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und Kultur



• Harz - Braunschweiger
• Land - Ostfalen
• UNESCO
• Global Geopark

Landmark **5**

Herzberg Castle



 **GEO PARK**[®]
Harz . Braunschweiger Land . Ostfalen

Harz



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UNESCO
Global Geopark

On the 17th of November, 2015, during the 38th UNESCO General Assembly, the 195 member states of the United Nations resolved to introduce a new title. As a result, Geoparks can

be distinguished as **UNESCO Global Geoparks**.

As early as 2004, 25 European and Chinese Geoparks had founded the Global Geoparks Network (GGN). In autumn of that year Geopark Harz · Braunschweiger Land · Ostfalen became part of the network. In addition, there are various regional networks, among them the European Geoparks Network (EGN). These coordinate international cooperation.



In the above overview map you can see the locations of all UNESCO Global Geoparks in Europe, including UNESCO Global Geopark Harz · Braunschweiger Land · Ostfalen and the borders of its parts.

UNESCO-Geoparks are clearly defined, unique areas, in which geosites and landscapes of international geological importance are found. The purpose of every UNESCO-Geopark is to protect the geological heritage and to promote environmental education and sustainable regional development. Actions which can inflict considerable damage on geosites are forbidden by law.



1

Herzberg Castle on the Harz

The Herzberg Castle, ancestral seat of the Welf dynasty, is located on the elongated castle hill, 279 meters a. s. l. and is visible over a great distance. After a fire which destroyed the original building in 1510, the castle was reconstructed as a Renaissance half-timbered house. Today it is the largest castle in Lower Saxony built as a half-timbered construction.

The museum informs about the history of the castle and its rulers. The exhibition devoted to forestry and mining offers insights into the historical development of these economic sectors characteristic of the Harz.

Along the steep slopes of the castle hill, the “Hauptdolomit” (principle dolomite) of the Zechstein belt of the Southern Harz region is exposed. Cliffs and inclines in this locality attest to the fact that waters from the river Sieber are seeping away beneath the castle hill and the Nüllberg and intensively eroding the subsurface dolomite and gypsum.



At the face of the castle



Duke Georg Wilhelm's coat of arms

Weathered fluvial gravels composed of Harz rocks deposited on the castle hill indicate that the river Sieber flowed above this site at the beginning of the ice age period. Since that time, the river has been extensively eroding the valley.

350 meters southeast from the castle, the swamp of the “Ochsenpfuhl” is hidden in a slight depression. Here, the groundwater rises up and the water level is already situated several meters below the Sieber river bed, demonstrating that waters from the Sieber migrate within the gravel beds south-eastward starting from the river bed. These waters reappear in the “Rhume” spring (Geopoint 5). Similarly, the Jues Lake, located in the city centre, is a further leaching phenomenon. It is a large double sinkhole which collapsed after the end of the last ice age period. This unusual behaviour of the groundwater marks the geological boundary between the entire western and southern margins of the Harz.



Museum Schloss Herzberg

☎ 0049 5521 - 4799

www.museum-schloss-herzberg.de

www.herzberg.de

2

Ice Age and the Palaeolithic Period
“Unicorn Cave” near Scharzfeld

This natural cave, which developed in the Zechstein dolomite, is located north of Scharzfeld and was formed at the end of the Tertiary about 3 million years ago. In warm, humid climates, rain waters enriched with carbonic acid migrated from the forest floor into the fissure system of the dolomite rock. As a result, a giant cavern was formed over the course of hundreds of thousands of years. During the following ice age, the entire cave was slowly and almost completely filled with 15 to 30 meter thick deposits of loam, clay, dolomite sand and washed-in river gravels. Beneath the main path of the cave as it is to be experienced today, precious remains from the entire ice age have been conserved. Large caverns and domes are connected by shallower tunnels. The “Einhornhöhle” (Unicorn Cave) contains 600 meters of open tunnels and is the largest cave in the western Harz accessible to visitors. As a rich occurrence of a medicinal remedy known as



In the Unicorn Cave



Jawbone of a bear

“Einhorn” (unicorn flour), the cave became famous across Europe. Since the end of the 17th century, it is known that this bone-meal actually consists of the fossil remains of cave bears and other large mammals. In the year 1985, Palaeolithic stone tools were discovered in the cave. Findings from the latest excavation indicate that the cave was settled by Neanderthals more than 100,000 years ago. An entrance area of the cave, today buried, served as their workshop up until the youngest phase of the cold period. Bone remains of about 70 animal species have also been found. What further knowledge may still be waiting to be recovered from this ice age and Palaeolithic geological archive?

Located opposite to the “Einhornhöhle” are the picturesque ruins of the Scharzfelds Castle, destroyed in 1761. The castle was nestled in a formidable setting of Zechstein dolomite cliffs. Three “experience-nature-live” hiking circuits, trails provided with at least 60 information sites, connect the “Einhornhöhle” with the “Steinkirche” cliff (Geopoint 4) and the ruins of Scharzfelds Castle.

3

Zechstein

Tropical Reefs in the Southern Harz

We reach the “Westersteine” by following the southern route of Karst Hiking Trail coming from the “Rhume” spring (Geopoint 5), the well-head and watershed for the river systems of the Elbe and the Weser.

When the Harz region was flooded by the Zechstein seas 258 million years ago, the Eichsfeld swell was formed, first as a peninsula and then as an elongated shoal area with numerous bays and islands. Shallow water environments contributed to the growth of tropical reefs. The geographic position of the southern Harz at that time was warm and in the same latitude as Cairo today. The Atlantic Ocean had not yet evolved, America was located west of the north European Zechstein seas, whose waters rapidly made their way forward from the northwest. Dry climates, clear waters and a high concentration of dissolved materials supported the growth of colonial organisms. Their bio-constructions formed reefs of organic



Dolomite



"Westerstein" near Bartolfelde

limestone reaching from the floor of the sea to the water surface. Many of these reefs from the southern Harz have proved resistant to later weathering because they are constituted of hard and massive rock bodies without bedding. As a unique site in Europe, the “Westersteine” represent a well-exposed reef entirely comprised of algal mats (stromatolites).

By Bartolfelde the breakers coming from the northwest eroded the older greywacke cliffs and rock debris was deposited on the shallow sea floor. Reef-building bryozoans (moss animals) settled on these cliffs in shallow waters. As if in a snapshot of the history of the earth, this process can be seen in the former quarry north of Bartolfelde. To the left, visible in the rubble, we can recognize the blocks of South Harz greywacke torn down by the breakers. Both of the “Westersteine” – Barbiser in the West and Bartolfelder in the East – as well as the former quarry are under protection as natural monuments. The “Westersteine” are both covered by opulent forests of woodruff beech trees.



4 Steinkirche (Stone Church) of Scharzfeld

Like the "Einhornhöhle" (Geopoint 2), the "Steinkirche" is a fissure cave in Zechstein dolomite. The entrance of the cave on the western slope of the Steinberg, high above the village of Scharzfeld, is visible from a great distance. Excavations initiated in 1925 by the former provincial museum of Hannover yielded remains of a 15,000 year old resting place for reindeer hunters from the Weichsel ice age. Around the fire-place, tools as well as bones of reindeer, arctic hares and other animals from the ice age have been found. From the mountain heights, the reindeer hunters could observe the animal herds in the steppe land below.

About 1,000 years ago, the natural cave was converted into a Christian church through masonry alterations in the inner cave area, the shaft fissure and the entry portal. A stoup and pulpit were incorporated



Old engraving of the Stone Church



Stone Church today

into this area. Beam abutments and bricks were found, indicating the development of a forecourt. From the 9th and 10th through the 15th century, the forecourt also served as a graveyard for more than 100 people. In 1937, a female skeleton was discovered in a stone coffin partially worked into the dolomite rock.

The bell from the year 1433 of the Stone Church still rings today in the present Neo-Gothic village church. The crest of the Steinberg over the Oder Valley demonstrates with its remnants of walls and ditches evidence of medieval fortifications. Here the Easter bonfire is still lit every year, linking the saga with events of the Christianization of the heathen Saxons. It is also worth a walk to the nearby Scharzfelder Schulberg to visit the half caves, which contain middle stone-age findings.

5

The largest Karst Spring in Northern Germany Rhume Spring and the Pöhlde Basin

The village of Pöhlde is located at the centre of the basin of Pöhlde, named after the settlement. The basin is a wide depression formed by subterranean erosion of the underlying soluble gypsum rocks. The central portion of the basin of Pöhlde is covered by thick gravel beds from the ice age. Here, the river Oder loses a considerable amount of water, which is drained into the subsurface Zechstein rocks and then flows within deep karst caves. The seepage of the Oder and the river Sieber flowing north of the Oder are situated 40 to 70 meters above the discharge of the Rhume Spring. Rows of sink holes attest to the subterranean course of karst waters down to the spring. The average daily discharge of the spring is 21,000 cubic meters, or 2.5 cubic meters per second. At high watermark, the discharge can reach up to 5.5 cubic meters per second. The water temperature is constantly 8 degrees Celsius.



Rhume Spring

Springs of this sort have always exercised a particular attraction and for thousands of years have been regarded by man as supernatural sites. The Rhume Spring is also an old cult site.

Today, the water works "Rhumspringe" supply more than 50,000 inhabitants of the northern "Eichsfeld" with potable water from this spring. On a hike around Pöhlde one can discover traces of the ice age and of subterranean waters. Gravel pits near Pöhlde, Herzberg and Hattorf contain vast masses of rounded rubble which was transported from the Harz valley into the flat foreland beneath the ground frost during the ice age.

Large sink holes indicate the subterranean formation of caves. The "Wiedensee" lake is one of these sink holes. Others can be found in the forest of Pöhlde and at the Rotenberg. All these sites are accessible on the Karst Hiking Trail.



Glossary

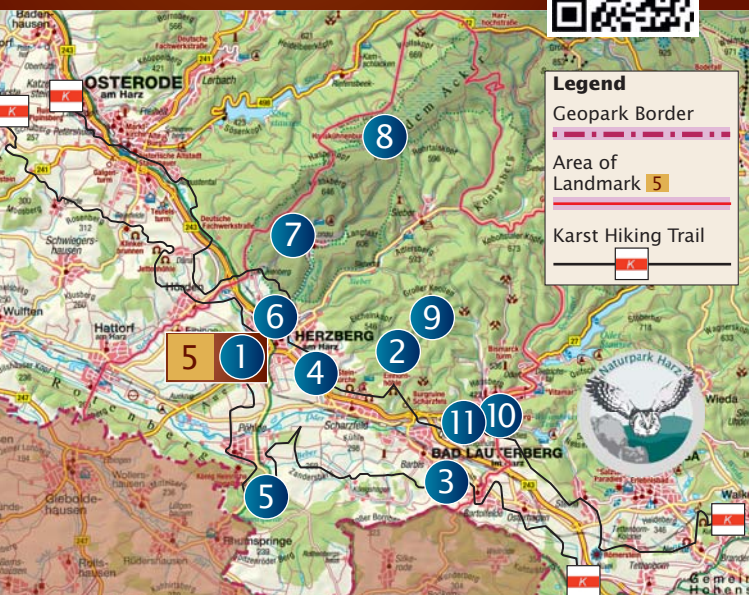
Landmarks are points in the landscape or actual localities which are highly visible and well-known. They serve as an initial orientation in one of the largest Geoparks worldwide and give the specific areas their names. Every landmark area is represented in a special leaflet.

Geopoints are points of particular interest. At these points, the geological history of the area or the evolution of the cultural landscape are evident and can be conveyed to visitors. Geopoints are numbered in sequence within the region of a Landmark. They can be combined to constitute an individual Geo-Route. The Geopoint No. ① is always the place which has given its name to the Landmark.

The map below will aid you with planning your own personal **Geo-Route** in the region of Landmark 5 – Schloss Herzberg. In 1158, HENRY THE LION had come by barter into the possession of the hunting lodge Herzberg, the castle Scharzfeld and the royal court Pöhlde. In 1617, Herzberg came into possession of the Calenbergs, the later Hanoverian Guelphs and finally in 1866 with the Kingdom of Hanover to Prussia. SOPHIE AMALIE (*1628), the later Queen of Denmark and ERNST AUGUST (*1629), the first Elector of Brunswick-Lüneburg, were born at Herzberg Castle. The castle has been the seat of a district court since 1882 and has housed a museum since 1900.

Bestellung weiterer Faltblätter

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www.harzregion.de



6

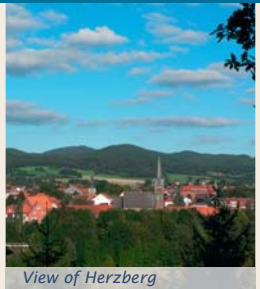
Permian and Ice Age

Earth History near Herzberg

As the hospital was being constructed, problematic conditions of the soil for construction manifested themselves. They also offered insights into the course of the earth's history. A rhyolithe dyke (porphyritic dyke) namely a volcanic chimney, is visible in the embankment at the back of the parking area. During Rotliegend times (about 270 million years ago), a steep 25 meter deep and up to 80 meter wide ravine was eroded into greywacke rocks. Later, invasive marine waters of the Zechstein seas completely filled up the ravine with sediments, forming the approximately 40 cm thick "Kupferschiefer" (Zechstein copper shale) at its base. The remaining depression was finally filled up with marine calcareous biota from the Zechstein seas, today the Zechstein limestone. Along the dipping slopes of the sea floors, the soft, calcareous mud began to glide and was reformed into folds upon encountering obstacles such as the rhyolithe dyke.



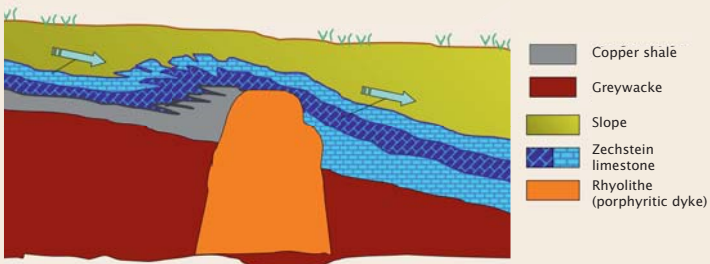
Outcrop near Herzberg



View of Herzberg

During the early ice age period, a valley was eroded into the limestone by the Lonau River and was subsequently filled up with sand and gravel. Little caves were formed by the groundwater within the limestone, in which soft manganese ores then came about. In order to assure a stable foundation soil for the hospital, 230 concrete pillars had to be driven up to 30 meters deep into the earth with its varying degrees of stability.

Exposure behind the Herzberg Clinic – Scenes from the ocean floor in the early Zechstein Period. Sliding slopes of soft Kalkschlamm deposits



7

The Only Natural Waterfall of the Western Harz Waterfall of Lonau near Herzberg

Below the unique natural waterfall of the western Harz, the rivers Lonau and Sieber meet. The smaller Lonau flows in hard greywacke, slowly eroding the bed rock. The more abundant waters of the Sieber have formed a wide valley, eroding the soft and soluble Zechstein beds directly at the confluence of both rivers. Between the Harz mountain region and the Harz foreland, the Sieber valley was eroded much more rapidly. As a result, the Lonau valley is higher up on the slope. The Lonau waters rush 10 meters deep into the Sieber valley – as a waterfall. The waterfall gorge is located in soft “Kulmtonschiefer” (Lower Carboniferous slate), a rock not resistant to erosion. Before the beginning of the first ice age period (formation of the upper terrace) 500,000 years ago, the Lonau River flowed into the Sieber River via Mühlenberg and Hörden. Later, the present lower course of the river and the waterfall developed.



Waterfall



Hanskühnenburg rock

8

Lower Carboniferous “Hanskühnenburg” near Lonau

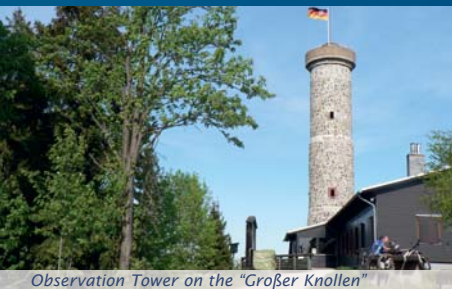
It is possible to hike from Lonau, Sieber and Riefensbeek-Kamschlacken to the rock formations of the Hanskühnenburg, comprised of Acker-Bruchberg quartzite. From the tower of the “National Park Restaurant Hanskühnenburg” one has a scenic panorama: from the Brocken to the southern Harz foreland and to the Thuringia forest. The Acker-Bruchberg quartzite is highly resistant to weathering and erosion. Therefore, the Acker-Bruchberg range has become morphologically isolated as a ridge. The group of cliffs named “Hanskühnenburg” are composed of this quartzite. The rocks consist almost completely of quartz crystals and give the impression of being almost structureless. A magnifying glass shows billions of tiny quartz grains that compose the quartzite. The original rock was sand whose bedding is no longer visible. Earthquakes and submarine gliding transported the sand into a deep sea trench close to the equator about 340 million years ago.

9

Volcanism of Rotliegend Age

The Porphyry Dome “Großer Knollen”

After the folding and uplift of the Harz from the marine environment during the late Carboniferous, volcanism began in the lower Permian, the Rotliegend times (290 million years ago). Fissures occurring in the new greywacke mountains were filled up with molten magma which finally reached the surface. The magma solidified as porphyry, which today is a pale violet to pink coloured rock. The “Großer” and “Kleiner Knollen” are such porphyry volcanoes. Located northeast of Herzberg, they are popular hiking destinations. On the way to the “Knollenbaude” (687 meters above NHN), today under public management, other porphyry dykes can be discovered. Their areal extrusions have already once again been eroded in recent times. In clear weather, the view extends from the “Großer Knollen” to the “Großer Inselsberg” in the Thuringia forest.



Observation Tower on the “Großer Knollen”



View into the Mining Tunnel

10

Visitors' Mine

“Scholmzeche” near Bad Lauterberg

This show mine opened in 1989 and is located in the spa park of Bad Lauterberg on the river Oder and consists of an interesting combination of former mines: the “Scholmzeche” (1837), an ironstone exploration mine and a portion of the “Aufrichtigkeiter Tiefen Stollen” (1710). The circular trail through the mine, 250 meters long, begins at the “Wilhelmina” bridge. It shows miners' work sites, variations of tunnel construction, ores and rock types and mining tools. The path leads into the historical drainage adit of the “Aufrichtigkeit” mine with an impressive ore deposit of copper and barite with surrounding rock of Devonian greywacke and slate. A water-driven functional model of a water wheel with driving rod and water lift demonstrates the historical rod assembly for the management of water. At Bad Lauterberg, heavy spar was excavated until 2007.



11

Ironworks museum

„Königshütte“ at Bad Lauterberg

The technological monument „Königshütte“ can be reached from the Bahnhofstraße at Bad Lauterberg via Schanzenbrücke and Hüttenstraße. Parking space is available on the grounds of the plant. The „Königshütte“ plant was opened in 1733, when GEORG II. AUGUST (1683-1760) was Elector of Hannover and King of Great Britain and came into being in the course of mercantilist economic policies following the construction of the Rothehütte (today situated in Königshütte near Elbingerode) in 1707 and the iron metallurgical plant of Uslar in 1715. The processed iron ores came from the regions of Lauterberg, Sieber, Sankt Andreasberg, Lerbach, Ilfeld and Elbingerode. The main customers of the iron products manufactured in Königshütte were smelters in the Harz, the gun factory in Herzberg and the iron factories in the cities.



Iron Warehouse



Fountain and Miners' restaurant

Before operations were finally closed down in 2001, the Association „Förderkreis Königshütte Bad Lauterberg e. V.“ (founded in 1983) was able in 1997 to open the „Südharzer Eisenhüttenmuseum“ in the former analytical laboratory of the mine. In its two rooms, the museum presents interesting insights into the basics of iron metallurgy, the function of the „Königshütte“ and the highly varied range of products produced there. The exhibition is focused primarily on presentation of the technique of artificial iron casting.

The former plant assemblage as it can be visited by the general public, with or without a guided tour, can be experienced in its two phases of construction. In the first phase (1733-1740), the administration building and residences as well as the restaurant were erected. The major part of the buildings, however, can be attributed to the second period (1820-1840). Among these, the former iron warehouse, built in neoclassical style, is worth mentioning because of the four cast iron columns through which it is characterized.

**Guided tours: May - Oct every Tuesday, Nov - April every 2nd and 4th Tuesday of the month at 3 p. m. at the meeting point Hüttenbrunnen or after registration: Mr. Hillegeist ☎ 0049 551 - 7700683
www.koenigshuette.com**



Trail of high quality “Germany for Hikers” The Karst Hiking Trail

As a trail of high quality, certified in “Germany for Hikers”, the Karst Hiking Trail is a special attraction of the Harz Mountains. Hikers take pleasure in the ever-changing landscape, the secret of the Karst Hiking Trail: a constant alternation between detailed observations in deciduous forests flooded with daylight and magnificent views into the distance of the open landscapes of the South Harz, with portions of the trail through valleys, then across elevations and with longer trajectories for wanderers looking for an truly invigorating hike.

In the South Harz, an area rich in natural gypsum, there has evolved over tens of thousands of years a landscape filled with caves, rock falls and dolines, karst springs, vanishing and seeping rivers and white cliffs. This highly variegated terrain has produced a correspondingly rich assortment of flora and fauna. These geological phenomena caused by the solvent activity of water are strung



On the Karst Hiking Trail



Landscape on the Karst Hiking Trail

out like a row of pearls from from Bad Grund (Landmark **1**) in the west to Pölsfeld in the east (Landmark **12**). The 235 km long Karst Hiking Trail provides access to this unique gypsum karst landscape in the South Harz. From Förste to Ellrich there are even two parallel routes! Approximately 200 information panels offer explanations of geological features and the landscape, conservation and landscape protection measures accompanied by a history of the groundwater along with accounts of settlements and industrial developments. The trail explains countless cultural monuments, such as castles, fortress ruins and churches along with monuments of nature. It traverses numerous wild life reserves, pockets of stillness.

The “Association for the Karst Hiking Trail” looks after the trail and offers up to 40 guided tours a year on Sundays. So that you will not go astray, follow the signs with the red cross-bar on a white background with a white “K” or load the hiking trail as a GPS trajectory on your smart-phone or navigation device.





Selected Points of Information

Restaurants and Accommodations



Hotel „Englischer Hof“
Herzberg am Harz
www.englischer-hof.de
☎ 0049 5521 - 89690



Landhaus Schulze
Herzberg am Harz
www.landhaus-schulze.de
☎ 0049 5521 - 89940



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REGIONALVERBAND HARZ E.V.



The Regionalverband Harz is a non-profit association. Its full members include the administrative districts of Goslar, Goettingen, Harz, Mansfeld-Suedharz and Nordhausen, as well as the World Heritage-listed city of Quedlinburg. The association's goals are the promotion of art and culture, the care and protection of historical monuments and environmental conservation and landscape management. It further aims to build tolerance in all areas of culture and foster international understanding among peoples and also to preserve local history and traditions. One way, among many, in which these goals are achieved is trusteeship of nature parks in the Harz region. The Regionalverband Harz, with the help of its 130 supporting members, is also responsible for the southern section of the UNESCO-Geopark, which covers an area of 6,202 km².

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