

DO YOU KNOW SCOTLAND'S EARTH HISTORY?

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Scotland has an intriguing and complex earth history. Indeed, it has greater diversity in its rocks and landforms than anywhere of the same size in the world.

The lecture sets the scene by noting that less than 250 years ago claims that the earth was formed on 14 October 4004 BC were widely accepted. Only the persuasive observations of James Hutton, commonly termed 'the Father of Modern Geology', dispelled the notion with the memorable and accurate phrase that 'I see no vestige of a beginning, no prospect of an end'.

Eight key elements of Scotland's history are described. The oldest parts are very old, dating from around 3,500m years ago. The early parts of Scotland began life in the southern ocean near to the south pole and gradually moved northwards. Third, Scotland is not one country geologically; it comprises 6 different parts. Next, Scotland and England joined together around 400m years ago with a great continental plate crash with major effects through the country. During its journey from the southern hemisphere to its present position Scotland has experienced every possible climate from the hottest to the coldest and from the driest to the wettest. More recently, with the opening of the North Atlantic Ocean, Scotland parted company with North America from 65m years ago with a series of large volcanoes and accompanying lava flows. In recent geological times, Scotland has been covered by ice at least 5 times, resulting in many changes to the landscape and landforms. In the last few thousand years parts of the country have continued to rise relative to the sea and others have sunk.

For the future, we can expect more flash flooding and slope movement, at the coast both retreat and building outwards. If the ocean water conveyor belt stops then we could have another ice age. And in the longer term, we will continue to part from North America and feel the consequences of Africa colliding with Europe.