Information for the Visitor Information Centre

Exploring Geology in Church Stretton

The area around Church Stretton has an amazing variety of geology which has attracted experts and students since the 19th century. The varied and beautiful landscape is dependent on the many different underlying rock types dating back to over 570 million years ago – some of the oldest rocks in England & Wales. The area also shows the effects of the last Ice Age when an ice sheet spread from the north into the Church Stretton valley.

Caer Caradoc and hills east of the Church Stretton Valley

These volcanic hills are made of ancient lavas and ashes erupted around 570-560 million years ago. The steep sided hills are not extinct volcanoes but are carved out of old lava flows and ashes which millions of years ago covered a much wider area. The vents have not been found. A great variety of volcanic rocks can be seen on the summit ridge of Caer Caradoc.

Some have gas bubble holes formed during eruption and others show banding formed within high temperature ash flows. Sticky viscous magmas caused violent explosive eruptions similar to those in many modern volcanoes.

The Church Stretton Fault

A major break in the Earth's crust formed about 600 million years ago and today can be traced along the eastern side of the Church Stretton Valley. Its full length runs from North Shropshire south west to South Wales and is one of the most important ancient fault lines in Britain. Rocks have moved several kilometres either side of the fault during its 600 million year history.

In 2000 an earthquake measuring 5.2 on the Richter scale occurred along a parallel fault 10km to the west.

Geology Trail available from the Visitor Information Centre - £2

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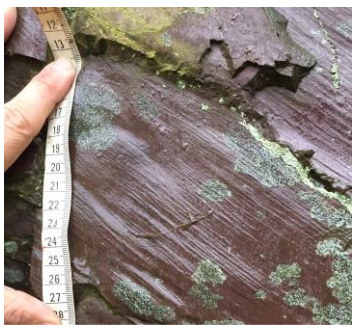
The Longmynd

The Longmynd, west of the Church Stretton Valley is a deeply eroded plateau carved out of 7000 metres of ancient layered sedimentary rocks formed around 560 million years ago during the late Precambrian eon.

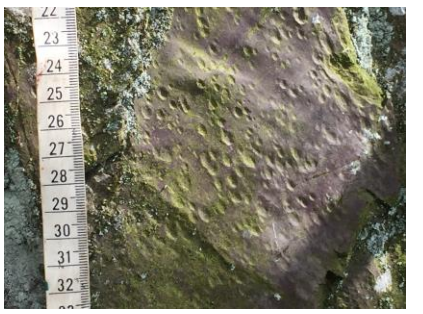
The rocks laid down in a shallow sea, have been folded up by ancient plate tectonic movements and the layers are now steeply inclined.

They contain rare microbial mats, bacterial mounds and pits (the oldest fossils in England at 560 million years old), and fossil rainprints.

The rock formations are well exposed in Cardingmill Valley and the Longmynd's eastern valleys.



Microbial Mat



Bacterial mounds/pits and fossil rain prints

The Ice Age in Church Stretton

Ashes Hollow a local batch

The Church Stretton valley was formed about 30 million years ago by weathering and river erosion. It was modified during the late Ice Age, around 20,000 years ago, when an ice sheet spread from the north. At its height the ice filled the valley up to about 260m above sea level, with the hilltops sticking out above the ice. No erosion by ice of the actual valley took place, but the valley floor was deepened up to 50m by meltwaters around and under the ice, and then filled by sands, clays and gravels to its present level. These glacial sediments contain boulders (glacial erratics) brought down by ice, including granites from the Lake District and Scotland.

Granite glacial erratic

A tundra climate on the hills produced flash floods which deeply eroded the hillsides and produced steep sided deep valleys locally called batches.

Further afield visit The Stiperstones, an Ice Age landscape and Wenlock Edge to see sub-tropical reefs 425 million years old.

Geology trail available from the Visitor Information Centre - £2