



The Canadian Arctic is no country for weaklings. Lester B. Pearson.

Much of Canada is in the Arctic. Just how much depends on how one defines the Arctic. By one definition it is the land and sea north of the Arctic Circle where the sun fails to rise above the horizon at least one day a year; by another it is the region in which trees cannot grow.

More precisely, it is the zone in which the average mean temperature for the warmest month is less than 10°C. (50°F.) By this definition the Canadian Arctic stretches across the top of North America, above an irregular line that begins in the

west at the Arctic Circle and dips down as it moves east to Hudson Bay. Because of the oceanic influence the west is warmer than the east, and summer temperatures at the productive farms of the Peace River Valley in Alberta are much higher than those at the same latitude in the east.

Arctic temperatures affect us all. In winter the cold air chills TV weathermen all over the eastern half of the continent. In summer the cool air brings occasional fresh breezes south.

In this issue, CANADA TODAY/ D'AUJOUR-D'HUI examines the north country's climate, its peoples and resources, and its past and present adaptations to the winds of change.

Air

The Canadian Arctic is as wide as the continent and measures some 1,600 miles north, from the top of the Northwest Territories to the Pole. Most of it is frozen ocean, but the Arctic islands have mountains 8,500 feet high and huge freshwater lakes. Lake Hazen, at Latitude 82°, is 45 miles long and 900 feet deep.

The Arctic winters are shatteringly cold with temperatures as low as -60°F, the summers often surprisingly mild.

When the sun is up, the Arctic produces fields of flowers and swarms of mosquitoes, and from June to September average overall temperatures above 32°F.

The Arctic is characterized by very low humidity. Alert, on the northern tip of the continent, has an average annual precipitation of 6 inches; Resolute, on Cornwallis Island, receives 5.5 inches; and Whitehorse, in the Yukon, gets 10.5. (By contrast, Montreal receives an average of 41.5 inches per year and Toronto, 32 inches.)

Year round the Arctic air tends to flow south. In the west it moves down into the Mackenzie Valley where it meets warmer air and is turned eastward toward Hudson Bay.

Below Hudson Bay cold fronts from the north and west move down through the eastern and Atlantic provinces and the northeastern United States, to Appalachia and the Ozarks and even to the Gulf of Mexico. Along the way they produce cyclones in the St. Lawrence lowlands (where cold and warm air meet), blizzards in the Midwest and

Cover photo: Answer: At a loss for words, that's where. (Willard Scott, weatherman on NBC - TV's Today Show.)