

Alberta, 12,294 ft (3 747 m); British Columbia, 15,300 ft (4 663 m); Yukon Territory, 19,524 ft (5 951 m); and the Northwest Territories, 9,062 ft (2 762 m).

Rossland, BC, has the highest elevation, 3,465 ft (1 056 m), of any city in Canada and Banff, Alta., is the highest hamlet at 4,580 ft (1 396 m). Chilco Lake, with an area of 75 sq miles (194 km²), is the highest major lake at 3,842 ft (1 171 m). Heights of the more important Canadian mountains and other elevations are given in Table 1.2.

Inland waters

1.1.2

Water is the most basic of man's resources; without it, no living thing can survive. Abundant water supplies have been essential to the development of Canada's fisheries and wildlife resources, hydro-electric power, agriculture, recreational activities, navigation, domestic water supply and industrial production.

The source of water supply is precipitation, which varies widely in quantity over Canada. Each year 8,000,000 million tons (7 254 478 million t) of water fall on Canada in the form of rain and snow. Much of it is evaporated, some is stored temporarily in lakes, groundwater reservoirs and glaciers, and a large amount drains as surface runoff following streams and rivers to the oceans. In areas that have little precipitation, water is a treasured commodity. The opposite extreme causes floods, erosion and other problems. In most of Canada there is ample precipitation averaging about 30 to 36 inches (76 cm to 91 cm) annually in many regions. The greatest demand for water occurs in the hot weather of summer; prolonged dry spells may mean water shortage at that time.

It has been estimated that 292,000 sq miles (756 276 km²) or 7.6% of Canada's total area is covered by lakes (Table 1.1). This water surface area is one of the dominant features of the Canadian environment. Lake storage is valuable — it represents water that can be drawn upon in time of drought to be replaced in time of plenty. Lakes are natural regulators of river flow; they smooth out the peak flows during flood periods and sustain stream flow during dry seasons. There are probably more lakes in Canada than in any other country. Among the largest bodies of fresh water in the world is the five-lake system of the Great Lakes with an area of almost 100,000 sq miles (258 999 km²); 37% is in Canada and 63% in the United States (Table 1.3). These lakes are sufficiently large to have measurable, although very slight, tides. Other large lakes in Canada are Great Bear Lake, Great Slave Lake and Lake Winnipeg, with areas ranging from 9,200 to 12,100 sq miles (23 828 to 31 339 km²). Countless smaller lakes are scattered throughout the country, particularly in the Canadian Shield. For example, in the region southeast of Lake Winnipeg there are some 3,000 lakes in an area of 6,090 sq miles (15 773 km²); and to the southeast of Reindeer Lake in Saskatchewan there are some 7,500 lakes in an area of 5,300 sq miles (13 727 km²). The size and elevation of Canada's lakes over 150 sq miles (388 km²) in area are listed in Table 1.4.

Groundwater is another important source of freshwater supply for communities, industries and irrigators. It contributes about 10% of the water supplied by municipal water systems in Canada. Although the quantities involved are much smaller than those from rivers and lakes, many communities and some industries are completely dependent on groundwater supplies. In some areas, particularly the prairies, groundwater is the principal source of flow in some streams during extended periods of dry weather.

The volume of water stored as snow and ice in the glaciers of North America is many times greater than that stored in all the lakes, rivers and reservoirs. Most of this is permanently frozen in the polar ice caps and is inaccessible, but the polar ice masses have a strong indirect influence on the hydrologic cycle through their effect on weather patterns. In the temperate regions, however, the alpine glaciers exert a direct influence on the hydrologic cycle as water from melting glaciers frequently sustains stream flow during dry seasons. It has been estimated that in the hot summer months, glaciers may contribute up to 25% of the flow in the Saskatchewan and Athabasca rivers. About 94,400 sq miles (244 495 km²) or 75%