MAGMA GEOPARK

Photo: Magma Geopark

Magma Geopark is a unique geological area in southwest Norway comprising five municipalities: Bjerkreim, Eigersund, Flekkefjord, Lund and Sokndal. Here you will find over 40 sites that present exciting geological and cultural features ready to be explored by everyone!

Magma Geopark is part of UNESCO Global Geoparks, a network of more than 127 geoparks (in 2017) from around the world. A UNESCO Global Geopark is a well defined geographical area where the landscape is of international geological importance and which is run for conservation, education and sustainable development. Such an area helps raise awareness and understanding of the geological heritage and its history, geohazards, natural resources and climate change, as well as gender equality and local knowledge.

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Forente Nasjoner · Organisasjon for Utdanning, Vitenskap og Kultur
Magma UNESCO Global Geopark

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GEOBIKE

LOCALITY No. 20

Egersund - Hellvik - Egersund

27 km

EIGERSUND MUNICIPALITY

Photo: Magma Geopark

Leave nothing but footprints!

DRIFTINGAPART

Northern Periphery and Arctic Programme 2014–2020

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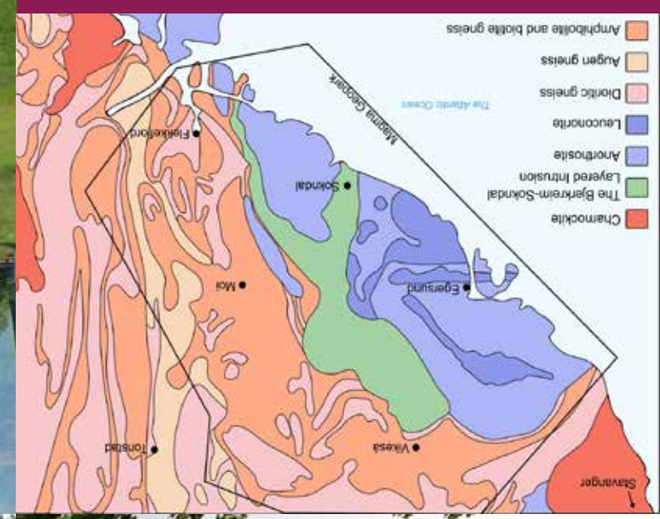
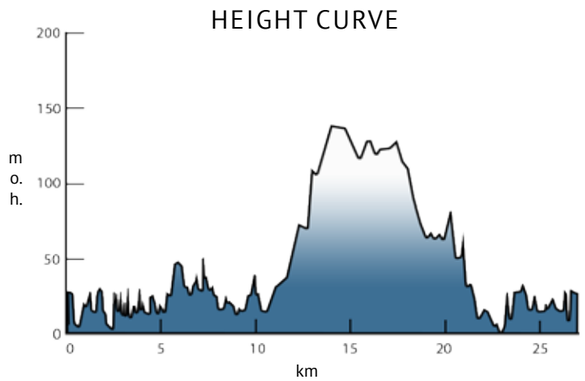
MAGMA GEOPARK norway



In Magma Geopark the main rock type is the same as the lighter-coloured parts of the surface of the moon - anorthosite. Anorthosite in the geopark crystallised in large magma chambers about 930 million years ago. It developed in the root zone of a mountain range similar to the modern Himalayas. When the ice retreated for the last time, the anorthosite became exposed and is waiting for your footprints.

Fotlandsfossen (stop 9)

INTRODUCTION



The biking trip is 27 km long

The cycling tour goes through the moraine landscape

Did Holy Olav defeat the serpent? What is anorthosite and what are erratics boulders? These are some questions that will be answered during this cycle tour that starts in Egersund. Egersund is the main town of Eigersund municipality which, together with the municipalities of Lund, Sokndal and Bjerkreim, make up the Dalane region. The names Egersund and Eigersund come from the Norwegian name Eikundarsund, which means "a sound with a lot of oak trees." This is reflected in the municipal flag which is a gold-coloured oak leaf on a green background. Part of the trip goes through the village of Hellvik.

START & END: GRUSET (EGERSUND)
The trip starts at the parking lot on Gruset along Jernbaneveien (Railway road) in Egersund. The cycle trip passes through a cultural landscape with a unique geology and traces of the last ice age that ended some 10.000 years ago. The trip is approximately 27 km long and follows a variety of roads, some with gravel surfaces and some with tarmac. The amount of traffic is generally low, but highest on the tarmac roads. (See figure: elevation curve). Egersund is Magma Geopark locality number 25.

STOP 1: ANORTHOSITE AND WEATHERING
On the north side of the trail you can observe the rock type called anorthosite. It is unusual in that it consists almost entirely of one mineral – plagioclase feldspar.

On the south side of the trail is a weathered surface with joints *. These are due to weathering and were formed long before the Ice Age. When the anorthoite was formed it was about 20 km below the surface. The crust of the Earth "floats" on the denser, underlying plastic mantle. Like an iceberg, as the surface is eroded away the body rises. As it approaches the surface (after hundreds of millions of years) the pressure decreases and cracks (called joints) form. Water can penetrate down into these joints. The climate was warmer and more humid than today and the plagioclase feldspar was exposed to chemical weathering in the joints. This has resulted in the characteristic appearance of the anorthosite with a small-scale "striped" pattern.

*Weathering means the chemical or physical degradation of a solid component into smaller fragments.

STOP 2: SOIL, MORAINE AND GLACIAL ERRATICS
Anorthosite weathers very slowly in today's Norwegian climate. It is very low in nutrients which means that there is little vegetation on the mountains. This leads to one of the characteristic features of the Dalane region: a "bare landscape".

Lush areas of vegetation are usually due to the presence of fertile moraine deposits that are scattered throughout the landscape. The moraine material was deposited by melting glaciers after the last ice age and is typically unsorted, containing fragments of different grain size, roundness and shape.

On the opposite side of the lake there are many boulders that are randomly distributed in the landscape. These have been transported here by a glacier. The boulders consist of "foreign" rock types since they come from areas where the geology differs from the anothositic bedrock here. These "foreign" boulders are called glacial erratics.

STOP 3: MAURHOLEN RAILWAY STATION AND CRESCENT-SHAPED FRACTURES IN THE ROCKS
The old Maurholen railway station was opened in 1879 under the name "Lille Sirevaag stop". The station was closed in 1951 when Eigerøy bridge was built. The former railroad is now a hiking trail.

The building on the left was the signal man´s house which is still decorated in the old style.

Just above the trail there are several crescent-shaped marks in the bedrock. They were formed by the pressure of blocks of rocks frozen into the base of a moving glacier. The shapes of the crescents indicate the orientation of the glacier since they form at right angles to the direction of movement.


Anothrosite can be observed nearby stop 1


Typical anorthosite apperance (stop 2)


White anorthosite at Hellviksplitt AS (stop 5)


Erosion marks (stop 3)


St. Olavs serpent. Illutration by Ole Østring.


The fight between King Olav and St. Olavs serpent. Illustration by Ole Østring


Eige


Salmon rich river - stop 9


Stop 10 - basaltic dyke

STOP 4: NETLAND
The walls along the road Netlandsveien were built in 1874. There are several graves from the Iron Age along the road. The first graveyard is located between two driveways on the right (Stop 4). The garden is partly covered by trees and grass. There are several other buial sites and memorials nearby.

STOP 5: HELLVIK
Altered anorthosite – called "white anorthosite" - is extracted and crushed at Hellviksplitt AS. The crushed white anorthosite is mainly used for building roads. A little further northeast is another quarry with a "white mountain" of crushed altered anorthosite.

The word Hellvik comes from "hell" which means a flat rock surface that was used for loading and unloading ships for many centuries. Much of what is produced here is transported by ship from Hellvik harbour which is 3 km away.

STOP 6: VIEWPOINT
This trip reaches a height of 150 m and from the top there are good views in all directions. From here you can see much of the Egersund-Ogna anorthosite that extends as far as you can see in all directions. To the south and west the anorthosite stretches to the coast and beyond. It extends to Krossmoen in the east where it is intruded by the slightly younger Bjerkreim-Sokndal layered intrusion. The mountains on the horizon to the east and northeast consist of gneissic rock beyond the anorthosite.

STOP 7: ST. OLAVS SERPENT
St. Olav´s serpent is an elevated, winding, grassy ridge (up to 10m high and 2 km long) located in a broad valley. The ridge has its name from a legend about a battle between King Olav the Holy and the Midgard Serpent. The huge Midgards serpent tried to travel from the fjord to an inland lake. Olav the Holy was victorious and the evidence for this is the remains of the serpent lying in the landscape!

There is an alternative geological explanation for the phenomenon. During the last ice age, clay, silt, sand, gravel, stones and boulders were transported by melt water flowing in a tunnel under a glacier that covered the area. When the glacier melted away, the course of the tunnel remained in the landscape as a winding ridge of moraine deposits – called an "esker". This is Magma Geopark locatity 13.

STOP 8: EIGE
The name Eige comes from the old Norwegian name Eike which refers to a place with many oak trees. Archaeological finds in this area date back to the Stone Age, and there has been a farm here since the migration period of history.

STOP 9: FOTLAND RAPIDS
The salmon river, Bjerkreimselva, passes through a series of cascades near Fotland. The amount of water in the river varies throughout the year but is usually greatest in spring when the snow melts in the mountains. Salmon swim up the river to spawn and the waterfall here has been a major challenge for them. The first salmon ladder beside the waterfall (Fotlandsfossen) was built over 100 years ago.

STOP 10: EGERSUND DYKE
Beside the road there is a broad band of a dark, fine-grained rock that cuts through the white anorthosite. This dark rock is basalt and was formed when basaltic magma filled a crack that penetrated anorthosite. It solidified about 600 million years ago. There are 11 such basalt dykes in Rogaland. The dykes are between 0.5 and 30 m wide and up to 60 km long.

STOP 11: HESTEVAD BRIDGE
Hestevad bridge, which today functions as pedestrian and cycle path over Eieåne, was built in 1851. The bridge connected the city of Egersund with the west main road which was the first planned road between Stavanger and Oslo. For many years this was the main road into town.

NO.	LOCALITIES	DESCRIPTION
P	Start and end	Start from 'Gruset' (car park in Egersund). On the bike path, follow road 44 to the railway station. At the roundabout, continue along the cycle path to the left towards Eigerøya. Follow Nordsjøruta, cycle route 1. The bike path leads from road 502 towards Åsan. Follow the cycle path to the sign: "The Old Jærbanen" cross the road and continue downhill under road 502.
1	Anorthosite	About 3.3 km from the start you reach stop 1.
2	Soil, moraine deposits & glacial erratics	About 2.8 km from stop 1 you get to stop 2.
3	Maurholen stop; crescent-shaped fractures	About 1 km from stop 2 you reach stop 3.
4	Netland	100 meters after Hellvik station, take the bicycle route to the right, under the railway, towards Netlandsveien beside lake Netlandstjørna.
5	Hellvik	3.9 km from Maurholen you will reach Hellvik on the left.
6	Viewpoint	About 3.4 km from stop 5 (quarry) you reach a viewpoint.
7	St. Olav´s serpent	Can be observed several places in the terrain.
8	Eige	Follow the same road to Eige. Turn right at crossroads.
9	Fotland rapids	Fotlandsfossen is located at the end of Fotlandsvatnet with a salmon ladder. You can easily walk down to the salmon ladder 50 meters after the bus stop on the left. Follow the main road further down towards road 44 and signs towards Egersund.
10	Egersund dyke	Turn left at the EGERSUND sign, across the road and onto the bike path. This is followed by a railway bridge and approx. 2 km from Fotlandsfossen you can see the Egersund dyke (stop 10) on the left. Turn left at the sign SYKEHUS into Kvidafjellveien.
11	Hestvad bridge	At the end of the road turn right under the railway and follow the cycle path up along road 42. Turn right under road 42 and over Hestvad bridge. Keep left and follow the river Elva Lundåna past Elverhøy (park). Follow Elvegaten.
12	Egersund Fayance factory	Turn right towards Eikunda into Fabrikkgata. Cycle over the bridge to Gruset.

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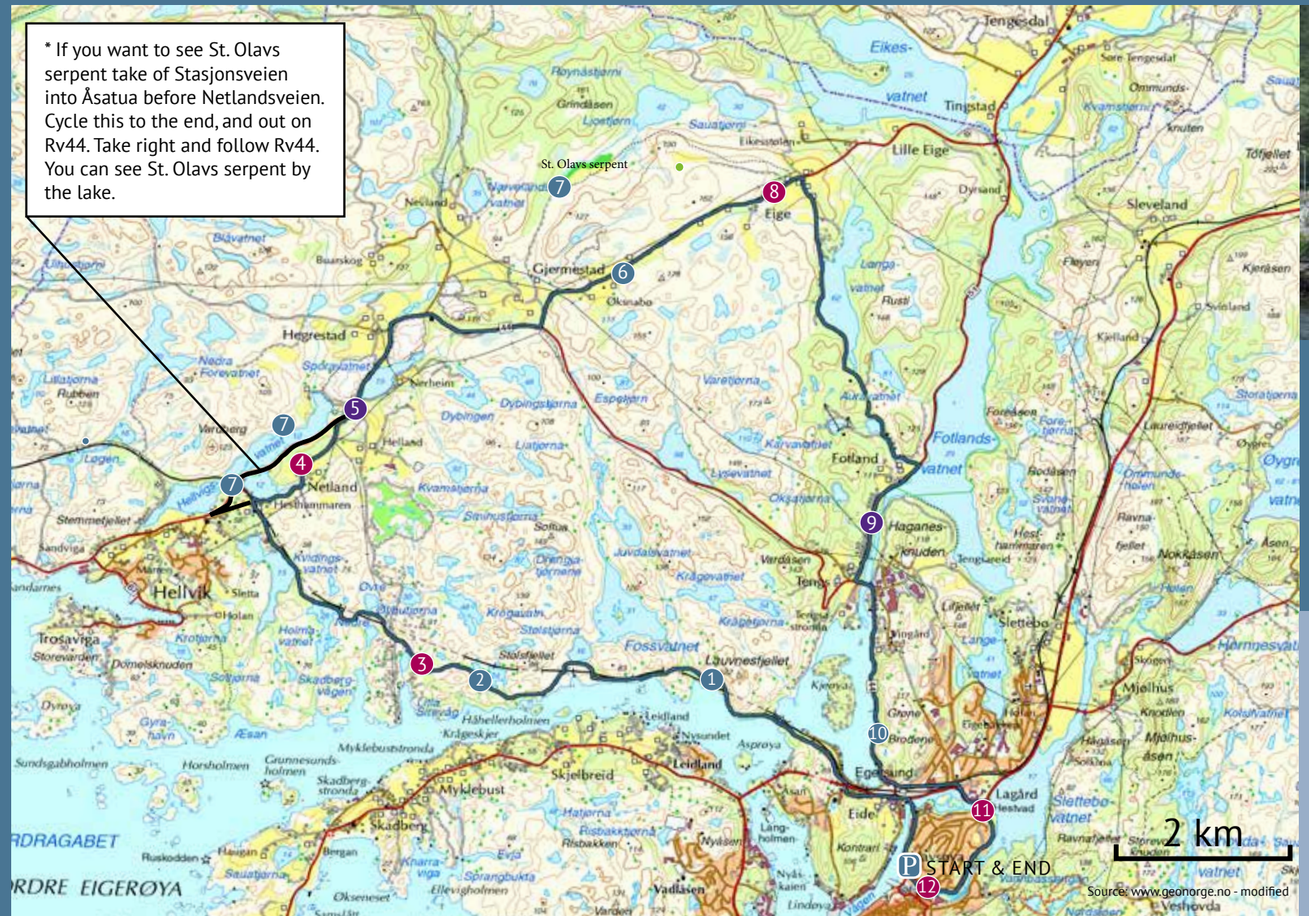


The old Egersund Fayance Factory

STOP 12: EGERSUND FAYANCE
The orange building that is located to the right of Fabrikkgaten was the location of Egersund Fayance Factory for many years. The factory was the first and largest industrial company in Egersund for a long period of time.

The factory was founded by Johan Feyer in 1847 and was in operation for 132 years before it was closed in 1979. The Dalane Folkemuseum took over the stock and today you can see a selection of items at Egersund Fayancemuseum.

MAGMA GEOPARK

Free GPS-based game and smartphone guide. Take your family on a guided tour through Magma Geopark sites and learn more about this unique area!

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Join TURFHUNT! Players find different GPS coordinates in the game and answer questions. Suitable for the whole family!