

III.—FORESTRY.

1.—Physiography, Geology and Climate from a Forestry Viewpoint.

The Dominion of Canada may be roughly divided into three main drainage areas—the Pacific slope west of the Rocky mountains, the Great Plains region, draining into the Arctic and Hudson bay, and the basin of the Great Lakes and the St. Lawrence, together with the Maritime Provinces. These three regions support three distinct types of forest growth.

The Pacific Slope.—The Pacific slope is characterized by numerous systems of mountains running approximately parallel and extending from the southeast to the northwest. The Rocky mountains vary in elevation from 5,000 to 10,000 feet above sea level, with individual peaks extending well above 10,000 feet. Between this system and the Pacific are the Selkirk and Caribou mountains, the Interior plateau and the Coast mountains and lesser ranges, terminating with the sunken range whose upper elevations form Vancouver island, the Queen Charlotte group and other coast islands. The chief rivers follow the valleys between these ranges, breaking through in some cases along the shorter cross valleys from east to west.

The Rocky mountains are formed chiefly of Palæozoic rocks, as are also the islands on the coast. The Coast range is almost entirely granitic and the Selkirks pre-Cambrian or Cambrian. The intervening ranges are of mixed formations, varying from rocks of sedimentary origin to granites. The best soil in British Columbia is concentrated in valley bottoms or alluvial deltas, and the purely agricultural area has been estimated at 35,300 square miles or about 10 p.c. of the land area.

The climate along the coast is mild and humid, with a mean annual temperature varying from 44° to 49° F. The precipitation is the heaviest in Canada, varying from 40 to 120 inches. The greater part of this precipitation falls during autumn and winter, however, only 30 p.c. falling during the growing season, to which fact is sometimes ascribed the scarcity of deciduous-leaved forest growth, which requires more moisture during the growing season. In any case, coniferous tree growth in this region is the most luxuriant in Canada, and the forests have the most rapid rate of growth, the largest individual trees and the heaviest stands of timber in Canada, extending from sea level up to elevations of 3,500 or 4,000 feet. The Interior Dry belt of British Columbia has a low annual precipitation, varying from 10 to 20 inches. Extremes of temperature from 100° F. to -45° F. make this a region unfavourable to tree growth. The winds from the Pacific which precipitate most of their moisture on the Coast range cross this interior plateau and give up a large part of what remains when they reach the Selkirk and Rocky ranges, forming what may be termed the Interior Wet belt, centred in the Columbia valley. Here the precipitation varies from 30 to 60 inches, taking the form of snow in higher altitudes. Temperatures vary from 100° F. to -17° F. In the Rocky Mountain range itself the climate is more extreme and variable than to the westward.

The Great Plains.—East of the Rockies lies the Great Plains region, composed of a variety of topographical types. From the foothills of the Rockies, the country slopes gradually eastward and northward. The prairie country extends from the international boundary to the 55th parallel along the foothills, gradually tapering down toward the east to a point near the lake of the Woods. This area is now almost entirely treeless, with rich fertile soil, and is at present a purely agricultural or pastoral country. Whether its present treeless condition is due to climatic or other causes is problematical, but the presence of isolated patches of