassic limestone over thousands of years. LES LAVAGNES DEPARTMENTAL ESTATE (ENS) 54

At Navacelles, the immense meander is the result of the Vis river



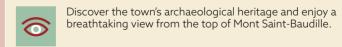
Human activity at Les Lavagnes has left many legacies, including menhirs and relic trees. The site is inextricably linked with the "lavognes" (water storage places) that can be found there, due to the scarcity of water in this environment. In fact, rainwater seeps directly into the depths of the cracked limestone rock, drying out the causses. Humans therefore created impermeable depressions to store this vital resource and water the herds.



FONT DU GRIFFE DEPARTMENTAL ESTATE (ENS) 55



Long neglected because of its aridity, the Font du Griffe opens its paths to you over 400 hectares of natural spaces. Today, the sea has given way to limestone mountains. In fact, 150 million years ago, the region was part of a vast ocean in a different geographical position, as a result





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