

border, is the Peace River district, an agricultural area which reaches the 57th parallel.

The southern half of British Columbia is settled in interconnecting strips following mountain valleys and coastal plains. BC's population is most dense, however, in the lower mainland, principally in the Vancouver area.

North of the areas already described are a number of remote settlements, the largest being in Ontario and Quebec between the 47th and 50th parallels. Outside these urban-rural blocks are numerous settlements related to mining, forest industries, transportation, administration, defence, hunting and fishing but with little or no agriculture.

1.2 Physical features

1.2.1 Mountains

The great Cordilleran mountain system is Canada's most impressive physical feature. Many peaks in the various ranges of the Canadian Cordillera are over 4 500 m (metres) high and approximately 1 502 km² of territory lie above the 3 048 m mark. Mount Logan, 5 951 m above sea level, in the St. Elias Mountains of Yukon is the highest point in Canada.

Rosland, BC, is the highest city in Canada (1 056 m) and Lake Louise, Alta., is the highest hamlet (1 540 m). Chilco Lake in British Columbia, with an area of 158 km², is the highest major lake (1 171 m). Heights of the more important Canadian mountains and other elevations are given in Table 1.2.

1.2.2 Inland waters

Abundant water supplies have contributed significantly to Canada's development.

Each year millions of tonnes of water fall on Canada as rain and snow. Much of it evaporates, some is stored in lakes, groundwater reservoirs and glaciers, and a larger amount runs off in rivers or streams to the oceans. The Atlantic and Pacific coastal regions experience the highest precipitation (100-140 cm), followed by Ontario and Quebec (65-90 cm) and the semi-arid Prairie region (40-55 cm). Canada's northland receives the lowest precipitation (15-40 cm).

About 30% of the mean annual precipitation occurs as snow, and much of it remains stored in its natural form for several months until spring. Then flooding may occur, when river levels rise, and the melting snow cannot be carried off rapidly enough.

Despite abundant water in southern Canada, certain areas, particularly the Prairies, are inadequately supplied. This is due in part to sparse rainfall and due to the fact that almost half of Canada's water flows northward through undeveloped areas, largely unused.

About 7.6% of Canada's total area is covered by lakes and rivers, making surface water the source of 90% of freshwater for water users throughout Canada (Table 1.1). The remaining 10% is obtained from groundwater sources.

Lakes are natural regulators of river flow; they smooth out peak flows during flooding and sustain streamflow during dry seasons. Among the largest freshwater bodies in the world are the Great Lakes with an area of almost 250 000 km²; 36% is in Canada and 64% in the United States (Table 1.3). The size and elevation of other large Canadian lakes are listed in Table 1.4.

Groundwater and alpine glaciers contribute to streamflow in Canada. In some areas, particularly the Prairies, groundwater is the principal source of water for streams during extended dry weather periods. In hot summer months, glaciers may contribute up to 25% of the flow of the Saskatchewan and Athabasca rivers.

The main measure of a country's water supply is its renewable streamflow. On an average annual basis, Canada's rivers discharge roughly 107 000 m³ per second, nearly 9% of the world's renewable water supply and equivalent to about 60% of Canada's mean annual precipitation. Table 1.5 lists Canada's principal rivers.

The international boundary between Canada and the United States, including Alaska, is 8 900 km long, of which 3 900 km lie along or across water bodies. Boundary basins are of economic importance to both countries.

The Atlantic drainage basin is dominated by the Great Lakes-St. Lawrence system which carries ocean-going vessels into the heart of North America and constitutes one of the largest single reserves of freshwater in the world. The vastness of this water area is evident from the fact that the lakes are able to absorb and moderate large variations in flow entering them and still maintain remarkably uniform outflows.

The Hudson Bay drainage basin is the largest in area but sparse rainfall in its western region places it second highest in terms of river flow, behind Atlantic drainage. It is noted for agriculture on the West and hydroelectric development on rivers surrounding Hudson Bay.

The Arctic drainage basin is dominated by the Mackenzie, one of the world's longest rivers. It flows from the head of the Finlay River to the Arctic Ocean and drains an immense area in the three western provinces and northern territories. Except for a 26 km portage in Alberta, barge navigation is possible from Fort McMurray on the Athabasca River to the mouth of the Mackenzie, a distance of 2 700 km.