



Global Geopark

Harz - Braunschweiger Land - Ostfalen UNESCO



Organisation der Vereinten Nationen für Bildung, Wissenschaft und Kultur

Landmark 15

Ballenstedt Castle











Organisation der Vereinten Nationen für Bildung, Wissenschaft und Kultur Harz - Braunschwei Land - Ostfalen 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**. Among the first 120 UNESCO Global Geoparks, spread throughout 33 countries around the world, is Geopark Harz · Braunschweiger Land · Ostfalen.

UNESCO-Geoparks are clearly defined, unique areas, in which locations and landscapes of international geological importance are found. They are operated by organisations which, with the involvement of the local population, campaign for the protection of geological heritage, for environmental education and for sustainable regional development.



As early as 2004, 25 Geoparks in Europe and China had founded the Global Geoparks Network (GGN). In autumn of that year Geopark Harz \cdot Braunschweiger Land \cdot 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 \cdot Braunschweiger Land \cdot Ostfalen and the borders of its parts.

The Residence of the Princes of Anhalt Castle and Castle Square Ballenstedt

The Ballenstedt Castle comes into view on a hill at the northern edge of the Harz. For travelers driving along the limestone crest – "Die Hohe" ("The Heights") – on federal road B 185, it is already visible from afar. In the year 1765, Ballenstedt was established by the Princes of Anhalt-Bernburg as their residence. Just as the castle with its special connection to the dutchy of Anhalt, the mining remains located around Ballenstedt and between Tilkerode, Harzgerode and the "Anhaltischer Saalstein", a cliff once bordering Prussia, are also recommended for a visit.

The Ballenstedt Castle was built in the first half of the 18^{th} century as a three-winged Baroque complex which incorporates parts of an earlier monastery. Ballenstedt was the preferred residence of the Princes of Anhalt, for example VICTOR II. FRIEDRICH (1700 – 1765) and his son FRIEDRICH ALBRECHT (1735 – 1796) with their passion





Museum Ballenstedt

Castle park

for hunting. The tombs of ALBRECHT DER BÄR (1100 – 1170) and his wife are situated in the former "Westwerk" (westwork) of the monastery church.

The grounds of the castle also contain a park created by PETER JOSEPH LENNÉ (1789 – 1866) and characterized by an elaborate formal water axis in the garden style of Italian villas as well as by its wide landscape vistas. The museum, housed in a Baroque palace from the 18th century on the castle square, shows in exhibits the cultural and economic history of the town. It also has a mineral collection as well as a small exhibition concerning the mining history of the region. The court theater built in 1788 in early Classicist style on the castle grounds is the oldest theater in Sachsen-Anhalt. Throughout the more than 225 years of its history, the unique ambiance, both inside and on the exterior of the theater, has been preserved.



Cretaceous Sandstone Gegensteine near Ballenstedt

At the western city limits we drive north on the federal road B185 until we reach a parking site for hikers with a Geopark information panel. A short walk through the nature preserve brings us to the "Kleiner" (small) and then to the "Großer (large) Gegenstein". The "Gegensteine" are part of the zone of uplift along the northern Harz margin (Involutus Sandstein from the Upper Cretaceous). The "Large Gegenstein" can be climbed using steps hewn into the rocks of the cliff. It offers a good view of the Harz and the Brocken, the zone of uplift comprising the Teufelsmauer and the Regenstein as well as the Blankenburg syncline, where today an airfield is located. An inscription on an iron art cast plaque from 1863, recalls the erection of the cross 50 years after the Battle of the Nations near Leipzig. The year 1863 also marks the death of Duke ALEXANDER CARL VON ANHALT-BERNBURG (1805 - 1863). Finds of jewelry from the Bronze period indicate early settling activity here.



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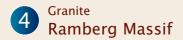
Muschelkalk Bückeberg near Gernrode

North of the settlement which is part of the town of Quedlinburg, the former limestone quarry of the Bückeberg can be found. We reach this geopoint starting from the parking area at the Ziegeleistraße via a path in northward direction up to the hill crest. The Bückeberg is also part of the uplift zone along the northern Harz margin (Lower Muschelkalk). Because of the artificial outcrop, the overturned position of the beds is easily recognizable. The section is one of the most complete profiles of Muschelkalk in Middle Germany. Unfortunately the information panel has been repeatedly demolished at this particular site. We ask for your understanding that this board will no longer be replaced.

Starting from the parking area, we can reach within five minutes the Chapter Church St. Cyriakus, the only church structure in Germany from the Ottonian period which has remained almost unchanged since that time.



Gernrode Information © 0049 39485 - 93022 www.stadt-gernrode.de



Walking from the spa park of Bad Suderode, we first pass the "Lessing Höhle" (Lessing Cave). It can be verified that already in the 16th century fluorite spar and chalcopyrite were being mined at this site in the "Düstere Berge" (dark mountains). The next stop is the "Anhaltischer Saalstein". We need about half an hour, including an 800 m long steep ascent to reach this site. Here we have an overview of the "Kaltes Tal" where, since 1888, there is a road leading to the town of Friedrichsbrunn. Located on the opposite side of the valley is the "Preußischer Saalstein". Already in medieval times, the rights of landowners were laid down in Salbücher (early land registers) in the lower German language region. The "Sal Stones" thus delineate an ancient border. Located in the area of the two-mica granite of the Ramberg-Pluton, the "Anhaltischer Saalstein" is part of the steep slopes of the "Kaltes Tal" with a western exposure and composed of rock cliffs and rubble



Border Stone Big Teufelsmühle on the Ramberg

slopes. According to a ministerial decree based on the law for the protection of nature in Sachsen-Anhalt, it was placed under protection in 1924. We continue our walk on the thematic route "Historische Grenzen" (historic borders) which is marked with the character T. The Wegenerskopf (587 m above sea level, NHN) is located not far from Friedrichsbrunn in the nature refuge named "Spaltenmoor". The second highest elevation of the Ramberg (581 m above sea level, NHN) carries the name of Prince VIKTOR II. FRIEDRICH VON ANHALT-BERNBURG, who owned a hunting lodge at the base of the mountain. Very close to the "Viktorshöhe" one can find the cliffs of the "Kleine" and the "Große Teufelsmühle", Ramberg granite with "Wollsack-Verwitterung" (onion skin weathering). At the "Bärweg" (bear trail) a vertically exposed granite block with an iron cast plaque commemorates the last bear from the forests of Sachsen-Anhalt, which was shot at the end of the 17th century. Passing the camping ground at the "Bremer Teich", we finally reach the "Sternhaus-Ramberg" train stop.



Tourist Information Quedlinburg © 0049 3946 - 905620 www.quedlinburg.de

Hard Coal 5 Coal Pit near Opperode

Opperode, now part of the town of Ballenstedt, is the only site where hard coal was exploited in Anhalt between 1573 and 1824. Thin coal seams within the Rotliegend formation were excavated here. In 1770, mining had to be interrupted because of a coal seam which caught fire. In the period that followed, the extraction of hard coal increased up to 3,000 tons per year. Coal mining took place in subterranean "Strebbau" (longwall face mining). Our tour starts with a visit of the "Bismarck-Turm". The "Kunstteich" is also worth visiting (swimming permitted). It is a pond for the water supply of the nearby hard coal mine, constructed in 1749. The next Geopoint is designated along a historical border on the recent "Selketal-Stieg". The signs AB imprinted on the historical border stones indicate "Amt Ballenstedt" (Anhalt): AF indicates "Amt Falkenstein" (Prussia).



Coal Pit south of Opperode



Strulle

Natural Spring Strulle near Meisdorf

The rivulet named "Strulle" is supplied by a fault spring. The content of dissolved substances is of an intermediate water character. The mineral content is not nearly so low as in most mountain spring waters. On the other hand, it does not contain the higher solution concentrations such as often found in spring waters from Zechstein sources which are frequent along the northern Harz margin. The content of dissolved materials is about 700 mg/l (about two thirds Calcium carbonate and Hydrogen carbonate).

According to an inscription on the stone wall, the "Strulle" was repaired most recently in 1937. During a descent of a 10 m deep subterranean tunnel in 2007, a number of golf balls were found in a side niche. These golf balls presumably come from the nearby golf course and suggest a connection to the earth's surface.

Mining Authority of Anhalt Harzgerode

The castle of Harzgerode was built by Prince GEORG III. VON ANHALT-DESSAU in the mid 16th century. located on an older complex. It is one of the few preserved castles from the early Renaissance period in Sachsen-Anhalt. From 1635 - 1709, it served as a residence for the princes of the sovereign small state of Anhalt-Bernburg-Harzgerode. After this time, Harzgerode fell back to the principality of Anhalt-Bernburg. In the 19th century, the castle was used as headquarters for the Forestry and Mining Department. Today, amongst other things, it houses a "Heimatstube", a room for the presentation of local history. At concerts held in the festival hall, visitors can marvel at the parquet floor composed of 18 different sorts of wood from Harz trees. In the wall corridor along the western wing of the castle, an exhibition of 50 cast iron objects demonstrates the artistic and technical quality of products produced by the metallurgical plant of Magdesprung.





Castle Harzgerode

Dennert Fir Tree

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Gold, Silver, Selenium and Iron Ore Informational Mining Trail of Tilkerode

An exclave in the county of Mansfeld also belonged to the principality of Anhalt-Bernburg-Harzgerode. Isolated from the Lower Harz vein system with its general hercynian orientation, iron ore veins exposed here dip steeply to the east with a north-south orientation. These occur in an anticline composed of Silurian graptolite shales which are intruded by diabases. Up until 1858, the mining district produced 35,000 - 40,000 tons of iron ore a year, processed for the most part in Mägdesprung. In 1821, Tilkerode became known worldwide for precious metalbearing Selenium ores, discovered by the mining inspector JOHANN LUDWIG CARL ZINCKEN (1791 - 1862). In 1825, gold and traces of Palladium were found in these ores. The small amount of gold extracted - about 400 g - was of high ideal value since it represented the only gold exploited in the principality of Anhalt. From this gold 116 ducats were minted bearing the words "EX AURO ANHALTINO".



City Information Mansfeld © 0049 34782 - 90342 www.mansfeld.eu





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 Nr. 1 is always the place which has given its name to the Landmark.

The map section will help you plan your personal georoute around Landmark **15** – Ballenstedt Castle. The towns of Ballenstedt and Harzgerode can be experienced as former residences of the nobility. Whereas Ballenstedt was first designated in the year 1765 as a residence, Harzgerode served between the years 1635 and 1709 as the residential capital of the sovereign principality of Anhalt-Bernburg-Harzgerode.



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Industrial History of the Selke Valley 9 Carlswerk Mägdesprung

The "Carlswerk" is a technical monument with still functioning machinery. It houses an exhibition presenting the industrial history of the Selke Valley. The "Eisenhütte unter dem Mägdesprung", which means the metallurgical plant "below" the Mägdesprung, was founded in 1646, as recorded in a contract between Prince FRIEDRICH VON ANHALT-BERNBURG-HARZGERODE and the well-situated fabric merchant JOHANN HEIDFELD from Quedlinburg. As of 1829, the machine works were part of the later "Mägdesprunger Eisenhüttenwerk AG", into which the "Carlswerk" was incorporated as of 1842. The palette of products produced here up until the year 1991 includes not only mine drainage plants, rock crushers, mills for rock comminution and steam engines but also machines and parts for sugar refineries, grain mills, distilleries, brickworks, powder mills, saw mills and even clock weights (cone shaped for the German market and in wooden shoe form for the



Director Zincken

Carlswerk

Dutch market), furnaces and, finally, gas cookers. In hammer mills below Mägdesprung, the iron ore was ground and smelted in iron blast furnaces.

In 1821 IOHANN LUDWIG CARL ZINCKEN assumed the office of Director of the "Anhalt-Bernburgische Berg- und Hüttenwerke" (Anhalt-Bernburg Mining and Smelting Works). He lived and worked in Mägdesprung for 27 years. Various minerals, including Zinckenite ($Pb_9Sb_{22}S42$), named after him, were discovered by Zincken.

Downstream, not far from the Carlswerk, the houses of the "First Hammer" can be visited. The turbines here, once ore-dressing was discontinued, continued to supply electricity until 1956. When we leave the Third Hammer turning left from the Selke Valley, we can discover two architecturally interesting multiple dwelling structures and an historic cemetery with examples of decorative Mägdesprung iron casting. The construction material for the houses was supplied by the laminated slate quarry across from the Carlswerk plant on the opposite side of the Selke Valley.



For a hike along the anhaltic borders in the "Nature Park 800 Harz" we recommend the map "ANHALT(en) im NATURPARK ANHALT HARZ". Order at: www.harzregion.de/de/shop.html

Decorative Cast Iron Erbstollen Portal near Mägdesprung

In the language of miners, an "Erbstollen" (literally "inheritance gallery") means the deepest water drainage tunnel in a mining district, a tunnel which "inherits" the one above it. Between the Third and the Fourth Hammer along the "Selketal-Stieg" (hiking path in the Selke Valley) we find the cast iron portal of the Herzog-Alexis-Erbstollen. The 2,256 m long Erbstollen was extended between 1831 and 1865 in order to inspect the vein system north of Harzgerode. The portal, manufactured in Classical style between 1830 and 1848, is an impressive example of decorative cast ironwork created in Mägdesprung between 1821 and 1914.

The well-known cast iron statue "Siegender Hirsch" (The Triumphant Stag) in Friedrichsruh near Hamburg was also cast in Mägdesprung in 1895. It was a gift from the State of Anhalt to Prince Otto VON BISMARCK (1815 – 1898) on his 80th birthday.







Spa Resources and Rock Cliffs Alexisbad

In 1810, Alexisbad was founded as a spa resort under the sovereignty of Prince ALEXIUS FRIEDRICH CHRISTIAN VON ANHALT-BERNBURG (1767 – 1834). The spa resources were iron sulfate-rich waters with high fluoride content, which were taken from the "Selkebrunnen" (Selke Fountain). We find this water capture at the adit entrance of the "Schwefelstollen" (sulfur tunnel). At the entrance of the "St. Catharinenstollen" (St. Catharina tunnel) the "Alexisbrunnen" (Alexis Fountain) was located from 1825 – 1955.

The rock cliffs in the closer surroundings which are composed of various rock types are also of interest. The "Kapellenfelsen" and the "Habichtfelsen" cliffs consist of laminated slate, the "Adolffelsen", of "Tanner Grauwacke" (Tanne graywacke) and intercalations of conodont-bearing limestone layers (microfossils).



Ascanians, Schmidt Collection & Free Masons Lodge City of Aschersleben Museum

Counts, princes and dukes belonging to the House of Ascania ruled in Anhalt. The name derives from Ascharia (Aschersleben). ALBRECHT THE BEAR, the first of his clan, called himself the "Count of Aschersleben". His grandson, HEINRICH I. (†1251) later named himself after a castle near Harzgerode "von Anhalt". He was survived by three sons who divided up the principality he had founded into three lines of Ascanians. After the Aschersleben line died out in the 14th century, the line fell to the diocese of Halberstadt before finally coming under Prussian rule. At the beginning of the 20th century, the geologist MARTIN SCHMIDT (1863 - 1947) from Aschersleben found employment at the Royal Prussian Geological Institute in Berlin. The scientist, who had also been active in Stuttgart and Tübingen, remained faithful to his hometown and enriched the geological department of the museum with valuable





Schmidt Collection in Aschersleben

collection exponents. In a letter of thanks from the magistrate of the city of Aschersleben, dated the 28th August 1928, stands the following citation: "... so the cabinet set up by your own hand is something for gourmets ...". In fact, the delicacy referred to were very valuable fossils. SCHMIDT's book, published in 1929, "Die Lebewelt unserer Trias" (Flora and Fauna of Our Triassic), remains a standard work and was reissued in 2000 (approximately 2,300 illustrations, the most extensive reference work on the German Triassic period). In the museum, many of the original illustrations are to be found in the historic collection drawers. Prehistoric and early history, city history and the Free Masons' Temple of the Johannis Lodge are further themes in the museum along with changing special exhibitions.

Open:

Tu. - Fri. & Sun. 10 a. m. - 4 p. m. Sa. 2 p. m.- 5 p. m.



Tourist-Information Aschersleben (§ 0049 3473 - 8409440 www.aschersleben-tourismus.de

B Harz Graywacke Quarry near Rieder

Our goal is a viewing platform at the southern limits of the guarry. In order to get there, a walk is recommended which begins at the castle hotel, the "Großer Gasthof", in Ballenstedt. The tour traverses the castle park where, once one has past the dam of the castle pond, the "Fürstenweg" (Path of the Princes) will be reached. This path runs along the edge of the forest in a western direction. Under the shade of old deciduous trees we cross the federal road B185. We ignore the branch to the Roseburg on the right hand side. The "Fürstenweg" then traverses the "Eulenbachtal" (Owl Creek Valley) where a paved road leads to the quarry. We cross this road as well and continue walking westward on the steeply ascending "Fürstenweg" in western direction. Once we reach the site of the former forester's house to the right of the trail, the path continues uphill into the forest. Soon an electric power line runs parallel to the more recent hiking trail,



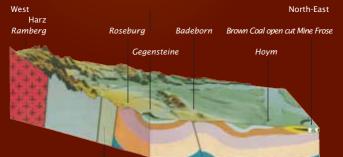
View of Rieder Quarry

designated as "Riedersche Rift", up towards the "Sternhaus". The path branching off from the trail that leads to the viewing platform (Stamping Station Nr. 61 of the Harz Hiking Pin Project) was signposted by the Harz Club. The excavation of greywacke in the "Eulenbachtal" near Rieder began with a small quarry of the "Reichsarbeitsdienst" (Reich Labor Service) in the year 1935. At the end of the 1960's, the VEB Natursteinkombinat Halle-Sennewitz moved its production plants from the "Teichgrund" near Ballenstedt to the new location near Rieder. The modern facilities for breaking and sorting were erected by the recent owner of the high-quality chipping plant, the Mitteldeutsche Baustoff GmbH in 1992. The majority of the production is sold in the surroundings within a radius of 40 kilometers. Because of the fact that 800,000 tons of rocks leave the plant each year, the resources of high-quality greywacke in the "Eulenbachtal" will soon be depleted. Nevertheless, further operation of the facilities is planned, supplied with material from another quarry via a conveyor system.



The History of the Area's Development

The area of Landmark 15 impressively displays the geological history of the formation of an approximately 500 million year old mountain range and its thrust upwards over its younger foreland. In the beginning, the area of the Harz was an ocean basin, which filled up with fine-grained sediments over a period of 180 million years. During the Devonian period, sub-marine swells and basins were formed. At the same time, intense underwater volcanic activity was taking place, which continued into late Lower Carboniferous times. Voluminous basalt bodies penetrated the Devonian sediments. Such an intrusive body, a so-called "diabase dyke", can be seen at the Osterteich, a pond near Gernrode. In a period from 360 to 330 million years ago, the Harz was caught up in mountain building processes during the Variscan orogeny and was folded, uplifted and partially eroded. Finally, around 300 million years ago, the rise of acidic magma followed. The granite massif of the Ramberg belongs to this period. During the Rotliegend (320 to 272.5 million years old), the transport of eroded material into the basins created by the orogeny was intensified. Climatic influence led to the formation of coal. South of Badeborn, sandstone of the Cretaceous (89 - 81 million years old) filled the northern Harz foreland basin, which was subsequently transformed into a tectonic syncline, the Blankenburg syncline. Its southern flank was morphologically uplifted (Gegensteine). The steep position of the beds indicates the ascent of the Harz basement and its upward thrust northward about 80 million years ago. At the Bückeberg near Gernrode, the layers of Muschelkalk are positioned vertically and partially overturned. In the subsiding border troughs of the ascending salt domes of Aschersleben, an extended moor area was formed during the Tertiary (49 - 37 million years ago), resulting in the development of brown coal deposits near Frose.



Quedlinburg Anticline Blankenburg Depression Halbe

Quaternary/Tertiary (with brown coal) Carboniferous (with silicificated Sandstones) Jurassic Keuper Halberstadt Depression



Carboniferous (Slate) Muschelkalk Buntsandstein Zechstein Geological Fault

Upper Carboniferous/Lower Permian(Ramberg-Granite) Carboniferous (Tanner Greywacke)



Selected Points of Information Restaurants and Accommodation



Schlosshotel Meisdorf www.vandervalk.de/meisdorf (© 0049 34743-980



Großer Gasthof Ballenstedt www.vandervalk.de © 0049 39483-510



Ferienwohnungen Röhrkopf Ballenstedt www.ferien-roehrkopf-harz.de (© 0049 39483-97060

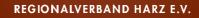


Harzcamp "Bremer Teich" Gernrode www.harz-camp-gernrode.de **© 0049 39485-60810**



Hotel "Auf der Hohe" Ballenstedt www.hotel-auf-der-hohe.de (§) 0049 39483-979000





The Regionalverband Harz is a non-profit association incorporating the counties of Goslar, Göttingen, Harz, Mansfeld-Südharz and Nordhausen. It supports the protection of nature and environment as well as the cultural heritage of the Harz through the assistance of its sponsoring members. Its aims are achieved in part through the patronage of Nature Parks in the Harz region. As a partner in the Geopark Harz . Braunschweiger Land · Ostfalen GbR, newly founded in the year 2016, the Regionalverband is responsible for the southern portion of the UNESCO Global Geopark Harz · Braunschweiger Land · Ostfalen. Its partner association located in Königslutter is responsible for the northern portion. Since the year 2004, the Geopark Harz · Braunschweiger Land · Ostfalen has been a member of the European Geoparks Network.

Publisher:	Regionalverband Harz e. V., Hohe Straße 6, 06484 Quedlinburg ©0049 3946-96410, E-Mail: rvh@harzregion.de 3 rd completely revised English Edition 11- 15k © Regionalverband Harz e. V.
Internet:	Quedlinburg 2018. Alle Rechte vorbehalten. www.harzregion.de
internet.	www.narzregion.ue
Authors:	Dr. Klaus George, Uwe Herold & Christiane Linke
Translation:	Dr. Torsten Steiger & Dr. Harriett Watts
Photos:	Dr. Klaus George, Steffen Krause, Christiane Linke
Conception:	Design Office - Agentur für Kommunikation GmbH
Printing:	Quensen Druck + Verlag GmbH
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