GEOTRAIL











United Nations Educational, Scientific and Cultural Organization



Geoparks

WHAT IS A GEOPARK ?



UNESCO Global Geopark is a label awarded by UNESCO to a single, unified geographical area where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development. At the end of 2019. there were 147 Global Geoparks in 41 countries around the world.

L'UNESCO GLOBAL GEOPARK FAMENNE-ARDENNE

The Geopark encompasses the municipalities of Beauraing, Wellin, Tellin, Rochefort, Nassogne, Marcheen-Famenne, Hotton and Durbuy, all sharing the distinction of being located on the Calestienne, a transitional strip of 910 km2separating the Famenne and the Ardennes, and home to a population of 67,250 inhabitants. The two outstanding geological features of the Geoparkare its Calestienne limestones and their caves (karst systems)as they relate to the geological structure of the region.

The Calestienne

The landscapes found within the Geopark frequently reflect what lies beneath the surface. Among these landscapes, one particular strip stands out: the Calestienne, the common thread of the entire Geopark. This strip, consisting mainly of Givetian limestones, runs from Chimay in the west to Remouchamps in the east. It is bounded to the south by the Ardennes and to the north by the Famenne depression. The term Calestienne may be derived from the German Kalkstein (limestone), or from a prefix referring



A simplified map of the Famenne-Ardenne UNESCO Global Geopark superimposed on a relief map (LIDAR image), highlighting the link between the geology and the geomorphology. Sandstones are more resistant than limestones, which in turn are more resistant than shales, resulting in the relief visible on the map: to the south rise the heights of the Ardennes, ending in a narrow depression scooped out of the Eifelian shales, the limestone strip of the Calestienne standing out in relief (in blue) and to the north the shales of the depression (in brown). (Data sources:"Wallonia Public Service" http://geoportail.wallonie.be).

either to limestone or to heat (plants that grow on limestone are more thermophilic than those that prefer shale soils) – and from the Walloon word Tienne, meaning a high place.

Geological history

1. The geological history of the Geopark begins during the Devonian period (419 to 359 Ma) with the sedimentation of deposits of horizontal layers on the ocean beds.

2. These sediments will gradually become buried under their own accu-

System	Series	Stage	Age Ma
			359
Devonian	Upper	Famennian	372
		Frasnian	383 388 393 408 411
	Middle	Givetian	
		Eifelian	
	Lower	Emsian	
		Praguian	
		Lochkovian	419
			217

En géologie, la chronologie se réfère souvent au tableau stratigraphique. Ici un extrait pour le système dévonien (qui fait partie de l'ère paléozoïque). Les étages portent les noms des lieux où ils sont décrits. Le Geopark se situe au cœur de ces lieux importants pour la géologie du Dévonien moyen et supérieur.

mulation and undergo a slow process of transformation into solid rock. The main rocks beneath the Geopark are thus sedimentary: shales, sandstones and limestones.

3. These rocks would later undergo severe deformation, some 320 Ma ago, during the formation of an ancient mountain chain (the Variscan orogeny), the remains of which form the Geopark. This event is what produced the many folds and faults now clearly visible in the landscape, such as the Durbuy anticline. 4. The mountain chain was soon eroded down to a vast flat surface known as a peneplain, which still constitutes the subhorizontal skyline visible throughout Upper Belgium. During the latter part of the Secondary era (Mesozoic) and the early part of the Tertiary (Cenozoic), a warm and humid climate profoundly altered the limestone rocks and formed ghost-rocks, the precursors to caves. In the second part of the Cenozoic, the Ardennes bedrock was uplifted, the river system became incised and caves formed.

THE COUNTRYSIDE CODE :

- Respectnature, geological heritage, wildlife and plants; do not pick plants, flowers or fruit of any kind.
- Follow the highway code, which applies on country lanes just as much as on the rest of the road network, and obey any prohibitions or restrictions on traffic.
- Use the pavement wherever there is one, otherwise walk on the left-hand side of the road, facing oncoming traffic.
- Make sure you are visible to road-users at all times (wear light-coloured clothing).
- Opt for full-length trousers to ward off ticks.
- Stay on the paths by following and sticking to the permanent or temporary waymarking.
- Scrupulously respect private property: you must obtain the owner's permission before entering.
- When you meet other walkers, remain courteous at all times and be the first to offer a greeting.
- Keep noise to a minimum, to avoid causing nuisance to others.
- Do not startle or disturb grazing animals.
- Keep your dog on a lead and under control.
- Take all your litter home with you.
- Lighting fires is strictly prohibited.





Start/finish : Parking Place de l'Étang, 6900 Marche-en-Famenne GPS (WGS84): Latitude : 50.229388 Longitude : 5.342484 Distance/Time : 10,2 km – 2 hours 45 minutes Elevation change : ±162 m Level : easy

his trail takes you on an extraordinary journey through the capital of the Famenne and its walkable landscapes, from the green retreat of the Fond des Vaulx valley to the town of Marche-en-Famenne and the village of Waha, best known for its church. The trail makes its way along country paths, small country roads and streets and lanes. It also makes a delightful cycling route. From a geographic point of view, it offers a striking illustration of a type of karst phenomenon characteristic of the Geopark: the swallow-hole/resurgence system.

Starting from the car park on Place de l'Étang, the trail first takes you through the narrow lanes of the capital of Famenne, the delightful town of Marche-en-Famenne. From the early 1970s to the present day, the town has undergone an active and highly successful programme of urban renovation, retaining all the treasures inherited from the architecture of the past and adding new, modern and artistic touches. You will have plenty of opportunity to experience its charms for yourself, thanks to its narrow streets, characterful historic buildings, pedestrian zones, tree-shaded squares, and frequent fountains and sculptures. Not surprising, then, that in 2011 the town of Marche should be named Belgium's winner in the European Destinations of Excellence (EDEN) competition, in recognition of its work on rehabilitating its many sites of interest and preserving its built heritage.

Leave the car park behind and head off to your right. At the fork at the far end of the Place de l'Étang, head right towards the roundabout. Walk anti-clock-



FAMENNE-ARDENNE UNESCO GLOBAL GEOPARK

wise around the roundabout: after the first pedestrian crossing, note the remains of a fortified wall.

These traces of a fortified wall, recognisable by their lighter colour, were uncovered during the improvement work on the boulevard, and now form an integral part of the footbridge. This footbridge is in itself a powerful symbol of the past, representing the former allure or walkway once used by the sentries. The four rounded spaces are a modern-day representation of the turrets that would have stood here in the Middle Ages. You will also note that the front of each of the turrets features a sculpture. The four sculptures represent the four traditional trades for which the town of Marche-en-Famenne was famous in those days:the lace-maker (dentellière), the sweep (ramoneur), the tanner (tanneur) and the brewer (brasseur), names still given to four of the town-centre streets to this day. On your left, in pride of place in the centre of the roundabout, stands a work by artist Serge Gangolf, expressing the essence of the town's spirit over the past 40 years. Its title, "Point de rencontre", or meeting point, is a symbol of the meeting between two worlds, the old fortified town and today's world of modernity and contemporary art.

Carry on around the roundabout and take the second street on your right, Chaussée de l'Ourthe, for 90 metres and then turn right ontoRue Améric-

Good to know

Karst is a term that refers to all those surface and underground formations created by the dissolution of mainly carbonate rocks: dolines, swallow-holes, resurgences, limestone pavements or lapies, caves, chasms, etc. The term itself comes from the eponymous region of Carso or Kras, a limestone plateau situated mainly in Slovenia (but also extending into Italy and Croatia).

Swallow-hole: the point where a watercourse disappears underground is known as a swallow-hole (chantoir, in Walloon).

Resurgence:the point at which a watercourse (a stream that disappeared into a swallow-hole upstream) reappears on the surface. A swallow-hole/resurgence system may be defined as the drainage area between the point at which the stream disappears to the point where it re-emerges.

Karstification:a physical and chemical process by which a karst system is formed.

aine. At the end of the street, turn left onto Chaussée de Marenne then immediately right into Rue du Viaduc. After 300 metres, you will find a tunnel on your left.

This is the tunnel that will take you the entrance of the Fond des Vaulx (see map). Justbefore the tunnel, at the foot of the railway embankment, you will see a water flowing along a channel of embedded stones. This isa resurgence, through which emerges all the water from the Fond des Vaulx karst system that you will be retracing on this trail. This small valley, though which the Marchette stream runs, lies close to the town centre of Marche and covers an area of 25 hectares. Its steep valley sides and "untamed" character is in stark contrast to the expanses of the Marche plains. In addition to natural and geological attractions, this is a spot famed for the many legends and mysteries that make up the folklore of Marche.

450 metres after leaving the tunnel, you will come to a fork in the road: take the left fork. If you have the time and the inclination, you will find an undercover barbecue area and a fitness course (parcours Hébert) at your disposal, free of charge. 350 metres on, you come to another crossroads, where you carry straight on.

The Fond des Vaux is a picturesque valley, often presenting as a dry valley despite the presence of a river much further upstream. To understand how the water disappears, we need to look at the rocks beneath our feet. The valley is to a large extent carved out of Devonian limestones, shown in violet on the map, but originates on the sandstone plateau south of the locality of Agrismont. When the stream reaches the limestones, it plunges underground through the swallow-holes frequently referred to as chantoirsin



FAMENNE-ARDENNE UNESCO GLOBAL GEOPARK



Sentier pédestre dans sa traversée du Fond des Vaulx représenté sur fond LIDAR (Sources des données : Service Public de Wallonie http://geoportail.wallonie.be). L'image LIDAR permet l'observation de la surface du sol débarrassée de sa couverture végétale et met de la sorte en exergue le relief. Les calcaires sont représentés en surimposition en gris (givétiens) ou en mauve (frasniens). Les phénomènes karstiques sont indiqués par des points et les carrefours des sentiers par des carrés.

Legend of the Grosse Biesse

Once upon a time in Marche, in the Fond des Vaulx, there lived a folk known as the "nutons", akin to gnomes, perhaps, and given to sporting beards and pointy hats. They were a very gentle, hard-working folk. As they were also very shy, they never allowed themselves to be seen. They did, however, do many kind deeds for the local population. One morning, to general surprise, the nutons invaded the town. They were everywhere: in the lofts, in the cellars, in the wardrobes...The Count of Marche had one of the nutons captured and asked him why his people had fled the Fond des Vaulx. The little fellow replied that they had been frightened by the "Grosse Biesse du Fond des Vaulx". At this, the Count remembered that a strange beast was said to have its lair in a chasm known as "Li Trôthi Ô fosses". The beast was supposed to be the size of two elephants, with a long, pointed tail, the head of a crocodile, scales the size of dinner plates and huge teeth. On its back, it bore a deeply serrated crest, and from its mouth it breathed fire. In fact, it looked very like a dragon. The Count instantly ordered his drummers to summon up his troops and the people



of Marche to kill the beast. Armed to the teeth, off they set to track down the beast. While all this was going on, a little girl was playing hide and seek with her dog in the woods. Growing worried when she could no longer see her dog, she wandered further and further in search of him. until she came to the Fond des Vaulx. All of a sudden, the leaves on the trees were pulled apart, and out peered an enormous head with two huge, shining eyes. The monster advanced, breathing fire. Panic-stricken, the little girl backed away.

Her dog bounded out of its hiding place, rushed at the dragon and bit its tail. The beast began to whimper like a tiny animal, until the little girl felt sorry for it, consoled it and treated its injured tail. The three new-found friends then decided to head into the town. On seeing the monster, the terrified citizens were all for killing it, but the little girl cried out, begging them not to hurt her new friend, who was harmless and the most gentle of creatures. Gradually, the townspeople were won over. The Count gave orders for a great feast to be held, and the beast promised never again to frighten the nutons. The "Grosse Biesse", as the people of Marche nicknamed it, went back to living in his chasm, promising to visit from time to time to say hello. And so it is that, every year, the Grosse Biesse of the Fond des Vaulx is to be seen at the Marche carnival. Text by J-L Troquet –For more information, visit the website: https://carnaval.marche.be/index.php/66-personnages/la-grosse-biesse

Walloon. The water then flows in the form of underground rivers until it returns to the surface via resurgences (karst springs). When swollen by heavy rainfall, the flow of water partially resumes its surface course. The system of underground cavities is known as karst. The cavities are the result of a long, slow process of dissolution of the rock over millions of years, a process known as karstification.

FAMENNE-ARDENNE UNESCO GLOBAL GEOPARK

NARCHE-EN-FAMENNI



Suggestion the Sourd d'Aiwe resurgence

For the more curious, at the crossroads marked C1, take the right-hand that leads in 50 metres to a second crossroads. From there, a narrow part on the right leads to a small cave, the Sourd d'Aiwe (point C on the map, a detour of 200 metres in all). Depending on the water level, this cave may either be the point of emergence of an underground river orit may be possible to enter the cave (with caving gear) for a distance of a few dozen metres until you reach a sump (flooded gallery). This is a temporary resurgence. Visitors following the various paths available will be able to observe other karst phenomena (see map).

Back now to our trail, so carry straight on (eastward) from crossroads C1 then, after 270 metres, turn right and follow this path for a further 270 metres to another crossroads(C2). Leave the main trail and take a narrow path to the right for around 10 metres. This ismore or less the halfway point on the Fond des Vaulx route and here we find the most iconic karst phenomenon of all: the Trotti aux Fosses chasm, a vast collapse cavity (an underground space, the roof of which has gradually collapsed to the ground,





forming a huge well some 15 metres deep. The resulting limestone scree was gradually dissolved by the underground river beneath the Fond des Vaulx, accessible only to cavers.

Return to the main trail and stay on it for 500 metres.

The site you are now walking through is protected under environmental protection programmes jointly financed by the European Union: the "Life Hélianthème" and "Life + pays mosan" project. Its aim is to conserve and rehabilitate some of Wallonia's richest ecosystems, its chalk grasslands. Marche's "green lungs" are gradually returning to their pastoral origins, whilst at the same time



Coupe schématique du Gouffre du Trotti aux Fosses (inspirée de Vandersleyen 1960 et Alvarez 1989) : A droite, la salle souterraine a rejoint la surface par remontée de la voûte à la suite d'effondrements, mais aussi par érosion de la surface. À gauche du schéma, le réseau de la Grosse Biesse constitue une nouvelle salle en voie de formation. D'ici quelques dizaines ou centaines de milliers d'années, elle rejoindra aussi la surface pour former un second « Trotti-aux-Fosses».

diversifying their remarkable natural heritage and maintaining the consistency of the landscape.

At the end of the path, as it leaves the forest, make a 90° turn to your right. 70 metres on, head back into the forest taking the path on your right (crossroads C3). Stay on this path for 700 metres until you come to a little bridge on your left that crosses the Marchette. Cross the bridge and continue to your left. After 270 metres, at the edge of the forest, you will come to a narrow road (crossroads C4): turn right here.

Instead of turning right at crossroads C4, cross the road and carry straight on along a little-used path through a meadow. After 100 metres, you will come to a forest growing along the bank of the Marchette, a stream that is usually dry. After around 100 metres, you will see on your left a collapse in the stream bed. This is a temporary swallow-hole of the Marchette, which becomes active again as soon as the water level rises high enough. The main swallow-hole of the Marchette, permanently active, lies another 150 metres upstream but is, sadly, inaccessible.

Carry on for a further 200 metres, then turn left onto a narrow path across the fields. Stay on this path for 650 metres until you reach Rue de la Forêt, turn left and then, after 100 metres, turn right onto a dirt track through the fields. Follow this path for 900 metres. At the end of the path, when you reach the houses, turn left onto Rue des Tombes. At the end of this street, turn right onto Rue Saint-Pierre. After 100 metres, cross the main road and take Rue Saint-Denis opposite, then continue for a further 1.2 km to reach the next geosite.

You are now in the village of Waha, mainly and justifiably famous for its church and its stained glass windows. The church of Saint-Etienne, a remarkable Romanesque church listed as a Major Heritage of Wallonia site, is one of the oldest Romanesque churches to be found in Belgium and the only one to have retained its dedication stone commemorating the consecration of the church on 20 June 1050 by Théoduin, Bishop of Liège from 1048 to 1075. It is surrounded by its ancient cemetery and sheltered by a centuries-old linden tree, beneath which a statue of a monk, the Moine Blanc Curé, kneels in prayer. If you go inside the church, you will find a number of other remarkable works, such as the ornamental stone bearing the arms of Philippe II, as well as the arms of Lux-

MARCHE-EN-FAMENNE

embourg and of the town of Marche, the 16th century baptismal fonts, a number of 18th century reliquaries and a fragment of a 16th century crucifix. Observe carefully and you will notice a number of sculptures signed by the mysterious 16th century sculptor known as the Master of Waha. Other sculptures and works by the same artist are on display at the Famenne Art Museum. This rich heritage is nobly served by the stunning display of colours in the stained glass windows designed by Belgian artist Jean-Michel Folon, depicting the martyrdom of Saint Stephen, patron saint of the parish. At the back of the church, an audiovisual display pays tribute to the work of the artist and comments on some of the most noteworthy items of the church's heritage.



Now walk back down into Marcheen-Famenne along Rue du Bondeau. Carry on for 1.1 km until you come to the tunnel under the railway line. Go through the tunnel and carry on along Rue du Saint Esprit for 270 metres. At the intersection, cross the main road and take Rue Neuve facing you. After 80 metres, you will come to Place aux Foires. Take the right-hand side of the square and then the first right, Rue des Chasseurs Ardennais. At the end of this street, turn left onto Avenue de la Toison d'or and, when you reach the crossroads, take a left onto Rue du commerce.

150 metres along Rue du Commerce, you will see a magnificent building, yellowish in colour, on your left. This is the Château Jadot, a wonderful illustration of an architectural style popular from 1850 to 1950. This style of building was the symbol of a prosperous and well-endowed bourgeoisie of days now long gone. Opposite the chateau, make the acquaintance of the statue of Li p'tit chufleu (the little whistler), also known as the Urchin of Marche. Behind his outwardly angelic appearance lurks a rebellious soul. He symbolises the spirit of Marche, impertinent, mischievous and gently mocking. The statue is the work of sculptor Louis Noë, modelled, it is said, on a child of his acquaintance.

20 metres further on, on your left, stands the Maison Jadot, easily recognised by its red colour and its L-shaped construction. One wing dates from the 17th century, while the right wing



dates from the 18th century and houses the Famenne Art Museum.

The Famenne Art Museum contains works dating from prehistory down to modern art. Its collection retraces the entire history of the Famenne, including the Merovingian and Carolingian periods, richly illustrated by the remarkable collections unearthed during digs at Wellin and Hamoir. A significant collection of works by the artist known only as the Master of Waha showcases the unknown artist's talents as a sculptor of timeless genius and an ambassador of Late Gothic sculpture. Another space is given over to explaining the geological and historic features of the Famenne, and of the town of Marche in particular, its glory days and its times of misfortune. There is a splendid model showing the



town as it would have been in 1600. One room of the museum is entirely devoted to lace-making, a long established tradition in March, and another to the site of the Monument, a 17th century sanctuary. As well as covering all these historic aspects, the museum also has a whole section devoted to Contemporary Art. On leaving the museum, turn right onto Rue Dupont and immediately right again to reach Place du Roi Albert.

You are now in Place Roi Albert. In the centre of the square, you will see a well-known figure in Marche, serving as the centrepiece of the fountain. The figure is that of George Peret,

Famenne Art Museum

The museum is open to visitors, so feel free to step through the gateway and explore this wonderful building. You may find the following information useful :

Opening hours: Tuesday to Friday: 10am to 12pm and 1pm to 5pm

- Saturday: 10am to 12pmand 2pm to 6pm
- Sundays and public holidays:2pm to 5pmClosed Monday–Closed Saturday, Sunday and public holidays from December to February included and on 15 August.

Contact: Famenne & Art Museum

Rue du Commerce, 17 - B-6900 Marche-en-Famenne

Tel: +32(0)84/32.70.60 – E-mail:fam@marche.be

http://www.famenneartmuseum.be/

Admission: Adults: €3 - seniors&students:€2 –children under 6:free



Marche's last town crier, who died in 1980. In his day, he would appear on the streets of the town, decked in his traditional costume of blue smock and canvas cap, to cry out all the latest news to the populace.

Cross the square and stop outside the church.

Before you stands the very fine church of Saint Remacle. A brochure about the church of Saint-Remacle in Marche-en-Famenne, available from the Famenne-Ardenne Tourist Centre (FR/NL/EN/DE - \leq 1.00), has this to say: "This fine building in the Flamboyant Gothic style, listed in 1938, dates from the second half of the 15th century but has undergone numerous transformations, particularly in the wake of the fires of 1615 and

1806. The tower, in the Baroque style, dates from 1715. The present stained glass (1974) is the work of Louis-Marie Londot of Namur. Church treasures include 16th century baptismal fonts (Mosan school), a Gothic wall stoup from 1514, a bronze eagle lectern on a Saint-Rémy marble base dating from 1763 from the Carmelite Convent, as well as a number of statues in polychrome wood, including a late 16th century Calvary cross, a 15th century Christ in the tomb, a late 16th century sculpture representing the Holy Trinity, a Saint Margaret of Antioch of the school of Jean Del Cour (circa 1700) and a standing Virgin with Child dating from the mid 17th century. The nave, transept and choir, dating from the Late Middle Ages, reflect the Flamboyant Gothic style of the period, in particular the flame-shaped curves





(tracery) in the windows, the absence of a triforium (the level between the nave and clerestory windows), as well as several decorative corbels already hinting at a Renaissance influence. The many marks visible on the stone were reference points indicating how the stones were to be assembled and the names of the workers who had shaped them. A fine example of the region's Mosan Gothic school, the architecture of the church of Saint-Remacle is worthy of note. Its layout is simple and easily read, with a choir almost as long as the nave, no radiating chapels, a projecting transeptand a sturdy tower, the door of which was opened up in the late 17th century. The flying buttresses, the four pinnacles of the tower and the bell tower over the transept crossing were destroyed in the 1806 fire and were never rebuilt. The building was gradually restored with whatever means were to hand in the early 19th century (prior to 1821). The fonts, which stand in the right aisle of the transept, date from the early 16th century and were sculpted from limestone. Characteristic of the style of the Mosan school and the Late Gothic, the sculptures and designs decorating the polygonal basin consist of fenestrations (on the pillar) and foliage on the exterior of the font.

Four carved lions stand on the lower angles of the pillar. The four bonneted male heads on the font itself are a traditional motif, representing the cardinal points and the four rivers of Paradise". Leave Place Roi Albert via the Rue Porte

the roundabout from which you start-

Leave Place Roi Albert via the Rue Porte Basse at the far end of the square. At the end of the street you will arrive at
For more information : BARCHY, L. et MARION, JM (2014). Carte géologique de Wallonie. Carte Aye – Marche-en-Famenne n° 54/7-8, 1/25000. Service public de Wallonie. En téléchargement à l'adresse : http://geologie.wallonie.be/home/acquisition-de-donnees/telechargements.html
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