the highest major lake (1 171 m). Heights of the more important Canadian mountains and other elevations are given in Table 1.2.

1.1.2 Inland waters

Abundant water supplies have been essential to the development of Canada's fisheries and wildlife resources, hydroelectric power, agriculture, recreational activities, navigation, domestic water supply and industrial production.

Each year 7 254 478 million tonnes of water fall on Canada as rain and snow. Much of it evaporates, 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. Rapid melting of snow in spring causes floods, erosion and other problems. Most of Canada has ample precipitation averaging about 76 to 91 cm (centimetres) annually in many regions. In areas of little precipitation, greatest demand for water occurs in the hot summer weather; prolonged dry spells may mean water shortages.

Much of Canada's water is in undeveloped areas. Some other areas, such as the Prairies, have insufficient water for present needs.

About 755 165 km² or 8.2% of Canada's total area is covered by lakes and rivers (Table 1.1). Lake storage provides water in time of drought that is later replenished. Lakes are natural regulators of river flow; they smooth out peak flows during flooding and sustain stream flow during dry seasons. Among the largest freshwater bodies in the world are the Great Lakes with an area of almost 258 999 km²; 37% is in Canada and 63% in the United States (Table 1.3). These lakes are sufficiently large to have

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The map of Canada is liberally splashed with lakes and streams. More than 8% of the total area is fresh water. Pollution and water quality are major concerns.

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measurable, although slight, tides. Other large lakes in Canada are Great Bear Lake, Great Slave Lake and Lake Winnipeg, with areas from 24 390 to 31 328 km². Countless smaller lakes are scattered throughout the country, particularly in the Canadian Shield. For example, southeast of Lake Winnipeg there are some 3,000 lakes in an area of 15 773 km²; southeast of Reindeer Lake in Saskatchewan there are some 7,500 lakes in an area of 13 727 km². The size and elevation of lakes that are more than 388 km² in area are listed in Table 1.4.

Groundwater is another important source of freshwater for communities, industries and irrigators, contributing about 10% of the water supplied by municipal water systems. Although quantities are much smaller than 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 water streams during extended dry weather.

The volume of water stored as snow and ice in North America's glaciers is many times greater than all the lakes, rivers and reservoirs. Most of this is permanently frozen in polar ice caps and is inaccessible, but polar ice masses have a strong indirect influence on the hydrologic cycle through their effect on weather patterns. In temperate regions, however, alpine glaciers exert a direct influence on the hydrologic cycle as water from melting glaciers frequently sustains stream flow during dry seasons. In hot summer months, glaciers may contribute up to 25% of the flow in part of the Saskatchewan and Athabasca rivers. About 150 000 km² or 75% of glaciated areas of Canada are in the Arctic islands and 50 000 km² or 25% on the mainland. Of the latter figure 38 000 km² are in the Pacific drainage basin and 10 500 km² in the Yukon drainage basin. The remaining 3 885 km² are shared among the Arctic, Great Slave, Saskatchewan–Nelson and Labrador drainage basins. The number of glaciers in Canada is estimated at 75,000.

In Canada 90% of water used comes from streams and other surface sources such as lakes and man-made reservoirs. The combined mean annual flow of all streams has been estimated at 99.1 million cubic decimetres per second, equivalent to about 60% of Canada's mean annual precipitation.