

molten rock cooled slowly in a magma chamber.
pale feldspar crystals, up to 4cm in length, which formed as
The older lava flows on the nature reserve are noted for large,
material eroded away.
hollows between formed as weaker layers and softer
The ridges are the remains of ancient lava flows and the
Hill today.
and eroded to leave the stepped landscape visible at Eycott
Over 20 separate lava flows were erupted and later tilted
rock called andesite.

and vents in the earth's crust and formed a hard, dark igneous
triggering volcanic eruptions. Lava flowed from long fissures
to close as surrounding continents moved together,
Around 450-460 million years ago, the Iapetus Ocean began

A volcanic landscape

480 million years ago, early in the Ordovician Period,
sediment washed into the ancient Iapetus Ocean.
Layers of mud and silt built up, hardening to form
the siltstones and mudstones known as the Skiddaw
Group. These rocks, among the oldest in the Lake
District, make up the nature reserves western edge
and the impressive masses of Skiddaw and Blencathra.

Ancient ocean

Eycott Hill's geological story goes back almost 500 million years.
Ancient lava flows, sandwiched between older siltstones and mudstones
of the Lake District and make this nature reserve nationally
important for geology.

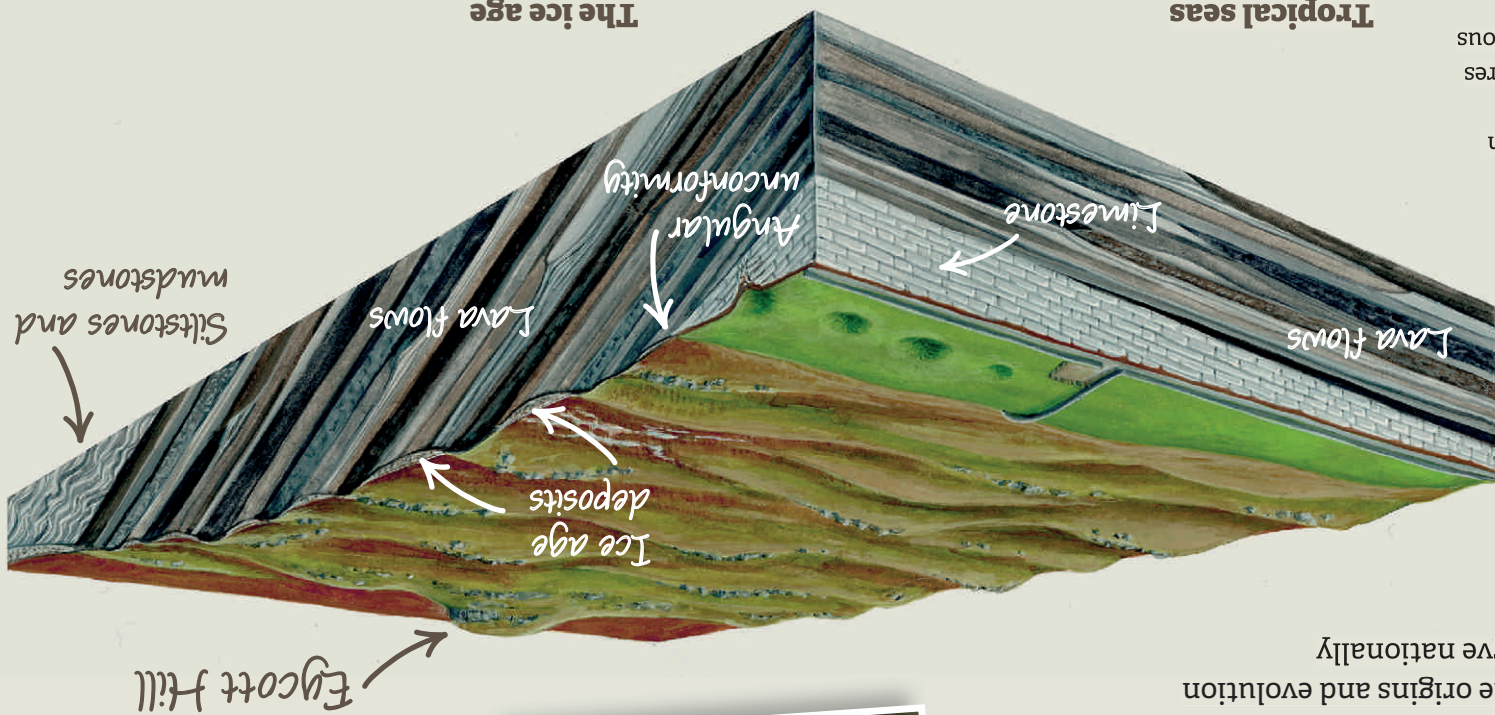
Eycott Hill Nature Reserve millions of years in the making

Almost 100 million years later, during the Carboniferous
Period, the eroded lava landscape was covered by a warm,
shallow sea.
The remains of sea creatures accumulated on the sea bed
as a limey mud which hardened over time to form limestone.
These limestone layers are now part of a 'ring' of younger
rocks that tilt away from the central Lake District.

Tropical seas

During the last ice age, around 20,000 years ago, a thick
ice cap covered the Lake District.
Ice streamed from the central fells and flowed over
Eycott Hill. The ice carved out softer material and weaker
rocks from between the lava flows and left behind
erratic rocks from other locations which help geologists
determine ice flow directions.

The ice age



Visiting Eycott Hill Nature Reserve

We hope you enjoy
visiting Eycott Hill
Nature Reserve and
following this self-guided
geology trail.

The route isn't entirely
way marked on the
ground so please use
the enclosed map.

We recommend following the
white topped posts to the top
of Eycott Hill.

A hand lens is useful for examining
the rocks more closely. Please
carefully replace any rocks you pick
up and leave them so others can
enjoy them.

Take home only photographs.

The ground at Eycott Hill Nature
Reserve is uneven and at times very
wet so sturdy wellington boots are
recommended. Please note there are
no visitor facilities on site.

Nearby facilities

The Sportsman's Inn, just off the A66 near Berrier,
and the Mill Inn in Mungrisdale serve lunch and
evening meals.

Cocklakes Farm Shop and Tea Room is on the other
side of the A66, opposite the Sportsman's Inn.

There is a petrol station at Rheged, on the A66
near Penrith.

*Close by, you may
also like to visit...*

Berrier Highbanks
Wood Local Geological
Site, just over the road



Photo by S. Woodhead

About us



Cumbria Wildlife Trust is the only voluntary organisation devoted
solely to the conservation of the wildlife and wild places of
Cumbria. The Trust stands up for wildlife, creates wildlife havens
and seeks to raise environmental awareness.

**JOIN
US!**

*If you **love** Cumbria and wildlife too,
why not support Cumbria Wildlife Trust?*
Visit www.cumbriawildlifetrust.org.uk

Cumbria GeoConservation is a specialist
group of Cumbria Wildlife Trust.

The group aims to look after geological
conservation sites in Cumbria, working
closely with both the Cumberland and the Westmorland
Geological Societies. Volunteers hold three formal meetings each
year and aim to visit at least one geological site each month.

Thank you to Elizabeth Pickett, John Rodgers, Chris Thompson,
and Sylvia Woodhead for their valuable advice and expertise.



Directions

By car

From the M6 junction 40 follow the A66 towards Keswick. After
approx. 7 miles turn right, signposted Hutton Roof (look out for
the Sportsman's Inn from the A66), follow this road round to the
right and then take the left, signposted Hutton Roof, Berrier and
Whitbarrow. Follow this road for 1.6 miles through the hamlet
of Berrier, the nature reserve is on the left hand side.

By bicycle

Eycott Hill Nature Reserve is adjacent to National Cycle Network
route 71 on the Mungrisdale loop. Follow NCN71 signs.

By public transport

The nearest bus stop is 1.5 miles away at the Sportsman's Inn
just off the A66. The regular service between Penrith and
Keswick stops here.

Map reference

OS Landranger sheet 90, Explorer Map OL5.
GR: NY 394 301. Size: 216 hectares.
Status: Site of Special Scientific Interest.

www.cumbriawildlifetrust.org.uk

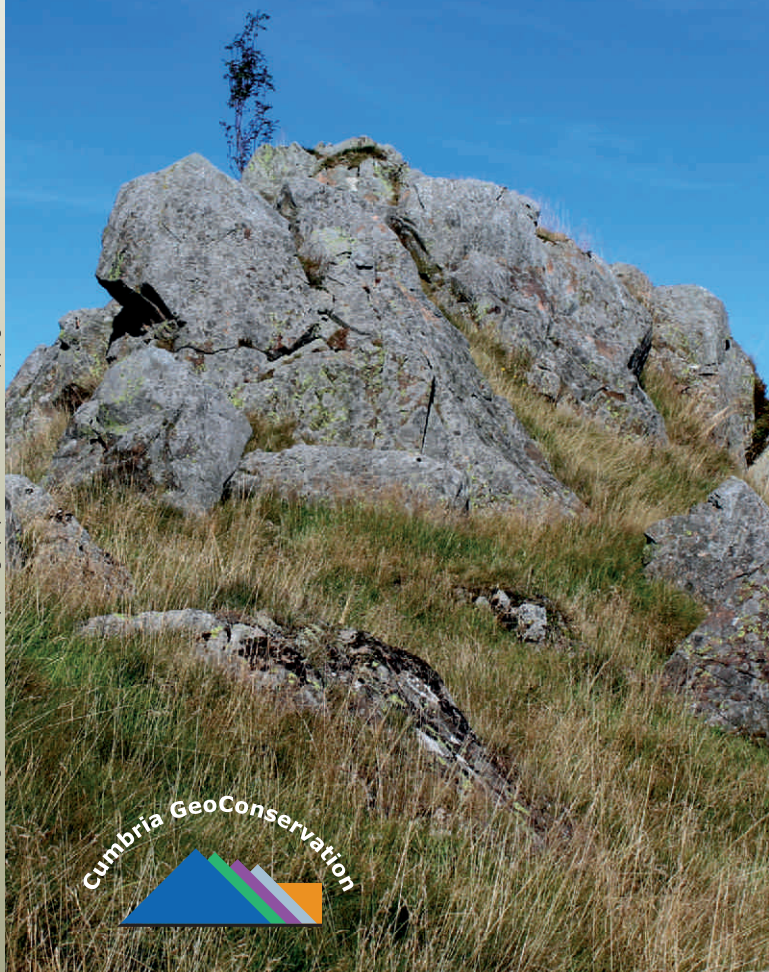


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Eycott Hill Nature Reserve Geology





Geology trail

1. Enjoy a panoramic view taking in most of the Lake District rock groups including the Skiddaw Group of the northern fells, the Borrowdale Volcanic Group in the central fells, and the Eycott Volcanic Group.
2. Hollows in the ground, known as sinkholes are a clue to the limestone rock that lies below the glacial deposits, soils, and grass here. Limestone reacts with rainwater, which is very weakly acidic, and dissolves to form sinkholes.
3. Follow the white topped posts to cross the footbridge and stand on the first ridge of Eycott Volcanic rock dating back 450 million years. The lava flows here are the youngest on the nature reserve.
4. Continue following the posts to the viewpoint to see pale grey limestone, dark grey Skiddaw slate, and dark green, almost black volcanic rocks in the viewpoint walls.

Blocks of stone by the gate show large, pale feldspar crystals that formed in the oldest Eycott lava flows located to the west of the nature reserve.

5. The outcrop opposite the viewpoint shows evidence of 'flow banding'. These look like sedimentary layers, but formed when the lava was molten and flowing.
6. Follow the white topped posts to go through the fell gate, noting the small pieces of Eycott lava on the ground and large pieces in the stone wall.
7. As the path meanders through the wetland the hollows in the landscape between the ancient lava flows become more obvious.
8. At the summit look back over the lava ridges and enjoy the distant view east to the Pennines, Crossfell, Great Dun Fell and the Eden valley, south past Great and Little Mell Fell, and across to Blencathra, Bannerdale Crags, and Carrock Fell.

9. Get up close to the crags around the summit and look for a fresh face. The rock is still dark with small crystals indicating that it cooled quickly.

Some of the lavas here are quite thick and show some layering. As the lava cooled from about 1,000°C the rock contracted and formed rough cooling columns.

Make your way downhill from the summit to the lowest lava ridge. There is no way-marked path at this point so take extra care.

10. This is the oldest lava flow. Holes in the rock show where geologists have taken rock cores to find the latitude of the land when the lava cooled.
11. At the north end of the lowest ridge is an exposure of Eycott lava, with characteristic large pale feldspar crystals. Close up you can see flat shiny faces, which catch the light. These represent planes of cleavage in the mineral.

Retrace your route to the car park.