



Viewpoint

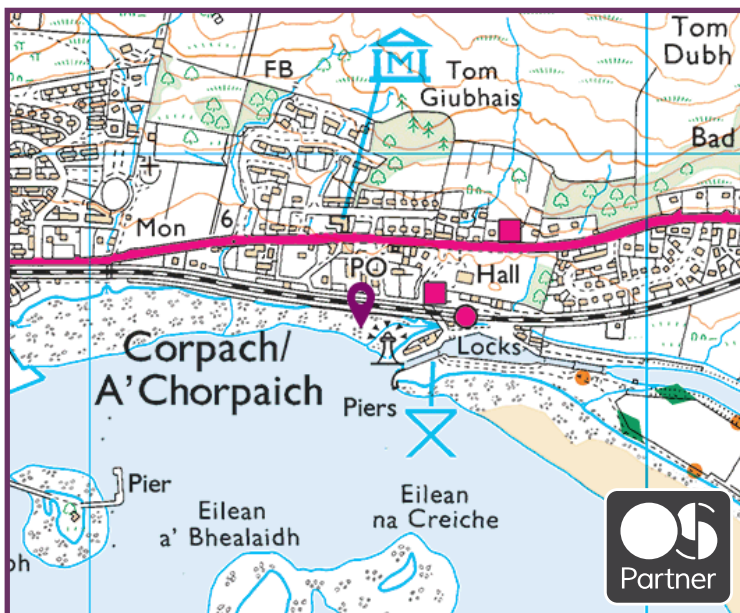
Big Ben



Time: 15 mins

Region: Scotland

Landscape: rural



Location:

Car park by Corpach station, off the A830, Corpach, Fort William, Highlands PH33 7JJ

Grid reference:

NN 0943376730

Directions:

From the car park by Corpach loch, take the road leading uphill towards the A830 but take the first left down a small road. After about 200m you will find a crossing over the railway line on the left, opposite Shore Lane House. Carefully cross the railway and go down the steps onto the loch shore.

At 1,345 metres (that's 14 times taller than Big Ben's clock tower in London) Ben Nevis is Britain's highest mountain. From our loch-shore viewpoint, the snow-dusted shoulders of this imposing mass stand clear of the surrounding peaks.

Once, however, the top of Ben Nevis was actually the bottom of a large crater, and one of the lower bits of land in this mountain range!

How did a collapsed crater become Britain's highest mountain?



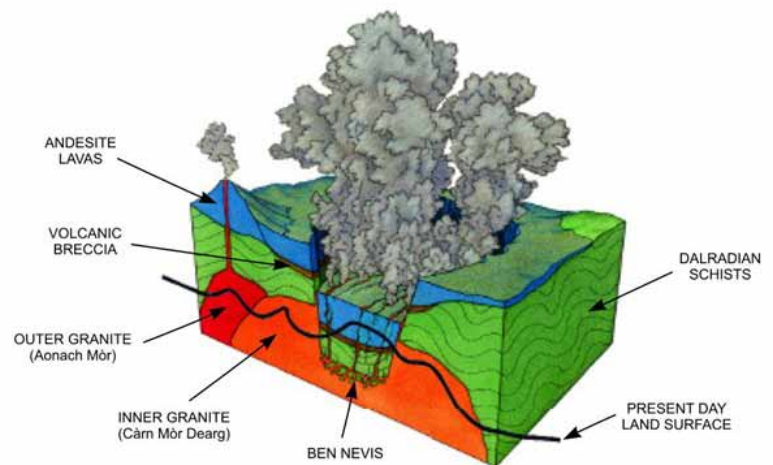
Around 400 million years ago, the rocks that form the area around Ben Nevis were part of a chamber of molten rock in the upper layers of earth's crust. The heat and pressure baked the surrounding crustal rocks into schists and domed them up. Volcanic eruptions, in this area, added layers of lavas on top.

As the hot magma chamber cooled and contracted, its domed roof collapsed, forming a large crater – called the Ben Nevis caldera – some 2 km in diameter. The rocks that now form the top of Ben Nevis were at the bottom of this crater!

So how did they end up as the highest land in Britain?

First, all of this geological activity was happening at the time of massive mountain building forces in the earth's crust that bound these rocks into a chain of ancient mountains, similar to the Himalayas today, across northern Scotland and other surrounding land.

THE COLLAPSE OF THE BEN NEVIS CALDERA – 410 MILLION YEARS AGO



From the bottom to the top

Then there is the hundreds of millions of years of slow but steady wearing away of the surrounding and overlying rocks by erosion. It is nature's natural sandpaper that operates on all land, slowly and inexorably wearing it down by wind, water, ice, chemical changes and the force of gravity.

At times, too in this long geological history, a sea covered large parts of the Highlands, which also helped to erode the rock.

The final, and most important, sculpting of the highlands, to create the landscape we see today, took place over the past 2.5 million years. This was as northern Britain was repeatedly covered by large ice sheets and valleys scoured by glaciers, in the Ice Age. There were around 20 phases of glaciation, each lasting on average around 75,000 years, each separated by several thousand years of warmer weather, like today, when rivers continued the relentless erosion.

If you climbed to the top of Ben Nevis now, you would be standing on the highest point in Britain, BUT you would also be standing much lower than the height of the collapsed crater all those millions of years ago!