

but these have been mainly worn down to a surface of moderate relief consisting of hills, ridges and valleys containing innumerable lakes and streams. Most of the surface is from 600 to 1,200 feet above sea-level but higher uplands form such well-known features as the Laurentian Mountains north of Montreal and the Haliburton Highlands in southeastern Ontario. Along the coast of Labrador and in Baffin Island are mountains rising 5,500 and 8,500 feet, respectively, above the sea. The Shield is a complex assemblage of Precambrian rocks that, as a whole, represent at least five-sixths of the long duration of geological time. Most of the rocks have been subjected to more than one and in some cases several periods of orogeny, resulting in intricate structures, intense metamorphism, widespread igneous intrusions, and alteration of much ancient sedimentary rock to granite and related material. These complexities combined with the absence of fossils, which facilitate the correlation of strata younger than Precambrian, hamper interpretation of the geology of the Shield. Nevertheless, progress has been made and methods developed in Canada have been applied to Precambrian shields of other continents.

Flanking the Shield are large expanses of plains and lowlands underlain by relatively young and soft rocks overlain in many places by good agricultural soils. A notable characteristic of the boundary between the Shield and the lowlands is the presence of large lakes that lie partly in rock basins in the Shield and partly in depressions in the younger strata. The most prominent are Great Bear Lake, Great Slave Lake, Lake Athabasca, Lake Winnipeg and Lake Huron. The largest lowland area is that of the Interior Plains, sometimes called the Great Plains or Western Interior Lowlands. These constitute the prairies of Western Canada and their wooded continuation to the north. The Northern Interior Lowlands include the Hudson Bay Lowlands south of Hudson Bay, the Foxe Basin Lowlands in and near western Baffin Island, and the Southern Archipelago Lowlands which occupy large parts of the more southerly Arctic islands. The Arctic Coastal Plain farther to the north is sometimes classed as a separate physiographic region comparable to the Atlantic Coastal Plain but is here grouped with the other plains and lowlands for simplicity. The Great Lakes-St. Lawrence Lowlands form two important agricultural and industrial areas in southern Ontario, separated by the Frontenac Axis; the more easterly continues in Quebec, on both sides of the St. Lawrence River, and an isolated continuation forms Anticosti Island. Sedimentary strata of Palæozoic and younger ages overlap the Shield to form the Plains and Lowlands. These strata once covered much more of the Shield before being removed by erosion. The Shield continues under the Plains, as is proved by numerous wells drilled for oil or gas in the Great Plains and in southern Ontario having been bottomed in typical Shield rocks, but it is customary to regard the Canadian Shield Region as the part that is exposed or covered by glacial deposits. The overlying strata are undisturbed or gently tilted or flexed, the Shield and the Plains and Lowlands together forming a central continental region that has been relatively stable since Precambrian time, while orogenies were active in the flanking geosynclinal belts now indicated by the Appalachian, Cordilleran and Inuitian mountains.

The Canadian Cordilleran Region is a northwesterly-trending belt about 500 miles wide composed of high mountains and lower plateaux and valleys. It comprises southwestern Alberta, all of British Columbia except its northeastern corner, almost all of Yukon Territory and the southwestern part of the Northwest Territories. The individual mountain groups and plateaux are arranged in a complex pattern divisible into three parallel northwesterly-trending zones; in most places these zones are quite distinct and are called the Western, Interior and Eastern Systems. The greater part of the Western System is composed of the high, rugged Coast Mountains along the mainland coast of British Columbia. Along part of the Yukon-Alaska boundary they are flanked to the southwest by the still higher St. Elias Mountains. Separated from the mainland by the Insular Passage are ranges forming Vancouver and Queen Charlotte Islands. The Interior System is a complex group of plateaux and mountains. The Eastern System is divided into the Northern Ranges and the Rocky Mountains, separated by a plain and plateau along the Liard River