

2 2.1 Scotland in miniature

Arran is Scotland's most southerly inhabited island, and its seventh largest, about 19 miles (30 km) long by up to 10 miles (16 km) wide. Its position in the Firth of Clyde makes it very accessible, a mere 13 miles from the mainland, just over two hours from the heart of Glasgow.

The moniker *Scotland in miniature* has some validity. Like mainland Scotland, it is divided by the Highland Boundary Fault, with rugged mountains in the north, and fertile, low-lying land in the south. It has a cross-section of Scotland's habitats, and a wide range of its wildlife. Unlike Scotland as a whole, however, its population lives in coastal villages linked by the main road, and the island's interior is virtually uninhabited.

The number of inhabitants has fluctuated over time, with a peak of about 6500 in 1823, followed by progressive decline that has been checked in recent years. The present official figure is about 5000 residents, well over half of whom live in the three eastern villages: in order of size, these are Lamlash, Brodick and Whiting Bay. Tourism is the main source of employment, and resident numbers are swollen by thousands of summer visitors.

The prevailing wind is south-westerly, and the climate moist and temperate. Mild winters allow palm trees and sub-tropical plants to flourish. Rainfall is high, especially in the east: Brodick gets about 89 in (225 cm) of rain per annum, compared to Arran's west coast at 70 in (170 cm) – and Glasgow's 35 in (90 cm). However, May and June tend to be drier months, and many of the photographs in this book were taken during a single memorable visit one October.

Most of the island has very noticeable raised beaches. After the last Ice Age, there was a massive release of weight when the ice melted. The land rose, creating raised beaches with former sea caves. In fact, there are two raised beach levels: the older 100 ft (30 m) one, and the newer (10,000 years old) at only 25 feet above sea level.

Raised beaches provide the perfect platform for the main road which encircles the island and is 56 miles (90 km) long. Together with two strategic roads across it, The String and The Ross, Arran is wonderfully easy to get around.

Arran's mountainous north, seen from Kintyre



Geology

Arran is the classic destination for field geology. Its rich variety of rock formations is unrivalled in the British Isles, perhaps in Europe. Students of geology come to Arran from all over the world to do their fieldwork.

As you follow the Way, you can't fail to notice the remarkable variety of colours, shapes and formations in the rocks – colossal roadside boulders on the Corrie/Sannox shore, spectacular rock falls north of Sannox, dramatic caves and cliffs near Drumadoon Point, and impressive dark rocks around the Black Cave.



Huge rock near the Black Cave

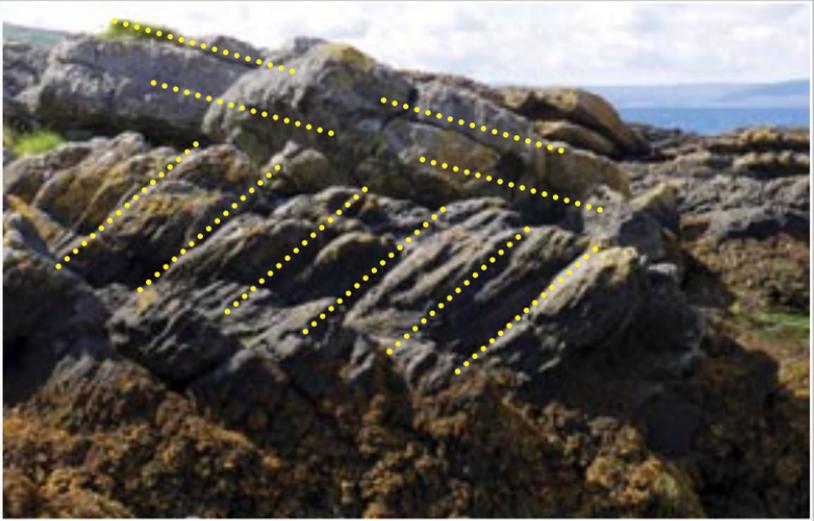
Scattered along the south coast are dykes of igneous rocks – thin fingers pointing out to sea. These relatively young rocks (about 60 million years old) have been left standing proud after weathering has ground down the older, softer Triassic rocks that surrounded them. Around Lochranza are the Cambrian schists, extremely old at about 550 million years. Schist is a metamorphic rock – in simple terms, ancient sands and muds that (over a long period) have been turned into hard rock by extreme pressure and temperature.

Arran played a pivotal role in the thinking of James Hutton (1726-97), the father of modern geology. Hutton visited Arran in 1787, searching for igneous rocks. He had already published his *Theory of the Earth* suggesting continuing tension between two processes, weathering down the mountains and upthrust by volcanic events, over long periods of time.

In 1645 Archbishop Ussher had calculated (from the Bible) that the earth began on 23 October 4004 BC, and Hutton grew up in an era when this Biblical timescale was accepted. On a walk near Newton Point, however, he noticed a strange angular rock formation. The photograph shows what became known as his Unconformity: the very old rocks in the foreground (Cambrian schist) slope inland, whilst the younger sandstones above them dip towards the sea. They are lying unconformably on the older rocks, with a layer of soil between the two.

Basalt dyke, with Ailsa Craig in stormy background

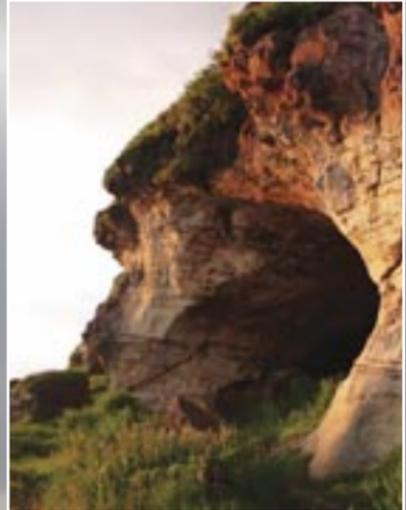




Hutton's Angular Unconformity

Since sedimentary rocks are deposited in horizontal layers, it takes eons for geological processes (such as heat, pressure and folding) to force them up at an angle, and longer still for erosion to wear them down. Between the two kinds of rock at different angles, Hutton realised that the time-gap must have been millions, not thousands, of years. He established the non-Biblical, and highly controversial, concept of deep time.

The gap between those two layers is now thought to be about 100 million years, which is far greater than Hutton realised. But this and other Unconformities proved his theory that the earth was unimaginably older than anybody had thought. Much criticised in his lifetime, his radical ideas had a massive impact, not only then but also, 50 years later, on the young Charles Darwin. Hutton had looked into the abyss of time, and found 'no vestige of a beginning and no prospect of an end'. Without him, Darwin's theory of natural selection would have been unthinkable.



Sea caves north of Drumadoon Point

