

Glaciation refers to the formation of huge bodies of ice called glaciers, and the way they erode and change the landscape as they move. Glaciers are made of densely packed snow that's fallen in the same place over years and years.

Each fresh fall of snow adds to the weight, crushing the layers of snow below, turning it into ice. A glacier is a bit like a very, very slow moving river and just like a river, it changes the landscape around it over time - a very, very long time.

As they move along, glaciers can pick up pretty much anything in their path, from pebbles to massive boulders. It all depends on how big the glacier is and how fast it is moving. As glacial ice moves very slowly downhill, pieces of rock and gravel get stuck between the ice and the land, forming a coarse surface, similar to the sand on sandpaper.

These rocks grind together, creating tiny grains of dust, called rock flour. Some glaciers flow all the way to the sea and when they get there, pieces of the glacier can break off and form icebergs. Thousands of years ago, glaciers were a feature of the landscape here in Britain and they left behind many U-shaped valleys that can be found in places like the Lake District in England and the Highlands of Scotland.

Today, glaciers store about three quarters of the Earth's fresh water, more than all the rivers and lakes put together. Climate change is having a real impact on them. Even in the Antarctic - the coldest place on Earth - there is increasing evidence that rising temperatures are causing glaciers to melt.

If this continues, scientists predict it will have a devastating impact on the planet. If all of the Earth's glaciers were to melt, sea levels would rise by an estimated 70 metres. That's higher than ten two-storey houses piled on top of each other.