

Banks Peninsula first emerged as an island thrust out of the sea by volcanic eruptions estimated to have started between 10 and 15 million years ago. The two harbours of Lyttelton and Akaroa, which indent the coastline, are eroded remnants of those eruptions and the highest peak in the district, Mount Herbert, is also an ancient volcanic cone. Many of the rocky outcrops which form some of the most striking landscape features on the Peninsula are a result of the volcanic activity which ceased about 6 million years ago.

Since the time of the first eruptions, the erosive action of the sea and streams has shaped the land to form the pattern of valleys, coastal cliffs and indented bays that characterises the Peninsula today.

Glacial action during the ice ages of the last two million years has also contributed to the form of the Peninsula. As the glaciers ground away the Southern Alps, fine silt was produced which was carried by the prevailing north-westerly winds and deposited as loess over the existing volcanic landform. At the same time, rock eroded by the glaciers was carried by rivers and deposited at the coast which, in turn, gradually moved eastward forming the Canterbury Plains. Some 20,000 years ago, the plains met the volcanic island and linked it to the South Island.

The out-washing of eroded gravels and sands from the erosion of the Alps also enclosed and formed the two lakes of the district, Waihora/Ellesmere and Wairewa/Forsyth.

The long and intricate coastline is a legacy of the geological processes of uplift, erosion and deposition which have shaped the Peninsula. Rocky cliffs and headlands punctuated by intimate sheltered, sandy bays and the dramatic harbours of Akaroa and Lyttelton form a spectacular link between the land and the sea and contribute to the scenic value of the District.