

Na Clachan

The Geology of Tiree

Made of an ancient rock almost covered by the sea, the island's peat-layered centre is ringed by a sandy grassland.

Tiree is made of a hard, grey rock called Lewisian gneiss (pronounced 'nice'). This is the oldest rock in Europe - almost 3,000 million years old. Some of that time the gneiss has been deep underground, where fantastic heat and pressure (30 kilometres deep and 1,000 degrees Centigrade) produced the bands in the rock you can see today. Geologists call it a metamorphic rock.

At times the rock has been twisted madly so that the banding can be pointing to the sky, as it is at the Crossapol end of *Tràigh Bhdigh*.

600 million years ago Tìree was near the South Pole, part of a huge continent known as Laurentia. Over millions of years its rock inched northwards, passing the equator and finishing on the north west edge of Europe.

Gneiss does not soak up water and the flat land in the middle of the island is often wet. Over thousands of years the plants of this wetland grew, died and compacted to form thick layers of peat. This landscape of rocky outcrops, pools and tussocky grass is known as *siabh*.



Banding in the gneiss on the beach at Crossapol, showing how the original rock has been buckled.



The Ringing Stone, Balephetrish. This stone was carried to Tìree by glaciers from Rùm.



Clans, tussocky grass, pools and rock outcrops mark the interior of the island. This land is known on Tìree as 'siabh', here at Eornal, between Scarapish and Balephetrish.



The famous white sand of Tìree's beaches comes from millions of shells ground by the waves.

In Gaelic Tìree is known as *tin bàrr fo thuinn* - the island whose top lies below the waves. If you sail out to Skerryvore lighthouse you can see how the island got its name as only the three hilltops are visible, floating above the horizon. Tìree is so low lying that the sea pushes in at many points. Thirty five percent of the coastline is beach, twice as much as on Coll.

The sands of these long, white beaches are made of crushed shells. Winds pile this shell sand into dunes and then blow it further inland where it has built up a fertile, well-drained, flower rich grassland known as *machair*. The Reef is the largest expanse of machair in the Hebrides. It is grazed by around 200 cows in the winter, which allows the flowers to grow and seed in the summer.

The last Ice Age began 18,000 years ago. Ice built up on the Scottish mainland and huge glaciers inched their way over Tìree, grinding the rock beneath and leaving boulders, called erratics, behind them. The highest erratics on Tìree are near the top of Kenavara, showing how thick the ice was, probably twice as high as the Golf Ball on Ben Hynish. Some of the bare rock on the island shows the scars of the ice as it raked the landscape from east to west.

The most famous erratic, thought to have come from Rùm to the north, is the Ringing Stone, between Balephetrish and Vaul. This boulder gets its name from the sound it makes when hit. An old story, however, warns that if it is struck too hard and cracks, Tìree will also break in two. Its Gaelic name is *Clach a' Chòire*, the rock of the hollow. It is covered with over fifty cup markings, which are Neolithic and were probably used in religious rituals.

Sea levels around the world have gone up and down over the ages and there are a number of raised beaches around Tìree, for example at Kilmoluag and between Ruaig and Milton. However, the sea here has been about the present level for the last 10,000 years.

A seam of beautiful red-green 'Tìree' marble was discovered in Balephetrish in 1764 and a small quarry was set up in 1791. It was badly run and it closed after three years. The Duke of Argyll used this marble to make the chimney pieces of the Billiard Room in Inveraray Castle and marble pebbles can be found on the island's beaches.



A piece of Tìree marble