

## Relief

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### Abstract

Canada is a vast country comprised of a multitude of very different landscapes: Atlantic provinces, the Appalachians, St. Lawrence and Great Lakes lowlands, Canadian Shield, The Prairies, mountain ranges and high plateaus of the Canadian Cordillera, and northern Canada.

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Canada is a vast country comprised of a multitude of very different landscapes. In the east, the rocks of the Atlantic provinces have been sculpted by the ocean. With an area of 5660 square kilometres, Prince Edward Island is Canada's smallest province. Its flat-lying topography reaches a maximum elevation of 142 metres. After millions of years of erosion by winds and glaciers, the mountains of Atlantic Canada have become gently rolling hills with flattened summits. They now form the plateaus of the island of Newfoundland, the Caledonia Mountains, the interior plateau of New Brunswick, the highlands of Cape Breton, and other areas of Nova Scotia, all with elevations ranging from 150 to 800 metres.



**Figure 1:** Aspy Bay , Cape Breton Island, Nova Scotia

**Source:** Geological Survey of Canada (photo number 204042-t).

Stretching from the Gaspé through the Estrie region of Quebec and into the United States, the Appalachians reach elevations in excess of 1000 metres. The Chic Choc Mountains represent the extension of the Appalachians into the Gaspé and reach elevations of approximately 1200 metres.

The St. Lawrence and Great Lakes lowlands open westward in a wide expanse of flat-lying land mainly between Quebec City and Lake Huron. Over most of this area, the maximum elevation is under 300 metres.

The northern boundary of the St. Lawrence and Great Lakes lowlands is the Canadian Shield. It covers nearly half of Canada roughly in a giant horseshoe around Hudson Bay. In the west (such as in Saskatchewan and the Northwest Territories),

the Shield attains average elevations of about 300 metres above sea level. The Shield reaches higher elevations in the Haliburton Highlands of Ontario and the Laurentian Mountains of Quebec, as well as along the Gulf of St. Lawrence, in Labrador and on Baffin Island. The mountains of the Labrador-Quebec border reach elevations of 1600 metres, while those of Baffin Island rise as high as 2000 metres. The Shield has two distinct types of landscapes: vast forests dotted by countless lakes, and rolling treeless areas further north.

The Prairies stretch across the west-centre of Canada, crossing through Manitoba, Saskatchewan and Alberta. From east to west across this broad plain, elevations rise gradually, increasing by more than 700 metres.

West of the Prairies, the mountain ranges and high plateaus of the Canadian Cordillera occupy British Columbia and almost all of the Yukon. Here, the many sharp peaks are topped by alpine glaciers and draped in a year-round mantle of snow. The Yukon's Mount Logan, Canada's highest peak, dominates the landscape from atop its lofty 5959 metres. Between the Coast Mountains, which border the entire Pacific shore, and the Rockies lies a band of broad plateaus (the Fraser Plateau, the Stikine Plateau and a rugged central zone) that is several hundreds of kilometres in width. Along the Pacific shore, the Coast Mountains are cut by broad, steep fiords, and the ocean is dotted by a chain of islands of which the most important are Vancouver Island and the Queen Charlotte Islands.



**Figure 2:** Flood glacier in the Boundary Ranges of the Coast Mountains, British Columbia

**Source:** Geological Survey of Canada (photo number 1998-032).

Northern Canada, for its part, has many faces, ranging from the very mountainous islands of the eastern Arctic to the plain of the Mackenzie Delta in the west. Baffin, Victoria and Ellesmere are the largest of the Arctic islands. Ellesmere island is the most northerly land mass reaching to within 800 kilometres of the North Pole.



**Figure 3:** Superposed layers of rock, Victoria Island, Northwest Territories  
**Source:** Geological Survey of Canada (photo number 1995 107).



**Figure 4:** Snout of glacier, Ellesmere Island  
**Source:** Geological Survey of Canada (photo number kgs69).

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## Map Sources

### Bathymetry

Bathymetry data were derived from The GEBCO Digital Atlas (1997), published by the British Oceanographic Data Centre on behalf of the Intergovernmental Oceanographic Commission (IOC) of UNESCO and the International Hydrographic Organization (IHO).

### Relief

Elevation data were derived from Canada-Relief, Fifth Edition of the National Atlas of Canada [map], printed in 1986.

## Related Web sites (1999 – 2009)

### Other

British Oceanographic Data Centre  
<http://www.bodc.ac.uk/>

The British Oceanographic Data Centre (BODC) is a component of the UK Natural Environment Research Council's (NERC's) environmental data centre network and has designated responsibility for marine data. It is also part of the Intergovernmental Oceanographic Commission's (IOC's) network of national oceanographic data centres.

International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO. General Bathymetric Chart of the Oceans (GEBCO)

<http://www.gebco.net/>

The General Bathymetric Chart of the Oceans (GEBCO) aims to provide the most authoritative, publicly-available bathymetry data sets for the world's oceans. GEBCO operates under the auspices of the International Hydrographic Organisation (IHO) and the United Nations' (UNESCO) Intergovernmental Oceanographic Commission (IOC).

### **International Government**

United Nations. Intergovernmental Oceanographic Commission.

<http://ioc-unesco.org/>

The Intergovernmental Oceanographic Commission of UNESCO provides Member States of the United Nations with an essential mechanism for global co-operation in the study of the ocean.