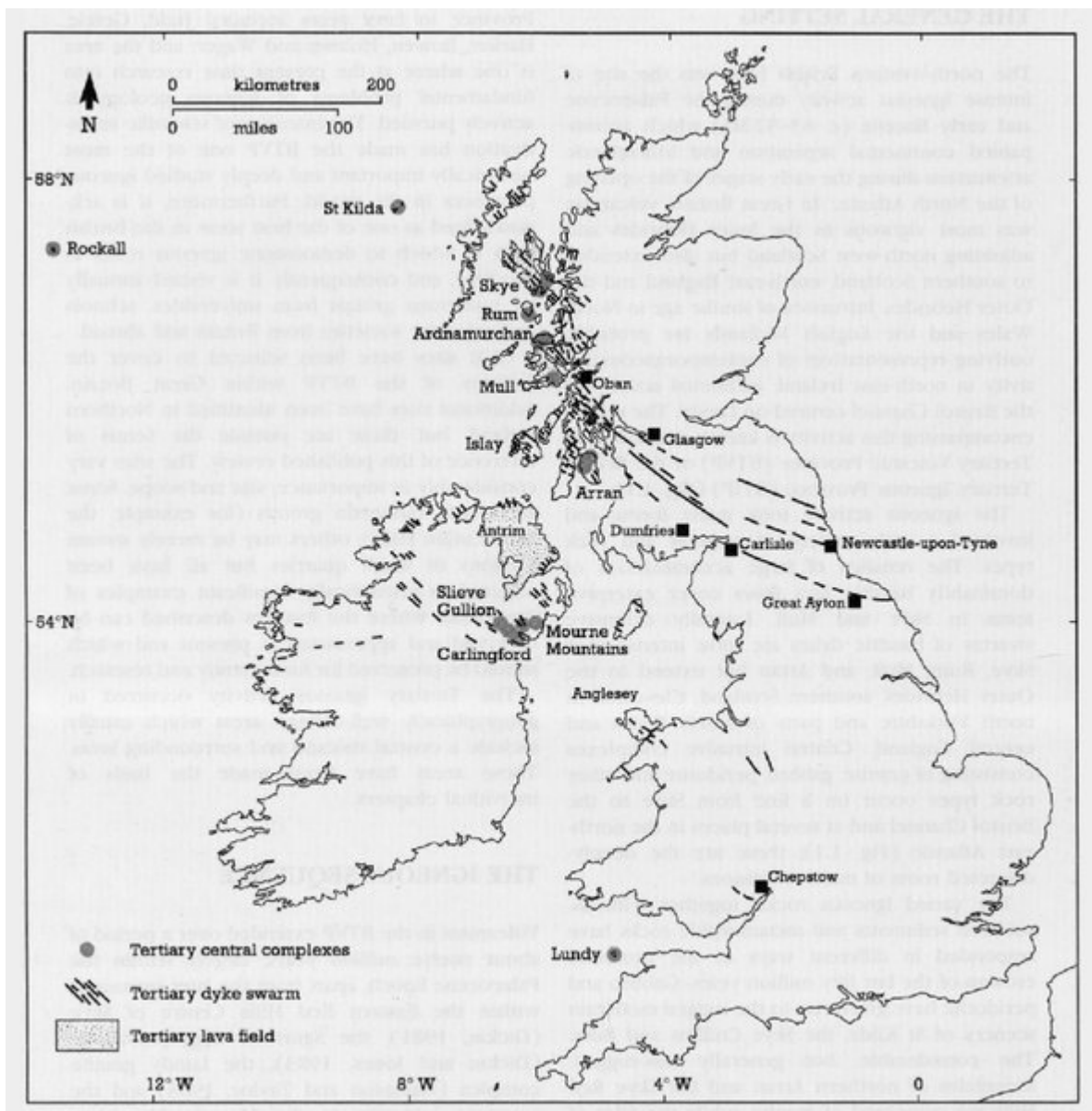

Chapter 7 Other Tertiary sites

Introduction

The British Tertiary Volcanic Province (BTVP) contains only a small proportion of the total igneous activity that occurred during the Palaeocene–Eocene opening of the North Atlantic. Within the Province, attention has been focused on the spectacular remnants of that activity in and around the central complexes and the majority of the sites described in this volume come from these areas and their immediate surroundings. Nevertheless, a number of important aspects of the igneous geology of the Province occur elsewhere and the sites described in this chapter cover them.

The NW- to NNW-oriented dyke swarms are a spectacular feature of the Province and examples of dense concentrations of dykes are described or noted close to the central complexes, for example, Kildonnan–Bennan Head, Arran and Loch Bà, Mull. The Cleveland Dyke of North Yorkshire is a far-flung, recently studied representative of the Mull swarm; this is described in the Lang-baurgh Ridge–Cliff Ridge site. Mesozoic sediments filling basins adjoining the central complexes are often intruded by dolerite sill complexes. The Shiant Isles site is an excellently exposed, well-described example which exhibits a wide range of rock types attributed to multiple injection and magmatic differentiation. This site augments the information on differentiated sills from Dippin Head, Arran and Rubha Hunish, Skye. Two further sites, St Kilda and Rockall, lie in the North Atlantic to the west of Scotland (Figure 1.1). St Kilda is formed by a central complex comparable in complexity with the other centres described; it consists of a succession of gabbroic and doleritic intrusions where basic and acid magmas frequently mingled, a later major granitic intrusion and many dykes and cone-sheets. The complex relationships of these bodies are magnificently exposed on the wave-washed cliffs of the islands in this archipelago. Further west, the isolated mass of Rockall provides one of the few examples in the BTVP of a peralkaline granitic intrusion, with a suite of rare minerals.

[References](#)



(Figure 1.1) Map of the British Isles, showing the distribution of Tertiary central complexes, dyke swarms and lavas (submarine occurrences not shown). Modified from Emeleus, in Sutherland (1982, figure 29.1).