



Hermaness, Unst, Shetland

## Orkney and Shetland Geological Hiking Tour The Caledonian Mountain Saga

Orkney and Shetland (Scotland's Northern Isles) have a long history of rule from Norway and a proud Viking tradition has survived to the present day, giving a culture very different from the rest of Scotland. As the islands' history provides firm cultural links across the North Sea and the Atlantic with Norway and Iceland, so their geology unites them across the same seas with Scandinavia and Greenland - and, via the latter, with the North American continent. This is truly an international geological saga worth the telling, and there is nowhere better than the Northern Isles to tell it because nowhere else is the evidence any clearer or more comprehensive. Nor can it be seen in any more glorious setting.



1. Aberdeen - Kirkwall
2. Mainland archaeology
3. West Mainland
4. Hoy, ferry to Shetland
5. South Mainland, Mousa
6. Northmaven / North Roe
7. Unst
8. Eshaness
9. Ronas Hill, Lerwick, ferry to Aberdeen

### Highlights

- Visits to UNESCO world heritage sites, Orkney, including Skara Brae, Maeshowe and Ring of Brodgar;
- Hike along the west coast of Orkney with geos, sea stacks and blow holes;
- Spectacular cliff-top scenery and the Old Man sea stack when hiking on Hoy, Orkney;
- Boat trip to Mousa and hiking to Mousa broch;
- Hike to Viking soap stone quarry, Shetland;
- Hike to Hermaness, the most northerly point of Britain, with over 100,000 breeding sea birds including puffins and gannets.



Ring of Brodgar, Orkney



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West Mainland, Orkney

## Introduction

The Northern islands' origins are as old as the oldest rocks that you can touch on Earth – or nearly so – reaching around 3 billion years in NW Shetland. Rocks comparable in age and type are found today in Greenland. Other rocks were added over immense time to this 'basement', but the saga that really unites across the northern seas begins a mere 600 million or so years ago, paradoxically with the opening of a new ocean that geologists call 'Iapetus'.

Sediments and hot rocks formed in this ocean basin were later forced together and much altered as the continents shifted and the seas eventually closed again. An early North America slowly collided with an early Europe, but with unimaginable force – force that created the Caledonian Mountains (Caledonides) and pushed them up to heights and extents comparable with today's Himalaya. Shetland's rocks tell the whole of this story, while Orkney is made up largely of sedimentary rocks formed, in arid conditions, as the enormous Caledonian chain slowly eroded away.

## Orkney

The landscapes of the fertile agricultural islands of Orkney, thanks to its base of Old Red Sandstone, contrast with the more rugged Shetland islands 100 miles further north with its poorer soil and therefore depending much more on the wealth of the sea. Hence the well-known saying that 'an Orcadian is a farmer with a boat, while a Shetlander is a fisherman with a croft'. Orkney's varied red sandstones were laid down more than 350 million years ago in an arid lake basin (Lake Orcadie). It offers one of the best collections of these sediments to be seen anywhere in the world.

Orkney has more important archaeological sites per square mile than anywhere else in the world, including Egypt. We will spend 3 days on Orkney, exploring the islands' archaeology as well as its geology and scenery.

## Shetland

Totally unlike Orkney, where the sandstones give much good farmland as well as wild ground, Shetland is quintessentially rugged and highland, despite a highest point of only 1500ft. Shetland has a complex geology resulting from a long history which has seen four separate and distinctly different slices of the Earth's crust come together over a period of nearly 3 billion years. You can walk on an ancient ocean floor; explore an extinct volcano, see the exposure of the Great Glen Fault and stroll across shifting sands. It is a geopark and a member of the UNESCO Global Geopark Network.

Of all the great changes in cultures and the comings and goings of people, in Shetland's 6,000 year history, it is the almost 800 year effective rule of the Vikings/Norse that has had the greatest impact on the thoughts and lives of the Shetlanders of today.



Viking steatite quarry, Shetland



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